

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]**

[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 \_\_\_\_\_

SWD - 1550-A  
 OWL SWD operations, ULL  
 308339  
 well  
 -MADena SWD #1  
 30-025-42448  
 Pool

[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

-SWD, DEVONIAN  
 9610)

[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.

BEN STONE  
 Print or Type Name

see Application Letter  
 Signature

Consultant  
 Title

3-22-2016  
 Date

\_\_\_\_\_  
 e-mail Address



March 22, 2016

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

Attn: Mr. Mike McMillan, Engineer

*Re: Request by Owl SWD Operating, LLC to AMEND its permit SWD-1550 on the Madera SWD No.1 well located in Section 14, Township 24 South, Range 34 East, NMPPM, Lea County, New Mexico.*

Dear Mr. McMillan,

Per your request and the stipulations of order SWD-1550, I am writing to seek an adjustment of the permitted injection interval for the well permitted by the subject permit.

Due to limited available geologic data for the area the well was proposed, the C-108 specifically targeted the Devonian understanding that a depth adjustment was likely and that appropriate data and documentation would be submitted so that the interval modification could be made upon drilling and completion of the well.

To that end, I've enclosed a revised copy of the current wellbore diagram and, a stratigraphical cross-section generated by Lonquist & Co., LLC. Additionally, a radial cement bond log and the openhole composite logs have been filed with the Hobbs district office of the NMOCD and a mudlog run of the well was sent to Mr. Phillip Goetze at the Santa Fe office.

The anticipated Devonian interval was expected to be approximately 16,200 to 17,000 feet. The assembled data mentioned above places the top of the Devonian at 17,273 feet. Based this information, the 7.0" liner shoe was set at 17,400 feet and the total depth of the well is 19,222 feet.

I respectfully request that SWD-1550 be amended to reflect the new interval as described. If you require additional information or have any questions, please do not hesitate to call or email me.

Best regards,



Ben Stone, Partner  
SOS Consulting, LLC  
Agent for Owl SWD Operating, LLC

Cc: Application attachment and file

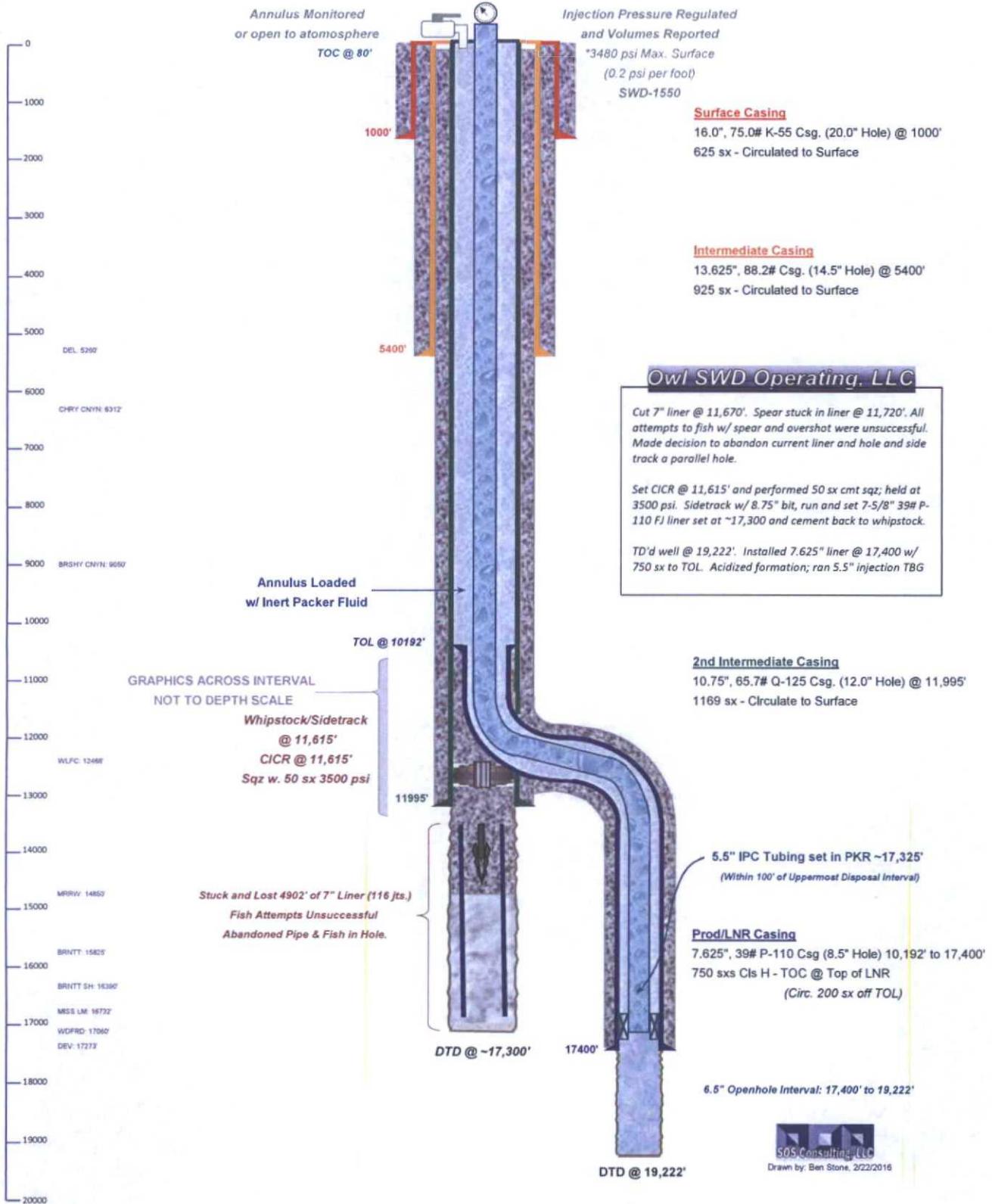


**WELL SCHEMATIC - CURRENT**  
**Madera SWD Well No.1**

API 30-025-42448 *Fwl*  
433' FSL & 1970' ED, SEC. 14-T24S-R31E  
LEA COUNTY, NEW MEXICO

**SWD; Devonian (96101)**

Spud Date: 6/24/2105  
SWD Config Dt: 2/21/2016



WEST

EAST

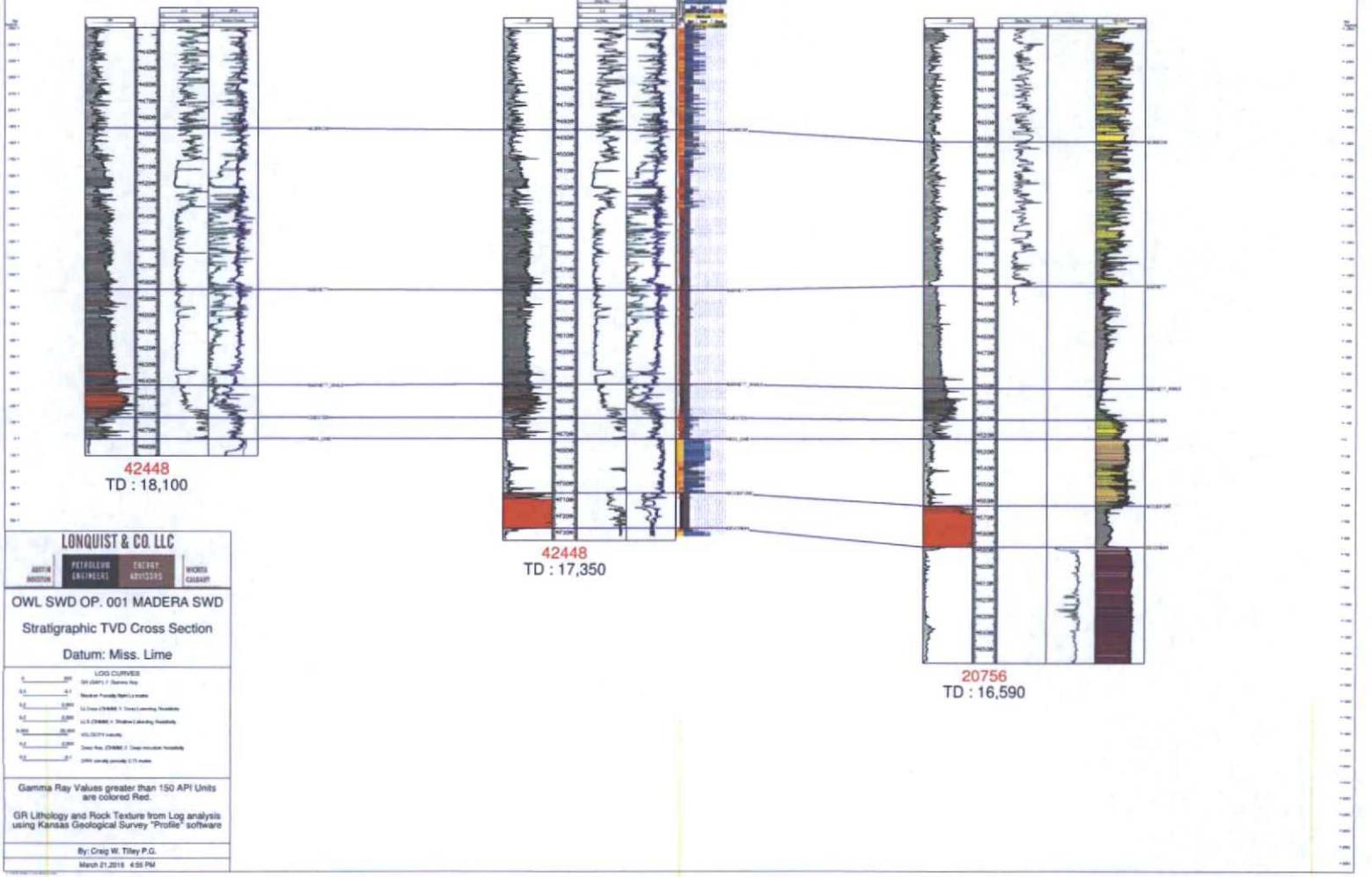
42448  
 OWL SWD OPERATING, LLC  
 001 ST1  
 MADERA SWD 001  
 ELEV. KB: 3,496  
 TD: 18,100

<1FT>

42448  
 OWL SWD OPERATING, LLC  
 001  
 MADERA SWD  
 ELEV. KB: 3,494  
 TD: 17,350

<22.204FT>

20756  
 OWL  
 B-1  
 CUSTER MT UNIT  
 ELEV. KB: 3,404  
 TD: 16,590



**LONQUIST & CO. LLC**

ASTORIA  
 PETROLEUM  
 ENGINEERS  
 4011 20th St  
 Astoria, OR 97103

OWL SWD OP. 001 MADERA SWD

Stratigraphic TVD Cross Section

Datum: Miss. Lime

LOG CURVES  
 GR (API) 7 Gamma Ray  
 Lithology Profile from Log analysis  
 Lithology Profile from Log analysis

Gamma Ray Values greater than 150 API Units are colored Red.

GR Lithology and Rock Texture from Log analysis using Kansas Geological Survey "Profile" software

By: Craig W. Tiley P.G.

March 21, 2016 4:55 PM

State of New Mexico  
Energy, Minerals and Natural Resources Department

Susana Martinez  
Governor

David Martin  
Cabinet Secretary

Brett F. Woods, Ph.D.  
Deputy Cabinet Secretary

David R. Catanach, Division Director  
Oil Conservation Division



Administrative Order SWD-1550  
May 7, 2015

**ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION**

Pursuant to the provisions of Division Rule 19.15.26.8B. NMAC, Owl SWD Operating, L.L.C. (the "operator") seeks an administrative order for its proposed Madera SWD Well No.1 with a proposed location 433 feet from the South line and 1970 feet from the West line, Unit letter N of Section 14, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico, for commercial disposal of produced water.

**THE DIVISION DIRECTOR FINDS THAT:**

The application has been duly filed under the provisions of Division Rule 19.15.26.8B. NMAC and satisfactory information has been provided that affected parties as defined in said rule have been notified and no objections have been received within the prescribed waiting period. The applicant has presented satisfactory evidence that all requirements prescribed in Rule 19.15.26.8 NMAC has been met and the operator is in compliance with Rule 19.15.5.9 NMAC.

**IT IS THEREFORE ORDERED THAT:**

The applicant, Owl SWD Operating, L.L.C. (OGRID 308339) is hereby authorized to utilize its proposed Madera SWD Well No. 1 (API No. 30-025-42448) with a proposed location 433 feet from the South line and 1970 feet from the West line, Unit letter N of Section 14, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico, for disposal of oil field produced water (UIC Class II only) through open-hole within the Devonian formation from 16200 feet to 17000 feet. Injection shall occur through internally-coated tubing and a packer set a maximum of 100 feet above the top of the open-hole interval. Injection will occur through internally-coated, 5 ½- inch or smaller tubing and a packer set within 100 feet of the top of the open-hole interval.

**IT IS FURTHER ORDERED THAT:**

The operator shall take all steps necessary to ensure that the disposed water enters only the approved disposal interval and is not permitted to escape to other formations or onto the surface. This includes the completion and construction of the well as proposed in the application.

*The operator shall supply the Division with a copy of a mudlog over the permitted disposal interval and an estimated insitu water salinity based on open-hole logs. If significant hydrocarbon shows occur while drilling, the operator shall notify the Division's District I and*

*the operator shall be required to receive written permission prior to commencing disposal.*

*The operator shall run a CBL (or equivalent) across the entire 7-5/8-inch liner to determine the quality of cement throughout the interval, and to determine ensure a good bond with the 10-3/4-inch intermediate casing. The operator shall provide a copy of the log(s) to Division's District I office prior to commencing injection.*

*The approved injection interval includes only the Devonian formation. Prior to commencing disposal, the operator shall provide, to the Division's District I office and Santa Fe Bureau Engineering office, a summary of depths (picks) for contacts of the formations (based on mudlog or geophysical logs) which the Division shall use to amend this order for a final description of the depth for the injection interval.*

*If the upper contact of the Ordovician Ellenburger formation is encountered prior to the lower limit of the approved injection interval at 17000 feet, then the total depth of the well (and injection interval) shall be reduced to the upper contact of Ellenburger formation.*

*Within two years after commencing disposal, the operator shall conduct an injection survey, consisting of a temperature log or equivalent, over the entire injection interval using representative disposal rates. Copies of the survey results shall be provided to the Division's District I office and Santa Fe Engineering Bureau office.*

After installing tubing, the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

The well shall pass an initial mechanical integrity test ("MIT") prior to initially commencing disposal and prior to resuming disposal each time the disposal packer is unseated. All MIT procedures and schedules shall follow the requirements in Division Rule 19.15.26.11A. NMAC. The Division Director retains the right to require at any time wireline verification of completion and packer setting depths in this well.

The wellhead injection pressure on the well shall be limited to **no more than 3240 psi**. In addition, the disposal well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface tubing pressure to the maximum allowable pressure for this well.

The Director of the Division may authorize an increase in tubing pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the disposed fluid from the target formation. Such proper showing shall be demonstrated by sufficient evidence including but not limited to an acceptable Step-Rate Test.

The operator shall notify the supervisor of the Division's District I office of the date and time of the installation of disposal equipment and of any MIT so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of

disposal to the Division's District office. The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Division Rules 19.15.26.13 and 19.15.7.24 NMAC.

Without limitation on the duties of the operator as provided in Division Rules 19.15.29 and 19.15.30 NMAC, or otherwise, the operator shall immediately notify the Division's District I office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

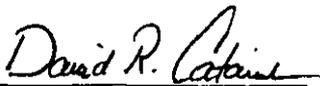
The injection authority granted under this order is not transferable except upon Division approval. The Division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

The Division may revoke this injection order after notice and hearing if the operator is in violation of Rule 19.15.5.9 NMAC.

The disposal authority granted herein shall terminate two (2) years after the effective date of this Order if the operator has not commenced injection operations into the subject well. One year after the last date of reported disposal into this well, the Division shall consider the well abandoned, and the authority to dispose will terminate *ipso facto*. The Division, upon written request mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

Compliance with this Order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the disposal authority granted herein.



DAVID R. CATANACH  
Director

DRC/mam

cc: Oil Conservation Division – Hobbs District Office  
Well File 30-025-42448



C-108 Review Checklist: Received March 23, 2016 Add. Request: \_\_\_\_\_ Reply Date: \_\_\_\_\_ Suspended: \_\_\_\_\_ [Ver 15]

ORDER TYPE: WFX / PMX / SWD Number: 1550-A Order Date: \_\_\_\_\_ Legacy Permits/Orders: \_\_\_\_\_

Well No. I Well Name(s): MADENA SWD

API: 30-0 25-42448 Spud Date: 6/22/2015 New or Old: Q (UIC Class II Primacy 03/07/1982)

Footages 433 FSL, 1970 FSL Lot or Unit N Sec 14 Tsp 245 Rge 34E County Lea

General Location: 2 1/2 miles SW of JH Pool: SWD Devonia Pool No.: 961-1

BLM 100K Map: 5A1 Operator: \_\_\_\_\_ OGRID: \_\_\_\_\_ Contact: \_\_\_\_\_

COMPLIANCE RULE 5.9: Total Wells: 19 Inactive: 2 Fincl Assur: NA Compl. Order? NA TS 5.9 OK? Y Date: 3-22-2016

WELL FILE REVIEWED  Current Status: drilled

WELL DIAGRAMS: NEW: Proposed  or RE-ENTER: Before Conv.  After Conv.  Logs in Imaging: Y stated CBL was sent to Hobbs

Planned Rehab Work to Well: met requirements of SWD-1550

Well Construction Details	Sizes (in)		Setting		Cement SD or Cf	Cement Top and Determination Method
	Borehole / Pipe		Depths (ft)	Stage Tool		
Planned <input type="checkbox"/> or Existing <input checked="" type="checkbox"/> Surface	20" / 16"		1000		625	Surface / VIS 401
Planned <input type="checkbox"/> or Existing <input type="checkbox"/> Interm/Prod	14 1/2" / 12 1/2"		5400		925	Surface / VIS 401
Planned <input type="checkbox"/> or Existing <input type="checkbox"/> Interm/Prod	17" / 10 3/4"		11195		1164	Surface / VIS 401
Planned <input type="checkbox"/> or Existing <input checked="" type="checkbox"/> Prod/Lines	9 1/2" / 7 1/2"		1710			10 192 / CBL
Planned <input type="checkbox"/> or Existing <input type="checkbox"/> Liner						
Planned <input type="checkbox"/> or Existing <input checked="" type="checkbox"/> CB / PERF	17400 - 74222			Inj Length		
<b>Completion/Operation Details:</b>						
<b>Injection Lithostratigraphic Units:</b>		Depths (ft)	Injection or Confining Units		Tops	Drilled TD <u>14222</u> PBDT _____
Adjacent Unit: Litho. Struc. Por.			Mg Lm		16732	NEW TD _____ NEW PBDT _____
Confining Unit: Litho. Struc. Por.			Lm		1704	NEW Open Hole <input checked="" type="checkbox"/> or NEW Perfs <input type="checkbox"/>
<b>Proposed Inj Interval TOP:</b>						Tubing Size <u>5 1/2</u> in. Inter Coated? _____
<b>Proposed Inj Interval BOTTOM:</b>						Proposed Packer Depth _____ ft
Confining Unit: Litho. Struc. Por.						Min. Packer Depth _____ (100-ft limit)
Adjacent Unit: Litho. Struc. Por.						Proposed Max. Surface Press. _____ psi
						Admin. Inj. Press. _____ (0.2 psi per ft)
<b>AOR: Hydrologic and Geologic Information</b>						
POTASH: R-111-P <input type="checkbox"/> Noticed? <input type="checkbox"/> BLM Sec Ord <input type="checkbox"/> WIPP <input type="checkbox"/> Noticed? <input type="checkbox"/> Salt/Salado T: _____ B: _____ NW: Cliff House fm _____						
FRESH WATER: Aquifer <u>Aluvial</u> Max Depth <u>640</u> HYDRO AFFIRM STATEMENT By Qualified Person <input checked="" type="checkbox"/>						
NMOSE Basin: _____ CAPITAN REEF: thru adj NA No. Wells within 1-Mile Radius? <u>FW Analysis</u>						
Disposal Fluid: Formation Source(s) <u>Bone Spring, Deludum</u> Analysis? <u>Y</u> On Lease <input type="checkbox"/> Operator Only <input type="checkbox"/> or Commercial <input checked="" type="checkbox"/>						
Disposal Int: Inject Rate (Avg/Max BWPD): <u>5000/2000</u> Protectable Waters? _____ Source: _____ System: Closed or Open						
HC Potential: Producing Interval? <u>UA</u> Formerly Producing? _____ Method: Logs/DST/P&A/Other _____ 2-Mile Radius Pool Map <input type="checkbox"/>						
AOR Wells: 1/2-M Radius Map? _____ Well List? _____ Total No. Wells Penetrating Interval: _____ Horizontals? _____						
Penetrating Wells: No. Active Wells <u>0</u> Num Repairs? _____ on which well(s)? _____ Diagrams? _____						
Penetrating Wells: No. P&A Wells <u>0</u> Num Repairs? _____ on which well(s)? _____ Diagrams? _____						
NOTICE: Newspaper Date <u>Feb 23, 2015</u> Mineral Owner <u>Norma Chavez</u> Surface Owner <u>Robert Madden</u> N. Date <u>4/02/2015</u>						
RULE 26.7(A): Identified Tracts? _____ Affected Persons: <u>Bone Development, McStellan</u> N. Date <u>4/02/2015</u>						

Order Conditions: Issues: stuck pipe, whipstock well plus low prognosis, used chemistry from original application -

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



C-108 Review Checklist: Received \_\_\_\_\_ Add. Request: \_\_\_\_\_ Reply Date: \_\_\_\_\_ Suspended: \_\_\_\_\_ [Ver 13]

PERMIT TYPE: WFX / PMX (SWD) Number: 155 Permit Date: \_\_\_\_\_ Legacy Permits/Orders: \_\_\_\_\_

Well No. 1 Well Name(s): MADENA SUD

API: 30-0 25-4248 Spud Date: TBL New or Old: N (UIC Class II Primacy 03/07/1982)

Footages 433 FSL  
1970 FWL Lot \_\_\_\_\_ or Unit N Sec 14 Tsp 245 Rge 348 County LEG

General Location: 2 1/2 miles NW JAL Pool: SUD'S DEVONIAN Pool No.: 96101

BLM 100K Map: JAL Operator: OPERATING, LLC OGRID: 308359 Contact: Billy  
Prichard

COMPLIANCE RULE 5.9: Total Wells: 8 Inactive: 0 Fincl Assur. Y Compl. Order? NA IS 5.9 OK? Y Date: 5-05-2015

WELL FILE REVIEWED  Current Status: Proposed

WELL DIAGRAMS: NEW: Proposed  or RE-ENTER: Before Conv.  After Conv.  Logs in Imaging: N/A

Planned Rehab Work to Well: \*COL LINER / 10<sup>34</sup>

Well Construction Details	Sizes (in) Borehole / Pipe	Setting Depths (ft)	Cement SP or CI	Cement Top and Determination Method
Planned ___ or Existing ___ Surface	<u>20" / 16"</u>	<u>1000</u>	<u>625</u>	<u>SURFACE / VISUAL</u>
Planned ___ or Existing ___ Interm/Prod	<u>14 1/2" / 13 5/8"</u>	<u>5700</u>	<u>925</u>	<u>SURFACE / VISUAL</u>
Planned ___ or Existing ___ Interm/Prod	<u>12" / 10 3/4"</u>	<u>12000</u>	<u>1042</u>	<u>SURFACE / VISUAL</u>
Planned ___ or Existing ___ Prod/Liner				
Planned ___ or Existing ___ (Liner)	<u>9 1/4" / 7 7/8"</u>	<u>11800</u>	<u>773</u>	<u>11800*</u>
Planned ___ or Existing ___ (OH) / PERF	<u>16 200 / 17 000</u>			

Injection/Stratigraphic Units	Depths (ft)	Injection or Confining Units	Tops	Completion/Operation Details
Adjacent Unit: Litho. Struc. Por.		<u>MS</u>	<u>15396</u>	Drilled TD <u>17000</u> PBTD _____
Confining Unit: Litho. Struc. Por.		<u>nd</u>	<u>15396</u>	NEW TD _____ NEW PBTD _____
Proposed Inj Interval TOP:	<u>16200</u>	<u>520</u>	<u>16200</u>	NEW Open Hole <input checked="" type="checkbox"/> or NEW Perfs <input type="checkbox"/>
Proposed Inj Interval BOTTOM:	<u>1700</u>			Tubing Size <u>5 1/2</u> in. Inter Coated? <u>Y</u>
Confining Unit: Litho. Struc. Por.				Proposed Packer Depth <u>16100</u> ft
Adjacent Unit: Litho. Struc. Por.				Min. Packer Depth <u>16200</u> (100-ft limit)
				Proposed Max. Surface Press. <u>3240</u> psi
				Admin. Inj. Press. <u>3240</u> (0.2 psi per ft)

**AOR: Hydrologic and Geologic Information**

POTASH: R-111-P  Noticed? \_\_\_\_\_ BLM Sec Ord  WIPP  Noticed? \_\_\_\_\_ SALT/SALADO T: \_\_\_\_\_ B: \_\_\_\_\_ CLIFF HOUSE \_\_\_\_\_

FRESH WATER: Aquifer Alluvial Max Depth 64' HYDRO AFFIRM STATEMENT By Qualified Person

NMOSE Basin: Canusbad CAPITAN REEF: thru  adj  NA  No. Wells within 1-Mile Radius? 1 FW Analysis 42

Disposal Fluid: Formation Source(s) Bone Springs Analysis? Y On Lease  Operator Only  or Commercial

Disposal Int: Inject Rate (Avg/Max BWPD): 5000/20000 Protectable Waters? \_\_\_\_\_ 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?  Well List? N/A Total No. Wells Penetrating Interval: 44 Horizontals? \_\_\_\_\_

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

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

NOTICE: Newspaper Date Feb 25, 2015 Mineral Owner Norma Chanley (Santoka) Surface Owner Madena N. Date 4/02/2015

RULE 26.7(A): Identified Tracts? \_\_\_\_\_ Affected Persons: Babe Development, McClelland Oil N. Date 4/02/2015

Permit Conditions: Issues: CBL For the Liner 5442 Cement 4' 10<sup>34</sup> FDU 1001

Add Permit Cond: \_\_\_\_\_