

**District I**  
 1225 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 and Natural Resources**  
**Oil Conservation Division**  
**1220 South St. Francis Dr.**  
**Santa Fe, NM 87505**

Form C-101  
 Revised July 18, 2013

AMENDED REPORT

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

<sup>1</sup> Operator Name and Address Trove Energy, LLC 1919 North Turner Hobbs, NM 88240		<sup>2</sup> OGRID Number 226495 <b>37A488</b>
<sup>4</sup> Property Code <b>319560</b> (TBD)		<sup>3</sup> API Number <b>30-015-44422</b>
<sup>5</sup> Property Name Trove Energy SWD		<sup>6</sup> Well No. 1

**7. Surface Location**  
 (To be verified by field survey)

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
N	13	24S	28E		994	FSL	2508	FWL	EDDY

**8. Proposed Bottom Hole Location**  
 (To be verified by field survey)

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
N	13	24S	28E		994	FSL	2508	FWL	EDDY

**9. Pool Information**

Pool Name SWD; Devonian - <b>SWD-1691</b>	Pool Code 96101
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**Additional Well Information**

<sup>11</sup> Work Type N	<sup>12</sup> Well Type SWD	<sup>13</sup> Cable/Rotary R	<sup>14</sup> Lease Type P	<sup>15</sup> Ground Level Elevation 2966'
<sup>16</sup> Multiple No	<sup>17</sup> Proposed Depth 15,200'	<sup>18</sup> Formation Devonian	<sup>19</sup> Contractor TBD	<sup>20</sup> Spud Date 10/15/2017
Depth to Ground water ~35'	Distance from nearest fresh water well 950'		Distance to nearest surface water 2750'	

We will be using a closed-loop system in lieu of lined pits

**21. Proposed Casing and Cement Program**

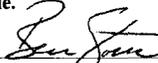
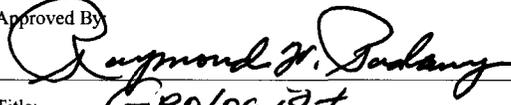
Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	26.5"	20.0"	94.0 lb/ft	550'	1600	SURFACE
Intermdt	17.5"	13.375"	68.0 lb/ft	2750'	1525	SURFACE
Production	12.25"	9.625"	53.5 lb/ft	9,600'	1800	SURFACE
Liner	8.5"	7.625"	39.0 lb/ft	9,300'-14,100'	400	TOL

**Casing/Cement Program: Additional Comments**

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**22. Proposed Blowout Prevention Program**

Type	Working Pressure	Test Pressure	Manufacturer
Double Hydraulic/Blinds, Pipe	5000	8000	Hydril, Cameron or Equivalent

<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that I have complied with 19.15.14.9 (A) NMAC <input type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input type="checkbox"/> , if applicable. Signature:  Printed name: Ben Stone Title: Agent for Trove Energy, LLC E-mail Address: ben@sosconsulting.us Date: 8/15/2017	OIL CONSERVATION DIVISION	
	Approved By: 	
	Title: <b>Geologist</b>	
	Approved Date: <b>9-5-17</b>	Expiration Date: <b>9-5-19</b>
	Date: 8/15/2017	Phone: 903-488-9850

**File C-103 Completion Report  
 Pressure MIT.**

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

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

AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

API Number 30-015- <b>44422</b>	Pool Code 96101	Pool Name SWD; DEVONIAN
Property Code <b>319560</b>	Property Name <b>TROVE ENERGY SWD</b>	Well Number <b>1</b>
OGRID No. 326495	Operator Name <b>TROVE ENERGY, LLC.</b>	Elevation <b>2966'</b>

Surface Location

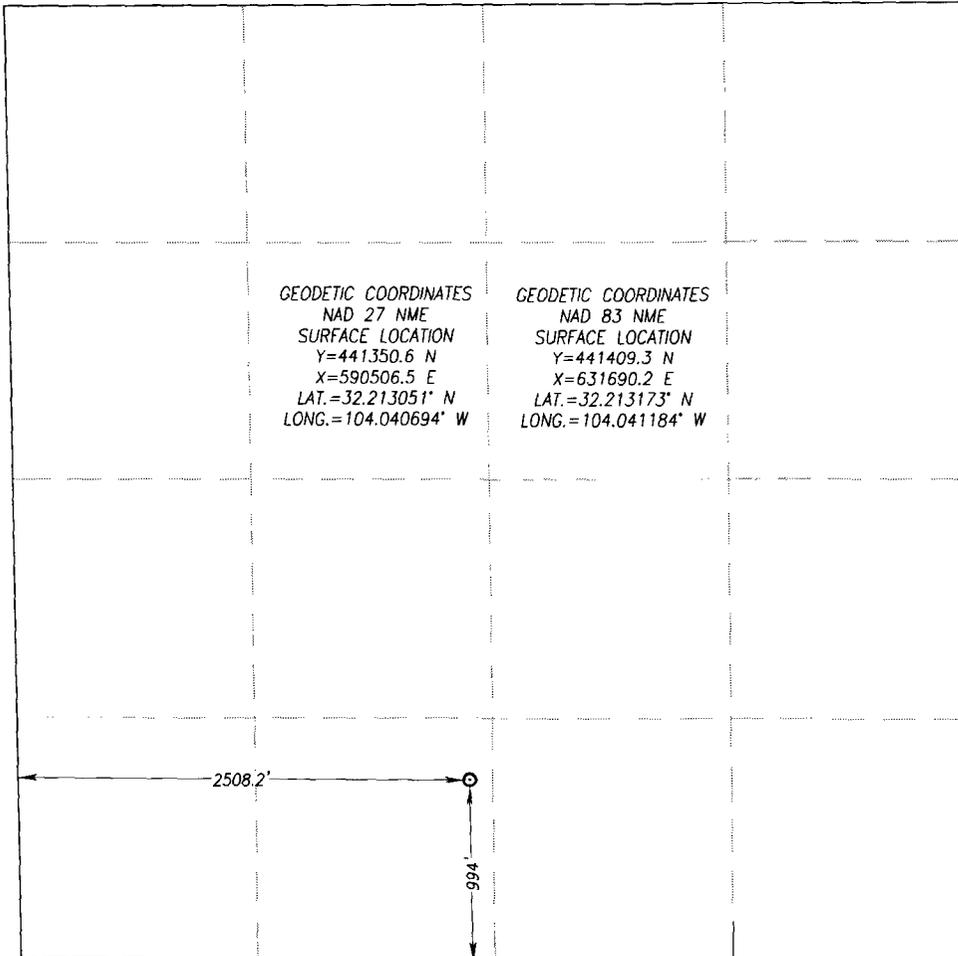
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	13	24-S	28-E		994	SOUTH	2508.2	WEST	EDDY

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

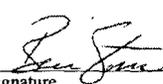
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

**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**



**OPERATOR CERTIFICATION**

*I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unEDDYsed 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.*

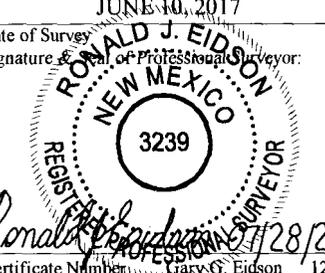
  
 Signature \_\_\_\_\_ Date **8/15/17**  
 Ben Stone  
 Printed Name  
 ben@sosconsulting.us  
 E-mail Address

---

**SURVEYOR CERTIFICATION**

*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.*

Date of Survey **JUNE 10, 2017**  
 Signature & Seal of Professional Surveyor:

  
 Certificate Number **3239**  
 Gary G. Eidson 12641  
 Ronald J. Eidson 3239

  
 Date **8/28/2017**

ACK JWSC W.O.: 17.11.0708

**Trove Energy, LLC**  
**Trove Energy SWD Well No. 1**  
**994' FSL & 2508' FWL**  
**Section 13, Twp 24-S, Rng 28-E**  
**Eddy County, New Mexico**

**Well Program - New Drill**

**Objective: Drill new well for commercial salt water disposal into the Devonian and Silurian; mudlogging and e-logging to determine final depths.**

**1. Geologic Information - Devonian Formation**

The Devonian and Silurian both consist of carbonates including light colored dolomite and chert intervals interspersed with some tight limestone intervals. Several thick sections of porous dolomite capable of taking water are present within the subject formations in the area. Depth control data was inferred from deep wells to the north, south and east. If the base of Devonian and top of Silurian and/or Ordovician rocks come in as expected the well will only be drilled deep enough for adequate logging rathole.

Estimated Formation Tops:

B/Fresh Water	60'
Salado	1080'
Delaware Sand	2615'
Cherry Canyon	4725'
Bone Spring	8350'
Wolfcamp	9700'
Strawn	11700'
Atoka	12000'
Morrow	12550'
Devonian	14100'
TD Ordovician*	15200'
Ellenburger (est.)	19000'

\*Please see narrative portion of drilling/pipe specs for TD options.

**2. Drilling Procedure**

- a. MIRU drilling rig and associated equipment. Set up H<sub>2</sub>S wind direction indicators; brief all personnel on Emergency Evacuation Routes.
- b. All contractors conduct safety meeting prior to current task. All equipment inspected daily. Repair / replace as required.
- c. Well spud operations commence.
- d. Mud logger monitoring returns; cuttings & waste hauled to specified facility. (Sundance, Lea County)
- e. After surface casing set/drilled; if H<sub>2</sub>S levels >20ppm detected, implement H<sub>2</sub>S Plan accordingly. (e.g., cease operations, shut in well, employ H<sub>2</sub>S safety trailer & personnel safety devices, install flare line, etc. - refer to plan.)
- f. Spills contained & cleaned up immediately. Repair or otherwise correct the situation within 48 hours before resuming operations. Notify OCD within 24 hours. Remediation started ASAP if required. Operator shall comply with 19.15.29 NMAC and 19.15.30 NMAC, as appropriate.
- g. Sundry forms filed as needed - casing, cement, etc. - operations continue to completion.

**Well Program - New Drill (cont.)**

**3. Casing program - Casing designed as follows:**

STRING	HOLE SZ	DEPTH	CSG SZ	COND	WT/GRD	CLLPS/BRS	TNSN
						<i>(Minimum Safety Factors)</i>	
Surface	26.5"	0-550'	20.0"	New	94.0 lb. J/K-55	1.125/1.1	1.8
Intermediate	17.5"	0-2750'	13.375"	New	68.0 lb. K-55	1.125/1.1	1.8
2nd Inter	12.25"	0-9,600'	9.625"	New	53.5 lb. P-110	1.125/1.1	1.8
Prod/ Liner*	8.5"	9,300'-14,100'	7.625"	New	39.0 lb. P-110	1.125/1.1	1.8
Openhole*	6.5" hole	14,100'-15,200'	OH	n/a	n/a	n/a	n/a

**Notes:**

- ✓ On both Intermediate casing strings, the cement will be designed to circulate to surface. Both strings will have cement bond logs run (radial, CET or equivalent) to surface.
- ✓ While running all casing strings, the pipe will be kept a minimum of 1/3 full at all times to avoid approaching the collapse pressure of casing.
- ✓ \* Based on mudlogging and e-logs, 7.625" casing shoe is expected to be set at 14,100'. Similarly, TD may be from 15,000' to 15,200' as determined by logging and suitable porosity has been exposed. IN ANY EVENT, maximum openhole interval would be from 14,100' to 15,200' and sundry notice will document such events and a C-105 completion report filed within 60 days.

**4. Cementing Program:**

**Surface** – LEAD Slurry: 1,300 sacks of Class C containing 4% gel + 2% CaCl<sub>2</sub> + .4 pps defoamer + .125 pps cello flake + 3 pps Koal Seal. Weight 13.7 ppg, yield 1.68 ft<sup>3</sup>/sack; TAIL Slurry: 300 sacks of Class C Neet containing 2% CaCl<sub>2</sub>. Weight 14.8 ppg, yield 1.34 ft<sup>3</sup>/sack; 100% excess, circulate to surface.

**1st Intermediate** – LEAD Slurry: 1,325 sacks of Class C containing 4% gel + .4 pps defoamer + .125 pps cello flake + 5% NaCl. Weight 13.2 ppg, yield 1.83 ft<sup>3</sup>/sack; TAIL Slurry: 200 sacks of Class C Neet. Weight 14.8 ppg, yield 1.32 ft<sup>3</sup>/sack; 50% excess, circulate to surface.

**Production** – LEAD Slurry: 1,285 sacks of Class H containing 10% gel + .4 pps defoamer + .125 pps cello flake + 1 pps Koal Seal + 5% NaCl. Weight 11.9 ppg, yield 2.473 ft<sup>3</sup>/sack; TAIL Slurry: 515 sacks of Class H containing 2% retarder + .2 pps defoamer. Weight 15.6 ppg, yield 1.18 ft<sup>3</sup>/sack; 30% excess, circulate to surface.

**Liner** – Slurry: 400 sacks of Class H containing .3% retarder + .7% fluid loss additive + .2% dispersant + .4 pps defoamer + .1% Anti-Settling agent. Weight 15.2 ppg, yield 1.32 ft<sup>3</sup>/sack. 30% excess; TOC calculated @ Top of Liner 9,300'.

**5. Pressure Control** - BOP diagram is attached to this application. All BOP and related equipment shall comply with well control requirements as described NMOCD Rules and Regulations and API RP 53, Section 17. Minimum working pressure of the BOP and related equipment required for the drilling shall be 5000 psi. The NMOCD Artesia district office shall be notified a minimum of 4 hours in advance for a representative to witness BOP pressure tests. The test shall be performed by an independent service

### **Well Program - New Drill (cont.)**

company utilizing a test plug (no cup or J-packer). The results of the test shall be recorded on a calibrated test chart submitted to the OCD district office. Test shall be conducted at:

- a. Installation;
- b. after equipment or configuration changes;
- c. at 30 days from any previous test, and;
- d. anytime operations warrant, such as well conditions

### **6. Mud Program & Monitoring - Mud will be balanced for all operations as follows:**

DEPTH	MUD TYPE	WEIGHT	FV	PV	YP	FL	Ph
0-550'	FW Spud Mud	8.5-9.2	70-40	20	12	NC	10.0
550'-2750'	Brine Water	9.8-10.2	28-32	NC	NC	NC	10.0
2750'-9,600'	FW/Gel	8.7-9.0	28-32	NC	NC	NC	9.5-10.5
9,600'-14,100'	XCD Brine Mud	11.0-12.5	45-48	20	10	<5	9.5-10.5
14,100'-15,200'	FW Mud	8.4-8.6	28-30	NC	NC	NC	9.5-10.5

Mud and all cuttings monitored w/ cuttings recovered for disposal. Returns shall be visually and electronically monitored. In the event of H<sub>2</sub>S, mud shall be adjusted appropriately by weight and H<sub>2</sub>S scavengers.

### **7. Auxiliary Well Control and Monitoring – Hydraulic remote BOP operation, mudlogging to monitor returns.**

**8. H<sub>2</sub>S Safety** - This well and related facilities are not expected to have H<sub>2</sub>S releases. However, there may be H<sub>2</sub>S in the area. There are no private residences or public facilities in the area but a contingency plan has been developed. Trove Energy, LLC will have a company representative available to personnel throughout all operations. If H<sub>2</sub>S levels greater than 10ppm are detected or suspected, the Trove Energy H<sub>2</sub>S Contingency Plan will be implemented at the appropriate level.

H<sub>2</sub>S Safety - There is a low risk of H<sub>2</sub>S in this area. The operator will comply with the provisions of NMAC 19.15.11 and BLM Onshore Oil and Gas Order #6.

- a) Monitoring - all personnel will wear monitoring devices.
- b) Warning Sign - a highly visible H<sub>2</sub>S warning sign will be placed for obvious viewing at the vehicular entrance point onto location.
- c) Wind Detection - two (2) wind direction socks will be placed on location.
- d) Communications - will be via cellular phones and/or radios located within reach of the driller, the rig floor and safety trailer when applicable.
- e) Alarms - will be located at the rig floor, circulating pump / reverse unit area and the flareline and will be set for visual (red flashing light) at 15 ppm and visual and audible (115 decibel siren) at 20 ppm.
- f) Mud program - If H<sub>2</sub>S levels require, proper mud weight, safe drilling practices and H<sub>2</sub>S scavengers will minimize potential hazards.

**Well Program - New Drill (cont.)**

g) Metallurgy - all tublars, pressure control equipment, flowlines, valves, manifolds and related equipment will be rated for H2S service if required.

***The Trove Energy H2S Contingency Plan will be implemented if levels greater than 10ppm H2S are detected.***

**9. Logging, Coring and Testing** – Trove Energy, LLC expects to run;

- a. Mud logging through the interval will ensure the target interval remains Devonian and Silurian.
- b. CBL (Radial, CET or equivalent) on both intermediate casing strings.
- c. Standard porosity log suite from TD to approximately 9,000'.
- d. No corings or drill tests will be conducted. (The well may potentially be step rate tested in the future if additional injection pressures are required.)

**10. Potential Hazards** - No abnormal pressures or temperatures are expected.

No loss of circulation is expected to occur with the exception of drilling into the target disposal zone. All personnel will be familiar with the safe operation of the equipment being used to drill this well.

The maximum anticipated bottom-hole pressure is 7500 psi and the maximum anticipated bottom-hole temperature is 185° F.

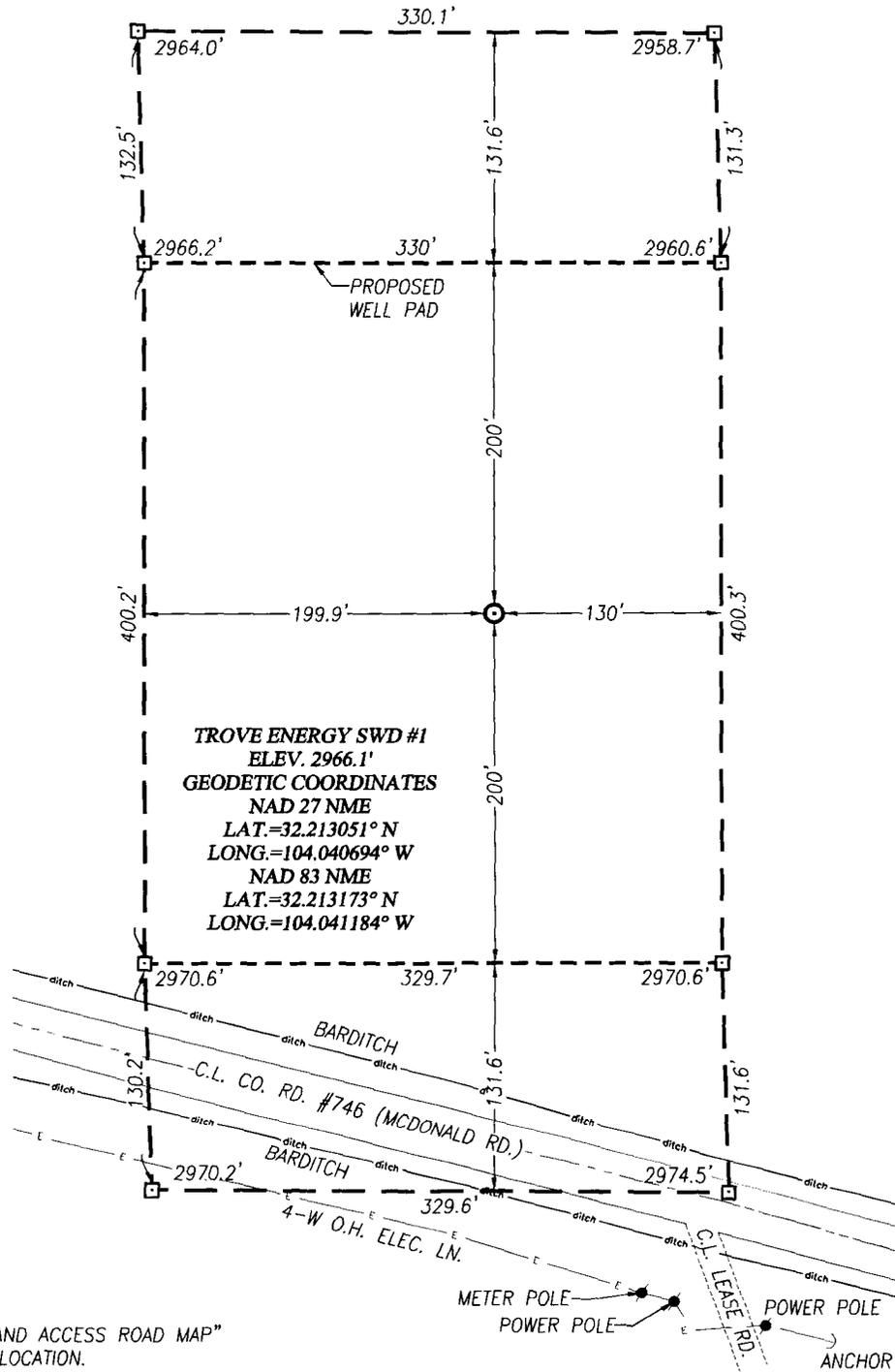
**11. Waste Management** - All drill cuttings and other wastes associated with and drilling operations will be transported to the Lea County Sundance facility (or alternate), permitted by the Environmental Bureau of the New Mexico Oil Conservation Division.

**12. Anticipated Start Date** - Upon approval of all permits for SWD, operations would begin within 30 days. Completion of the well operations will take six to seven weeks. Installation of the tank battery, berms, plumbing and other and associated equipment would be occurring during the same interval. In any event, it is not expected for the construction phase of the project to last more than 60 days, depending on availability of contractors and equipment. At the time of this submittal, and subject to the availability of the drilling contractor, the anticipated start date is:

**October 15, 2017.**

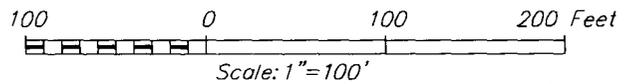
**13. Configure for Salt Water Disposal** – Subsequent to SWD permit approval from OCD and prior to commencing any work, an NOI sundry(ies) will be submitted to configure the well for SWD and will detail the completion workover including all work otherwise described above, any change to the procedure noted herein and to perform mechanical integrity pressure test per BLM and OCD test procedures. (Notify NMOCD 24 hours prior.) The casing/tubing annulus will be monitored for communication with injection fluid or loss of casing integrity. Anticipated daily maximum volume is 25,000 bpd and average of 15,000 bpd at a maximum surface injection pressure of 2820 psi (0.2 psi/ft to uppermost injection interval, i.e., casing shoe). If satisfactory disposals rates cannot be achieved at default pressure of .2 psi/ft, Trove Energy, LLC will conduct a step-rate test and apply for an injection pressure increase 50 psi below parting pressure.

# WELL SITE PLAN



**TROVE ENERGY SWD #1**  
**ELEV. 2966.1'**  
**GEODETIC COORDINATES**  
**NAD 27 NME**  
**LAT.=32.213051° N**  
**LONG.=104.040694° W**  
**NAD 83 NME**  
**LAT.=32.213173° N**  
**LONG.=104.041184° W**

NOTE:  
 SEE "TOPOGRAPHICAL AND ACCESS ROAD MAP"  
 FOR PROPOSED ROAD LOCATION.



**DIRECTIONS TO LOCATION:**

FROM THE INTERSECTION OF CO. RD. 721 (PULLEY ROAD) AND  
 CO. RD. 748 (MCDONALD ROAD), GO SOUTHEAST APPROX. 0.2  
 MILES. THIS LOCATION IS NORTH 300 FEET.

## TROVE ENERGY SURFACE & REGULATORY SERVICES

**TROVE ENERGY SWD #1 WELL LOCATED 994 FEET FROM THE  
 SOUTH LINE AND 2508.2 FEET FROM THE WEST LINE OF  
 SECTION 13, TOWNSHIP 24 SOUTH, RANGE 28 EAST, N.M.P.M.,  
 EDDY COUNTY, NEW MEXICO**

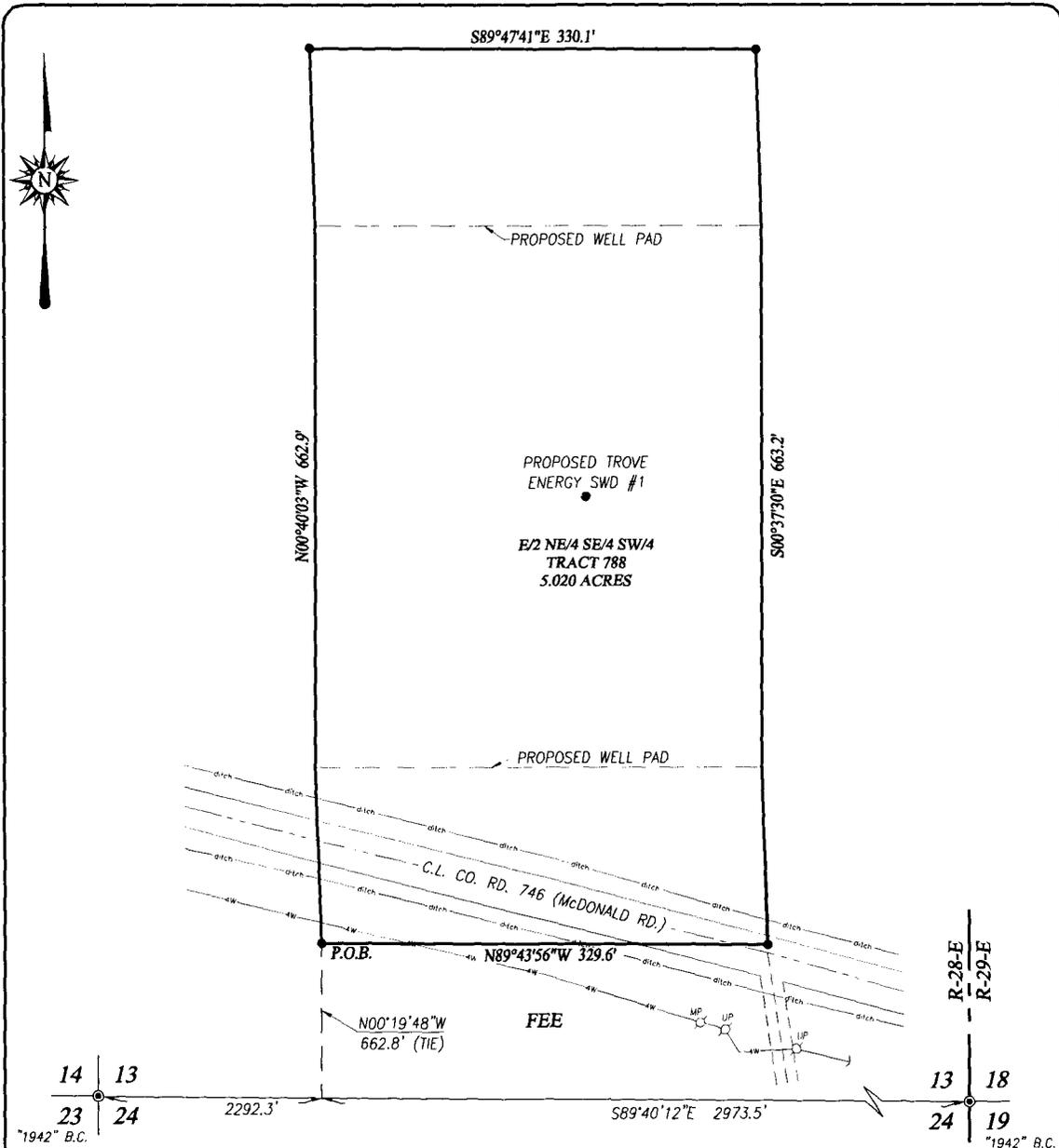


PROVIDING SURVEYING SERVICES  
 SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
 412 N. DAL PASO HOBBS, N.M. 88240  
 (575) 393-3117 [www.jwsc.biz](http://www.jwsc.biz)

Survey Date: 6/10/17

CAD Date: 7/25/17

Drawn By: ACK



**DESCRIPTION:**

A TRACT SITUATED IN THE E/2 NE/4 SE/4 SW/4 OF SECTION 13, TOWNSHIP 24 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

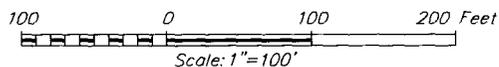
BEGINNING AT THE SOUTHWEST CORNER WHICH LIES N00°19'48"W 662.8 FEET AND S89°40'12"E 2292.3 FEET FROM THE SOUTHWEST CORNER; THEN N00°40'03"W 662.9 FEET; THEN S89°47'41"E 330.1 FEET; THEN S00°37'30"E 663.2 FEET; THEN N89°43'56"W 329.6 FEET TO THE POINT OF BEGINNING AND CONTAINING 5.020 ACRES MORE OR LESS.

**LEGEND**

- ⊙ - DENOTES FOUND CORNER AS NOTED
- - DENOTES SET SPIKE NAIL
- ⊠ - DENOTES UTILITY POLE AS NOTED
- UP - UTILITY POLE
- MP - METER POLE
- — — — — DENOTES GUY/ANCHOR WIRE
- - - - - DENOTES BARDITCH
- — — — — DENOTES 4 WIRE ELECTRIC LINE

**NOTE**

BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.



I, RONALD J. EIDSON, NEW MEXICO PROFESSIONAL SURVEYOR No. 3239, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH THIS SURVEY WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

RONALD J. EIDSON *Ronald J. Eidson*

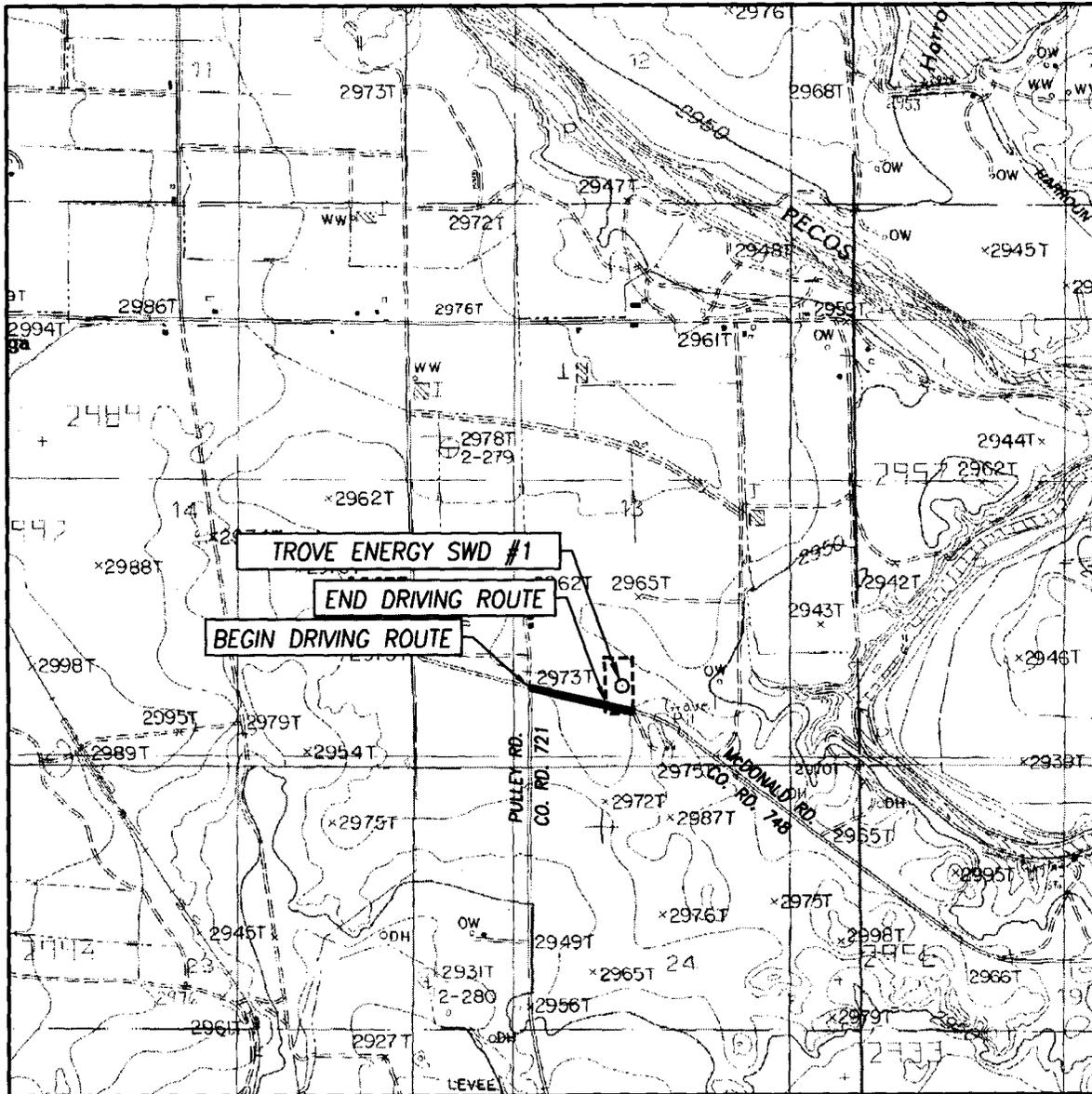
DATE: 07/26/2017

PROVIDING SURVEYING SERVICES SINCE 1946  
**JOHN WEST SURVEYING COMPANY**

**TROVE ENERGY SURFACE & REGULATORY SERVICES**

**SURVEY FOR TRACT 788 TO THE TROVE ENERGY SWD #1 SITUATED IN THE E/2 NE/4 SE/4 SW/4 OF SECTION 13, TOWNSHIP 24 SOUTH, RANGE 28 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO**

# TOPOGRAPHIC AND ACCESS ROAD MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:  
MALAGA, N.M. - 10'

SEC. 13 TWP. 24-S RGE. 28-E

SURVEY \_\_\_\_\_ N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 994' FSL & 2508.2' FWL

ELEVATION 2966'

OPERATOR TROVE ENERGY SURFACE & REGULATORY SERVICES

EDDYSE TROVE ENERGY SWD

U.S.G.S. TOPOGRAPHIC MAP  
MALAGA, N.M.

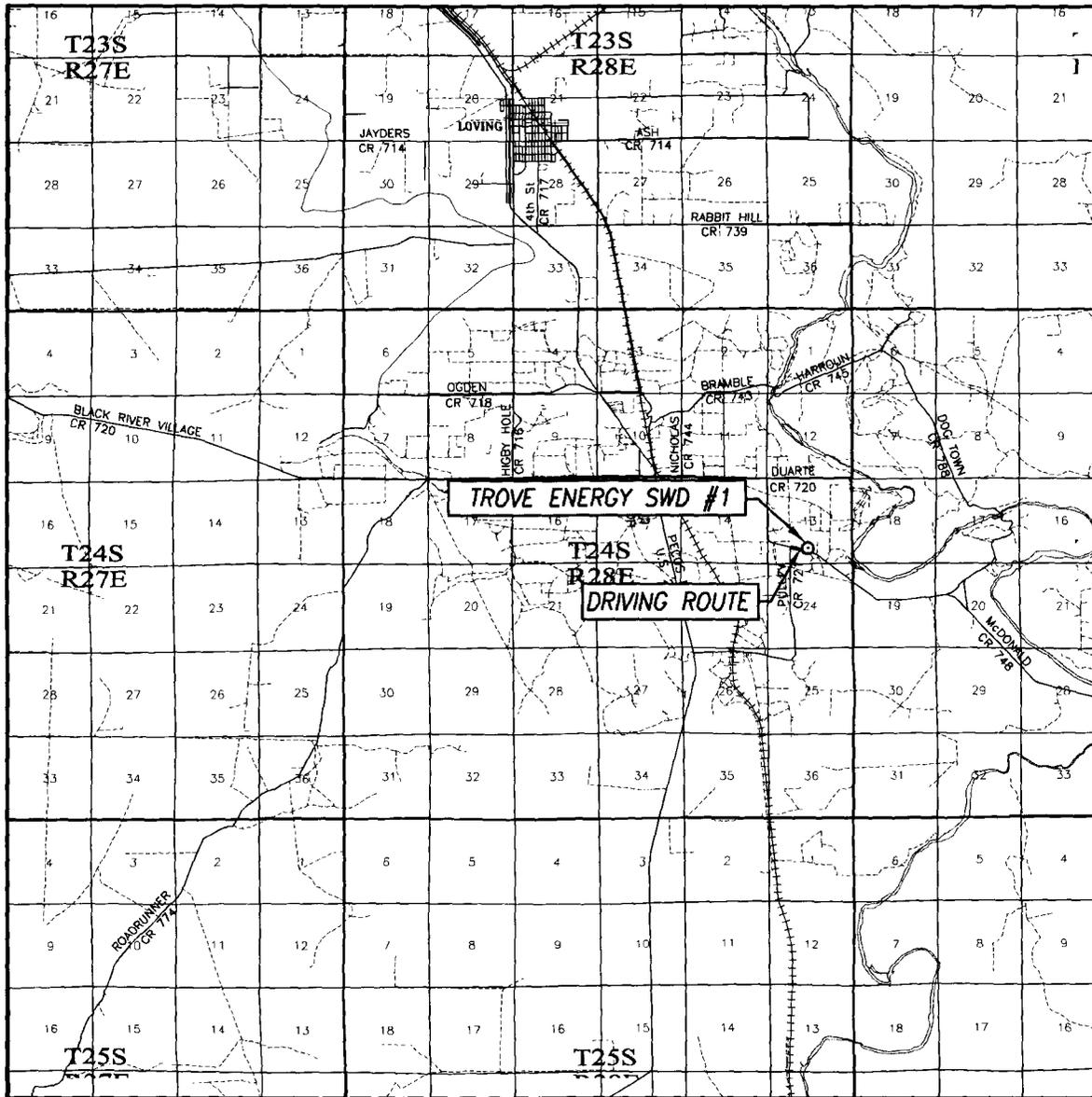
DIRECTIONS TO LOCATION:

FROM THE INTERSECTION OF CO. RD. 721 (PULLEY ROAD)  
AND CO. RD. 748 (MCDONALD ROAD), GO SOUTHEAST APPROX.  
0.2 MILES. THIS LOCATION IS NORTH 300 FEET.



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(575) 393-3117 www.jwsc.biz  
TBPLS# 10021000

# VICINITY MAP



SCALE: 1" = 2 MILES

DRIVING ROUTE: SEE TOPOGRAPHICAL AND ACCESS ROAD MAP

SEC. 13 TWP. 24-S RGE. 28-E

SURVEY N.M.P.M.

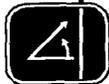
COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 994' FSL & 2508.2' FWL

ELEVATION 2966'

OPERATOR TROVE ENERGY SURFACE & REGULATORY SERVICES

LEASE TROVE ENERGY SWD

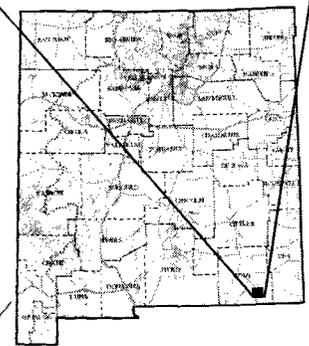
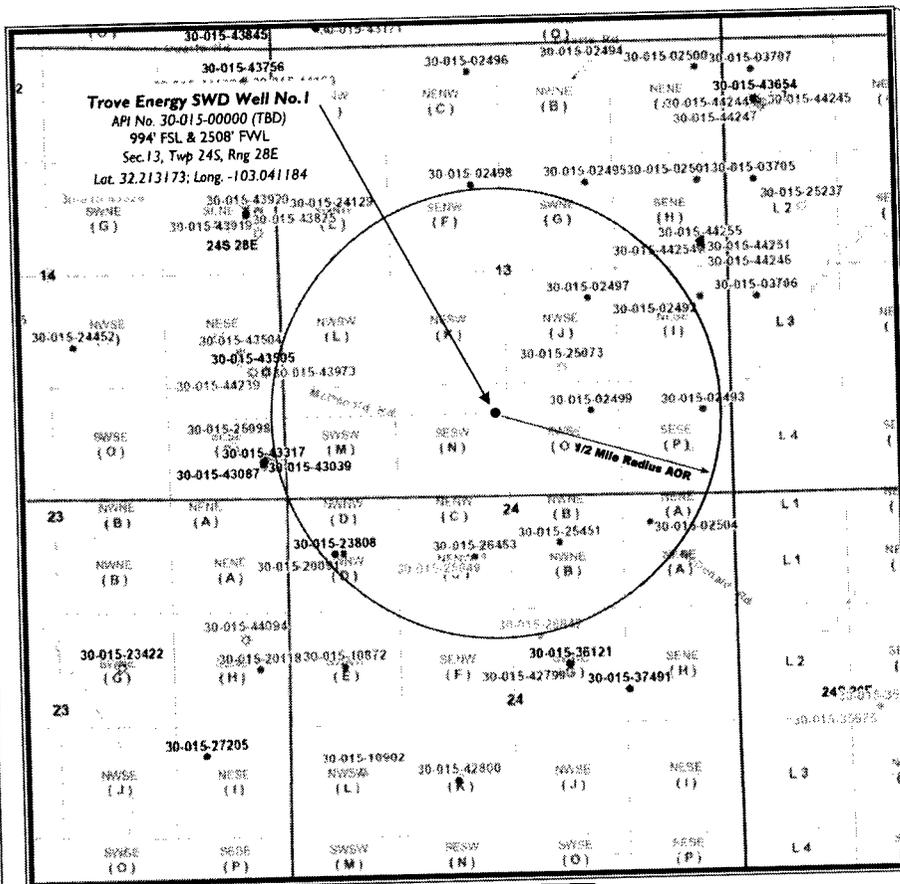


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 SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
 412 N. DAL PASO HOBBS, N.M. 88240  
 (575) 393-3117 www.jwsc.biz  
 TBPLS# 10021000

# Trove Energy SWD Well No.1 - Area of Review / Overview Map

(Attachment to NMOCD Form C-108, Application for Authority to Inject.)

2.0 miles SE of Malaga, NM



Eddy County, New Mexico





# WELL SCHEMATIC - PROPOSED Trove Energy SWD Well No.1

API 30-015-xxxxx

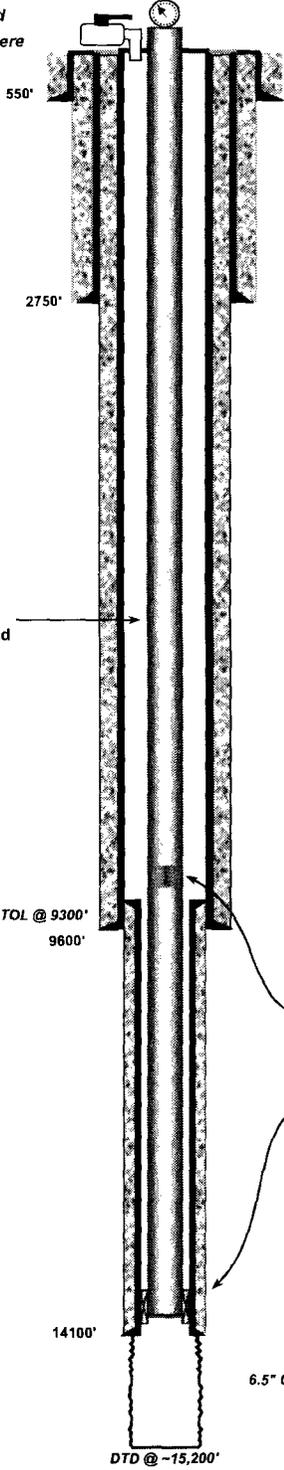
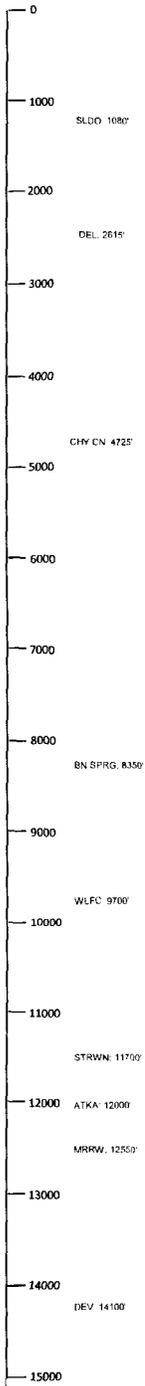
994' FSL & 2508' FWL, SEC. 13-T24S-R28E  
EDDY COUNTY, NEW MEXICO

SWD; Devonian (96101)

Spud Date: 10/01/2017  
SWD Config Dt: 10/25/2017

Annulus Monitored  
or open to atmosphere

Injection Pressure Regulated and Volumes Reported  
2820 psi Max. Surface (0.2 psi per foot)



### Surface Casing

20.0", 94.0# J-55 Csg, (26.0" Hole) @ 550'  
1600 sx - Circulated to Surface

### Intermediate Casing

13.375", 68.0# Csg, (17.5" Hole) @ 2750'  
1525 sx - Circulated to Surface

## Trove Energy, LLC

Drill and set casing as designed w/ all strings cemented to surface. Install 7.625" liner @ ~14,100 w/ 400 sx to TOL. Drill 6.5" openhole to approx. 15,200' TD w/ mudlog for interval/formation verification. Acidize formation; run 5.5" (5.0" FJ inside liner) injection TBG on PKR set at 14,000'.+ Conduct OCD witnessed MIT. Well ready for injection upon completion of surface facilities.

### Production Casing

9.625", 53.5# P-110 Csg, (12.25" Hole) @ 9600'  
1800 sx - Staged; Circulate to Surface (DV @ 4400')

Split String Tubing Transition ~9240'

5.5" to liner w/ 5.0" Flush Joint inside liner  
IPC Tubing set in PKR ~14,000'  
(Within 100' of Uppermost Disposal Interval)

### Liner Casing

7.625", 39.0# P-110 Csg (8.5" Hole) 9300' to 14,100'  
400 sx Cls H - TOC @ Top of LNR

6.5" Openhole Interval: 14,100' to 15,200' (Maximum)

