STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION TO CONSIDER:

APPLICATION OF PERMIAN OILFIELD PARTNERS, LLC FOR APPROVAL OF A SALT WATER DISPOSAL WELL, LEA COUNTY, NEW MEXICO.

CASE NO. 20685
ORDER NO. R-20883

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on August 8, 2019, at Santa Fe, New Mexico, before Examiner Leonard R. Lowe.

NOW, on this 23rd day of September 2019, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner,

FINDS THAT:

(1) Due public notice has been given, and the Division has jurisdiction of this case and the subject matter.

(2) Permian Oilfield Partners, LLC (OGRID 328259) ["Applicant" or "POP"] seeks authority to utilize its Cyclone Federal SWD Well No. 1 (API No. 30-025-Pending; the "subject well"), to be located 1494 feet from the North line and 291 feet from the East line (Unit H) of Section 11, Township 25 South, Range 32 East, NMPM, Lea County, New Mexico, for disposal of produced water into the Devonian and Silurian formations through an open hole interval from approximately 17170 to 18621 feet below surface.

(3) POP first submitted its application administratively where it was protested by EOG Resources Inc. and the New Mexico State Land Office.

(4) The New Mexico State Land Office entered an appearance in this case. EOG Resources Inc. did not enter an appearance. No other party appeared or otherwise opposed this application.

(5) Applicant appeared at the hearing through counsel and presented technical and land evidence to the effect that:

(a) The Applicant seeks this well for use in a commercial salt water disposal operation.

(b) Applicant seeks a maximum injection rate of 50,000 barrels of water per day into the Devonian and Fusselman formations and a limiting surface tubing pressure of 3434 psi.

(c) The well design includes surface pipe at 851 feet protecting fresh waters; then an intermediate pipe set at 4741 feet (top of the Delaware formation).

(d) The next intermediate pipe (last pipe to surface) will be set from surface to 11942 feet in the upper Wolfcamp formation, covering the Delaware and Bone Spring formations. Finally, the liner will extend to 17170 feet, covering the Wolfcamp formation and the Pennsylvanian gas sands and will be landed at the top of the Devonian formation.

(e) All casings will have cementing designed to circulate to the surface. The 7-5/8 inch liner extending from approximately 11742 feet to 17170 feet will be circulated with cement.

(f) The Subject Well will inject fluids through plastic or fiberglass lined steel tapered tubing attached to a packer set at approximately 17135 feet.

(g) Applicant researched the literature on location of faulting, then analyzed for probability of induced seismic events and has concluded the probability of such events is very low.

(h) There are no production or disposal wells that penetrate the Devonian formation within the one half-mile Area of Review (AOR).

(i) Applicant stated that the disposal operation will not harm oil and gas, correlative rights, or shallow fresh water sources.

(j) Based on the records of the New Mexico Office of the State Engineer, there are no freshwater wells within one mile of the surface location of the Subject Well. The potable waters are in the Ogallala formation.

(k) The Applicant provided evidence of notification of the hearing application to all "*affected persons*" within a one-mile radius of the Subject Well and with publication in a newspaper of general circulation in the county.

The Division Finds That

(6) At the Division's request, Applicant has provided an expanded notice out to a radius of one mile from the surface location of the proposed well and has provided a statement by a

qualified person assessing the potential of induced-seismic events associated with the disposal activities for the predicted service life of the proposed well.

(7) The well casing and cement are adequately designed to isolate the Salado formation, protect fresh waters, and protect any oil and gas producing formations. The upper most casings should protect fresh waters; and the lowermost casings should protect producing formations. Applicant should work with the Division's district geologist for any required changes to this design when permitting the well for drilling.

(8) Applicant should be required to install a SCADA system to monitor the annulus and injection pressure to assure continuous mechanical integrity and to obtain and report the initial reservoir pressure in the target injection formation.

(9) The application has been duly filed under provisions of 19.15.26.8 NMAC and Applicant has presented satisfactory evidence that all requirements prescribed in said rule have been met.

(10) Geologic and engineering interpretations submitted by the Applicant identified geologic seals at the top and at the base of the proposed disposal zone that would prevent the vertical migration of injection fluids.

(11) The possibility of induced seismic events is low according to testimony of the Applicant.

(12) Division records indicate Permian Oilfield Partners, LLC (OGRID 328259) as of the date of this order complies with Division Rule 19.15.5.9 NMAC.

(13) Approval of disposal in the subject well will enable Applicant to support existing production and future exploration in this area, thereby preventing waste, and will not impair correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The operator, Permian Oilfield Partners, LLC is hereby authorized to utilize its Cyclone Federal SWD Well No. 1 (API No. 30-025-Pending; the "Subject Well"), to be located 1494 feet from the North line and 291 feet from the East line (Unit H) of Section 11, Township 25 South, Range 32 East, NMPM, Lea County, New Mexico, for disposal of Underground Injection Control Class II fluids into the Devonian and Silurian (including Fusselman) formations.

(2) Disposal shall be through an open hole interval from approximately 17170 to 18621 feet below surface comprising only the Devonian and Silurian (including Fusselman) formations. This order does not authorize injection into formations deeper than the Fusselman formation. Injection is to occur through internally coated tubing and packer set within 100 feet above the permitted interval.

(3) The tapered tubing is approved as stated in the application with the following stipulation. For the 5-1/2 inch diameter lowermost tubing, the 7-5/8 inch liner shall have a drift diameter of at least 6.5 inch. If the drift diameter of the 7-5/8 inch liner is smaller than 6.5 inch, then 5 inch, or smaller, outside diameter tubing shall be used inside said liner.

(4) The operator shall take all steps necessary to ensure that the disposed water enters only the permitted disposal interval and is not permitted to escape to other formations or onto the surface.

(5) Well construction and testing shall be in accordance with Division Rule 19.15.16 NMAC and all casing strings shall have cement designed to circulate to surface. If cement does not circulate up to any DV tool or to the surface, the operator shall run a cement bond log (CBL) or other log to determine placement and tops of cement and shall notify the Division's district office with the results on the emergency phone number prior to continuing with any further cement activity with the Subject Well. If the cement behind the surface casing or the 1st intermediate casing does not circulate to surface, the operator shall perform remedial cement job(s) to bring cement to surface.

(6) After installation of 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.

(7) The operator shall run a mudlog over the approved disposal interval for assessment of the hydrocarbon potential and obtain a water sample for analysis of hydrocarbon content as well as general water chemistry (including major cations, major anions, and Total Dissolved Solids (TDS)). Prior to commencing injection, the operator shall supply the results of the water sample and the mudlog to Division's district office and provide a copy of the same submittal to Engineering Bureau in the Santa Fe office. *If the analysis of the sample is found to contain a TDS concentration of 10000 mg/L or less, the injection authority under this Order shall be suspended ipso facto.*

(8) Prior to commencing disposal, the operator shall determine the initial bottom-hole pressure of the completed disposal interval and provide this information with the final completion sundry form.

(9) The Subject Well shall pass an initial mechanical integrity test ("MIT") prior to commencing disposal and prior to resuming disposal each time the well has significant equipment changes including, but not limited to, the packer being unseated, tubing being pulled, or when casing repairs have occurred. The operator shall notify the Division's district office a minimum of 48 hours in advance of the proposed date and time of the modification of disposal equipment and of any MIT test so that the same may be inspected and witnessed. All MIT procedures and schedules shall follow the requirements in Division Rule 19.15.26.11(A) NMAC.

(10) The operator shall file a Notice of Intent on Division Sundry Form C-103 with the

Division's district office prior to any testing of the well or for any activities that shall modify the well construction or operation. 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 NMAC and 19.15.7.24 NMAC.

(11) If the Subject Well fails a MIT or if there is evidence that the mechanical integrity of said well is impacting correlative rights, the public health, any underground sources of fresh water, or the environment, the Division Director shall require the Subject Well to be shut-in within 24 hours of discovery and the operator shall redirect all disposal waters to another facility. The operator shall take the necessary actions to address the impacts resulting from the mechanical integrity issues in accordance with Division Rule 19.15.26.10 NMAC, and the Subject Well shall be tested pursuant to Rule 19.15.26.11 NMAC prior to returning to injection.

(12) Without limitation on the duties of the operator as provided in Rules 19.15.29 NMAC 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 Subject 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.

(13) The wellhead injection pressure on the Subject Well shall be limited to **no more than 3434 psi**. The disposal well shall be equipped with a pressure limiting device in workable condition which shall always limit surface tubing pressure to the maximum allowable pressure for this well. The Subject Well shall be included in a Supervisory Control and Data Acquisition (SCADA) system for operation as an injection well with controls capable of remotely monitoring pressures and rates and controlling the rate of fluids entering the well.

(14) 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 approved injection interval. Such proper showing shall be demonstrated by enough evidence including but not limited to an acceptable Step-Rate Test and verification of internal, plug back depth.

(15) 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.

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

(17) The disposal authority granted herein shall terminate one (1) year after the effective date of this order if the operator has not commenced injection operations into the Subject Well. The Division, upon written request by the operator prior to the termination date, may grant an extension thereof for good cause.

(18) After commencement of injection operations; then if there occurs one (1) consecutive year of no reporting of injection into the Subject Well, the well will be considered abandoned and the authority to inject granted herein will terminate *ipso facto* as provided in Division Rule 19.15.26.12(C) NMAC.

(19) 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.

(20) If the operator applies for revisions to this order and provides notice to all affected parties of the proposed revisions, the Division may after 15 days after notice, revise this order administratively if no objections are received. The Division may revise provisions in this order unilaterally by first notifying the operator and updating the record in this case.

(21) 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 or prior to notice and hearing in event of an emergency, terminate the disposal authority granted herein.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

SEAL

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

ADRIENNE SANDOVAL
Director