

**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 FOR THE PURPOSE OF
CONSIDERING:**

**CASE NO. 15322
ORDER NO. R-14052**

**APPLICATION OF KEY ENERGY RESOURCES, LLC FOR APPROVAL OF A
SALT WATER DISPOSAL WELL, EDDY COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on July 23, 2015, at Santa Fe, New Mexico, on August 20, and on September 3 before Examiner Michael McMillan.

NOW, on this 23rd day of September, 2015, 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 of the subject matter.

(2) Key Energy Services, LLC ("Applicant" or "Key"), seeks authority to re-enter and utilize the Grace Carlsbad Well No. 1 (API No. 30-015-20573; the "subject well"), located 1980 feet from the South line and 660 feet from the East line, Unit letter I of Section 36, Township 22 South, Range 26 East, NMPM, Eddy County, New Mexico, for commercial produced water disposal into the Brushy Canyon formation of the Delaware Mountain group through perforations, from approximately 4082 feet to approximately 5,000 feet (injection interval).

(3) On March 31, 2015 Key submitted an administrative application (application No. pMAM1509157269) to the Division for approval of the subject well for injection of produced water. The Division subsequently received a notification of protest by BC Operating and Crown Oil Partners on April 15, 2015. Applicant subsequently filed an application for hearing on the matter before the Division.

(4) Applicant appeared at the hearing through counsel and presented land, geological, engineering, and petrophysical evidence to the effect that:

- (a) By Order No. SWD-1344, dated July 17, 2012 the Division authorized Key to utilize the subject well for produced water disposal;
- (b) Administrative Order SWD-1344 expired on July 17, 2014 because Applicant had not commenced injection operations within the subject well as per requirements of the Order;
- (c) Applicant contends it received a one-year verbal extension from OCD to commence injection. However, a signed copy could not be located on the OCD website;
- (d) Applicant had a valid contract with surface owner to commence injection within the subject well;
- (e) Applicant agrees to perform the workover requirements that were stipulated in Administrative Order SWD-1344;
- (f) Applicant intends to perforate selected zones in the Brushy Canyon formation in the injection interval;
- (g) The proposed average injection rate is 1500 barrels of water per day (BWPD) with a maximum injection rate of 5000 BWPD;
- (h) Maximum injection pressure will be 0.2 psi/ft. or 816 psi;
- (i) The produced waters proposed to be injected into the subject well would be from horizontal and vertical production wells completed in the Delaware group, Bone Spring formation, Wolfcamp formation, Strawn formation, Atoka formation, and Morrow formation;
- (j) The subject well's structural and stratigraphic location suggests that the well does not contain oil and gas reserves;
- (k) Petrophysical analysis suggests that the proposed injection interval does not contain commercial oil and gas reserves. This is based on the Cimarex Energy Company of Colorado Gulf Federal Com. Well No. 4 (analogy), located in Section 6, Township 23 South, Range 27 East;
- (l) Resistivity of the formation water (R_w) based on log analysis of the analogy in the Bell Canyon formation is 0.05, and the resulting

water saturation of the injection zone is 90 percent water, which would indicate the zone to be non-productive. Also, drill stem tests indicate water salinity is low and R_w values are high which indicates that water saturation is high and consequently the subject well would be non-productive;

- (m) Two fresh-water wells were identified within a two-mile radius of the subject well. The maximum depth of groundwater is 250 feet below surface; and
- (n) The half-mile Area of Review around the subject well contains two wells that penetrated the disposal interval. Both of these wells are constructed adequately to confine the injected fluid to the proposed injection interval.

(5) BC Operating, Inc. ("BC"), which opposed the Application, appeared through counsel and presented land and geological evidence to the effect that:

- (a) BC has a valid New Mexico State Land Office oil and gas lease for the E/2 of Section 36, Township, 22 South, Range 26 East, NMPM, which includes the acreage on which the subject well is located;
- (b) In the vicinity of the subject well, there are Brushy Canyon pools with active wells;
- (c) The subject well is on trend with existing oil and gas production in the Brushy Canyon formation;
- (d) Using a combination of published data and established borehole correction techniques for depth and temperature, the $R_w = .036$ for the subject well;
- (e) The lower R_w values indicate a low water saturation. Consequently, the Brushy Canyon may be prospective for oil and gas development in this area;

The Division concludes as follows:

(6) The bulk of the evidence indicates that the probability exists for oil and gas reserves to be present in the Brushy Canyon formation in the E/2 of Section 36.

(7) The presence of productive zones in the Brushy Canyon formation in nearby wells bolsters the probability that oil and gas may be recovered in the E/2 of Section 36.

(8) Applicant's petrophysical analysis of water saturation values did not compare the subject well with productive zones in the Brushy Canyon formation in nearby pools. If the water saturation of the subject well was similar or lower than the productive zones, then oil and gas reserves would most likely be present. Likewise, if the water saturation of the injection interval in the subject well was higher, then the injection interval would be non-productive. Without this required information, positive determination that the injection zone is non-productive cannot be determined.

(9) Key Energy Services, LLC does not currently have a valid permit for produced water injection in the Grace Carlsbad Well No.1.

(10) The Applicant presented insufficient evidence to demonstrate that approval of the subject well for injection into the Brushy Canyon formation of the Delaware Mountain group will not cause the waste of oil and gas reserves present in that formation.

(11) Applicant's application for a salt-water disposal well should be denied.

IT IS THEREFORE ORDERED THAT:

(1) The application of Key Energy Services, LLC to re-enter and utilize the Grace Carlsbad Well No. 1 (API No. 30-015-20573) located 1980 feet from the South line and 660 feet from the East line (Unit I) of Section 36, Township 22 South, Range 26 East, NMPM, Eddy County, New Mexico for commercial produced water disposal into the Brushy Canyon formation of the Delaware Mountain group through perforations from approximately 4,082 feet to 5,000 feet is hereby denied.

(2) Jurisdiction of this case is retained for the entry of such further orders as the Division may deem necessary.

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



STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

David R. Catanach

DAVID R. CATANACH
Director

**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 FOR THE PURPOSE OF
CONSIDERING:**

**APPLICATION OF HIGH ROLLER WELLS LLC FOR AUTHORIZATION TO
INJECT, EDDY COUNTY, NEW MEXICO.**

**CASE NO. 15278
ORDER NO. R-14091**

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on April 30, 2015, at Santa Fe, New Mexico, before Examiner Phillip R. Goetze.

NOW, on this 8th day of December, 2015, 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) High Roller Wells, LLC (the "Applicant" or "High Roller") seeks authority to drill and utilize its Gossett SWD Well No. 1 (API No. 30-015-pending; the "proposed well"), located 313 feet from the South line and 921 feet from the East line (Unit P) of Section 33, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico, for commercial disposal of produced water into the Bell Canyon and Cherry Canyon formations of the Delaware Mountain group through a perforated interval from 2500 feet to 5000 feet below surface.

(3) On December 23, 2014, High Roller submitted an administrative application (Application No. pMAM1435736225) to the Division for approval of the proposed well for commercial disposal of produced water. Prior to the submittal of the application, the Division received a notification of protest by BK Exploration Company. A second notification of protest was filed by Mewbourne Oil Company on January 6, 2015. In the three week period following the receipt of the application, an additional 22 individual

protests were filed with the Division. All of these protests were from surface owners notified under the requirements for review of the application by administrative process.

(4) On March 3, 2015, the Division received a request from High Roller to place the application for the proposed well on a hearing docket.

(5) Subsequently, Mewbourne Oil Company, BTA Oil Producers, LLC and COG Operating LLC filed pre-hearing statements for appearance regarding the application.

(6) At hearing, Mewbourne Oil Company and BTA Oil Producers, LLC (collectively referred to as the "Opponent") appeared in opposition through separate legal counsels. COG Operating LLC appeared at hearing through legal counsel, but did not oppose the granting of the application.

(7) Ms. Gloria Vasquez, a surface property owner and representative for several adjacent surface owners notified through the application process, appeared *pro se* in opposition to the application but did not offer expert testimony regarding the application's content. The testimony by Ms. Vasquez presented concerns regarding the potential for environmental and safety issues if the application were to be approved.

Applicant appeared at hearing through counsel and presented the following testimony.

(8) Applicant seeks to drill the proposed well to an approximate total depth of 4600 feet below surface. The injection will occur through perforations from approximately 2500 feet to approximately 4500 feet below surface. At hearing, Applicant decreased the total depth of the proposed well by 500 feet from the total depth of 5000 feet provided in the original application.

(9) The proposed well is to be constructed with 10 3/4-inch surface casing set at 550 feet below surface with cement circulated to surface. This depth will protect the deepest measured water well in the area. The second string of casing, the 7-inch production casing, will be set at the total depth of 4600 feet with cement placed with separate stages through a diverter valve tool at approximately 2000 feet below ground surface.

(10) Applicant proposed a maximum injection rate of 17,500 barrels of water per day (BWPD), a reduction from the maximum injection rate of 30,000 BWPD proposed in the original application. The average injection rate is expected to be 8000 BWPD to 10,000 BWPD.

(11) The primary source for disposal in the proposed well would be both flowback water and produced water from horizontal wells completed in the Bone Spring formation. These sources are compatible with existing formation fluids in the proposed injection interval.

(12) No active fresh-water wells were identified within a two-mile radius of the proposed well. One inactive fresh-water well (former stock windmill) was identified within approximately 200 feet of the proposed well; however, the proposed well is to be completed (with regards to the proposed casing and cement program) as to isolate any fresh water intervals.

(13) The results of the half-mile Area of Review (AOR) around the proposed well found five wells that penetrated the proposed injection interval: three plugged and abandoned wells and two active producing wells. The producing wells appear to be sufficiently cased and cemented and the abandoned wells properly plugged to protect underground sources of protectable water and not allow migration of injection fluids from the proposed injection interval.

(14) Applicant reduced the proposed injection interval by 500 feet from the original administrative application that proposed a total depth of 5000 feet below surface. Applicant removed the deeper portion of the interval to provide a buffer from potential hydrocarbon resources and production in the Brushy Canyon formation of the Delaware Mountain group.

(15) Applicant provided an overview of historical hydrocarbon production which has occurred in the area around the proposed well. Applicant identified limited hydrocarbon development of the Cherry Canyon formation to townships north of the subject area and stated that there is no indication that similar resources are present in the immediate area of the proposed well. However, Applicant's witnesses, in testimony, stated that Applicant did not consider the potential for exploration and development of possible hydrocarbon occurrences in the Cherry Canyon formation utilizing horizontal well completions.

Opponent appeared at hearing through counsel and presented the following testimony.

(16) Opponent stated in testimony that significant mineral acreage was held in the area including leased acreage immediately surrounding the tract containing the proposed well.

(17) Opponent presented the mud log from the Mewbourne Oil Company's Layla 35 MD Well No. 1H (API No. 30-015-40210), a horizontal well with a surface location 1.25 miles east of the proposed well, that indicated hydrocarbon potential in the Cherry Canyon formation and the upper portion of the Brushy Canyon formation in addition to existing production from two different intervals in the lower portion of the Brushy Canyon formation.

(18) By means of geophysical log interpretation presented in exhibits, Opponent disputed the presence of porosity barriers offered by Applicant that would isolate the Cherry Canyon formation from the Brushy Canyon formation. Opponent also stated that the 500-foot decrease in the proposed injection interval would not provide the protection

of hydrocarbon potential in the Cherry Canyon and Brushy Canyon formations as stated by the Applicant.

(19) Opponent stated that the lack of porosity barriers and the injection within the interval proposed by Applicant will impact the potential hydrocarbon resources in Opponent's mineral leases that are adjacent and down dip of the proposed well.

(20) Opponent contended that the proposed injection rate of 8000 BWPD to 10,000 BWPD was not consistent with average disposal rates of injection wells in the area. Observed averages for injection rate were 2000 BWPD to 3000 BWPD with injection pressures close to those approved in administrative orders. Opponent further testified that the proposed range of injection rates and corresponding pressures would be capable of inducing fracturing based on Opponent's data from hydraulic fracturing of horizontal wells in the lower Brushy Canyon formation.

The Division concludes as follows:

(21) The testimony of Ms. Vasquez, a surface property owner, presented environmental and surface use issues. These issues are not relevant to the content of the application and are outside the Division's authority under the permitting process of the Underground Injection Control (UIC) program.

(22) The application has been duly filed under the provisions of Division Rule 19.15.26.8 NMAC.

(23) Applicant has presented satisfactory evidence that all requirements prescribed in Division Rule 19.15.26.8 NMAC have been met.

(24) Division records indicate High Roller Wells, LLC (OGRID 370154) as of the date of this Order is in compliance with Division Rule 19.15.5.9 NMAC.

(25) Opponent's testimony and evidence supported a viable potential for occurrences of hydrocarbon resources in both the Cherry Canyon and Brushy Canyon formations.

(26) Opponent stated interest in investigating both the Cherry Canyon and Brushy Canyon formations for hydrocarbon resources with development using horizontal wells.

(27) Both Applicant and Opponent confirmed low potential in this area in the Bell Canyon formation for hydrocarbon resources that would support further investigation and possible development.

(28) Based on evidence by both Applicant and Opponent, the vertical limits for the Bell Canyon formation in the proximity extended from approximately 2600 feet below surface to approximately 3400 feet below surface.

(29) Under Section 70-2-12(B)(4) NMSA, 1978, the Division is required to prevent the drowning by water any stratum or part thereof capable of producing oil and gas in paying quantities and to prevent the premature and irregular encroachment of water or any other kind of water encroachment that reduces, or tends to reduce, the total ultimate recovery of crude petroleum oil or gas from any pool.

(30) The application should be approved with an injection interval that would not impede adjacent mineral owner's correlative rights including the ability to explore and develop hydrocarbon resources in the Cherry Canyon and Brushy Canyon formations. The permitted interval should only include the formation with low hydrocarbon potential and be sufficiently separated from deeper formations with higher potential for exploration and development.

IT IS THEREFORE ORDERED THAT:

(1) High Roller Wells, LLC ("High Roller" or "operator") is hereby authorized to utilize its Gossett SWD Well No. 1 (API 30-015-Pending; "proposed well") located 313 feet from the South line and 921 feet from the East line (Unit P) of Section 33, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico, as a commercial disposal well for UIC Class II fluids.

(2) Disposal shall be through perforations from 2600 feet to 3200 feet below surface in a permitted injection interval comprising only the Bell Canyon formation of the Delaware Mountain group. Injection is to be through plastic-lined tubing and a packer set within 100 feet above the top perforation of the permitted interval. Total depth of the proposed well shall not be greater than 3400 feet.

(3) The operator shall submit a revised drilling, cement and casing program for the proposed well to Division's District II for approval under Division Rule 19.15.14.8 NMAC which addresses the limits of the permitted injection interval described in Ordering Paragraph (2).

(4) Prior to commencing injection, the operator shall provide to Division's District II office cement bond log (or equivalent) confirming placement of cement from total depth to surface for the production casing with the perforations in the permitted interval.

(5) The operator shall supply the Division with copies of a geophysical log suite over the permitted disposal interval sufficient to determine hydrocarbon potential. The operator shall notify the Division's District II office of significant hydrocarbon shows that are observed during drilling, and provide Division's District II office and the Santa Fe engineering bureau with copies of the logs for review prior to perforation of the permitted interval. If significant hydrocarbon shows indicate the potential for the permitted interval to be classified as a stratum capable of producing hydrocarbons in paying quantities, then this disposal order shall be terminated *ipso facto* under Section 70-2-12(B)(4) NMSA, 1978.

(6) The operator of this well shall run an injection survey (tracer/temperature or equivalent) using operating pressures of the injection interval within one (1) year after commencing disposal into this well. The operator will supply both the Division District II office and Santa Fe engineering bureau with a copy of the survey log. If the Division does not receive the log within the prescribed time period, then this disposal order shall be terminated *ipso facto*.

(7) 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.

(8) 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.

(9) 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 19.15.26.11(A) NMAC.

(10) The wellhead injection pressure on the well shall be limited to no more than 520 psi. In addition, the disposal well 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.

(11) 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 sufficient evidence including but not limited to an acceptable Step-Rate Test. Operator shall provide notification of the injection pressure increase application following Division Rule 19.15.26.8(B)(2). If the application is protested within 15 days of receipt of notification, the application shall be sent to hearing before the Division for consideration.

(12) 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 test 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 on Division Form C-115, in accordance with Division Rules 19.15.26.13 NMAC and 19.15.7.24 NMAC.

(13) Without limitation on the duties of the operator as provided in Division 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 well, or of any leakage or release of water, oil or gas from or 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.

(14) 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.

(15) 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.

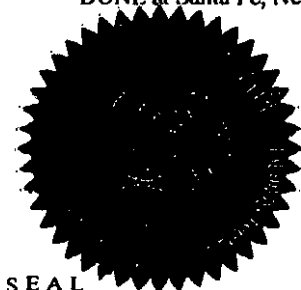
(16) The disposal authority granted herein shall terminate two years after the effective date of this order if the operator has not commenced injection operations into the proposed well, provided however, the Division, upon written request, mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

(17) One year after disposal into the well has ceased, the well will be considered abandoned and the authority to dispose will terminate *ipso facto*.

(18) 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.

(19) 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

David R. Catanach

DAVID R. CATANACH
Director

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

**APPLICATION OF
HIGH ROLLER WELLS LLC
FOR AUTHORIZATION TO INJECT,
EDDY COUNTY, NEW MEXICO**

**CASE NO. 15278 (*de novo*)
ORDER NO. R-14091-B**

ORDER OF THE COMMISSION

THIS MATTER came before the New Mexico Oil Conservation Commission (the "Commission") on the application of High Roller Wells LLC ("High Roller") for authorization to inject. The Commission, having conducted a hearing on May 19, 2016, and having considered the testimony, the record, and the arguments of the parties, and being otherwise fully advised, enters the following findings, conclusions and order.

THE COMMISSION FINDS THAT:

1. Due notice has been given, and the Commission has jurisdiction of the parties and the subject matter herein.
2. High Roller Wells LLC seeks authorization to utilize its Gossett SWD Well No. 1 (the "proposed well"), to be located 313 feet from the South line and 921 feet from the East line (Unit P) of Section 33, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico, for commercial disposal of produced water into the Delaware Mountain Group. High Roller originally sought approval to inject into the Bell Canyon, Cherry Canyon, and upper Brushy Canyon members of the Delaware Mountain Group through a perforated interval from 2500 feet to 5000 feet below the surface.
3. High Roller filed an administrative application on December 23, 2014 for authorization to inject into the proposed well. Due to objections from surface owners and offset operators, the matter was set for hearing at the request of High Roller, which hearing was held before the Oil Conservation Division ("Division") on April 30, 2015.
4. Mewbourne Oil Company ("Mewbourne") and other parties of record appeared at the Division hearing.
5. High Roller originally sought approval to inject into the Bell Canyon, Cherry Canyon, and upper Brushy Canyon members of the Delaware Mountain Group through a perforated interval from 2500 feet to 5000 feet below the surface, at a maximum injection rate of 30,000 barrels of water per day ("BWPD").

6. Prior to the Division hearing, High Roller revised its application to inject into the Bell Canyon and Cherry Canyon members of the Delaware Mountain Group through a perforated interval from 2500 feet to 4500 feet below the surface, at a maximum injection rate of 17,500 BWPD.

7. The Division, by Order No. R-14091 dated December 8, 2015, approved injection into the proposed well into the Bell Canyon member of the Delaware Mountain Group through perforations at 2600 feet to 3200 feet below surface, with the depth of the well not to exceed 3400 feet subsurface.

8. Mewbourne appealed Order No. R-14091 *de novo* to the Commission, and appeared at the hearing. COG Operating LLC appeared at the hearing but did not take a position.

9. High Roller appeared at the hearing and presented engineering and geological evidence to the effect that:

a. High Roller amended its request to inject to include the interval from 2600 feet to 5000 feet below the surface, at a maximum injection rate of 8000 BWPD. The injection interval would include the Bell Canyon, Cherry Canyon, and Upper Brushy Canyon (approximately 300 feet) members of the Delaware Mountain Group.

b. No active fresh water wells were located within a two-mile radius of the proposed well, and the well will be completed to isolate any potential fresh water zones.

c. Existing wells within the half mile area of review were either properly plugged and abandoned or properly completed so as to prevent the movement of injected fluids from the proposed injection interval.

d. There is no current commercial production from the Bell Canyon, Cherry Canyon, and Upper Brushy Canyon members of the Delaware Mountain Group in the immediate area around the proposed well.

e. Injection fluids would not migrate to the Lower Brushy Canyon member.

f. High Roller does not plan to operate the proposed well long term, but intends to sell it after the well is completed.

10. Mewbourne appeared at the hearing and presented land, geological, and engineering evidence to the effect that:

a. It owns substantial oil and gas leasehold interests in the area of the proposed well, including in the lands on which the proposed well is located.

b. Mewbourne has not granted a subsurface easement or waiver to High Roller to evaluate hydrocarbon potential in the proposed injection interval, and maintains such rights exclusively.

c. There are Bell Canyon pools north-northwest and south-southeast of the proposed well that have been developed by vertical drilling.

d. There are Cherry Canyon pools north and southeast of the proposed well that have been developed primarily by vertical drilling. In addition, a vertical Cherry Canyon well is located in Unit K of Section 2, Township 24 South, Range 28 East, NMPM, approximately 1-1/2 miles from the proposed well.

e. Mewbourne has drilled horizontal Cherry Canyon wells to the southeast of the proposed well, although they were drilled early in the era of horizontal drilling, and horizontal technology has improved substantially since they were drilled.

f. There are Upper Brushy Canyon pools with producing wells to the south and southeast of the proposed well.

g. There are multiple mudlogs from wells offsetting the proposed well with shows of hydrocarbons in the Bell Canyon, Cherry Canyon, and Upper Brushy Canyon members of the Delaware Mountain Group.

h. As horizontal drilling technology continues to improve, the upper Delaware zones are prospective strata for hydrocarbon production in the area of the proposed disposal well.

i. In *Snyder Ranches v. Oil Conservation Comm'n*, 110 N.M. 637 (S. Ct. 1990), the Court found that issuance of a license to inject salt water by the Commission does not authorize trespass or other tortious conduct by the licensee, nor does such license immunize the licensee from liability.

j. There are numerous Lower Brushy Canyon wells in the immediate area of the proposed well, and Mewbourne has an ongoing development program to develop the Lower Brushy Canyon in this area. Mewbourne has drilled commercial horizontal Lower Brushy Canyon wells in the W/2 W/2 of Section 35, Township 23 South, Range 29 East, NMPM

and W/2 E/2 of Section 3, Township 24 South, Range 28 East, NMPM. Both of these wells are located within 1.5 miles of the proposed well.

k. The fracture gradient of the Delaware Mountain Group is anomalously low and generally decreases with depth, without any significant barriers or impermeable strata.

l. The following two plugged and abandoned wells have no casing across the proposed injection interval and could provide a conduit for movement of injected fluids into the Bell Canyon, Cherry Canyon, and Upper Brushy Canyon members of the Delaware Mountain Group: (i) the Vasquez 4 Com. Well No. 1, located in Unit H of Section 4, Township 24 South, Range 28 East, NMPM; and (ii) the Pardue Farms Well No. 1, located in Unit O of Section 33, Township 23 South, Range 28 East, NMPM.

11. NMSA 1978 §70-2-12.B(4) requires the Commission to prevent the drowning of strata capable of producing hydrocarbons in paying quantities.

12. The Commission finds that there was past production, and there is potential future production, in the Bell Canyon, Cherry Canyon, and Brushy Canyon members of the Delaware Mountain Group in the area of the proposed well.

THE COMMISSION CONCLUDES THAT:

13. The Commission has jurisdiction, under the Oil and Gas Act, over the parties and the subject matter of this case. Public notice of the hearing has been provided.

14. To meet the statutory mandate to prevent the drowning of strata capable of producing hydrocarbons, NMSA 1978 §70-2-12.B(4), the Commission cannot approve a well that will inject produced water into the members of the Delaware Mountain Group in this area.

IT IS THEREFORE ORDERED THAT:

1. The application of High Roller Wells LLC for authorization to utilize its Gossett SWD Well No. 1, to be located 313 feet from the South line and 921 feet from the East line (Unit P) of Section 33, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico, for commercial disposal of produced water into the Delaware Mountain Group is hereby denied.

2. Jurisdiction over this case is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the 16th day of June, 2016.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



ROBERT BALCH, Member



PATRICK PADILLA, Member



DAVID R. CATANACH, Chair



SEAL