7-3-2017 DATE IN	SUSPENSE	ENGINEER PRG	LOGGED IN 7-6-2017	TYPE SWD	APP NO. pKSC1718235697

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] Delaware Energy (371195)

[A] Location - Spacing Unit - Simultaneous Dedication Ruiz SWD #1 (30-015-Pending
☐ NSL ☐ NSP ☐ SD SWD; ~~Delaware~~ Devonian 96101

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 _____

[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.

Mike McCurdy		**Operations Engineer**	**7/02/2017**
Print or Type Name	Signature	Title	Date

mmccurdy@delawareenergyllc.com
e-mail Address

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance ___xxx__Disposal _____Storage
Application qualifies for administrative approval? ___xxx__Yes _____No

II. OPERATOR: _____Delaware Energy LLC_____

ADDRESS: _____3001 W. Loop 250 N, Suite C-105-318, Midland TX 79705_____

CONTACT PARTY: _____Mike McCurdy_____PHONE: __432-312-5251____

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 ___xxx__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 re-injected 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: Mike McCurdy TITLE: Operations Engineer

SIGNATURE: DATE: 7/02/2017

E-MAIL ADDRESS: Mmccurdy@delawareenergyllc.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: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

Side 2

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

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

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

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

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

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

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;

(3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.
Side 1

OPERATOR: Delaware Energy LLC

WELL NAME & NUMBER: Ruiz SWD No1

WELL LOCATION: 2565' FSL, 2,360'

FWL	K	10	24S	28E
FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA
(See attached wellbore diagram)

Surface Casing

Hole Size: 24"

Casing Size: 20"

Cemented with: 1400 sx.

or _____ ft^3

Top of Cement: SURFACE

Method Determined: Circulated

Total Depth: 400'

Intermediate Casing

Hole Size: 17-1/2"

Casing Size: 13-3/8"

Cemented with: 2,000 sx.

or _____ ft^3

Top of Cement: SURFACE

Method Determined: Circulated
Total Depth: 2,600'

2nd Intermediate Casing

Hole Size: 12-1/4"

Casing Size: 9-5/8"

Cemented with: 2,200 sx.

or _____ ft^3

Top of Cement: Surface

Method Determined: Circulated
Total Depth: 9,500'

Production Casing

Hole Size: 8.5"

Casing Size: 7"

Cemented with: 2,200 sx.

or _____ ft^3

Top of Cement: surface

Method Determined: Circulated

Total Depth: 13,650'

Injection Interval

13,650' feet to 14,650' Open hole

INJECTION WELL DATA SHEET

Tubing Size: 4.5" Lining Material: Internally plastic coated

Type of Packer: Weatherford Arrow Set 1X Injection Packer (Nickel Plated)

Packer Setting Depth: 50-100ft above open hole

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

Additional Data

1. Is this a new well drilled for injection? XXX Yes No

2. Name of the Injection Formation: Devonian

3. Name of Field or Pool (if applicable): SWD: Devonian

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.

N/A.

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

BELOW: None

ABOVE: Bone Spring 6,050'-9,347', Wolfcamp 9,347'-11,400", Atoka 11,400'-11,900', Morrow 11,900'-12,800'

Additional Questions on C-108

VII.

1. **Proposed average and maximum daily rate and volume of fluids to be injected;**
   Average 20,000 BWPD, Max 25,000 BWPD

2. **Whether the system is open or closed;**
   Open System, Commercial SWD

3. **Proposed average and maximum injection pressure;**
   Average 1,000-2,000 PSI, Max 2,730 PSI

4. **Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,**
   Bone Spring, Delaware, and Wolfcamp produced water. No known incompatibility exists with these produced water types and the Devonian. Devonian formation is used as a disposal interval in offset Townships for Wolfcamp, Bone Springs, and Delaware produced water. See attached water analysis from Bone Spring, Wolfcamp, and Delaware produced water.

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.).**
   Disposal interval is barren and does not produce. No Devonian receiving formation water samples in the surrounding area.

***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.**
   The proposed disposal interval is located in the Devonian formations 13,650'-14,650'. Devonian is an impermeable Shale at the very top (13,550', Woodford Shale) followed by permeable lime and dolomite. There are no fresh water zones underlying the proposed injection zone. Usable water depth is from surface to +/-300', the water source is older alluvium (Quaternary). All of the fresh water wells in the area have an average depth to water of 50' – 200' (Based on State Engineers Office).

IX. Describe the proposed stimulation program, if any.
   20,000 gallons 15% HCL acid job with packer

X. Attach appropriate logging and test data on the well
   Logs will be filed following drilling operations, Cased hole CBL, Gamma, CCL. Open Hole Neutron, Resistivity, Gamma.

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.
   Attached are water samples from section 10 and 11 of Township 24 South, Range 28 East.

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.

Delaware Energy, L.L.C. has reviewed and examined available geologic and engineering data in the area of interest for the Ruiz SWD No 1 and have found no evidence of faults or other hydrologic connections between the Devonian disposal zone and the underground sources of drinking water. Furthermore, there exist many impermeable intervals between the injection interval and the fresh ground water in the 13,650' feet of lithology between the top of the Devonian and the base of the ground water.

Mike McCurdy **Operations Engineer** **7/02/2017**
_____ **Title** _____ **Date** _____

III. WELL DATA

(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
Ruiz SWD No 1, Sec. 10-T24S-R28E, 2565' FSL & 2,360' FWL, UL K, Eddy County, New Mexico

(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.

Casing Size	Setting Depth	Sacks of Cement	Hole Size	Top of Cement	Determined
20"	400'	1,400	24"	Surface	CIRC
13-3/8"	2,600'	2,000	17-1/2"	Surface	CIRC
9-5/8"	9,500'	2,200	12-1/4"	Surface	CIRC
7"	13,650'	2,200	8-1/2"	Surface	CIRC

(3) A description of the tubing to be used including its size, lining material, and setting depth.
4-1/2" OD, Internally Plastic Coated Tubing set 50 to 100ft above open hole

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.
Weatherford Arrow set 1X injection packer, nickel plated with on/off tool

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.
Devonian Formation
Pool Name: SWD (Devonian)

(2) The injection interval and whether it is perforated or open-hole.
13,650' to 14,650' (OH)

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

Well is a planned new drill for SWD

(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.

None, well is a planned new drill

(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.

Next Higher: Bone Spring 6,050'-9,347', Wolfcamp 9,347'-11,400'', Atoka 11,400'-11,900', Morrow 11,900'-12,800'

Next Lower: None

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 Rd., 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 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	Pool Code	Pool Name

Property Code	Property Name	Well Number
	RUIZ SWD	1
OGRID No.	**Operator Name**	**Elevation**
	DELAWARE ENERGY	3004'

Surface Location

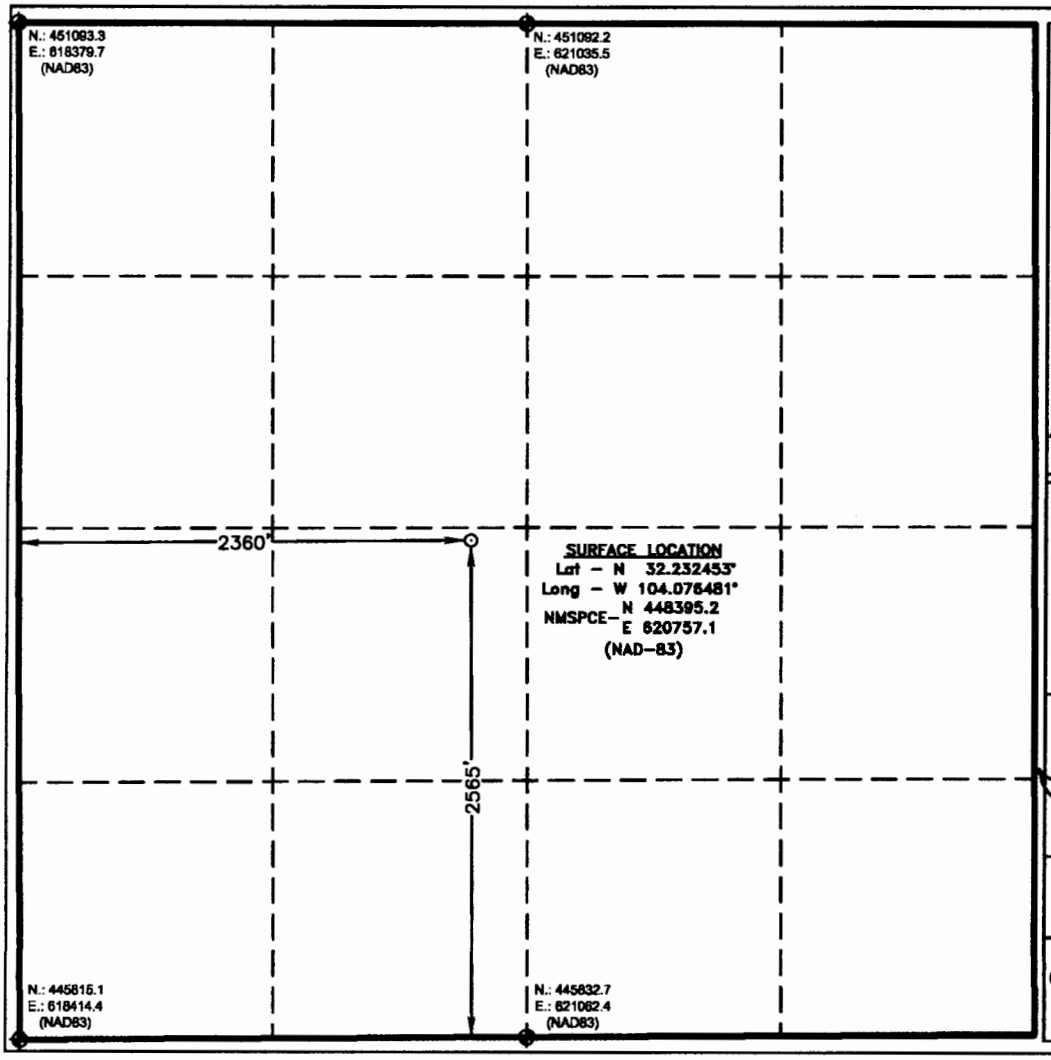
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	10	24 S	28 E		2565	SOUTH	2360	WEST	EDDY

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 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 to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 6/30/2017 Date

Mike McCurdy
Printed Name

mmccurdy@delawareenergyllc.com
Email 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 supervison, and that the same is true and correct to the best of my belief.

JUNE 29, 2017
Date Surveyed

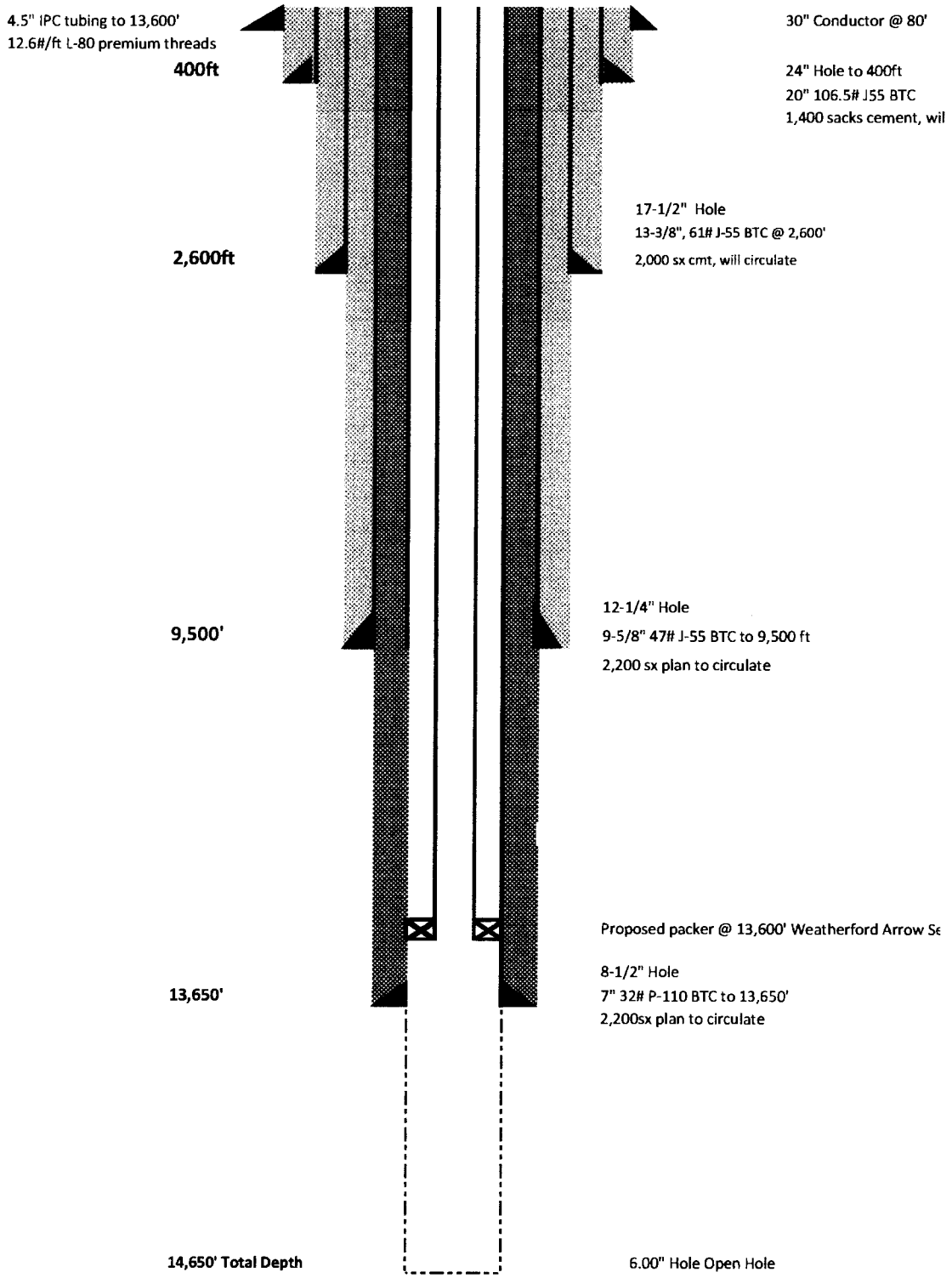
Signature & Seal of Professional Surveyor

STATE OF NEW MEXICO
7977
REGISTERED PROFESSIONAL LAND SURVEYOR

Certificate Number Gary L. Jones 7977
BASIN SURVEYS

0' 1000' 2000' 3000' 4000'
SCALE: 1" = 2000'
WO Num.: 33124

Ruiz SWD No 1
2,565' FSL & 2,360' FWL, UL K, SEC. 10, T-24S R-28E, Eddy County, NM
API # 30-015-



Sec 22, T25S, R28E

North Permian Basin Region
P.O. Box 740
Sundown, TX 79372-0740
(806) 229-8121
Lab Team Leader - Sheila Hernandez
(432) 498-7240

Bone Spring

Water Analysis Report by Baker Petrolite

Company:		Sales RDT:	33514.1
Region:	PERMIAN BASIN	Account Manager:	TONY HERNANDEZ (575) 910-7135
Area:	ARTESIA, NM	Sample #:	534665
Lease/Platform:	PINOCHLE 'BPN' STATE COM	Analysis ID #:	105795
Entity (or well #):	2 H	Analysis Cost:	$90.00
Formation:	UNKNOWN		
Sample Point:	WELLHEAD		

Summary	
Sampling Date:	03/10/11
Analysis Date:	03/18/11
Analyst:	SANDRA GOMEZ
TDS (mg/l or g/m3):	184911.1
Density (g/cm3, tonne/m3):	1.113
Anion/Cation Ratio:	1
Carbon Dioxide:	0.50 PPM
Oxygen:	
Comments:	

Analysis of Sample 534665 @ 75 °F

Anions	mg/l	meq/l
Chloride:	109618.0	3091.82
Bicarbonate:	2135.0	34.99
Carbonate:	0.0	0.
Sulfate:	747.0	15.55
Phosphate:		
Borate:		
Silicate:		

Cations	mg/l	meq/l
Sodium:	70276.7	3056.82
Magnesium:	195.0	16.04
Calcium:	844.0	42.12
Strontium:	220.0	5.02
Barium:	0.8	0.01
Iron:	6.5	0.23
Potassium:	869.0	22.22
Aluminum:		
Chromium:		
Copper:		
Lead:		
Manganese:	0.100	0.
Nickel:		

Hydrogen Sulfide:	0 PPM
pH at time of sampling:	7
pH at time of analysis:	
pH used in Calculation:	7

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		CO_2 Press
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	1.08	188.52	-1.20	0.00	-1.18	0.00	-0.11	0.00	0.56	0.29	1.72
100	0	1.10	206.05	-1.29	0.00	-1.20	0.00	-0.15	0.00	0.35	0.29	2.35
120	0	1.12	224.17	-1.36	0.00	-1.19	0.00	-0.17	0.00	0.16	0.00	3.17
140	0	1.13	243.17	-1.42	0.00	-1.16	0.00	-0.18	0.00	0.00	0.00	4.31

Note 1: When determining the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

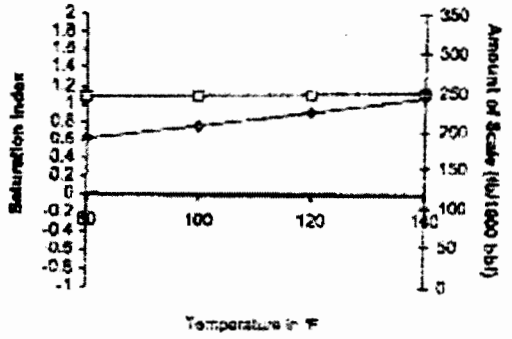
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

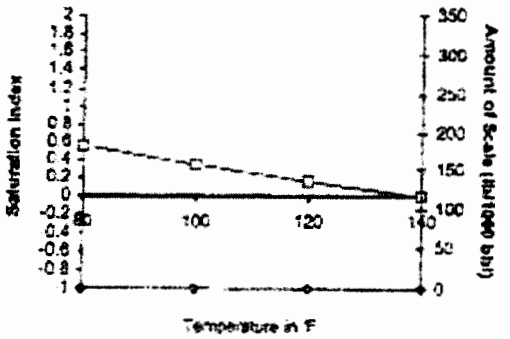
Scale Predictions from Baker Petrolite

Analysis of Sample 534665 @ 75 °F for 03/18/11

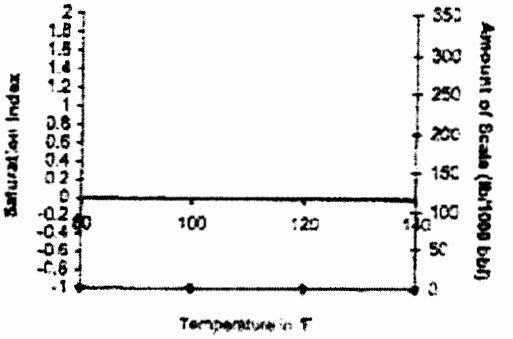
Calcite - CaCO3



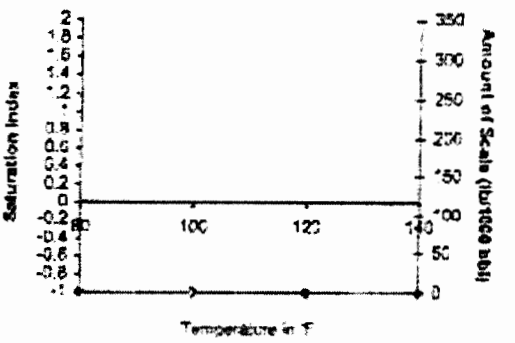
Barite - BaSO4



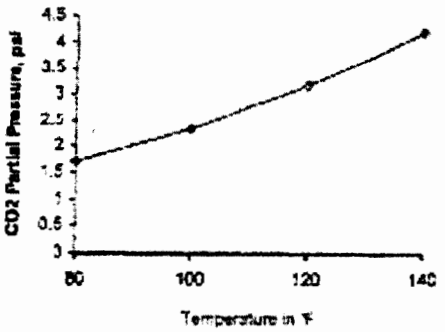
Gypsum - CaSO4*2H20



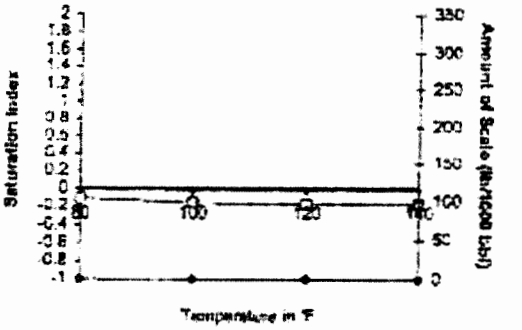
Anhydrite - CaSO4



Carbon Dioxide Partial Pressure



Celestite - SrSO4



Wolfcamp

BAKER HUGHES

Water Analysis

Date: 23-Aug-11

2708 West County Road, Hobbs NM 88240
Phone (575) 392-5556 Fax (575) 392-7307

Analyzed For Brushy Draw 1 #1

Operator	Well Name	County	State
	BD	~~Lea~~ Eddy	New Mexico

1-263-29E

Sample Source Swab Sample **Sample #** 1

Formation **Depth**

Specific Gravity	1.170	SG @ 60 °F	1.172
pH	6.30	Sulfides	Absent
Temperature (°F)	70	Reducing Agents	

Cations

Sodium (Calc)	in Mg/L	77,962	in PPM	66,620
Calcium	in Mg/L	4,000	in PPM	3,413
Magnesium	in Mg/L	1,200	in PPM	1,024
Soluable Iron (FE2)	in Mg/L	10.0	in PPM	9

Anions

Chlorides	in Mg/L	130,000	in PPM	110,922
Sulfates	in Mg/L	250	in PPM	213
Bicarbonates	in Mg/L	127	in PPM	108
Total Hardness (as CaCO3)	in Mg/L	15,000	in PPM	12,799
Total Dissolved Solids (Calc)	in Mg/L	213,549	in PPM	182,209
Equivalent NaCl Concentration	in Mg/L	182,868	in PPM	156,031

Scaling Tendencies

*Calcium Carbonate Index	507,520
Below 500,000 Remote / 500,000 - 1,000,000 Possible / Above 1,000,000 Probable	
*Calcium Sulfate (Gyp) Index	1,000,000
Below 500,000 Remote / 500,000 - 10,000,00 Possible / Above 10,000,000 Probable	

*This Calculation is only an approximation and is only valid before treatment of a well or several weeks after treatment.

Remarks RW=.048@70F

Report # 3188

Sec 16, T23S R28E

MCI
CHEMICALS and CONSULTING

PRODUCTION DEPARTMENT

MILLER CHEMICALS, INC.
Post Office Box 298
Artesia, N.M. 88211-0298
(505) 746-1919 Artesia Office
(505) 392-2883 Hobbs Office
(505) 748-1918 Fax
mci@plateautel.net

Delaware Brushy Canyon

WATER ANALYSIS REPORT

Company :
Address :
Lease : LOVING "AIB"
Well : #15
Sample Pt. : WELLHEAD

Date : MARCH 17, 2008
Date Sampled : MARCH 17, 2008
Analysis No. :

	ANALYSIS		mg/L		* meq/L
1.	pH	6.0			
2.	H2S	0			
3.	Specific Gravity	1.070			
4.	Total Dissolved Solids		304684.9		
5.	Suspended Solids		NR		
6.	Dissolved Oxygen		NR		
7.	Dissolved CO2		NR		
8.	Oil In Water		NR		
9.	Phenolphthalein Alkalinity (CaCO3)				
10.	Methyl Orange Alkalinity (CaCO3)				
11.	Bicarbonate	HCO3	927.0	HCO3	15.2
12.	Chloride	Cl	187440.0	Cl	5287.4
13.	Sulfate	SO4	500.0	SO4	10.4
14.	Calcium	Ca	37200.0	Ca	1856.3
15.	Magnesium	Mg	996.3	Mg	82.0
16.	Sodium (calculated)	Na	77586.6	Na	3374.8
17.	Iron	Fe	35.0		
18.	Barium	Ba	NR		
19.	Strontium	Sr	NR		
20.	Total Hardness (CaCO3)		97000.0		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter

1856	*Ca <----- *HCO3	15	
	/------->		
82	*Mg -----> *SO4	10	
	<---------/		
3375	*Na -----> *Cl	5287	

Compound	Equiv wt	X meq/L	= mg/L
Ca(HCO3)2	81.0	15.2	1231
CaSO4	68.1	10.4	709
CaCl2	55.5	1830.7	101584
Mg(HCO3)2	73.2		
MgSO4	60.2		
MgCl2	47.6	82.0	3902
NaHCO3	84.0		
Na2SO4	71.0		
NaCl	58.4	3374.8	197223

Saturation Values Dist. Water 20 C
CaCO3 13 mg/L
CaSO4 * 2H2O 2090 mg/L
BaSO4 2.4 mg/L

REMARKS:

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

(A CLW###### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

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

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Depth Well	Depth Water	Water Column
C 00574		ED	2	4	4	11	24S	28E	589452	3566081*	200	20	180
C 01062		ED	3	3	2	11	24S	28E	588832	3566693*	120		

Average Depth to Water: 20 feet
Minimum Depth: 20 feet
Maximum Depth: 20 feet

Record Count: 2

Basin/County Search:

Basin: Carlsbad

PLSS Search:

Section(s): 11 Township: 24S Range: 28E

*UTM location was derived from PLSS - see Help

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

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 00570		C	ED		1	1	10	24S	28E	586490	3567195*	100	28	72
C 00764			ED	3	1	3	10	24S	28E	586399	3566292*	118	25	93
C 00890			ED	3	3	4	10	24S	28E	587211	3565897*	50		
C 00952		C	ED		3	3	10	24S	28E	586505	3565992*	63	9	54
C 01237		C	ED	1	1	2	10	24S	28E	587197	3567296*	123		
C 01442		C	ED		1	2	10	24S	28E	587298	3567199*	100		
C 03604 POD1		CUB	ED	2	4	3	10	24S	28E	586534	3565712	38	24	14

Average Depth to Water: **21 feet**

Minimum Depth: **9 feet**

Maximum Depth: **28 feet**

Record Count: 7

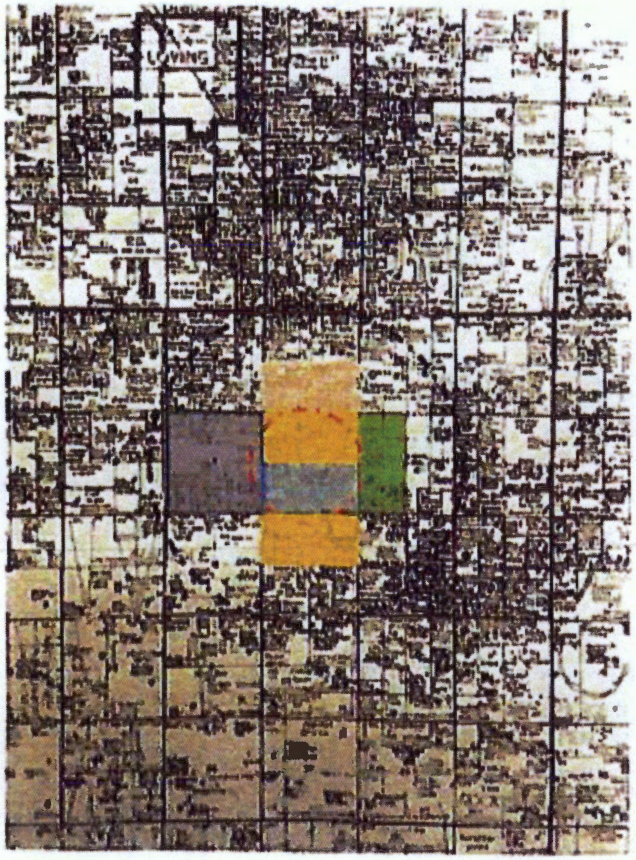
Basin/County Search:

Basin: Carlsbad

PLSS Search:

Section(s): 10 Township: 24S Range: 28E

*UTM location was derived from PLSS - see Help



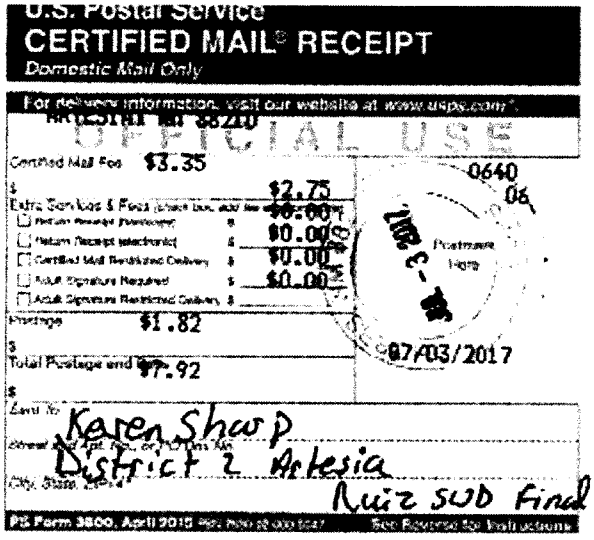
Mewbourne Oil Company

COG

Chevron

Matador Resource Company

Guardian Operating Corp. Randle Cat 432-553-1849



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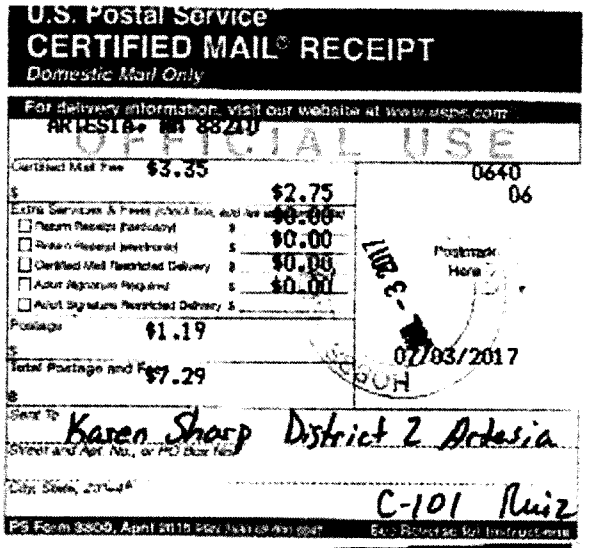
Sent To Karen Sharp
Street and Apt. No., or PO Box No. District 2 Artesia
City, State, ZIP+4 Ruiz SWD Final

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7017 1000 0001 7917 4984



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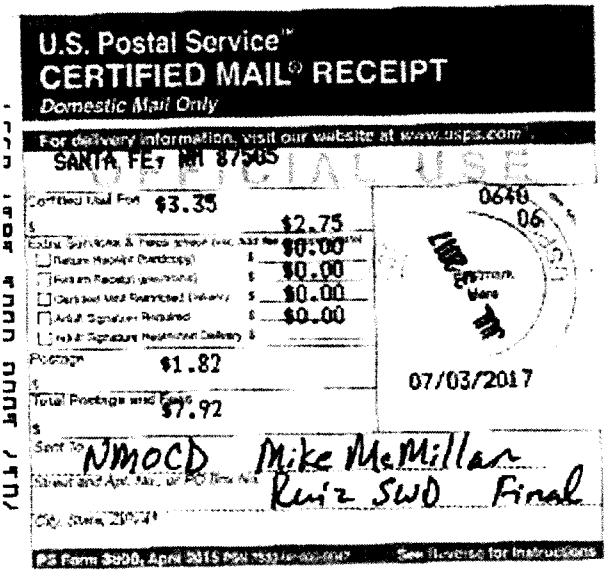
7017 1000 0001 7917 4991



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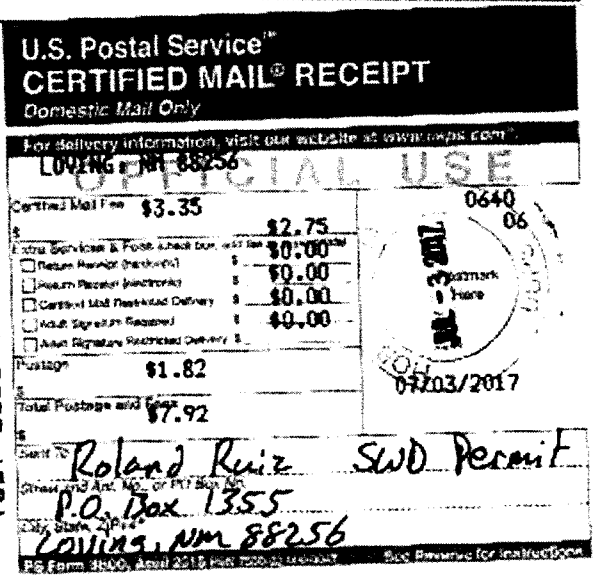
Sent To NMOCD Mike McMillan
Street and Apt. No., or PO Box No. Ruiz SWD Final
City, State, ZIP+4

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7017 1000 0001 7917 4977



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Sent To Roland Ruiz SWD Permit
Street and Apt. No., or PO Box No. P.O. Box 1355
City, State, ZIP+4 Loving, NM 88256

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7017 1000 0001 7917 4960

Delaware Energy, L.L.C.
3001 W. Loop 250 N., Suite C-105-318
Midland, TX 79705
Office: (214) 558-1371

p

October, 2016

Surface Owner / Offset Operators

Re: Notification of Application for Authorization to Inject
Ruiz SWD No 1 Well

Ladies and Gentlemen:

Delaware Energy, LLC is seeking administrative approval to utilize the proposed Ruiz SWD No 1 as a Salt Water Disposal well. As required by the New Mexico Oil Conservation Division Rules, we are notifying you of the following proposed salt water disposal well. This letter is a notice only. No action is required unless you have questions or objections.

Well:	Ruiz SWD No 1
Proposed Disposal Zone:	Devonian Formation (from 13,650'- 14,650')
Location:	2577' FSL & 2584' FWL, Sec.10, UL K, T24S, R28E, Eddy Co., NM
Applicants Name:	Delaware Energy, L.L.C.
Applicants Address:	3001 W. Loop 250 N., Suite C-105-318, Midland, TX 79705

This application for water disposal well will be filed with the New Mexico Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. And their phone number is 505 476 3460.

Please call Preston Stein with Delaware Energy, LLC if you have any questions at 214-558-1371.

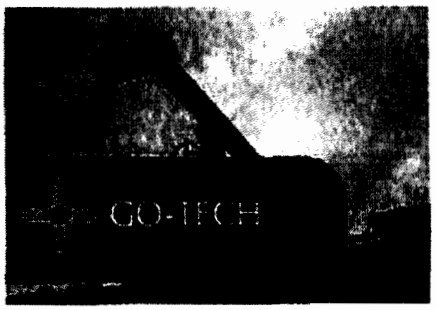
Sincerely,

Preston Stein

Ruiz SWD No 1
API#: 30-015-
Location: Sec. 10, T-24S, R-28E, UL K

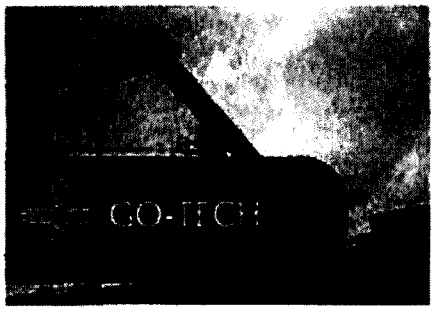
Formation Tops

Lamar	2,500'
Bell Canyon	2,567'
Cherry Canyon	3,376'
Bone Spring Lime	6,050'
Wolfcamp	9,347'
Atoka	11,400'
Morrow	11,900'
Mississippi	13,225'
Woodford Shale	13,550'
Devonian	13,650'



- NM WADS
  - Data
    - Produced Water
    - Ground Water
    - Conversion Tools
  - Scale
    - Scale details
    - Stiff
    - Oddo
    - Probable Mineral Composition
    - mix
  - Corrosion
    - Theory
      - Uniform
      - Galvanic
      - Crevice
      - Hydrogen Damage
      - CO_2
      - Erosion

General Information About: Sample 8016			
Section/ Township/Range	10 / 24S / 28E	Lat/Long	32.2319/-104.075
Elevation	3011.3	Depth	58
Date Collected	8/20/1997 12:00:00 AM	Chlorides	696
Collector / Point of Collection	SEOTS@35	Use	
Formation	OAL	TDS	



- NM WAIDS
  - Data
    - Produced Water
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    - Conversion Tools
  - Scale
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    - Stiff
    - Oddo
    - Probable Mineral Composition
    - Ilrix
  - Corrosion
    - Theory
      - Uniform
      - Galvanic
      - Crevice
      - Hydrogen Damage
      - EIC
      - Pitting

General Information About: Sample 7747			
Section Township/Range	11 / 24S / 28E	Lat/Long	32.2319/-104.0579
Elevation	2977.3	Depth	200
Date Collected	8/20/1987 12.00.00 AM	Chlorides	790
Collector / Point of Collection	SEO/SBBLR	Use	Irrigation Water
Formation	OAL	TDS	

Affidavit of Publication

State of New Mexico,
County of Eddy, ss.

Danny Fletcher, being first duly sworn, on oath says:

That he is the Publisher of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

October 27 2016

That the cost of publication is **$66.82** and that payment thereof has been made and will be assessed as court costs.

Subscribed and sworn to before me this 10 day of July, 2017

Cynthia Arredondo

My commission Expires 2/13/21

Notary Public

OFFICIAL SEAL
CYNTHIA ARREDONDO
Notary Public
State of New Mexico
My Comm. Expires 2/13/21

October 27, 2016

Delaware Energy, L.L.C. 3001 W. Loop 250N, Suite C-105-318, Midland, TX 79705, has filed a form C-108 (Application for Authorization to Inject) with the Oil Conservation Division seeking administrative approval to utilize the proposed Ruiz SWD No 1 (API - 30-015-XXXXX) as a Salt Water Disposal well.

The Ruiz SWD No 1 will be located at 2577' FSL and 2584' FWL, Unit Letter K, Section 10, Township 24 South, Range 28 East, Eddy County, New Mexico. The well will dispose of water produced from oil and gas wells into the Devonian Formation from 13,650' to 14,650' at a maximum rate of 17,500 barrels of water per day at a maximum pressure of 2,730 psi.

Interested parties must file objections or requests for hearing with the Oil Conservations Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

Additional information can be obtained by contacting Delaware Energy, L.L.C., at (214) 558-1371.