DATE IN 12.6.11	SUSPENSE	ENGINEER TGW.	LOGGED IN 12.6.11	TYPE SWD	APP NO. 1134041737

PTGW

ABOVE THIS LINE FOR DIVISION USE ONLY

Protested Withdrawn 2/2/12

1315

HPOC, LLC 246238

RECEIVED OCD

2011 DEC -5 ...

Escalera Fed #1

30-031

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

McKinley Fed

B-31-20N-5W

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify ______________________

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☒ Offset Operators, Leaseholders or Surface Owner

1350 psi

5752'-5927'

[C] ☒ Application is One Which Requires Published Legal Notice

[D] ☒ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Michael S. Allen	*[signature]*	Project Manager	11/30/11
Print or Type Name	Signature	Title	Date

mallen@highplainsop.com
e-mail Address

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance ___X___Disposal _____Storage
Application qualifies for administrative approval? _____Yes _____No

II. OPERATOR: **HPOC, LLC**

ADDRESS: **PO Box 5046, 113 Centennial Plaza, Buena Vista, CO 81211**

CONTACT PARTY: **Michael S. Allen** PHONE: **719-207-2848**

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? _____Yes _____X___No
If yes, give the Division order number authorizing the project: _____

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review. ***See attached map***

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail. ***No wells within area of review***

VII. Attach data on the proposed operation, including: ***See attached information***

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval. ***See attached information***

IX. Describe the proposed stimulation program, if any.

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted). ***(Logs will be submitted to NM OCD when acquired by HPOC.)***

*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken. ***(No fresh water wells within 1 mile.)***

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water. ***See attached***

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: **Michael S. Allen** TITLE: **Project Manager**

SIGNATURE: Michael S Allen DATE: **11/30/2011**

E-MAIL ADDRESS: **mallen@highplainsop.com**

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIII. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;

(3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Side 1

INJECTION WELL DATA SHEET

OPERATOR: **HPOC, LLC**

WELL NAME & NUMBER: **Ojo Encino 31Federal-SWD 1**

WELL LOCATION:	**340' FNL and 2,300' FEL**	**Unit B**	**31**	**20N**	**5W**
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

Well has not been drilled or completed.
Data will be submitted post completion.
See exhibit sheet for proposed well configuration.

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. *or* _____ ft^3

Top of Cement: _____ Method Determined: _____

Intermediate Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. *or* _____ ft^3

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. *or* _____ ft^3

Top of Cement: _____ Method Determined: _____

Total Depth: _____

Injection Interval

_____ feet to _____

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: _____ Lining Material: _____

Type of Packer: _____

Packer Setting Depth: _____

Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data

1. Is this a new well drilled for injection? ____**X**__ Yes _____ No

   If no, for what purpose was the well originally drilled? _____

   _____

2. Name of the Injection Formation: **Entrada Formation** _____

3. Name of Field or Pool (if applicable): **Pending** _____

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. _____

   _____

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: **Fruitland Coal** _____

   _____

   _____

   _____

EXHIBITS TO ACCOMPANY
APPLICATION FOR AUTHORIZATION TO INJECT, SECTION III
(Proposed well configuration.)

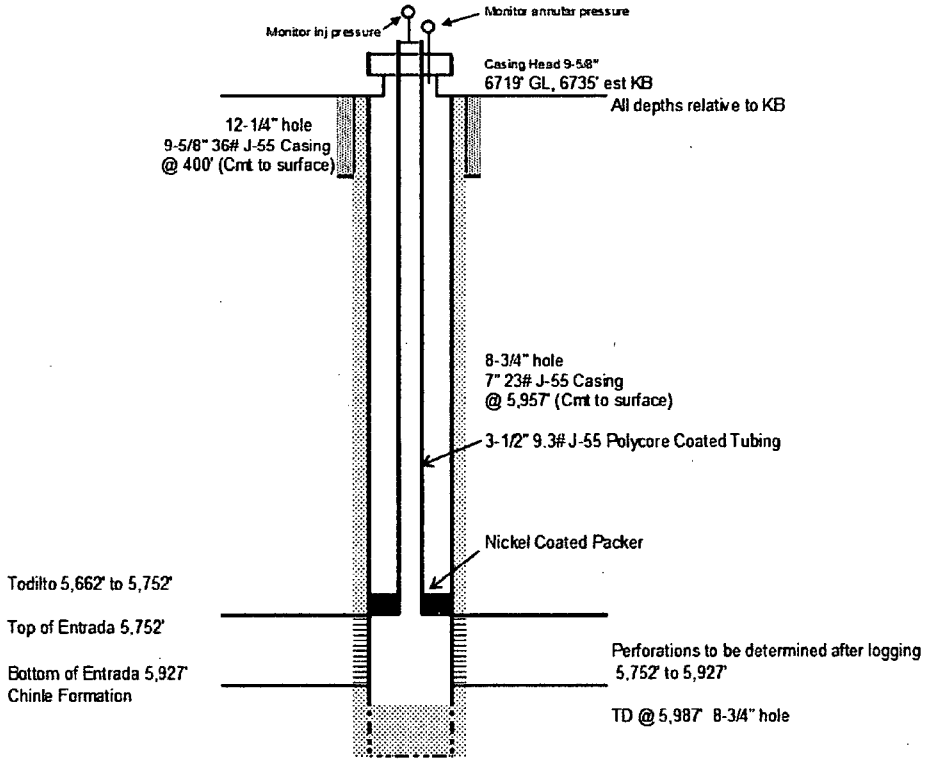
The well has not been drilled or completed. Data will be submitted post completion. See the following description and schematic drawing for proposed well configuration.

Hole Size	Csg O.D.	Weight/Ft.	Grade	Thread Type	Condition	Depth
12.25"	9 5/8"	36#	J-55	8rd ST&C	New	400'
8.75"	7"	23#	J-55	8rd LT&C	New	5,957'

The 9 5/8" surface casing will be cemented in one stage with 240 sks circulated to surface with a final volume no less than 100% excess over gauge hole. Type G cement will be used, containing 2% calcium chloride and 1/8th lb/sk poly-E-flake mixed at 15.8 ppg with a 1.15 yield. Centralizers will be placed and the surface casing will be set and cemented following the provisions of Onshore Order #2, "Drilling Operations."

The 7" intermediate casing will be cemented in one stage with returns to surface using foamed lead cement. The 7" casing will be run as follows. First, a 7" guide shoe will be run, then a 7" shoe joint, followed by a float collar and casing back to surface. Centralizers will be placed according to indicated porous zones. The 7" casing is proposed to be cemented as follows: Pump 10 bbls 8.33 lb/gal fresh water, followed by 20 bbls 10.0 lb/gal Super Flush 101, followed by 10 bbls 8.33 lb/gal fresh water, followed by 750 sks foamed lead cement, followed by 120 sks tail cement, followed by 242 bbls 8.33 lb/gal fresh water. The foamed lead cement will be mixed at 13 ppg with a 1.43 yield. The cement will be foamed to a density no less than 9.0 ppg. Actual cement volumes will be determined using the open-hole log caliper plus 25% excess.

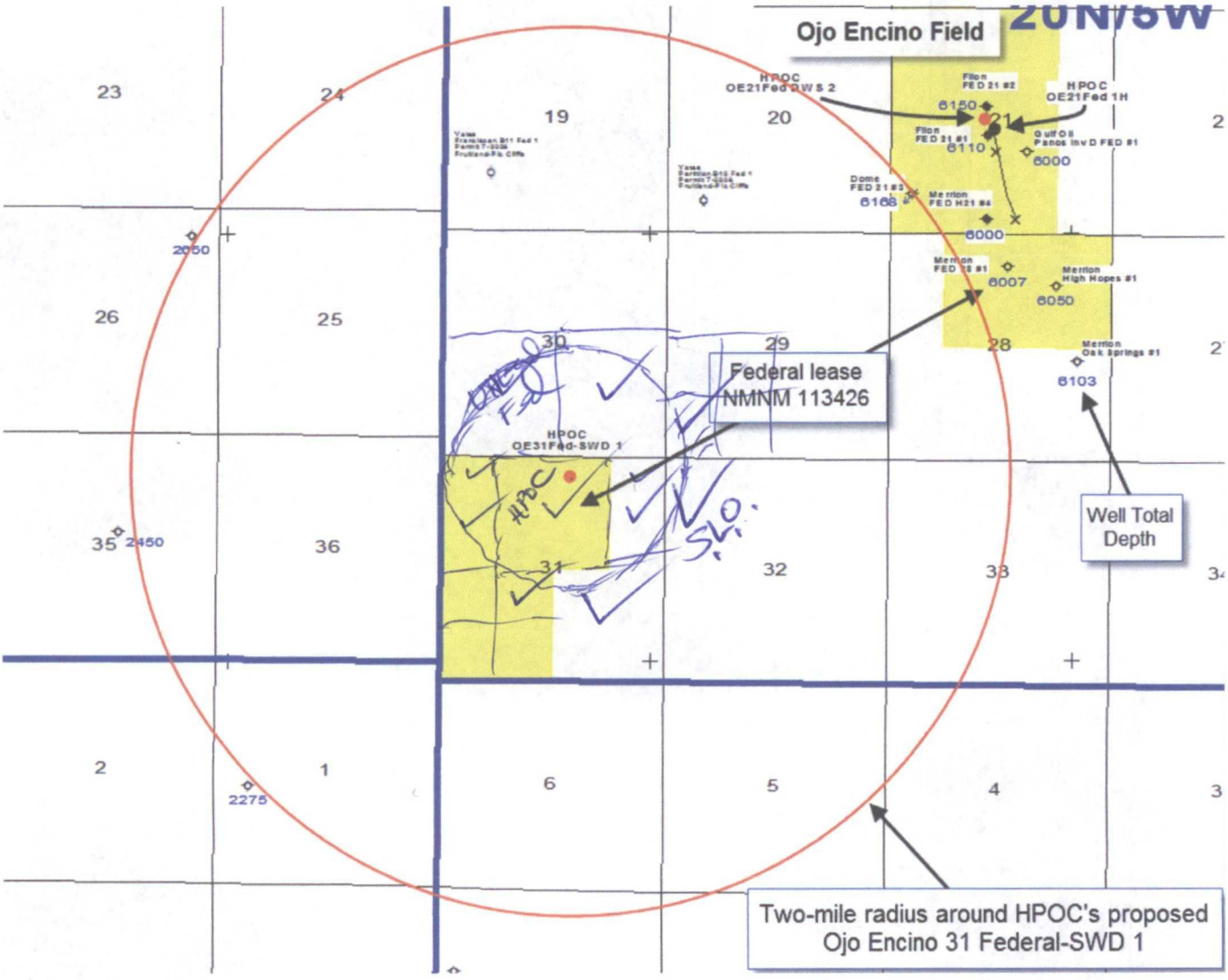
Ojo Encino 31 Federal-SWD 1 Schematic Diagram
Unit B (NW/NE) Section 31 T20N-R5W, McKinley County, NM
API#: 30-031-
NM|NM 113426



EXHIBITS TO ACCOMPANY
APPLICATION FOR AUTHORIZATION TO INJECT, SECTION V
(Map showing leases and wells within a 2-mile radius)

There are no wells of record within ½ mile of the proposed well. The nearest producing well to the proposed SWD well is HPOC 21 Federal #1H approximately 2.5 miles away. The nearest well within the two mile radius is the old Dome 21 Federal #3 (non-productive) at just under two miles away. Two Yates wells were permitted in sections 19 and 20, but were never drilled.

High Plains New Mexico through agreement with Pintado controls the affected portion on Federal lease NM|NM113426 (W/2NE/4 and E/2NW4 Section 31 T20N R5W).



EXHIBITS TO ACCOMPANY

APPLICATION FOR AUTHORIZATION TO INJECT; SECTION VII

(Injection details, source and receiving waters)

Operational Data

1. Average initial daily injection rate: 6,000 BWPD; Maximum daily injection rate: 9,000 BWPD; Average initial daily injection volume: 6,000 bbls; Maximum daily injection volume: 9,000 bbls; Over the life of the Entrada producing wells generating water to be disposed of, the water cut will continually increase necessitating increased injection volumes over time.
2. The system will be a closed system.
3. Average wellhead injection pressure is anticipated at 400-500 psi. Maximum proposed wellhead injection pressure is approximately 1,350 psi. The maximum injection pressure will be based on the depth of the uppermost perforation of the injection interval. The injection facility will have calibrated water flow measuring device as well as calibrated pressure gauges and recording meter.
4. The source water to be injected by this well is water produced from HPOC's nearby Entrada reservoir oil wells. The proposed well will inject into the Entrada Formation. Water analyses from nearby (regional) Entrada wells are presented subsequently. The general water chemistry of the Entrada Formation transected by the proposed well is in all likelihood similar to the waters from near-by Entrada wells. HPOC will collect an Entrada Formation water sample following perforation of the proposed well, have analyzed, and submit the results to NM OCD.
5. The Entrada Formation has no record of being productive of oil within two miles of this proposed injection well. The Ojo Encino Entrada oil pool appears limited to the dune structure based on HPOC's 3-D seismic survey as well as intervening non-productive wells. No indication of oil-favorable structural/stratigraphic control is interpreted from HPOC's review of available information. HPOC will log the SWD well, and collect an Entrada Formation water sample following perforation, have analyzed, and submit the results to NM OCD.

APPLICATION FOR AUTHORIZATION TO INJECT; SECTION VII (cont.)

(Water analyses of source – produced - water)

(HPOC21Federal#1H)

Core Laboratories LP
High Plains

Well: 2 Federal 21
Colorado

Routine Water Analysis

PENCOR ID No. 36840-01
Date and time collected: not provided
Ojo Encino 21 Federal 1H

Cations		Test Method	(mg/l)	MW	Valence	Meq/l
Calcium	Ca^{+2}	ICP	235	40.08	2.0	11.83
Iron (dissolved)	Fe^{+2}	ICP	0.9	55.85	2.0	0.03
Magnesium	Mg^{+2}	ICP	11	24.31	2.0	0.91
Sodium	Na^{+}	ICP	3,080	22.99	1.0	133.89

Anions		Test Method	(mg/l)	MW	Valence	Meq/l
Alkalinity (as Bicarbonate)	HCO_3^-	Titration	290	61.02	1.0	4.72
Carbonate	CO_3^{-2}	Titration	0.0	60.01	2.0	0.00
Chloride	Cl^-	Titration / IC	1,020	35.45	1.0	28.66
Sulfate	SO_4^{-2}	IC	5,460	96.06	2.0	113.69

Total Cation Meq's	147
Total Anion Meq's	147
TDS (mg/l)	10,097
TDS (ppm)	10,012
Ion Balance	0.001

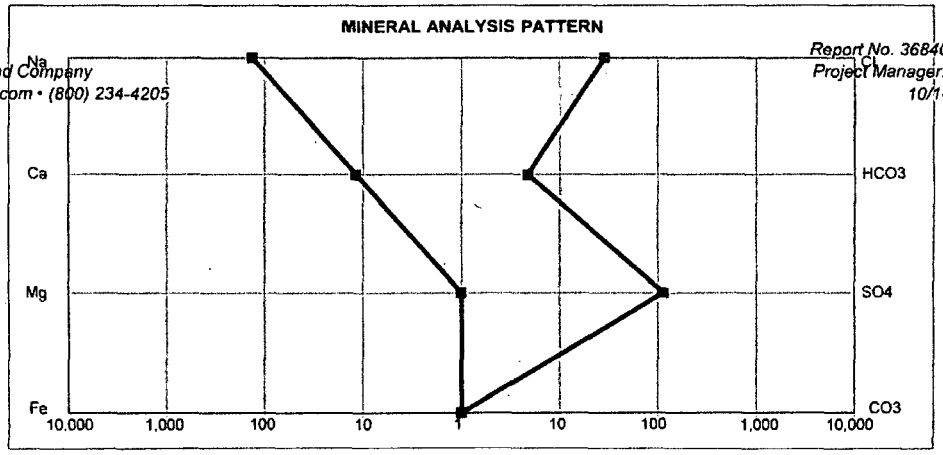
Stability Index at 100 °F	-1.91
Stability Index at 200 °F	-0.08

% Deviation in Meq. Bal.	0.14
% Deviation in TDS	9.81

pH	7.08
Resistivity (Ohm-Meter) at 77 °F	0.74
Conductivity, microSiemens/cm	13,570
Specific Gravity 60 / 60 °F	1.0095

QA/QC Run ID's

ICP	10132010 1 to 4
IC - Anions	March 2010 # 794
IC - Organic Acids	N/A
Titration - Bicarbonates and Chloride	10132010



PENCOR
An ISO 9001 Registered Company
info.pencor@CoreLab.com • (800) 234-4205

Report No. 36840-505059000726
Project Manager: J. Trent Meche
10/14/2010, pg 1 of 1

APPLICATION FOR AUTHORIZATION TO INJECT; SECTION VII (cont.)

(Water analyses thought to be typical of Entrada injection zone water)

HPOC Eagle Springs 8Fed#2M

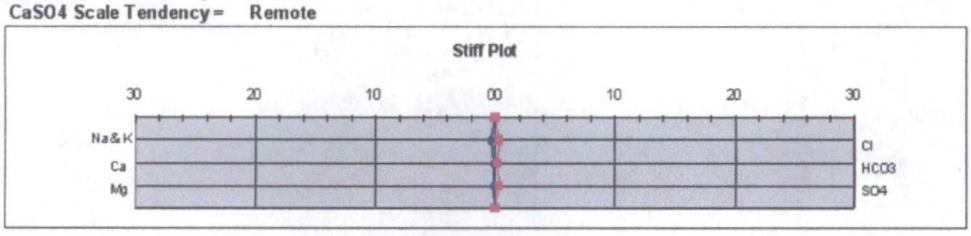
Key Pressure Pumping Services
Water Analysis Result Form
Farmington, NM.
708 S. Tucker
Phone:(505)325-4192
Fax:(505)564-3524
Zip:87401

Operator:	High Plains Operating	Sample Date:	August 28, 2007
		Analysis Date:	August 29, 2007
Well	Eagle Springs 8 Fed 2M	District:	Farmington
Formation:	Entrada	Requested By:	Brad Salzman
County:	San Juan, NM	Technician:	Roger Nash
Depth:		Source:	1" connection

PHYSICAL AND CHEMICAL DETERMINATION

SPECIFIC GRAVITY:	1.010	84 (°F)	S.G. (Corrected):	1.010
pH:	7.77		MAGNESIUM:	19 ppm
RESISTIVITY:	0.74	ohm/meter	CALCIUM:	32 ppm
IRON:	0.10	ppm	BICARBONATES:	242 ppm
H2S:	0	ppm	CHLORIDES:	2772 ppm
POTASSIUM:	15	ppm	SODIUM:	1824 ppm
SULFATES:	173	ppm	TDS:	5077 ppm

CaCO3 Scale Tendency = Remote
CaSO4 Scale Tendency = Remote



Data contained in this document is based on the best information & most current test procedures and materials available. No liability is expressed or implied.

APPLICATION FOR AUTHORIZATION TO INJECT; SECTION VII (cont.)

(Water analyses thought to be typical of Entrada injection zone water)

(Dome 21Federal#1)

CL1-12A (REV. 1964)

CHEMICAL & GEOLOGICAL LABORATORIES

P. O. Box 2794
Casper, Wyoming

WATER ANALYSIS REPORT

OPERATOR Dome Petroleum Corp. DATE October 28, 1976 LAB NO. 21604-1
WELL NO Federal 21 No. 1 LOCATION Sec. 21-20N-5W
FIELD Wildcat FORMATION Entrada
COUNTY McKinley INTERVAL
STATE New Mexico SAMPLE FROM (10-20-76)

REMARKS & CONCLUSIONS:

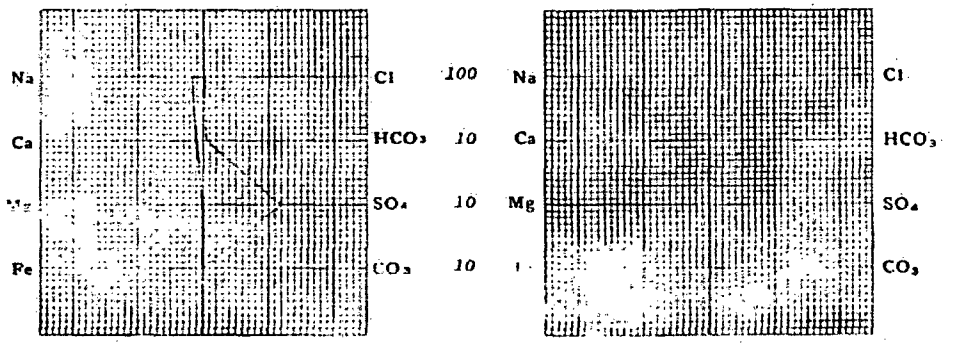
Cations	mg/l	meq/l	Anions	mg/l	meq/l
Sodium	3301	143.61	Sulfate	5900	122.72
Potassium	67	1.72	Chloride	1070	30.17
Lithium			Carbonate	-	
Calcium	238	11.88	Bicarbonate	293	4.81
Magnesium	6	0.49	Hydroxide		
Iron	-		Hydrogen sulfide	-	
Total Cations		157.70	Total Anions		157.70

Total dissolved solids, mg/l	10726	Specific resistance @ 68°F.:	
NaCl equivalent, mg/l	7705	Observed	0.90 ✓ ohm-meters
Observed pH	7.6	Calculated	0.86 ✓ ohm-meters

WATER ANALYSIS PATTERN

Sample above described

Scale MEQ per Unit



(Na value in above graphs includes Na, K, and Li)
NOTE: Mg/l Milligrams per liter Meq/l Milligram equivalents per liter
Sodium chloride equivalent by Dunlap & Hawthorne calculation from components

APPLICATION FOR AUTHORIZATION TO INJECT; SECTION VII (cont.)

(Water analyses thought to be typical of Entrada injection zone water)

(Merrion Arena Blanca 36Fed#1)

30-121-85

FIELD RECEIPT NO. N/A

API FORM 45:

API WATER ANALYSIS REPORT FORM

Company		Sample No.	Date Sampled
MERRION OIL & GAS		1	
Field	**Legal Description**	**County or Parish**	**State**
Wildcat Entrada	Sec.36, T20N, R5W	McKinley	NM
Lease or Unit	**Well**	**Depth**	**Formation**	**Water, B/D**
Arena Blanco	#1	5575	Entrada	water
Type of Water (Produced, Supply, etc.)	**Sampling Point**		**Sampled By**
produced	wellhead		RD

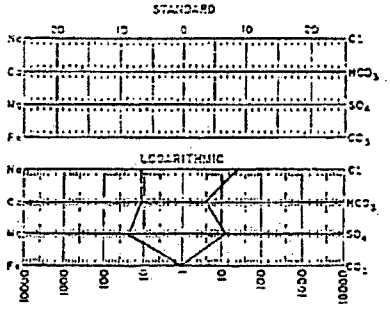
DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	292	12.7
Calcium, Ca	228	11.4
Magnesium, Mg	335	27.6
Barium, Ba	-	-
Potassium, K^+	23.0	.588
ANIONS		
Chloride, Cl	1128	31.8
Sulfate, SO_4	750	15.6
Carbonate, CO_3	-0-	-0-
Bicarbonate, HCO_3	299	4.9
Total Dissolved Solids (calc.)	3055	
Iron, Fe (total)	0	
Sulfide, as H_2S	-0-	

OTHER PROPERTIES

pH	7.5
Specific Gravity, 60/60 F.	1.016
Resistivity (ohm-meters) 69°F.	0.80
Total hardness	1950

WATER PATTERNS — me/l



REMARKS & RECOMMENDATIONS:

ANALYST: Russ Pyeatt/
Clay Terry

THE WESTERN COMPANY OF
NORTH AMERICA, FARMINGTON, NM
(505) 327-6222

Please refer any questions to: Clay Terry, District Engineer or
Tom Burris, Field Engineer

APPLICATION FOR AUTHORIZATION TO INJECT; SECTION VII (cont.)

(Water analyses thought to be typical of Entrada injection zone water)

(Limark 27Fed#1)

EXHIBIT "F"
Page 1 of 3

Martin Water Laboratories, Inc.

P. O. BOX 1468
MONAHANS, TEXAS 79756
PH. 943-3234 OR 683-1040

708 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 398128
SAMPLE RECEIVED 3-12-98
RESULTS REPORTED 3-16-98

TO: Mr. Mark Philpy
P.O. Box 10708, Midland, TX 79702

COMPANY Limark Corp. LEASE Federal 27 #1
FIELD OR POOL Wildcat
SECTION ____ BLOCK ____ SURVEY ____ COUNTY Sandoval STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Recovered water - taken from Federal 27 #1, 3-10-98
NO. 2
NO. 3 * Produced water to be reinjected
NO. 4
REMARKS: Entrada

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0109			
pH When Sampled				
pH When Received	7.37			
Bicarbonate as HCO_3	415			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	330			
Calcium as Ca	120			
Magnesium as Mg	7			
Sodium and/or Potassium	2,792			
Sulfate as SO_4	4,826			
Chloride as Cl	739			
Iron as Fe	27.5			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	8,899			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0			
Resistivity, ohm-m at 77° F.	0.900			
Suspended Oil				
Filterable Solids as mg/l				
Volume Filtered, ml				

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks: The above results reveal a slight decline in the calcium and sodium chloride levels of this water as compared to that recovered 2-7-98 and reported on laboratory #29853. However, the water still has basically the same characteristics as encountered previously. We do note a significantly lower iron content at this time.

Form No. 3

By Waylan C. Martin, M.A.

EXHIBITS TO ACCOMPANY
APPLICATION FOR AUTHORIZATION TO INJECT; SECTION VIII.
(Geologic Description of the Injection Zone)

The objective disposal reservoir is the Entrada Formation. The Entrada Formation in the southeastern part of the San Juan Basin is predominantly eolian sand deposited during the Middle Jurassic. The Entrada disposal reservoir is composed of fine-grained, well-sorted sandstone, massive or horizontally bedded in the upper part and thinly laminated, with steeply dipping cross bedding, in the lower part. Porosity (23 percent average) and permeability (370 millidarcies average) are very good throughout. The reservoir thickness is expected to be approximately than 175 ft. The Entrada is anticipated to be encountered in the range of 5,752 to 5,927 ft deep.

Essentially all domestic and municipal water is from the Ojo Alamo Aquifer (Torreon Sub area which includes the Chapters of Counselor, Ojo Encino, Torreon, and Pueblo Pintado. The base of the Ojo Alamo (an unconformity with the underling Cretaceous-age formations) is approximately 300 ft deep in this area. HPOC is unaware of any aquifers below the Ojo Alamo with a TDS of 10,000 mg/L, or less, though some samples of Entrada Formation water from wells in the region show TDS ranging from 5,000 mg/L to more than 10,000 mg/L (see previous section).

There are no known fresh water zones below the proposed injection zone (Entrada).

EXHIBITS TO ACCOMPANY

APPLICATION FOR AUTHORIZATION TO INJECT; SECTION IX.

(Description of stimulation program)

HPOC will determine the final program for stimulation of this well after drilling and logging.

It is anticipated that the injection perforations will be broken down with produced Entrada water and rates and pressures measured. If 6 bbls/minute at a maximum of 1,350 p.s.i. is not attained, the perforations will be treated with 2,000 gals of 15% HCL with 100% excess ball sealers and flushed with 50 bbls of water and rates and pressures will be tested again. Depending on these results, fracture stimulation may be considered, with notice to and approval from OCD prior to any fracture treatment.

EXHIBITS TO ACCOMPANY

APPLICATION FOR AUTHORIZATION TO INJECT; SECTION XI.

(Chemical analysis of water from fresh-water wells within 1 mile)

According to published records, there are no fresh water wells within one mile of the proposed injection well.

New Mexico Office of the State Engineer

Wells Without Well Log Information

No wells found.

Basin/County Search:

County: McKinley

UTMNAD83 Radius Search (In meters):

Easting (X): 282980.93 **Northing (Y):** 3978468.32 **Radius:** 2000

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

10/12/11 10:25 AM Page 1 of 1 WELLS WITHOUT WELL LOG INFORMATION

New Mexico Office of the State Engineer

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10/12/11 10:25 AM Page 1 of 1 WELLS WITH WELL LOG INFORMATION

EXHIBITS TO ACCOMPANY

APPLICATION FOR AUTHORIZATION TO INJECT; SECTION XII.

(Certification of information)

HPOC, LLC does hereby state that we have examined all available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

EXHIBITS TO ACCOMPANY

APPLICATION FOR AUTHORIZATION TO INJECT; SECTION XIII.

(Notice to surface and mineral owners, publication)

As of this 18 day of November, 2011, HPOC, LLC has delivered via courier service a copy of this application to the following:

SURFACE OWNER

Mr. Jim Lovato
United States Department of the Interior
Bureau of Land Management
1235 La Plata Highway, Ste. A
Farmington, NM 87401

OFFSET MINERAL OWNER—UNLEASED FEDERAL TRACT COVERING THE SW/4 OF SECTION 30 T20N R5W

Attn: Jim Lovato
United States Department of the Interior
Bureau of Land Management
1235 La Plata Highway, Ste. A
Farmington, NM 87401

OFFSET MINERAL OWNER—LEASED FEDERAL TRACT NM|NM126075 COVERING THE SW/4 OF THE SW/4 SECTION 29, AND SE/4 OF SECTION 30, AND E/2 OF THE NE/4 OF SECTION 31 T20N R5W

Mr. John Michael Richardson
J Bar Cane Inc.
P.O. Box 16
Stanley, NM 87056

OFFSET MINERAL OWNER—LEASED FEDERAL TRACT NM|NM113426 COVERING THE NE/4 OF SW/4, AND LOTS 1&2 OF SECTION 31 T20N R5W

Pintado Oil & Gas LLC
909 Fannin Street #2600
Houston, TX 77010

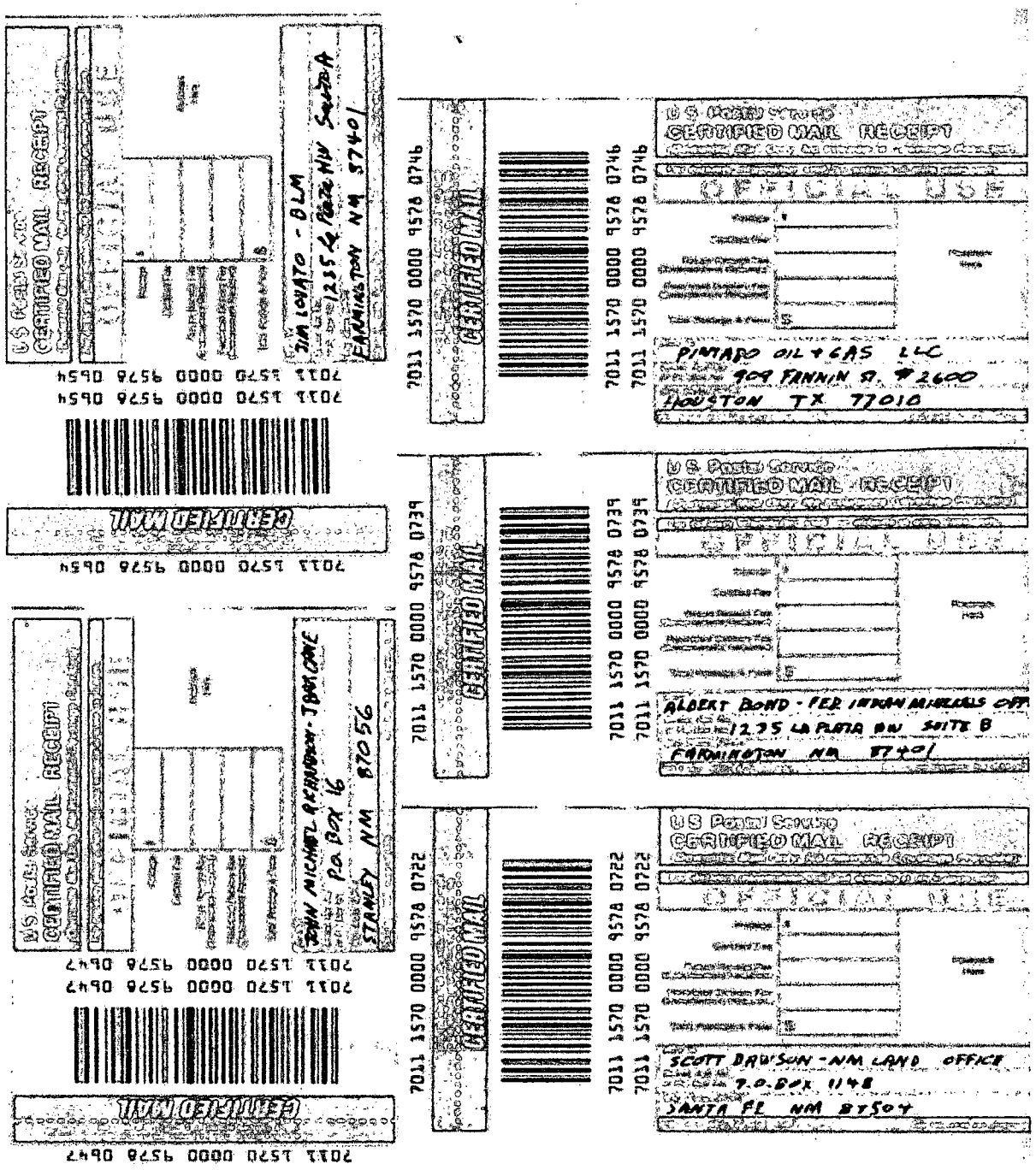
OFFSET MINERAL OWNER—NAVAJO ALLOTTED COVERING SE/4 OF SECTION 31 T20N R5W

Mr. Albert Bond, Director
Federal Indian Minerals Office
Agent for Navajo Allottees
1235 La Plata Highway, Ste. B
Farmington, NM 87401

STATE OFFSET MINERAL OWNER— COVERING SECTION 32 T20N R5W

Mr. Scott Dawson
New Mexico Land Office
P.O. Box 1148
Santa Fe, NM 87504-1148

Mail certificates:



PROOF OF PUBLICATION

As of this 30th day of November 2011, HPOC, LLC has received a notice for publication to the following:

Gallup Independent (to be published in the December 1, 2011 edition)

LEGAL NOTICE
Gallup - McKinley County
New Mexico

NOTICE. HPOC, LLC, Attn: Michael S. Allen, Box 5046, Buena Vista, CO 81211 (719-395-8059) is making application to the New Mexico Oil Conservation Division for administrative approval to dispose of produced water into the Entrada Formation through perforations from approximately 5,752 ft to 5,927 ft measured depth in the Ojo Encino 31 Federal-SWD 1 well located 340 ft FNL and 2,300 ft FEL of section 31-T20N-R5W, McKinley County, NM. The maximum expected injection rate is 9,000 bbls of water per day and the maximum expected injection pressure is 1,350 psi. Interested parties may file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, NM 87505 within 15 days of the date of publication of this notice.

Legal # XXXX Published in The Independent December 1 & 2 & 3 & 5 & 6, 2011.

Jones, William V., EMNRD

From: mallen@chaffeeco.net
Sent: Wednesday, December 07, 2011 11:02 AM
To: Jones, William V., EMNRD
Subject: Re: Disposal application from HPOC, LLC: proposed Ojo Encino 31 Fed SWD #1 30-031-NA Entrada perforations
Attachments: Attachment information; Mail Certificates.pdf

Will,

Please find attached the mail certifications (stamped). They were sent on December 1, 2011.

Also, based on our review of the State water resource records, we can find no evidence of any water wells within a mile of the site.

The following pantograph is from our APD discussing our logging plan for the well:

"The logging suite will consist of a Triple-combo log; Gamma Ray-Formation Density Log-Compensated Neutron Log-Spontaneous Potential-Array Induction Log. The Array Induction Log will be run over the open hole from +/- 400¢ to TD. The porosity log will be run over the logging contractor's minimum footage requirement and any potential injection intervals."

We do not anticipate the need to inject any water produced from other than the Entrada at this time. I assume that if the need arose, we would need to re-apply with you in order to do so. Correct?

The location of the proposed well has not changed, but if it does, I will let you know as soon a possible.

Please let me know if you have any other questions or need additional information.

Mike

On 6 Dec 2011 at 23:55, Jones, William V., EMNRD wrote:

>

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Tuesday, December 06, 2011 4:56 PM
To: 'mallen@highplainsop.com'
Cc: Ezeanyim, Richard, EMNRD; Perrin, Charlie, EMNRD
Subject: Disposal application from HPOC, LLC: proposed Ojo Encino 31 Fed SWD #1 30-031-NA Entrada perforations

Hello Mr. Allen,

Thank you for the application. Looked it over today and preparing a permit for release 12/16/11.

I didn't see any dates on the notices, do you remember when then went out?
Are there any shallow fresh water wells or windmills within 1 mile of this location? If so, please collect a sample and send the analysis in to me.

What sort of logging program do you have planned?
Are you OK with limiting disposal into this proposed Entrada well to only Entrada produced waters?

Let me know of any pending changes in the planned spud location.

Thank You,

William V Jones, P.E.
Engineering, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505
Tel 505.476.3448 ~ Fax 505.476.3462

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Wednesday, December 07, 2011 11:11 AM
To: 'mallen@chaffeeco.net'
Cc: Perrin, Charlie, EMNRD
Subject: RE: Disposal application from HPOC, LLC: proposed Ojo Encino 31 Fed SWD #1 30-031-NA Entrada perforations

Thanks Mike,
I have this ready to release after the wait period – 12/21/11 is about 15 days after it was received here – as long as no protests arrive.

As far as expanding this permit to allow taking oil field waste waters other than from the Entrada.
If you want to do that, please do a log analysis of the logs you plan to run on this proposed well to check for implied salinity. If your logs get interrupted by hole issues, then you would need to swab test the well for this future amendment. If the salinity from logs or swabbing is more than 10,000 mg/l TDS and you want to do this, send in another C-108 with new notices and we can then likely issue another permit allowing other types of water.

Have a wonderful holiday in Buena Vista... (maybe go to the Princeton Hot Springs?)

Will Jones
New Mexico
Oil Conservation Division
Images Contacts

From: mallen@chaffeeco.net [mailto:mallen@chaffeeco.net]
Sent: Wednesday, December 07, 2011 11:02 AM
To: Jones, William V., EMNRD
Subject: Re: Disposal application from HPOC, LLC: proposed Ojo Encino 31 Fed SWD #1 30-031-NA Entrada perforations

Will,

Please find attached the mail certifications (stamped). They were sent on December 1, 2011.

Also, based on our review of the State water resource records, we can find no evidence of any water wells within a mile of the site.

The following pantograph is from our APD discussing our logging plan for the well:

STEIN & BROCKMANN, P.A.

ATTORNEYS AT LAW

JAY F. STEIN*
JAMES C. BROCKMANN*
SETH R. FULLERTON

Of Counsel
KATHERINE W. HALL

* New Mexico Board Certified Specialists in Water Law

STREET ADDRESS
505 Don Gaspar Avenue
Santa Fe, New Mexico 87505

MAILING ADDRESS
Post Office Box 2067
Santa Fe, New Mexico 87504-2067
Telephone: 505-983-3880
Telecopier: 505-986-1028

December 20, 2011

Hand Delivered
And Via First Class Mail

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

Re: Objection and Request for Hearing

The City of Gallup ("Gallup"), by and through its counsel, Stein & Brockmann, P.A., hereby submits this objection and request for hearing with regard to HPOC, LLC's application to the New Mexico Oil Conservation Division for administrative approval to dispose of produced water into the Entrada Formation through perforations from approximately 5,752 feet to 5,927 feet measured depth in the Ojo Encino 31 Federal-SWD 1 well located 340 feet FNL and 2,300 feet FEL of section 31, T20N, R5W, McKinley County, NM. The City of Gallup has existing groundwater wells, water rights, and pending applications for additional water rights, which groundwater is used for municipal purposes and is concerned about this application in that respect.

This objection and request for hearing was going to be filed yesterday, but it could not be because all state offices were closed due to the weather. Please feel free to contact me if you have any questions.

Sincerely,

JAMES C. BROCKMANN

cc: Lance Allgood

P:\Gallup\Protests\OCD\Objection re Ojo Encino 31 Federal-SWD 1 well injection of produced water.doc

Jones, William V., EMNRD

From: James C. Brockmann [JCBrockmann@newmexicowaterlaw.com]
Sent: Tuesday, December 20, 2011 11:24 AM
To: Jones, William V., EMNRD
Subject: Objection and protest
Attachments: DOC (2).PDF

Will, I left you a voice message earlier this morning to discuss the attached letter. Please give me a call at 983-3880 to discuss this further. Thank you. Jim

James C. Brockmann
Stein & Brockmann, P.A.
P.O. Box 2067
Santa Fe, NM 87504-2067
(505) 983-3880
(505) 986-1028 (fax)
jcbrockmann@newmexicowaterlaw.com

STEIN & BROCKMANN, P.A.
ATTORNEYS AT LAW

JAY F. STEIN*
JAMES C. BROCKMANN*
SETH R. FULLERTON

Of Counsel
KATHERINE W. HALL

* New Mexico Board Certified Specialists in Water Law

STREET ADDRESS
505 Don Gaspar Avenue
Santa Fe, New Mexico 87505

MAILING ADDRESS
Post Office Box 2067
Santa Fe, New Mexico 87504-2067
Telephone: 505-983-3880
Telecopier: 505-986-1028

January 31, 2012

PDF and First Class Mail

William V. Jones, Engineer
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RECEIVED OCD
2012 JAN 32 P 1:

Re: Withdrawal of City of Gallup Objection and Request for Hearing

The City of Gallup ("Gallup"), by and through its counsel, Stein & Brockmann, P.A., hereby withdraws its objection and request for hearing with regard to HPOC, LLC's application to the New Mexico Oil Conservation Division for administrative approval to dispose of produced water into the Entrada Formation through perforations from approximately 5,752 feet to 5,927 feet measured depth in the Ojo Encino 31 Federal-SWD 1 well located 340 feet FNL and 2,300 feet FEL of section 31, T20N, R5W, McKinley County, NM. Please feel free to contact me if you have any questions.

Sincerely,

JAMES C. BROCKMANN

cc: Lance Allgood
Mike Allen
Butch Butler

Injection Permit Checklist (11/15/2010)

WFX____ PMX____ SWD 1318 Permit Date ~~12/6/11~~ UIC Qtr ~~QTR~~

Wells 1 Well Name(s): OJO ENCINO 31 FED SWD #1

API Num: 30-0 31- NA Spud Date: NEW New/Old: N (UIC primacy March 7, 1982)

Footages 340 FNL/2300 FEL Unit B Sec 31 Tsp 20N Rge 5W County McKINLEY

General Location: 25 mi SW of CUBA

Operator: HPOC, LLC Contact Michael S. ALLEN

OGRID 371238 RULE 5.9 Compliance (Wells) 0/5 (Finan Assur) OK IS 5.9 OK? OK

Well File Reviewed NONE Current Status: NOT DRILLED

Planned Work to Well: Drill, EQUIP, DISPOSE

Diagrams: Before Conversion____ After Conversion ✓ Elogs in Imaging File:

Well Details:	Sizes Hole.....Pipe	Setting Depths	Stage Tool	Cement Sx or Cf	Determination Method
New ✓ Existing __ Surface	12 1/4 9 5/8	400	—		CIRC
New __ Existing __ Interm					
New ✓ Existing __ LongSt	8 3/4 7	5987	—		CIRC
New __ Existing __ Liner					
New ✓ Existing __ OpenHole		5927-5987			

Depths/Formations:	Depths, Ft.	Formation	Tops?
Formation(s) Above	5752	ENTRADA	✓
Injection TOP:	5752	ENTRADA	Max. PSI 1150 OpenHole ~~✓~~ Perfs ✓
Injection BOTTOM:	5927	"	Tubing Size 3 1/2 Packer Depth ____
Formation(s) Below	5927	CHINLE	✓

APPROX

5752 ? 1150#

~~Capitan Reef?~~ ____ (~~Potash?~~ ____ ~~Noticed?~~ ____) [~~WIPP?~~ ____ ~~Noticed?~~ ____] ~~Salado Top/Bot~~ ____ ~~Cliff House?~~ ____ ?

Fresh Water: Depths: <300' Formation ~~OJO~~ ALAMO Wells? 0 Analysis? ____ Affirmative Statement ____

Disposal Fluid Analysis? ✓ Sources: ENTRADA INTO ENTRADA

Disposal Interval: Analysis? ____ Production Potential/Testing:

Notice: Newspaper Date 12/1/11 Surface Owner BLM Mineral Owner(s)

RULE 26.7(A) Affected Persons: See A.P.

AOR: Maps? ✓ Well List? ✓ Producing in Interval? NO Wellbore Diagrams? ✓

.....Active Wells 0 Repairs? — WhichWells? —

.....P&A Wells 0 Repairs? — Which Wells? —

Issues: Permission To Take Waters offset from Entrada ?

Request Sent ____ Reply: ____