NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

Memorandum

BROG Class I Non-Hazardous Industrial Effluent Disposal Well
January 3, 1997

To: Mark Ashley - Petroleum Geologist, NMOCD

From: Patricio W. Sanchez - Petroleum Engineering Specialist

RE: Discharge Plan Application comments for the proposed conversion of the McGrath SWD well (class II) to class I - non-hazardous.

Mr. Ashley, outlined in this review letter you will find my comments regarding the above mentioned application dated December 11, 1996 from Burlington Resources Oil and Gas(BROG). The review will follow the application from start to finish by section.

1. Type of Operation: (pg. 1)

This portion describes the current operation and not the proposed - you may wish to ask for further clarification that includes the proposed operation.

Will the commingling of the non-exempt waste with the exempt waste render the entire process non-exempt (note: BROG needs to make the regulatory certification regarding status, this may be already be addressed BROG in parts 7 and 8 of the application)

Example: If after a period of time it becomes necessary to clean out the tanks or separator, cleaning fluids and sludge will be generated, and as you know the status of these sludge/wastes will have to be recycled/disposed according to their status (i.e. exempt or non-exempt from RCRA Subtitle C.)

2. Operator and Technical Representative: (pg. 1)
- No Comment

3. Facility Location: (pg. 1)
- No Comment

4. Landowners: (pg. 1)
- No Comment

Note: Did not have an oppur. to proofread before printing. 1-3-97

5. Facility Description: (pg. 2)

This describes the current injection operations at the site and perhaps a description of the proposed injection operations should be also stated. (see point 1 of the previous page.)

6. Materials Stored or Used at the Facility: (pg. 2)

Upon the site inspection - it will be necessary to compare the actual site conditions and berming and stormwater control measures- to those indicated in permit application - i.e. Figure 1 and Figure 2.

Example: It appears that not all the tanks are bermed in the diagram, and therefore the earthen berm that outlines the facility must be checked for adequacy. Also, if these unbermed tanks have spills (even minor) and the stormwater comes into contact with the contaminated areas and open drainlines through the bermed area(s) are present then options regarding the release of the stormwater need to be addressed-note the proximity to the river and access to drainage areas (arroyos) that feed the river during the inspection.

If the above is a concern then BROG would have to propose alternative measures or increased berming or perhaps even a stormwater retention impoundment which could be injected into the disposal well upon characterization, or used as drilling mud water after proper characterization, or possibly released if regulated contaminants are below the appropriate WQCC standards and waters of the US as defined in the CWA "Clean Water Act" and the appropriate State of New Mexico Surface Water Quality regulations are not effected.

7. Sources and Quantities of Effluent and Waste Solids Generated at the Facility: (pg. 3)

A. Waste Stream Data: (pg. 3)

Perhaps a column should be added that would indicate the regulatory status of the waste stream in terms of RCRA Subtitle C "Exempt" and "Non-Exempt."

B. Quality Characteristics: (pg. 3)

What wastewater at oil and gas wells are they generating that is non-exempt? If wastes such as unused stimulation, completion, drilling fluid, or chemicals are what they are referring to - perhaps these wastes need to be approved on a case by case basis rather than a blanket type approval.

See Exhibit No. 1 - Rainwater analysis - Where are the metals and solvents coming from? Also

from which location did this sample come from? - Washwater analysis - same as for rainwater. - Regen. water analysis and tank sludge also have constituents in them that are not naturally occurring in any oil and gas reservoir that I am familiar with, perhaps these constituents are the residue of oil field chemicals injected into wells to treat corrosion, paraffin, or other downhole uses, BROG should have to look at all potential sources so that regulatory status in terms of RCRA Subtitle C can be determined.

The Basic sediment should be sampled after the injection of the non-exempt effluent begins and just prior to removal/disposal for hazardous characteristics and constituents. (If it is maintained that the sediment or sludge is non-exempt from RCRA Subtitle C, if is exempt then the sediment can be handled according to OCD methods for disposal and /or onsite remediation .)

C. Commingled Waste Streams: (pg. 3)

Is BROG speaking about future operations or past/current operations at the injection well? If they are speaking about past/current it appears that they are in violation of their OCD SWD Order for Class II injection - a copy of which I do not have and perhaps the OCD UIC Director can answer this question.

8. Description of Current Liquid and Solid Waste Collection, Storage and Disposal Procedures: (pg. 4)

A. Summary Information.
No Comment.

B. Collection and Storage Systems.

As a requirement for permit approval BROG should have to test all below grade lines per OCD requirements. These results should be submitted prior to permit approval.

The description of the secondary containment is unclear - i.e. are any of the tanks interconnected, and if so does this cumulative volume exceed the largest tank volume? Therefore, which ever volume is largest would be multiplied by the 1 1/3 factor for secondary containment.

C. Existing Effluent and Solids Disposal.

1. On-site Facilities.

Again, is this proposed or past/current operations - If past/current may be in violation of OCD Order R-7370 - see Exhibit 2. and consult with OCD UIC Director to determine if in violation. Upon review of the Order it appears that the SWD was authorized for

disposal of "Produced Water" a stretch to include Exempt oil field wastes I suppose can be made - but nowhere are other "Oil Field Wastes" authorized.

2. Off-Site Facilities.

hauling to Ticwd or Enviro-tech

Some documentation regarding the acceptance of the wastes as listed should be provided by the facility accepting the waste and proof that the facility can in fact receive the wastes.

9. Proposed Modifications: (pg. 5)

Refer to Exhibit No. 3 "Injection Well Information for Converting Well to Class I Non-Hazardous.

I. Purpose - No Comment.

II. Operator - No Comment

III. Well Data - Attachment No. 1

This attachment needs to be organized in more logical (chronological) order, the points 1 through 9 do not seem to correspond with the information put in Attachment No. 1. Also if BROG proposes not to squeeze the interval from 3,565' to the DV @ 2,139' - perhaps OCD should require that groundwater monitor wells be installed in each aquifer as defined in WQCC above the injection zone. Also, OCD should go over the proposed conversion procedure with BROG for further clarification. Further, BROG does not commit to run a CBL on the well after conversion, BROG should be required to run at least a CBL-CCL-GR logging suite, with a minimum of 200' of repeat section.

understood for my part

see *Workover History* - Note: the DV tool had to be resqueezed w/30 sacks of cement. Concern is did the Frac job actually stimulate the Point Lookout or were zones (including cement sheath) above and below the DV-tool at 2139'(not sure if depth is relative to KB or GL - they should clarify.) Perhaps a radioactive tracer survey (and other appropriate cased hole logs) should be ran on the well to determine if the injected fluid is staying in zone prior to workover to convert the well to Class I.

Tracer survey reasonable

IV. This application request is and expansion of an existing injection well.

Perhaps the permit requester means conversion, rather than expansion.

V. Well Area of Review(AOR).

good luck

BROG needs to calculate per WQCC 5.202 A., B., and C. in order to verify that the proposed AOR of ½ mile is sufficient.

VI. Wells of record within the AOR.

Refer to Attachment No. 3

Tabulation of these wells within the ½ mile AOR should reflect any changes brought about by the evaluation per WQCC 5.202 A., B., and C.

VII. Data on proposed operation:

Refer to Attachment No. 4.

not continuous injection

Proposed operations should also include continuous monitoring of injection pressure, surface-injection string annular positive pressure and continuous monitoring. Instaneous Injection Rate and Cumulative Monthly injection also need to be monitored and submitted - (similar to Giant and Sunco). Also their needs to be a quarterly chemical analysis of the regulated constituents into the injection well, with submittal to the Santa Fe Office - (similar to Giant and Sunco)

A certification from BROG Management that NO listed (f,k,u, and p) or characteristic (R,I,C, and TCLP.) per 40 CFR Part 261 will be injected into the Class I Non-Hazardous disposal well.

VIII. Geological Data:

Refer to Attachment No. 5

Note: Surface casing (231') does not appear to extend below the Ojo Alamo (456' to 595') as proposed in this attachment. This should be amended to reflect the actual condition, and the proposed squeeze to surface of the Surface-Injection casing annulus.

IX. Proposed Stimulation.

No Comment.

X. Appropriate logging and testing:

The previous data is important, however once the well has been converted at a minimum a cased hole CBL-CCL-GR suite should be ran, with a minimum of 200' of repeat section.

XI. Chemical analysis of fresh water:

No comment - not sure about the usefulness of these analysis.

XII. Affirmative Geological and Engineering Statement.

No comment.

Over all this section is confusing and unclear - they need to refer to part 5 of the WQCC regulations for a guide.

10. Inspection, Maintenance and Reporting: (pg. 5)

A. Leak Detection/Site Visits

How will BROG insure that only exempt and non-hazardous effluent are delivered to the facility? Also, although not clearly stated anywhere in the permit application BROG should only be allowed to injection their own waste-and not the waste of other operators. Special BROG wastes that meet the criteria for injection would have to be approved by the OCD on a case-by-case basis (see page 2 item 7.B of this review letter.)

B. Precipitation/Runoff

Refer to page 2 item 6 of this review letter.

11. Spill/Leak Prevention and Reporting Procedures: (pg. 6)

A. Spill/Leak Potential

What about contingencies regarding the failure of the injection well? If the injection is not squeezed below the DV-Tool, BROG should be required to install groundwater monitor wells in all the WQCC aquifers above the injection zone. These well would have to be sampled on some frequency (every 3 months) for WQCC constituents and the hydraulic groundwater level in each well would have to be monitored dailey - with an isobar map of the groundwater prepared every 3 months for submittal with the lab analysis, also indicating groundwater flow direction.

I don't agree other than reporting requirements - Shut-in

B. Spill/Leak Clean Up.

Procedures for well failure also need to be included.

C. Spill/Leak Reporting.

Procedures for reporting well failure must be prepared per WQCC and OCD regulations.

D. Injection Well Shut-in Procedures.
No Comment.

12. Site Characteristics: (pg. 7)

A. 3. Springs: There may be springs within 1 mile of well because it is stated that the Animas river is within 3/4 mile of the well. It may be a good idea to walk north of the well along the Animas.

B. Geologic Description.

The openhole and mud logs should be provided with all formation tops indicated on them by BROG.

C. Flood Protection.
Refer to page 2 item 6 of this review letter.

13. Additional Information: (pg 7)

BROG needs to commit to appropriate closure requirements of part 3 and part 5 of the WQCC regulations.

14. Certification: (pg. 9)
No Comment

REVIEW SUMMARY
In general it appears that many issues need to be addressed or clarified further before in order for the permit to be approvable. Items of main concern are the quality of the well-bore construction, evaluation of the well-bore construction (i.e. cased hole logs), mechanical integrity monitoring, and a process to ensure that only exempt and non-hazardous waste are injected in the well.

XC: Mr. Denny Foust - Aztec District OCD.

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

February 4, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-259-011

Mr. Keith Baker
Burlington Resources
P.O. Box 4289
Farmington, NM 87499-4289

RE: Discharge Plan UIC-CLI-007
Class I Injection Well
McGrath No.4 Injection Well
San Juan County, New Mexico

Dear Mr. Baker:

On December 11, 1996 Burlington Resources submitted a discharge plan application for a Class I non-hazardous disposal well. The application proposed the conversion of the McGrath No. 4 from a Class II to a Class I disposal well. At the time of your application, the OCD was drafting an exempt/non-exempt mixture policy and the application was put on hold pending completion of the policy. Enclosed is a copy of the mixture policy adopted in September 1997. If fluids injected into a class II well can be considered exempt based on the mixture policy, a reclassification of the well to class I is not be required. Please review the exempt/non-exempt status of the fluids injected into the McGrath No. 4 and notify the OCD of your determination, and on Burlington Resources desire to either withdrawn the application or for the OCD to continue review of the application.

If you have any questions, please contact Mark Ashley at (505) 827-7155.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/mwa
Attachment

xc: OCD Aztec Office

BURLINGTON RESOURCES

SAN JUAN DIVISION

February 19, 1998

Certified Mail P 103 693 184

Roger C. Anderson
New Mexico Oil Conservation Division
Energy, Minerals, and Natural Resources Dept.
2040 S. Pacheco
Santa Fe, New Mexico 87504

Re: Ground Water Discharge Plan
Withdrawal Request
McGrath No. 4 Injection Well

Dear Mr. Anderson:

Per your letter dated February 4, 1998, Burlington Resources Oil & Gas Company is requesting that the proposed Ground Water Discharge Plan for the above referenced facility be withdrawn. The plan, dated December 11, 1998, was originally submitted due to the plans to convert the existing Class II injection well located at the facility to a Class I non-hazardous injection well. Due to the new exempt/non-exempt mixture policy and the classification of Sunco Disposal to a Class I facility, the conversion is no longer needed.

If you have any questions concerning this request, please contact me at 326-9841.

Sincerely,

Ed Hasely
Sr. Staff Environmental Representative

cc: Jeff Schoenbacher
Denny Foust – OCD Aztec Office

File - McGrath No. 4: Discharge Plan - Permit/Application

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