

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Ken McQueen
Cabinet Secretary

Matthias Sayer
Deputy Cabinet Secretary

Heather Riley, Division Director
Oil Conservation Division



Administrative Order SWD-1736
June 6, 2018

**ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION**

Pursuant to the provisions of Division Rule 19.15.26.8(B) NMAC, 3Bear Field Services LLC (the "operator") seeks an administrative order for its Cottonwood Fee SWD Well No. 1 (the "subject well") with a location of 330 feet from the South line and 1662 feet from the East line, Unit letter O of Section 19, Township 26 South, Range 26 East, NMPM, Eddy County, New Mexico, for the purpose of commercial disposal of produced water.

THE DIVISION DIRECTOR FINDS THAT:

The application has been duly filed under the provisions of Division Rule 19.15.26.8(B) NMAC and satisfactory information has been provided that affected parties have been notified and no objections have been received within the prescribed waiting period. The applicant has presented satisfactory evidence that all requirements prescribed in Division Rule 19.15.26.8 NMAC have been met and the operator is in compliance with Division Rule 19.15.5.9 NMAC.

IT IS THEREFORE ORDERED THAT:

The applicant, 3Bear Field Services LLC (OGRID 372603), is hereby authorized to utilize its Cottonwood Fee SWD Well No. 1 (API 30-015-44600) with a location of 330 feet from the South line and 1662 feet from the East line, Unit letter O of Section 19, Township 26 South, Range 26 East, NMPM, Eddy County, for disposal of oil field produced water (UIC Class II only) through open-hole completion into an interval consisting of the Devonian and Silurian formations from approximately 11760 feet to approximately 13000 feet. Injection will occur through internally-coated, 4½-inch or smaller tubing within the 7⅝-inch liner connected to a packer set within 100 feet of the top of the disposal interval.

This permit does not allow disposal into formations below the Silurian system including the Montoya formation and the Ellenburger formation (lower Ordovician) or lost circulation intervals directly on top and obviously connected to these formations.

Prior to commencing disposal, the operator shall submit mudlog and geophysical logs information to the Division's District geologist and Santa Fe Bureau Engineering office, showing evidence agreeable that only the permitted formation is open for disposal including a summary of depths (picks) for contacts of the formations which the Division shall use to amend this order for a final description of the depth for the injection interval. If significant hydrocarbon shows occur

while drilling, the operator shall notify the Division's District II and the operator shall be required to receive written permission prior to commencing disposal.

If cement does not circulate on any casing string, the operator shall run a cement bond log (CBL) or other log to determine top of cement and shall notify the Artesia District with the top of cement on the emergency phone number prior to continuing with any further cement activity with the proposed well. If cement did not tie back in to next higher casing shoe, the operator shall perform remedial cement job to bring cement, at a minimum, 200 feet above the next higher casing shoe.

The tie-in of the 7 $\frac{7}{8}$ -inch liner with the 9 $\frac{5}{8}$ -inch casing shall be no less than 200 feet. The operator shall run a CBL (or equivalent) across the 7-inch liner from 500 feet above the liner to the bottom of the liner to demonstrate placement cement across the length of the liner and the cement bond with the tie-in with the 9 $\frac{5}{8}$ -inch casing. The operator shall provide a copy of the CBL to the Division's District II prior to commencing disposal.

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 completion and construction of the subject well as described in the application and, if necessary, as modified by the District Supervisor.

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 subject 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 19.15.26.11(A) 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 subject well shall be limited to **no more than 2352 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 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 formations. 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 II 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 II office. The operator shall submit monthly reports of the disposal operations that includes number of days of operation, injection volume, and injection pressure on Division Form C-115, in accordance with Division Rules 19.15.26.13 and 19.15.7.24 NMAC.

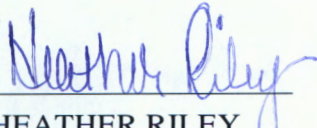
The injection authority granted under this order is not transferable except upon Division approval. The Division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

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

The disposal authority granted herein shall terminate one year 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.


HEATHER RILEY
Director

HR/prg

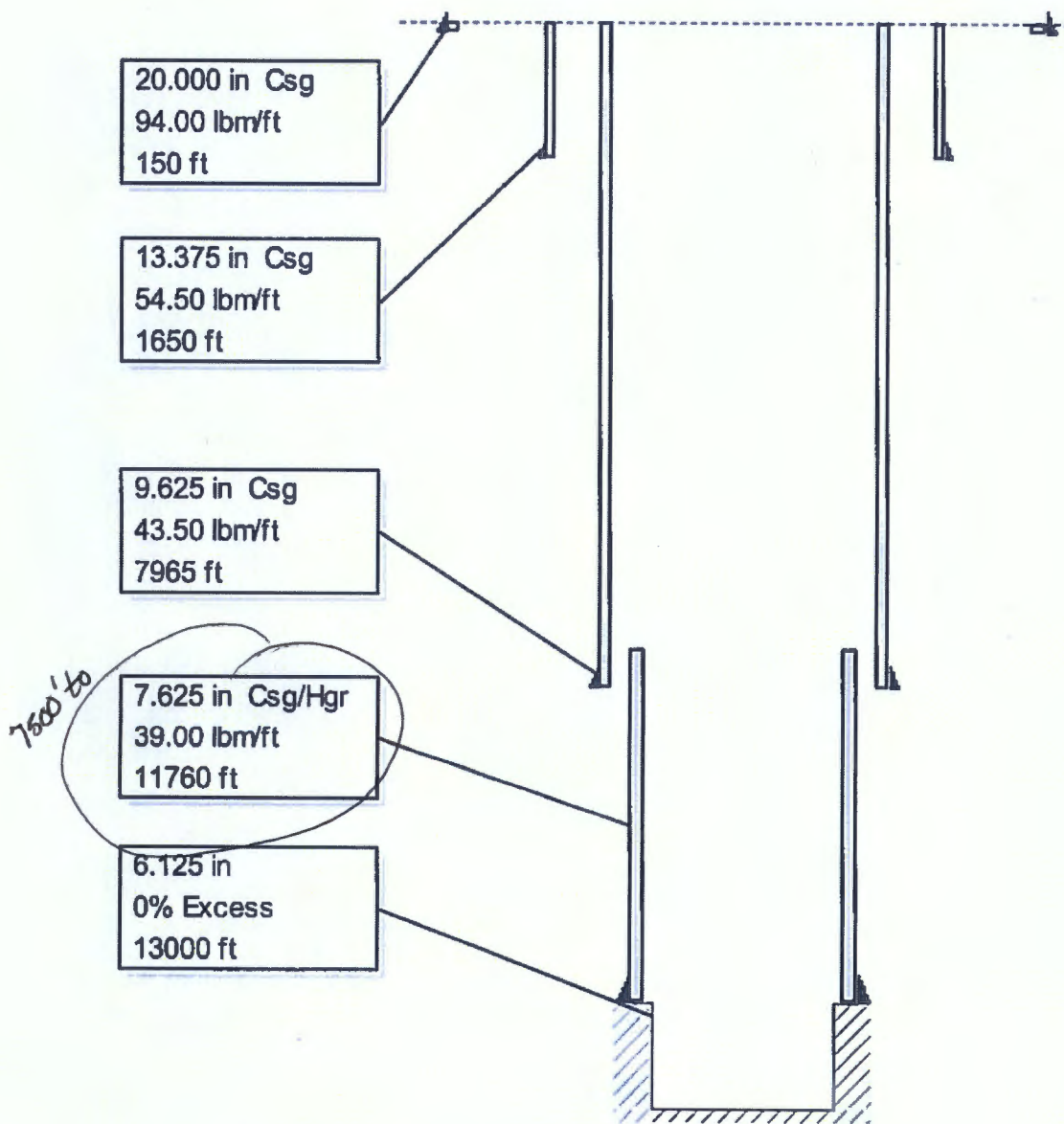
cc: Oil Conservation Division – Artesia District Office
Well file 30-015-44600

Attachment: Proposed well completion diagram from C-108 application

Cottonwood Fee SWD #1
3Bear Field Services, LLC
C-101

Wellbore Diagram

Created on 5/20/2018 10:42:07 AM



7. Potential mineral bearing formations:

Yates, Seven Rivers, Queen, Glorieta, Yeso, Delaware Section, Bone Springs Section, Wolfcamp Section-Oil and Atoka/Morrow-Gas

8. Proposed mud circulating system:

Depth	Type Mud	Mud Weight	Mud Viscosity	pH	Cl-ppm	% Solids
0-300	SPUD	8.4-9.7	32-38	10.0	1-6K	3%-8%
300-1950	BRINE	10.0	28.0	10.0	186K	.75%-1.0%
1,950-8,000	CB	9.3-9.4	28.0	10.0	120-160K	.5%-.75%
8,000-8,400	CB	9.3-9.6	28.0	10.0	120-160K	.75%-1.0%
8,400-10,850	BR/POLY	10.0-10.5	38-45	10.0	186K	3.0%-6.0%
10,850-11,760	BR/POLY	10.5-12.0	40-50	10.0	186K	5.0%-7.0%
11,760-13,000	CB	8.9-9.0	28.0	10.0	3-6K	.5%-.75%

9. Casing Program:

DRILLING: Cottonwood SWD #1							
Description	Process	Bottom of Pipe	Top of Pipe	Size of Pipe	Weight per Foot	API Grade	Thread Type
Conductor	Spud well	150	Surface	20	94	H-40	Buttress
Surface	Intermediate	1650	Surface	13.375	54.5	J-55	8rd ST&C
Production	Production	7965	Surface	9.625	43.5	HCL-80	8rd LT&C
Production	Production	11760	7500	7.625	39	HCP-110	8rd LT&C
	Liner				32	HCP-110	8rd LT&C
COMPLETION:							
Disposal	Tubing	13,000		4 1/2	12.75	P-110	CS Hydrill/PH6 W/Teflon Ring

10. Cement Program:

CEMENT PROGRAM:						
Description	Bottom of Pipe	Size of Drill Hole	Size of Pipe	Cement Type & Additives	Cement Volume	Top of Cement
Conductor	300	26	20	Class C w/2% KCL	675 Sacks	Surface
Surface	1950	17-1/2	13-3/8	LEAD: Class C w/2% KCL + Celloflake+Bentonite Extender TAIL: Class C w/1% PF1 Calcium	900 Sacks 200 Sacks	Surface Surface
Production	8100 11760	12 25	9 5/8	LEAD: 50/50 P/H _ 5% BWOW & Salt + 10% Bentonite Gel + Celloflake TAIL: Class 50/50 P/H + 2% PF20 Gel + 3% Fluid Loss	1400 Sacks 300 Sacks	Surface Surface
Production	11700	8.75	7 5/8	Class H 50/50 +2% Bentonite Gel + 5% Fluid Loss	940 Sacks	Top of Liner

According to borings in Section 20, groundwater can be found at 33' from surface. The closest producing water well is 3/4 mile to the northeast of proposed SWD well site. This water well produces from 33' from the surface.