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

APPLICATION OF OCCIDENTAL PERMIAN LTD TO AMEND ORDER NO. R-6199-B TO EXPAND THE NORTH HOBBS GRAYBURG-SAN ANDRES UNIT PHASE I TERTIARY RECOVERY PROJECT, TO MODIFY CERTAIN OPERATING REQUIREMENTS, AND TO CERTIFY THIS EXPANSION FOR THE RECOVERED OIL TAX RATE PURSUANT TO THE NEW MEXICO ENHANCED OIL RECOVERY ACT, LEA COUNTY, NEW MEXICO.

CASE NO. 15103
ORDER NO. R-6199-F

ORDER OF THE COMMISSION

This case comes before the New Mexico Oil Conservation Commission ("Commission") on the application of Occidental Permian Ltd. ("Oxy") to amend Order No. R-6199-B, as amended. The Commission, having conducted a hearing on March 13, 2014, at Santa Fe, New Mexico, and having considered the testimony and the record in the case, enters the following findings, conclusions and order:

THE COMMISSISION FINDS THAT:

1. Due public notice has been given, and the Commission has jurisdiction of this case and its subject matter.

2. On October 3, 1979, the Commission entered Orders No. R-6198 and R-6199 in Case Nos. 6652 and 6653 that statutorily unitized the North Hobbs Unit and approved a pressure maintenance project by the injection of water into the Grayburg and San Andres formations underlying the following acreage in Lea County, New Mexico:

TOWNSHIP 18 SOUTH, RANGE 37 EAST, NMPM
Section 13: W/2, SE/4
Section 14: All
Section 23: All
Section 24: All
Section 25: All
Section 26: E/2 NE/4, NW/4 NE/4
Section 36: E/2, E/2 NW/4

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM
Section 17: S/2 NW/4, SW/4

Section 18:	NE/4 and S/2
Section 19:	All
Section 20:	All
Section 21:	SW/4, W/2 SE/4, SE/4 SE/4
Section 27:	All
Section 28:	All
Section 29:	All
Section 30:	All
Section 31:	All
Section 32:	All
Section 33:	W/2, NE/4, W/2 SE/4, and NE/4 SE/4
Section 34:	E/2, E/2 NW/4

3. On October 22, 2011, the Energy, Minerals and Natural Resources Department Oil Conservation Division ("Division") entered Order No. R-6199-B authorizing a carbon dioxide gas tertiary recovery project within a portion of the North Hobbs Unit called the "Phase I Area" by injection of carbon dioxide (CO2), produced water, and produced gas through certain existing wells and yet to be drilled wells in the quarter-quarter sections identified on Exhibits A and B to that Order.

4. Since the entry of Order No. R-6199-B, the Division has approved additional injection wells in the Phase I area of the North Hobbs Unit through various administrative and hearing orders.

5. Oxy is the current operator of the North Hobbs Unit and now seeks the following relief from the Commission as provided in an Application filed with the Commission on February 11, 2014 ("Application"):

(a) to expand the approved geographic area for the carbon dioxide gas tertiary recovery injection project to include the following acreage:

TOWNSHIP 18 SOUTH, RANGE 37 EAST, NMPM

Section 13:	W/2, SE/4
Section 14:	All
Section 23:	All
Section 24:	All
Section 25:	All
Section 26:	E/2 NE/4, NW/4 NE/4
Section 36:	E/2, E/2 NW/4

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM

Section 17:	S/2 NW/4, SW/4
Section 18:	NE/4 and S/2
Section 19:	All
Section 20:	All
Section 21:	SW/4, W/2 SE/4, SE/4 SE/4
Section 28:	All

Section 29: All
Section 30: All
Section 31: All
Section 32: All
Section 33: W/2, NE/4, W/2 SE/4, and NE/4 SE/4

(b) to expand the injection authority to include new wells in the quarter-quarter sections identified on Exhibit A to the Application and the existing producing or temporarily abandoned wells identified on Exhibit B to the Application;

(c) to confirm that the well limitation for quarter-quarter sections set forth in NMAC 19.15.15.9(A) does not apply to active tertiary recovery projects, such as the North Hobbs Unit project;

(d) to grant an exception to NMAC 19.15.15.13(A) (unorthodox well locations) to allow wells to be closer than 10 feet to a quarter-quarter section line or subdivision inner boundary within the North Hobbs Unit area;

(e) to grant an exception to the notice requirements set forth in NMAC 19.15.26.8.C and 19.15.26.8.F to allow for administrative approval of additional injection wells in the expanded North Hobbs Unit area without notice and hearing;

(f) to provide that for any injection well covered by this application that does not commence injection within 5 years after approval of this request, Oxy may submit within a period no more than twelve months and no less than sixty days before injection operations commence in the well either (i) a statement certifying that there have been no substantive changes to the information furnished in support of this application concerning the status or construction of any well that penetrates the injection interval within the one half (1/2) mile area of review around the injection well; or (ii) a statement describing any substantive changes;

(g) to eliminate the existing limiting gas-oil ratio of 6,000 cubic feet of gas per barrel of oil and to provide that no limiting gas-oil ratio or oil allowable applies to this expanded enhanced oil recovery project;

(h) to modify the packer setting depth required by R-6199-B Ordering Paragraph (3) to allow for the packer to be set anywhere above the uppermost injection perforations or casing shoe, provided the packer is set below the top of the Grayburg Formation;

(i) to provide a five-year frequency for mechanical integrity tests for temporarily abandoned wells equipped with real-time pressure monitoring devices pursuant to NMAC 19.15.25.13.E; and

(j) to certify the approved expansion of the tertiary recovery project for the recovered oil tax rate pursuant to the New Mexico Enhanced Oil Recovery Act, Sections 7-29A-1 to 7-29A-5 NMSA 1978 (Laws 1992, Chapter 38, Section 1 through 5) ("Recovery Act") and the rules of the Commission, 19.15.6 NMAC ("Rules").

6. At the hearing, upon the request of Oxy, the Commission adopted and took notice of the record from Case No. 14981, which resulted in Order No. R-4934-F approving a tertiary recovery project in the adjacent South Hobbs Project Area. The Commission also noted that several persons had filed written notices of appearance in this proceeding including Cornelia England, Gerald Carl Golden, Sharon Aileen Mehs (Lee) and Thomas R. Mehs.

7. Oxy presented five witnesses in support of its Application: Jerad Brockman, Oxy's project manager with expertise in oil and gas production engineering; Randy Stillwell, a senior geologic advisor for Oxy with expertise in petroleum geology; Scott Hodges, Oxy's operations supervisor; Kelley Montgomery, Oxy's regulatory consultant with expertise in oil and gas production engineering; and Pat Sparks, Oxy's petroleum landman with expertise in petroleum land matters. Oxy's witnesses provided testimony and presented exhibits addressing the following topics:

(a) Oxy's current operations and facilities within the Phase I area of the North Hobbs Unit and the planned expansion of gas injection operations;

(b) The injection and production well patterns in the expanded Phase I Area, the need to exceed four wells per forty acre spacing unit, and the potential need to locate wells closer than ten feet to the quarter-quarter section lines;

(c) The capital costs and projected timeline for installation of key components of the expansion of gas injection in the Phase I area;

(d) The production history of the North Hobbs Unit and the additional oil anticipated from the Phase I area expansion project;

(e) The need for additional flexibility in the packer setting depth than what is currently allowed by Order No. R-6199-B;

(f) The geology underlying the North Hobbs Unit, the location of the fresh water zones and the impermeable barriers that exist between the injection interval and the fresh water zones;

(g) The gas injection facilities and pressure control devices Oxy utilizes in the Phase I area;

(h) The supervisory control and data acquisition (SCADA) system Oxy utilizes to provide real time monitoring of pressures, temperature, water content, H2S levels and gas content in the North Hobbs Unit;

(i) How Oxy monitors for H2S releases in the existing and proposed expanded Phase I area;

(j) Oxy's mechanical integrity program for the design, engineering, construction and maintenance of CO2 and produced gas injection facilities for enhanced oil recovery projects like the North Hobbs Unit;

(k) The NACE Standard MRO175 set forth in NMAC 19.15.11.14 and Oxy's compliance with that standard for the injection facilities in the existing and proposed expanded Phase I Area;

(l) The additional corrosion inhibition and mitigation efforts Oxy will utilize for the installation, construction and maintenance of the injection facilities in the proposed expanded Phase I Area;

(m) Oxy's downhole corrosion mitigation efforts, including the use of corrosion resistant tubing, packers and inert packer fluid in the annulus of wells in the existing and proposed expanded Phase I Area;

(n) The time frame for mechanical integrity tests for temporarily-abandoned wells under NMAC 19.15.25.12 and the absence of a need for more frequent testing for wells equipped with real-time pressure monitoring devices;

(o) The location of existing gas injection wells in the Phase I Area and the proposed locations for the expansion efforts;

(p) The condition of the existing injection wells and design plans for additional injection wells in the Phase I Area;

(q) Oxy's plans to add additional cement behind the production casing across the fresh water zone in the North Hobbs Unit Well No. 231 (API No. 30-025-07545) in the SE/4 NW/4 (Unit F) of Section 33 of Township 18 South, Range 38 East, prior to using this well for gas injection;

(r) The area of review analysis conducted by Oxy and the conditions of the wells within the area of review;

(s) The extensive knowledge of the wells within the area of review, the amount of time and effort devoted to the area of review analysis, and the absence of a need to update the area of review analysis for any injection wells that commence injection over the next five years;

(t) The methodology, time frame and effort involved to ascertain the parties entitled to notice of the hearing on Oxy's application; and

(u) The parties notified of the hearing either by certified mail or by newspaper publication.

8. The Division's Environmental Bureau has approved a hydrogen sulfide contingency plan that covers the North Hobbs Unit Area.

9. The geologic evidence establishes the following with respect to the Grayburg and San Andres formations underlying the North Hobbs Unit :

(a) These formations consist of a layered, anticlinal structure that acts as a natural trapping mechanism for oil, as well as any injected fluids.

(b) These formations are separated from the fresh water zones by over 3,500 feet.

(c) The upper portion of the Grayburg formation consists of 150 to 200 feet of impermeable anhydrite and limestone.

(d) Various additional layers of impermeable anhydrite, salt, shale and limestone exist between these injection formations and the fresh water zones.

(e) No geologic faults or other natural means exist in this area by which injected fluids could communicate with the shallower fresh water zones.

10. With respect to the existing wells and the proposed injection wells within the area of review for the expanded Phase I Area of the North Hobbs Unit, the evidence establishes that:

(a) The existing injection wells in the expanded Phase I Area of the North Hobbs Unit are sufficiently cased and cemented to prevent the migration of injection fluids out of the proposed injection interval. Nonetheless, Oxy intends to add additional cement behind the production casing across the fresh water zone for the North Hobbs Unit Well No. 231 (API No. 30-025-07545) in the SE/4 NW/4 (Unit F) of Section 33 of Township 18 South, Range 38 East, prior to using this well for gas injection.

(b) Oxy's design for additional injection wells in the expanded Phase I Area of the North Hobbs Unit will provide sufficient casing and cement to prevent the migration of injection fluids out of the proposed injection interval.

11. The evidence demonstrates it is prudent to expand the geographic area for the tertiary recovery operations in the Grayburg and San Andres formations underlying the North Hobbs Unit as proposed by Oxy and that expansion of the Phase I Area of the North Hobbs Unit will result in the recovery of additional oil that may otherwise not be recovered and wasted.

12. The evidence presented to the Commission demonstrates that Oxy's proposed expansion of the tertiary recovery operations in the Grayburg and San Andres formations underlying the North Hobbs Unit will not pose an unreasonable threat to groundwater, the public health or the environment.

13. Oxy's request to expand the geographic area for the injection of CO2, water, and produced gases in the North Hobbs Unit should be approved.

14. The well limitation for quarter-quarter sections set forth in NMAC 19.15.15.9(A) does not apply to active tertiary recovery projects and Oxy should be allowed to locate wells closer than 10 feet to a quarter-quarter section line or subdivision inner boundary within the North Hobbs Unit.

15. Based on the extensive area of review analysis performed by Oxy, and the previous reviews conducted by Oxy and the Division in connection with previous applications to expand the injection authority in the Phase I Area of the North Hobbs Unit, the Commission finds it is unnecessary to update the existing area of review analysis for a period of five years. However, if any well commences injection operations more than five years after the date of this order, Oxy should submit a statement to the Division that there have been no substantive changes to the area-of-review information submitted, or a statement describing any substantive changes.

16. Pursuant to NMAC 19.15.25.13.E, and based on the evidence presented on Oxy's SCADA system and proposed real time pressure monitoring devices, the Commission finds it is appropriate to conduct mechanical integrity tests on temporarily-abandoned wells equipped with real-time pressure monitoring devices once every five years.

17. The geologic and other evidence presented demonstrates Oxy should be allowed to set packers in injection wells in the North Hobbs Unit anywhere above the uppermost injection perforations or casing shoes, so long as the packer is set below the top of the Grayburg formation.

18. With respect to Oxy's request that its proposed expanded injection authority qualify for the recovered oil tax rate pursuant to the New Mexico Enhanced Oil Recovery Act, the evidence establishes that:

(a) Oxy's planned enhanced oil recovery project in the expanded Phase I Area of the North Hobbs Unit should result in the recovery of an additional 54 million barrels of oil that may otherwise not be recovered, thereby preventing waste.

(b) The proposed expanded Phase I Area of the North Hobbs Unit has been depleted to the point that it is prudent to apply enhanced recovery techniques to maximize the ultimate recovery of crude oil;

(c) The application is economically and technically reasonable and has not been prematurely filed; and

(d) The proposed tertiary recovery project meets all of the criteria for certification as a qualified "enhanced oil recovery project" under the Recovery Act and the Rules. NMSA 1978, Section 7-29A-4; NMAC 19.15.6.8.E.

19. The proposed tertiary recovery project in the expanded Phase I Area of the North Hobbs Unit will prevent waste, protect correlative rights, and should be approved with certain conditions.

THE COMMISSION CONCLUDES THAT:

1. The Commission is empowered to regulate and permit the injection of natural gas or of any other substance into any pool in this state for the purpose of repressuring, cycling, pressure maintenance, secondary or any other enhanced recovery operations. NMSA 1978, Section 70-2-12(B)(14). The Commission has a further statutory duty to prevent waste and protect correlative rights. NMSA 1978, Section 70-2-11(A).

2. Oxy has provided substantial evidence to support the approval of the authority to inject CO2, and produced water and produced gases into the North Hobbs Project Area subject to the conditions provided in this Order, which conditions are necessary to prevent waste and protect correlative rights and public health and the environment.

3. The Commission and the Division have the authority to certify "enhanced recovery projects" that are eligible for a "recovered oil tax rate" under the Enhanced Oil Recovery Act, NMSA 1978, Sections 7-29A-1 to -5 (1992) and under the Rules, 19.15.6 NMAC. The North Hobbs Grayburg-San Andres Unit Pressure Maintenance Project, as described by this Order, meets the requirements for certification as an enhanced recovery project and a tertiary recovery project under the Recovery Act and the Rules. The North

Hobbs Project Area shall be designated as the area to be affected by the enhanced recovery project.

IT IS THEREFORE ORDERED THAT:

(1) The provisions of this Order shall govern the tertiary recovery project described herein. The provisions of Orders No. R-6199-B, R-6199-C, R-6199-D and R-6199-E remain applicable to the ongoing operations in the North Hobbs Unit, except to the extent that they are inconsistent with this Order.

(2) Oxy is authorized to expand the geographic area of the current tertiary recovery project in the Phase I Area of the North Hobbs Unit by the injection of CO2, water, and produced gases into the Grayburg and San Andres formations underlying the following acreage:

TOWNSHIP 18 SOUTH, RANGE 37 EAST, NMPM

Section 13:	W/2, SE/4
Section 14:	All
Section 23:	All
Section 24:	All
Section 25:	All
Section 26:	E/2NE/4, NW/4 NE/4
Section 36:	E/2, E/2 NW/4

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM

Section 17:	S/2 NW/4, SW/4
Section 18:	NE/4 and S/2
Section 19:	All
Section 20:	All
Section 21:	SW/4, W/2 SE/4, SE/4 SE/4
Section 28:	All
Section 29:	All
Section 30:	All
Section 31:	All
Section 32:	All
Section 33:	W/2, NE/4, W/2 SE/4, and NE/4 SE/4

(3) The injection of CO2, water and produced gases is authorized for the wells and locations identified on Exhibits "A" and "B" attached to this Order. Application for approval of additional injection wells in the expanded Phase I Area of the North Hobbs Unit shall be filed in accordance with NMAC 19.15.26.8 and may be approved administratively by the Division Director without notice and hearing.

(4) For any injection well or location identified on Exhibits "A" or "B" to this Order in which tertiary injection operations commence more than five years after the date of this Order, the operator shall submit to the Division either: (i) a statement certifying that there have been no substantive changes in the information furnished in support of the

subject application concerning the status or construction of any well that penetrates the injection interval within the one half (1/2) mile area of review around the injection well; or (ii) a statement describing any substantive changes. This statement shall be submitted to the Division's Santa Fe office within a period no more than twelve months and no less than sixty days before injection operations commence in the well.

(5) The well limitation for quarter-quarter sections set forth in NMAC 19.15.15.9(A) does not apply to active tertiary recovery projects and Oxy is authorized to locate wells closer than 10 feet to a quarter-quarter section line or subdivision inner boundary within the North Hobbs Unit.

(6) No limiting gas oil ratio or oil allowable applies to this enhanced oil recovery project.

(7) The injection wells or pressurization system within the expanded Phase I Area of the North Hobbs Unit shall be equipped with a pressure control device or acceptable substitute that will limit the surface injection pressure to no more than:

1100 psig for injection of water;
1250 psig for injection of CO2; and
1770 psig for injection of produced gases.

(8) The Division Director may administratively authorize an increase in surface injection pressure upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(9) The operator shall take all necessary steps to ensure that the injected gases and fluids enter only the Grayburg and/or San Andres formations and are not permitted to escape to other formations or to the surface from injection, production, or plugged and abandoned wells.

(10) A one-way automatic safety value shall be installed at the surface of all injection wells to prevent flow-back of the injected gas during an emergency, start-up or shut-down operations.

(11) Injection shall be accomplished through fiberglass-lined tubing and a nickel plated packer. The packer shall be set as close as practical to the uppermost injection perforations or casing shoe (of any open hole completion), so long as the packer set point remains below the top of the Grayburg formation.

(12) The casing-tubing annulus shall be filled with an inert packer fluid containing biocide and corrosion inhibitors. A gauge or approved leak-detection device shall be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(13) The operator shall use a special type of cement on all new injection wells that is designed to withstand the corrosive environment. The cement design shall contain

more than three percent (3%) tricalcium aluminate (C3A) in this High Sulfate Resistance (HSR) environment.

(14) The operator is not required to run a cement bond log on a producing well each time the rods and/or tubing are pulled from the well. However, prior to placing any well on injection, a cement bond log shall be run on said well and copies of all cement bond logs shall be sent to the Division's Hobbs District Office. If any well is found to have inadequate casing cement bond, such measures as may be necessary to prevent leakage or migration of fluids within the wellbore shall be taken before placing the well on injection.

(15) Prior to commencing injection operations, the casing in each of the injection wells within the expanded Phase I Area of the North Hobbs Unit shall be pressure tested throughout the interval from the surface down to the proposed packer setting depth to assure the integrity of such casing.

(16) A mechanical integrity test shall be conducted on all injection wells once every two years.

(17) Pursuant to NMAC 19.15.25.13.E, a mechanical integrity test shall be conducted on all temporarily-abandoned wells equipped with real-time pressure monitoring devices once every five years.

(18) Injection operations shall be conducted in a closed loop system, and the trucking of fluids is not allowed.

(19) Oxy shall not commence gas injection operations in the North Hobbs Unit Well No. 231 (API No. 30-025-07545) in the SE/4 NW/4 (Unit F) of Section 33 of Township 18 South, Range 38 East, until Oxy adds additional cement behind the production casing across the fresh water zone and provides a cement bond log to the Division's Hobbs District office.

(20) The operator shall immediately notify the supervisor of the Division's Hobbs District Office of the failure of any tubing, casing or packer in any of the injection wells, or the leakage of water, oil or gas from or around any producing or plugged and abandoned well within the project area, and shall promptly take all steps necessary to correct such failure or leakage.

(21) Oxy shall maintain recorded data from its SCADA system for the North Hobbs Unit for inspection by the Division for a reasonable period of time to be determined and agreed upon through consultation between Oxy and the Division's Hobbs District Office.

(22) The hydrogen sulfide contingency plan for the North Hobbs Unit shall be reviewed and amended as necessary pursuant to NMAC 19.15.11.9.F.

(23) The North Hobbs Grayburg-San Andres Unit Pressure Maintenance Project is hereby certified as an enhanced oil recovery project and as a tertiary recovery project pursuant to the Recovery Act and Rules, and the expanded Phase I Area of the North Hobbs Unit is designated as the area to be affected by the enhanced oil recovery project. To be eligible for the recovered oil tax credit, the operator shall advise the Division of the date and time CO2 injection commences within the expanded Phase I Area and at that time the Division will certify the project to the New Mexico Taxation and Revenue Department.

(24) At such time as a positive production response occurs, and within seven years from the date the project was certified to the New Mexico Taxation and Revenue Department, the applicant must apply to the Division for certification of a positive production response pursuant to the Recovery Act, NMSA 1978, Section 7-29A-3 and NMAC 19.15.6.8.E. This application shall identify the area benefiting from enhanced oil recovery operations and the specific wells eligible for the recovered oil tax rate. The Division may review the application administratively or set it for hearing. Based upon the evidence presented, the Division will certify to the New Mexico Taxation and Revenue Department those wells that are eligible for the recovered oil tax rate. Pursuant to NMAC 19.15.6.8.F, Oxy must also report annually to the Division to confirm that the project remains a viable enhanced oil recovery project.

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

DONE at Santa Fe, New Mexico, on this 22nd day of May, 2014.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

ROBERT BALCH, Member

TERRY WARNELL, Member

JAMI BAILEY, Chair

SEAL

Exhibit A

List of Proposed Project Injectors by Qtr/Qtr Section

Well Name	API Number	Surface Location				Injection Interval	Proposed Injectant
		Section	Unit Letter	Township & Range	Footage Location		
TBD	TBD	14	A	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	B	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	C	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	D	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	E	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	F	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	G	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	H	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	I	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	J	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	K	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	L	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	M	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	N	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	O	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	P	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	23	A	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	23	B	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	23	C	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	23	D	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	23	E	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	23	F	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	23	G	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	23	H	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	23	I	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	23	J	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	23	K	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	23	L	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	23	M	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	23	N	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	23	O	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	23	P	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	26	A	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	26	B	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	26	H	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	13	C	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	13	D	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	13	E	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	13	F	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	13	I	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	13	J	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	13	K	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	13	L	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water

Exhibit A

List of Proposed Project Injectors by Qtr/Qtr Section

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TBD	TBD	13	N	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	13	O	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	13	P	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	24	A	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	24	B	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	24	C	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	24	D	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	24	E	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	24	F	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	24	G	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	24	H	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	24	I	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	24	J	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	24	K	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	24	L	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	24	M	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	24	N	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	24	O	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	24	P	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	25	A	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	25	B	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	25	C	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	25	D	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	25	E	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	25	F	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	25	G	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	25	H	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	25	I	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	25	J	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	25	K	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	25	L	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	25	M	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	25	N	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	25	O	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	25	P	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	36	A	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	36	B	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	36	C	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	36	F	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	36	G	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	36	H	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	36	I	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water

Exhibit A

List of Proposed Project Injectors by Qtr/Qtr Section

Well Name	API Number	Surface Location				Injection Interval	Proposed Injectant
		Section	Unit Letter	Township & Range	Footage Location		
TBD	TBD	36	J	18-S ; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	18	M	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	18	N	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	18	O	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	18	P	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	A	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	B	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	C	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	D	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	E	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	F	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	G	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	H	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	K	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	L	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	D	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	E	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	F	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	I	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	J	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	K	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	L	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	M	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	N	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	O	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	30	P	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	A	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	B	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	C	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	31	D	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	31	E	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	31	F	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	31	G	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	H	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	I	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	J	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	K	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	31	L	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	31	M	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	N	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	O	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	P	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	17	E	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water

Exhibit A

List of Proposed Project Injectors by Qtr/Qtr Section

Well Name	API Number	Surface Location				Injection Interval	Proposed Injectant
		Section	Unit Letter	Township & Range	Footage Location		
TBD	TBD	17	K	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	17	L	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	17	M	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	17	N	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	20	C	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	20	D	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	20	E	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	20	F	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	20	L	18-S ; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
NHU-29A	TBD	29	I	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
NHU-28A	TBD	28	K	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
NHU-28B	TBD	28	L	18-S ; 38-E	TBD	3698' - 4500'	Purchased CO2/Water

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Exhibit B
List of Proposed Project Injectors (Existing Wells)

Well Name	API Number	Surface Location				Current Status	Injection Interval	Proposed Injectant
		Section	Unit Letter	Township & Range	Footage Location			
NHU 28-231	30-025-07421	28	K	18-S ; 38-E	1325' FSL & 1325' FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 28-232	30-025-28882	28	K	18-S ; 38-E	2300 FSL & 1350 FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-422	30-025-28268	33	H	18-S ; 38-E	2181 FNL & 498 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-432	30-025-28269	33	I	18-S ; 38-E	1842 FSL & 1029 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 32-431	30-025-07537	32	I	18-S ; 38-E	2310 FSL & 330 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 32-432	30-025-26974	32	I	18-S ; 38-E	1400 FSL & 1300 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 32-132	30-025-27139	32	L	18-S ; 38-E	1400 FSL & 1300 FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 32-142	30-025-28265	32	M	18-S ; 38-E	610 FSL & 1210 FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 32-341	30-025-07539	32	O	18-S ; 38-E	330 FSL & 2310 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 32-342	30-025-28266	32	O	18-S ; 38-E	457 FSL & 1437 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-342	30-025-28267	33	O	18-S ; 38-E	125 FSL & 2730 FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 31-441	30-025-07498	31	P	18-S ; 38-E	330 FSL & 330 FEL	TA	3698' - 4500'	Purchased CO2/Water
NHU 33-142	30-025-28411	33	M	18-S ; 38-E	1250 FSL & 185 FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-312	30-025-29199	33	B	18-S ; 38-E	151 FNL & 1702 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-211	30-025-07564	33	C	18-S ; 38-E	330 FNL & 2310 FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-212	30-025-29026	33	C	18-S ; 38-E	205 FNL & 1420 FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
[illegible] 33-222	30-025-26975	33	F	18-S ; 38-E	1520 FNL & 1470 FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
[illegible] 33-322	30-025-27169	33	G	18-S ; 38-E	1435 FNL & 1670 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-323	30-025-28951	33	G	18-S ; 38-E	2525 FNL & 1453 FEL	Producer	3698' - 4500'	Purchased CO2/Water
NHU 33-534	30-025-34373	33	J	18-S ; 38-E	2415 FSL & 2200 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-231	30-025-07545	33	F	18-S ; 38-E	2310 FSL & 1320 FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-232	30-025-27169	33	K	18-S ; 38-E	1435 FNL & 1670 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water