

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Ken McQueen
Cabinet Secretary

Matthias Sayer
Deputy Cabinet Secretary

David R. Catanach, Division Director
Oil Conservation Division



April 25, 2017

Mr. Brian Wood
Murchison Oil and Gas Inc.
1100 Mira Vista Blvd
Plano, TX 75093

RE: Packer Setting Depth Exception

Injection Authority: Amended Administrative Order SWD-1414 (dated June 16, 2013)

Permitted Interval: Delaware Mountain group; 5573 feet to 6512 feet

Jackson Unit SWD Well No. 6 (API 30-025-34623)

Unit H, Sec 21, T24S, R33E, NMPM, Lea County, New Mexico

Mr. Wood:

Reference is made to your request on behalf of Murchison Oil and Gas Inc (OGRID 15363; "Murchison") received by the Division on April 24, 2017, for the above named well. Murchison applied for exception for setting the packer within 100 feet of the top perforation in the injection interval.

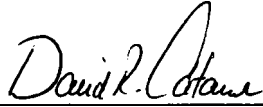
It is our understanding that Murchison has maintained a previous packer setting depth of 5729 feet below surface or approximately 87 feet above the uppermost perforation of the injection well. Following the replacement of tubing and packer for the injection well, Murchison stated that the packer was set at 5733 feet below surface to obtain a proper seal for the tubing packer, which failed an MIT test. As a result, Murchison requests an exception for the current packer depth at 5651 feet below surface. This location of the packer is approximately 165 feet above the shallowest perforation at 5816 feet. Further, the injection interval from 5816 feet to 6512 feet is within the approved injection interval.

For the reasons stated in the application and because it appears that correlative rights are protected, waste will not occur and this modification will not endanger any fresh water aquifer or the environment, the exception is granted. The packer location within this well shall not be set higher than 165 feet above the current top perforation depth unless the operator receives written approval from the Division Director. The Division also stipulates that future repositioning of the packer will be restricted to depths below 5225 feet due to the current location of the top of cement for the 9 $\frac{5}{8}$ -inch casing.

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Murchison Oil and Gas Inc.
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The Division Director may rescind this exception if it becomes apparent that the injected fluid is not being confined to the permitted interval or is endangering any fresh water aquifer.

Sincerely,



DAVID R. CATANACH
Director

DRC/mam

cc: Oil Conservation Division – Hobbs District Office
New Mexico State Land Office – Oil, Gas, and Minerals
Administrative Order SWD-1414
Well File API 30-025-34623

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

April 24, 2017

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

Dear Michael,

On behalf of Murchison Oil & Gas, Inc. (15363), I am requesting a minor modification of SWD-1414 for Murchison's Jackson Unit SWD 6 (30-025-34623). The well (in H-21-24s-33e) disposes into the SWD; Delaware (96100). Disposal was approved from 5573' to 6512'. Actual perforations are from 5816' to 6512' (see attached well bore diagram).

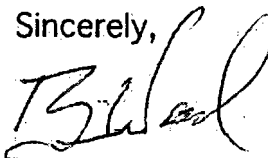
Packer was set at 5729' on August 15, 2013. The well passed a mechanical integrity test on August 22, 2013 and Bradenhead tests in 2015 and 2016.

On or about February 28, 2017, the well developed communication between the tubing and casing. The well was shut-in and OCD Hobbs notified.

A workover started April 17, 2017. Tubing was pulled and the bottom 30 joints and packer were replaced. The new packer was set at 5733' (87' above the top perforation), pressure tested, and failed the test. The packer was next set at 5682' (134' above the top perforation), pressure tested, and again failed. The packer was then set at 5651' (165' above the top perforation), tested to 1500 psi for 15 minutes, and passed the test. Packer fluid was circulated and the well is now shut-in.

Murchison is requesting a permit modification to allow the packer to be set at 165' above the top perforation, instead of the standard maximum of 100'. Does this qualify for a minor modification?

Please call or e-mail (brian@permitswest.com) if you have any questions.

Sincerely,

Brian Wood

cc: Cooper & Cottrell

Jackson Unit #6 (Salt Water Disposal)
Johnson Ranch
Lea County, NM

Spud Date: 05/29/1999
Rig Release: 07/06/1999
Days to Drill: 38
Drilling Rig: Patterson Rig 10
Completion Date: 07/24/1999
TD - 13900 ft

Surface Casing
13 3/8" 68 lb/ft K-55
Setting Depth - 800.42 ft

Cement
Lead - 385 sx Class C w/ additives
Tail - 155 sx Class C
Circulate cement

Intermediate Casing
9 5/8" 40 lb/ft S-95, L-80, & N-80
Setting Depth - 5225.51 ft
Float Shoe - 1.47 ft
Shoe Joint(s) - 43.78 ft
Float Collar - 1.23 ft

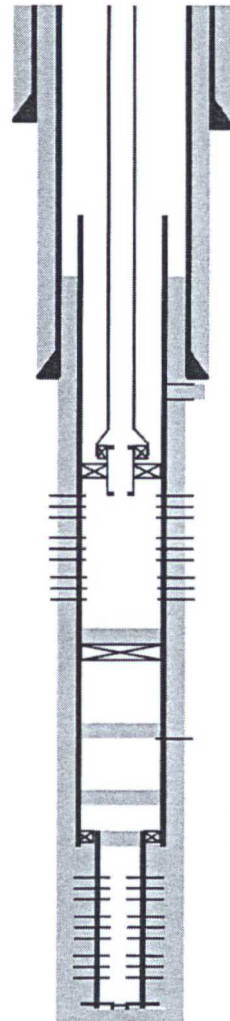
Cement
Lead - 1300 sx Interfill "C"
Tail - 250 sx Class C
Circulate cement

Production Casing
7" 29 lb/ft
Setting Depth - 12,607'

Cement
1010 sx
TOC 5066' by CBL

Production Liner
4 1/2" 15.1 lb/ft P-110
Liner Top - 12166 ft
Setting Depth - 13900 ft

Cement
245 sx Class H
TOC @ TOL



7" casing cut and pulled at 3519'
during original abandonment

Hole in casing 5237'-5301' squeezed 8/3/13

CIBP @ 6829' w/ 28' cement

35 sx cmt plug 6970'-7000'

7" casing cut at 7000' -
unable to pull

50 sx cmt plug 9122'-9222'

50 sx cmt plug 12,266'-12,466'

Tubing Details

Installation Date: 4/19/17

	Length	Top @
174 Jts 3-1/2", 9.3#/ft, L-80, IPC tubing	5629.56'	16.00'
On/Off Tool w/ 2.812" X profile	1.75'	5645.56'
AS1-X Packer, Ni plated, SS flow wetted	8.20'	5647.31'
3 1/2" IPC tail pipe pup	6.30'	5655.51'
2.812 XN profile nipple w/ 2.671" no go EOT	0.97'	5661.81' 5662.78'

Current Perfs:

Delaware
5816-6512 (724 shots)
Total Shots - 724

Abandoned perfs:

Wolfcamp A-Zone
13166-13168 (5 shots)
13172-13174 (5 shots)
13221-13225 (9 shots)
13240-13242 (5 shots)
Total Shots - 024

Wolfcamp B-Zone
13298-13301 (7 shots)
13304-13307 (7 shots)
13331-13333 (5 shots)
13334-13336 (5 shots)
13357-13359 (5 shots)
Total Shots - 29

GRC
Date: 4/20/17

GL = 3582 ft
KB = 3603 ft

API# 30-025-34623