Jones, William V, EMNRD

From: Stan Wagner <Stan_Wagner@eogresources.com>
Sent: Tuesday, March 31, 2015 6:59 AM
To: Jones, William V, EMNRD
Subject: RE: EOG Resources Inc.: SWD application for Aztec 22 Federal Well No. 1 30-025-29216 Queen, Grayburg, San Andres Disposal 4000 to 5075 feet

Good morning Will,

Sorry it has taken so long to respond to this email. Yes, we can cancel this application.

Thank you,

Stan Wagner
EOG Resources – Midland Regulatory
432-686-3689

From: Jones, William V, EMNRD [mailto:WilliamV.Jones@state.nm.us]
Sent: Friday, March 06, 2015 7:30 PM
To: Stan Wagner
Cc: Sanchez, Daniel J., EMNRD; Goetze, Phillip, EMNRD; efernand@blm.gov; Brown, Maxey G, EMNRD
Subject: EOG Resources Inc.: SWD application for Aztec 22 Federal Well No. 1 30-025-29216 Queen, Grayburg, San Andres Disposal 4000 to 5075 feet

Hello Stan,
Hope all is well with you today!

I am now looking over this proposed SWD.
I know you have an approved NOI from the BLM for this work – with many conditions –
but the well is still reporting about 3 barrels per day from the Bone Spring, so let me know if you still need this disposal well?
What is the economic limit oil producing rate of this well?

There is the East Corbin Delaware Unit very close nearby to the northwest, and the 5075 feet bottom of this proposed disposal interval is close to the top of the Delaware.
Is there any possibility the Delaware reserves could be harmed by this disposal?
At what depth is the Delaware productive in the East Corbin Delaware Unit?

We don't have a water analysis from this proposed interval showing it is less than 10,000 tds
or any discussion of hydrocarbon productivity potential in this proposed disposal interval in this well or surrounding wells.
Would you ask your geologist or petrophysicist to send a paragraph about these two subjects?

Also ask them in this well, what is the tops of the Queen, Grayburg, and San Andres?

It looks like COG Operating LLC has an active well in Unit letter A of Section 22.
Please send a certified notice to that entity or ask them to sign a waiver.

Call or email if you need to,
Many Regards;

Will

William V. Jones, P.E., District IV Supervisor
Oil Conservation Division http://www.emnrd.state.nm.us/ocd/
1220 South St. Francis Drive, Santa Fe, NM 87505
P: 505.476.3477 C: 505.419.1995

Jones, William V, EMNRD

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C-108 Review Checklist: Received ________ Add. Request: ________ Reply Date: ________ Suspended: ________ *[Ver 14]*

PERMIT TYPE: WFX / PMX / (SWD) Number: ________ Permit Date: ________ Legacy Permits/Orders: ________

Well No. 1 Well Name(s): AZTEC 22 Fed ~~E~~

API : 30-0 25-29216 Spud Date: 85 (New) or Old: ____ *(UIC Class II Primacy 03/07/1982)*

Footages 1980FNL/1980FWL ~~Lot~~ or Unit F Sec 22 Tsp 18S Rge 33E County ________

General Location: ________ Pool: ________ Pool No.: ________

BLM 100K Map: ________ Operator: EOG Resources INC OGRID: 7377 Contact: Stan Wagner

COMPLIANCE RULE 5.9: Total Wells: 574 Inactive: 1 Fincl Assur: ✓ Compl. Order? ____ **IS 5.9 OK?** ____ **Date:** 3/6/15

WELL FILE REVIEWED ✓ Current Status: NOI approved BY BLM To PLUG Back ~~Producing in BS~~

WELL DIAGRAMS: NEW: Proposed ○ or **RE-ENTER:** Before Conv. ○ After Conv. ○ Logs in Imaging: ✓

Planned Rehab Work to Well: PLUG Back Perf.

Well Construction Details	Sizes (in) Borehole / Pipe	Setting Depths (ft)		Cement Sx or Cf	Cement Top and Determination Method
Planned __or Existing __Surface			Stage Tool		
Planned __or Existing __Interm/Prod					
Planned __or Existing __Interm/Prod					
Planned __or Existing __Prod/Liner					
Planned __or Existing __Liner					
Planned __or Existing __OH / (PERF)			Inj Length 1075		

Injection Lithostratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops
Adjacent Unit: Litho. Struc. Por.	[redacted]	ARTESIA GRP	✓
Confining Unit: Litho. Struc. Por.			
Proposed Inj Interval TOP:	4000'	Queen (BS)	
Proposed Inj Interval BOTTOM:	5075'	Sandstone	
Confining Unit: Litho. Struc. Por.			
Adjacent Unit: Litho. Struc. Por.	[redacted]		

Completion/Operation Details:

Drilled TD ________ PBTD ________

NEW TD ________ NEW PBTD ________

NEW Open Hole ○ or NEW Perfs ○

Tubing Size ____ in. Inter Coated? ____

Proposed Packer Depth ____ ft

Min. Packer Depth ____ (100-ft limit)

Proposed Max. Surface Press. ____ psi

Admin. Inj. Press. ____ (0.2 psi per ft)

AOR: Hydrologic and Geologic Information

~~POTASH: R-111-P ○ Noticed?~~ BLM Sec Ord ~~○ WIPP~~ ○ Noticed? ____ SALT/SALADO T: 1660 B: 2950 ~~CLIFF HOUSE~~

FRESH WATER: Aquifer Ogallala/Pleistocene Max Depth 250' **HYDRO AFFIRM STATEMENT By Qualified Person** ○

NMOSE Basin: ____ ~~CAPITAN REEF: thru○~~ adj○ NA(○) **No. Wells within 1-Mile Radius?** O FW ~~Analysis~~○

Disposal Fluid: Formation Source(s) BS WC Del Analysis? ✓ On Lease ○ Operator Only ○ or Commercial ○

Disposal Int: Inject Rate (Avg/Max BWPD): ________ Protectable Waters? ____ Source: ________ System: Closed○ or Open○

HC Potential: Producing Interval? ____ Formerly Producing? ____ Method: Logs/DST/P&A/Other ________ 2-Mile Radius Pool Map ○

AOR Wells: 1/2-M Radius Map? ✓ Well List? ✓ Total No. Wells Penetrating Interval: 4 Horizontals? ~~2~~

Penetrating Wells: No. Active Wells 2 Num Repairs? 0 on which well(s)? — Diagrams? —

Penetrating Wells: No. P&A Wells 2 Num Repairs? 0 on which well(s)? — Diagrams? —

NOTICE: Newspaper Date 6/1/14 Mineral Owner EOG Surface Owner BLM N. Date 5/23/14

RULE 26.7(A): Identified Tracts? ____ Affected Persons: EOG/Sealy Oil Co. N. Date 6/~~13~~/14

Permit Conditions: Issues: STILL Producing in BS

Add Permit Cond: Run Bond LOG/Evaluate before SWD Perfs

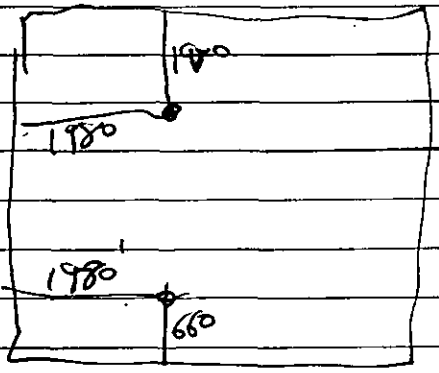
Need TOPS & Recom

CLOSE Vertical To Delaware (5184 to 1 Perf) Tunnel (SubZ interval)

County Pool

TOWNSHIP Range NMPM

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36



1980
660
2640

COG Operg LLC
A-22

DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
07-01-2014		PG	07/02/2014	SWD	PEH1418332369

ABOVE THIS LINE FOR DIVISION USE ONLY

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]

SWD 7377

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

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD 30-025-29216 Pool 13160 CARLSBAD; BONE SPRING SOUTH

Check One Only for [B] or [C] Queen, SAN Andres

[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 _____

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[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

[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.

Stan Wagner	Stan Wagner	Regulatory Analyst	6/25/14
Print or Type Name	Signature	Title	Date

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? __X__ Yes _____ No

II. OPERATOR: EOG Resources, Inc.

ADDRESS: P.O. Box 2267 Midland, TX 79702

CONTACT PARTY: Stan Wagner PHONE: 432-686-3689

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.

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.

VII. Attach data on the proposed operation, including:

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.

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).

*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.

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.

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: Stan Wagner TITLE: Regulatory Analyst

SIGNATURE: Stan Wagner DATE: 6/25/14

E-MAIL ADDRESS: _____

* 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

Side 1

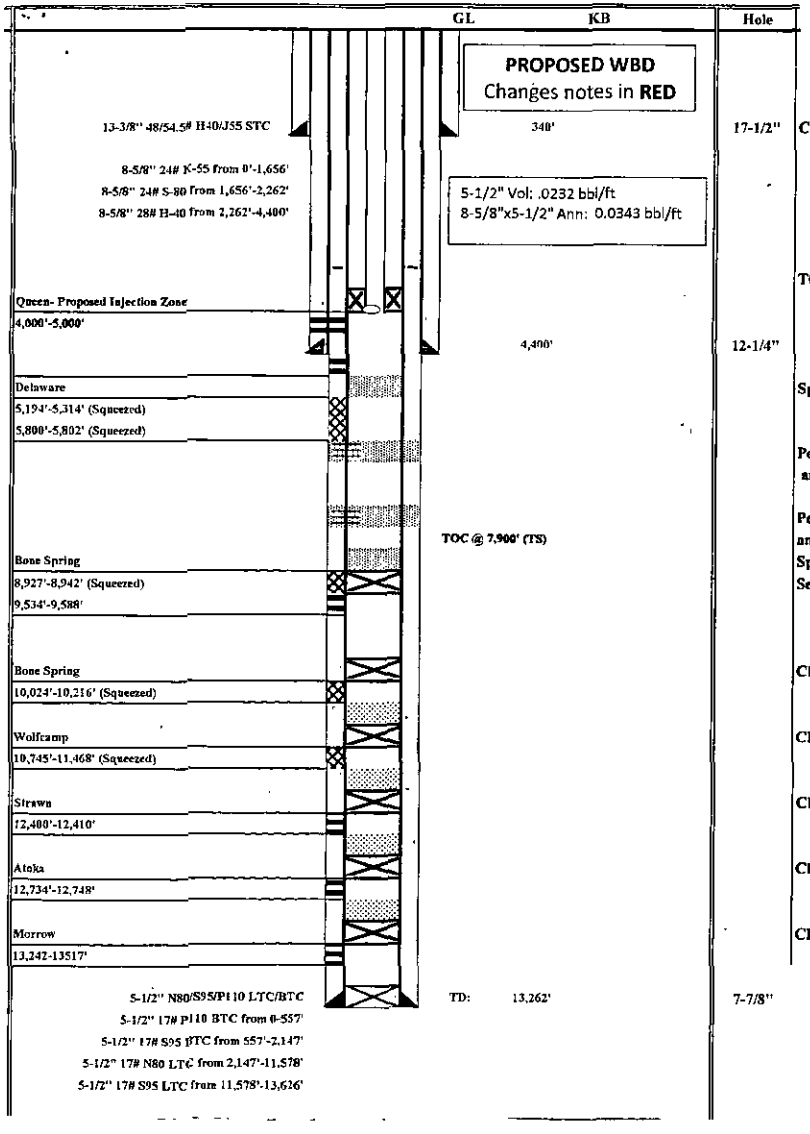
INJECTION WELL DATA SHEET

OPERATOR: EOG Resources, Inc.

WELL NAME & NUMBER: Aztec 22 Fed 1

WELL LOCATION:	1980' FNL & 1980' FWL	F	22	18S	33E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17-1/2 Casing Size: 13-3/8 @ 340'

Cemented with: 375 C sx. *or* _____ ft³

Top of Cement: Surface Method Determined: Circulation

Intermediate Casing

Hole Size: 12-1/4 Casing Size: 8-5/8 @ 4400'

Cemented with: 2400 C sx. *or* _____ ft³

Top of Cement: Surface Method Determined: Circulation

Production Casing

Hole Size: 7-7/8 Casing Size: 5-1/2 @ 13626'

Cemented with: 1050 H sx. *or* _____ ft³

Top of Cement: 7900' Method Determined: TS

Total Depth: 13626'

Injection Interval

4000 feet to 5075'

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2-7/8" Lining Material: Plastic Coated

Type of Packer: 5-1/2" Plastic Coated / Nickel Plated Injection Packer

Packer Setting Depth: +/- 4000'

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

Additional Data

1. Is this a new well drilled for injection? _____Yes X No

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

2. Name of the Injection Formation: Queen / San Andres

3. Name of Field or Pool (if applicable): SWD; Queen - San Andres

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.

   Various zones isolated by CIBPs . Plugback procedure enclosed.

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

Delaware	5100'
Bone Spring	7242'
Wolfcamp	10862'

APPLICATION FOR AUTHORIZATION TO INJECT
AZTEC 22 FED NO. 1

VII. PROPOSED OPERATION

(1) Proposed Average Daily Rate and Volume: 5200 BWIPD
Proposed Maximum Daily Rate and Volume: 10000 BWIPD

(2) Open or Closed System: Closed

(3) Proposed Average Injection Surface Pressure: 1000 psi
Proposed Maximum Injection Surface Pressure: 2000 psi
Note: Original Delaware formation BHP 9500 psi.

(4) Produced Bone Spring, Wolfcamp, and Delaware formation water (see attached analysis)

(5) N/A

VIII. GEOLOGIC DATA ON INJECTION ZONE

Injection Zone: Queen Sand Perfs 4000' – 5075'
Lithologic Detail: Fine grain sandstone
Geological Name: Artesia Group (Guadalupian)
Thickness: Artesia Group – 1956'
Depth: Top of Artesia Group at 2917'
4873' = Top SA?
Underground Sources of Drinking Water:

Fresh water sources in the immediate area have been encountered in aquifers above 250'. These aquifers are found in the Pliocene age Ogallala and Pleistocene age alluvial sediments and consist for the most part of alternating calcareous silt, fine sand and clay. There are no other sources of fresh water underlying the injection interval.

IX. PROPOSED STIMULATION

None at this time

X. LOGGING AND TESTING DATA ON INJECTION WELL

Logs have been previously submitted for this well.

XI. CHEMICAL ANALYSIS OF WATER FROM FRESH WATER WELLS WITHIN ONE MILE OF THE INJECTION WELL

A review of the NM State Engineer records shows no freshwater wells within a one mile radius of the injection well.

XII. Available geologic and engineering data has been examined and no evidence has been found of open faults or any other hydrologic connection between the injection zone and any underground source of drinking water.

XIII. See attached "Proof of Notice".

Surface Owner:

United States Bureau of Land Management
620 E. Greene
Carlsbad, NM 88220

Operators within a ½ mile radius of the proposed injector:

EOG Resources, Inc.
P.O. Box 2267
Midland, TX 79702

Seely Oil Company
815 W. 10th Street
Fort Worth, TX 76102