Additional

Information

Updated C-108 with new WBD 11/30/20

RECEIVED:	REVIEWER:	TYPE:	APP NO:

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY



NEW MEXICO OIL CONSI	ERVATION DIVISION
- Geological & Engine	ering Bureau – 🔑 🙀 🔒
1220 South St. Francis Drive, S	anta Fe, NM 87505
ADMINISTRATIVE APPLIC	
THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE AF REGULATIONS WHICH REQUIRE PROCESSING ,	
Applicant: Longwood Water Management Company, LLC	OGRID Number: 328484
Well Name: Jack Hammack Fed SWD 1	API: 30-025-
Pool: SWD; Devonian	Pool Code: 96101
SUBMIT ACCURATE AND COMPLETE INFORMATION RE INDICATED	
1) TYPE OF APPLICATION: Check those which apply for A. Location – Spacing Unit – Simultaneous Dediction – NSL Space NSP (PROJECT AREA)	ation
B. Check one only for [1] or [1] [1] Commingling – Storage – Measurement DHC DTB PLC PC [11] Injection – Disposal – Pressure Increase – E WFX PMX SWD IPI 2) NOTIFICATION REQUIRED TO: Check those which approve the second of the second o	FOR OCD ONLY pply. Notice Complete Application Content Complete
3) CERTIFICATION: I hereby certify that the information administrative approval is accurate and complete understand that no action will be taken on this appropriations are submitted to the Division.	to the best of my knowledge. I also
Note: Statement must be completed by an individua	l with managerial and/or supervisory capacity.
	5-10-19
Brian Wood	Date
Print or Type Name	
	505 466-8120
15. Charl	Phone Number
	brian@permitswest.com
Signature	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? XXXYes No
II.	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
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: Jack Hammack Fed SWD 1 Devonian (96101)
V 11.	1. Proposed average and maximum daily rate and volume of fluids to be injected;
	 Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, 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: BRIAN WOOD TITLE: CONSULTANT
	SIGNATURE: DATE: MAY 8, 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:

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

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.

OPERATOR: LONGWOOD WATER MANAGEMENT COMPANY, LLC

INJECTION WELL DATA SHEET

P	15	26 S	31 E
IT LETTER	SECTION	TOWNSHIP	RANGE
			<u>A</u>
Cemented with: Top of Cement: Hole Size:17.5 Cemented with: 26	2100 sx. SURFACE Intermediate 5" & 12.25 00 & 2880 sx. RFACE	or Method Determined e Casing Casing Size: 13.3 or Method Determined	ft ³ I:ft ³ 75" & 9.625"ft ³
Cemented with: Top of Cement: Total Depth:	242 sx. 11,350' 16,913' Injection In	or Method Determined	: CBL ft ³
	Cemented with: Top of Cement: Hole Size:17.5 Cemented with: 26 Top of Cement: SU Hole Size: Cemented with: Top of Cement: Total Depth:	### WELL CO Surface Control Surface Surface Intermediate	WELL CONSTRUCTION DAT Surface Casing Hole Size: 26" Casing Size: 2 Cemented with: 2100 sx. or

INJECTION WELL DATA SHEET

Tubing Size: 5.5"	Lining Material: IPC
Type of Packer: STAINLESS STEEL &/OR	NICKEL
Packer Setting Depth: 16,813' - 16,913	<u> </u>
Other Type of Tubing/Casing Seal (if applicable	e):
Add	litional Data
1. Is this a new well drilled for injection?	No
If no, for what purpose was the well origin	ally drilled?
2. Name of the Injection Formation:DEVON	NIAN
3. Name of Field or Pool (if applicable):SV	VD; DEVONIAN (POOL CODE 96101)
 Has the well ever been perforated in any of intervals and give plugging detail, i.e. sack NO 	ther zone(s)? List all such perforated as of cement or plug(s) used.
5. Give the name and depths of any oil or gas injection zone in this area:	s zones underlying or overlying the proposed
OVER: DELAWARE (4,182'), BOY	NE SPRING (8,121'), WOLFCAMP (11,376')
UNDER: none	

LONGWOOD WATER MANAGEMENT COMPANY, LLC JACK HAMMACK FED SWD 1 133' FSL & 182' FEL SEC. 15, T. 26 S., R. 31 E., EDDY COUNTY, NM

- I. Goal is to drill a 17,893' deep commercial saltwater disposal well on BLM. Disposal interval will be 16,913' 17,893' 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-138865 Lease Size: 1,240 acres Lease Area: all Sec. 15 and E2, E2NW4, SWSW, & SW4 Sec. 22 T. 26 S., R 31 E.

 Well name and number: Jack Hammack Fed SWD 1
 - A. (2) Surface casing (20", 94 & 106.5#, J-55, BTC) will be set at 1,485' in a 26" hole and cemented to GL with 2,100 sacks (based on 50% OH excess).

Location: 133' FSL & 182' FEL Section 15, T. 26 S., R. 31 E.

First intermediate casing (13.375", 72#, P-110 HC, BTC) will be set at 4,232' in a 17.5" hole and cemented to GL with 2,600 sacks (based on 50% OH excess).

Second intermediate casing (9.625", 40#, P-110 HC, BTC) will be set at 11,850' in a 12.25" hole and cemented to GL with 2,880 sacks (based on 40% OH excess).

Production liner (7.625", 33.7#, P-110 HP, USS Liberty FJM) will be set from 11,350' to 16,913' in an 8.75" hole and cemented to 11,350' (CBL) with 242 sacks.

A 6.5" open hole will be drilled from 16,913' to 17,893'.



LONGWOOD WATER MANAGEMENT COMPANY, LLC JACK HAMMACK FED SWD 1 133' FSL & 182' FEL SEC. 15, T. 26 S., R. 31 E., EDDY COUNTY, NM

- A. (3) Tubing will be IPC lined, 5.5", 20#, P-110 IC, BTC. Setting depth will be \geq 16,813'. (Disposal interval will be 16,913' to 17,893'.)
- A. (4) A stainless steel and/or nickel packer will be set at \geq 16,813' (top of the open hole which will be at 16,913').
- 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 16,913' to 17,893'.
- 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, now or in the past, in the area of review and above the Devonian (16,903') are the Delaware (4,182') and Bone Spring (8,121'). 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 4 existing wells (1 oil + 3 P&A) and within a 1-mile radius. Deepest well within a mile is 10,661' TVD. Closest approved SWD; Devonian well (30-025-45469) is 2.50 miles away in M-8-26s-32e. Closest active SWD; Devonian well (30-025-43379) is 3.35 miles northeast in E-6-26s-32e. (Longwood has applied for a SWD; Devonian well (Randy Allen Fed SWD 1) 1.83 miles northeast in 0-12-26s-31e. Approvals are pending). Closest Devonian oil or gas well is >2.43 miles away.

All leases within a one-mile radius are BLM or NMSLO. 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 or NMSLO.



SEC. 15, T. 26 S., R. 31 E., EDDY COUNTY, NM

- VI. No Devonian penetrator is within a mile. Deepest existing or proposed well within a mile is 10,661'. That well bottomed in the Bone Spring.
- 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.
 - 3. Average injection pressure will be ≈2,500 psi
 Maximum injection pressure will be 3,382 psi (= 0.2 psi/foot x 16,913'
 (top of open hole)).
 - 4. Disposal water will be produced water, mainly from Bone Spring, Delaware, and Wolfcamp wells. There are 164 approved Bone Spring wells, 77 approved Delaware producers, and 95 approved Wolfcamp 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 3.35 miles northeast.

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

5. No Devonian production is within >2.43 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 and above the Rustler.



SEC. 15, T. 26 S., R. 31 E., EDDY COUNTY, NM

According to State Engineer records (Exhibit G), no water well is within 2 miles. However, a windmill not in the records was found 1.92 miles northeast 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 = 1460' Salado = 1926'Castile = 2347Lamar = 4153Bell Canyon = 4182' Cherry Canyon = 5128' Brushy Canyon = 6393' Bone Spring = 8121'Wolfcamp = 11376' Strawn = 13931'Atoka = 14052'Morrow = 15000'Barnett = 16259Mississippian limestone = 16450' Woodford shale = 16776' Devonian carbonate = 16903' disposal interval = 16913' - 17893' TD = 17883'(Montoya = 17903')

No water well is within a 2-mile radius according to State Engineer records (Exhibit G). A windmill not in the records was found 1.92 miles norheast and sampled on March 6, 2019. 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.

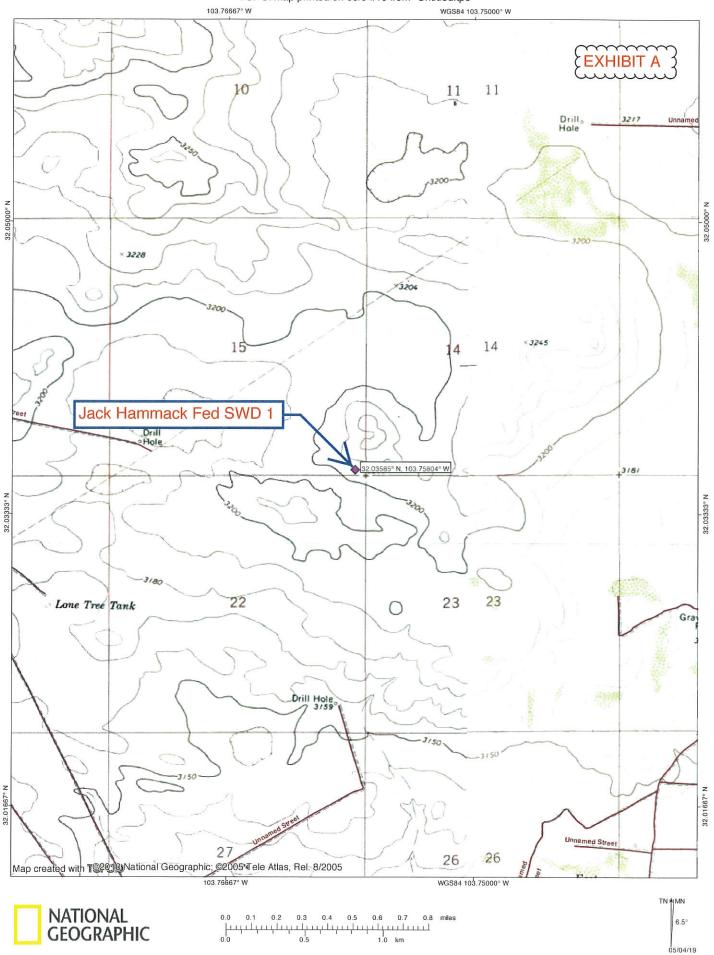


SEC. 15, T. 26 S., R. 31 E., EDDY COUNTY, NM

- X. GR log will be run from the third intermediate to TD.
- XI. One water well was found within 1.92 miles 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. There are 148 active Devonian SWD wells and 9 active Devonian water injection wells in New Mexico. Closest Quaternary fault is ≈ 66 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.



TOPO! map printed on 05/04/19 from "Untitled.tpo"



District I
1625 N French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aziec, 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

⁴Property Code

OGRID No.

328484

30-015-

¹API Number

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

⁵Property Name

JACK HAMMACK FED SWD

SOperator Name

LONGWOOD WATER MANAGEMENT COMPANY, LLC

²Pool Code

96101

EXHIBIT A

³Pool Name

SWD; Devonian

FORM C-102 Revised August 1, 2011

Submit one copy to appropriate

Well Number

1

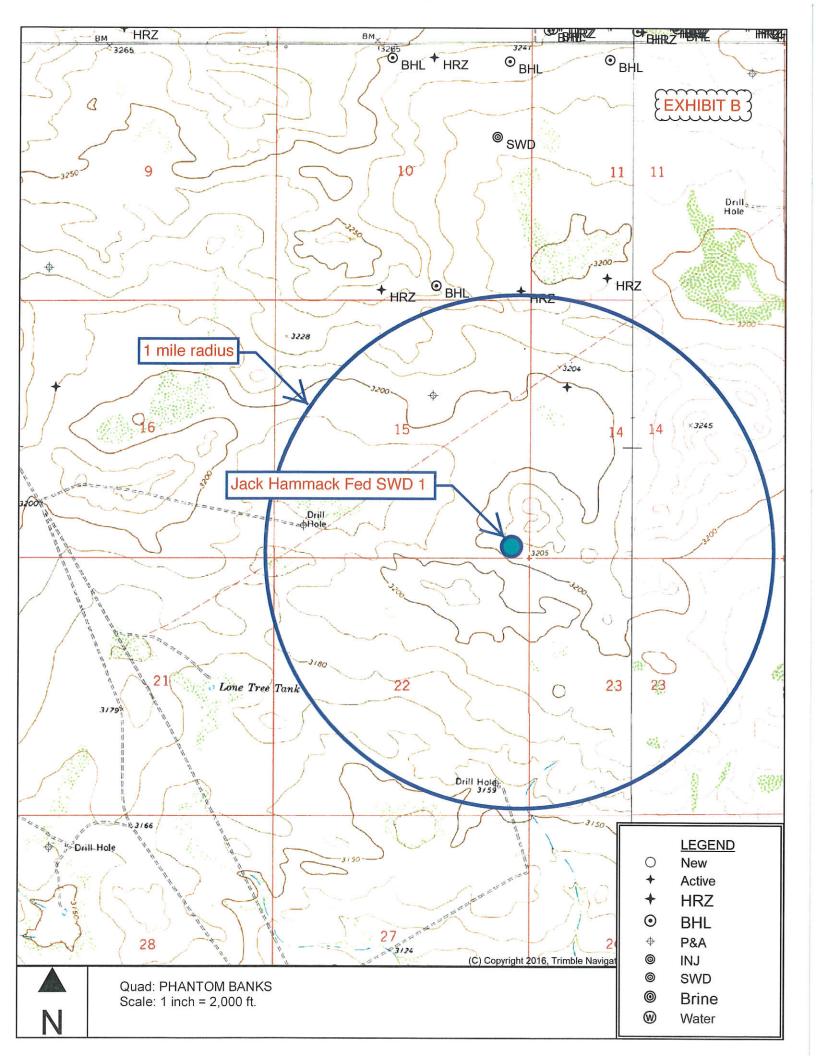
⁹Elevation

3208

District Office

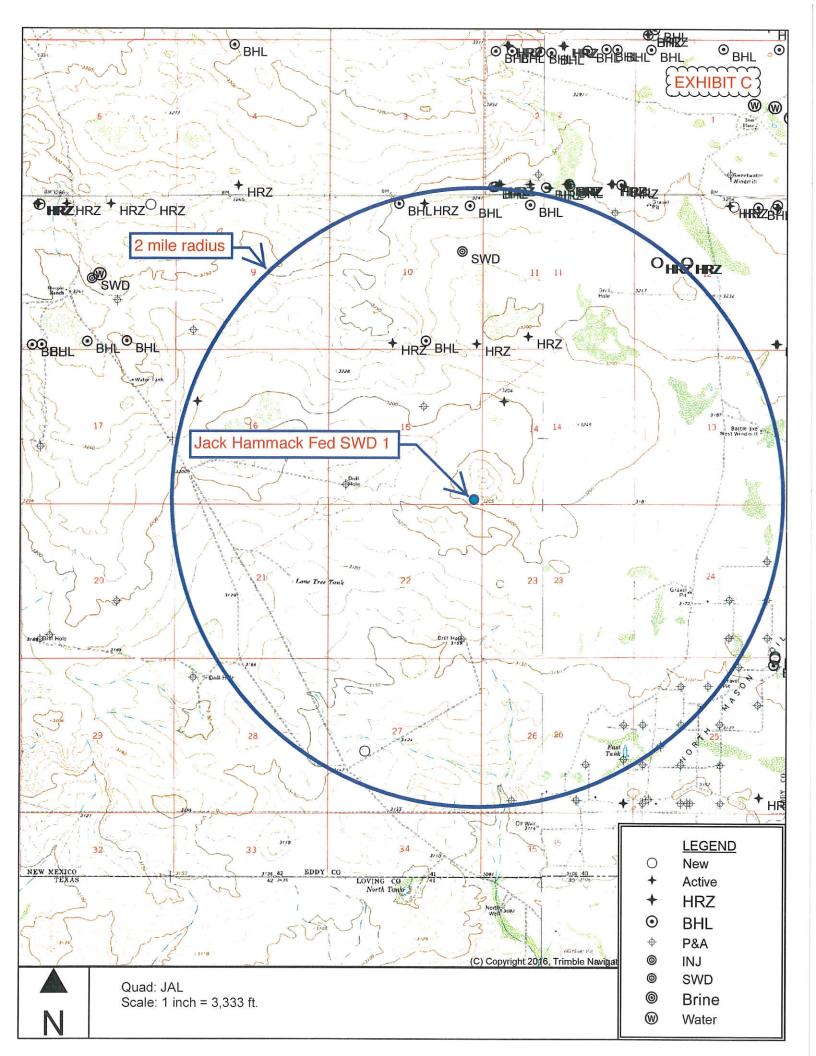
Santa Fe, NM 87505

						¹⁰ Surface Lo	ocation							
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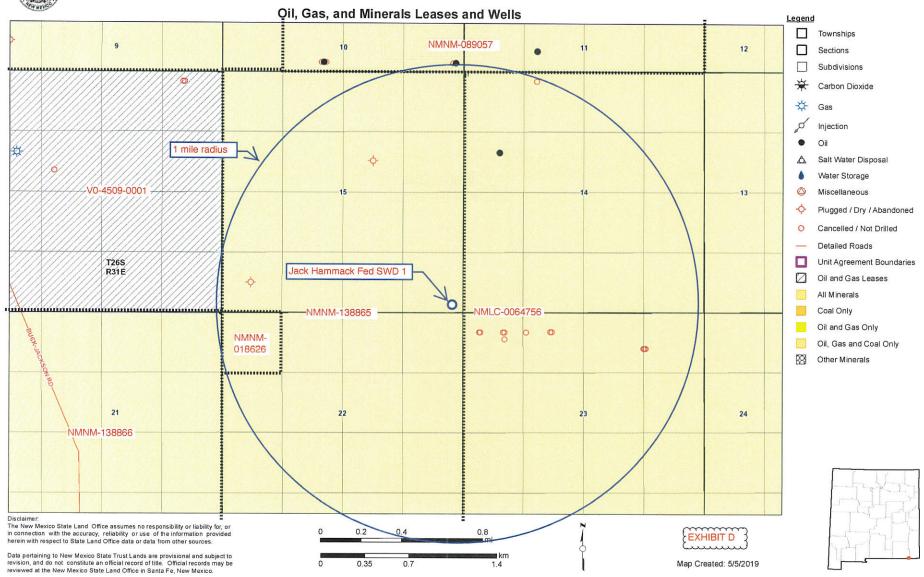


SORTED BY DISTANCE FROM JACK HAMMACK FED SWD 1

АРІ	OPERATOR	WELL	TYPE	UNIT- SECTION- T26S-R31E	TVD	ZONE AT TD	FEET FROM JACK HAMMACK SWD 1
30-015-41796	ConocoPhillips	Ramblin Rose 14 Fed #001	0	E-14	10661	Bone Spring	3545
30-015-29435	Lime Rock	Opera AQG Federal #001	P&A	G-15	10500	Bone Spring	3698
30-015-05862	George L. Buckles Co.	Federal 1-15	P&A	M-15	4155	Delaware	4541
30-015-05863	Curtis Hanksman	Bauerdorf- Federal 1	P&A	P-22	4041	Delaware	4823
30-015-40994	EOG	Snapping 10 Federal 005H	0	P-10	10093 Bone Spring		5322



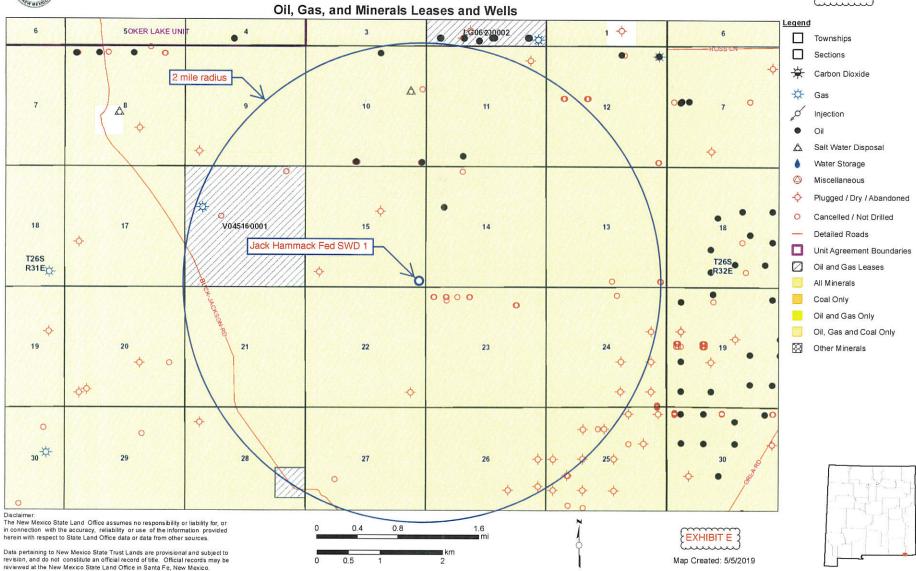




JACK HAMMACK FED SWD 1 AREA OF REVIEW LEASES

Aliquot Parts in Area of Review (T. 26 S., R. 31 E.)	Lessor	Lease	Lessee(s) of Record	Operators (all shallower than Devonian)
S2SE4 Sec. 10	BLM	NMNM-089057	Devon	Devon
SWSW Sec. 11	BLM	NMNM-089057	Devon	none
W2, W2E2, SENE, & E2SE4 Sec. 14	BLM	NMLC-0064756	Penroc	ConocoPhillips
E2, E2W2, SWNW, W2SW4 Sec. 15	BLM	NMNM-138865	Federal Abstract	none
E2SE4 Sec. 16	NMSLO	V0-4509-0001	EOG	none
NENE Sec. 21	BLM	NMNM-138866	Federal Abstract	none
NWNW Sec. 22	BLM	NMNM-018626	Occidental Permian	none
SWNW, NWSW, E2W2, E2 Sec. 22	BLM	NMNM-138865	Federal Abstract	none
N2, N2S4, SWSE, SW4 Sec. 23	BLM	NMLC-0064756	Penroc	none



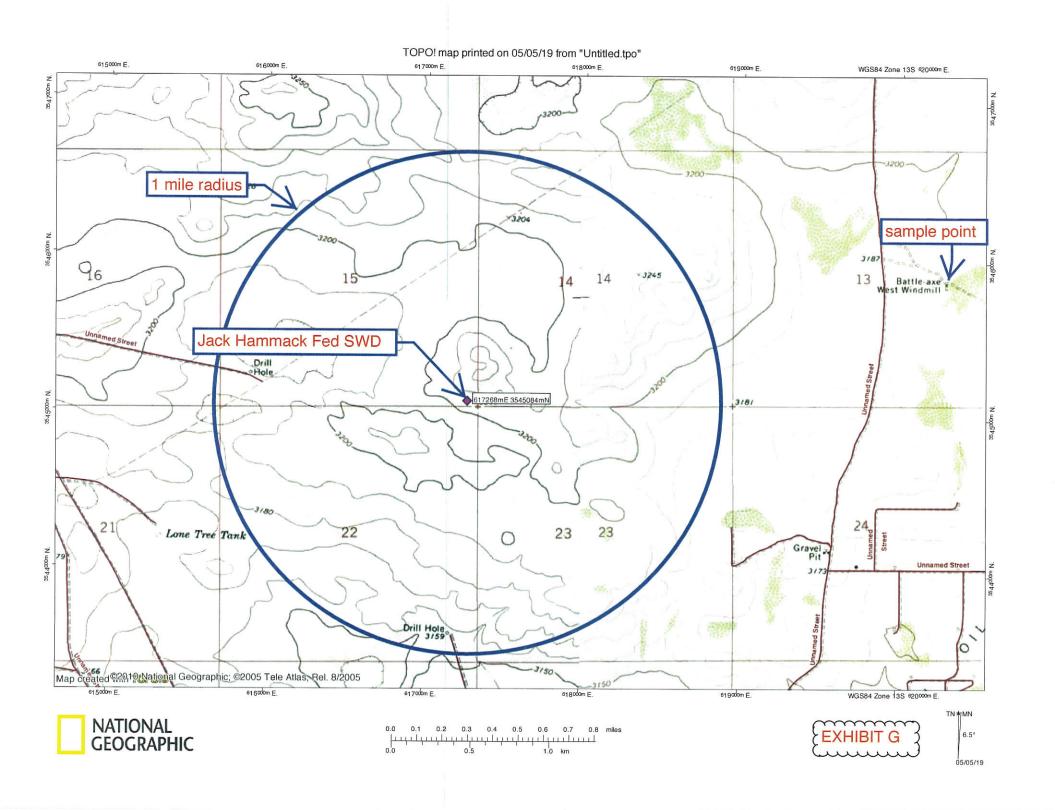


PRODUCED WATER SAMPLES FROM T. 26 S., R. 31 E. (in mg/l)

API	Section	UL	Formation	TDS	Sodium	Calcium	Iron	Magnesium	Chloride	Sulfate
3001539036	2	М	AVALON UPPER	223019	76002	10438	210	1922	131072	632
3001539104	2	N	AVALON UPPER	162560	57137	3886	42	776	97161	756
3001539162	2	0	AVALON UPPER	179789	71576	617	22	110	101374	0
3001539162	2	0	AVALON UPPER	179938	71576	617	22	110	101374	844
3001537899	10	В	AVALON UPPER	199639	68948	7560	111	1523	118195	0
3001537899	10	В	AVALON UPPER	209352	70090	7327	203	1557	127230	600
3001538193	11	N	AVALON UPPER	225190	77011	8744	636	1649	134075	0
3001538193	11	N	AVALON UPPER	196577	68797	5059	12	1066	118943	872
3001538193	11	N	AVALON UPPER	203079	72261	4407	112	904	122172	658
3001539866	10	N	BONE SPRING 2ND SAND	152439	48496	6731	29	801	94055	0
3001540994	10	Р	BONE SPRING 2ND SAND	138162	44459	6281	30	781	84470	0
3001540994	10	Р	BONE SPRING 2ND SAND	138376	44459	6281	30	781	84470	618
3001542113	2	N	BONE SPRING 3RD SAND	94966	31353	3679	32 484		57490	0
3001542113	2	N	BONE SPRING 3RD SAND	94518	30032	3403	20	439	58782	355
3001542113	2	N	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
3001542113	2	N	BONE SPRING 3RD SAND	91289	28721	3441	16	437	56957	328
3001505886	26	0	DELAWARE	212112					132100	425
3001542688	2	Р	WOLFCAMP	81366	26319	2687	26	327	50281	400





New Mexico Office of the State Engineer EXHIBIT G



Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters)

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 617268

Northing (Y): 3545084

Radius: 3220

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.

5/5/19 11:14 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Analytical Report

Lab Order 1903306

EXHIBIT G

Date Reported: 3/21/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Permits West

Client Sample ID: Sec 13 Tank

Project: Matador Allen and Hammock

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	al Units	DF	Date Analyzed	Batch
EPA METHOD 1664B					Analys	t: plr
N-Hexane Extractable Material	ND	11.2	mg/L	1	3/11/2019 9:16:00 AM	43604
EPA METHOD 300.0: ANIONS					Analys	t: MRA
Chloride	16	0.50	mg/L	1	3/7/2019 4:04:04 PM	R58208
SM2540C MOD: TOTAL DISSOLVED SOLIDS					Analys	t: 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
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 4
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

21-Mar-19

Client:

Permits West

Project:

Matador Allen and Hammock

Sample ID: MB-43604

SampType: MBLK

TestCode: EPA Method 1664B

Client ID: PBW Batch ID: 43604

RunNo: 58295

Prep Date: 3/11/2019

Analysis Date: 3/11/2019

SeqNo: 1955297

Units: mg/L

SPK value SPK Ref Val

%REC LowLimit HighLimit

RPDLimit Qual

Analyte N-Hexane Extractable Material

ND 10.0

Sample ID: LCS-43604

SampType: LCS

TestCode: EPA Method 1664B

Client ID: LCSW

Batch ID: 43604

RunNo: 58295

Prep Date: 3/11/2019

Analysis Date: 3/11/2019

SeqNo: 1955298

Units: mg/L

%RPD

Analyte

PQL

40.00

N-Hexane Extractable Material 32.2 10.0

SPK value SPK Ref Val

%REC 80.5 LowLimit 78

HighLimit 114

%RPD

Qual

RPDLimit

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded Η

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

Е Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

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

PBW

TestCode: EPA Method 300.0: Anions

Client ID:

Batch ID: R58208

RunNo: 58208

HighLimit

Prep Date: Analyte

Analysis Date: 3/7/2019

SeqNo: 1952228

%REC

Units: mg/L

RPDLimit %RPD

Qual

Chloride

ND 0.50

Sample ID: LCS

SampType: Ics

TestCode: EPA Method 300.0: Anions

Client ID: LCSW

Batch ID: R58208

RunNo: 58208

LowLimit

90

LowLimit

Prep Date:

Analysis Date: 3/7/2019

SeqNo: 1952229

Units: mg/L

%RPD

RPDLimit

Qual

Analyte Chloride

PQL 0.50

0

110

4.7

5.000

SPK value SPK Ref Val

SPK value SPK Ref Val

%REC 94.8

HighLimit

Oualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

Analyte detected below quantitation limits

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

Client ID: PBW Batch ID: 43630

RunNo: 58346

Units: mg/L

Prep Date: 3/12/2019

Analysis Date: 3/13/2019

SeqNo: 1957077

Analyte

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 Prep Date: 3/12/2019

Batch ID: 43630 Analysis Date: 3/13/2019

SeqNo: 1957078

Units: mg/L

%RPD

Qual

Analyte

1000

%REC

LowLimit

Total Dissolved Solids

0

HighLimit

RPDLimit

101

PQL 20.0

120

1010

SPK value SPK Ref Val

80

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

ND Not Detected at the Reporting Limit

Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

Holding times for preparation or analysis exceeded

В Analyte detected in the associated Method Blank

Value above quantitation range J Analyte detected below quantitation limits

P Sample pH Not In Range

E

RL Reporting 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 Senior Geologist

April 24, 2019

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

> Re: Geology Statement Jack Hammack Fed SWD #1 Section 15, 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 16,903 ft., and any underground sources of drinking water has been found.

Sincerely, Longwood Water Management Company, LLC

Jake Harrington



CURRENT-ARGUS



Longwood Water Management Company, LLC is applying to drill the Jack Hammack Fed SWD

1 as a saltwater disposal well. The well is staked at 133' FSL & 182' FEL Sec. 15, T. 26 S., R. 31 E., Eddy County. This is 22 miles south-

east of Malaga, NM and 17 miles northeast of Orla, TX. Disposal will be in the Devonian from 16,913' to 17,893'. Maximum injection pressure will be 3,382 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 #1278513

AFFIDAVIT OF PUBLICATION

Ad No. 0001278513

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

NOTARY PUBLIC SOLUTION OF WISCOMMINISTRATION OF WISCOMMINISTRATION

Ad#:0001278513 P O: 0001278513 # of Affidavits:0.00





May 8, 2019

BLM 620 E. Greene Carlsbad NM 88220

TYPICAL NOTICE

Longwood Water Management Company, LLC is applying (see attached application) to drill the Jack Hammack 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.

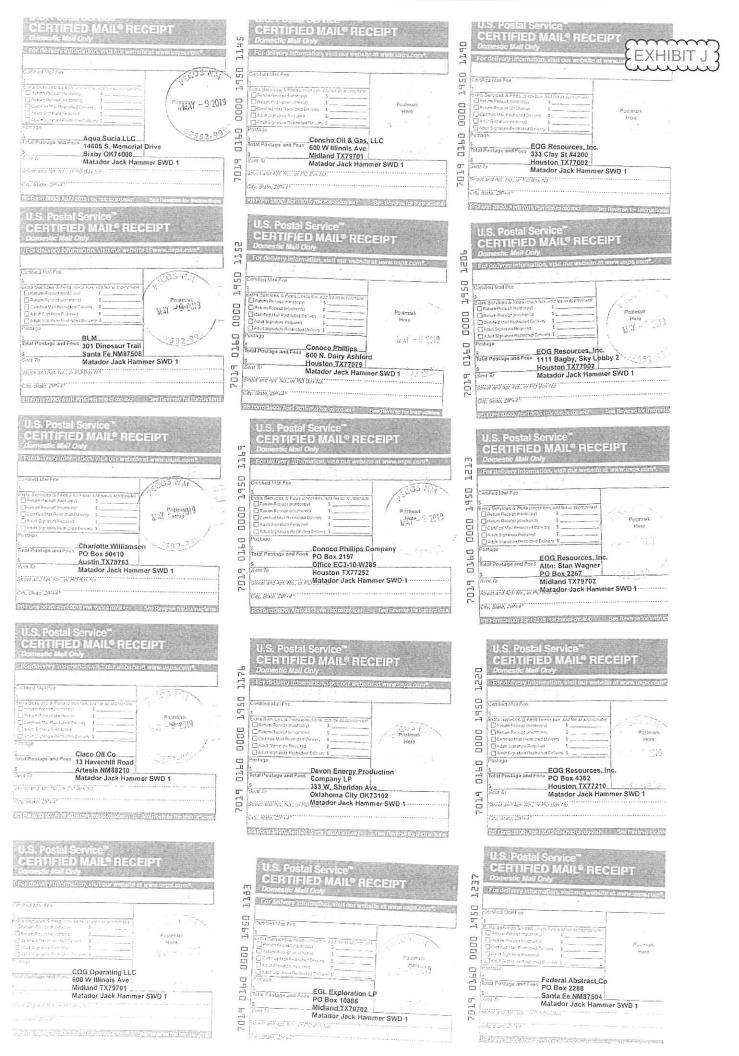
Well Name: Jack Hammack Fed SWD 1 (BLM surface & lease) <u>TD</u> = 17,893' Proposed Disposal Zone: Devonian (from 16,913' to 17,893') Location: 133' FSL & 182' FEL Sec. 15, T. 26 S., R. 31 E., Eddy County, NM <u>Approximate Location:</u> 22 miles southeast of Malaga, NM <u>Applicant:</u> Longwood Water Management Company, LLC (972) 371-5420 <u>Applicant's Address:</u> 5400 LBJ Freeway, Suite 1500, Dallas TX 75240

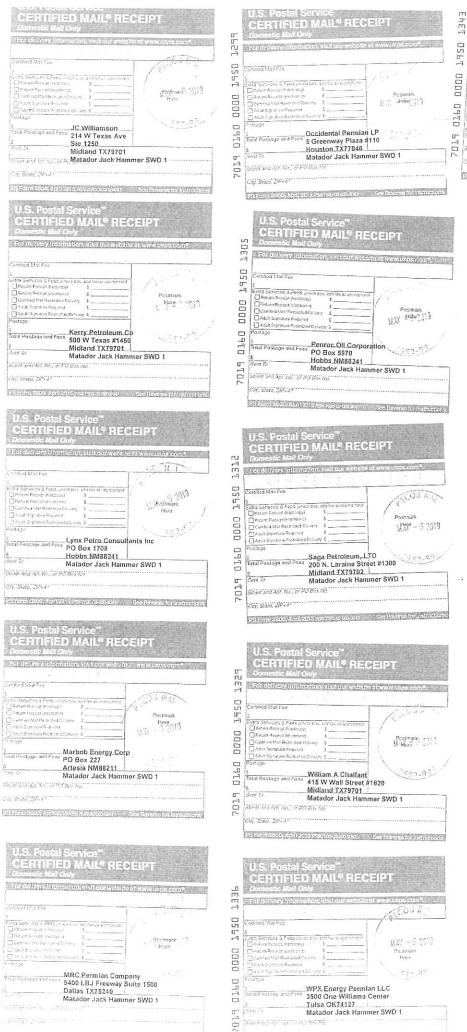
<u>Submittal Information:</u> Application for a saltwater disposal well will be filed with the NMOCD. If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. NMOCD address is 1220 South St. Francis Dr. Santa Fe, NM 87505.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

Please call me if you have any questions.

Sincerely,

Brian Wood





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