



RECEIVED OGD

September 11, 2015

2015 SEP 11 P 1:14

New Mexico Oil Conservation Division
Attn: Mr. David Catanach
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Request for Variance on Injection Packer Setting Depth
COG Operating, LLC Corazon 4 State SWD #2
Lot 10, Section 4, T21S, R33E, Lea County
Order SWD-1528
API # 30-025-42527

Dear Mr. Catanach,

COG Operating, LLC respectfully requests approval to set the injection packer on the Corazon 4 State SWD #2 one hundred thirty two feet (132') above the top of the Devonian open-hole injection interval in variance to the permit requirement to set the packer within 100' of the top of the injection interval. The special alloy permanent packer became stuck at 15,502' when being run in the hole, which is 132' above the top of the injection interval at 15,634'. The packer is set within the Woodford Shale formation and is 114' above the top of the Devonian formation at 15,616' and is 96' below the top of the Woodford Shale formation at 15,406'. Attached for your information is the approved C-108, well bore schematic and a section of the open-hole log showing the packer location relative to the top of the Woodford Shale, the top of the Devonian and the top of the open-hole injection interval.

Please do not hesitate to contact me at (575) 748-6940 (office) or 432-254-5870 (cell) should you have any questions.

Sincerely,

Brian Collins
Operations Engineering Advisor

Copy: Mr. Phillip Goetze, NMOCD Santa Fe
Mr. Will Jones, NMOCD Santa Fe
Mr. Maxey Brown, NMOCD Hobbs

BC/mv
Enclosures

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

David R. Catanach, Division Director
Oil Conservation Division



Administrative Order SWD-1528
February 25, 2015

**ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION**

Pursuant to the provisions of Division Rule 19.15.26.8B, NMAC, COG Operating LLC (the "operator") seeks an administrative order for its proposed Corazon 4 State SWD Well No. 2 with a proposed location 3500 feet from the North line and 2500 feet from the East line, Lot 10 of Section 4, Township 21 South, Range 33 East, NMPM, Lea County, New Mexico, for produced water disposal purposes.

THE DIVISION DIRECTOR FINDS THAT:

The application has been duly filed under the provisions of Division Rule 19.15.26.8B. NMAC and satisfactory information has been provided that affected parties as defined in said rule have been notified and no protests received. The applicant has presented satisfactory evidence that all requirements prescribed in Rule 19.15.26.8 NMAC have been met and the operator is in compliance with Rule 19.15.5.9 NMAC.

IT IS THEREFORE ORDERED THAT:

The applicant, COG Operating LLC (OGRID 229137) is hereby authorized to utilize its proposed Corazon 4 State SWD Well No. 2 (API No. 30-025-pending) with a proposed location 3500 feet from the North line and 2500 feet from the East line, Lot 10 of Section 4, Township 21 South, Range 33 East, NMPM, Lea County, New Mexico, for disposal of oil field produced water (UIC Class II only) through open hole into an interval consisting of the Devonian, Silurian, and Ordovician formations from approximately 15200 feet to approximately 16900 feet. *If the upper contact of the Ordovician Ellenburger formation is encountered prior to the lower limit of the approved injection interval at 16900 feet, then the total depth of the well (and injection interval) shall be reduced to the upper contact of Ellenburger formation.* Injection will occur through internally-coated, 4 ½-inch or smaller tubing and a packer set within 100 feet of the permitted interval.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the disposed water enters only the approved disposal interval and is not permitted to escape to other formations or onto the surface. This includes the well construction proposed and described in the application.

The operator shall supply the Division with a copy of a mudlog over the permitted

disposal interval and an estimated insitu water salinity based on open-hole logs. If significant hydrocarbon shows occur while drilling, the operator shall notify the Division's District I and the operator shall be required to receive written permission prior to commencing disposal.

Within one year after commencing disposal, the operator shall submit to the Division copies of an injection survey over the entire injection interval run on this well consisting of a temperature log, or equivalent, run under representative disposal rates.

The operator shall also include a cement bond log (or equivalent) showing final top of cement for the 7-inch liner if the cement for the 9 5/8-inch casing is not circulated to the surface, the operator shall run a cement bond log (CBL) by showing the top of cement for this casing string.

The operator shall also provide a summary of depths (picks) for formation tops in the injection interval to the Division's District I office prior to commencing disposal. If the final determination of formation tops (based on geophysical logs) does not correlate to the approved disposal interval, then the operator shall apply to amend the order for a corrected description.

After installing tubing, the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

The well shall pass an initial mechanical integrity test ("MIT") prior to initially commencing disposal and prior to resuming disposal each time the disposal packer is unseated. All MIT procedures and schedules shall follow the requirements in Division Rule 19.15.26.11A. NMAC. The Division Director retains the right to require at any time wireline verification of completion and packer setting depths in this well.

The wellhead injection pressure on the well shall be limited to **no more than 3040 psi**. In addition, the disposal well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface tubing pressure to the maximum allowable pressure for this well. The operator shall install and maintain a chart recorder showing casing and tubing pressures during disposal operations.

The Director of the Division may authorize an increase in tubing pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the disposed fluid from the target formation. Such proper showing shall be demonstrated by sufficient evidence including but not limited to an acceptable Step-Rate Test.

The operator shall notify the supervisor of the Division's District office of the date and time of the installation of disposal equipment and of any MIT so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of disposal to the Division's District office. The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Division Rules 19.15.26.13 and 19.15.7.24 NMAC.

Without limitation on the duties of the operator as provided in Division Rules 19.15.29 and 19.15.30 NMAC, or otherwise, the operator shall immediately notify the Division's District office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

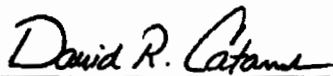
The injection authority granted under this order is not transferable except upon Division approval. The Division may require the operator to demonstrate mechanical integrity of any disposal well that will be transferred prior to approving transfer of authority to inject.

The Division may revoke this injection permit after notice and hearing if the operator is in violation of Rule 19.15.5.9 NMAC.

The disposal authority granted herein shall terminate two (2) years after the effective date of this order if the operator has not commenced injection operations into the subject well. One year after the last date of reported disposal into this well, the Division shall consider the well abandoned, and the authority to dispose will terminate *ipso facto*. The Division, upon written request mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

Compliance with this order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

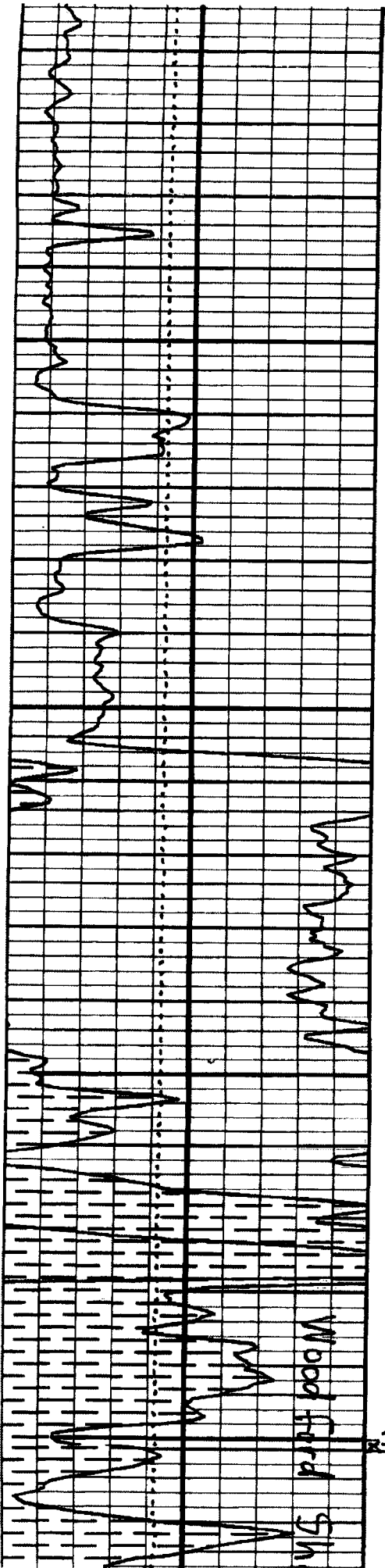
Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the disposal authority granted herein.



DAVID R. CATANACH
Director

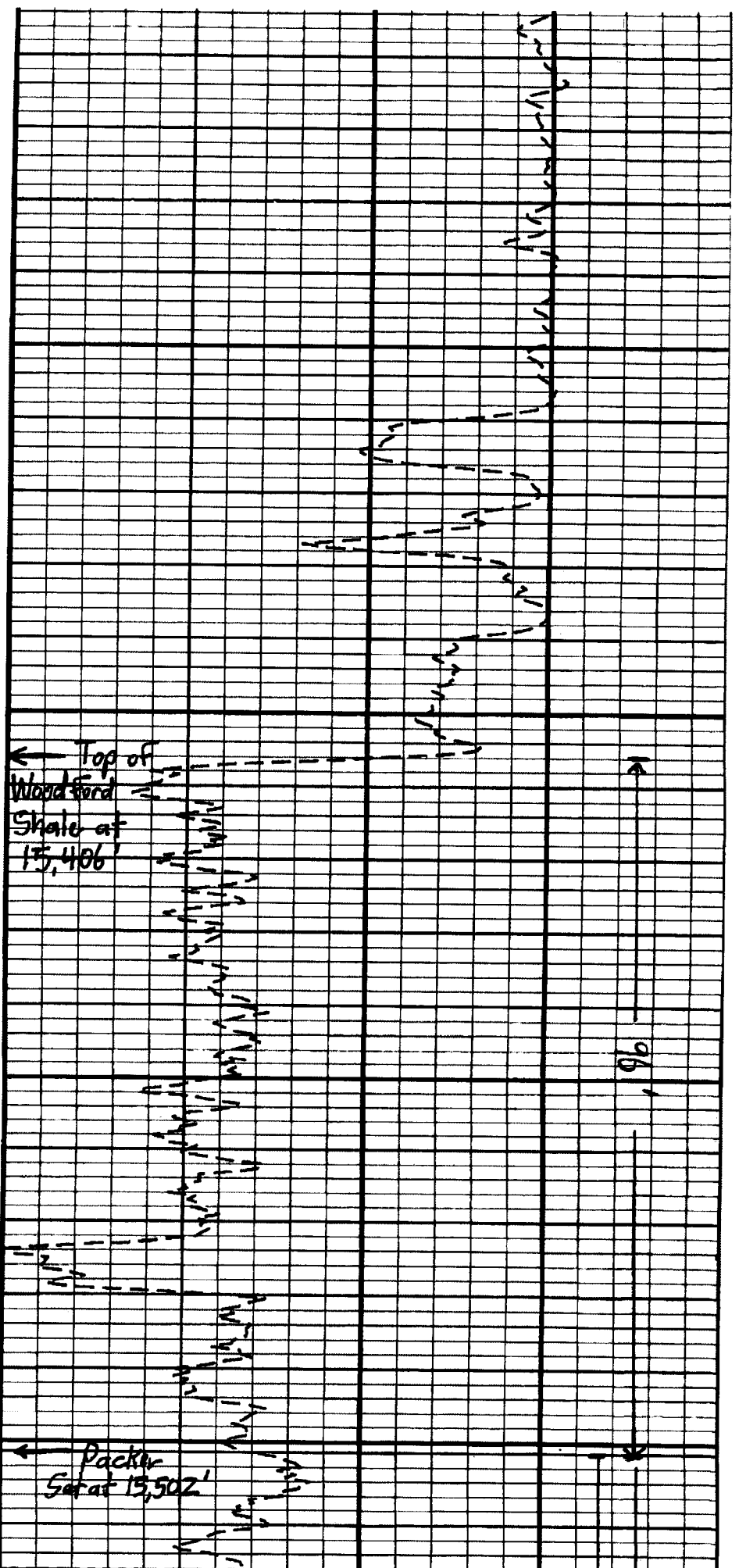
DRC/mam

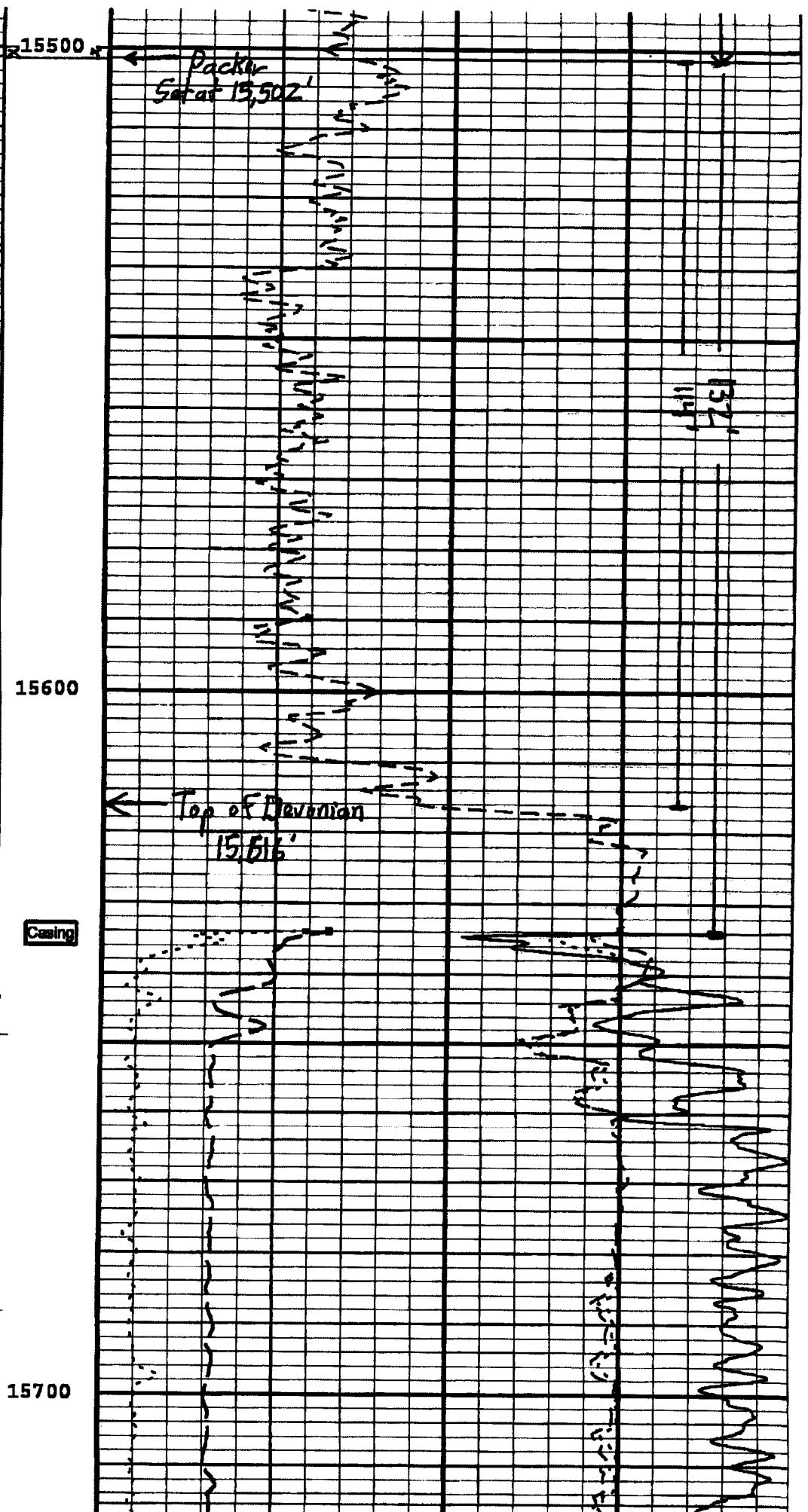
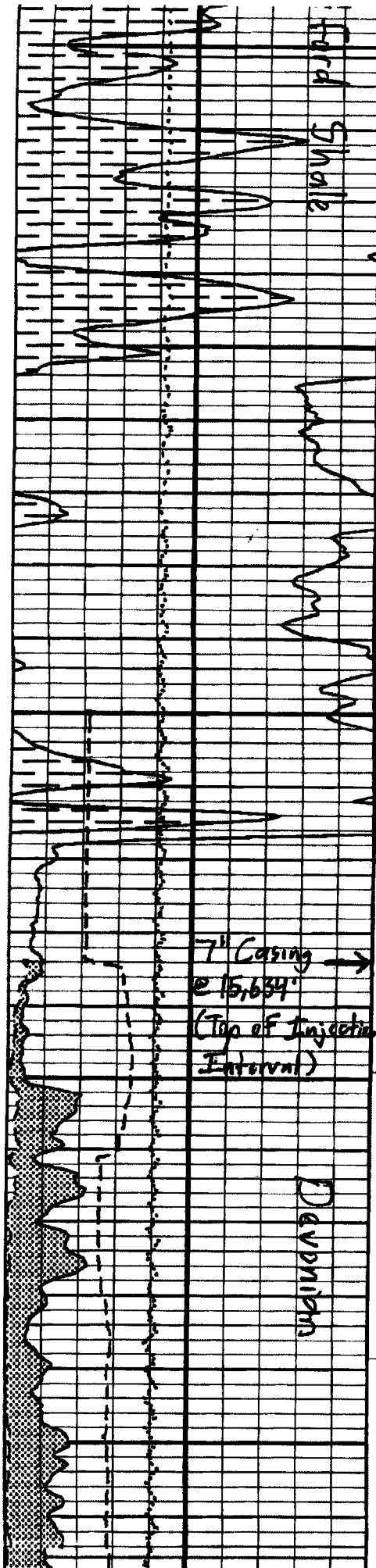
cc: Oil Conservation Division – Hobbs District Office
State Land Office – Oil, Gas, and Minerals Division



15400

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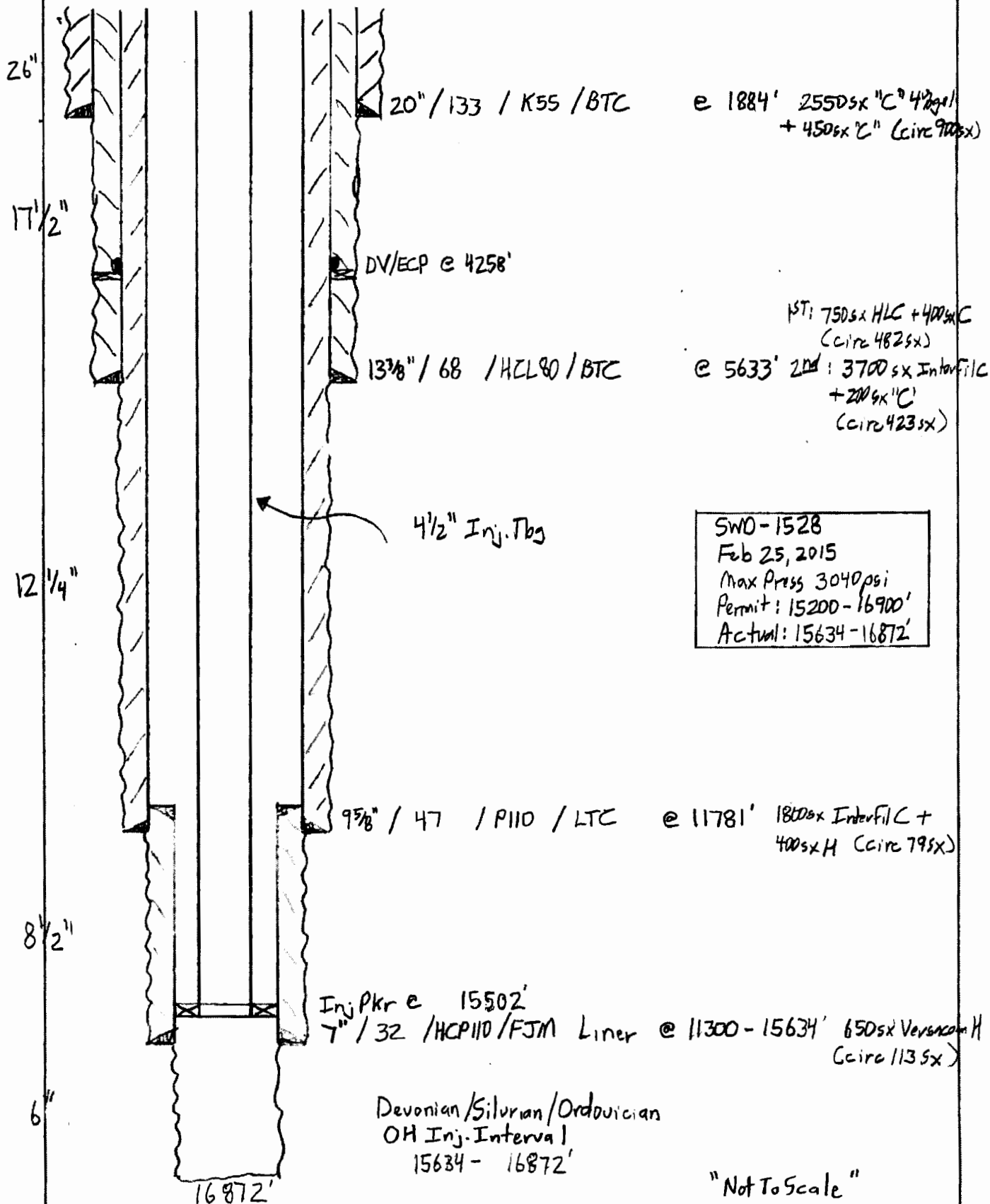




30-025-42527

Corazon 4 State SWD 2
3500' FNL, 2500' FEL
J-4-215-33e
Lea NM

Zero: 25' AGL
KB: 3843'
GL: 3818'



Goetze, Phillip, EMNRD

From: Brian Collins <BCollins@concho.com>
Sent: Friday, September 11, 2015 7:28 AM
To: Goetze, Phillip, EMNRD
Cc: Brown, Maxey G, EMNRD; Jim Corbitt
Subject: COG Corazon 4 State SWD 2 (Devonian, SWD-1528, 30-025-42527) Packer Setting Depth

Phillip:

I'll call around 8 AM to visit about the packer setting depth on the captioned well. We're running Inconel 718 permanent packers on our deep Devonian SWDs (\$170,000/ea) on tubing. The packer on the captioned well hung up about 50' higher than we planned to set it so we had to go ahead and set it where it was stuck. I'm hoping we can get approval for setting it more than 100' above the injection zone to avoid a \$500,000 fishing job. Here's some details:

Packer set at 15502'

7" casing shoe at 15634' so packer is 132' above the beginning of the open hole injection interval.

Top of the Devonian at 15616' so packer is 114' above the top of the Devonian injection formation.

Top of Woodford Shale at 15406' to packer is 96' deeper than the top of the Woodford.

I'll call you a little after 8am to visit about this. My cell number is 432-254-5870. Thanks.

Brian Collins

Operations Engineering Advisor
NM Basin Team

COG OPERATING LLC
2208 W. Main Street
Artesia, New Mexico 88210-3720
Phone # 575.748.6924
Email: bcollins@concho.com



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