

DATE IN 10/09/2017	SUSPENSE	ENGINEER MAM	LOGGED IN 10/10/2017	TYPE SWD	APP NO. PMAM/728358585
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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

HedonA consulting  
371955

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

[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 \_\_\_\_\_

Abbey State SWD #1

2290' FNL & 1200' FEL

Sec 36 T10S R27E

Chaves County, NM.

30-005-62556

#### [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.

John Maxey  
Print or Type Name

Signature

Consulting Pet Engineer


Title

September 14, 2017

Date

jcm@maxeyengineering.com  
e-mail Address

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage  
Application qualifies for administrative approval? X Yes No
- II. OPERATOR: Hadaway Consulting and Engineering, LLC  
ADDRESS: PO Box 188, Canadian TX 79014  
CONTACT PARTY: John Maxey PHONE: (575) 623-0438
- 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: John C. Maxey TITLE: Consulting Petroleum Engineer  
SIGNATURE:  DATE: September 14, 2017  
E-MAIL ADDRESS: jcm@maxeyengineering.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.

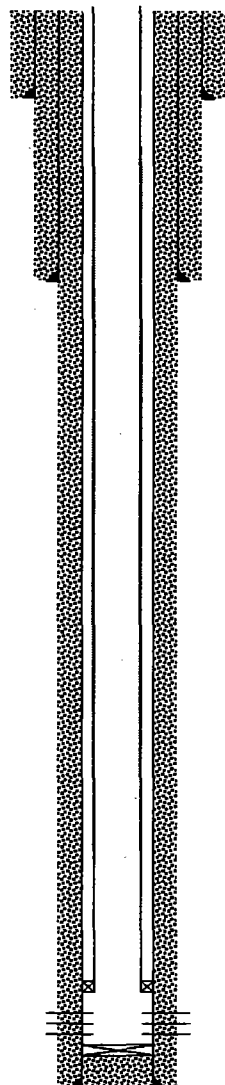
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NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

## INJECTION WELL DATA SHEET

OPERATOR: Hadaway Consulting and Engineering, LLCWELL NAME & NUMBER: Abbey State SWD #1

WELL LOCATION: 2290' FNL & 1200' FEL      H      36      10S      27E  
 FOOTAGE LOCATION      UNIT LETTER      SECTION      TOWNSHIP      RANGE

WELLBORE SCHEMATIC

13 3/8" 54.5 ppf J55 csg @ 350'

8 5/8" 24 ppf J55 csg @ 1,553'

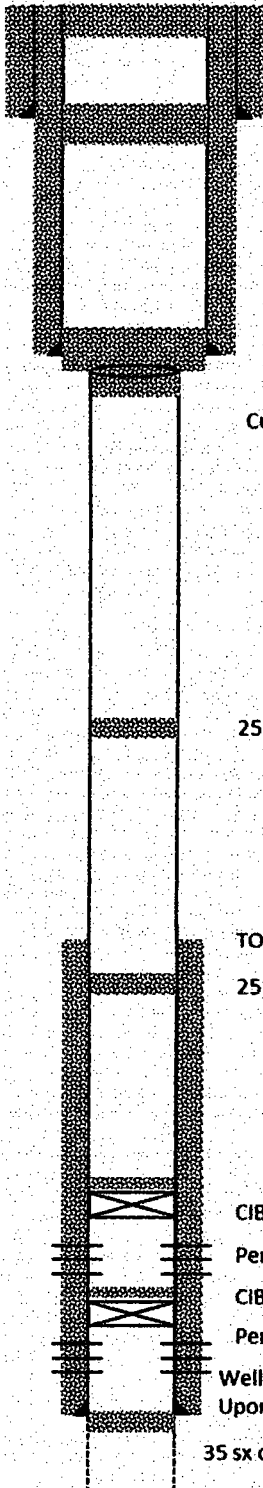
3 1/2" IPC tbg w/ packer set less than  
100' above the permitted SWD interval.5 1/2" 15.5 ppf J55 csg @ 7,300' w/ the  
float collar set 2 jts up at 7,220'.WELL CONSTRUCTION DATASurface CasingHole Size: 17 1/2"      Casing Size: 13 3/8"Cemented with: 400 sx.      or \_\_\_\_\_ ft<sup>3</sup>Top of Cement: Surface      Method Determined: CirculationIntermediate CasingHole Size: 12 1/4"      Casing Size: 8 5/8"Cemented with: 800 sx.      or \_\_\_\_\_ ft<sup>3</sup>Top of Cement: Surface      Method Determined: CirculationProduction CasingHole Size: 7 7/8"      Casing Size: 5 1/2"Cemented with: \_\_\_\_\_ sx.      or 1,265 - plus 25% excess ft<sup>3</sup>Top of Cement: Surface      Method Determined: CirculationTotal Depth: Csg 7,300' - Well TD 7,305 - PBTD 7,220'Injection IntervalPerforated      6,790' feet to 7,100

(Perforated or Open Hole; indicate which)

Hadaway Consulting and Engineering, LLC  
 Abbey State SWD #1 Application  
 2290' FNL & 1200' FEL  
 Section 36 T10S R 27E  
 Chaves County, NM

Hi Way State #1 (P&A)  
 Surf 2417' FSL & 2245' FEL  
 Sec 36 T10S R27E  
 Chaves, NM  
 Sep 14, 2017

Current Wellbore



10 sx cmt plug 30 - surface.

17 1/2" x 13 3/8" 54 ppf STC @ 338' cmt w/ 400 sx to surf.

35 sx cmt plug 350 - 250.

12 1/4" x 8 5/8" 24 ppf STC @ 1557' cmt w/ 650 sx to surf.

Cut and pulled 1586' of 5 1/2" casing. Set 50 sx cmt plug 1636 - 1448.

25 sx cmt plug 3500 - 3125.

Tops per OCD C105

Miss 6660'  
 Siluro-Devonian 6798'

TOC 4273' (calc).

25 sx cmt plug 4500 - 4300.

CIBP set @ 5700' w/ 35' cmt on top.

Perforations 6,132 - 5,826

CIBP set @ 6238' w/ 35' cmt on top.

Perforations 6,334 - 6,460

Well was originally drilled to a TD of 6881' then P&A in 7/1994 before being reentered in 10/2001.  
 Upon reentry, 7 7/8" x 5 1/2" 15.5 & 17 ppf K55 @ 6616' cmt w/ 375 sx w/ TOC @ 4273' (calc).

35 sx cmt plug 6688 - 6588 after originally drilling dry hole.

Tubing Size: 3 1/2" Lining Material: IPC

Type of Packer: Nickel plated Lok-Set or equivalent w/ profile and on-off tool.

Packer Setting Depth: Within 100' of top of SWD interval.

Other Type of Tubing/Casing Seal (if applicable): None

1. Is this a new well drilled for injection? \_\_\_\_\_ Yes   X   No  
If no, for what purpose was the well originally drilled?   This well was originally drilled as a Devonian test and was P&A. No production casing was run.
2. Name of the Injection Formation:   Fusselman
3. Name of Field or Pool (if applicable): \_\_\_\_\_
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. \_\_\_\_\_ No
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:   San Andres T/1,529' BGL

Hadaway Consulting and Engineering, LLC  
Abbey State SWD #1 Application  
2290' FNL & 1200' FEL  
Section 36 T10S R 27E  
Chaves County, NM

- I. Plan to reenter a 7,305' dry hole and convert to a water disposal well for the operator's proposed San Andres drilling program located in the area.
- II. Hadaway Consulting and Engineering, LLC (OGRID: 371985)  
P.O. Box 188, Canadian TX 79014  
Operator phone: (806) 323-8723  
Contact for Application: John Maxey (Maxey Engineering, LLC), (575) 623-0438
- III.A.1 Lease: State of New Mexico Land Office lease VC-0131 consisting of 320 acres in the E2 of section 36 T10S R27E, dated August 1, 2017. The well information: Abbey State SWD #1, (formerly: Hadley AFJ State #1, API# 30-005-62596) 2290' FNL & 1200' FEL of section 36 T10S R27E, Chaves County, NM. A C102 is attached as Exhibit "A".
- III.A.2 Surface construction is 17 1/2" hole by 13 3/8" 54.5 ppf J55 casing set at 350' cemented with 400 sx of cement to surface.  
  
Intermediate construction is 12 1/4" by 8 5/8" 24 ppf J55 casing set at 1,553' cemented with 800 sx of cement to surface.  
  
Production construction will be 7 7/8" by 5 1/2" 15.5 ppf J55 casing set at 7,300' cemented with 900 sx of Class C cement plus additives to surface. (See attached injection well data sheets)
- III.A.3 Injection tubing will be 3 1/2" 9.6 ppf J55 EUE IPC set within 100' of the top of the permitted injection interval with a packer. (See attached injection well data sheets)
- III.A.4 Packer will be a 5 1/2" nickel plated LokSet (or equivalent) packer with a stainless steel profile nipple and on-off tool. (See attached injection well data sheets)
- III.B.1 The disposal interval is Fusselman.
- III.B.2 The injection interval will be cased throughout, and will be perforated intermittently from 6,790' to 7,100'.
- III.B.3 This well was originally permitted and drilled as a Wildcat Devonian test. The proposed injection interval (reported as both Siluro-Devonian and

Hadaway Consulting and Engineering, LLC  
Abbey State SWD #1 Application  
2290' FNL & 1200' FEL  
Section 36 T10S R 27E  
Chaves County, NM

Montoy/Fusselman in the OCD file records) was drill stem tested and found to be wet. The DST test results are as follows:

YATES PETROLEUM CORPORATION

Hadley APJ State #1, V-994  
Unit H, 2290' FNL & 1200' FEL  
Sec. 36-T10S-R27E  
Chaves County, NM

RECEIVED

APR 22 '88

O. C. D.  
ARTESIA, OFFICE

DRILL STEM TESTS:

DST #1 - MISRUN. (Communication around packer.)

DST #2 - 6800-6860' (60') MONTOYA/FUSSELMAN: On 30 minute preflow had 3 oz in 5 mins; 5 oz in 15 mins; 6 oz in 20 mins (blow to bottom of bucket); 9 oz in 30 mins. SI 60 mins. Reopened with 7 oz; 9 oz in 10 mins; 10 oz in 20 mins; 12 oz in 30 mins; 13 oz in 40 mins; 15 oz in 50 mins; 15 oz in 60 mins. SI 120 mins. Opened 6:20 AM 4-6-88 (for 180" flow) - in 5 mins had weak blow; 2 oz in 20 mins, 4 oz in 20 mins; 7 oz in 30 mins; 8 oz in 35 mins. Did not have GTS. RECOVERY: 121' mud and 91' mud and water, Rw 0.08 at 60°, Cl 83000 ppm. SAMPLER: 0.40 scf gas, 300 cc oil and 1860 cc water, Rw 0.18 at 60°, Cl 28000 ppm at 120 psi. PRESSURES: IHP 3692; 1st IFP 80-369; ISIP 2718; 2nd IFP 376-581; FSIP 2718; 3rd IFP 600-1105; FHP 3648.

DST #3 - 6797-6838' (41') MONTOYA/FUSSELMAN: TIMES: TO 45", SI 60", TO 60", SI 90", TO 180". SI. Opened tool with weak blow. Had 3 oz in bottom bucket in 40 mins, 5.5 oz in 45 mins. On 2nd open - 7 oz in bubble hose in 15 mins; 7.5 oz in 30 mins; 8 oz in 45 mins; 10 oz in 60 mins. On 3rd open - 7.5 oz in bubble hose in 20 mins; 10 oz in 60 mins; 10.5 oz in 80 mins; 12.5 oz in 120 mins, 14 oz in 180 mins. RECOVERY: 280' free gas, 187 gas and slightly oil cut mud, 93' drilling mud cut with formation water, 1486' formation water. SAMPLER .3 cfg, 360 cc oi, 2040 cc water at 110 psi. PRESSURES: (Bottom) IHP 3714; 1st IFP 27-341; ISIP 2704; 2nd IFP 370-484; ISIP 2704; 3rd IFP 494-865; FHP 3675.

- III.B.4 There will be no other perforated intervals.
- III.B.5 There is no known next lower oil or gas producing zones in the area of the well. The next higher zone would be San Andres oil production at 1,520'.
- IV. This is not an expansion of an existing project.
- V. Exhibit "B" identifies all wells and leases within a 2 mile radius of the proposed SWD well, and the ½ mile radius is the area of review for this application.
- VI. There is one well that penetrates the proposed injection interval within the Area of Review (AOR). A tabulation and schematic of the well is below. There are 2 other



Hadaway Consulting and Engineering, LLC  
Abbey State SWD #1 Application  
2290' FNL & 1200' FEL  
Section 36 T10S R 27E  
Chaves County, NM

wells in or very near the boundary of the AOR, however these wells are shallow and do not penetrate the proposed injection interval.

- VII.1 The proposed daily operating rate is 10,000 BWPD with a maximum of 20,000 BWPD.
- VII.2 This system will be open and closed taking both pipeline water and trucked water from the operator's anticipated producing San Andres wells in the area. This well is for a new drilling program and there are no producing wells yet. This permit for SWD and the permits for development drilling of the San Andres are being prepared concurrently.
- VII.3 The average daily surface operating pressure is anticipated to be on vacuum. The maximum surface pressure would be 0.2 psi/foot to the anticipated top of the injection (disposal) interval at 6,790', or 1,358 psi.
- VII.4 The source of the disposal fluid would be the operator's anticipated producing San Andres wells to be developed in the area. Per a Roswell Geological Symposium study of the Chisum San Andres (2 miles to the south), the San Andres has 55,261 ppm Cl and 35,8008 ppm Na. ✓
- VII.5 Per a Roswell Geological Symposium study of the Chisum Devonian (2 miles to the south), the Devonian has 29,047 ppm Cl and 18,822 ppm Na.
- VIII. The Fusselman dolomite is a fine to coarsely crystalline, brown to light grey reservoir rock. Porosity development consists of small and large vugs and fractures. Lining the vugs are large crystals of dolomite rhombs developed through secondary crystallizations. The only source of drinking water in the area would be from the red beds from surface down to 350' BGL. Formation tops from the OCD form C105 are as follows:

Hadaway Consulting and Engineering, LLC  
Abbey State SWD #1 Application  
2290' FNL & 1200' FEL  
Section 36 T10S R 27E  
Chaves County, NM

San Andres	1520
Glorieta	2716
Yeso	2796
Abo	4980
Wolfcamp	5792
Miss	6651
Fusselman	6792

- IX. The well will be stimulated with acid if needed.
- X. Well logs previously submitted to the Division. A GR-CBL-VDL will be run on the well.
- XI. The wellsite is in a remote area and there were no obvious stock tanks or other indications of underground fresh water sources In a grid search of the area on Google Earth. There were no Points of Diversion within 1 mile of the proposed SWD on a location search of the State Engineers website.
- XII. Available geologic and engineering data were examined and no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water were found. — *John M. Fry* 10/10/2017
- XIII. A legal ad was published in the Roswell Daily Record, Chaves County New Mexico, with proof of publication attached (Exhibit "C"). A copy of this application has been mailed to the owner of the surface of the land on which the well is located (NM State Land Office), and all leasehold operators, leaseholders if no operator, and mineral owners if no leaseholder, per the attached USPS return receipt cards (Exhibit "D").

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Abbey State SWD #1 Application  
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Section 36 T10S R 27E  
Chaves County, NM

**Data Sheet for Well Within Area of Review**

Operator: Elk Oil Company

Well Name: Hi Way State #1 (P&A)

Location: 2,417' FSL & 2,245' FEL, Sec 36 T10S R27E

GL Elevation (ft): 3,698'

API #: 30-005-63021

Spud Date: 6-30-1994

Reentry Comp Date: 9-18-2001

TD (ft): 6,881

PBTD (ft): 6,616

Dry Hole P&A: 7-24-1994

Reentry P&A Date: 4-5-2005

**Wellbore Construction**

<u>Hole OD</u> <u>(in)</u>	<u>Casing OD</u> <u>(in)</u>	<u>Weight</u> <u>(ppf)</u>	<u>Grade</u>	<u>Depth (ft)</u>	<u>Amt Cmt</u> <u>(sx)</u>	<u>TOC (ft from</u> <u>Surf)</u>
17 ½	13 ¾	54	Unknown	338	400	0
12 ¼	8 ⅝	24	Unknown	1,557	650	0
7 ⅞	5 ½	15.5 & 17	K55	6,616	375	4,273 calc

**Producing Interval and Details**

The well was original drilled to a TD of 6,881' and P&A as a dry hole. In August of 2001 the well was reentered and 5 ½" casing was run to 6,616'. An attempted completion was made through perforations 6,334 --- 6,460 (73 holes) and reported non-commercial. A second attempt was made through perforations 6,132 --- 5,826 (94 holes). The well was reported to be flowing gas and was subsequently shut in waiting on a pipeline. It appears the well was ultimately noncommercial as there is no production reported for this well, and the well was subsequently P&A in April of 2005.

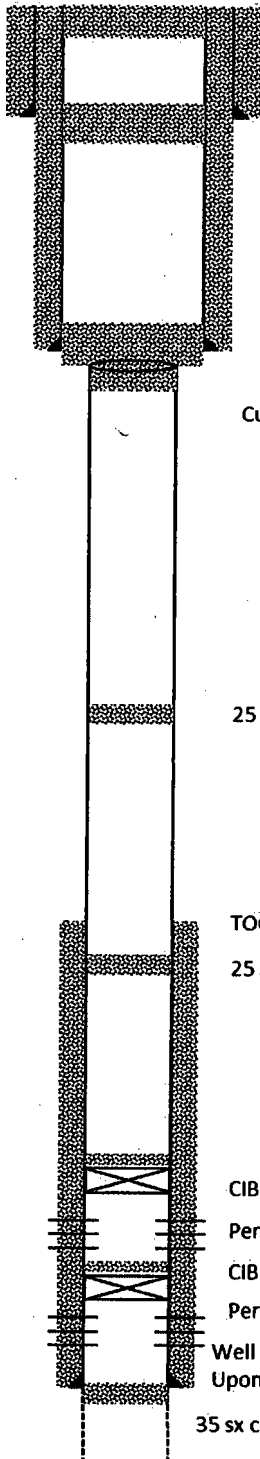
**Comments**

Schematic diagram attached.

Hadaway Consulting and Engineering, LLC  
 Abbey State SWD #1 Application  
 2290' FNL & 1200' FEL  
 Section 36 T10S R 27E  
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Hi Way State #1 (P&A)  
 Surf 2417' FSL & 2245' FEL  
 Sec 36 T10S R27E  
 Chaves, NM  
 Sep 14, 2017

Current Wellbore



10 sx cmt plug 30 - surface.

17 1/2" x 13 3/8" 54 ppf STC @ 338' cmt w/ 400 sx to surf.

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12 1/4" x 8 5/8" 24 ppf STC @ 1557' cmt w/ 650 sx to surf.

Cut and pulled 1586' of 5 1/2" casing. Set 50 sx cmt plug 1636 - 1448.

25 sx cmt plug 3500 - 3125.

Tops per OCD C105

Miss 6660'  
 Siluro-Devonian 6798'

TOC 4273' (calc).

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CIBP set @ 5700' w/ 35' cmt on top.

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 Upon reentry, 7 7/8" x 5 1/2" 15.5 & 17 ppf K55 @ 6616' cmt w/ 375 sx w/ TOC @ 4273' (calc).

35 sx cmt plug 6688 - 6588 after originally drilling dry hole.

**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

<sup>1</sup> API Number 30-005-62596	<sup>2</sup> Pool Code	<sup>3</sup> Pool Name
<sup>4</sup> Property Code	<sup>5</sup> Property Name Abbey State SWD	<sup>6</sup> Well Number 1
<sup>7</sup> OGRID No. 371985	<sup>8</sup> Operator Name Hadaway Consulting & Engineering, LLC	<sup>9</sup> Elevation 3698.7' GL

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	36	10S	27E		2290	N	1200	E	Chaves

<sup>11</sup> Bottom 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

<sup>12</sup> Dedicated Acres	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> 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.

	<p><b><sup>17</sup> OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or in a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>John C Maxey</i> 9/14/2017 Signature Date</p> <p>John C Maxey Printed Name</p> <p>jcm@maxeyengineering.com E-mail Address</p>
	<p><b><sup>18</sup> SURVEYOR CERTIFICATION</b></p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p>
	<p>Date of Survey</p> <p>Signature and Seal of Professional Surveyor:</p>
	<p>Certificate Number</p>

Hadaway Consulting and Engineering, LLC  
Abbey State SWD #1 Application  
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Chaves County, NM

Exhibit "B" Land Plat

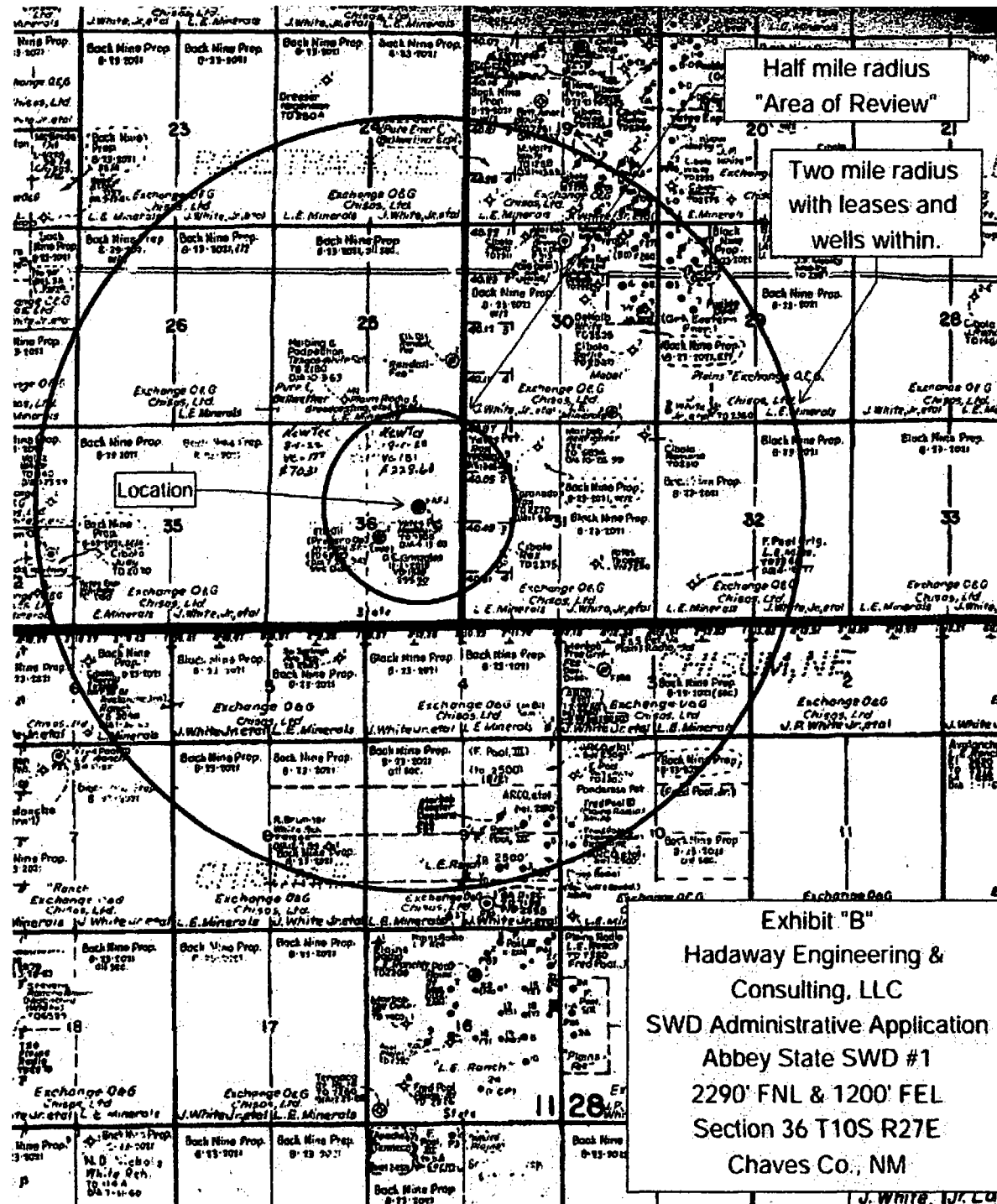


Exhibit "C"

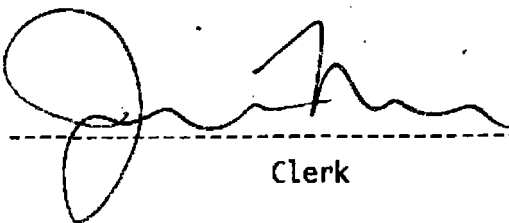
AFFIDAVIT OF PUBLICATION  
STATE OF NEW MEXICO

I, Jenny Martinez  
Legals Clerk

Of the Roswell Daily Record, a daily newspaper published at Roswell, New Mexico do solemnly swear that the clipping hereto attached was published in the regular and entire issue of said paper and not in a supplement thereof for a period of:


One time with the issue dated

September 15th, 2017

-----  
  
-----  
Clerk

Sworn and subscribed to before me

this 15th day of September, 2017

-----  
  
-----  
Notary Public

My Commission expires  
June 13, 2018

*Proposal..*

Publish September-15, 2017

Hadaway Engineering & Consulting, LLC, proposes to reenter the Hadley AFJ State #1 as a produced water disposal well. The well will be renamed the Abbey State SWD #1. The well is located 2290' FNL & 1200' FEL, Section 36 T10S-R27E, Chaves County, New Mexico.

The maximum proposed rate of injection is 20,000 barrels of water per day and the maximum proposed injection pressure is 1,358 psi. Water will be disposed of into the Fusselman formation at an anticipated depth of 8,780' to 7,100'.

Contact for the application is Maxey Engineering, LLC, P.O. Box 1361, Roswell, New Mexico 88202, Attn: Mr. John Maxey, consulting Petroleum Engineer, Phone (575) 623-0438.

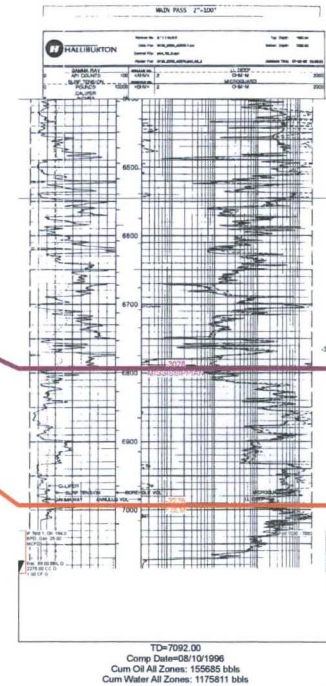
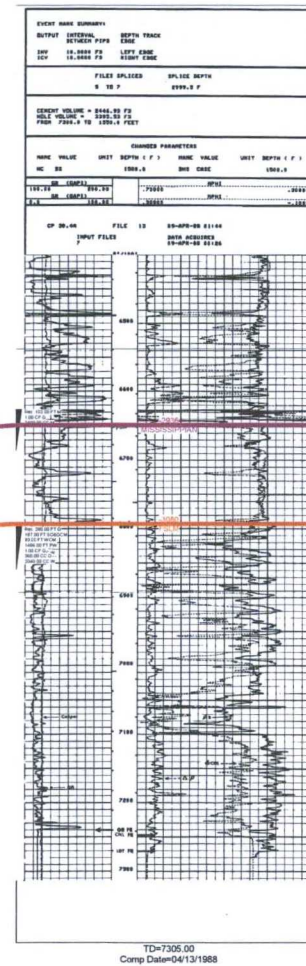
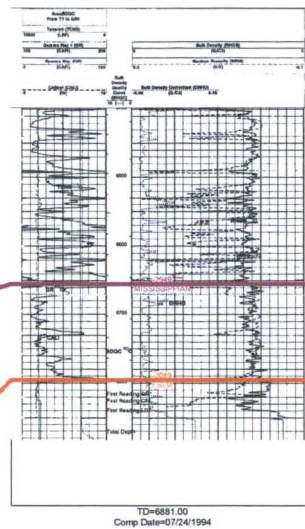
Interested parties must file objections or request a hearing with the New Mexico Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505 within 15 days.

32558 ft


1211 ft

6544 R

30005630930000  
→ ●  
LEGACY RESERVES OPERATING LP  
TRUE GRIT FEE 1  
1265 FNL/1215 FVL  
TWP: 11 S - Range: 28 E - Sec. 3  
Field=CHSUM NORTHEAST  
Spud Date=07/08/1996  
Datum=3765.00






SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<p>■ Complete items 1, 2, and 3.</p> <p>■ Print your name and address on the reverse so that we can return the card to you.</p> <p>■ Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>State of New Mexico P.O. Box 1148 Santa Fe, NM 87504-1148</p> <p>SEP 25 2017</p> <p>9590 9402 2868 7069 5990 09</p>		<p>A. Signature X </p> <p><input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name)</p> <p>C. Date of Delivery</p> <p>D. Is delivery address different from item 12? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p> <p>SEP 20 2017</p> <p>SANTA FE</p>	
<p>2. Article Number (Transfer from service label) 7016 2710 0000</p>		<p>3. Service Type</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input checked="" type="checkbox"/> Certified Mail® <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Mail Restricted Delivery</p> <p><input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>	


PS Form 3811, July 2015 PSN 7530-02-000-9053

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<p>■ Complete items 1, 2, and 3.</p> <p>■ Print your name and address on the reverse so that we can return the card to you.</p> <p>■ Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>1. Article Address DK Boyd P.O. Box 11351 Midland, TX 79702</p> <p>9590 9402 2868 7069 5990 85</p>		<p>A. Signature X </p> <p><input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) Clay Boyd</p> <p>C. Date of Delivery 9-25-17</p> <p>D. Is delivery address different from item 17? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p> <p>SEP 27 2017</p>	
<p>2. Article Number (Transfer from service label) 7016 3010 0000</p>		<p>3. Service Type</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input checked="" type="checkbox"/> Certified Mail® <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Mail Restricted Delivery</p> <p><input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>	


PS Form 3811, July 2015 PSN 7530-02-000-9053


Domestic Return Receipt

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<p>■ Complete items 1, 2, and 3.</p> <p>■ Print your name and address on the reverse so that we can return the card to you.</p> <p>■ Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>1. 34T Holding LLC P.O. Box 11351 Midland, TX 79702</p> <p>9590 9402 2868 7069 5990 92</p>		<p>A. Signature X </p> <p><input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) Clay Boyd</p> <p>C. Date of Delivery 9-25-17</p> <p>D. Is delivery address different from item 17? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p> <p>SEP 27 2017</p>	
<p>2. Article Number (Transfer from service label) 7016 3010 0000</p>		<p>3. Service Type</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input checked="" type="checkbox"/> Certified Mail® <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Mail Restricted Delivery</p> <p><input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>	


PS Form 3811, July 2015 PSN 7530-02-000-9053

Domestic Return Receipt

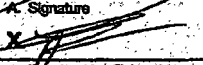
SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<p>■ Complete items 1, 2, and 3.</p> <p>■ Print your name and address on the reverse so that we can return the card to you.</p> <p>■ Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>Spool Holding LLC P.O. Box 11351 Midland, TX 79702</p> <p>9590 9402 2868 7069 5990 16</p>		<p>A. Signature X </p> <p><input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) Clay Boyd</p> <p>C. Date of Delivery 9-21-17</p> <p>D. Is delivery address different from item 17? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p> <p>SEP 25 2017</p>	
<p>2. Article Number (Transfer from service label) 7016 2710 0000</p>		<p>3. Service Type</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input checked="" type="checkbox"/> Certified Mail® <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Mail Restricted Delivery</p> <p><input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>	

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<p>■ Complete items 1, 2, and 3.</p> <p>■ Print your name and address on the reverse so that we can return the card to you.</p> <p>■ Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>1. Addressee to:  <b>Black Shale Minerals, LLC</b>  <b>Attn: Andy Scott</b>  <b>P.O. Box 2243</b>  <b>Longview TX 75606-2243</b></p>		<p>A. Signature   <input type="checkbox"/> Agent  <input checked="" type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name)  <b>Wendy M. Scott</b></p> <p>C. Date of Delivery  <b>SEP 28 2017</b></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes          If YES, enter delivery address below: <input type="checkbox"/> No</p>	
<p>2. Article Number (Transfer from service label)  <b>9590 9402 2868 7069 5991 08</b></p>		<p>3. Service Type  <input type="checkbox"/> Adult Signature  <input type="checkbox"/> Adult Signature Restricted Delivery  <input checked="" type="checkbox"/> Certified Mail®  <input type="checkbox"/> Certified Mail Restricted Delivery  <input type="checkbox"/> Collect on Delivery  <input type="checkbox"/> Collect on Delivery Restricted Delivery  <input type="checkbox"/> Insured Mail  <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)</p> <p><input type="checkbox"/> Priority Mail Express®  <input type="checkbox"/> Registered Mail™  <input type="checkbox"/> Registered Mail Restricted Delivery  <input type="checkbox"/> Return Receipt for Merchandise  <input type="checkbox"/> Signature Confirmation™  <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>	


PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

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<p>■ Complete items 1, 2, and 3.</p> <p>■ Print your name and address on the reverse so that we can return the card to you.</p> <p>■ Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>1. Addressee to:  <b>Samedan Royalty LLC</b>  <b>Attn: Jim DeGraffenreid</b>  <b>1001 Noble Energy Way</b>  <b>Houston, TX 77070</b></p>		<p>A. Signature   <input type="checkbox"/> Agent  <input checked="" type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name)  <b>Jim DeGraffenreid</b></p> <p>C. Date of Delivery  <b>SEP 21 2017</b></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes          If YES, enter delivery address below: <input type="checkbox"/> No</p>	
<p>2. Article Number (Transfer from service label)  <b>9590 9402 2868 7069 5990 47</b></p>		<p>3. Service Type  <input type="checkbox"/> Adult Signature  <input type="checkbox"/> Adult Signature Restricted Delivery  <input checked="" type="checkbox"/> Certified Mail®  <input type="checkbox"/> Certified Mail Restricted Delivery  <input type="checkbox"/> Collect on Delivery  <input type="checkbox"/> Collect on Delivery Restricted Delivery  <input type="checkbox"/> Insured Mail  <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)</p> <p><input type="checkbox"/> Priority Mail Express®  <input type="checkbox"/> Registered Mail™  <input type="checkbox"/> Registered Mail Restricted Delivery  <input type="checkbox"/> Return Receipt for Merchandise  <input type="checkbox"/> Signature Confirmation™  <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>	

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<p>■ Complete items 1, 2, and 3.</p> <p>■ Print your name and address on the reverse so that we can return the card to you.</p> <p>■ Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>1. Addressee to:  <b>Selma Andrews Perpetual Charitable Trust</b>  <b>Attn: Brenda Olsen</b>  <b>P.O. Box 830308</b>  <b>Dallas, TX 75283</b></p>		<p>A. Signature   <input type="checkbox"/> Agent  <input checked="" type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name)  <b>Brenda Olsen</b></p> <p>C. Date of Delivery  <b>SEP 27 2017</b></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes          If YES, enter delivery address below: <input type="checkbox"/> No</p>	
<p>2. Article Number (Transfer from service label)  <b>9590 9402 2868 7069 5990 30</b></p>		<p>3. Service Type  <input type="checkbox"/> Adult Signature  <input type="checkbox"/> Adult Signature Restricted Delivery  <input checked="" type="checkbox"/> Certified Mail®  <input type="checkbox"/> Certified Mail Restricted Delivery  <input type="checkbox"/> Collect on Delivery  <input type="checkbox"/> Collect on Delivery Restricted Delivery  <input type="checkbox"/> Insured Mail  <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)</p> <p><input type="checkbox"/> Priority Mail Express®  <input type="checkbox"/> Registered Mail™  <input type="checkbox"/> Registered Mail Restricted Delivery  <input type="checkbox"/> Return Receipt for Merchandise  <input type="checkbox"/> Signature Confirmation™  <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>	

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

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<p>2. Article Number (Transfer from service label)  <b>9590 9402 2868 7069 5990 23</b></p>		<p>3. Service Type  <input type="checkbox"/> Adult Signature  <input type="checkbox"/> Adult Signature Restricted Delivery  <input checked="" type="checkbox"/> Certified Mail®  <input type="checkbox"/> Certified Mail Restricted Delivery  <input type="checkbox"/> Collect on Delivery  <input type="checkbox"/> Collect on Delivery Restricted Delivery  <input type="checkbox"/> Insured Mail  <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)</p> <p><input type="checkbox"/> Priority Mail Express®  <input type="checkbox"/> Registered Mail™  <input type="checkbox"/> Registered Mail Restricted Delivery  <input type="checkbox"/> Return Receipt for Merchandise  <input type="checkbox"/> Signature Confirmation™  <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>	

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

## USPS Tracking® Results

FAQs > (<http://faq.usps.com/?articleId=220800>)

Track Another Package +

Remove X

Tracking Number: 70162710000019164131

U.S. Postal Service™  
**CERTIFIED MAIL® RECEIPT**  
 Domestic Mail Only

For delivery information, visit our website at [www.usps.com](http://www.usps.com).

**OFFICIAL USE**

Certified Mail Fee  
 \$ 9-26-17

Extra Services & Fees (check box, add fee as appropriate)  
☐ Return Receipt (hardcopy) \$  
☐ Return Receipt (electronic) \$  
☐ Certified Mail Restricted Delivery \$  
☐ Adult Signature Required \$  
☐ Adult Signature Restricted Delivery \$ 6.98

Postage  
 \$

Total Postage Chisos, Ltd.  
 \$

Sent To 1331 Lamar St. Suite 1075  
 Street and A/Houston, TX 77010  
 City, State, Z

PS Form 3811, September 27, 2017, 10:52 am

Delivered

See Available Actions

September 27, 2017, 8:05 am

Departed USPS Regional Facility

COPPELL TX DISTRIBUTION CENTER

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Chisos, Ltd.  
 Attn: Sue Ann Craddock  
 670 Dona Ana Road, SW  
 Deming, NM 88030

9590 9402 2868 7069 5990 78

2. Article Number (Transfer from service label)

7016 3010 0000 9590 9402 2868 7069 5990 78

PS Form 3811, July 2015 PSN 7530-02-000-9033

COMPLETE THIS SECTION ON DELIVERY

- A. Signature  
 x *[Signature]*
- B. Received by (Printed Name)  
 B. Sandeen
- C. Date of Delivery  
 9/23/17
- D. Is delivery address different from item?  
 If YES, enter delivery address below:

☐ Agent☐ Addressee☐ No

3. Service Type

- ☐ Adult Signature  
☐ Adult Signature Restricted Delivery  
☐ Certified Mail  
☐ Collect on Delivery  
☐ Collect on Delivery Restricted Delivery  
☐ Full Restricted Delivery
- ☐ Priority Mail Express®  
☐ Registered Mail™  
☐ Registered Mail Restricted Delivery  
☐ Return Receipt for Merchandise  
☐ Signature Confirmation™  
☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

# STATE LAND OFFICE DATA ACCESS

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## land details

\* Section:  \* Township:  \* Range:

Example:      33                      09S                      26E

[Search](#)
[Reset](#)
[Printer Friendly](#)
[Download](#)
[Instructions](#)
[Give Feedback](#)

17 Records found.

No Links

Unit Letter	Lot	Tract	Qtr/Qtr	Surface Owner	Sub Surface Owner	Acreage	Lease Number	Lease Type	County	Land Restriction	Land Remarks
A			NE4NE4	State	State	40.00	G0-2351-0000	Grazing & Agriculture	Chaves		
B			NW4NE4	State	State	40.00	G0-2351-0000	Grazing & Agriculture	Chaves		
C			NE4NW4	State	State	40.00	G0-2351-0000	Grazing & Agriculture	Chaves		
D			NW4NW4	State	State	40.00	G0-2351-0000	Grazing & Agriculture	Chaves		
E			SW4NW4	State	State	40.00	G0-2351-0000	Grazing & Agriculture	Chaves		
F			SE4NW4	State	State	40.00	G0-2351-0000	Grazing & Agriculture	Chaves		
G			SW4NE4	State	State	40.00	G0-2351-0000	Grazing & Agriculture	Chaves		
H			SE4NE4	State	State	40.00	G0-2351-0000	Grazing & Agriculture	Chaves		
I			NE4SE4	State	State	40.00	G0-2351-0000	Grazing & Agriculture	Chaves		
J			NW4SE4	State	State	40.00	G0-2351-0000	Grazing & Agriculture	Chaves		
K			NE4SW4	State	State	40.00	G0-2351-0000	Grazing & Agriculture	Chaves		
L			NW4SW4	State	State	40.00	G0-2351-0000	Grazing & Agriculture	Chaves		
M			SW4SW4	State	State	40.00	G0-2351-0000	Grazing & Agriculture	Chaves		
N			SE4SW4	State	State	40.00	G0-2351-0000	Grazing & Agriculture	Chaves		
O			SW4SE4	State	State	40.00	G0-2351-0000	Grazing & Agriculture	Chaves		
P			SE4SE4	State	State	40.00	G0-2351-0000	Grazing & Agriculture	Chaves		
							R1-4908-0000	Right of Way	Chaves		



Date: October 10, 2017

John Maxey:

Delivered to the NM Oil  
Conservation Division

The following is in response to your October 10, 2017 request for delivery information on your Certified Mail™/RRE item number 9514800018587277000057. The delivery record shows that this item was delivered on October 6, 2017 at 10:56 am in SANTA FE, NM 87505. The scanned image of the recipient information is provided below.

Signature of Recipient :

A handwritten signature in black ink, appearing to read "John Maxey".

Address of Recipient :

A handwritten address in black ink, appearing to read "1222 V".

Thank you for selecting the Postal Service for your mailing needs.

If you require additional assistance, please contact your local Post Office or postal representative.

Sincerely,  
United States Postal Service



Date: October 10, 2017

John Maxey:

Delivered to the NM  
State Land Office

The following is in response to your October 10, 2017 request for delivery information on your Certified Mail™/RRE item number 9514800018587277000064. The delivery record shows that this item was delivered on October 6, 2017 at 7:35 am in SANTA FE, NM 87501. The scanned image of the recipient information is provided below.

Signature of Recipient :

Signature  
Samantha Rowe

Address of Recipient :

very  
ress  
1148

Thank you for selecting the Postal Service for your mailing needs.

If you require additional assistance, please contact your local Post Office or postal representative.

Sincerely,  
United States Postal Service

RECEIVED OGD

**Maxey Engineering, LLC**

*P. O. Box 1361*

2017 OCT -6 P 1:13 400 North Pennsylvania Avenue • Suite 230A  
Roswell, NM 88202-1361

Office: (575) 623-0438 • Email: [jcm@maxeyengineering.com](mailto:jcm@maxeyengineering.com)  
[www.maxeyengineering.com](http://www.maxeyengineering.com)

October 4, 2017

David Catanach  
Oil Conservation Division  
New Mexico Dept of Energy  
Minerals and Natural Resources  
1220 South Saint Francis Drive  
Santa Fe, NM 87505

Re: Application of Hadaway Consulting & Engineering, LLC., for administrative approval of a Salt Water Disposal Well Permit located in unit H of Section 36, T10S R27E, Chaves County, New Mexico.

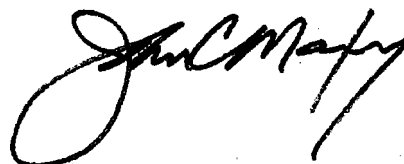
Dear Mr. Catanach

Hadaway Consulting & Engineering, LLC (OGRID No 371985) as operator for Newtex Partners, LLC., seeks administrative approval for a Salt Water Disposal Permit for the Abbey State SWD #1, to be reentered at a location 2290' FNL and 1200' FEL of Section 36, T10S R 27E, Chaves County, New Mexico. Enclosed is the complete administrative application.

Newtex owns 100% of the working interest in section 36 and has designated Hadaway as their operator. If you have any questions concerning the completed application please do not hesitate to contact me. Your attention to this matter is appreciated.

Sincerely,

Maxey Engineering, LLC



John C. Maxey  
Consulting Petroleum Engineer

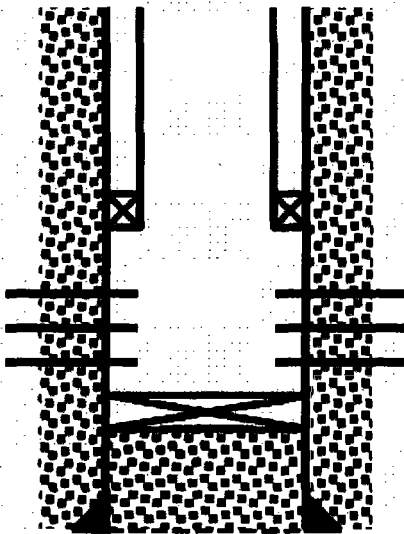
## McMillan, Michael, EMNRD

---

**From:** John M <jcm@maxeyengineering.com>  
**Sent:** Monday, October 23, 2017 10:47 AM  
**To:** McMillan, Michael, EMNRD  
**Subject:** Re: Hadaway Consulting and Engineering Abbey State SWD Well No. 1

Mike,

Bill Bahlburg called and said that you would like to see some kind of plug in the open hole over the Cambrian. What I was planning on doing for isolation is illustrated below which provides for good cementing velocities in open hole outside the casing annulus below the proposed injection interval, and leaves cement below the float collar. I was going to place the float 80' above the bottom of the casing rather than the typical 40'. Displacement is with a wiper plug that seats on the float and the cementers wash up on the plug leaving solid cement below the wiper (and some above). I could adjust the depth by leaving out a joint of casing, but having some kind of cased rat hole below the perforated interval is prudent, and best practice. I thought it easier to send you an illustration rather than explain over the phone. Let me know (call or email) if this will work and I'll send full schematic, or if the OCD would rather see something different.



**Float Collar @ 7220'(PBTD)**

**5 ½" 15.5# J55 @ 7300'**

John C. Maxey P.E.  
Maxey Engineering, LLC  
400 N. Pennsylvania, Suite 230A  
P. O. Box 1361  
Roswell, NM 88202-1361  
Off: 575-623-0438  
[www.maxeyengineering.com](http://www.maxeyengineering.com)

On 10/20/2017 10:28 AM, McMillan, Michael, EMNRD wrote:

Bill Bahlburg has not called about the cross-section  
Mike



**From:** McMillan, Michael, EMNRD  
**Sent:** Wednesday, October 18, 2017 3:12 PM  
**To:** 'John M' <jcm@maxeyengineering.com>  
**Subject:** RE: Hadaway Consulting and Engineering Abbey State SWD Well No. 1

Thanks  
Mike

**From:** John M [mailto:jcm@maxeyengineering.com]  
**Sent:** Wednesday, October 18, 2017 3:05 PM  
**To:** McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>  
**Subject:** Re: Hadaway Consulting and Engineering Abbey State SWD Well No. 1

Besides the one in the C108? I only found one P&A well in the AOR and that schematic is in the package (page 6) as the Hi Way State #1. I've reattached to this email.

Did you hear from the geologist Bill Bahlburg?

John C. Maxey P.E.  
Maxey Engineering, LLC  
400 N. Pennsylvania, Suite 230A  
P. O. Box 1361  
Roswell, NM 88202-1361  
Off: 575-623-0438  
[www.maxeyengineering.com](http://www.maxeyengineering.com)

On 10/18/2017 2:56 PM, McMillan, Michael, EMNRD wrote:

Include a wellbore diagram of the P&A well within the ½ Mile AOR.  
Mike

**From:** John M [mailto:jcm@maxeyengineering.com]  
**Sent:** Tuesday, October 17, 2017 4:05 PM  
**To:** McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>  
**Subject:** Fwd: RE: RE: Hadaway Consulting and Engineering Abbey State SWD Well No. 1

Mike,

Attached is the Xsection and below are the geologist's comments. He makes the same point we all have discussed, we have thick, tight interval below our injection zone, and if there is Ellenburger present in the Katie Elder below the gamma kick, its 40' thick and tight. With 200' of tight rock below our injection interval it would be extremely difficult for fluids to breach without very significant amounts of hydraulic horsepower. We also would be running new casing, properly centralized, with a new primary cement job. This section of hole is in gauge and in good shape for primary cement.

Let me know if this helps,

John C. Maxey P.E.  
Maxey Engineering, LLC

400 N. Pennsylvania, Suite 230A  
P. O. Box 1361  
Roswell, NM 88202-1361  
Off: 575-623-0438  
[www.maxeyengineering.com](http://www.maxeyengineering.com)

----- Forwarded Message -----

**Subject:**RE: RE: Hadaway Consulting and Engineering Abbey State SWD Well No. 1

**Date:**Tue, 17 Oct 2017 21:30:52 +0000

**From:**Bill Bahlburg <[Bill@bahlburgexploration.com](mailto:Bill@bahlburgexploration.com)>

**To:**John M <[jcm@maxeyengineering.com](mailto:jcm@maxeyengineering.com)>

John-

Here is a cross-section including the well you referenced in Section 36. Frankly if they want to call the gamma kick at 7238 Ellenburger that is fine. I actually don't know and neither does anyone else. You could say that gamma kick at 7238 in the Abbey well correlates to the gamma kick in the Katie Elder at 7673' which would limit the Ellenburger thickness to less than 45 ft.

Just tell Mike that we will limit our perforations to the interval from 6800-7100 in the Abbey State Re-entry. If the Ellenburger is even present out here it looks like it is very thin and non-porous anyway.

Bill



Virus-free. [www.avast.com](http://www.avast.com)



## *New Mexico Office of the State Engineer* **Water Column/Average Depth to Water**

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

No records found.

**PLSS Search:**

Section(s): 25, 35-36

Township: 10S

Range: 27E

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.

10/26/17 2:21 PM

WATER COLUMN/ AVERAGE  
DEPTH TO WATER



## *New Mexico Office of the State Engineer* **Water Column/Average Depth to Water**

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

No records found.

### **PLSS Search:**

Section(s): 31

Township: 10S

Range: 28E

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.

10/26/17 2:21 PM

WATER COLUMN/ AVERAGE  
DEPTH TO WATER



**C-108 Review Checklist:** Received \_\_\_\_\_ Add. Request: \_\_\_\_\_ Reply Date: \_\_\_\_\_ Suspended: \_\_\_\_\_ [Ver 15]

**ORDER TYPE:** WFX / PMX / SWD Number: \_\_\_\_\_ Order Date: \_\_\_\_\_ Legacy Permits/Orders: \_\_\_\_\_

Well No. I Well Name(s): Abbey State SW

API: 30-0 05-62596 Spud Date: 3-17-1988 New or Old: N (UIC Class II Primacy 03/07/1982)

Footages 2290 FNL Lot \_\_\_\_\_ or Unit H Sec 36 Tsp 10S Rge 27E County Chaves

General Location: 20 miles S of Roswell Pool: \_\_\_\_\_ Pool No.: \_\_\_\_\_

BLM 100K Map: Roswell Operator: Consulting Engineering OGRID: 371485 Contact: John Maxey

COMPLIANCE RULE 5.9: Total Wells: 3 Inactive: 0 Fincl Assur: OK Compl. Order? N/A IS 5.9 OK? X Date: 10-26-2017

WELL FILE REVIEWED ☐ Current Status: PFA

WELL DIAGRAMS: NEW: Proposed ☐ or RE-ENTER: Before Conv. ☐ After Conv. ☐ Logs in Imaging: X

Planned Rehab Work to Well: \_\_\_\_\_

Well Construction Details		Sizes (in) Borehole / Pipe	Setting Depths (ft)	Cement Sx or Cf	Cement Top and Determination Method
Planned ___ or Existing ___	Surface	17 1/2" / 13 3/4"	350'	400	Surface / Visual
Planned ___ or Existing ___	Interm/Prod	12 1/4" / 8 5/8"	1553	800	Surface / Visual
Planned ___ or Existing ___	Interm/Prod	7 7/8" / 5 1/2"	7305	1265	Surface / Visual
Planned ___ or Existing ___	Prod/Liner				
Planned ___ or Existing ___	Liner				
Planned ___ or Existing ___	OH / PERF	6790 / 7100		Inj Length 510	

Injection Lithostratigraphic Units:		Depths (ft)	Injection or Confining Units	Tops	Completion/Operation Details:
Adjacent Unit: Litho. Struc. Por.			MS	6660	Drilled TD <u>7305</u> PBDT <u>7220</u>
Confining Unit: Litho. Struc. Por.			DEV	6790	NEW TD _____ NEW PBDT _____
Proposed Inj Interval TOP: _____					NEW Open Hole <input type="radio"/> or NEW Perfs <input checked="" type="radio"/>
Proposed Inj Interval BOTTOM: _____					Tubing Size <u>3 1/2</u> in. Inter Coated? _____
Confining Unit: Litho. Struc. Por.					Proposed Packer Depth <u>6690</u> ft
Adjacent Unit: Litho. Struc. Por.					Min. Packer Depth <u>6690</u> (100-ft limit)
					Proposed Max. Surface Press. <u>1358</u> psi
					Admin. Inj. Press. <u>1358</u> (0.2 psi per ft)

**AOR: Hydrologic and Geologic Information**

POTASH: R-111-P N/A Noticed? \_\_\_\_\_ BLM Seq Ord ☐ WIPP ☐ Noticed? \_\_\_\_\_ Salt/Salado T: \_\_\_\_\_ B: \_\_\_\_\_ NW: Cliff House fm \_\_\_\_\_

FRESH WATER: Aquifer Roswell Max Depth \_\_\_\_\_ HYDRO AFFIRM STATEMENT By Qualified Person ☒

NMOSE Basin: Roswell CAPITAN REEF: thru adj NA No. Wells within 1-Mile Radius? \_\_\_\_\_ FW Analysis \_\_\_\_\_

Disposal Fluid: Formation Source(s) San Andres Analysis? X On Lease ☐ Operator Only ☐ or Commercial ☒

Disposal Int: Inject Rate (Avg/Max BWPD): 10K/20K Protectable Waters? N/A Source: \_\_\_\_\_ System: Closed or Open

HC Potential: Producing Interval? N/A Formerly Producing? \_\_\_\_\_ Method: Logs DST/P&A Other \_\_\_\_\_ 2-Mile Radius Pool Map ☐

AOR Wells: 1/2-M Radius Map? X Well List? \_\_\_\_\_ Total No. Wells Penetrating Interval: I Horizontals? 0

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

Penetrating Wells: No. P&A Wells 1 Num Repairs? \_\_\_\_\_ on which well(s)? \_\_\_\_\_ Diagrams? X

NOTICE: Newspaper Date September 20, 2017 Mineral Owner NMSLO Surface Owner NMSLO N. Date Sept 20, 2017

RULE 26.7(A): Identified Tracts? X Affected Persons: DL Boyd, 34T Holdings, Spool Holdings, Chrisus N. Date 9-27-2017

Order Conditions: Issues: \_\_\_\_\_

Add Order Cond: \_\_\_\_\_