Additional Information

Longfellow Ozzy State 18 SWD#1

Updated C-108 with formation tops and perforation intervals SWD-2839

4-30-2025

From: <u>David Cain</u>

To: <u>Harris, Anthony, EMNRD</u>

Subject: [EXTERNAL] FW: Longfellow Energy, LP (OGRID No. 372210) - UIC Permit SWD-2389 Minor Modification Request

Date: Friday, April 25, 2025 11:18:39 AM

Attachments: OZZY-STATE-18-1-SWD Application Package R4.pdf

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

From: Reed Davis <rdavis@all-llc.com>

Sent: Thursday, November 7, 2024 9:56 AM

To: OCD.Engineer@emnrd.nm.gov; Goetze, Phillip, EMNRD <phillip.goetze@emnrd.nm.gov>; Justin.Wrinkle@emnrd.nm.gov

Cc: Jacob DeHamer < jacob.dehamer@longfellowenergy.com>; David Cain

<david.cain@longfellowenergy.com>; David Mitchell <david.mitchell@longfellowenergy.com>; Mark
Kidder <mkidder@all-llc.com>

Subject: Longfellow Energy, LP (OGRID No. 372210) - UIC Permit SWD-2389 Minor Modification Request

UIC Team,

Longfellow Energy, LP (OGRID No. 372210) is requesting a minor modification to UIC Permit SWD-2389 for the Ozzy State 18 SWD #1.

During drilling, Longfellow encountered a thinner-than-expected Wolfcamp Formation. As a result, we would like to revise the formation tops for the Cisco and Canyon Formations. Additionally, we propose to move the perforated injection interval up by 720 feet to align with the revised depth of the Canyon Formation top. Without the requested minor modification, Longfellow foresees delayed drilling and/or production schedules at nearby operations.

• Original:

Cisco Top: 8,740'Canyon Top: 9,513'

• **Injection Interval:** 9,520' - 9,700'

• Revised:

Cisco Top: 8,226'Canyon Top: 8,795'

• **Injection Interval:** 8,800' - 8,980'

We understand that the UIC team prefers to have a complete C-108 package, including all revisions, for your records. We have attached the revised C-108 for your review. If there is a more suitable way to submit these revisions, please let us know, and we will gladly accommodate.

Below is a list of the revisions made to the C-108:

- 1. **PDF Page 4:** Revised WBD with updated tubing depth, packer setting depth, perforation depths, and injection interval.
- 2. **PDF Page 5:** Added appropriate packer diagram.
- 3. **PDF Page 6:** Revised total depth, injection interval, tubing depth, and packer setting depth.
- 4. **PDF Page 7:** Revised injection interval, distance to next higher oil or gas producing zone, and top of Canyon Formation.
- 5. **PDF Page 8:** Revised maximum injection pressure to reflect raising of perforations.
- 6. **PDF Page 9:** Revised top of Cisco, top of Canyon, proposed disposal zone, and TD.

Thank you for your attention to this matter. We look forward to your response.

Best regards,

Reed Davis ALL Consulting LLC 1718 S Cheyenne Ave Tulsa, OK 74119

Office: 918-382-7581

Cell: 918-361-8375

RECEIVED:	REVIEWER:	TYPE:	APP NO:	
			ATION DIVISION	Marie Marie Marie
		ical & Engineerin rancis Drive, San		
	A DAAINIIST	DATIVE ADDITOAT	TON CHECKIET	ASSERVATION OF
THIS C	CHECKLIST IS MANDATORY FOR	RATIVE APPLICAT ALL ADMINISTRATIVE APPLIC REQUIRE PROCESSING AT TH		TO DIVISION RULES AND S FE
Applicant: Longfelle	ow Energy, LP		OGR	ID Number: 372210
Well Name: Ozzy S	tate 18 SWD 1		API: 3	0-015-
Pool: SWD; Canyon			Pool	Code: 96184
SUBMIT ACCURA	ATE AND COMPLETE IN	FORMATION REQUIRED INDICATED BEL		THE TYPE OF APPLICATION
1) TYPE OF APPLIC	CATION: Check those			
A. Location	– Spacing Unit – Simu	Itaneous Dedication	on	
	ISL NSP(F	PROJECT AREA)	SP(proration unit)	SD
B. Check or	ne only for [I] or [II]			
[1] Comr	mingling – Storage – N	Measurement		
	DHC □CTB □F	PLC PC (ols Dolm	
[II] Injec	tion – Disposal – Press WFX □PMX ■S		anced Oil Recove EOR PPR	ery
				FOR OCD ONLY
2) NOTIFICATION	REQUIRED TO: Check	those which apply	у.	Notice Complete
	operators or lease ho y, overriding royalty o		Mars	
	ation requires publish		VIICIS	Application
D. Notific	ation and/or concurr	ent approval by SI		Complete
	ation and/or concurr	ent approval by B	LM	Complete
	e owner of the above, proof c	of notification or pu	ublication is attack	ned and/or
	rice required	a riomicanori or pe		ica, ana/or,
2) CERTIFICATION		11		
 CERTIFICATION administrative 	: I hereby certify that approval is accurate	and complete to	bmitted with this o	application for
understand the	at no action will be ta	ken on this applica	ation until the real	uired information and
notifications ar	e submitted to the Div	vision.		and and an annual state of the
Not	te: Statement must be comple	eted by an individual with	n managerial and/or sup	ervisory capacity.
			8-6-20	
Brian Wood			Date	
Print or Type Name	/			
	1/8		505 466-8120	_
19-	- Wood		Phone Number	
	-		brian@permitswo	est.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

	AT DICATION FOR ACTION 20 INSECT
I.	PURPOSE: Secondary Recovery Pressure Maintenance XXX Disposal Storage Application qualifies for administrative approval? XXX Yes No
II.	OPERATOR: LONGFELLOW ENERGY, LP
	ADDRESS: 16803 NORTH DALLAS PARKWAY, ADDISON TX 75001
	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: OZZY STATE 18 SWD 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: JULY 30, 2020
*	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:

Side 2

III. WELL DATA

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

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

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

XIV. PROOF OF NOTICE

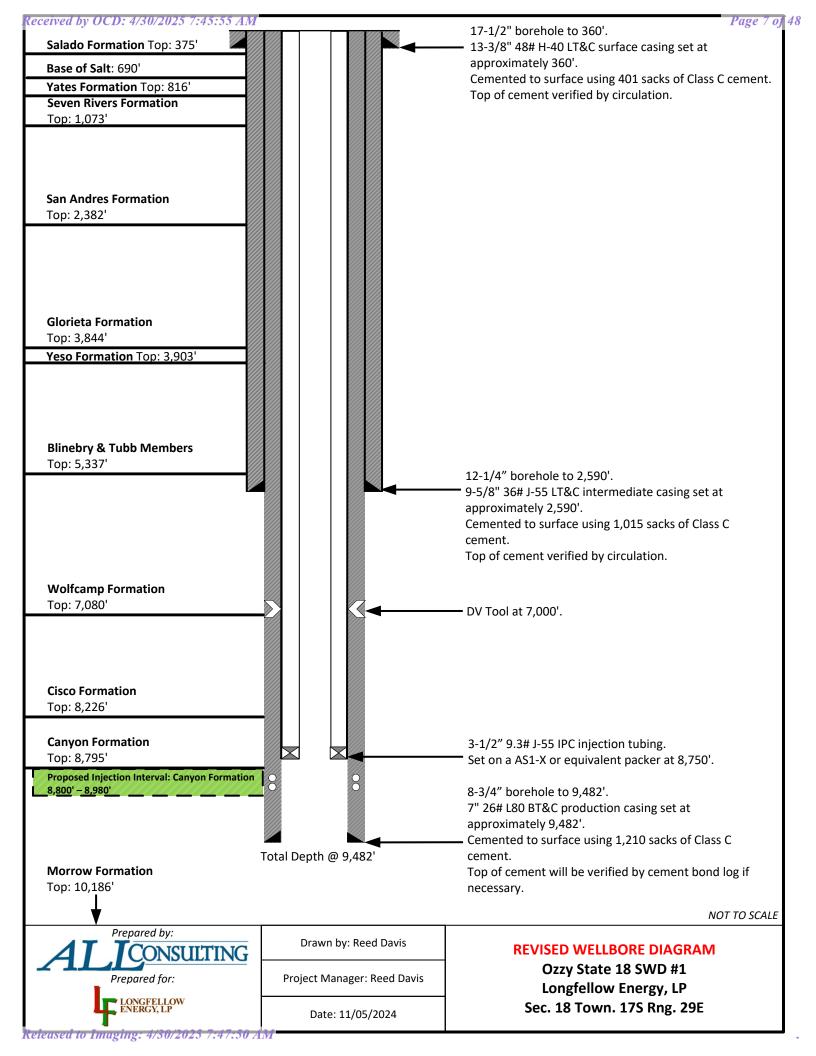
All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

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

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

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

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



Received by OCD: 4/30/2025 7:45:55 AM

AS1-X MECHANICAL PACKER



The ACT AS1-X Packer is the most versatile of the mechanically set retrievable packers and may be used in any production application. Treating, testing, injecting, pumping wells, flowing wells, deep or shallow, the AS1-X is suited for all. The packer can be left in tension or compression, depending on well conditions and the required application. A large internal by-pass reduces swabbing when running and retrieving. The by-pass closes when the packer is set and opens prior to releasing the upper slips when retrieving to allow pressure equalization.

The J-slot design allows easy setting and releasing: 1/4 turn right-hand set, right-hand release. A patented upper-slip releasing system reduces the force required to release the packer. A non directional slip is released first, making it easier to release the other slips. The AS1-X packer can withstand 7,000 psi (48 MPa) of differential pressure above or below.

FEATURES, ADVANTAGES AND BENEFITS:

- The design holds high differential pressure from above or below, enabling the packer to meet most production, stimulation, and injection needs
- The packer can be set with compression, tension, or wire line, enabling deployment in shallow and deep applications
- . The packer can be set and released with only a one-quarter turn of the tubing
- The bypass valve is below the upper slips so that debris are washed from the slips when the valve is opened, reducing the times for circulation and total retrieval
- . The full opening enables unrestricted flow and the passage of wire line tools and other packer systems
- The packer can be run with the T-2 on-off tool, which enables the tubing to be disconnected and retneved without retrieving the packer

OPTIONS:

- Elastomer options are available for hostile environments.
- Optional safety releases are available

AS1-X MECHANICAL PACKER											
Cz SIZE (inches)	SING WEIGHT (lbs fl)	FECOMMENDED HOLE SIZE (inches)	TOOL/OD MAX (inches)	TOOL/ID MIN (suches)	THREAD CONNECTION BOX UP / PIN DOWN	PART NO.					
4.1/2	13.5-15.1	3.826-3.920	3.650	1.938	2.3/8" EUE	261-3650-XXXX					
5	11.5-15	4.408-4.560	4.125	1.938	2.3/8" EUE	261-4125-XXXX					
5	18-20.8	4.154-4.276	4.000	1.938	2.3/8" EUE	261-4000-XXXX					
5.1/2	14-20	4.778-5.012	4.625	2.00	2.3/8" EUE	261-4625-XXXX					
5.1/2	14-20	4.778-5.012	4.625	2.38	2.7/8" EUE	261-4625-XXXX					
5.1/2	20-23	4.670-4.778	4.500	2.00	2.3/8" EUE	261-4500-XXXX					
5.1/2	20-23	4.670-4.778	4.500	2.38	2.7/8" EUE	261-4500-XXXX					
6.5/8	20-24	5.921-6.094	5.750	3.00	3.1/2″EUE	261-5750-XXXX					
7	17-26	6.276-6.538	6.000	2.50	2.7/8" EUE	261-6000-XXXX					
7	17-26	6.276-6.538	6.000	3.00	3.1/2" EUE	261-6000-XXXX					
7	26-32	6.094-6.276	5.875	2.50	2.7/8" EUE	261-5875-XXXX					
7	26-32	6.094-6.276	5.875	3.00	3.1/2" EUE	261-5875-XXXX					
7	29-35	6.004-6.184	5.812	3.00	3.1/2" EUE	261-5812-XXXX					
7.5/8	24-29.7	6.875-7.025	6.672	2.50	2.7/8″EUE	261-6672-XXXX					
7.5/8	24-29.7	6.875-7.025	6.672	3.00	3.1/2" EUE	261-6672-XXXX					
7.5/8	33.7-39	6.625-6.765	6.453	2.50	2.7/8″EUE	261-6453-XXXX					
7.5/8	33.7-39	6.625-6.765	6.453	3.00	3.1/2" EUE	261-6453-XXXX					
9.5/8	32.3-43.5	8.755-9.001	8.500	3.00	3.1/2" EUE	261-8500-XXXX					
9.5/8	32.3-43.5	8.755-9.001	8.500	4.00	4.1/2" EUE	261-8500-XXXX					
9.5/8	43.5-53.5	8.535-8.755	8.250	3.00	3.1/2" EUE	261-8250-XXXX					
9.5/8	43.5-53.5	8.535-8.755	8.250	4.00	4.1/2" EUE	261-8250-XXXX					

LONGFELLOW ENERGY, LP OZZY STATE 18 SWD 1 2280' FSL & 1972' FEL SEC. 18, T. 17 S., R. 29 E., EDDY COUNTY, NM PAGE 1

I. Plan is to drill a 9700' deep SWD (drilled to 9,482'); Canyon (961 84) saltwater disposal well. Disposal will be from 8800' to 8980' in the Canyon. Well is on NMSLO surface and minerals. See Exhibit A for a USGS map and C-102 form.

II. Operator: Longfellow Energy, LP

(OGRID 372210)

Operator phone number: (972) 590-9900

Operator address: 16803 North Dallas Parkway, Addison TX 75001

Contact for Application: Brian Wood (Permits West, Inc.)

Phone: (505) 466-8120

III. A. (1) Lease: NMSLO lease B0-6846-0003

Lease Size: 440.00 acres Closest Lease Line: 360'

Lease: N2SE4 Section 18, T. 17 S., R. 29 E. et al

A. (2) Surface casing (13.375", 48#, H-40, LT&C) will be set at 360' in a 17.5" hole and cemented to GL with 401 sacks (100% excess).

Intermediate casing (9.625", 36#, J-55, LT&C) will be set at 2590' in a 12.25" hole and cemented to GL with 1015 sacks (100% excess).

Production casing (7", 26#, L-80, BT&C) will be set at 9482' in an 8.75" hole and cemented to GL with 1210 sacks (30% excess). DV tool will be set at \approx 7000'. Bottom 320' of casing will be chrome lined.

- A. (3) IPC tubing (3.5", 9.3#, J-55, BT&C) will be set @ ≈8750'. (Disposal interval will be 8800' 8980' TVD.)
- A. (4) A 7" ASI-X packer will be set @ ≈ 8750 ' (or in any event, ≤ 100 ' above the top perforation (8800').



LONGFELLOW ENERGY, LP
OZZY STATE 18 SWD 1
2280' FSL & 1972' FEL
SEC. 18, T. 17 S., R. 29 E., EDDY COUNTY, NM

PAGE 2

- B. (1) Disposal zone will be carbonates in the SWD; Canyon (NMOCD pool 96184). Estimated fracture gradient is ≈ 0.75 psi per foot.
- B. (2) Disposal interval (8800' to 8980') will be perforated.
- B. (3) This will be a new well drilled as a SWD well.
- B. (4) No perforated intervals are in the well.
- B. (5) Next higher oil or gas zone in the area of review is the Blinebry. Blinebry bottom is at ≈4990', or ≈3805' above the Canyon. Morrow is the only producing oil or gas zone in the area of review below the Canyon. Morrow top is at ≈10,186', or ≈339' below the bottom of the Canyon. Closest Canyon producer (30-015-44420) is ≈5-1/2 miles east. Closest SWD; Canyon well (Longfellow's 30-015-29260) is 2.29 miles northeast. Closest SWD; Cisco-Canyon well (30-015-32216) is 1.46 miles northwest in H-12-17s-28e.
- IV. This is not an expansion of an existing injection project. It is disposal only.
- V. Exhibit B shows and tabulates 30 wells (29 producers + 1 P&A) within a half-mile radius. Four of the 30 wells penetrate the Canyon, all are active gas wells. Exhibit C shows 649 existing wells (526 oil or gas + 107 P&A + 15 water injectors or disposers + 1 water) within a 2-mile radius.

Exhibit D maps and tabulates all well operators (regardless of depth), leases, and lessors (only NMSLO & BLM) within a half-mile radius. Exhibit E shows all leases (only NMSLO & BLM) within a 2-mile radius.

VI. Four of the 30 wells within a half-mile penetrated the Canyon (8795' - 9847'). All four (Exhibit F) are active gas or oil wells.



LONGFELLOW ENERGY, LP OZZY STATE 18 SWD 1 2280' FSL & 1972' FEL SEC. 18, T. 17 S., R. 29 E., EDDY COUNTY, NM PAGE 3

- VII. 1. Average injection rate will be ≈15,000 bwpd. Maximum injection rate will be 20,000 bwpd.
 - 2. System will be closed and open.
 - 3. Average injection pressure will be $\approx 1\,500\,$ psi. Maximum injection pressure will be 1760 psi (= 0.2 psi/ft x 8800' (highest perforation)).
 - 4. Water source will be produced water from Permian Basin wells. Exhibit G tabulates T. 1 7 S., R. 28 & 29 E. produced water analyses from New Mexico Produced Water Quality Database v.2. No compatibility problems have been reported from the closest (2.29 miles northeast) SWD; Canyon well (30-015-29260). A minimum 13,698,972 barrels have been disposed to date in 20 years of operation.
 - 5. Canyon has not been found productive of oil and gas within a mile. Sample (Exhibit H) from a Canyon; SWD well (30-01 5-22146) well 11 miles southwest in N-7-19s-28e showed chlorides at 32,000 mg/l.

VIII. The Canyon is a dolomite and is an estimated 335' thick in this well. Closest possible underground source of drinking water above the proposed disposal interval are the red beds from GL to ≈ 250 '. Deepest water well within 2-miles is 140'. The >1.5-mile thick interval between the bottom of the red beds and the top of the Canyon include multiple layers of shale, salt, and anhydrite.

State Engineer records (Exhibit I) show the only water well within 2-miles is 1.69 miles northwest in A-14-17s-28e. It was sampled (Exhibit I) January 7, 2020. Ozzy State 18 SWD 1 is 14 miles northwest of the Capitan and 16 miles southwest of the Ogallala.

No underground source of drinking water is below the proposed disposal zone. Produced water is currently being injected in 47 wells (Abo, Glorieta, Grayburg, Queen, San Andres, Seven Rivers, and Yeso) and disposed in 18 wells (Canyon, Cisco, Glorieta, Penn, Upper Penn, Strawn, and Yeso) within 17s-29e.



LONGFELLOW ENERGY, LP OZZY STATE 18 SWD 1 2280' FSL & 1972' FEL SEC 18 T 17 S P 29 E PAGE 4

SEC. 18, T. 17 S., R. 29 E., EDDY COUNTY, NM

Formation tops are:

```
Quaternary = 0'
        Rustler = 150'
        Salado = 375
       Base Salt = 690'
         Yates = 816'
       Seven Rivers = 1073'
          Queen = 1650'
        Penrose = 1907'
         Grayburg = 2071'
        San Andres = 2382'
         Glorieta = 3844'
         Yeso = 3903'
         Tubb = 5337'
           Abo = 5401'
      Wolfcamp = 7080'
           Cisco = 8226'
          Canyon = 8795
Proposed Disposal Zone = 8800' - 8980'
             TD: 9482'
           Strawn = 9848'
```

- IX. The well will be stimulated with acid to clean out scale or fill.
- X. CBL will be run if cement does not circulate to surface on the long string.
- XI. No water well is within a mile. A water well 1.69 miles northwest was sampled (Exhibit I) on January 7, 2020.

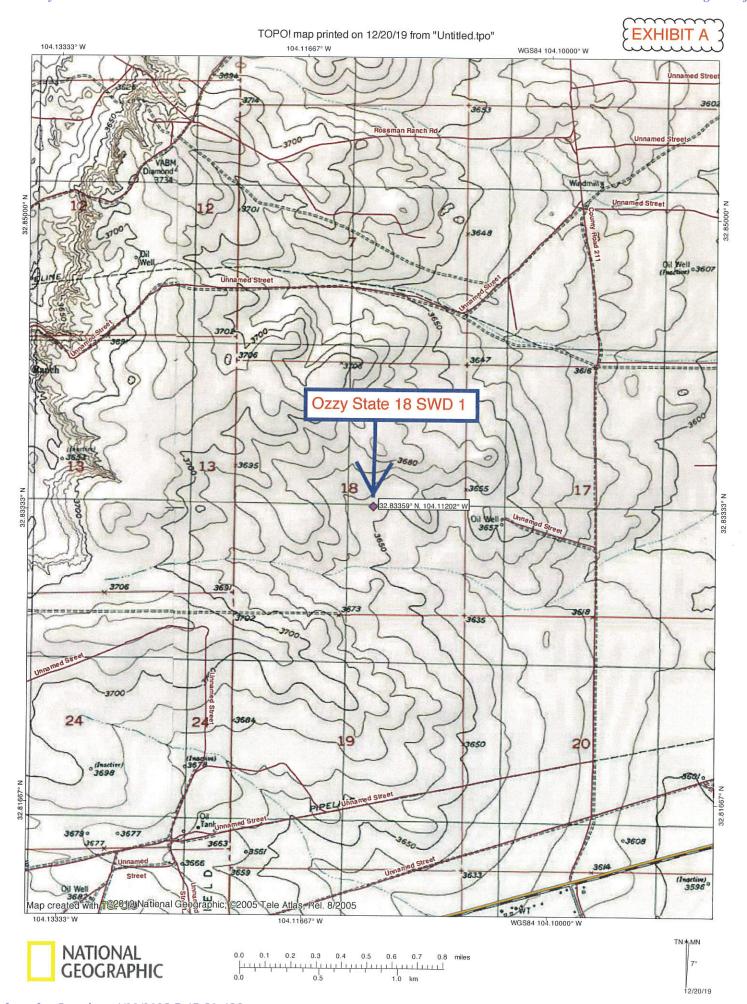


LONGFELLOW ENERGY, LP OZZY STATE 18 SWD 1 2280' FSL & 1972' FEL SEC. 18, T. 17 S., R. 29 E., EDDY COUNTY, NM PAGE 5

XII. Longfellow Energy, LP is not aware of any geologic or engineering data (Exhibit J) that may indicate the Canyon is in hydrologic connection with any underground source of water. Twelve SWD; Canyon wells are active in New Mexico.

XIII. Legal ad (Exhibit K) was published in the Artesia newspaper on July ??, 2020. Notice (this application) is being sent (Exhibit L) to the surface owner (NMSLO), lessors, lessees of record, operating right holders, and well operators within a half-mile.





District 1
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, Aztec, NM 87410
Phone: (505) 334-6178 Fax. (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico



Form C-102

District Office

Revised August 1, 2011 Submit one copy to appropriate

☐ AMENDED REPORT

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

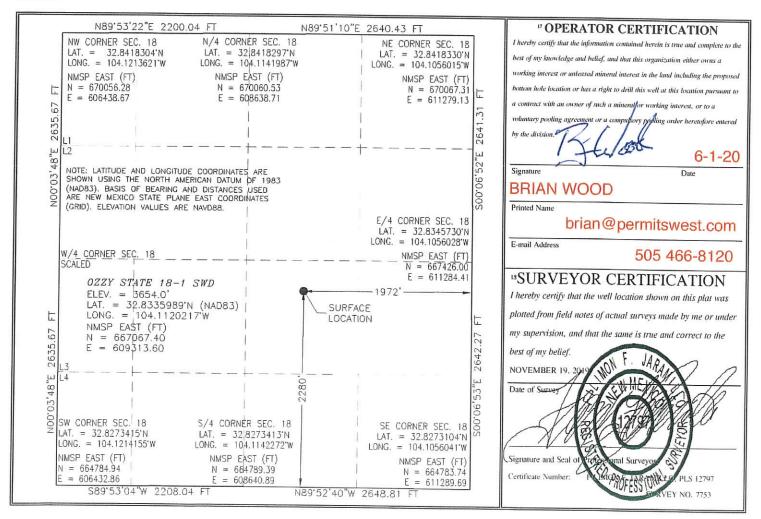
Santa Fe, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-	ber Pool Code Pool Name 96184 SWD; CANY				
⁴ Property Code	⁵ Property Nam OZZY STATE 1	Well Mult	nber		
⁷ OGRID No. 372210	⁸ Operator Nar LONGFELLOW EN	EDGY I D	⁹ Elevation 3654.0		

Surface Location UL or lot no. Section Township Range Lot Idn Feet from the North/South line Feet from the East/West line County J 18 17 S 29 E 2280 SOUTH 1972 EAST EDDY Bottom Hole Location If Different From Surface UL or lot no. Section Township Range Lot Idn Feet from the North/South line Feet from the East/West line County 12 Dedicated Acres 14 Consolidation Code 13 Joint or Infill 15 Order No.

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



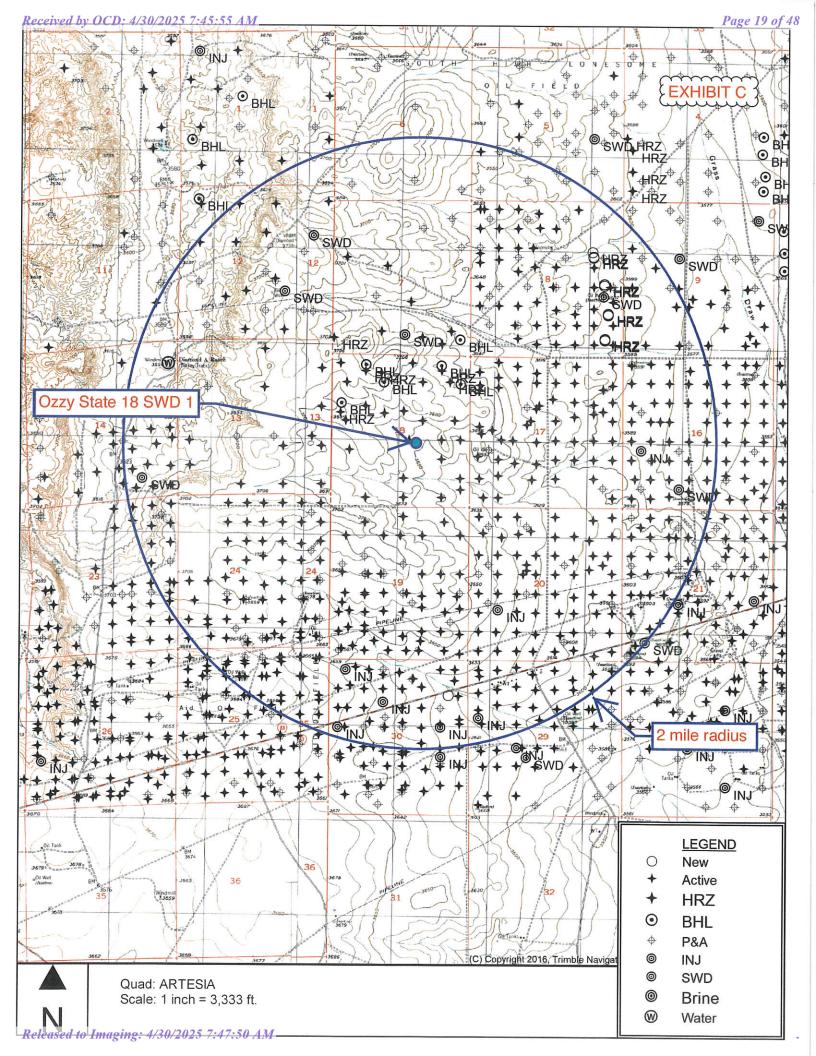
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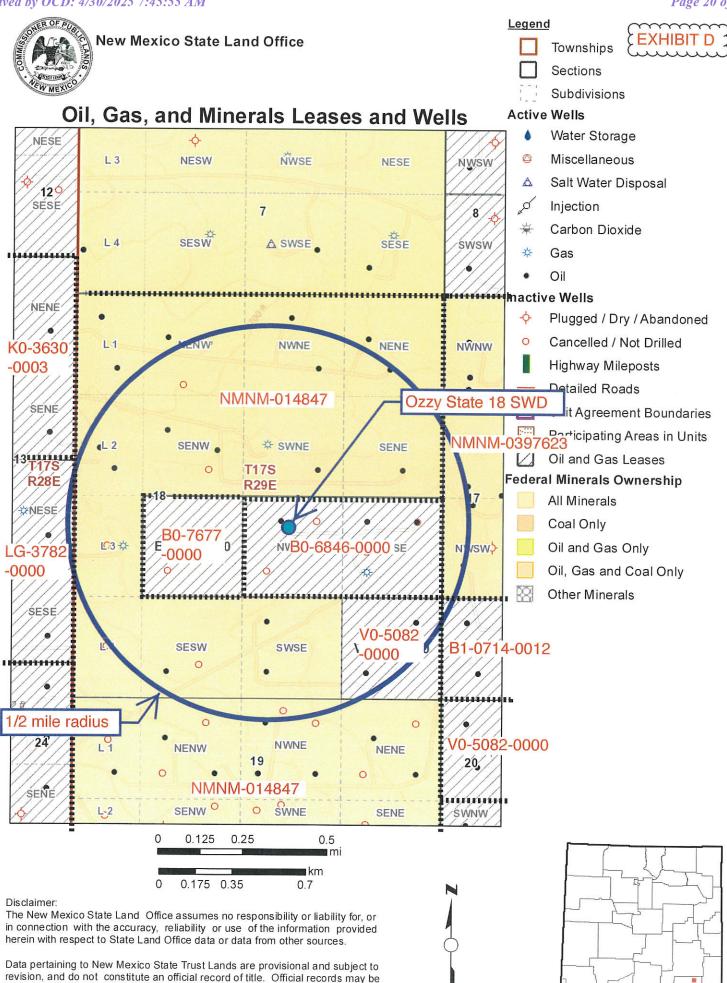
SORTED BY DISTANCE FROM OZZY STATE 18 SWD 1

АРІ	OPERATOR	WELL	STATUS	UNIT- SECTION T17S R29E	TVD	ZONE @ TD	FEET FROM OZZY STATE 18 SWD 1
3001533771	Longfellow	Empire 18 State 008	0	J-18	4500	Yeso	184
3001531661	Longfellow	Phillips 18 Federal 006	0	G-18	4500	Yeso	782
3001533769	Longfellow	Empire 18 State 007	0	I-18	4500	Yeso	969
3001523209	ConocoPhillips	Green B Federal 010	G	G-18	10720	Morrow	1110
3001530692	Mewbourne	Empire 18 State Com 001	G	I-18	10799	Morrow	1146
3001523747	Southwest Royalties	Green B Federal 012	0	O-18	10740	Morrow	1321
3001539056	Spur	Pere Marquette 18 Federal 011	0	F-18	4674	Yeso	1395
3001531660	Longfellow	Phillips 18 Federal 002	0	H-18	4500	Yeso	1601
3001536735	Longfellow	Empire 18 State 010	0	I-18	4702	Yeso	1632
3001531458	Longfellow	Empire 18 Federal 004	0	O-18	4305	Yeso	1964
3001539052	Spur	Pere Marquette 18 Federal 006	0	B-18	5268	Tubb	2063
3001533773	Longfellow	Empire 18 State 006	0	P-18	4500	Yeso	2070
3001538998	Spur	Pere Marquette 18 Federal 010	0	F-18	5282	Tubb	2073
3001531353	Longfellow	Empire 18 State 003	0	P-18	4486	Yeso	2162
3001531399	Mewbourne	Empire 18 Federal Com 002	G	L-18	10800	Barnett	2243
3001540201	Spur	Folk Federal 040	0	L-17	5017	Yeso	2303
3001536699	Longfellow	Empire 18 State 009	0	P-18	5010	Yeso	2330
3001539273	Spur	Folk Federal 025	0	E-17	5502	Yeso	2352

SORTED BY DISTANCE FROM OZZY STATE 18 SWD 1

API	OPERATOR	WELL	STATUS	UNIT- SECTION T17S R29E	TVD	ZONE @ TD	FEET FROM OZZY STATE 18 SWD 1
3001537413	Spur	Folk Federal 041	0	L-17	5476	Tubb	2381
3001539051	Spur	Pere Marquette 18 Federal 005H	0	A-18	4850	Yeso	2397
3001539059	Spur	Pere Marquette 18 Federal 012	0	E-18	5242	Tubb	2463
3001531449	Longfellow	Empire 18 Federal 005	0	N-18	4305	Yeso	2544
3001539032	Spur	Pere Marquette 18 Federal 004H	0	A-18	4851	Yeso	2615
3001531448	Longfellow	Phillips 19 Federal 007	0	B-19	4500	Yeso	2617
3001539053	Spur	Pere Marquette 18 Federal 007H	0	C-18	4830	Yeso	2622
3001538088	Spur	Folk State 003	0	M-17	5115	Blinebry	2625
3001503000	Marbob	Folk Fed 001	P&A	L-17	2463	San Andres	2642
3001539031	Spur	Pere Marquette 18 Federal 003	0	B-18	4850	Yeso	2701





reviewed at the New Mexico State Land Office in Santa Fe, New Mexico.

OZZY STATE 18 SWD 1 AREA OF REVIEW LEASES

Aliquot Parts in Area of Review	Lessor	Lease	Lessee of	Well Operators
			Record	(none Canyon)
T. 17 S., R. 28 E.				
SENE Sec. 13	NMSLO	K0-3630-0003	Fasken	Longfellow
E2SE4 Sec. 13	NMSLO	LG-3782-0000	MRC Delaware	Longfellow, Matador
T. 17 S., R. 29 E.				
SWNW & NWSW Sec. 17	BLM	NMNM-0397623	CED Demosie	ConocoPhillips,
300100 & 1000300 Sec. 17	DLIVI	1414114141-0397623	SEP Permian	Spur
SWSW Sec. 17	NMSLO	B1-0714-0012	cog	ConocoPhillips,
50000 Sec. 17	IVIVISEO	B1-0714-0012	COG	Spur
				ConocoPhillips,
NE4, E2NW4, Lots 1-4, SESW, &				Longfellow,
SWSE Sec. 18	BLM	NMNM-014847	ConocoPhillips	Mewbourne,
3 V/3L 3ec. 16			· ·	Southwest
				Royalties, Spur
N2SE4 Sec. 18	NMSLO	B0-6846-0000	Longfollow	Longfellow,
142314 300. 10	INIVISEO	DU-0640-0000	Longfellow	Mewbourne
NESW Sec. 18	NMSLO	B0-7677-0000	ConocoPhillips	Mewbourne
N2NE4 & NENW Sec. 19	BLM	NMNM-014847	ConocoPhillips	Longfellow

Wells sorted by distance from Ozzy St 18 SWD 1 $\,$

WELL	SPUD	TVD	ZONE @ TD	CURRENT STATUS	HOLE O.D.	CASING O.D.	SET @	CEMENT	тос	HOW TOC DETERMINED
Green B Federal 010	4/23/80	10720	Morrow	G	17.5	13.375	328	325 sx	Surface	Circ
3001523209					11	8.625	2646	1325 sx	Surface	Circ
G-18-17S-29E					7.875	5.5	10720	700 sx	No report	No report
Empire 18 State Com 001	12/7/99	10799	Morrow	G	17.5	13.375	435	580 sx	Surface	Circ
3001530692			3		12.25	8.625	2617	1810 sx	Surface	Circ 85 sx
I-18-17S-29E					7.875	5.5	10799	1800 sx	2450	Estimated
Green B Federal 012	11/18/81	10740	Morrow	0	17.5	13.375	460	500 sx	Surface	Circ 75 sx
3001523747					11	8.625	2615	700 sx	Surface	Circ
O-18-17S-29E					7.875	5.5	10740	1300 sx	4400	CBL

Wells sorted by distance from Ozzy St 18 SWD 1 $\,$

WELL	SPUD	TVD	ZONE @ TD	CURRENT STATUS	HOLE O.D.	CASING O.D.	SET @	CEMENT	тос	HOW TOC DETERMINED
Empire 18 Federal Com 002	12/11/00	10800	Barnett	G	17.5	13.375	408	360 sx	Surface	Circ 50 sx
3001531399					12.25	8.625	2630	1150 sx	Surface	Circ 125 sx
L-18-17S-29E					7.875	5.5	10800	1760 sx	2000	Estimated

PRODUCED WATER ANAYLSES (in mg/l) T. 17 S., R. 28 and 29 E.

		(ODOCED VI	// (Type t	ovt k		•	
API	Section	Township	Range	Formation	TDS	Chloride	Bicarbonate	Sulfate
3001501583	27	17S	28E	Abo	224062	135900	378	699
3001501673	32	17S	28E	Abo	34958	19380	2217	1980
3001503083	25	17S	29E	Abo	59305	28980	1677	6934
3001503083	25	17S	29E	Abo	65091	38030	995	2069
3001503183	29	17S	29E	Abo	29400	13700	2520	2800
3001501595	28	175	28E	Artesia	237482	147300	46	1044
3001501595	28	17S	28E	Artesia	230189	143300	35	925
3001501595	28	17S	28E	Artesia	217219	133800	137	1030
3001501595	28	17S	28E	Artesia	241926	149300	35	1162
3001501595	28	17S	28E	Artesia	30400	12800	2320	4500
3001501595	28	17S	28E	Artesia	222174	137000	109	922
3001501652	31	17S	28E	Artesia	187566	109300	575	4910
3001530889	32	17S	28E	Artesia	163842	111692	836	44
3001530889	32	17S	28E	Artesia	97568	61161	245	2111
3001530299	33	17S	28E	Artesia	194617	129205	674	4405
3001502886	4	17S	29E	Artesia	38560	21670	668	2157
3001502891	4	17S	29E	Artesia	227185	140700	47	900
3001502912	7	17S	29E	Artesia	267895	166300	47	625
3001502996	16	17S	29E	Artesia	102782	57400	450	5600
3001502996	16	17S	29E	Artesia	120438	71800	989	653
3001502996	16	17S	29E	Artesia	1751	799	200	210
3001502996	16	17S	29E	Artesia	138560	75600	1200	9000
3001503019	21	17S	29E	Artesia	237424			
3001503019	21	17S	29E	Artesia	68550	39100	850	2500
3001503019	21	17S	29E	Artesia	69875	41200	485	1800
3001503019	21	17S	29E	Artesia	132353	78840	332	2628
3001503019	21	17S	29E	Artesia	37260	17200	1610	4800
3001503042	22	17S	29E	Artesia	178711	104425	402	4600
3001503034	22	17S	29E	Artesia	56179	31824	716	2350
3001503042	22	17S	29E	Artesia	146796	88400	69	2030
3001503170	28	17S	29E	Artesia	195904	129855	587	4825
3001531125	28	17S	29E	Artesia	240561	176450	91	1054
3001531125	28	17S	29E	Artesia	174045	120583	433	2087
3001503172	28	17S	29E	Artesia	29210	12500	2370	3950
3001503172	28	17S	29E	Artesia	29961	13360	1387	4284
3001503196	33	17S	29E	Artesia	277375	172900	194	1384
3001530334	33	175	28E	Glorieta/Yeso	206471	137940	504	4742
3001502866	2	175	29E	Grayburg/San Andres	1406	780	10	550
3001502873	3	17S	29E	Grayburg/San Andres	109000	63070	339	3538

PRODUCED WATER ANAYLSES (in mg/l) T. 17 S., R. 28 and 29 E.

		,			,			,
API	Section	Township	Range	Formation	TDS	Chloride	Bicarbonate	Sulfate
3001521279	31	17S	29E	Morrow	35148	19800	1510	450
3001521279	31	175	29E	Morrow	33627	19300	900	540
3001502933	9	17S	29E	Permo-Penn	310744	192950	179	1259
3001537329	5	17S	28E	Wolfcamp	92636	54800	207	0
3001537429	5	17S	28E	Wolfcamp	84981	50400	171	0
3001538084	5	17S	28E	Wolfcamp	84923	49800	635	0
3001537429	5	17S	28E	Wolfcamp	91974	55168	439	0
3001538084	5	17S	28E	Wolfcamp	93671	54565	427	0
3001538084	5	17S	28E	Wolfcamp	67849	39804	98	2172
3001530915	19	17S	29E	Yeso	192637	130436	822	2724
3001530916	19	17S	29E	Yeso	212361	142111	945	4613
3001530944	19	17S	29E	Yeso	215197	144157	409	4785
3001530917	19	17S	29E	Yeso	213384	142829	448	4903
3001530307	29	17S	29E	Yeso	208172	140286	612	3456
3001530451	29	17S	29E	Yeso	182240	121966	933	3445
3001530307	29	17S	29E	Yeso	200501	133638	822	4560
3001530931	29	17S	29E	Yeso	207695	138951	495	4750
3001530305	29	17S	29E	Yeso	207078	137913	660	5163
3001530694	29	17S	29E	Yeso	194357	152244	1112	5958
3001530575	30	17S	29E	Yeso	9557	3819	806	1616
3001530575	30	17S	29E	Yeso	8483	3308	448	1711

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HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES ARTESIA DISTRICT



HALLIBURTON SERVICES

LABORATORY REPORT

		LABORATORY REP	ORT	₩о	W38-92		
TO Mr. Hary	vey Apple		Da	te <u>Fe</u>	bruary	14. 1	992
Yates Pe	etroleum Corpora	tion	***				
105 Şout	th Fourth Street		This report is the property of thereof, nor a copy thereof; is the express emition approve	of laboratory of	DI GEOLOGICA ENE	TOUR BEST BACK	and a
	NM 88210	.: .	used in the course of regular to imployers thereof receiving	MANOR I I DOWN	ORG Pay Arry Province		TAM
Submitted by			Date Rec.	Februar	y 14, 1	992	
Well No. State HU	#1 from SWD-8	41 Depth					
Field	30-103-2214	łO	Sou	•	•		RP-LEDING .
	Manager of the same of the sam	The state of the s					
Resistivity	Contraction of the Contraction o						
Specific Gravity		2.4.8					
рн	7.5	- Bendagibel -		The Control of the Assessment of the Control of the	· Santagy parameters in the santage s		Quantis
Calcium	3,643	- Company	e e e e e e e e e e e e e e e e e e e	ga tilligan gar medineg filosom stegen in	Paralle State Control of the S		Partmet
Magnesium	1,588				·	······································	
Chlorides	32,000		·			9777 <u>9</u> 7777	
Sulfates	1,500		9 Magasanna ann an Aireann an Air			·····	
Bicarbonates	854	The state of the s	Management of the state of the				
Soluble Iron	0	· · · · · · · · · · · · · · · · · · ·	Philipson and the Control of the Con		n amoungagaaaga		 -
Name Survey Survey Stated Stat						metallers and the	-
the page gard gast tree come and well was seen a		**************************************					
there expert these expert house goven brees around algoric brees as				-			-
Remarks:	Disposal	Zone Form	ation Water	-			
	5	Do Ana			ΓI.	5.	
	Rea	spectfully aubmi	tted				

Analyst: Eric Jacobson - Operations Engineer



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

Code

closed)

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

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD

Sub-

QQQ

basin County 64 16 4 Sec Tws Rng

4 2 2 14 17S 28E

X Y 580495 3633981

Water DistanceDepthWellDepthWater Column

Average Depth to Water:

58 feet

Minimum Depth:

58 feet

Maximum Depth:

58 feet

Record Count: 1

POD Number

RA 12307 POD1

UTMNAD83 Radius Search (in meters):

Easting (X): 583108

Northing (Y): 3633188

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.

12/20/19 4:15 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Analytical Rep EXHIBIT I

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/16/2020

CLIENT: Permits West

Client Sample ID: RA-12307-POD1

Project: Ozzy State 18 SWD 1

Collection Date: 1/7/2020 9:30:00 AM

Lab ID: 2001225-001

Matrix: AQUEOUS

Received Date: 1/8/2020 9:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 1664B						Analyst	: KMN
N-Hexane Extractable Material	ND	9.49		mg/L	1	1/15/2020 11:43:00 AM	49757
EPA METHOD 300.0: ANIONS						Analyst	: CJS
Chloride	830	50	*	mg/L	100	1/9/2020 8:22:55 PM	R65669
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst	: JMT
Total Dissolved Solids	3650	20.0	*	mg/L	1	1/13/2020 7:58:00 AM	49723

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
- ID 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
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 5

Type text he Lab Order 2001225

Date Reported: 1/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Permits West Client Sample ID: Trough 32.84964 104.08036

Project: Ozzy State 18 SWD 1 Collection Date: 1/7/2020 4:10:00 PM

Lab ID: 2001225-002 Matrix: AQUEOUS Received Date: 1/8/2020 9:35:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 1664B					Analys	: KMN
N-Hexane Extractable Material	ND	9.59	mg/L	1	1/15/2020 11:43:00 AM	1 49757
EPA METHOD 300.0: ANIONS					Analys	CAS
Chloride	39	5.0	mg/L	10	1/10/2020 2:21:55 PM	R65713
SM2540C MOD: TOTAL DISSOLVED SOLIDS					Analyst	:: JMT
Total Dissolved Solids	330	20.0	mg/L	1	1/14/2020 12:58:00 PM	49762

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

P Sample pH Not In Range

RL Reporting Limit

Page 2 of 5

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

16-Jan-20

Client:

Permits West

Project:

Ozzy State 18 SWD 1

Sample ID: MB-49757

SampType: MBLK

TestCode: EPA Method 1664B

Client ID: PBW

Batch ID: 49757

PQL

RunNo: 65794

Prep Date: 1/13/2020

Analysis Date: 1/15/2020

Units: mg/L

SeqNo: 2259838

%RPD

Analyte

SPK value SPK Ref Val %REC

HighLimit

RPDLimit Qual

N-Hexane Extractable Material Sample ID: LCS-49757

ND 10.0

TestCode: EPA Method 1664B

Client ID: LCSW

SampType: LCS Batch ID: 49757

RunNo: 65794

Prep Date: 1/13/2020

Result

Analysis Date: 1/15/2020

SeqNo: 2259839

Units: mg/L HighLimit

Analyte

PQL

SPK value SPK Ref Val

%RPD **RPDLimit**

Qual

N-Hexane Extractable Material

LowLimit

LowLimit

35.0

10.0

40.00

%REC 87.5

78

114

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit

POL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

E Value above quantitation range

Analyte detected below quantitation limits Sample pH Not In Range

RL Reporting Limit Page 3 of 5

QC SUMMARY REPORT

EXHIBIT I WO#: 2001225

Hall Environmental Analysis Laboratory, Inc.

16-Jan-20

Client: Permits West

Project: Ozzy State 18 SWD 1

Sample ID: MB SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBW Batch ID: R65669 RunNo: 65669

Prep Date: Analysis Date: 1/9/2020 SeqNo: 2256403 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Chloride ND 0.50

Sample ID: LCS SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSW Batch ID: R65669 RunNo: 65669

Prep Date: Analysis Date: 1/9/2020 SeqNo: 2256404 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Chloride 4.9 0.50 5.000 0 97.3 90 110

Sample ID: MB SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBW Batch ID: R65713 RunNo: 65713

Prep Date: Analysis Date: 1/10/2020 SeqNo: 2257113 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Chloride ND 0.50

Sample ID: LCS SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSW Batch ID: R65713 RunNo: 65713

Prep Date: Analysis Date: 1/10/2020 SeqNo: 2257114 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Chloride 4.8 0.50 5.000 0 95.3 90 110

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
- P Sample pH Not In Range
- RL Reporting Limit

Page 4 of 5

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2001225

16-Jan-20

Client:

Permits West

Project:

Ozzy State 18 SWD 1

Sample ID: MB-49723

SampType: MBLK

TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PBW

Batch ID: 49723

RunNo: 65715

Prep Date: 1/9/2020

Analysis Date: 1/13/2020

SeqNo: 2257238

Units: mg/L

Analyte

PQL

SPK value SPK Ref Val %REC

LowLimit HighLimit

%RPD **RPDLimit**

Qual

Total Dissolved Solids

ND 20.0

Sample ID: LCS-49723

SampType: LCS

TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Prep Date: 1/9/2020

Batch ID: 49723 Analysis Date: 1/13/2020 RunNo: 65715 SeqNo: 2257239

Units: mg/L

Analyte Total Dissolved Solids

Result 1020 **PQL** SPK value SPK Ref Val 20.0 1000

%REC 102

LowLimit

HighLimit 120 %RPD **RPDLimit**

Qual

Sample ID: MB-49762

Client ID: PBW SampType: MBLK

RunNo: 65765

SPK value SPK Ref Val %REC LowLimit

TestCode: SM2540C MOD: Total Dissolved Solids

Prep Date: 1/13/2020

Batch ID: 49762 Analysis Date: 1/14/2020

PQL

20.0

SeqNo: 2258758

Units: mg/L HighLimit

%RPD **RPDLimit**

Qual

Sample ID: LCS-49762

Total Dissolved Solids

SampType: LCS

TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW

Batch ID: 49762

Result

ND

RunNo: 65765

Units: mg/L

Prep Date: 1/13/2020

Analyte

Analysis Date: 1/14/2020

SeqNo: 2258759 %REC

RPDLimit

Qual

Analyte Total Dissolved Solids Result 1020 PQL

SPK value SPK Ref Val 1000

0

102

80

20.0

LowLimit

HighLimit 120 %RPD

Qualifiers:

POL

Sample Diluted Due to Matrix

Not Detected at the Reporting Limit ND Practical Quanitative Limit

Value exceeds Maximum Contaminant Level.

Н Holding times for preparation or analysis exceeded

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

E Value above quantitation range

Analyte detected below quantitation limits

Sample pH Not In Range RL Reporting Limit

Page 5 of 5





NM Oil Conservation Division 1220 S. St. Francis Dr. Santa Fe, NM 8705

July 15, 2020

Re: Hydrology Statement Longfellow Energy L.P. Ozzy State 18 SWD No. 1 Section 18, T. 17S, R. 29E Eddy County, New Mexico

To whom it may concern:

Publicly available geologic and engineering data related to the proposed well have been thoroughly reviewed, and no evidence for open faults or any other hydrologic connection between the proposed Canyon Formation injection zone and any underground sources of drinking water has been found. Please see the attached geologic assessment for additional information.

Sincerely,

Cory Walk Geologist

EXHIBIT J

Geologic Assessment

Longfellow Energy L.P.

Ozzy State 18 SWD No. 1

Section 18, Township 17 South, Range 29 East

Eddy County, New Mexico

Cory Walk

B.S., M.S.

Geologist

Permits West Inc.

July 15, 2020



General Information

Longfellow Energy proposes to drill a salt water disposal (SWD) well in the SE 1/4, section 18, T17S, R29E, about 16 miles east of Artesia, NM in the Permian Basin. The proposed injection zone is within the Canyon Formation from 9,520'-9,700' below ground surface. This report assesses any potential concerns relating to the connection between the injection zone and known underground potable water sources.

Groundwater Sources

Quaternary Alluvium acts as the principal aquifer used for potable ground water near the Ozzy State 18 SWD #1 location (Hendrickson and Jones, 1952). Nicholson and Clebsch (1961) state, "Potable ground water is not available below the Permian and Triassic unconformity but, because this boundary is not easily defined, the top of the Rustler anhydrite formation is regarded as the effective lower limit of 'potable' ground water." Around the Ozzy State 18 SWD #1, the Rustler Formation lies at a depth of ~350 feet bgs.

Faults and Fractures

The Geologic Map of New Mexico (2003) shows the nearest fault to the SWD location is found 17 miles to the northwest (Figure 1). A large accumulation of northwest trending Basin and Range style normal faults lie ~65 miles from the proposed water injection well. This fault zone is interpreted to be a southeastern extension of the Rio Grande Rift zone (Muehlberger et al., 1978) and is the only area in which deeply penetrating faults exist throughout the region.

A structure contour map of the Precambrian Basement shows the Ozzy State 18 SWD well is approximately 12 miles to the nearest Precambrian basement fault (Figure 1; Modified from Ruppel et al., 2009). However, Montgomery (1997) shows that these faults remain deep below the surface and do not act as conduits between the Pennsylvanian Canyon Formation and aquifers near the surface (Figure 2).

Stratigraphy

Well data indicates ~9,170 ft of rock separating the top of the injection zone within the Canyon Formation from the previously stated lower limit of potable water at the top of the Rustler anhydrite formation. Within the separating ~9,170 feet of strata include several horizons of impermeable formations including the Rustler anhydrite and Salado halite formations.

Concluding Statement

After examination of publically available geologic and engineering data, there is no evidence of open faults or any other hydrologic connection between the proposed injection zone and any underground sources of drinking water.



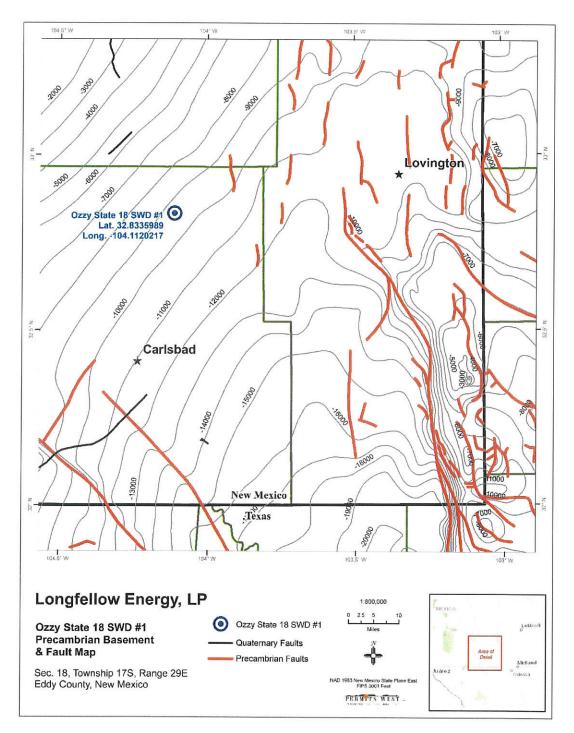


Figure 1. Structural contour map of the Precambrian Basement. Thick red lines represent the locations of deep Precambrian basement faults and black lines represent Quaternary surface faults.



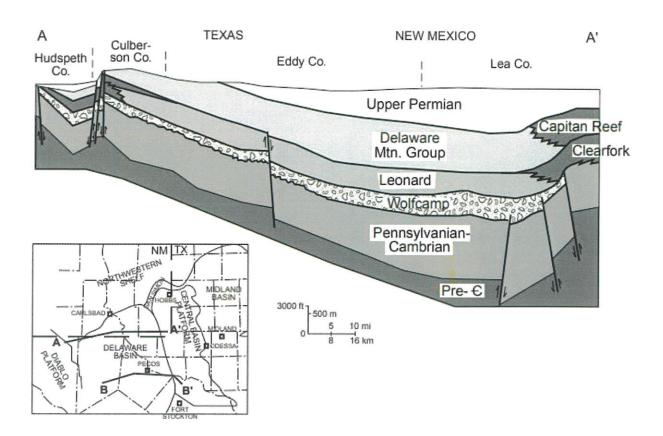


Figure 2. Cross section of the Permian Basin from Montomery (1997). Notice the basement faults within the basin do not reach the surface and therefore do not act as conduits to near surface aquifers.



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County of Eddy:

Danny Scott

being duly sworn sayes that he is the Publisher

of the Artesia Daily Press, a daily newspaper of General circulation, published in English at Artesia, said county and state, and that the hereto attached

Legal Ad

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for

l	Consecutive	weeks/day	on	the	same

day as follows: First Publication

July 23, 2020

Second Publication

Third Publication

Fourth Publication

Fifth Publication

Sixth Publication

Seventh Publication

Subscribed and sworn before me this

23rd day of

July

2020



Latisha Romine NOTARY PUBLIC-STATE OF NEW MEXICO

My commission expires: 5/(2/2023

Latisto Romine

Latisha Romine

Notary Public, Eddy County, New Mexico

Released to Imaging: 4/30/2025 7:47:50 AM

Copy of Publication:



Legal Notice

Longfellow Energy, LP will apply to drill the Ozzy State 18 State SWD 1 as a saltwater disposal well. The well will dispose into the Canyon formation from 9,520' to 9,700'. It is staked 8 miles west of Loco Hills and 16 miles east of Artesia, NM at 2280 FSL & 1972 FEL Sec. 18, T. 17 S., R. 29 E., Eddy County, NM. Maximum disposal rate will be 20,000 bwpd. Maximum injection pressure will be 1,904 psi. 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.

Published in the Artesia Daily Press, Artesia, N.M., July 23, 2020 Legal No. 25499.





July 30, 2020

NM State Land Office PO Box 1148 Santa Fe NM 87504

Longfellow Energy, LP is applying (see attached application) to drill the Ozzy State 18 SWD 1 as a saltwater disposal well. As required by NM Oil Conservation Division (NMOCD) rules, I am notifying you of the following proposal. This letter is a notice only. No action is needed unless you have questions or objections.

Well: Ozzy State 18 SWD 1 TD = 9700'

Proposed Disposal Zone: Canyon (9520' - 9700')

Location: 2280' FSL & 1972' FEL Sec. 18, T. 17 S., R. 29 E., Eddy County, NM

Approximate Location: 16 miles of Artesia, NM

Applicant Name: Longfellow Energy, LP (972) 242-8851

Applicant's Address: 16803 North Dallas Parkway, Addison TX 75001

<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. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

Brian Wood

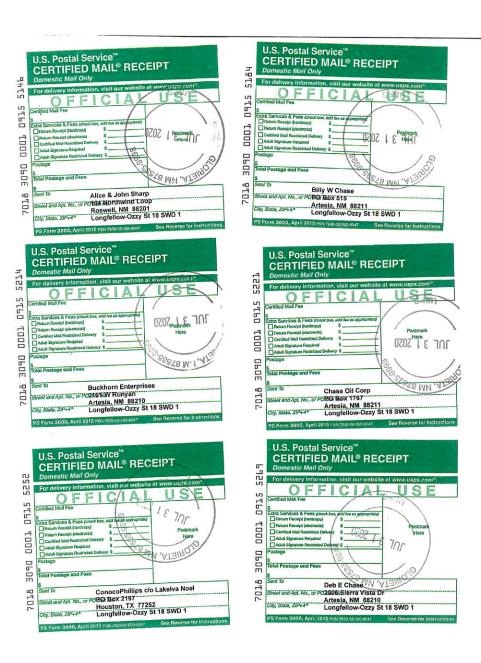
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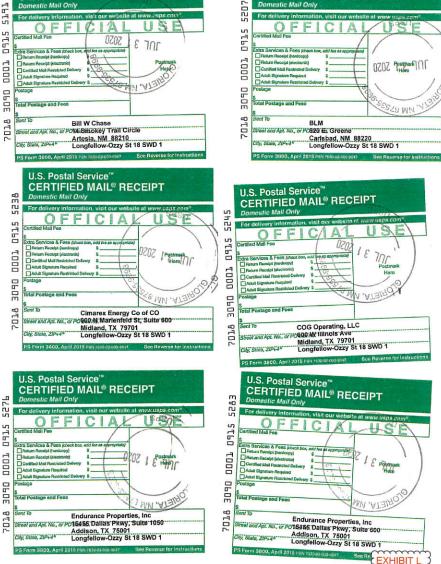
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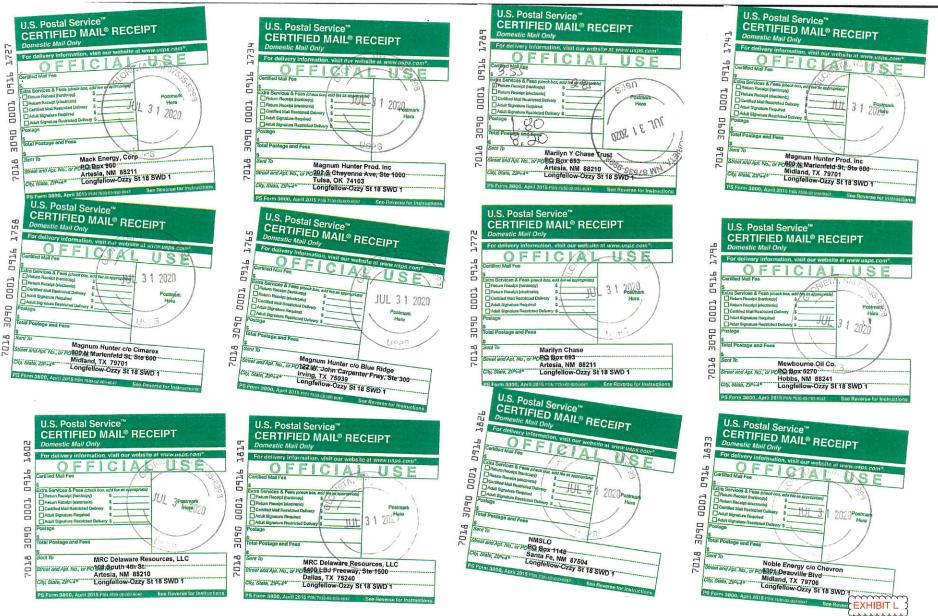






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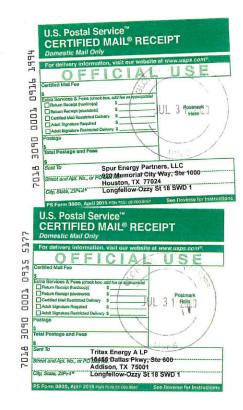


EXHIBIT L

Sante Fe Main Office Phone: (505) 476-3441

General Information Phone: (505) 629-6116

Online Phone Directory https://www.emnrd.nm.gov/ocd/contact-us

State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 S. St Francis Dr. Santa Fe, NM 87505

COMMENTS

Action 456997

COMMENTS

Operator:	OGRID:
LONGFELLOW ENERGY, LP	372210
8115 Preston Road	Action Number:
Dallas, TX 75225	456997
	Action Type:
	[IM-SD] Admin Order Support Doc (ENG) (IM-AAO)

COMMENTS

Created By	Comment	Comment Date
anthony.harris	Updated C-108 with actual formation tops and perforation intervals included	4/30/2025

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	[IM-SD] Admin Order Support Doc (ENG) (IM-AAO)

CONDITIONS

Created By	Condition	Condition Date
anthony.harris	None	4/30/2025