

Initial Application Part I

Received: 08/14/2019

This application is placed in file for record. It MAY or MAY NOT have been reviewed to be determined Administratively Complete

RECEIVED: 08/14/2019	REVIEWER:	TYPE: SWD	APP NO: pMAM1922657460
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ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Geological & 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

Applicant: AWR Disposal LLC **OGRID Number:** 328805
Well Name: Blue Hole SWD #1 **API:** _____
Pool: Proposed: SWD, Devonian, Fusselman, Montoya **Pool Code:** _____

SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED BELOW

SWD-2244

- 1) **TYPE OF APPLICATION:** Check those which apply for [A]
- A. Location – Spacing Unit – Simultaneous Dedication
 NSL NSP (PROJECT AREA) NSP (PRORATION UNIT) SD
- B. Check one only for [I] or [II]
- [I] Commingling – Storage – Measurement
 DHC CTB PLC PC OLS OLM
- [II] Injection – Disposal – Pressure Increase – Enhanced Oil Recovery
 WFX PMX SWD IPI EOR PPR

- 2) **NOTIFICATION REQUIRED TO:** Check those which apply.
- A. Offset operators or lease holders
 B. Royalty, overriding royalty owners, revenue owners
 C. Application requires published notice
 D. Notification and/or concurrent approval by SLO
 E. Notification and/or concurrent approval by BLM
 F. Surface owner
 G. For all of the above, proof of notification or publication is attached, and/or,
 H. No notice required

<u>FOR OCD ONLY</u>	
<input type="checkbox"/>	Notice Complete
<input type="checkbox"/>	Application Content Complete

3) **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.

Randy Hicks (agent)

 Print or Type Name

Print or Type Name

 Signature

Signature

08/14/2019

 Date

505 238 9515

 Phone Number

r@rthicksconsult.com

 e-mail Address

District I
 1625 N. French Dr., Hobbs, NM 88240
 Phone: (575) 393-6161 Fax: (575) 393-0720
 District II
 811 S. First St., Artesia, NM 88210
 Phone: (575) 748-1283 Fax: (575) 748-9720
 District III
 1000 Rio Brazos Road, Aztec, NM 87410
 Phone: (505) 334-6178 Fax: (505) 334-6170
 District IV
 1220 S. St. Francis Dr., Santa Fe, NM 87505
 Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
 Energy, Minerals & Natural Resources
 Department
OIL CONSERVATION DIVISION
 1220 South St. Francis Dr.
 Santa Fe, NM 87505

FORM C-102
 Revised August 1, 2011
 Submit one copy to appropriate
 District Office

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code		³ Pool Name	
⁴ Property Code		⁵ Property Name BLUE HOLE SWD			⁶ Well Number #1
⁷ OGRID No. 328805		⁸ Operator Name AWR DISPOSAL, LLC			⁹ Elevation 3378'

¹⁰Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	14	23-S	34-E	-	978'	SOUTH	2383'	WEST	LEA

¹¹Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

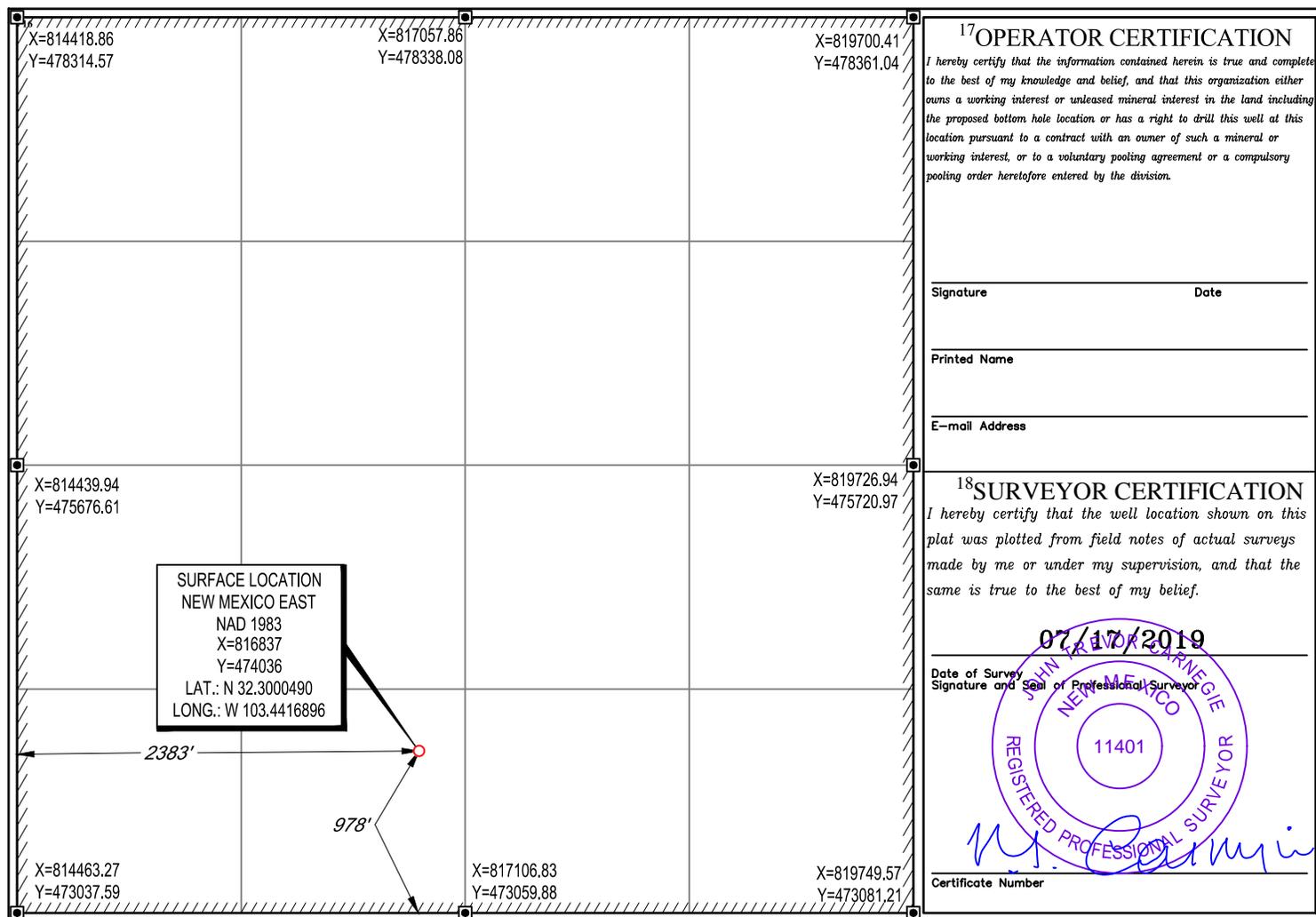
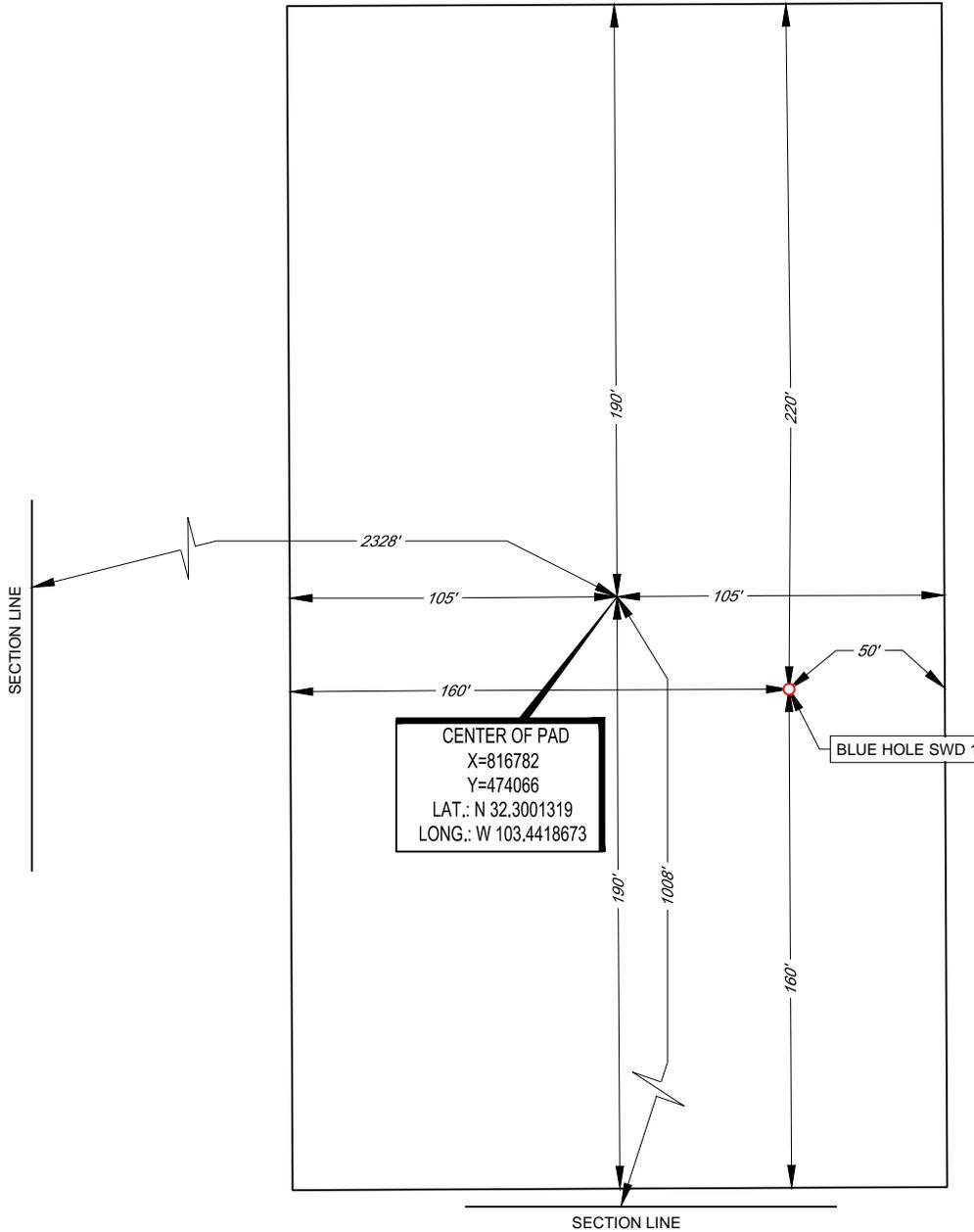


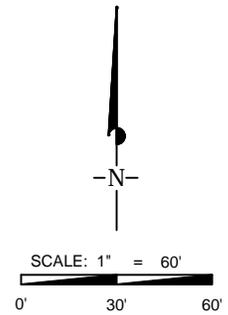
EXHIBIT 2B AWR DISPOSAL, LLC

SECTION 14, TOWNSHIP 23-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO



LEASE NAME & WELL NO.: BLUE HOLE SWD #1
 #1 LATITUDE N 32.3000490 #1 LONGITUDE W 103.4416896

CENTER OF PAD IS 1008' FSL & 2328' FWL



ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM, EAST ZONE OF THE NORTH AMERICAN DATUM 1983, U.S. SURVEY FEET

THIS PROPOSED PAD SITE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY AWR DISPOSAL, LLC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance Disposal _____ Storage
Application qualifies for administrative approval? Yes _____ No
- II. OPERATOR: AWR Disposal, LLC
ADDRESS: 3300 N. A Street, Ste 220, Midland, Texas 79705
CONTACT PARTY: Randall Hicks (agent) PHONE: 505 238 9515
- 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 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:
- Proposed average and maximum daily rate and volume of fluids to be injected;
 - Whether the system is open or closed;
 - Proposed average and maximum injection pressure;
 - Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
 - 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: Randall Hicks TITLE: Agent
SIGNATURE:  DATE: 08/14/2019
E-MAIL ADDRESS: r@rthicksconsult.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: _____

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.

XIV. 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.

INJECTION WELL DATA SHEET

OPERATOR: AWR Disposal, LLC.

WELL NAME & NUMBER: BLUE HOLE SWD #1

WELL LOCATION: 978' FSL & 2383' FWL N 14 23S 34E
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: See attachments Casing Size: _____

Cemented with: _____ sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Intermediate Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Total Depth: _____

Injection Interval

_____ feet to _____

(Perforated or Open Hole; indicate which)

Attachments to C-108

Copy of well bore diagram

Section III-XII Written descriptions to supplement C-108

Plates referenced in written descriptions

Tables referenced in written descriptions

OSE well logs referenced in written descriptions

Section XIII Proof of Notice

AWR Disposal LLC

Lease Name: Blue Hole SWD #1

Unit Letter N, Sec. 14, T23S R34E

978' FNL, 2383' FWL

Lea County, NM

Latitude + N 32° 18' 0.17", Longitude W 103° 26' 30.08"

Directions to the Blue Hole SWD #1

Date Spudded: TBD

From Carlsbad:

20", 133#, J-55 casing @ 1,050'.

Cmt w/ 450 sks, 13.7 lead and 450 sks, 14.8 tail

24" Hole

13-3/8", 68# L-80 EZ-GO FJ3 casing @ 4,550'.

DV Tool w/ 10' pkr at 4,000'

1st Stg Cmt w/ 1000 sks 11.8 ppg lead & 400 sks 13.2 ppg tail.

2nd Stg Cmt w/ 1000 sks 11.8 ppg lead & 380 sks 13.2 ppg tail.

17.5" Hole

9-5/8", 35.5#, HCP-110 BTC casing @ 11,000'.

Upper DV Tool w/ 10' pkr at 7,000'
Lower DV Tool w/ 10' pkr at 9,000'

1st Stg Cmt w/ 600 sks 11.8 ppg lead & 400 sks 13.2 ppg tail.

2nd Stg Cmt w/ 600 sks 11.8 ppg lead & 380 sks 13.2 ppg tail.

3rd Stg Cmt w/ 600 sks 11.8 ppg lead & 380 sks 13.2 ppg tail.

12.25" Hole

5.5" Tubing

5" Tubing

Maximum Proposed Injection Rate: 40,000 BELS PER DAY

Maximum Proposed Injections Pressure: 3,000 psi

7-5/8" Liner, 39#, P-110 casing @ 14,462'.

Cmt w/ 230 sks 11.9 ppg Class C

Packer set @ 14,362

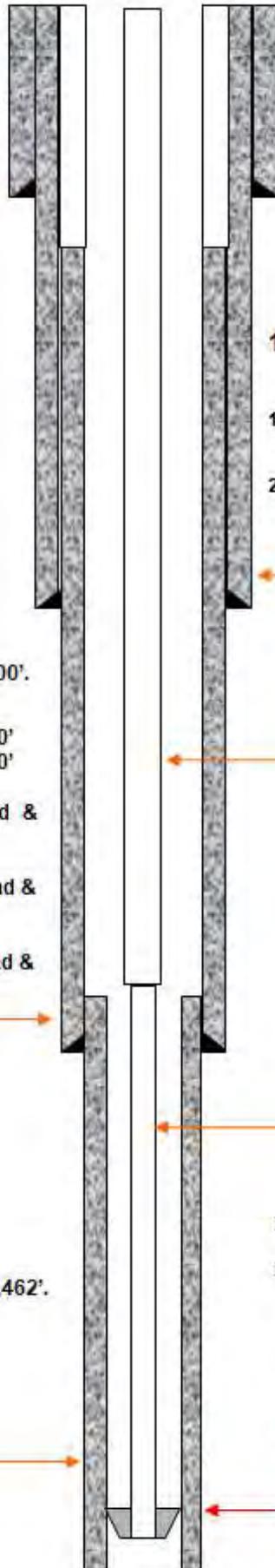
Injection Interval:

14,462	-	15,632	DVNN
15,632	-	16,144	FSLM
16,144	-	16,489	MNTY

8.5" Hole

6.5" Openhole

TD : 16,489



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

Lease Name: Blue Hole SWD #1

Unit Letter N, Section 14, T23S R34E, 978' FSL, 2,383' FWL

Limestone Basin Ranch Prop LLC owns the surface upon which the SWD is located.

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

The attached Wellbore Data Sheet provides all of the design specifics required and a tabulation of these data are shown on the diagram.

The formation tops for the Blue Hole SWD #1 were established by Geologist Herb Wacker TBPG license #4517. For the deepest formations, we used the log from the Amerada Hess Bell Lake North Fed #3 (30-325-33077) that has a total depth of 17540' in the Ellenburger Formation. The distance from Blue Hole SWD location to this well is 4.3 miles to the northwest.

For picking tops of more shallow formations, we used the log from the Devon Mad Dog Federal #1 (30-025-36778) that has a total depth of 14,832' in the Devonian. The distance from Blue Hole SWD location is 0.5 mile west.

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

5-1/2" (20#) internal plastic coated tubing swaged down to 5" (18#) with setting depth of 14,362 feet.

AWR 207 Blue Hole Sec 14 Twp 23S Rge 34E		
	GL	3380
Geologist	KB	3410
H. Wacker	MD	SS
Dockum	399	3011
Santa Rosa	432	2978
Dewey Lake	786	2624
Rustler	1136	2274
Salt	1726	1684
Castile	3465	-55
Capitan Reef	3836	-426
Delaware	4961	-1551
Bell Canyon	5011	-1601
Cherry Canyon	6032	-2622
Brushy Canyon	7378	-3968
Bone Spring	8503	-5093
Avalon	8828	-5418
1st Bone Spring	9615	-6205
2nd Bone Spring	10136	-6726
3rd Bone Spring	11040	-7630
Wolfcamp	11332	-7922
Strawn	11761	-8351
Atoka	12061	-8651
Morrow	12783	-9373
Barnett	13307	-9897
Miss Limestone	13859	-10449
Woodford	14219	-10809
Devonian	14432	-11022
Fusselman	15632	-12222
Montoya	16144	-12734
Simpson	16519	-13109
Top of Interval	14462'	Devonian +30'
Bottom of Interval	16489'	Simpson -30'
TD	16489'	
Thickness of Injection Interval = 2027'		

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

Tryton Tools, 7" Arrow Set 1-X Nickel Plated Injection Packer will be set at 14,362 feet.

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

The proposed injection intervals include the Devonian, Fusselman and Montoya in an open-hole interval.

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

The depth interval of the open-hole injection interval is 14,462-16,489 (2,027 feet).

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

The well will be drilled for disposal.

(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

There are no perforated intervals, only the open-hole completion described above.

(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.

Overlying Oil & Gas Zone (Using GL of 3,380 feet):

Cherry Canyon	6032
Brushy Canyon	7378
Bone Spring	8503
Avalon	8828
1st Bone Spring	9615
2nd Bone Spring	10136
3rd Bone Spring	11040
Wolfcamp	11332
Strawn	11761
Atoka	12061
Morrow	12783

Underlying Oil & Gas Zones:

Devonian	17124
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According to the data in Table 1, a Devonian gas well exists within the AOR.

IV. Is this an expansion of an existing project
No.

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

Plate 1a identifies all OCD listed wells and API numbers and shows circles with radii of 0.5, 1.0, and 2.0 miles. Note that where numerous wells are closely spaced, the API number may not be labeled for clarity. New wells, active wells, plugged wells, and canceled wells have color-coded symbols. Plate 1b shows only new and active wells and circles with radii of 0.5 and 1.0 miles.

Plate 2 identifies the leases within 2-miles of the proposed SWD as well as leases within the 1-mile area of review.

- Plate 2a presents the lease numbers for the SLO and BLM oil and gas leases. Also shown is mineral rights owned by the U.S. that are unleased at this time.
- Plate 2b presents land ownership for the same area and identifies the oil and gas mineral rights ownership.

Table 1 and Table 2 identify all affected persons within the 1 mile area of review for the Blue Hole SWD #1

- Table 1 lists all of the Oil and Gas Well Operators shown on Plate 1a within the circle having a 1.0 mile radius.
- Table 2 lists all leasees, lessors/mineral interests and surface owners (affected persons) within the 1-mile AOR presented on Plate 2a.

Note that T23S R34E Section23 Unit Letter I, south of the proposed SWD, and all Section 12, north of the proposed SWD are shown as unleased in Plate 2a. We contacted the surface owner, Limestone Basin Ranch Prop LLC, and found that there is no knowledge of a private oil and gas mineral interest holder. There is no past or present oil and gas production from Unit Letter I of Section 23 and no current production in Section 12. We are conducting a title search for these parcels to determine mineral ownership and will notify the majority interest owner if said owner has not already been notified in the mailing to affected parties.

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

Table 1 shows that two wells penetrate the proposed injection zone, as shown below.

API	Operator Name	Well Type	Status	Well Name	U.L-S-T-R	Total Depth	Pool ID
30-025-36778	DEVON ENERGY PRODUCTION COMPANY, LP	O	E	MAD DOG 15 FEDERAL COM #001	P-15-23S-34E	14832	[97436] ANTELOPE RIDGE, DEVONIAN, NORTH (GAS)
30-025-21740	BOLD ENERGY, L.P.	S	P	ANTELOPE RIDGE UNIT #001	G-22-23S-34E	14761	[96100] SWD, DELAWARE

Information regarding these two wells is attached to this submission

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected

Proposed Maximum Injection Rate: 40,000 bbl/day

Proposed Average Injection Rate: 30,000 bbl/day

2. Whether the system is open or closed

This is will be an open system. All AWR Disposal, LLC SWDs may receive produced water from recycling storage facilities, such as in-ground containments or above-ground steel-walled containments, which are registered or permitted under Rule 34.

3. Proposed average and maximum injection pressure

Proposed Maximum Injection Pressure: 3,000 psi

Proposed Average Injection Rate: 2,000 psi

4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water

The attached Table 3 "Produced Water Chemistry of Nearby Wells" provides the requisite analyses. The Delaware and Bone Spring Formations are the subjects of the analyses. These formations and the Wolfcamp will provide most of the produced water to the proposed SWD. At the time of writing, we are unaware of any problems associated with disposal of produced water derived from any Formations into the Devonian, Fusselman and Montoya injection zone.

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.).

Table 4 presents formational water quality data from the Go-Tech site for Devonian-Fusselman-Montoya producing wells. As stated above, we are unaware of any problems associated with disposal of produced water derived from the Delaware, Avalon, Bone Springs, and Wolfcamp Formations into the Devonian, Fusselman and Montoya injection zone.

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth.

The proposed injection intervals include the Devonian, Fusselman and Montoya in an open-hole interval. The proposed injection intervals in the Pre-Mississippian Carbonates are well cemented and will provide the necessary open hole integrity while allowing salt water to be injected. Because of the competency of the rock, the open hole section has very little chance of collapsing.

As indicated in Section III.A.2, the approximate depths to the top of the Devonian and the base of the Montoya are 14,432 and 16,519 respectively. The depth interval of the injection interval is 14,462-16,489 (2,027 feet), within the Devonian, Fusselman and Montoya Formations.

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.

The Rustler Formation and the Chinle Formation yield water to supply wells in southeastern Eddy County and southwestern Lea County. In the immediate area of the Blue Hole SWD #1, the closest water well (CP-1120) is associated with an abandoned corral and building about 0.8 miles west (Plate 3a). In November of 2013, the driller of a well at this location reported "first water" at a depth of 318 feet. Well CP-606 also appears to be an active water supply well associated with a corral and building about 1 mile south.

In this area of Lea County, the Chinle yields water to wells from 100-200 feet below the ground surface (bgs) to a depth of about 600 feet. The upper portion of the Rustler Formation yields fresh water to wells in Eddy County and in the area of the Blue Hole SWD #1, the depth interval of this potential source of fresh water is about 1136-1500 feet. Based upon investigation of the area by Hicks Consultants, we conclude most water supply wells are completed in the Chinle or Santa Rosa at depth of less than 1000 feet.

The locations of all water supply wells listed in public databases are shown in Plate 3b. As stated above, there are two active water supply wells within 1 mile of the proposed location. The location of nearby mapped surface water bodies are shown in Plate 4.

IX. Describe the proposed stimulation program, if any

A cleanup acid job may be used to remove mud and drill cuttings from the formation. However, no other formation stimulation is currently planned.

*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 OCD upon completion of the well.

*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 active water supply wells with water chemistry data were identified within one mile of the proposed SWD. Data from various sources permit a conclusion that groundwater within the Chinle Formation is potable. In this area, groundwater in the underlying Rustler formation may be relatively brackish.

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

Randall T. Hicks, a Professional Geologist with decades of experience in hydrogeology, affirms, on behalf of AWR Disposal, LLC, that

- The USGS has mapped quaternary faults in New Mexico and no such faults are mapped in the area of the proposed Blue Hole SWD #1¹
- The Texas Bureau of Economic Geology has mapped older faults (e.g. basement and Woodford) in New Mexico and the closest mapped fault is about 1.5 miles to the west²
- Mapped Pre-Cambrian faults that were not re-activated during Woodford time are part of the basement complex and do not pose a risk.
- With respect to migration of produced water from the injection zone to underground sources of drinking water via faults or other natural conduits, the following conditions were considered
 - The lowest underground source of drinking water is the middle and upper Rustler Formation.
 - More than 10,000 feet of sedimentary rock separates the bottom of the Rustler Formation and the top of the injection zone. Many of the formations that lie between the injection zone and the lowermost aquifer are permeable and contain oil, gas or water at various pressures. Any excursion of injected fluids from the Devonian disposal zone would undoubtedly enter these permeable formations prior to moving into the Rustler Formation.
 - There is no evidence that the pressure regime in the oil and gas reservoirs is sufficient to cause the upward migration of formation water through the bedded salt and into the Rustler or Chinle aquifers.
- There is no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water

¹ <https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf>

² Bureau of Economic Geology (Accessed April 2019). University of Texas at Austin. Basement Faults (Ewing 1990, Tectonic Map of Texas); Precambrian Faults (Frenzel et al. 1988, Figure 6); Woodford Faults (Comer 1991, plate 1). <http://www.beg.utexas.edu/resprog/permbasin/gis.htm>

Data From OCD On Line For All Wells Of Public Record Within The Area Of Review Which Penetrate The Proposed Injection Zone.

API	Op'd Name	Well Type	Status	Well Name	U-L-S-T-R	Total Depth	PoolID
30-025-36778	DEVON ENERGY PRODUCTION COMPANY, LP	O	E	MAD DOG 15 FEDERAL COM #001	P-15-23S-34E	14832	[97436] ANTELOPE RIDGE, DEVONIAN, NORTH (GAS)
30-025-21740	BOLD ENERGY, L.P.	S	P	ANTELOPE RIDGE UNIT #001	G-22-23S-34E	14761	[96100] SWD, DELAWARE

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

5. Lease Serial No.
NMNM13641

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

7. If Unit or CA/Agreement, Name and/or No.
NMNM112758

1. Type of Well
 Oil Well Gas Well Other

8. Well Name and No.
MAD DOG 15 FED COM 1

2. Name of Operator
DEVON ENERGY PRODUCTION COMPANY
Contact: REBECCA DEAL
Email: Rebecca.Deal@dvn.com

9. API Well No.
30-025-36778-00-S1

3a. Address
6488 SEVEN RIVERS HIGHWAY
ARTESIA, NM 88211

3b. Phone No. (include area code)
Ph: 405-228-8429

10. Field and Pool or Exploratory Area
ANTELOPE RIDGE-BONE SPRING, W

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Sec 15 T23S R34E SESE 660FSL 660FEL

11. County or Parish, State
LEA COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input checked="" type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Devon Energy Production Co. respectfully requests to convert the Mad Dog 15 Fed Com 1 to a SWD. Proposed SWD conversion is in the Devonian formation. Please see attached detailed procedure and wellbore schematic.

*REQUIRES ADMINISTRATIVE
SWD ORDER*
**HOBBS OGD
OCT 11 2018
RECEIVED**

14. I hereby certify that the foregoing is true and correct.

**Electronic Submission #419170 verified by the BLM Well Information System
For DEVON ENERGY PRODUCTION COMPANY, sent to the Hobbs
Committed to AFMSS for processing by PRISCILLA PEREZ on 05/08/2018 (18PP0997SE)**

Name (Printed/Typed) **REBECCA DEAL** Title **REGULATORY COMPLIANCE PROFESSI**

Signature (Electronic Submission) Date **05/07/2018**

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By MUSTAFA HAQUE Title **PETROLEUM ENGINEER** Date **09/20/2018**

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office **Hobbs**

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

KE

Revisions to Operator-Submitted EC Data for Sundry Notice #419170

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	INJ NOI	INJ NOI
Lease:	NMNM13641	NMNM13641
Agreement:		NMNM112758 (NMNM112758)
Operator:	DEVON ENERGY PRODUCTION COMPAN 333 WEST SHERIDAN AVENUE OKLAHOMA CITY, OK 73102 Ph: 405-228-8429	DEVON ENERGY PRODUCTION COM LP 6488 SEVEN RIVERS HIGHWAY ARTESIA, NM 88211 Ph: 575-748-1854
Admin Contact:	REBECCA DEAL REGULATORY COMPLIANCE PROFESSI E-Mail: Rebecca.Deal@dvn.com Ph: 405-228-8429	REBECCA DEAL REGULATORY COMPLIANCE PROFESSI E-Mail: Rebecca.Deal@dvn.com Ph: 405-228-8429
Tech Contact:	REBECCA DEAL REGULATORY COMPLIANCE PROFESSI E-Mail: Rebecca.Deal@dvn.com Ph: 405-228-8429	REBECCA DEAL REGULATORY COMPLIANCE PROFESSI E-Mail: Rebecca.Deal@dvn.com Ph: 405-228-8429
Location:		
State:	NM	NM
County:	LEA	LEA
Field/Pool:	ANTELOPE RIDGE	ANTELOPE RIDGE-BONE SPRING, W
Well/Facility:	MAD DOG 15 FED COM 1 Sec 15 T23S R34E Mer NMP SESE 600FSL 660FEL	MAD DOG 15 FED COM 1 Sec 15 T23S R34E SESE 660FSL 660FEL

**BUREAU OF LAND MANAGEMENT
Carlsbad Field Office
620 East Greene Street
Carlsbad, New Mexico 88220
575-234-5972**

**Devon Energy
Mad Dog 15 Fed Com 1
NMNM13641
30-025-36778**

09/20/2018

All previous COAs still apply except for the following:

Notification: Contact the appropriate BLM office at least 24 hours prior to the commencing of any plug back operations. For wells in Eddy County, call 575-361-2822. For wells in Lea County, call 575-393-3612.

1. Must conduct a MIT before commencing operation. Submit results to BLM. Notify BLM if test fails.

A. WELL COMPLETION

Special Requirements:

The operator shall supply the BLM with a copy of a mudlog over the permitted disposal interval and estimated insitu water salinity based on open-hole logs. If hydrocarbon shows occur while drilling, the operator shall notify the BLM. The operator shall provide to the BLM a summary of formation depth picks based on mudlog and geophysical logs along with a copy of the mudlog and open hole logs from TD to top of Devonian

A NOI sundry with the completion procedure for this well shall be submitted and approved prior to commencing completion work. The procedure will be reviewed to verify that the completion proposal will allow the operator to:

1. Properly evaluate the injection zone utilizing open hole logs, swab testing and/or any other method to confirm that hydrocarbons cannot be produced in paying quantities. This evaluation shall be reviewed by the BLM prior to injection commencing.
2. Restrict the injection fluid to the approved formation.
3. If a step rate test will be run an NOI sundry shall be submitted to the BLM for approval

If off-lease water will be disposed in this well, the operator shall provide proof of right-of-way approval.

MHH 09202018

WELL NAME: Mad Dog 15 Federal Com 1

API: 30-025-36778

WBS: MM-XXXXXX

Lea County, NM

WELLBORE DATA

KB: 3,431'; GL: 3,408'; KB: 23'

Size	Weight	Grade	Interval	Collapse	Burst	Drift	Capacity
13-3/8"	48	H-40	0-929'	-	-	-	-
9-5/8"	53.5	P-110	0-4,996'	7,930	10,900	-	-
7"	26	P-110	0-11,892'	6,210	9,960	6.151"	0.03826
5"	23.2	L-80	11,604'-14,711'	13,830	13,380	3.919"	0.01589
3-7/8" (OH)	-	-	14,711'-14,832'	-	-	-	0.01459

IMPORTANT NOTES

- 1) TA'd with Schlumberger (copper) CIBP & 35' cmt in Oct. 2016 – beware trapped pressure below.
- 2) NMOCD requires packer to be set within 100' of injection interval – current CIBP & cement are within this depth, so pre-job MIT would satisfy regulation, providing go-forward or abandon decision point.
- 3) Well was loaded with 2% KCl and corrosion inhibitor, any pressure seen on wellhead gauges *should* be thermal effects, use caution in the case any H₂S laden gas migrated post TA/Sl.
- 4) Wellbore is build-hold-drop with 20° hold. Beware of many < 3.0°/100' DLS in hold portion – most recent well service & wireline did not report any issues with tortuosity.

RELEVANT CONCERNS

- 1) Flowed ESP with high H₂S production. Acknowledge & manage safety risk. DVN will need to WL verify casing integrity.
- 2) The clearance between the 5" liner and the BHA will be very tight, increasing our stuck pipe risk. Do not stack too heavy on the plug/cement, it is better to be slower and generate small "cuttings" than to end up fighting stuck pipe or fishing. After drilling a stand, circulate at a minimum enough strokes to move "cuttings" half way up 7" production casing before shutting down pumps. "Cuttings" are most likely to fall out above the Drill Collars and above the 5" liner hanger where annular volume increases (causing fluid velocity to drop). Avoid shutting down pumps without circulating off bottom if at all possible. If significant over pull (3,000 lbs or greater) is seen, stop, RIH, rotate and circulate before attempting to pick back up. Do not proceed deeper than 5" shoe until returns are clear of solids.

PROCEDURE

SAFETY: All personnel will wear hard hats, safety glasses with side shields, steel toed boots, H₂S monitor and fire retardant clothing while on location. Any personnel arriving on location after the pre-job safety meeting will check in with the Devon PIC and review hazards before proceeding. All personnel have the obligation and full authority to stop the job if any action may be perceived as harmful to people or the environment. H₂S safety personnel and monitoring equipment are to be on location at all times during workover operations.

PRE-JOB

- 1) Check tubing & casing pressures, open valves to SCADA transducers.
- 2) Check well head for flange/sizing abnormalities – communicate to PIC.
- 3) Hold PJSM. Historic production contained H₂S.
- 4) Record SITP & SICP.
- 5) MIRU blow down tank & safety equipment.
- 6) Blow down/bleed off any gas/thermal pressure.

**Any pressure should be thermal, take necessary precaution given history of H₂S production. Wellbore was CIRC/loaded with 2% KCl & corrosion inhibitor after dump bailing cement.*

- 7) Rig up hot oiler to production casing, ensure valves are open to tbg and csg gauges.
- 8) Perform preliminary MIT, monitor both tbg and csg gauges throughout MIT – report any discrepancy in tbg/csg pressures to DVN engineer (gauges should read similar pressures).
- 9) Pressure up to 500 psi and hold for 30 min. If pressure loss exceeds 10% (50 psi) over 30 min, contact DVN engineer and WOO.

WL CSG INTEGRITY LOGS & CCL

- 1) RU WL & 5K WL BOP/LUBE. Check LUBE length can house required tools. PTEST per DVN protocol.
- 2) PU 3.625" GR/JB and necessary weight bars, fill LUBE & equalize over WHP.
- 3) OWH & RIH to 14,660'. Be sure to slow down above 5" liner hanger @ 11,604'.
- 4) POH maintaining a reasonable speed until clear of 5" liner hanger.
- 5) PU 40 ARM CALIPER, USIT, CCL & necessary weight bars, fill LUBE & equalize over WHP.
- 6) OWH & RIH to 14,660'. Be sure to slow down above 5" liner hanger @ 11,604'.
- 7) POH maintaining a reasonable speed until clear of 5" liner hanger.
- 8) RDMO WL. Report results of CSG integrity logs to DVN engineer.

MIRU WSU & TOH KILL STRING

- 1) Hold PJSM. Historic production contained H₂S.
- 2) Record SITP & SICP.
- 3) Install and/or test anchors. MIRU WSU & reverse unit, necessary flow back iron/equipment, flare stack, safety equipment & rental equipment.
- 4) Blow down/kill well if necessary.
- 5) ND tree.
- 6) NU 7-1/16" 10K BOPE with annular, tbg rams, blind rams. Previous well service could not remove 10K flange, removed 3K x 5K flange and rigged up spooler. Same may be required.
- 7) PTEST BOPE according to Devon protocol.

**Job scope involves several sizes of pipe to be run in hole, usually multiple sizes in same string – if spooler and additional rams are necessary, take additional height into account when setting rig floor. PIC should use own discretion regarding most efficient call out/rental of different rams.*

- 8) TOH laying down 5,000' 2-7/8" L-80 tbg.

D/O 35' CMT & CIBP

- 1) MU CMT + CIBP D/O BHA:

- 3-7/8" full open right mill (consult with tool hand to determine ideal mill type)
- 5" 23.2# Casing scraper
- 3-1/8" bumper jars
- 3-1/8" oil jars
- 4 x 3-1/8" DC's
- 126 jts 2-3/8" PH-6 **want to keep 2-7/8" out of 5" liner. OH + liner + 20 jts = ~3,840' = ~126 jts*
- FIH x 2-7/8" L-80 tbg

- 2) Strap in hole with D/O assembly to 11,478' (4 jts above TOL), RU power swivel.
- 3) Continue TIH, D/O 35' cmt & CIBP. Monitor return tank for cmt & plug parts. If possible, catch cmt & plug parts using the smallest reasonable screen mesh.

**Beware of trapped pressure beneath plug – take necessary precautions.*

***Once solids show up at surface, regularly take pictures, note "cuttings" size & submit to DVN engineer while continuing to drill out cmt.*

****If all solids were able to be caught, cmt + plug would be about five, 5 gallon buckets worth of solids to surface. Expect to see less, some solids will be too small to catch with screen.*

- 4) Wash & scrape csg to 5" liner shoe (14,711'). Do not exit 5" liner shoe.
- 5) CIRC, rotate & work last stand until returns come back clean – avoid shutting down pumps until returns are clean.
- 6) TOH scraping liner & racking back tubing until above 5" liner hanger (11,604'). RD power swivel & continue TOH racking back tbg.
- 7) MU OH D/O BHA:
 - 3-5/8" junk mill or bit (consult with tool hand to determine ideal mill/bit & gauge)
 - 3-1/8" bumper jars
 - 3-1/8" oil jars
 - 4 x 3-1/8" DC's
 - 126 jts 2-3/8" PH-6 **want to keep 2-7/8" out of 5" liner. OH + liner + 20 jts = ~3,840' = ~126 jts*
 - FIH x 2-7/8" L-80 tbg
- 8) Strap in hole with D/O assembly to 11,478' (4 jts above TOL), RU power swivel.
- 9) Continue TIH to 5" liner shoe @ 14,711'. Wash to bottom if necessary.
- 10) Wash 1 stand into OH, PU to 14,711' (inside 5"), CIRC 1.5 BU & monitor for solids in returns.
 - *If taking significant weight when entering top of OH, immediately TOH to 5" shoe & CIRC while contacting DVN engineer. Record & report stacked weight.*
- 11) If solids return from OH, CIRC inside 5" liner shoe until returns are clean.
- 12) Wash ~2 stands into OH to PBD (14,832'), rotate & work pipe while CIRC until no solids return.
 - *DO NOT LET PIPE SIT STILL IN OPEN HOLE EXCEPT IF NECESSARY FOR CONNECTIONS. REDUCE CONNECTION TIME & PUMP SHUT DOWN TIME AS MUCH AS POSSIBLE.*
- 13) TOH to above 5" liner hanger (11,604') racking back 2-7/8" work string. RD power swivel.
- 14) TOH racking back 2-7/8" work string. Lay down 2-3/8" PH-6 & BHA.

RIH TREATMENT STRING & ACIDIZE WELL

- 1) MIRU tubing testers.
- 2) MU treating/injection string:
 - 2-7/8" Muleshoe
 - 2-7/8" x 1.87" "R" landing nipple (internal Ni coated)
 - 2-7/8" x 8' 6.5# L-80 tubing sub (internal Ni coated)
 - 5" x 2-7/8" Arrowset AS1-X 10K Injection Packer (internal Ni coated)

- 2-7/8" x 1.87" "F" seal nipple (internal Ni coated)
- 5" x 2-7/8" T2 On/Off Tool (internal Ni coated)
- FIH x 2-7/8" L-80 tbg

3) RIH to ~14,630'. Hydro-test tbg below slips to 4,000 psi.

4) Load & CIRC hole with ~385 bbls 2% KCl. Set packer @ 14,620'. Use 10# Nadine Brine if necessary. Be sure to maintain CIRC rate below max provided by packer hand to prevent fluid cutting packer elements.

Per NMOCD, packer must be set within 100' of injection zone (OH @ 14,711'). Move packer set depth deeper or shallower to avoid collars indicated by CCL, **while staying below 14,611'. Avoid setting packer deeper than old plug TOC (14,625') if possible.*

5) Perform MIT. Pressure test 2-7/8" annulus to 500 psi for 30 min. If pressure drops more than 10% (50 psi) in 30 min, unseat packer & TOH to 5" liner top (11,604'). Set packer & test 7" casing above liner. Notify DVN office of both test results & WOO.

6) MIRU pumping services & PTEST lines to 4,000 psi. **Max injection pressure is 2,923 psi.**

7) Spot 110 gal PAA trickled into 5 bbl water. Let soak 4 hours. (See attached Nalco Procedure).

8) Pump 10,000 gal 15% HCl over 3 stages using treated brine + rock salt as diverter. Flush acid with 96 bbl treated brine. Record 5, 10, 15 min ISIP. (See attached Halliburton Procedure).

9) Let acid soak a minimum of 3 hours. It is acceptable to let acid soak overnight if required to leave a kill string in the hole.

10) Bleed off pressure, if any. Back off On/Off tool & TOH laying down 2-7/8" work string.

RIH INJECTION STRING & SPACE OUT

1) Once production casing & liner PTEST good & all tubulars have been removed, NU 10K rams necessary for running injection assembly & PTEST per DVN protocol.

2) MU with injection string:

- 5" x 2-7/8" T2 On/Off Tool (internal Ni coated)
- 2-7/8" x 3,060' 6.5# L-80 DuoLine tbg
- 2-7/8" x 4-1/2" DuoLine XO
- 4-1/2" x 11,560' 12.75# L-80 DuoLine tbg

3) RIH to On/Off tool (~14,615').

4) RU pumping services & PTEST lines to 4,000 psi. **Max injection pressure is 2,923 psi.**

5) Reverse CIRC ~385 bbls 2% KCl + Corrosion inhibitor (Cl ppm per chemical vendor recommendation). Use 10 ppg Nadine Brine if necessary.

6) MU to On/Off tool and space out. **Changes to tree/wellhead are required to accommodate 4-1/2" tbg.*

PERFORM PRELIMINARY MIT & STEP RATE TESTS. RDMO.

- 1) Run preliminary MIT on csg – tbg annulus using chart recorder. Test to 500 psi for 30 min with less than 10% (50 psi) bleed off over 30 min. If PTEST fails notify DVN engineer & WOO.
- 2) RU pumping services. PTEST lines to 4,000 psi. Using clean produced water from area, load tubing and perform step rate test to establish injection rate. Start at 2 bpm, holding each rate for 5 min before increasing injection rate in 1 bpm increments. Chart & record step rate test. **Max injection pressure is 2,923 psi (0.2 psi/ft * 14,619 ftTVD).**
- 3) SI well & record 5, 10, & 15 min SITP & SICP. RDMO pumping services.
- 4) ND BOP & NU 10K tree with sour trim. PTEST tree to rating.
- 5) RDMO WSU & all rental equipment. Install surface facilities for disposal.

PERFORM OFFICIAL MIT W/ REGULATORY REPRESENTATIVES

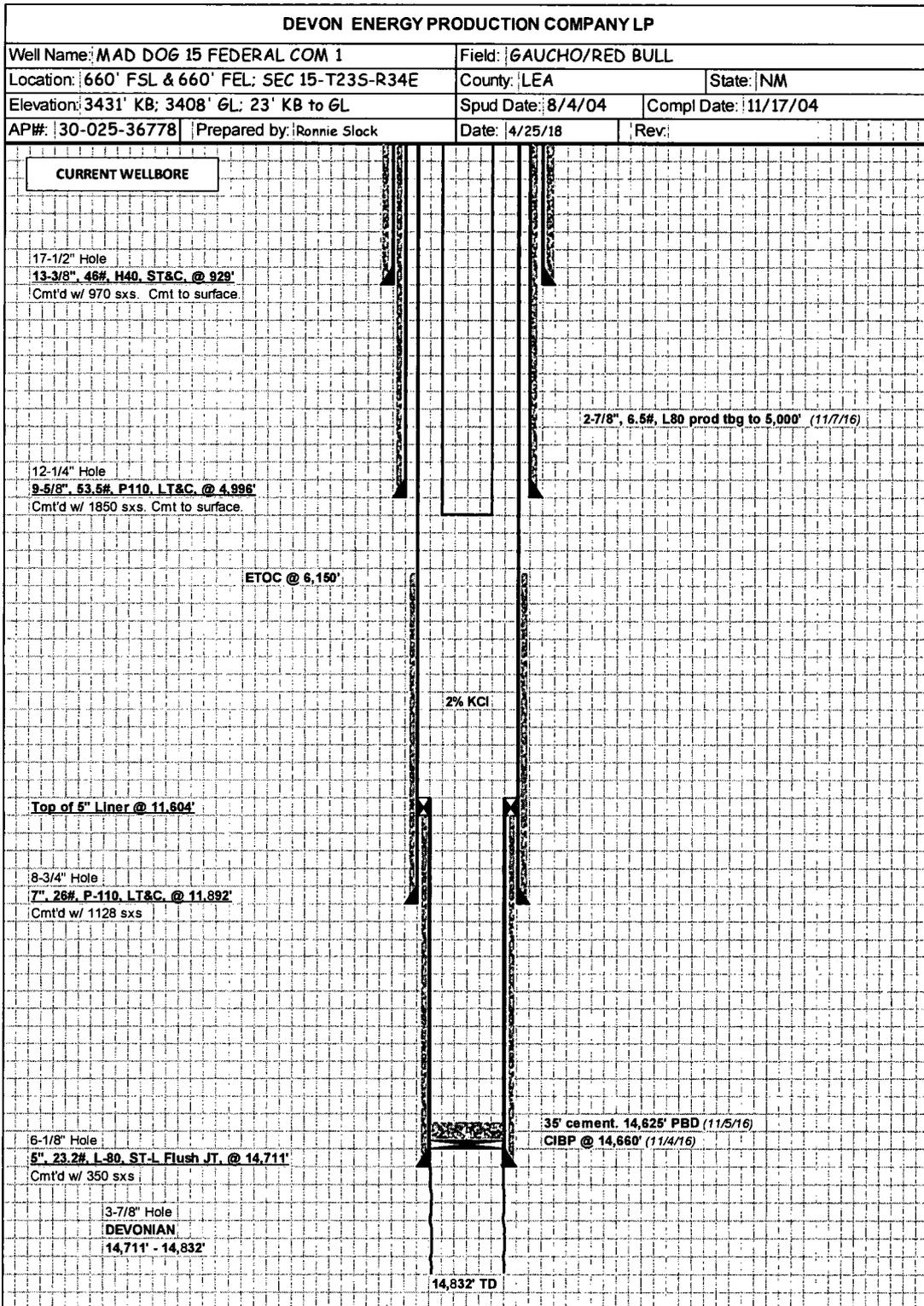
- 1) Notify & set up NMOCD & BLM for official MIT with chart recorder. Once MIT is approved & NMOCD OK's injection, initiate disposal into Devonian. **Do not exceed max pressure of 2,923 psi per NMOCD.**

**Any future slickline tools will require a smooth surface to prevent tbg coating damage.*

***Per NMOCD, any unseating of injection packer will require an additional witnessed MIT prior to commencing injection.*

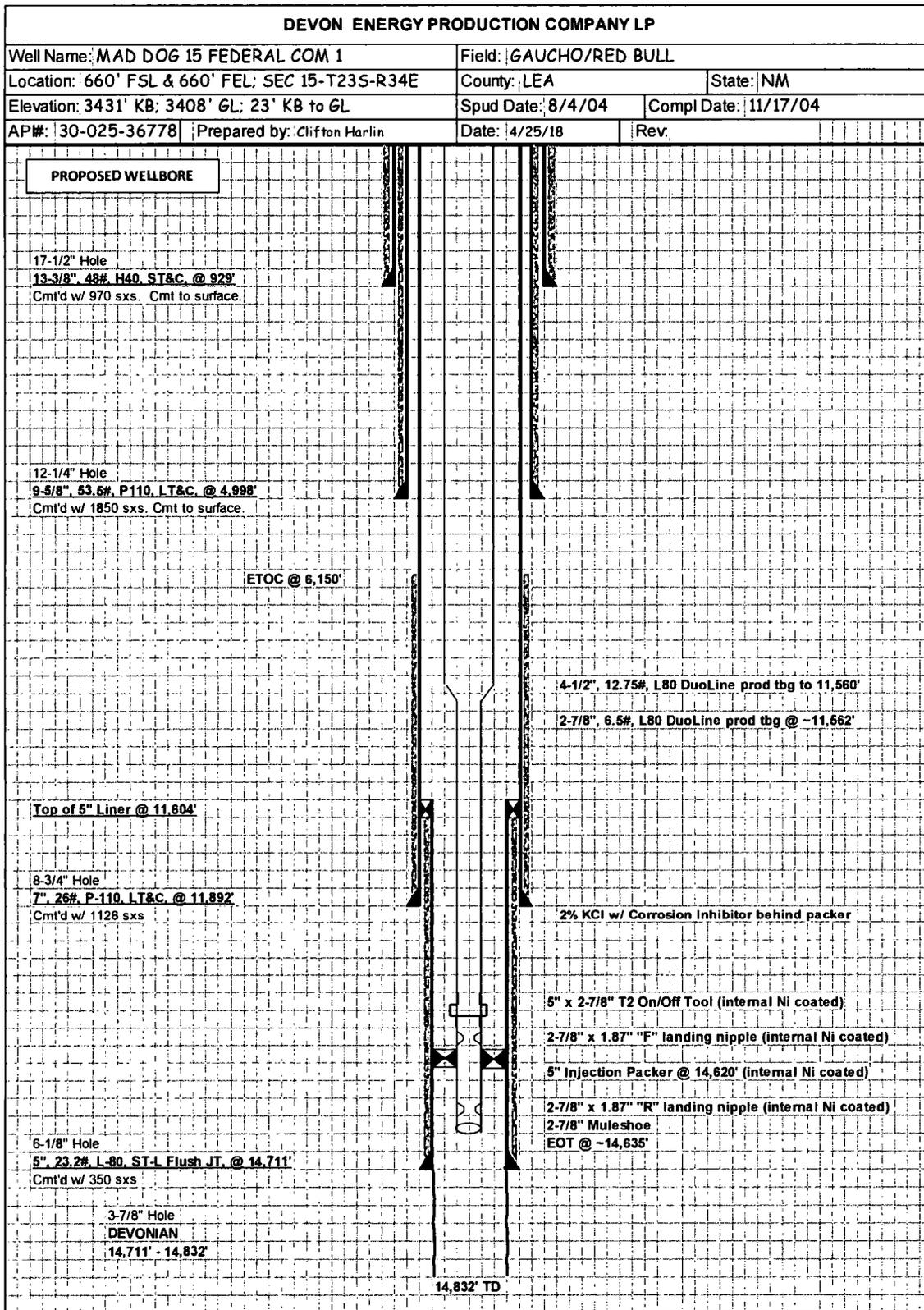


CURRENT WELLBORE SCHEMATIC





PROPOSED WELLBORE SCHEMATIC



API	Opri Name	Well Type	Status	Well Name	UL-S-T-R	Total Depth	PoolID
30-025-36778	DEVON ENERGY PRODUCTION COMPANY, LP	O	E	MAD DOG 15 FEDERAL COM #001	P-15-23S-34E	14832	[97436] ANTELOPE RIDGE, DEVONIAN, NORTH (GAS)
30-025-21740	BOLD ENERGY, L.P.	S	P	ANTELOPE RIDGE UNIT #001	G-22-23S-34E	14761	[96100] SWD, DELAWARE

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LAND OFFICE	
OPERATOR	

Form C-105
Revised 1-1-65

NEW MEXICO OIL CONSERVATION COMMISSION
WELL COMPLETION OR RECOMPLETION REPORT AND LOGS

5a. Indicate Type of Lease
State Fee

5. State Oil & Gas Lease No.
OG-1529

Administrative Order No. SWD-63, 11-8-66

1a. TYPE OF WELL
OIL WELL GAS WELL DRY OTHER **SWD**

b. TYPE OF COMPLETION
NEW WELL WORK OVER DEEPEN PLUG BACK DIFF. RESVR. OTHER

7. Unit Agreement Name
North Antelope Ridge

8. Farm or Lease Name
North Antelope Ridge Unit

2. Name of Operator
Shell Oil Company (Western Division)

3. Address of Operator
P. O. Box 1509, Midland, Texas 79701

9. Well No.
1

10. Field and Pool, or Wildcat
Wildcat

4. Location of Well
UNIT LETTER **G** LOCATED **1980** FEET FROM THE **north** LINE AND **1980** FEET FROM
THE **east** LINE OF SEC. **22** TWP. **23S** RGE. **34E** NMPM

12. County
Lea

15. Date Spudded **3-28-66** 16. Date T.D. Reached **7-29-66** 17. Date Compl. (Ready to Prod.) **2-8-67** 18. Elevations (DF, RKB, RT, GR, etc.) **3425' DF** 19. Elev. Casinghead

20. Total Depth **14,761'** 21. Plug Back T.D. **6543'** 22. If Multiple Compl., How Many

23. Intervals Drilled By **Rotary Tools 0 - 14,761'** Cable Tools

24. Producing Interval(s), of this completion - Top, Bottom, Name

25. Was Directional Survey Made
yes

26. Type Electric and Other Logs Run
BHC-Sonic-GR/N, MLL, LL, Proximity-ML

27. Was Well Cored
no

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
2"	94#	360'	26"	650 sx	
13 3/8"	72#, 68#, 61#	5004'	17 1/2"	1950 sx	
9 5/8"	53.5#	11792'	12 1/4"	1000 sx	9318'

29. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN
7"	11,506'	14,134'	560	2628'

30. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
3 1/2"	4966'	4966'

31. Perforation Record (Interval, size and number)
**12,072', 12,004', 12,017', 12,063',
 12,076', 12,087', 12,089', 12,091',
 12,121', 12,128', 12,131', 12,133',
 12,134', 12,135', 12,136'**
 1/ft. 1 11/16"

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
12,002' - 12,136'	6000 gallons 15% NEA
12,121' - 12,136'	3000 gallons 15% NEA

33. PRODUCTION

Date First Production Production Method (Flowing, gas lift, pumping - Size and type pump) Well Status (Prod. or Shut-in)
SWD

Date of Test	Hours Tested	Choke Size	Prod'n. For Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas - Oil Ratio

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API (Corr.)

34. Disposition of Gas (Sold, used for fuel, vented, etc.) Test Witnessed By

35. List of Attachments

36. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

Original Signed By
 SIGNED **J. D. DUREN** J. D. Duren TITLE **Staff Petrophysical Engineer** DATE **February 24, 1967**

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Commission not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 30 through 34 shall be reported for each zone. The form is to be filed in quadruplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico

Northwestern New Mexico

T. Anhy _____	T. Canyon _____	T. Ojo Alamo _____	T. Penn. "B" _____
T. Salt _____	T. Strawn _____	T. Kirtland-Fruitland _____	T. Penn. "C" _____
B. Salt _____	T. Atoka 11,949'	T. Pictured Cliffs _____	T. Penn. "D" _____
T. Yates _____	T. Miss 13,984'	T. Cliff House _____	T. Leadville _____
T. 7 Rivers _____	T. Devonian 14,681'	T. Menefee _____	T. Madison _____
T. Queen _____	T. Silurian _____	T. Point Lookout _____	T. Elbert _____
T. Grayburg _____	T. Montoya _____	T. Mancos _____	T. McCracken _____
T. San Andres _____	T. Simpson _____	T. Gallup _____	T. Ignacio Qtzite _____
T. Glorieta _____	T. McKee _____	Base Greenhorn _____	T. Granite _____
T. Paddock _____	T. Ellenburger _____	T. Dakota _____	T. _____
T. Blinebry _____	T. Gr. Wash _____	T. Morrison _____	T. _____
T. Tubb _____	T. Granite _____	T. Todito _____	T. _____
T. Drinkard _____	T. Delaware Sand _____	T. Entrada _____	T. _____
T. Abo _____	T. Bone Springs 8537'	T. Wingate _____	T. _____
T. Wolfcamp 11,350'	T. Delaware Mountain 5018'	Chinle _____	T. _____
T. Penn. 11,688'	T. Des Moines 11,745'	T. Permian _____	T. _____
T. Cisco (Bough C) _____	T. Woodford 14,452'	T. Penn. "A" _____	T. _____

Morrow Clastics 12,830' Mississippian Limestone 14,092'

FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation
0	1004	1004	Red Beds				
1004	3150	2146	Anhydrite & Salt				
3150	4100	950	Limestone & Gypsum				
4100	4430	330	Siltstone & Limestone				
4430	5044	614	Limestone, Siltstone, Gypsum				
5044	8600	3556	Limestone, Siltstone, Shale				
8600	9600	1000	Limestone, Shale, Chert				
9600	10090	490	Limestone, Siltstone, Shale & Chert				
10090	11000	910	Limestone, Shale, Chert				
11000	11700	700	Limestone & Shale				
11700	12860	1160	Limestone, Shale, Chert				
12860	13690	830	Limestone, Shale, Siltstone				
13690	13970	280	Shale				
13970	14100	130	Limestone & Shale				
14100	14470	370	Limestone, Shale & Chert				
14470	14670	200	Shale				
14670	14761	91	Limestone & Dolomite				

Attachment for NMOCC Form C-105
February 24, 1967

Shell Oil Company
North Antelope Ridge Unit #1
Unit G, Sec. 22, T-23-S, R-34-E,
NMPM Survey, Lea County, New Mexico
FEB 25 1967

DST #1: 11,895' - 11,992' (97' Atoka). Tool open 111 minutes (including 16 minutes preflow). Tool open w/no blow. Shut in for ISIP. Re-opened w/no blow & continued no blow throughout. Nitrogen Valve did not open (DP pressured to 1800 psi at surface w/2000# Nitrogen Valve at 10,190'). Recovered 40' drilling mud. Recovered mud titrated 7500 ppm Cl⁻. Pit mud 3100 ppm Cl⁻. 95 minutes ISIBHP 3303 psi. FBHP 2262 - 2262 psi. 95 minutes FSIBHP 2708 psi. HMP 7670 - 7670 psi. BHT 208°F. Conclusive Test. (Cook)

DST #2: 11,990' - 12,150' (160' Atoka). Used 200' Nitrogen. Pressured to 1800 psi at surface. 1800 psi Nitrogen Valve at 10,000'. Tool open 4 hours 17 minutes (including 2 minutes preflow) thru 5/8" BC, 1" TC, 4 1/2" DP. Opened w/strong blow & re-opened w/fair blow. GTS 19 minutes.

<u>Time (CST)</u>	<u>Surface Pressure</u>	<u>Choke</u>	<u>Rate (MMCFPD)</u>
6:04	100 psi	1"	3.0
6:25	75 psi	1"	2.3
7:00	55 psi	1"	1.8
8:05	25 psi	1"	1.0
8:30	Turned thru separator		
9:20		1/2"	0.375
9:55		1/2"	0.375

Recovered 5 gallons gas & condensate cut drilling mud above Nitrogen valve + 600' gas & condensate cut drilling mud above shut in tool. Pit mud titrated 2600 ppm Cl⁻. Recovered mud titrated 2000 - 2250 ppm Cl⁻. 163 minutes ISIBHP 9340 psi. FBHP 2234 - 2182 psi. 240 minutes FSIBHP 8957 psi. HMP 9395 - 9395 psi. Conclusive Test. (Cook)

DST #3: 12,815' - 12,965' (150' Morrow). Used 2418' Water Blanket + 1583' Nitrogen Blanket. Nitrogen valve at 8835' set at 2050 psi. Nitrogen pressured to 1750 psi at surface. Tool open 97 minutes (including 5 minutes preflow) thru 5/8" BC & 4 1/2" DP. Opened w/no blow & continued throughout. NCTS. Recovered 1583' Nitrogen Blanket + 2418' water blanket (last 90' contaminated w/drilling fluid), no show. 67 minutes ISIBHP 6443 psi. FBHP 3303 - 3303 psi. 65 minutes FSIBHP 6413 psi. HMP 9135 - 9135 psi. Conclusive Test. (Cook)

DST #4: 13,010' - 13,270' (260' Morrow). Used 2000' water blanket + 2000' Nitrogen pressured to 2000 psi at surface. Tool open 131 minutes thru 5/8" BC, 1" & 3/8" TC, 4 1/2" DP. Opened w/no blow. Had strong blow 4 minutes after re-opened & continued throughout. GTS 105 minutes. Flowed gas, max rate 1 MMCFPD on 1" choke at 25 psi surface pressure; min rate 825 MMCFPD on 1" choke at 18 psi surface pressure. Recovered 1209' water blanket above nitrogen valve. Found 1775' below nitrogen valve. Recovered 465' water blanket + 330' gas & mud cut water blanket + 200' gas cut drilling mud. 60 minutes ISIBHP 8298 psi. FBHP 3481 - 2797 psi. 45 minutes FSIBHP 8627 psi. HMP 9925 - 9925 psi. Conclusive Test. (Cook)

DST #5: 13,544' - 13,762' (218' Lower Morrow). Used 3500' FWB + 2000' Nitrogen pressured to 1950 psi at surface. Nitrogen valve at 8012' set at 2050 psi. Tool open 4 hours 15 minutes (including 5 minutes pre-flow) thru 5/8" BC, 1" & 3/8" TC, 4 1/2" DP. Opened w/no blow. Strong blow in 4 minutes. Re-opened w/weak blow, increased to strong in 3 minutes & continued throughout. GTS 3 hours 20 minutes. Flowed gas at various rates on 3/8" choke. Maximum 180,000 CFPD at 42 psi FSP. Minimum 140,000 CFPD at 30 psi FSP. Found 1725 psi below Nitrogen valve. Recovered 930' gas below Nitrogen Valve & reversed out 100' condensate (Gr. 56.2° API) + 3500' FWB + 970' GCDM. 60 minutes ISIBHP 9419 psi. FBHP 4095 - 4155 psi. 120 minutes FSIBHP 6365 psi. HMP 10,078 - 10,078 psi. Conclusive Test. (Cook)

DST #6: 14,685' - 14,761' (76' Silurian). Tool opened 128 minutes (including 8 minutes pre-flow) thru 5/8" BC, 1" TC, 3 1/2" & 4 1/2" DP. Opened w/no blow, strong blow in 5 minutes. Re-opened w/no blow, weak blow in 2 minutes, strong blow in 5 minutes & continued throughout test. NGTS. Recovered 90' (1 bbl.) mud cut black salt water + 1710' (17 bbls.) black salt water. 62 minutes ISIBHP 6233 psi. FBHP 2351 - 3065 psi. 120 minutes FSIBHP 6233 psi. HMP 7311 - 7311 psi. BHT 216°F. Pit mud titrated 130,000 ppm Cl⁻. Recovered water titrated 42,000 ppm Cl⁻. Conclusive Test. (Cook)

Submit 3 Copies To Appropriate District Office
 District I
 1625 N. French Dr., Hobbs, NM 88240
 District II
 1301 W. Grand Ave., Artesia, NM 88210
 District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 District IV
 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
 Energy, Minerals and Natural Resources

Form C-103
 May 27, 2004

OIL CONSERVATION DIVISION
 1220 South St. Francis Dr.
 Santa Fe, NM 87505

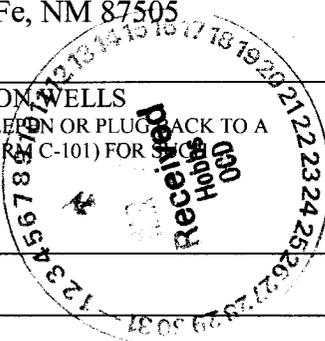
WELL API NO. 30-025-21740
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. OG 1529
7. Lease Name or Unit Agreement Name Antelope Ridge Unit Unit 891008492B
8. Well Number 1G
9. OGRID Number 233545
10. Pool name or Wildcat Antelope Ridge; Delaware

SUNDRY NOTICES AND REPORTS ON WELLS
 (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR PROPOSALS.)

1. Type of Well: Oil Well Gas Well Other

2. Name of Operator
BOLD ENERGY, LP

3. Address of Operator
415 W. Wall, Suite 500 Midland, Texas 79701



4. Well Location
 Unit Letter **E** : **1980'** feet from the **North** line and **1980'** feet from the **East** line
 Section **22** Township **23S** Range **34E** NMPM County **Lea**

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
3425' GR

Pit or Below-grade Tank Application or Closure

Pit type _____ Depth to Groundwater _____ Distance from nearest fresh water well _____ Distance from nearest surface water _____

Pit Liner Thickness: _____ mil Below-Grade Tank: Volume _____ bbls; Construction Material _____

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input checked="" type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
OTHER: <input type="checkbox"/>		OTHER <input type="checkbox"/>	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

MIRU PU on 11/21/06. Blew well down & installed BOP. POH w/ injection tubing and SD for Thanksgiving. Resumed operations on 11/28/06, WIH w/ 13 3/8" CIBP on tbg - unable to work past 300' - POH w/ CIBP. Made trip w/ casing scraper to 4944', OK. Rotary WL set CIBP @ 4925'. WIH w/ open-ended tbg to 4920' & tested casing w/ 500 psi, OK. Circ & loaded hole w/ 9.5 ppg mud laden fluid, RU Schlumberger and spotted bottom plug w/ 70 sx Class "C" from 4925' - 4825'. Pulled tbg to 3128' and spotted 150 sx Class "C". POH w/ tbg & SDON. TIH w/ tbg & tagged plug @ 2898'. Base of Salt plug set 2898' - 3128'. POH w/ tbg, Rotary WL perfed 4 squeeze holes @ 1615'. TIH w/ tbg to 1415', Schlumberger mixed & pumped 380 sx Class "C" - displaced 250 sx through perms and left 130 sx inside casing. POH w/ tbg & WOC. TIH w/ tbg & tagged plug @ 1417'. Top of Salt plug set 1417' - 1615'. POH w/ tbg & Rotary WL perfed 4 squeeze holes @ 410'. Schlumberger mixed & pumped 737 sx Class "C" and circulated cement to surface via 20" x 133/8" annulus and left 133/8" casing full of cement from 0' - 410'. Surface casing shoe plug and top plug set 0' - 410'. ND BOP, RD & RPU on 11/30/06. Cut off casings & wellheads to 3' below GL and installed regulation Dry Hole Marker on 12/2/06. Well P&A'd effective 12/2/06.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any 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 .

SIGNATURE *D. C. Dodd* TITLE Agent for BOLD ENERGY, LP DATE 3/5/07
 Type or print name D. C. Dodd E-mail address: ddodd@sierra-engineering.net Telephone No. 432 / 683-8000

For State Use Only

APPROVED BY: *Mary W. Wink* TITLE REGULATIVE / STAFF MANAGER DATE MAR 15 2007

Conditions of Approval (if any):
 Approved as to plugging of the Well Bore.
 Liability under bond is retained until surface restoration is completed.