# BEFORE THE OIL CONSERVATION COMMISSION EXAMINER HEARING JUNE 13, 2019

**CASE No. 20484** 

RANDY ALLEN FEDERAL SWD 1

EDDY COUNTY, NEW MEXICO

LONGWOOD WATER MANAGEMENT COMPANY, LLC

RECEIVED: REV	EVIEWER:	TYPE:	APP NO:
---------------	----------	-------	---------

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY



NEW MEXICO OIL CON	7.8 .
- Geological & Engine	eering Bureau – 🔑 🙀 🧎
1220 South St. Francis Drive,	Santa Fe, NM 87505
	- Charter
ADMINISTRATIVE APPL	ICATION CHECKLIST  APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND
REGULATIONS WHICH REQUIRE PROCESSIN	
A B (TEL ) - 1W . NA	0001D M 1 220101
Applicant: Longwood Water Management Company, LLC	OGRID Number: 328484  API: 30-025-
Well Name: Randy Allen Fed SWD I Pool: SWD: Devonian	
7001: 3WD. Devolitati	Pool Code: 96101
SUBMIT ACCURATE AND COMPLETE INFORMATION	REQUIRED TO PROCESS THE TYPE OF APPLICATION
INDICATED	
1) TYPE OF APPLICATION: Check those which apply	for [A]
A. Location – Spacing Unit – Simultaneous Ded	• •
■ NSL ■ NSP(PROJECT AREA)	NSP (PRORATION UNIT) SD
B. Check one only for [I] or [II]	
[1] Commingling – Storage – Measurement	□ols □olm
[ II ] Injection – Disposal – Pressure Increase	
□ WFX □ PMX ■SWD □ IPI	DEOR DPPR
L M M L L M M L L M M L M M M M M M M M	FOR OCD ONLY
2) NOTIFICATION REQUIRED TO: Check those which	apply
A. Offset operators or lease holders	Notice Complete
B. 🔳 Royalty, overriding royalty owners, reven	ue owners Application
C. Application requires published notice	☐ Content
<ul><li>D.  Notification and/or concurrent approval</li></ul>	by SLO Complete
E.  Notification and/or concurrent approval	by BLM
F. Surface owner	
G. For all of the above, proof of notification	or publication is attached, and/or,
H. No notice required	
3) <b>CERTIFICATION:</b> I hereby certify that the informati	on submitted with this application for
administrative approval is accurate and complete	
understand that <b>no action</b> will be taken on this a	
notifications are submitted to the Division.	pplied for other the redelied information and
Note: Statement must be completed by an individ	ual with managerial ana/or supervisory capacity.
	1.18.10
Brian Wood	1-18-19 Date
2 /	_ 5.5
Print or Type Name	505 466-8120
K-//ww/	Phone Number
x ) would	BEFORE THE OIL CONSERVATION DIVISION
	Santa Fe, New Mexico
	Exhibit No. A

Signature

e-mail Addres Submitted by: Longwood Water Mngt Co. LLC Hearing Date: June 13, 2019

Case No 20484

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

# <u>APPLICATION FOR AUTHORIZATION TO INJECT</u>

I.	PURPOSE: Secondary Recovery Pressure Maintenance XXX Disposal Storage Application qualifies for administrative approval? XXX Yes No
$\Pi_{\tilde{\mathbb{S}}}$	OPERATOR: LONGWOOD WATER MANAGEMENT COMPANY, LLC
	ADDRESS: 5400 LBJ FREEWAY, SUITE 1500, DALLAS TX 75240
	CONTACT PARTY: BRIAN WOOD (PERMITS WEST, INC.) PHONE: 505 466-8120
Ш,	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.  Randy Allen Fed SWD 1
VII	Attach data on the proposed operation, including:  Devonian (96101)
	<ol> <li>Proposed average and maximum injection pressure;</li> <li>Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,</li> <li>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.).</li> </ol>
*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: BRIAN WOOD TITLE: CONSULTANT
	SIGNATURE:DATE: APRIL 16, 2019
*	E-MAIL ADDRESS: brian@permitswest.com  If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal:

## III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:
  - (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
  - (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
  - (3) A description of the tubing to be used including its size, lining material, and setting depth.
  - (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

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

- B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.
  - (1) The name of the injection formation and, if applicable, the field or pool name.
  - (2) The injection interval and whether it is perforated or open-hole.
  - (3) State if the well was drilled for injection or, if not, the original purpose of the well.
  - (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
  - (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any,

## XIV. PROOF OF NOTICE

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

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

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

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

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

LONGWOOD WATER MANAGEMENT COMPANY, LLC

RANDY ALLEN FED SWD

WELL NAME & NUMBER:

OPERATOR:

& CBL 9.625 11,450' £ ff<sup>3</sup> Ħ3 VISUAL RANGE 团 Method Determined: VISUAL 17,863' 31 CBL Injection Interval 6.5" OPEN HOLE b Casing Size: 7.625" @ Casing Size: 13.375" 20" WELL CONSTRUCTION DATA Method Determined: Method Determined: TOWNSHIP S Casing Size: 26 Intermediate Casing Production Casing Surface Casing 0 or 0 feet SX. SX. SX. 4936 SECTION 12 12.25 1900 16,883 11,450' SURFACE Top of Cement: SURFACE & 8.75" 237 1850 26" رخ K Cemented with: 2700 17.5" 16,883' Cemented with: Cemented with: Top of Cement: Top of Cement: Total Depth: UNIT LETTER Hole Size: Hole Size: Hole Size: 0 20" 94# & 106.5# in 26" hole @ 1331' TOC (1850 sx) = GL 9.625" 40# in 12.25" hole @ 11950' 10C (1900 sx) = 4127' (CBL) 7.625" hole @ 11950' TOC (1900 sx) = 4127' (( 7.625" 33.7# in 8.75" hole 11450' - 16883' TOC (237 sx) = 11450' (CBL) TOC (237 sx) = 11450' (CBL)13.375" 72# in 133' FSL & 2588' FEL FOOTAGE LOCATION ?????????????????????????????? WELLBORE SCHEMATIC (not to scale) TD 17863 5.5" IPC tbg @ 16783' \*\*\*\*\*\*\*\*\* Devonian 16883' - 17863' 6.5" open hole WELL LOCATION: packer @ 16783 

(Perforated or Open Hole; indicate which)

# INJECTION WELL DATA SHEET

Tub	ibing Size: 5.5"	_Lining Material: IPC
Туј	pe of Packer: STAINLESS STEEL &/OR	NICKEL
Pac	ncker Setting Depth: 16,783' - 16,883	<u>'</u>
Oth	ther Type of Tubing/Casing Seal (if applicable	s):
	Add	itional Data
1.	Is this a new well drilled for injection?	XXX YesNo
	If no, for what purpose was the well original	ally drilled?
2.	Name of the Injection Formation:DEVON	IAN
3.	Name of Field or Pool (if applicable):SW	D; DEVONIAN (POOL CODE 96101)
4.	Has the well ever been perforated in any of intervals and give plugging detail, i.e. sack	her zone(s)? List all such perforated s of cement or plug(s) used.
	NO	
5.	Give the name and depths of any oil or gas injection zone in this area:	zones underlying or overlying the proposed
	OVER: DELAWARE (4,277'), BON	E SPRING (8,249'), WOLFCAMP (11,514'
	UNDER: none	

- I. Goal is to drill a 17,863' deep commercial saltwater disposal well on BLM. Disposal interval will be 16,883' 17,863' in the SWD; Devonian (96101). See Exhibit A for C-102 and map.
- II. Operator: Longwood Water Management Company, LLC [OGRID 328484]
  Operator phone number: (972) 371-5420
  Operator address: 5400 LBJ Freeway, Suite 1500, Dallas TX 75240
  Contact for Application: Brian Wood (Permits West, Inc.)

Phone: (505) 466-8120

- III. A. (1) Lease (BLM): NMNM-120904 Lease Size: 360 acres Lease Area: SWSW Sec. 10, SE Sec. 12, NE Sec. 13; T. 26 S., R 31 E. Well name and number: Randy Allen Fed SWD 1 Location: 133' FSL & 2588' FEL Section 12, T. 26 S., R. 31 E.
  - A. (2) Surface casing (20", 94 & 106.5#, J-55, BTC) will be set at 1,331' in a 26" hole and cemented to GL with 1,850 sacks (based on 50% OH excess).

First intermediate casing (13.375", 72#, P-110 HC, BTC) will be set at 4,327' in a 17.5" hole and cemented to GL with 2,700 sacks (based on 50% OH excess).

Second intermediate casing (9.625", 40#, P-110 HC, BTC) will be set at 11,950' in a 12.25" hole and cemented to 4,127' with 1,900 sacks (based on 40% OH excess).

Production liner (7.625", 33.7#, P-110 HP, USS Liberty FJM) will be set from 11,450' to 16,883' in an 8.75" hole and cemented to 11,450' (CBL) with 237 sacks.

A 6.5" open hole will be drilled from 16,883' to 17,863'.



- A. (3) Tubing will be IPC lined, 5.5", 20#, P-110 IC, BTC. Setting depth will be  $\geq$ 16,783'. (Disposal interval will be 16,883' to 17,863'.)
- A. (4) A stainless steel and/or nickel packer will be set at  $\geq$ 16,783' (top of the open hole which will be at 16,883').
- B. (1) Disposal zone will be the Devonian (SWD; Devonian (96101) pool). Estimated fracture gradient is ≈0.62 to ≈0.68 psi per foot. Variation depends on whether limestone or dolomite.
- B. (2) Disposal interval will be open hole from 16,883' to 17,863'.
- B. (3) Well has not been drilled. It will be drilled as a saltwater disposal well.
- B. (4) No perforated intervals are in the well.
- B. (5) Only zones producing in the area of review and above the Devonian (16,873') are the Delaware (4,277'), Bone Spring (8,249'), and Wolfcamp (11,514'). No oil or gas zone is below the Devonian in the area of review.
- IV. This is not an expansion of an existing injection project. It is disposal only.
- V. Exhibit B shows and tabulates the 24 existing wells (23 oil or gas + 1 P&A) and 5 approved, but not yet spudded, wells within a 1-mile radius. Deepest well within a mile is 12,100' TVD. Exhibit C shows all 119 existing wells (90 oil or gas wells + 18 P & A wells + 4 disposal wells + 7 water wells) within a 2-mile radius. Closest SWD; Devonian well (30-025-43379) is 1.63 miles northeast. Closest Devonian oil or gas well is >3 miles away.

All leases within a one-mile radius are BLM or fee. Exhibit D shows and tabulates all the leases within a mile. Exhibit E shows all lessors within a two-mile radius. Two-mile radius leases are BLM, fee, or NMSLO.



VI. No Devonian penetrator is within a mile. Deepest existing or proposed well within a mile is 12,100'. That well bottomed in the Wolfcamp.

- VII. 1. Average injection rate will be ≈40,000 bwpd. Maximum injection rate will be 45,000 bwpd.
  - 2. System will be open and closed. Water will both be trucked and piped.
  - Average injection pressure will be ≈2,500 psi
     Maximum injection pressure will be 3,376 psi (= 0.2 psi/foot x 16,883' (top of open hole)).
  - 4. Disposal water will be produced water, mainly from Bone Spring, Delaware, and Wolfcamp wells. There are 158 approved Bone Spring wells, 141 approved Wolfcamp wells, and 84 approved Delaware wells in T. 26 S., R. 31 and 32 E. The well will take other Permian Basin waters. A summary of produced water analyses from T. 26 S., R. 31 E. is in Exhibit F. Devonian produced water analyses (in mg/L) from wells in T. 23 S., R. 37 E. are in the table below. Compatibility problems are not expected. At least 11,973,863 barrels of water have been disposed in a Devonian; SWD (30-025-43379) that is 1.63 miles northeast.

API	Section	UL	TDS	chloride	bicarbonate	sulfate
3002510717	14	К	118979	71280	462	2593
3002510945	34	Α	112959	67390	288	2765
3002510947	34	н	35639			
3002510950	34	Α	236252	147000	129	781

5. No Devonian production is within >3 miles.

VIII. The Devonian (estimated 1,000' thick) is comprised of limestone and dolomite. Closest possible underground source of drinking water above the proposed disposal interval is the Quaternary at the surface. There has been some interest in developing the brackish Dewey Lake which is below the Quaternary.

According to State Engineer records (Exhibit G), no water well is within a mile. However, a windmill not in the records was found \$2800' southeast and



sampled on March 6, 2019. No underground source of drinking water is below the proposed disposal interval.

Formation tops are:

```
Quaternary = 0'
     Rustler anhydrite = 1306'
          Salado = 1832'
         Castile = 2250'
       Bell Canyon = 4277'
      Cherry Canyon = 5228'
      Brushy Canyon = 6492'
       Bone Spring = 9134'
       Wolfcamp = 11514
        Strawn = 13901'
         Atoka = 14019'
        Morrow = 14963
        Barnett = 16226
 Mississippian limestone = 16418'
       Woodford = 16754
   Devonian carbonate = 16873'
disposal interval = 16883' - 17863'
          TD = 17863
         (Montoya = 17873')
```

No water well is within a 1-mile radius according to State Engineer records (Exhibit G). A windmill not in the records was found  $\approx 2800$ ' southeast and sampled on March 6, 2019. Same records show 7 water wells within a 2-mile radius, deepest of which is 700'. There will be >2.9 miles of vertical separation and shale, salt, and anhydrite intervals between the bottom of the only likely underground water source (Dewey Lake) and the top of the Devonian.

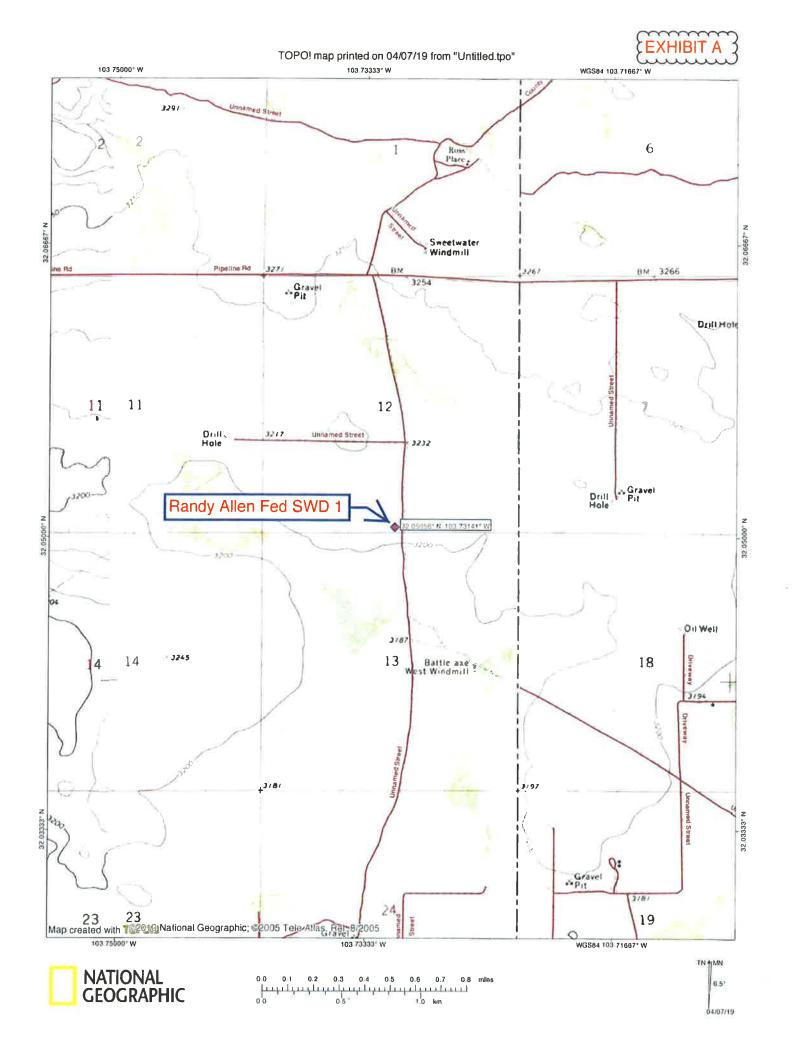
- IX. The well will be stimulated with acid.
- X. GR log will be run from the third intermediate to TD.



133' FSL & 2588' FEL SEC. 12, T. 26 S., R. 31 E., EDDY COUNTY, NM

- XI. One water well was found within a mile during a March 6, 2019 field inspection.
- XII. Longwood Water Management Company, LLC (Exhibit H) is not aware of any geologic or engineering data that may indicate the Devonian is in hydrologic connection with any underground sources of water. Deepest water well within a 2-mile radius is 700'. There are 259 approved Devonian SWD wells and 11 approved Devonian water injection wells in New Mexico. Closest Quaternary fault is  $\approx$ 68 miles west-southwest (Exhibit H).
- XIII. A legal ad (see Exhibit I) was published on February 27, 2019. Notice (this application) has been sent (Exhibit J) to the surface owner (BLM) and all operators, lessees, and unleased mineral interest owners within a mile who are required to receive notice.





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

# State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION

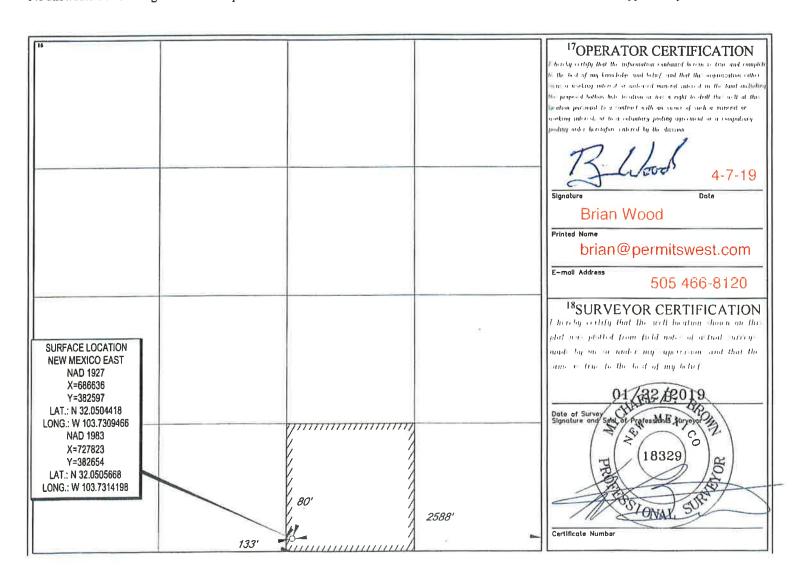
EXHIBIT A

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

District Office

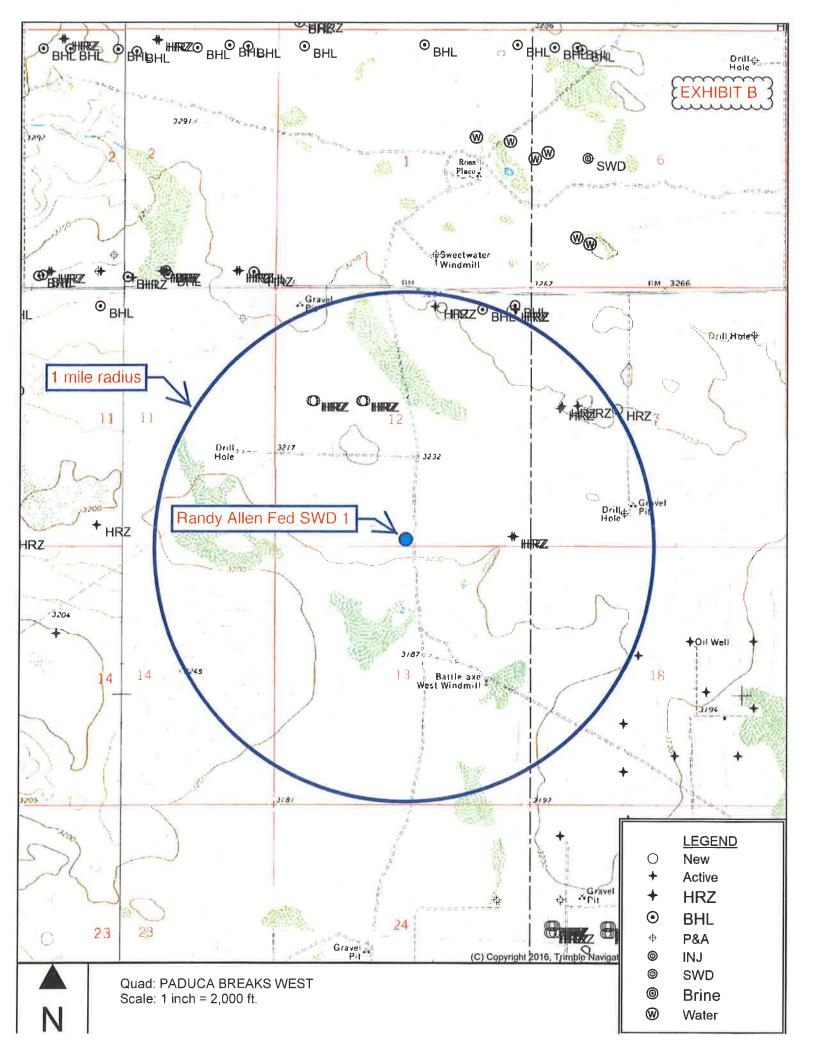
District IV 1220 S St. Francis Dr Phone (505) 476-346	8 Fax (505) 3 , Santa Fe, NA	34-6170 4 87505				t. Francis Dr. NM 87505	JIN .		AMEN!	DED REPOR
		WI	ELL LO	CATIO	N AND ACR	REAGE DEDIC	ATION PLA	T		
	<sup>1</sup> API Numbe	r		<sup>2</sup> Pool Code			<sup>3</sup> Pool Na			
30-015-				96101			SWD; Dev	onian		
<sup>4</sup> Property C	Code				<sup>5</sup> Property (	Name			<sup>6</sup> Well Nu	imber
				RA	NDY ALLEN	V FED SWD			1	
OGRID!	No.				<sup>8</sup> Operator i	Name			<sup>9</sup> Eleva	tion
		LO	)NGW0	OD WAT	TER MANAG	EMENT COM	PANY, LLC		320	8'
					<sup>10</sup> Surface L	ocation				
UL or lot no.	Section	Township	Range	Lot 1dn	Feet from the	North/South line	Enst/We	st line	County	
0	12	26-S	31-E	1911	133'	SOUTH	EAST	] ]	EDDY	
			11	Bottom Ho	le Location If I	Different From Sui	rface			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/We	st line	County
: <del>-</del> :		-	-	=	_	-	-	_		-
12 Dedicated Acres	13 Joint or 1	Infill HCons	olidation Co	de <sup>15</sup> Ord	er No.		-			
		A		-						

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.



21

5)

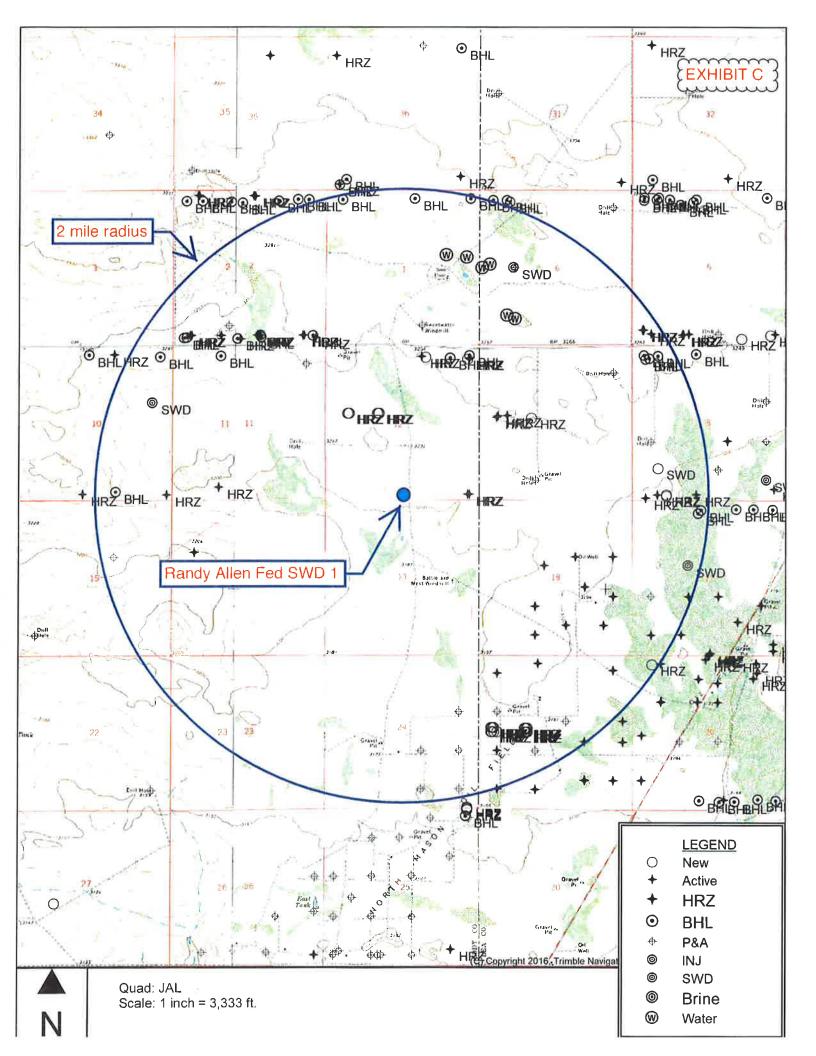


# SORTED BY DISTANCE FROM RANDY ALLEN FED SWD 1

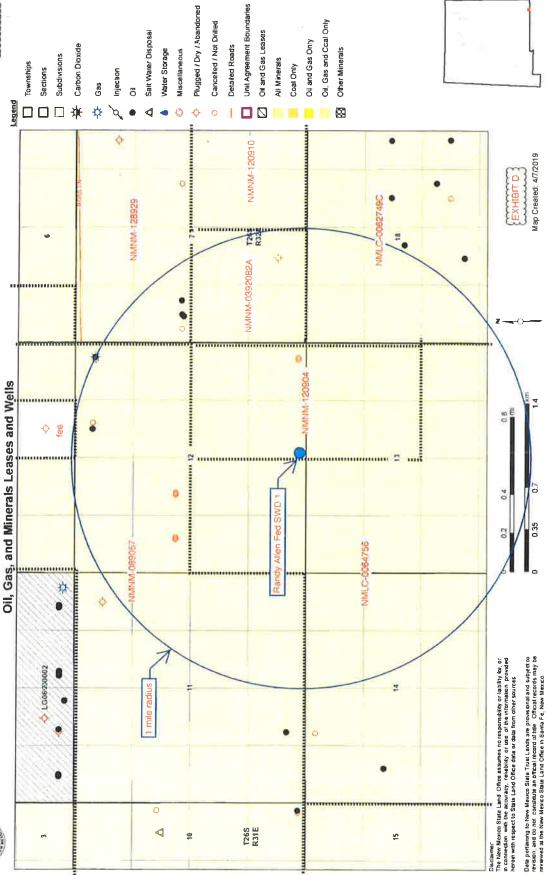
АРІ	OPERATOR	WELL	TYPE	SHL UNIT- SECTION	TVD	ZONE @ TD	FEET FROM RANDY ALLEN FED SWD 1 (to SHL unless otherwise shown)	
30-015-44858	ConocoPhillips	Revolver 24 13 Federal Com 4H	G	P-24	11530	Wolfcamp	1608 (BHL)	
30-015-44857	ConocoPhillips	Revolver 24 13 Federal Com 3H	G	P-24	11530	Wolfcamp	1936 (BHL)	
30-015-45071	Mewbourne	Sumideros 12 W1PA Federal Com #002H	G	P-12	11718	Wolfcamp	2208	
30-015-45070	Mewbourne	Sumideros 12 W1PA Federal Com #001H	G	P-12	12009	Wolfcamp	2258	
30-015-44856	ConocoPhillips	Revolver 24 13 Federal Com 2H	G	P-24	11530	Wolfcamp	2265 (BHL)	
30-015-44855	ConocoPhillips	Revolver 24 13 Federal Com 1H	G	P-24	11530	Wolfcamp	2594 (BHL)	
30-025-44215	ConocoPhillips	Zia Hills 19 Federal Com #101H	G	2-19	11842	Wolfcamp	2594 (BHL)	
30-015-44758	Devon	Snapping 12 1 Federal #523H	0	F-12	9148	Bone Spring	3009	
30-015-44722	Devon	Snapping 12 1 Federal #533H	0	F-12	9478	Bone Spring	3018	
30-015-44738	Devon	Snapping 12 1 Federal #522H	0	F-12	9285	Bone Spring	3027	
30-015-44740	Devon	Snapping 12 1 Federal #623H	G	F-12	Plan: 11541	Wolfcamp	3027	
30-015-44739	Devon	Snapping 12 1 Federal #532H	0	E-12	Plan: 8973	Bone Spring	3456	
30-015-44737	Devon	Snapping 12 1 Federal #521H	0	E-12	Plan: 8713	Bone Spring	3473	
30-015-44721	Devon	Snapping 12 1 Federal #531H	0	E-12	Plan: 8983	Bone Spring	3490	
30-025-44216	ConocoPhillips	Zia Hills 19 Federal Com #102H	G	2-19	11994	Wolfcamp	3832 (BHL)	
30-025-44217		Zia Hills 19 Federal Com		2-19	11820	Wolfcamp	4088 (BHL)	
30-025-43217	Mewbourne	Paduca 7 6 W1ED Federal Com #003H	G	2-07	12094	Wolfcamp	4196	
30-025-43216	Mewbourne	Paduca 7 6 W1ED Federal Com #002H	G	2-07	12094	Wolfcamp	4255	

# SORTED BY DISTANCE FROM RANDY ALLEN FED SWD 1

30-025-44218	ConocoPhillips	Zia Hills 19 Federal Com #104H	G	2-19	12012	Wolfcamp	4356 (BHL)
30-025-42320	Mewbourne	Paduca 7 6 A2ED Federal Com #001H	0	2-07	8863	Bone Spring	4516
30-025-08252	Lovelady	Contiental Federal #001	P&A	N-07	4471	Delaware	4591
30-025-44236	ConocoPhillips	Zia Hills 19 Federal Com #109H	G	F-19	11619	Wolfcamp	4631 (BHL)
30-015-42712	Mewbourne	Big Sinks 1 A30B Fee #002H	0	B-12	9132	Bone Spring	4837
30-025-44237	ConocoPhillips	Zia Hills 19 Federal Com #110H	G	F-19	11619	Wolfcamp	4912 (BHL)
30-025-45600	Mewbourne	Paduca 7 6 W1FC Federal Com #003H	G	F-7	12100	Wolfcamp	5145
30-025-44238	ConocoPhillips	Zia Hills 19 Federal Com #111H	G	F-19	11619	Wolfcamp	5200 (BHL)
30-015-43725	Mewbourne	Big Sinks 1 B2 PA Federal Com #003H	0	A-12	Plan: 10317	Bone Spring	5222
30-015-43800	Mewbourne	Big Sinks 1 W1PA Federal Com #002H	G	A-12	12065	Wolfcamp	5254
30-015-42694	Mewbourne	Big Sinks 1 A2 PA Federal Com #001H	0	A-12	8838	Bone Spring	5254
30-025-31016	Sahara	Conoco D Federal #004	0	F-18	4373	Delaware	5422



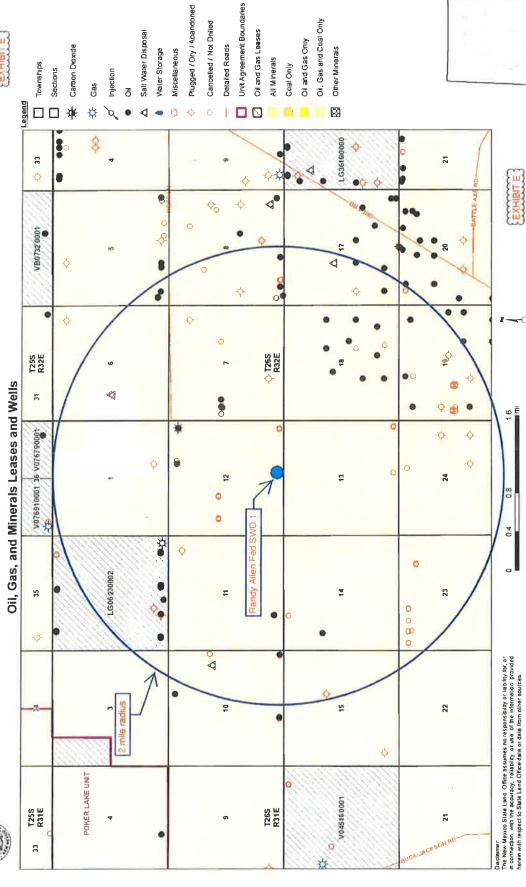




# RANDY ALLEN FED SWD 1 AREA OF REVIEW LEASES

Alignot Parts in Area of Review	Joseph	asco	laccoa of Borord	Operators (all shallower
Allydor raits in Alea of Neview	LCSSOI	רבמאב	ressee of necolu	than Devonian)
SESW 1-26s-31e	BLM	NMNM-089057	Devon	Devon
SWSE 1-26s-31e	fee	Big Sinks 1	Mewbourne	Mewbourne
NENE, S2NE4, & SE4 11-26s-31e	BLM	NMNM-089057	Devon	Devon
N2 12-26s-31e	BLM	NMNM-089057	Devon	Devon, Mewbourne
SE4 12-26s-31e	BLM	NMNM-120904	Chevron	N/A
SW4 12-26s-31e	BLM	NMLC-0064756	Penroc	Mewbourne
NE4 13-26s-31e	BLM	NMNM-120904	Chevron	ConocoPhillips
NW4 & S2 13-26s-31e	BLM	NMLC-0064756	Penroc	ConocoPhillips
NE4, N2SE4, & SESE 14-26s-31e	BLM	NMLC-0064756	Penroc	ConocoPhillips
NWNW & S2NW4 7-26s-32e	BLM	NMNM-128929	Occidental Permian	Mewbourne
SWSE 7-26s-32e	BLM	NMNM-120910	500	N/A
SW4 7-26s-32e	BLM	NMNM-0392082A	Magnum Hunter	ConocoPhillips
NWNE, NW4, N2SW4, & SWSW 18-26s-32e	BLM	NMLC-0062749C	ConocoPhillips	ConocoPhillips, Sahara





Map Created: 4/7/2019

0.5

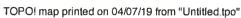
Data perfaming to New Mexico State Tout Lands are provisional and subject to revision, and do not constitute an official record of title. Official records may be revewed at the New Mexico Scale Land Office in Sama Fe, New Mexico.

# PRODUCED WATER SAMPLES FROM T. 26 S., R. 31 E. (in mg/l)

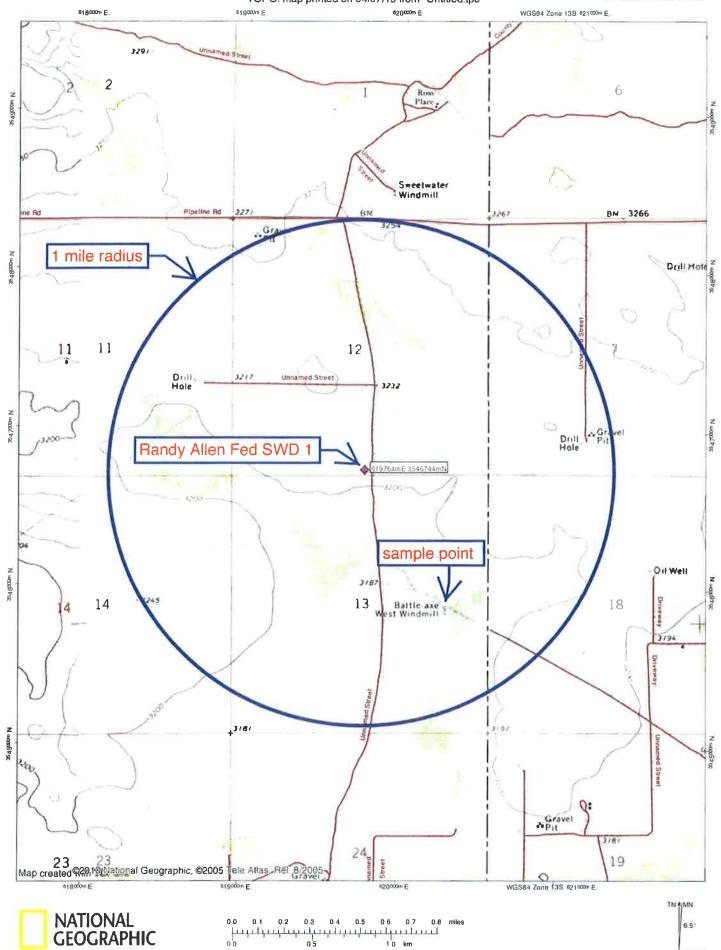
Section		II.	Formation	TDS	Sodium	Calcium	Iron	Magnesium	Chloride	Sulfate
2 M AVALON UPPER		AVALON UPPER		223019	76002	10438	210	1922	131072	632
2 N AVALON UPPER		AVALON UPPER		162560	57137	3886	42	776	97161	756
2 O AVALON UPPER		AVALON UPPER		179789	71576	617	22	110	101374	0
2 O AVALON UPPER		AVALON UPPER		179938	71576	617	22	110	101374	844
10 B AVALON UPPER		AVALON UPPER		199639	68948	7560	111	1523	118195	0
10 B AVALON UPPER		AVALON UPPER		209352	06002	7327	203	1557	127230	009
11 N AVALON UPPER		AVALON UPPER		225190	77011	8744	989	1649	134075	0
11 N AVALON UPPER	AVALON UPPER			196577	26289	5059	12	1066	118943	872
11 N AVALON TOPPER	AVALON		, ,	203079	72261	4407	112	904	122172	658
10 N BONE SPRING 2ND SAND	BONE SPRIN	BONE SPRING 2ND SAND		152439	48496	6731	29	801	94055	0
10 P BONE SPRING 2ND SAND	BONE SPRIN	BONE SPRING 2ND SAND		138162	44459	6281	30	781	84470	0
10 P BONE SPRING 2ND SAND	BONE SPRIN	BONE SPRING 2ND SAND		138376	44459	6281	30	781	84470	618
2 N BONE SPRING 3RD SAND	BONE SPRIN 3RD SAND	BONE SPRING 3RD SAND		94966	31353	3679	32	484	57490	0
2 N BONE SPRING 3RD SAND	BONE SPRIN	BONE SPRING 3RD SAND		94518	30032	3403	20	439	58782	355
2 N BONE SPRING 3RD SAND	BONE SPRIN 3RD SAND	BONE SPRING 3RD SAND		94864	30225	3424	15	444	59015	365

# PRODUCED WATER SAMPLES FROM T. 26 S., R. 31 E. (in mg/l)

API	Section	UL	Formation	TDS	Sodium	Calcium	Iron	Magnesium	Chloride	Sulfate
500454343	۲	Z	BONE SPRING	00000	10771	2441	10	757	2000	000
2001242113	7	2	3RD SAND	60716	17/07	3441	7.0	45/	/0600	976
3001505886	26	0	DELAWARE	212112					132100	425
3001542688	2	Ь	WOLFCAMP	81366	26319	2687	56	327	50281	400









04/07/19



# 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) (N

(NAD83 UTM in meters) (In feet)

		POD				_									
		Sub-		Q	_	_									Vater
POD Number	Code	basin	County	64	16	4	Sec	Tws	Rng	X	Y	DistanceDe	pthWellDep	th Water Co	olumn
<u>C 02090</u>		С	ED		4	4	01	26S	31E	620329	3548533*	1876	350	335	15
C 04209 POD2		С	LE	2	3	3	06	26S	32E	620818	3548657	2184	340	155	185
C 04209 POD1		CUB	LE	2	3	3	06	26S	32E	620903	3548619	2194	360	155	205
C 03554 POD1		CUB	ED	2	I	4	01	26S	31E	620547	3549148	2529	630	300	330
C 03639 POD1		CUB	ED	3	4	2	01	26S	3IE	620168	3549279	2567	700	365	335
C 04256 POD1		С	ED	4	4	2	01	26S	31E	620384	3549257	2588	666	340	326
<u>C 03829 POD1</u>		CUB	LE	3	3	l	06	26S	32E	620628	3549186	2590	646	350	296

Average Depth to Water:

285 feet

Minimum Depth:

155 feet

Maximum Depth:

365 feet

Record Count: 7

UTMNAD83 Radius Search (in meters):

Easting (X): 619764 Northing (Y): 3546744

Radius: 3220

# \*UTM location was derived from PLSS - see Help

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.

4/7/19 1:08 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

# **Analytical Report**

Lab Order 1903306

Date Reported: 3/21/2019

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Permits West

Matador Allen and Hammock

Project:

Client Sample ID: Sec 13 Tank Collection Date: 3/6/2019 11:13:00 AM

Lab ID: 1903306-001 Matrix: AQUEOUS Received Date: 3/7/2019 9:40:00 AM

Analyses	Result	RL Qu	ıal Units	DF	Date Analyzed	Batch
EPA METHOD 1664B					Analys	nle.
N-Hexane Extractable Material	ND	11.2	mg/L	1	3/11/2019 9:16:00 AM	43604
EPA METHOD 300.0: ANIONS					Analys	: MRA
Chloride	16	0.50	mg/L	1	3/7/2019 4:04:04 PM	R58208
SM2540C MOD: TOTAL DISSOLVED SOLIDS					Analys	: KS
Total Dissolved Solids	383	20.0	mg/L	1	3/13/2019 6:02:00 PM	43630

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Н
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 4 j
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

# **QC SUMMARY REPORT**

# WO#:

21-Mar-19

# Hall Environmental Analysis Laboratory, Inc.

Client:

Permits West

Project:

Matador Allen and Hammock

Sample ID: MB-43604

SampType: MBLK

TestCode: EPA Method 1664B

Batch ID: 43604

RunNo: 58295

Client ID: PBW Prep Date:

Analysis Date: 3/11/2019 3/11/2019

SeqNo: 1955297

Units: mg/L

Analyte

Result

SPK value SPK Ref Val %REC

LowLimit

TestCode: EPA Method 1664B

HighLimit

**RPDLimit** 

Qual

N-Hexane Extractable Material

Sample ID: LCS-43604

ND 10.0

SampType: LCS Batch ID: 43604

**PQL** 

RunNo: 58295

Client ID: LCSW Prep Date: 3/11/2019

Units: mg/L

Analyte

Analysis Date: 3/11/2019

SeqNo: 1955298

Qual

N-Hexane Extractable Material

%REC

78

LowLimit

114

Result 32.2 PQL 10.0

40.00

SPK value SPK Ref Val

0

80.5

%RPD

HighLimit

**RPDLimit** 

%RPD

**Qualifiers:** 

D

Н

- Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix

- ND Not Detected at the Reporting Limit
- Practical Quanitative Limit % Recovery outside of range due to dilution or matrix S

Holding times for preparation or analysis exceeded

Value above quantitation range

Analyte detected below quantitation limits J

Sample pH Not In Range

В

E

RL Reporting Detection Limit Sample container temperature is out of limit as specified

Analyte detected in the associated Method Blank

- Page 2 of 4

# **QC SUMMARY REPORT**

# Hall Environmental Analysis Laboratory, Inc.

21-Mar-19

Client:

Permits West

Project:

Matador Allen and Hammock

Sample ID: MB

SampType: mblk

TestCode: EPA Method 300.0: Anions

LowLimit

**PBW** 

Batch ID: R58208

**PQL** 

RunNo: 58208

Client ID: Prep Date:

Analysis Date: 3/7/2019

SeqNo: 1952228

Units: mg/L

%RPD

Analyte

Result

SPK value SPK Ref Val %REC HighLimit

**RPDLimit** 

Qual

Chloride

ND 0.50

Sample ID: LCS

SampType: Ics

TestCode: EPA Method 300.0: Anions

Client ID: LCSW

Batch ID: R58208

RunNo: 58208

Prep Date:

Analysis Date: 3/7/2019

SeqNo: 1952229

Units: mg/L

Analyte

SPK value SPK Ref Val %REC

LowLimit

HighLimit

%RPD **RPDLimit** 

Qual

Chloride

PQL 4.7 0.50

5.000

94.8

90

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

Holding times for preparation or analysis exceeded 1-1

ND Not Detected at the Reporting Limit

Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank В

E Value above quantitation range

Analyte detected below quantitation limits J

p Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Page 3 of 4

# **QC SUMMARY REPORT**

# WO#: 1903306

# Hall Environmental Analysis Laboratory, Inc.

21-Mar-19

Client:

Permits West

Project:

Matador Allen and Hammock

Sample ID: MB-43630

SampType: MBLK

TestCode: SM2540C MOD: Total Dissolved Solids

Batch ID: 43630

RunNo: 58346

Client ID: PBW

Prep Date: 3/12/2019

Analysis Date: 3/13/2019

SeqNo: 1957077

Units: mg/L

Analyte

Result PQL SPK value SPK Ref Val

%REC

LowLimit HighLimit

%RPD **RPDLimit** 

Qual

**Total Dissolved Solids** 

ND 20.0

Sample ID: LCS-43630

SampType: LCS

RunNo: 58346

TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW

Batch ID: 43630 3/12/2019

Result

1010

Units: mg/L

Prep Date: Analyte

Analysis Date: 3/13/2019

SeqNo: 1957078

**RPDLimit** 

Qual

PQL

%REC 101

LowLimit 80 HighLimit

%RPD

Total Dissolved Solids

20.0

1000

SPK value SPK Ref Val

0

120

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded Н

Not Detected at the Reporting Limit ND

Practical Quanitative Limit PQL.

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

þ Sample pH Not In Range

RLReporting Detection Limit

Sample container temperature is out of limit as specified

Page 4 of 4



### Longwood Water Management Company, LLC

One Lincoln Centre • 5400 LBJ Freeway • Suite 1500 • Dallas, Texas 75240 Voice 972.371.5200 • Fax 972.371.5201 jharrington@matadorresources.com

Jake Harrington Geologist

April 9, 2019

NM Oil Conservation Division 1220 S. St. Francis Dr. Santa Fe, NM 87505

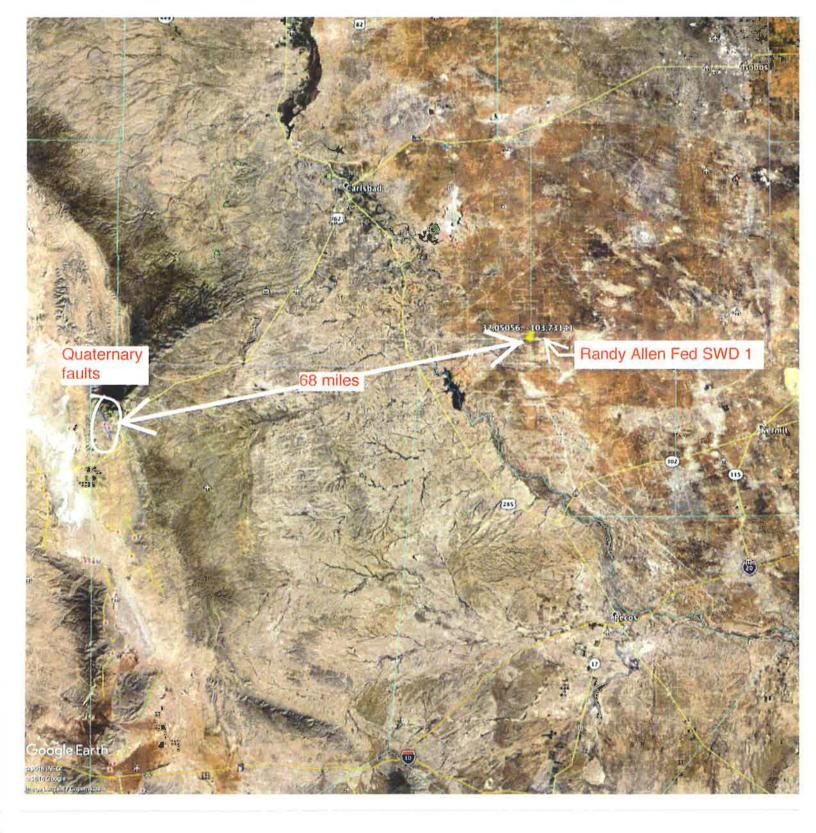
> Re: Geology Statement Randy Allen Fed SWD #1 Section 12, T. 26S, R. 31E Eddy County, New Mexico

To whom it may concern:

Available geologic and engineering data related to the proposed Well have been thoroughly reviewed, and no evidence for a hydrological connection between the proposed deep Devonian injection zone, located at approximately 16,883 ft., and any underground sources of drinking water has been found.

Sincerely, Longwood Water Management Company, LLC

Jake Harrington



# CURRENT-ARGUS



#### AFFIDAVIT OF PUBLICATION

Ad No. 0001278510

PERMITS WEST, INC. 37 VERANO LOOP

SANTA FE NM 87508

I, a legal clerk 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:

02/27/19

Legal Clerk

Subscribed and sworn before me this 27th of February 2019.

State of WI, County of Brown

My Commission Expires

Longwood Water Management Company, LLC is applying to drill the Randy Allen Fed SWD 1 as a saltwater disposal well. The well is staked at 133' FSL & 2588' FEL Sec. 12, T. 26 S., R. 31 E., Eddy County. This is 23 miles southeast of Malaga, NM and 18 miles northeast of Orla, TX. Disposal will be in the Devonian from 16,883' to 17,863'. Maximum injection pressure will be 3,376 psi. Maximum disposal rate will be 45,000 bwpd. Interested parties must file objections or requests for hearing with the NM Oil Conservation Division, 1220 South Saint Francis Dr., Santa Fe, NM 87505 within 15 days. Additional information can be obtained by contacting: Brian Wood, Permits West, Inc., 37 Verano Loop, Santa Fe, NM 87508. Phone number is (505) 466-8120.

Pub: February 27, 2019 #1278510







April 16, 2019

BLM 620 E. Greene Carlsbad NM 88220

#### TYPICAL LETTER

Longwood Water Management Company, LLC is applying (see attached application) to drill the Randy Allen Fed SWD 1 well as a saltwater disposal well. As required by NM Oil Conservation Division (NMOCD) rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

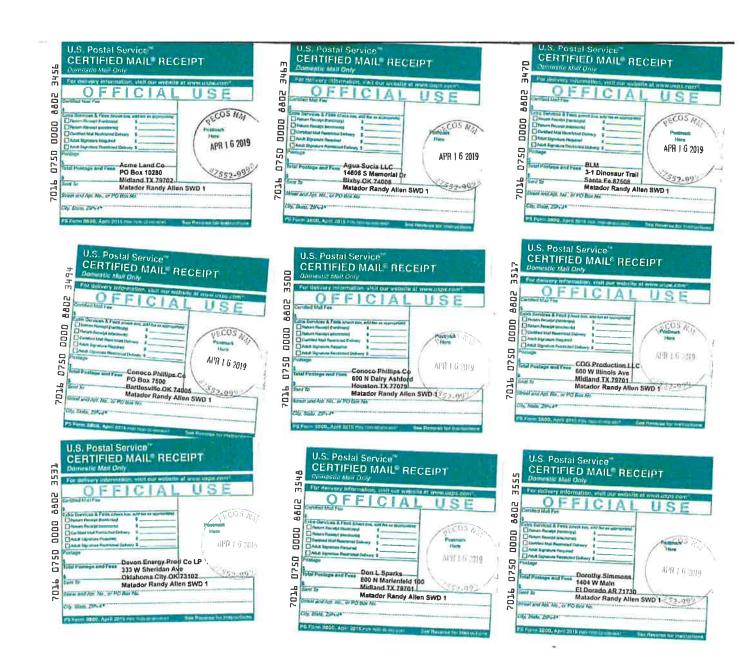
<u>Well Name:</u> Randy Allen Fed SWD 1 (BLM surface & lease) <u>TD</u> = 17,863' <u>Proposed Disposal Zone:</u> Devonian (from 16,883' to 17,863') <u>Location:</u> 133' FSL & 2588' FEL Sec. 12, T. 26 S., R. 31 E., Eddy County, NM <u>Approximate Location:</u> 23 miles southeast of Malaga, NM <u>Applicant:</u> Longwood Water Management Company, LLC (972) 371-5420 <u>Applicant's Address:</u> 5400 LBJ Freeway, Suite 1500, Dallas TX 75240

<u>Submittal Information:</u> Application for a saltwater disposal well will be filed with the NMOCD. If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. NMOCD address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Phone is (505) 476-3440.

Please call me if you have any questions.

Brian Wood

Sincerely.





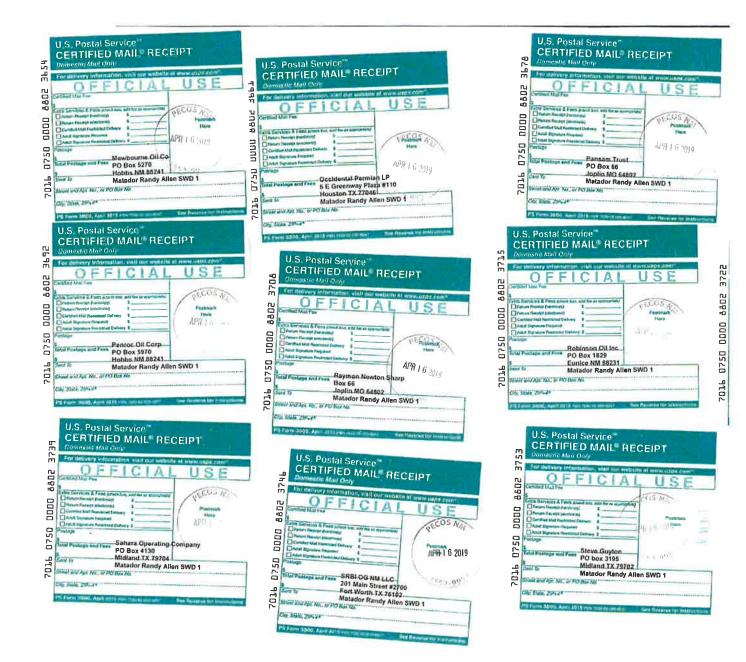


















.

## STATE OF NEW MEXICO DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES OIL CONSERVATION DIVISION

APPLICATION OF LONGWOOD WATER MANAGEMENT COMPANY, LLC FOR AUTHORIZATION TO INJECT INTO THE RANDY ALLEN FEDERAL SWD No. 1 WELL FOR PURPOSES OF DISPOSAL, EDDY COUNTY, NEW MEXICO.

**CASE NO. 20484** 

#### **AFFIDAVIT**

STATE OF NEW MEXICO	)
	) ss.
COUNTY OF SANTA FE	)

Adam G. Rankin, attorney in fact and authorized representative of Longwood Water Management Company, LLC, the Applicant herein, being first duly sworn, upon oath, states that the above-referenced Application has been provided under the notice letters and proof of receipts attached hereto.

Adam G. Rankin

SUBSCRIBED AND SWORN to before me this 12th day of June, 2019 by Adam G. Rankin.

My Commission Expires:

otary Public

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. B
Submitted by: Longwood Water Mngt Co. LLC
Hearing Date: June 13, 2019
Case No 20484



Adam G. Rankin Phone (505) 988-4421 Fax (505) 983-6043 agrankin@hollandhart.com

April 22, 2019

## VIA CERTIFIED MAIL CERTIFIED RECEIPT REQUESTED

TO: AFFECTED PARTIES

Re:

Application of Longwood Water Management Company, LLC For Authorization to Inject into the Randy Allen Federal SWD No. 1 Well For

Purposes of Disposal, Eddy County, New Mexico.

Randy Allen Federal SWD No. 1 Well

Ladies & Gentlemen:

This letter is to advise you that Longwood Water Management Company, LLC has filed the enclosed application with the New Mexico Oil Conservation Division. A hearing has been requested before a Division Examiner on June 13, 2019 and the status of the hearing can be monitored through the Division's website at <a href="http://www.emnrd.state.nm.us/ocd/">http://www.emnrd.state.nm.us/ocd/</a>. Division hearings will commence at 8:15 a.m. in Porter Hall at the Oil Conservation Division's Santa Fe Offices located at 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505. You are not required to attend this hearing, but as an owner of an interest that may be affected by this application, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from challenging the matter at a later date.

Parties appearing in cases are required by Division Rule 19.15.4.13.B to file a Pre-hearing Statement four business days in advance of a scheduled hearing. This statement must be filed at the Division's Santa Fe office at the above specified address and should include: the names of the parties and their attorneys; a concise statement of the case; the names of all witnesses the party will call to testify at the hearing; the approximate time the party will need to present its case; and identification of any procedural matters that are to be resolved prior to the hearing.

If you have any questions about this matter please contact Tara Flume at (972) 629-2129 or tflume@matadorresources.com.

Sincerely.

dam G. Rankin

ATTORNEY FOR LONGWOOD WATER MANAGEMENT COMPANY, LLC



#### **Shipment Confirmation Acceptance Notice**

#### Mailer Action

Note to Mailer: The labels and volume associated to this form online, must match the labeled packages being presented to the USPS® employee with this form.

Longwood Water Management Randy Allen Fed SWD No. 1 CM#

Shipment Date:	04/19/2019	
Shipped From:		
Name:	HOLLAND & HART LLP	
Address:	110 N GUADALUPE ST # 1	
City:	SANTA FE	

ZIP+4® 87501

State: NM

Type of Mail	Volume
Priority Mail Express®*	
Priority Mail®	0
First-Class Package Service®	
Returns	
International*	
Other	11
Total	11

<sup>\*</sup>Start time for products with service guarantees will begin when mail arrives at the local Post Office™ and items receive individual processing and acceptance scans.

#### B. USPS Action

- Note to RSS Clerk:
  1. Home screen > Mailing/Shipping > More
  2. Select Shipment Confirm
- Scan or enter the barcode/label number from PS Form 5630
- Confirm the volume count message by selecting Yes or No
   Select Pay and End Visit to complete transaction

USPS EMPLOYEE: Please scan upon pickup or receipt of mail. Leave form with customer or in customer's mail receptacle.

USPS SCAN AT ACCEPTANCE

9275 0901 1935 6200 0013 9947 08

- 60
2
(I)
$\overline{}$
0
=
g
ᆂ
⊑
_
=
0
()
$\sim$
$\sim$
4
-
_
ō
ı۲
щ
-
ook
0
×
O
m
ш
-
0
-=
=
=
-10
5
_
7
.=
iπ
_

	(6)
UNITED STATES	POSTAL SERVICE
1	

POSTAL SERVICE®							正	Firm Mailing Book For Accountable Mail	lling E	<b>3ook</b>	For A	1000	intabl	e Mai	_
Name and Address of Sender	Check type of mail or service														
Holland & Hart I I P	☐ Adult Signature Required	☐ Priority Mail Express													
110 N Guadalupe St # 1	re Restricted Delivery	☐ Registered Mail	Affi	Affix Stamp Here	) Here										
Santa Fe NM 87501	<ul><li>X Certified Mail</li><li>□ Certified Mail Restricted Delivery</li></ul>	☐ Return Receipt for Merchandise	(if is. certi	sued as a ficate of n	(if issued as an international certificate of mailing or for	onal or									
			addii <b>Pos</b> i	tional cop <b>tmark wi</b> i	additional copies of this receipt).  Postmark with Date of Receipt.	receipt). Receipt.									
	Priority Mail	Signature Confirmation Restricted Delivery													
USPS Tracking/Article Number	Addressee (Name, Street, City, S	State, & ZIP Code™)	Postage	(Extra Service) Fee	Handling Charge	Actual Value I	Insured Value S	Due Sender if COD	ASR A Fee	ASRD F	RD RR Fee Fee	SC Fee	SCRD	Fee Fee	
1. 9214 8901 9403 8381 9174 70	Devon Energy Production Company LP 333 W Sheridan Ave Oklahoma	Ave Oklahoma	0.95	3.50							1.60	0.0			1
	City OK 73102-5010										8		_		_
					ən										
2. 9214 8901 9403 8381 9174 87	Mewbourne Oil Company PO BOX 5270 Hobbs NM 88241	41	0.95	3.50	SV.						1.60	0	_		_
					rri 00								γıə		
					00'					1	+	4	ΛĮ		-1
3. 9214 8901 9403 8381 9174 94	XTO Holdings LLC 22777 Springwood Village Pkwy Spring TX	ing TX	96"0	3.50	09					10/	1.60	0	90		_
	77389-1425				\$ -				р	VII:					
					197				91i		-	uoi			_
4. 9214 8901 9403 8381 9175 00	Bureau of Land Management 301 Dinosaur Trail Santa F	Fe NM 87508	0.95	3.50	o p				nЬ				-	δι	1
					UE		_		9 9 1			_		tilk	
					s pa				91	nse	ec De	_		านธ	
5. 9214 8901 9403 8381 9175 17	Conoco Phillips Company 600 N Dairy Ashford Houston	97077 XT	0.95	3.50	918				nie	$\perp$		+	+	HI	-
					ļsļ				u£					si:	_
					ßә				ìIS		115			000	
					Я				31		-	-		ls	_
6. 9214 8901 9403 8381 9175 24	Agua Sucia LLC 14605 S Memorial Dr Bixby OK 74008-3	3767	0.95	3.50	Н				n()		1.60				
					- 0				V	5 71					_
					Sie					np			uje		_
7. 9214 8901 9403 8381 9175 31	EOG Resources Inc 1111 Bagby Sky Lobby 2 Houston T	TX 77002	0.95	3.50	40					2	1.60		μБ		_
					Б							_	S		
					niib										
8. 9214 8901 9403 8381 9175 48	Penroc Oil Corp PO BOX 5970 Hobbs NM 88241-5970		0.95	3.50	nsH						1.60	0			
ieces	Postmaster, Per (Name of receiving employee)	iving employee)										-			-1
Listed by Sender Received at Post Office															

PS Form **3877**, April 2015 (Page 1 of 2)

Complete in Ink

Privacy Notice: For more information on USPS privacy policies, visit usps.com/privacypolicy.

Mail
table
coun
For A
Book
Mailing
Firm

	@
UNITED STATES	POSTAL SERVICE
B	

Name and Address of Seriae	-vice													
Holland & Hart LLP 110 N Guadalupe St # 1 Santa Fe NM 87501	□ Adult Signature Required	Affix (if iss certification addition addition addition and the contraction addition and the contraction are additional ad	Affix Stamp Here (if issued as an internoctificate of mailing o additional copies of the Postmark with Date	Affix Stamp Here (if issued as an international certificate of mailing or for additional copies of this receipt). Postmark with Date of Receip	Affix Stamp Here (if issued as an international certificate of mailing or for additional copies of this receipt). Postmark with Date of Receipt.									
USPS Tracking/Article Number	Addressee (Name, Street, City, State, & ZIP Code <sup>™</sup> )	Postage	(Extra Service) Fee	Handling Charge	Actual Value I	Insured Value S	Due Sender if COD	ASR A: Fee F	ASRD RD Fee Fee	e Fee	SC	SCRD	SH	r -
9. 9214 8901 9403 8381 9175 55	Saga Petroleum LTD 200 N Loraine Street #1300 Midland TX	96:0	3.50							1.60	L			1
	79701-4779									ń.				
				Ð										
				nje			-							
10. 9214 8901 9403 8381 9175 62	Occidental Permian LP 5 E Greenway Plaza #110 Houston TX	0.95	3.50	e V						1.60	_			_
	77046-0521			H								1		
				000								Yer		_
11, 9214 8901 9403 8381 9175 79	Sahara Operating Company PO BOX 4130 Midland TX 79704	0.95	3.50	09					19	1.60		[Đ(		
				\$					Λ1[			J F		_
				197				1.60	эg		ПО	91;		_
				0				+	+	+	+	) (JI)	Б	-
				ou						_	11	50	aill	_
				e p						906		Я	pui	_
				10,				_		-	-1	ЦĊ	타	-0
				915						e):	) 8,	ite	ls	
				si B								ш	isə	
				9 H								iju	ds	_
				Ħ							015	co		_
				· ə				_	2 11			9,1		
				g i g					np			nje		_
				40								Πß		1
				) Б								!S		
				nill										
				out					+	+		ļ		-
				eH.										
Total Number of Discess Total Number of Discess	Danton and a sound In a contract of the contra					1		1	4			_		_
Listed by Sender Received at Post Office	Posunastel, Fel (ivame of fecelung employee)													
PS Form <b>3877</b> , April 2015 (Page 2 of 2)	Complete in Ink	acy Notic	e: For i	nore inf	Privacy Notice: For more information on USPS privacy policies, visit usps. com/privacypolicy.	USPS	Drivac	policie	s. visit	sasn	com/i	rivac	voolics	100
				100		1		L		,				



#### Return address:

HOLLAND & HART LLP P.O. BOX 2208 SANTA FE, NM 87504-2208

#### Recipient address:

BUREAU OF LAND MANAGEMENT 301 DINOSAUR TRAIL SANTA FE NM 87508

USPS CERTIFIED MAIL



9214 8901 9403 8381 9175 00

USPS Tracking Label Number: 9214 8901 9403 8381 9175 00

<b>USPS Tracking History</b>	<b>Postal Facility</b>	ZIP	Date	Time
PRE-SHIPMENT INFO SENT USPS AWAITS ITEM		SANTA FE,NM 875	501	04/19/2019 13:06
SHIPMENT RECEIVED ACCEPTANCE PENDING		SANTA FE,NM 875	501	04/22/2019 16:47
ORIGIN ACCEPTANCE		SANTA FE,NM 875	501	04/22/2019 19:45
PROCESSED THROUGH USPS FACILITY		ALBUQUERQUE,N	IM 87101	04/22/2019 21:00
DEPART USPS FACILITY		ALBUQUERQUE,N	IM 87101	04/22/2019 21:25
PROCESSED THROUGH USPS FACILITY		ALBUQUERQUE,N	IM 87101	04/23/2019 18:15

**ORIGIN ACCEPTANCE:** 



## PROOF OF ACCEPTANCE (ELECTRONIC)

PRODUCED DATE: 06/07/2019

**HOLLAND & HART LLP:** 

The following is information for Certified Mail™/RRE item number: 9214 8901 9403 8381 9175 17

Our records indicate that this item was accepted by the USPS at: ORIGIN ACCEPTANCE SANTA FE,NM 87501 04/22/2019

ORIGINAL INTENDED RECIPIENT: CONOCO PHILLIPS COMPANY 600 N DAIRY ASHFORD HOUSTON TX 77079

The above information represents information provided by the United States Postal Service.



#### Return address:

HOLLAND & HART LLP P.O. BOX 2208 SANTA FE, NM 87504-2208

#### Recipient address:

CONOCO PHILLIPS COMPANY 600 N DAIRY ASHFORD HOUSTON TX 77079

**USPS CERTIFIED MAIL** 



9214 8901 9403 8381 9175 17

USPS Tracking Label Number: 9214 8901 9403 8381 9175 17

USPS Tracking History	<b>Postal Facility</b>	ZIP	Date	Time
PRE-SHIPMENT INFO SENT USPS AWAITS ITEM		SANTA FE,NM 875	501	04/19/2019 13:06
SHIPMENT RECEIVED ACCEPTANCE PENDING		SANTA FE,NM 875	601	04/22/2019 16:47
ORIGIN ACCEPTANCE		SANTA FE,NM 875	501	04/22/2019 19:45
PROCESSED THROUGH USPS FACILITY		ALBUQUERQUE,N	M 87101	04/22/2019 21:00
DEPART USPS FACILITY		ALBUQUERQUE,N	M 87101	04/22/2019 21:25
PROCESSED THROUGH USPS FACILITY		NORTH HOUSTON	I,TX 77315	04/24/2019 12:49
PROCESSED THROUGH USPS FACILITY		ALBUQUERQUE,N	M 87101	04/26/2019 13:48
PROCESSED THROUGH USPS FACILITY		NORTH HOUSTON	I,TX 77315	04/28/2019 11:45
PROCESSED THROUGH USPS FACILITY		NORTH HOUSTON	I,TX 77315	04/29/2019 18:15
PROCESSED THROUGH USPS FACILITY		ALBUQUERQUE,N	M 87101	05/01/2019 13:48
PROCESSED THROUGH USPS FACILITY		NORTH HOUSTON	I,TX 77315	05/03/2019 11:10

**ORIGIN ACCEPTANCE:** 

# POSTAL DELIVERY REPORT RANDY ALLEN CASE NO. 20484

Recipient	Status	Custom
Devon Energy Production Company LP 333 W Sheridan Ave		Ref#: C1336919.7544219
Oklahoma City OK 73102-5010	Delivered Signature Received	RetRef#:
		Ref#: C1336919.7544220
Mewbourne Oil Company PO BOX 5270 Hobbs NM 88241	Delivered Signature Received	RetRef#:
XTO Holdings LLC 22777 Springwood Village Pkwy Spring TX		Ref#: C1336919.7544221
77389-1425	Delivered Signature Received	RetRef#:
Bureau of Land Management 301 Dinosaur Trail Santa Fe		Ref#: C1336919.7544222
NM 87508	In-Transit	RetRef#:
Conoco Phillips Company 600 N Dairy Ashford Houston TX		Ref#: C1336919.7544223
97077	In-Transit	RetRef#:
		Ref#: C1336919.7544224
Agua Sucia LLC 14605 S Memorial Dr Bixby OK 74008-3767	In-Transit	RetRef#:
EOG Resources Inc 1111 Bagby Sky Lobby 2 Houston TX		Ref#: C1336919.7544225
77002	Delivered Signature Received	RetRef#:
		Ref#: C1336919.7544226
Penroc Oil Corp PO BOX 5970 Hobbs NM 88241-5970	Delivered Signature Received	RetRef#:
Saga Petroleum LTD 200 N Loraine Street #1300 Midland TX		Ref#: C1336919.7544227
79701-4779	In-Transit	RetRef#:
Occidental Permian LP 5 E Greenway Plaza #110 Houston TX		Ref#: C1336919.7544228
77046-0521	Delivered Signature Received	RetRef#:
		Ref#: C1336919.7544229
Sahara Operating Company PO BOX 4130 Midland TX 79704	Delivered Signature Received	RetRef#:

# CURRENT-ARGUS

#### AFFIDAVIT OF PUBLICATION

Ad No. 0001284559

HOLLAND & HART PO BOX 2208

SANTA FE NM 87504

I, a legal clerk 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:

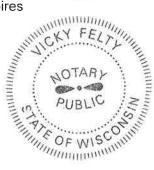
04/30/19

Subscribed and sworn before me this 30th of April 2019.

State of WI, County of Brown

My Commission Expires

Ad#:0001284559 P O : 0001284559 # of Affidavits :0.00



#### STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOU CES DEPARTMENT OIL CONSERVATION DIVISION SANTA FE, NEW MEXICO

The State of New Mexico through its Oil Conservation Division hereby gives notice pursuant to law and the Rules and Regulations of the Division of the following public hearing to be held at 8:15 A.M. on **June 13, 2019** in the Oil Conservation Division Hearing Room at 1220 South St. Francis, Santa Fe, New Mexico, before an examiner duly appoint for the hearing. If you are an individual with a disability who is in need of a reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing, please contact: Florene Davidson at 505-476-3458 or through the New Mexico Relay Network, 1-800-659-1779 by June 3, 2019. Public documents, including the agenda and minutes, can be provided in various accessible forms. Please contact Florene Davidson if a summary or other type of accessible form is needed.

> STATE OF NEW MEXICO TO: All named parties and persons having any right, title, interest or claim in the following case and notice to the public.

(NOTE: All land descriptions herein refer to the New Mexico Principal Meridian whether or not so stated.)

To:All affected parties, including: Devon Ener gy Production Company, LP; Mewbourne Oil Company; XTO Holdings, LLC; Bureau of Lan Management; Conoco Phillips Company; Agu Sucia, LLC; EOG Resources, Inc.; Penroc Oi Corp.; Saga Petroleum, LTD; Occidental Permian, LP; Sahara Operating Company.

Case No. 20484: Application of Longwood Water Management Company, LLC For Authoriza tion to Inject into the Randy Allen Federal SWD No. 1 Well For Purposes of Disposal, Ec dy County, New Mexico. Applicant in the above-styled cause seeks an order authorizing it to drill and operate an injection well for purposes of disposing produced salt water to be named the Randy Allen Federal SWD No. 1 We (API No. 30-015-pending), to be located 133 feet from the south line and 2,588 feet from the east line (Unit O), Section 12, Township 26 South, Range 31 East, NMPM, Eddy County, New Mexico. Injection would be into the Devonian formation through an open-hole completion between 16,883 feet and 17,863 feet. Disposal fluid will be produced water from producing oil and gas wells in the area. Average disposal volume will be 40,000 bpd with a maximum of 45,000 bpd. Average injection pressure will be 2,500 psi with a maximum injec-

tion pressure of 3,376 psi. The subject well will be located approximately 21 miles southeast of Malaga, N.M. Fault-Slip Probability Assessment for the Randy Allen Federal SWD #1

Dr. Edmund L Frost III, Vice President—Geoscience

In order to minimize the potential risk of induced seismicity associated with deep waste water disposal,

Longwood Water Management Company, LLC ("LWMC") has undertaken a study to characterize the fault-slip

potential for the Randy Allen Federal SWD #1 in Eddy County, New Mexico. This document presents the results

of an eight well model, which investigates the impact of waste water injection at a rate of 40,000 bbl/day

until 2050 (Figure 1a, Table 1). This study utilizes a mix of public and proprietary data in conjunction with the

Stanford Center for Induced and Triggered Seismicity's (SCITS) Fault Slip Potential (FSP; Walsh et al., 2017) code

(table 2).

The model presented here interrogates the stability of a population of 500 stochastically oriented, and

located, faults. The orientations (strike, dip) of the model fault population are constrained by data from 26 re-

gional basement faults mapped by LWMC in the Randy Allen Federal SWD#1 area on a 48 mi<sup>2</sup> proprietary PSTM

3D seismic volume. A maximum horizontal stress orientation of N35°E. was taken from published regional stress

orientations (Lund Snee and Zoback 2018). Horizontal stress magnitudes were not modeled explicitly by LWMC,

instead the published Aø value of 0.52 (Lund Snee and Zoback 2018; Table 2) for southern Eddy County, New

Mexico was used, which implies a pure normal faulting environment.

The impact of high-rate injection in the eight-well case can be seen as a modest regional increase in pore

pressure with time (Figure 1b). At the Randy Allen Federal SWD #1, the model predicts a maximum reservoir

pressure increase of 209 psi by year 2050. At the modelled depth of 16,750 ft, this translates to a pore pressure

gradient increase of 0.012 psi/ft. Results of the geomechanical modeling show that all faults have a "distance to

failure" of greater than 650 psi; meaning that aquifer pore pressure would need to be increased by greater than

650 psi at a given fault plane to potentially induce failure. The results of the model case presented here are well

below this limit. Based on the simulation run by this study, the overall probability of fault slip is less than 10%

well into the future (2050), even with multiple high-volume injectors spaced roughly one mile apart. However,

caution still needs to be exercised to avoid injection near unstable features. In order to minimize risk, Matador

screens all of its SWD locations, including the Randy Allen Federal SWD #1, against its 3D seismic to avoid injec-

tion near faults:

BEFORE THE OIL CONSERVATION DIVISION

Case No 20484



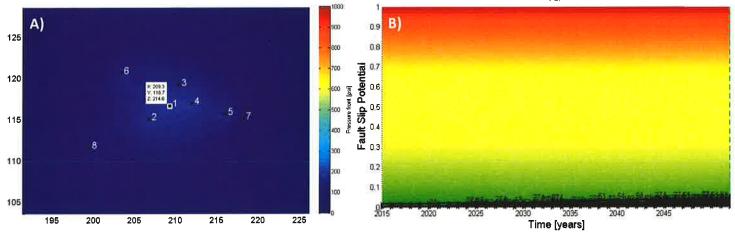


Figure 1: A) Modeled reservoir pressure for the eight-well case at year 2050. A maximum pressure of 209 psi is observed at Randy Allen Federal SWD #1. B) Fault slip potential (FSP) for the eight-well case. On all faults FSP remains below 10%. The green dashed line marks year 2050, the black lines and numbers denote the slip probability of individual faults.

#	Well Name	Modeled Volume (bbl/d)	Start	End
1	Randy Allen Federal SWD #1	40,000	2020	2050
2	Jack Hammack Federal SWD #1*	40,000	2020	2050
3	Paduca 6 SWD #1Y	40,000	2017	2047
4	Red Hills West SWD #2	40,000	2020	2050
5	Maelstrom Federal SWD #1	40,000	2020	2050
6	Poker Lake Unit Big Sinks 32 State SWD #11	40,000	2020	2050
7	Salado Draw SWD 13 #1	40,000	2015	2017
8	Brinninstool SWD #4	40,000	2020	2050

Table 1: Well Data for FSP Modeling. Well numbers correspond to wells in Figure 1.

<sup>\*</sup> The C-108 permit application for the Jack Hammack Federal SWD #1 has not yet been filed, but Longwood Water Management Company, LLC anticipates filing a permit application for this well in the near future and has included it in this analysis.

Parameter	Input Value	Variability (+/-)	Data Source
Vertical Stress Gradient	1.05 psi/ft	0.05 psi/ft	Pilot Hole
Shmax	N 35° E	5°	Pilot Hole
Fault Strike	variable	10°	3D Seismic
Fault Dip	variable	5°	3D Seismic
Reference Depth	13500 ft	na	Pilot Hole, 3D Seismic, Regional Mapping
Initial Reservoir Pressure Gradient	0.43 psi/ft	0.03 psi/ft	Pilot Hole
A Phi Parameter	0.52	0.03	Lund Snee and Zoback 2018
Reference Friction Coefficient	0.6	0.01	Standard Value
Aquifer Thickness	1000 ft	200	Pilot Hole, Regional Mapping
Porosity	6%	2%	Pilot Hole
Permeability	150 mD	100 mD	Pilot Hole, Step-Rate Tests
Fluid Density	1029 kg/m³	10 kg/m³	Assumed value
Dynamic Viscosity	0.0004 Pa. S	0.0001 Pa. S	Calculated value corrected for reservoir temperature

Table 2: Model Inputs, Variance, and Source.