

Additional Information

Longfellow SWD-2389

Ozzy State 18 30-015-50193

Purpose: Clarification of Bottomhole Pressure and Gradient Survey
3-19-2025

Notes:

1. Gradient survey information is presented in a confusing manner
2. Attempt was made to have Longfellow correct the report to clarify the confusion, but subsequent Sundry report still contained data that could cause confusion
3. In the interest of time, the Sundry was approved. The following pertinent details should be noted:
 - a. Injection interval is 8794 – 8928 ft
 - b. Well completed with tubing and packer set at 8768 ft
 - c. Shut-in wellhead pressure = 720 psi
 - d. Bottomhole pressure at 8825 ft = 5081 psi
 - e. Fluid Gradient = $(5081 - 720) / 8825 \text{ ft} = 0.49 \text{ psi/ft.}$
 - f. Pore Pressure Gradient = $(5081 \text{ psi} / 8825 \text{ ft}) = 0.574 \text{ psi/ft.}$
 - i. Pore pressure gradient is high due to injection from offset wells in the Cisco Canyon.

From: David Cain
To: Harris, Anthony, EMNRD; Goetze, Phillip, EMNRD; Gebremichael, Million, EMNRD; Sandoval, Stacy, EMNRD; Gordan, Erica, EMNRD
Cc: Jacob DeHamer; David Mitchell
Subject: RE: [EXTERNAL] Ozzy State 18 SWD 1 Activation SWD-2389 30-015-50193
Date: Friday, April 18, 2025 11:42:11 AM
Attachments: image013.png
 C-103_Ozzy_18_State_SWD_1_Drilling_Cement_Form.pdf
 C-103_Ozzy_18_State_SWD_1_Perf_and_Tubing_Form.pdf

Hello Anthony,

It looks like the pressure test packer information and the 220 psi were mistakes on the report. Our answers to your concerns are outlined below.

Regarding the action ID number issue from your other email, here is a screenshot of our pending OCD Online actions. I downloaded and attached the forms from the online system for your reference.

Action 385489 – Morningstar 30-025-40996 – Bradenhead test

Action 385475 – Morningstar 30-025-20823 – Bradenhead test

Action Id	Type	Status	Status Date
453322	[C-103] NOI Change of Plans	SUBMITTED	04/17/2025
453321	[C-103] NOI Change of Plans	SUBMITTED	04/17/2025
446024	[C-103] Sub. General Sundry	SUBMITTED	03/26/2025
441909	[C-103] Sub. General Sundry	SUBMITTED	03/12/2025
441839	[C-105] Well (Re)Completion	SUBMITTED	03/12/2025
385489	[C-103] EP Perforations / Tubing	SUBMITTED	03/12/2025
385475	[C-103] EP Drilling / Cement	SUBMITTED	03/12/2025

Please let me know if you need any additional information.

Thank you,
 David Cain

From: Harris, Anthony, EMNRD <Anthony.Harris@emnrd.nm.gov>
Sent: Thursday, April 17, 2025 4:13 PM
To: David Cain <david.cain@longfellowenergy.com>; Goetze, Phillip, EMNRD <phillip.goetze@emnrd.nm.gov>; Gebremichael, Million, EMNRD <Million.Gebremichael@emnrd.nm.gov>; Sandoval, Stacy, EMNRD <Stacy.Sandoval@emnrd.nm.gov>; Gordan, Erica, EMNRD <Erica.Gordan@emnrd.nm.gov>
Cc: Jacob DeHamer <jacob.dehamer@longfellowenergy.com>; David Mitchell <david.mitchell@longfellowenergy.com>
Subject: RE: [EXTERNAL] Ozzy State 18 SWD 1 Activation SWD-2389 30-015-50193

Good Afternoon, David

Your Action ID 446024 for the Downhole pressure survey is under review and we would like to clarify the following items to ensure the OCD well file is updated with correct information prior to the start of injection operations

- Has a packer been installed in the well? If yes, at what depth? Refer to highlighted item from the Snapshot below that states no packer was installed.
Yes a packer was set. Depth was 8687'
- The initial tubing pressure was 0 psi, but the final tubing pressure was 220 psi. Can you please confirm if this is correct, and if so, can you explain what caused the pressure increase?
 - For context, the first snapshot indicates final tubing pressure of 220 psia, but the second snapshot shows final pressure of 14.1 psia
Initial tubing pressure will be 0 because the well is SI at the master valve. The 220 psi is a mistake. The pressure at the surface is 720 psi. That should be the final
- Recorded pressure was 5081 psi at 8825 feet. This equates to a gradient of 0.574 psi/ft and is equivalent to a fluid density of ~ 11 ppg.
 - Can you please confirm these numbers are correct?
Numbers are correct. Match closely to the estimated BHP = 4405 (hydrostatic) + 720 (surface) = 5125 psi
 - Can you please elaborate on why the fluid gradient is so high for this well?
Fluid gradient is high due to surrounding injection into canyon interval.
 - Is there a reason why the survey was only run to 8825 feet (695 feet above the top of approved injection interval)?
 - Did you encounter the Canyon shallower than the prognosed depth?
We stopped short due to the higher canyon intervals. This is why we applied for the minor modification.

Again, we want to ensure this information is correct before it is approved and entered into the well file records. Please provide your feedback to the above items via return e-mail or by re-submitting the C-103 with a narrative to explain the above items.

Feel free to call me if you have any questions or require clarification

Client Name:	Longfellow Energy		
Client Address:		Packer:	No
		Tubing in Well:	Yes
		Flow Path:	Tubing
Well Name:	Ozzy State 18 SWD	Well Fluid Type at Test Date:	Water
Well Location:	#001	Well Type:	Vertical
Pool:	Loco Hills	KB Elevation [ft]:	
Reservoir:		CF Elevation [ft]:	
Well ID:		Ground Elevation [ft]:	
License Number:		Inside Diameter of Production Tubing [in]:	2.375
Drilling Leg:		Inside Diameter of Production Casing [in]:	
Formation Name:		Outside Diameter of Production Tubing [in]:	2 7/8

Test Information:

Test Name:	Ozzy State 18 SWD #001	Gauge Run Depth [ft KB (TVD)]:	8825
Test/Job Number:	1	H2S:	No
Test Purpose:	Initial Test		
Test/Prod. Interval Top [ft KB (Log)]:		Test/Prod. Interval Top [ft KB (TVD)]:	
Test/Prod. Interval Base [ft KB (Log)]:		Test/Prod. Interval Base [ft KB (TVD)]:	
Time/Date Well Shut-In:	2025/03/19 10:18:00	Final Test Date/Time:	2025/03/19 12:30:00
Initial Tubing Pressure [psia]:	0	Initial Casing Pressure [psia]:	0
Final Tubing Pressure [psia]:	220	Final Casing Pressure [psia]:	0
Final Flowing WH Pressure [psia]:		Surface Temperature [degF]:	54

Client: Longfellow Energy
 Test Date: 41309
 Tool Serial #: 41309

Well Name: Ozzy State 18 SWD
 Location: #001
 Field/Pool: Loco Hills

Ozzy State 18 SWD #001**EVENTS TABLE**

Calendar (yyyy/mm/dd hh:mm:ss)	Elapsed time (hours)	Pressure (psia)	Temperature (degF)	Comment
	0.11389	14.101	62.293	D = 0 feet P = 14.1 psia T = 62.29 degF
	1.15556	5081.578	132.676	D = 8825 feet P = 5081.58 psia T = 132.68 degF
	2.13222	14.102	59.615	D = 0 feet P = 14.1 psia T = 59.62 degF

Client: Longfellow Energy
 Test Date: 41309
 Tool Serial #: 41309

Well Name: Ozzy State 18 SWD
 Location: #001
 Field/Pool: Loco Hills

Ozzy State 18 SWD #001**GRADIENTS TABLE**

Calendar time (yyyy/mm/dd hh:mm:ss)	Elapsed time (Hours)	Stop type	Meas. depth (ft)	TV depth (ft)	Pressure (psia)	Temperature (degF)	Pressure gradient (psia/ft)	Temperature gradient (degF/ft)
	0.11389	Static	0.00	0.00	14.101	62.293		
	1.15556	Static	8825.00		5081.578	132.676	0.574	0.008
	2.13222	Static	0.00	0.00	14.102	59.615	0.574	0.008

Regards

Tony Harris

Petroleum Specialist

Anthony.harris@emnrd.nm.gov

505 549 8131.



From: David Cain <david.cain@longfellowenergy.com>

Sent: Wednesday, April 16, 2025 8:35 AM

To: Goetze, Phillip, EMNRD <phillip.goetze@emnrd.nm.gov>; Gebremichael, Million, EMNRD <Million.Gebremichael@emnrd.nm.gov>; Sandoval, Stacy, EMNRD <Stacy.Sandoval@emnrd.nm.gov>; Harris, Anthony, EMNRD <Anthony.Harris@emnrd.nm.gov>

Cc: Jacob DeHamer <jacob.dehamer@longfellowenergy.com>; David Mitchell <david.mitchell@longfellowenergy.com>

Subject: [EXTERNAL] Ozzy State 18 SWD 1 Activation SWD-2389 30-015-50193

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

Hello UIC Team,

The Ozzy State 18 SWD 1 (SWD-2389, 30-015-50193) is ready for activation as an operational SWD. The required tests and reports have been uploaded to the OCD online system. The tests and action IDs are listed below. The notice of commencement C-103 will follow the MIT approval, as that is required prior to commencing injection. We will be ready to commence injection in a few days once the MIT is approved and the finishing touches on the injection facility are done.

Downhole Pressure Survey 446024

MIT 441909

C-105 Completion Report	441839
Perf & Tubing Sundry	385489
Drilling & Cement Sundry	385475

Please let me know if you require anything else.

Thanks,

David Cain

Sr. Engineering Technologist & Regulatory Specialist

Office 972-590-9918 Cell 972-765-9503

8115 Preston Road, Suite 800, Dallas, TX 75225



Santa 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	Form C-103 August 1, 2011 Permit 385475																																																																
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Casing and Cement Program <table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Date</th> <th>String</th> <th>Fluid Type</th> <th>Hole Size</th> <th>Csg Size</th> <th>Weight lb/ft</th> <th>Grade</th> <th>Est TOC</th> <th>Dpth Set</th> <th>Sacks</th> <th>Yield</th> <th>Class</th> <th>1" Dpth</th> <th>Pres Held</th> <th>Pres Drop</th> <th>Open Hole</th> </tr> </thead> <tbody> <tr> <td>05/29/24</td> <td>Surf</td> <td>FreshWater</td> <td>17.5</td> <td>13.375</td> <td>54.5</td> <td>J55</td> <td>0</td> <td>379</td> <td>430</td> <td>1.75</td> <td>C</td> <td>0</td> <td>5000</td> <td>0</td> <td>N</td> </tr> <tr> <td>06/02/24</td> <td>Int1</td> <td>CutBrine</td> <td>12.25</td> <td>9.625</td> <td>40</td> <td>J55</td> <td>0</td> <td>2597</td> <td>1620</td> <td>1.47</td> <td>50/50 Poz</td> <td>0</td> <td>5000</td> <td>0</td> <td>N</td> </tr> <tr> <td>06/14/24</td> <td>Prod</td> <td>CutBrine</td> <td>8.75</td> <td>7</td> <td>32</td> <td>L80</td> <td>0</td> <td>9463</td> <td>1120</td> <td>1.184</td> <td>H</td> <td>0</td> <td>5000</td> <td>0</td> <td>N</td> </tr> </tbody> </table>			Date	String	Fluid Type	Hole Size	Csg Size	Weight lb/ft	Grade	Est TOC	Dpth Set	Sacks	Yield	Class	1" Dpth	Pres Held	Pres Drop	Open Hole	05/29/24	Surf	FreshWater	17.5	13.375	54.5	J55	0	379	430	1.75	C	0	5000	0	N	06/02/24	Int1	CutBrine	12.25	9.625	40	J55	0	2597	1620	1.47	50/50 Poz	0	5000	0	N	06/14/24	Prod	CutBrine	8.75	7	32	L80	0	9463	1120	1.184	H	0	5000	0	N
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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	Form C-103 August 1, 2011 Permit 385489
		WELL API NUMBER 30-015-50193
		5. Indicate Type of Lease State
		6. State Oil & Gas Lease No.
SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		7. Lease Name or Unit Agreement Name OZZY STATE 18 SWD
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13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work.) SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion. Jan 29, 2025 – Perforate injection interval. Jan 30, 2025 – Acidize with 20,000 gal of 20% HCL and 15,000 gal of 15% HCL.		
Perforations Pool: SWD; CANYON , 96184 Location: J -18-17S-29E 2280 S 1972 E		
TOP 8814	BOT 8948	Open Hole N
Shots/ft 6	Shot Size 0.42	Material
Stimulation Acid	Amount 35000	
Tubing SWD;CANYON , 96184		
Tubing Size 3.5	Type L80	Depth Set 8796
Packer Set 8796		
I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines <input type="checkbox"/> , a general permit <input type="checkbox"/> or an (attached) alternative OCD-approved plan <input type="checkbox"/> .		
SIGNATURE Type or print name	Electronically Signed <u>David Cain</u>	TITLE <u>Engineering Technologist</u> E-mail address <u>david.cain@longfellowenergy.com</u>
DATE 3/12/2025	Telephone No. 972-590-9918	
For State Use Only: APPROVED BY: _____ TITLE _____ DATE _____		

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

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/oed/contact-us>

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

CONDITIONS

Action 500376

CONDITIONS

Operator: LONGFELLOW ENERGY, LP 8115 Preston Road Dallas, TX 75225	OGRID: 372210
	Action Number: 500376
	Action Type: [IM-SD] Admin Order Support Doc (ENG) (IM-AAO)

CONDITIONS

Created By	Condition	Condition Date
anthony.harris	None	8/28/2025