SWD

Initial

Application

Received: 09/04/19

This application is placed in file for record. It MAY or MAY NOT have been reviewed to be determined Administratively Complete

RECEIVED: 09/04/2019 REVIEWER: APP NO: pTW1925443417 **SWD**

ABOVE THIS TABLE	FOR OCD DIVISION USE ONLY
NEW MEXICO OIL CONS - Geological & Engine 1220 South St. Francis Drive,	eering Bureau –
ADMINISTRATIVE APPLI	
THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE REGULATIONS WHICH REQUIRE PROCESSING	
Applicant: 3Bear Field Services, LLC	OGRID Number: 372603
Well Name: Merchant State 12 SWD #1	API: New Well
Pool: NA	Pool Code: <u>NA</u>
SUBMIT ACCURATE AND COMPLETE INFORMATION R	
1) TYPE OF APPLICATION: Check those which apply A. Location – Spacing Unit – Simultaneous Dedi INSL NSP (PROJECT AREA)	
B. Check one only for [1] or [1] [1] Commingling – Storage – Measurement DHC DTB PLC PC [11] Injection – Disposal – Pressure Increase – WFX PMX SWD IPI 2) NOTIFICATION REQUIRED TO: Check those which a concurrent approval by the conc	FOR OCD ONLY apply. De owners by SLO by BLM PPR FOR OCD ONLY Notice Complete Complete Complete
G. For all of the above, proof of notification H. No notice required 3) CERTIFICATION: I hereby certify that the informatic administrative approval is accurate and complet understand that no action will be taken on this approval.	on submitted with this application for e to the best of my knowledge. I also
notifications are submitted to the Division.	
Note: Statement must be completed by an individu	Jal with managerial and/or supervisory capacity.
	August 20, 2019
Alberto A. Gutierrez, RG (Consultant to 3Bear)	Date
Print or Type Name	
Tim or type Name	505-842-8000
M	Phone Number
984	aag@geolex.com

e-mail Address

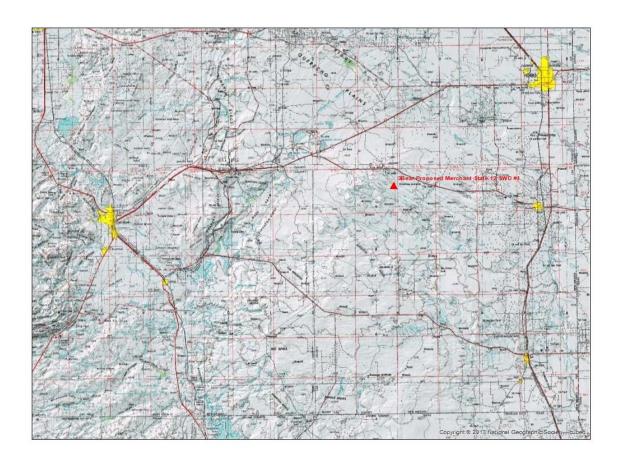
Signature





Proposed 3Bear Merchant State 12 SWD #1 Application for Administrative Authorization to Inject

255' FEL, 202' FSL Section 12, T21S, R34E, Lea Co., New Mexico



August 20, 2019

Prepared for:

3Bear Field Services LLC 500 Don Gaspar Avenue Santa Fe, New Mexico 87505

Prepared by:

Geolex, Inc. 500 Marquette Avenue, NW, #1350 Albuquerque, New Mexico 87102 STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, New Mexico 87505 FORM C-108 Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I.	PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage Application qualifies for administrative approval? X Yes No	e					
II.	OPERATOR:3Bear Field Services, LLC. ADDRESS:500 Don Gaspar Ave., Santa Fe NM 87505 CONTACT PARTY:Alberto A. Gutierrez, R.G GEOLEX, INCPHONE:(505)-84	<u> 12-8000</u>					
III.	WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary. A CROSS REFERENCE TO THE APPLICABLE SECTION APPENDICES IN THE ATTACHED C108 APPLICATION FOR EACH ROMAN NUMERAL BELOW IS SPECI SECTION AND/OR APPENDIX NUMBERS.						
IV.	Is this an expansion of an existing project? Yes X No If yes, give the Division order number authorizing the project: N/A						
V.	Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle cach proposed injection well. This circle identifies the well's area of review. SECTIONS 5 and 6; APPENDICES A and B.						
VI.	Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail. SECTION 5; APPENDIX A.						
VII.	Attach data on the proposed operation, including:						
	 Proposed average and maximum daily rate and volume of fluids to be injected; <u>SECTIONS 1, 2, and 3</u> Whether the system is open or closed; <u>SECTIONS 1, 2, 4 and 7</u> Proposed average and maximum injection pressure; <u>SECTIONS 1 and 3</u> Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected pro and, <u>SECTIONS 3 and 4</u> If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.) <u>3 and 4</u> 	chemical					
*VIII.	Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately the injection interval. SECTIONS 4 and 5 and APPENDIX A	solids					
IX.	Describe the proposed stimulation program, if any. <u>N/A</u>						
*X.	Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted). NOT YET DRILLED	WELL IS					
*XI.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any indisposal well showing location of wells and dates samples were taken. SECTION 4.5	jection or					
XII.	Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water. SECTION 7						
XIII.	Applicants must complete the "Proof of Notice" section on the reverse side of this form. APPENDIX B						
XIV.	Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge a	nd belief.					
	NAME: Alberto A. Gutierrez, C.P.G. TITLE: President, Geolex, Inc.®; Consultant to DCP Midstream LP						
	SIGNATURE:DATE:						
*	E-MAIL ADDRESS: aag@geolex.com If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Pledate and circumstances of the earlier submittal: SEE ATTACHED APPLICATION	ease show the					

III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:
 - (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.

Merchant State 12 SWD #1 Surface: 205' FSL, 255' FEL Section 12, T21S, R33E, - SECTIONS 1, 3 and 4.

- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined. SEE SECTION 3 FOR PROPOSED WELL DESIGN. FINAL DESIGNS WILL BE SUBMITTED WHEN PROPOSED WELL IS DRILLED AND COMPLETED.
- (3) A description of the tubing to be used including its size, lining material, and setting depth. **SECTION 3 AND FIGURE 3 FOR PROPOSED** WELL DESIGN
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used. **SECTION 3**

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

- B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.
 - (1) The name of the injection formation and, if applicable, the field or pool name. SECTIONS 1 and 4
 - (2) The injection interval and whether it is perforated or open-hole. SECTION 3
 - (3) State if the well was drilled for injection or, if not, the original purpose of the well. N/A-WELL NOT YET DRILLED
 - (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations. N/A
 - (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any. **SECTIONS 4 and 5**; **APPENDICES A and B**

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location. **SECTION 5; APPENDIX B CONTAINS COPIES OF LETERS SENT OPERATORS, LEASEHOLD OWNERS AND SURFACE OWNERS WITHIN THE AREA OF REVIEW PURSUANT TO NMOCD REGULATIONS AND CERTIFIED MAIL RETURN RECEIPTS**

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include: <u>SEE APPENDIX B FOR COPY OF PUBLIC NOTICE AND AFFIDAVIT OF PUBLICATION OF NOTICE FROM NEWSPAPER</u>

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

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1.0 EXECUTIVE SUMMARY

On the behalf of 3Bear Field Services LLC ("3Bear") Geolex, Inc. (Geolex) has prepared and is hereby submitting a complete C-108 application for administrative approval to drill, complete, and operate a salt water disposal well (Merchant State 12 SWD #1) at 205' FSL, 255' FEL in Section 12, T21S, R33E in Lea County, New Mexico, approximately 24 miles Southwest of Hobbs, New Mexico (Figure 1).

3Bear will construct surface facilities at this location, and this new disposal well is proposed in order to properly dispose of saltwater from this 3Bear's activities (Figure 2). 3Bear intends to inject up to 25,000 barrels per day (bpd) through the proposed well.

The proposed injection zone will be in the Devonian and Upper Silurian Wristen and Fusselman Formations, as well as the upper Ordovician Upper Montoya Formation, at depths of approximately 15,600 to 16,500 feet. Analysis of the reservoir characteristics of these units confirms that they act as excellent closed-system reservoirs that will accommodate 3Bear's saltwater disposal needs.

There are 69 recorded wells within two miles of the proposed 3Bear Merchant State 12 SWD #1 (see Figure A1, Appendix A). Of these 34 are active, 32 are plugged and abandoned, and 3 are approved locations that have not drilled. Within one-half mile there are only 2 wells, both of which are plugged and abandoned.

Only one well in the two-mile radius was drilled deeper than 15,000 feet. This well, the Berry 001 (3002520920) is 0.39 miles east of the proposed SWD and was drilled to 15,593 feet in October 1963 and was plugged back to 14,575 feet prior to completion. The well was plugged and abandoned in January 1976 and plugging documentation (Appendix A) indicates that the well was properly plugged and poses no hazard of migration from the deeper injection zone.

The caprock above the injection zone contains approximately 260 feet of dense shale (Woodford Shale) and an additional 700 feet of low-permeability carbonates in the Osage and Barnett formations. Those formations will contain the injected water, and prevent any up migration.

The well will be constructed using a 4-string design to protect shallow fresh water, the Salado salt, the Capitan Aquifer, and deeper production zones (Figure 3). The three upper casing segments (to 11,530 feet) will be cemented to the surface, and a 7 5/8" liner will be run from 11,300 feet to 15,600 feet, with an overlap within the 9 5/8" of 230 feet. The well will then be completed as an open-hole interval, from approximately 15,600 to 16,500 feet.

Based on the New Mexico Water Rights Database from the New Mexico Office of the State Engineer, there are no freshwater wells within the one-mile area of review for the proposed saltwater disposal well.

All surface ownership within one-half mile of the proposed Merchant State 12 SWD #1 is held by the State of Mexico. and the Merchant Livestock Company. All mineral rights in the one-half mile area are held by the State of New Mexico. Operators in the area of interest include COG Operating LLC, EOG Resources Inc. and the ConocoPhillips Company. Complete information on land ownership, operators, and lease holders are included in Appendix B.

In preparing this C-108 application, Geolex conducted a detailed examination of all of the elements required to be evaluated in order to prepare and obtain approval for this application for injection. The elements of this evaluation include:

- Identification and characterization of all hydrocarbon-producing zones of wells that surround and are present within 2 miles of the proposed location.
- The depths of perforated pay intervals in those wells relative to the depth of the target injection zones (Devonian, Fusselman and Montoya).
- The past and current uses of the proposed intervals.
- The stratigraphic and structural setting of the targeted zones relative to any nearby active or plugged wells, and other wells penetrating the intervals.
- The identification of and sample notification letter that will be sent to all surface owners within a one-half mile radius of the proposed injection well.
- Identification and characterization of all plugged and operating wells penetrating the proposed injection zone within a one-half mile radius of the proposed injection well.
- The details of the proposed injection operation, including general well design and average and maximum daily rates of injection and injection pressures.
- Sources of injection fluid and compatibility with the formation fluid of the injection zone.
- Location and identification of any fresh water bearing zones in the area; the depth and quality of available groundwater in the vicinity of the proposed well, including a determination that there are no structures which could possibly communicate the disposal zone with any known sources of drinking water.

Based upon this detailed evaluation, Geolex and 3Bear have determined that the proposed Merchant State 12 SWD #1 is a safe and environmentally-sound project for the disposal of produced water.

2.0 INTRODUCTION AND ORGANIZATION OF C-108 APPLICATION

The completed NMOCD Form C-108 is included before the Table of Contents of this document and references appropriate sections where data required to be submitted are included herein.

This application organizes and details all of the information required by NMOCD and NMOCC to evaluate and approve the submitted Form C-108 – Application for Authorization to Inject. This information is presented in the following categories:

- A detailed description of the location, construction, and operation of the proposed disposal well (Section 3.0)
- A summary of the regional and local geology, the hydrogeology, and the location of drinking water wells within the ½ mile area of review (Section 4.0)
- The identification, location, status, production zones, and other relevant information on oil and gas wells within the ½ mile area of review. (Section 5.0)
- The identification and required notification for operators and surface land owners that are located within the ½ mile area of review (Section 6.0)
- An affirmative statement, based on analysis of geologic conditions at the site, that there is no hydraulic connection between the proposed injection zone and any known sources of drinking water (Section 7.0)

3.0 PROPOSED CONSTRUCTION AND OPERATION OF 3BEAR SWD #1

3.1 DESIGN OF 3BEAR SWD #1

The SWD facilities and well will be integrated components of the 3Bear surface facilities. The preliminary well design for the new injection well is shown on Figure 3. This well will be made to accommodate injection of 25,000 bpd of produced water.

The well will be advanced vertically to its anticipated total depth of approximately 16,500 feet. The injection zone (15,600 to 16,500 feet) will be completed as an open hole interval.

The four casing strings are detailed on the well injection data sheet and Figure 4 schematic. Surface casing (20") will be set in a competent bed above the salt, at approximately 1,600 feet. The first intermediate casing (13 3/8") will be set through the salt to approximately 5,700 feet to protect the Capitan Aquifer. The second intermediate 9 5/8" casing will be advanced to approximately 11,050 feet protecting the 1st and 2nd sands of the Bone Spring. The 7 5/8" production liner will be placed from 11,300 feet to 15,600 feet, with an overlap of 230 feet. The final completion will be constructed as a 6 1/8" open hole interval, to a total depth of approximately 16,500 feet.

Both intermediate segments will be logged using Dual Induction and Density-Neutron-Gamma Ray Porosity. The proposed open hole logging suite for the TD run consists of a Dual Induction, Density-Neutron-Gamma Ray Porosity.

All casing segments will be cemented to the surface, and the liner will be cemented into the 9 5/8" second intermediate. A casing integrity test (pressure test) will be performed to test the casing. Full 360-degree cement-bond logs will be performed for each casing segment as well.

Once the integrity of the cement jobs has been determined a temporary string of removable packer and tubing will be run, and injection tests (step tests) will be performed to determine the final injection pressures and volumes. Once the reservoirs have been tested, the final tubing string will include a permanent packer, and approximately 14,625 feet of 5 ½-inch tubing.

3.2 CALCULATED MAXIMUM ALLOWABLE OPERATING PRESSURE (MAOP)

The total volume of produced water to be injected under this scenario will be approximately 25,000 barrels per day. Pressure reduction valves will be incorporated to assure that maximum allowable operating pressure allowed by NMOCD will not be exceeded.

The MAOP for the 3Bear SWD #1 is calculated using the following method approved by NMOCD as shown below:

IPmax = PG (Dtop) where: IPmax= maximum surface injection pressure (psig)

PG = pressure gradient of mixed injection fluid (psig/foot)

Dtop = depth at top of perforated interval of injection zone (feet)

and PG = 0.2 + 0.433 (1.04 - SGsw) where:

SGsw = specific gravity of the disposed salt water (\sim 1.04)

Therefore:

$$PG = 0.2 + 0.433 (1.04 - 1.04) = 0.2$$

 $IPmax = PG (Dtop) = 0.2 \times 15,600 = 3,120 \text{ psig}$

3Bear requests a MAOP to 3,120 psig.

4.0 REGIONAL AND LOCAL GEOLOGY AND HYDROGEOLOGY

4.1 GENERAL GEOLOGIC SETTING/SURFICIAL GEOLOGY

The 3Bear Merchant State 12 SWD #1 will be located in Section 12, T21S, R33E in Lea County, New Mexico, about 26 miles southwest of Hobbs, New Mexico (Figure 1).

4.2 BEDROCK GEOLOGY

The 3Bear Facility and proposed well are located in the northern portion of the Delaware Basin, a subbasin of the larger, encompassing Permian Basin, which covers a large area of southeastern New Mexico and west Texas (Figure 4). The Permian Basin lies within the area of the larger, ancestral (pre-Mississippian) Tabosa Basin, which covered an area that included the entire present-day Permian Basin area and beyond. The Tabosa Basin was a shallow sub-tropical basin throughout the period between the Ordovician and early Mississippian (Osagean). The Permian Basin as we know it today began to take form during the Middle to Late Mississippian, with various segments (Delaware and Midland Basins, Central Basin Platform, North Platforms) arising from the ancestral Tabosa Basin. The Delaware Basin was subsequently deepened by periodic deformation during the Hercynian orogeny of the Pennsylvanian through Early Permian. Following the orogeny, the Delaware Basin was structurally stable and gradually was filled by large quantities of clastic sediments while carbonates were deposited on the surrounding shelves, and was further deepened by basin subsidence.

Figure 5 is a generalized stratigraphic column showing the formations that underlie the proposed well site. The entire lower Paleozoic interval (Ellenburger through Devonian) was periodically subjected to subaerial exposure and prolonged periods of karsting, most especially in the Fusselman and Devonian. The result of this exposure was development of systems of karst-related secondary porosity, which included solution-enlargement of fractures and vugs, and development of small cavities and caves. Particularly in the Fusselman, solution features from temporally-distinct karst events became interconnected with each successive episode, so there could be some degree of vertical continuity in parts of the Fusselman section that could lead to enhanced vertical and horizontal permeability.

In this immediate area of the Permian Basin, major tectonic activity was primarily confined to the lower Paleozoic section, where seismic data shows major faulting and ancillary fracturing affected rocks only as high up as the lower Woodford Shale. Faulting higher in the section that is related to the Hercynian orogeny is more prevalent closer to the Central Basin Platform margins and the northern margins of the Northwest Shelf.

The sub-Woodford Paleozoic rocks extend down to the Ordovician Ellenburger Formation, which sit on the basement over a veneer of Early Ordovician sandstones and granite wash. The Ellenburger is comprised of dolomites and limestones, and is up to several hundred feet thick. It is overlain by about 400 feet of Ordovician Simpson sandstones and tight limestones, in turn overlain by about 400 feet of Montoya cherty carbonates.

The Silurian Fusselman and Wristen, and Devonian Thirty-one Formations overlie the Montoya, and are comprised of interbedded dolomites and dolomitic limestones that are capped by the Woodford Shale. The Woodford shale is overlain by several hundred feet of Osagean limestone, which is overlain by several hundred feet of shales and basinal limestones of the Upper Mississippian Chester Formation. The Pennsylvanian Morrow, Atoka, Strawn, and a starved section of Cisco-Canyon complete the pre-Permian

6 8 20 19.docx

section. Within this entire sequence, the Morrow is a gas producing zone, with smaller contributions from the Atoka and Strawn. The proposed Silurian-Devonian injection zone does not produce economic hydrocarbons for more than 10 miles away from the well site.

4.3 LITHOLOGIC AND RESERVOIR CHARACTERISTICS OF THE SILURO-DEVONIAN FORMATIONS

The proposed injection interval includes the Devonian Thirty-one, and Silurian Wristen and Fusselman Formations, collectively referred to as the Siluro-Devonian. The proposed injection interval includes a number of intervals of dolomites and dolomitic limestones with moderate to high primary porosity, and secondary, solution-enlarged porosity that is related to karst events that periodically occurred throughout the section, most notably in the Fusselman Formation. These karst events produced solution cavities and enlarged fractures throughout the section, which can be substantial enough to provide additional permeability that is not readily apparent on well logs. The porous zones are separated by tight limestones and dolomites.

There are no producing zones within or below the Siluro-Devonian in the area of the proposed well, and the injection interval is separated from the nearest producing zone (Morrow) by 260 feet of Woodford shale, 500 feet of tight Osagean limestones, and 400 feet of tight Chesterian and Barnett shales and deep water limestones. It lies a minimum of 1,000 feet above the Precambrian basement.

4.4 CHEMISTRY OF THE RESERVOIR FLUIDS

Reservoir fluids were collected and analyzed from the Devonian interval at the DCP Midstream Zia AGI #2 (3002542207), located in Section 19, T19S, R 32E, approximately 18 miles northeast of the proposed WD #1. These analyses showed an average of TDS of 42,750 parts per million (ppm). The major ions were chloride (23,700 ppm) and sodium (15,140 ppm). The Devonian reservoir fluids are compatible with produced waters from wells in this area.

4.5 GROUNDWATER HYDROLOGY IN THE VICINITY OF THE PROPOSED INJECTION WELL

A review of the State Engineer's files shows no reported water wells within one mile of the proposed 3Bear Merchant State 12 SWD #1 location. Total dissolved solids in the shallow groundwater in the project area is highly variable, ranging from 5,000 to over 125,000 parts per million (Hydrological Assessment, Figure 4-9, p. 4-15). As described in Section 3.1, the surface casing will be extended to approximately 1,600 feet, effectively isolating the shallow ground water.

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5.0 OIL AND GAS WELLS IN THE 3BEAR SWD#1 AREA OF REVIEW

There are 69 recorded wells within two miles of the proposed 3Bear Merchant State 12 SWD #1 (see Figure A-1, Appendix A). Of these 34 are active, 32 are plugged and abandoned, and 3 are approved locations that have not drilled (Table A-1, Appendix A).

Only one well in the two-mile radius was drilled deeper than 15,000 feet. This well, the Berry 001 (3002520920) is 0.39 miles east of the proposed SWD and was drilled to 15,593 feet in October 1963 and was plugged back to 14,575 feet prior to completion. The well was plugged and abandoned in January 1976 and plugging documentation (Appendix A) indicates that the well was properly plugged and poses no hazard of migration from the deeper injection zone.

Within one-half mile of the proposed SWD #1 there are 2 wells, both of which are plugged and abandoned.

Table	Table 1: Recorded Oil and Gas Wells within One-Half Mile of Proposed Merchant State 12 SWD #1								
API	OPERATOR	WELLNAME	SPUDDATE	PLUGDATE	TVDDEPTH	WELLTYPE	STATUS	DISTANCE (Miles)	
NEW WELL	3BEAR FIELD SERVICES LLP	MERCHANT STATE 12 SWD #1			0	S	New (Not drilled or compl)	0.00	
3002502522	SOUTHWESTERN INC	PHILLIPS STATE 001	9-Jun-58	18-Aug-58	3755	0	Plugged	0.19	
3002520920	BRUNSON & MCKNIGHT	BERRY 001	4-Oct-63	10-Jan-76	15593	G	Plugged	0.39	

6.0 IDENTIFICATION AND REQUIRED NOTIFICATION OF OPERATORS, SUBSURFACE LESSEES, AND SURFACE OWNERS WITHIN THE AREA OF REVIEW

3Bear contracted Lonquist & Company, LLC to research land records in Lea County to obtain a listing of all operators, oil, gas and mineral lessees, and surface owners within a one-half mile radius of the proposed AGI well. Appendix B includes the results from that search.

Table B-1 summarizes the operators and lessees in the one-half mile area of review, and Table B-2 lists the identified surface owners. These Tables comprises the universe of persons that must be notified 20 days prior to the NMOCC hearing. The areas held by operators are shown in Figure B-1, Figure B-2 shows the areas held by lessees, and Figure B-3 depicts surface ownership. Appendix B also includes copies of individual Notice Letters and Certified Mail Receipts, and Copies of the newspaper notice and affidavit of publication.

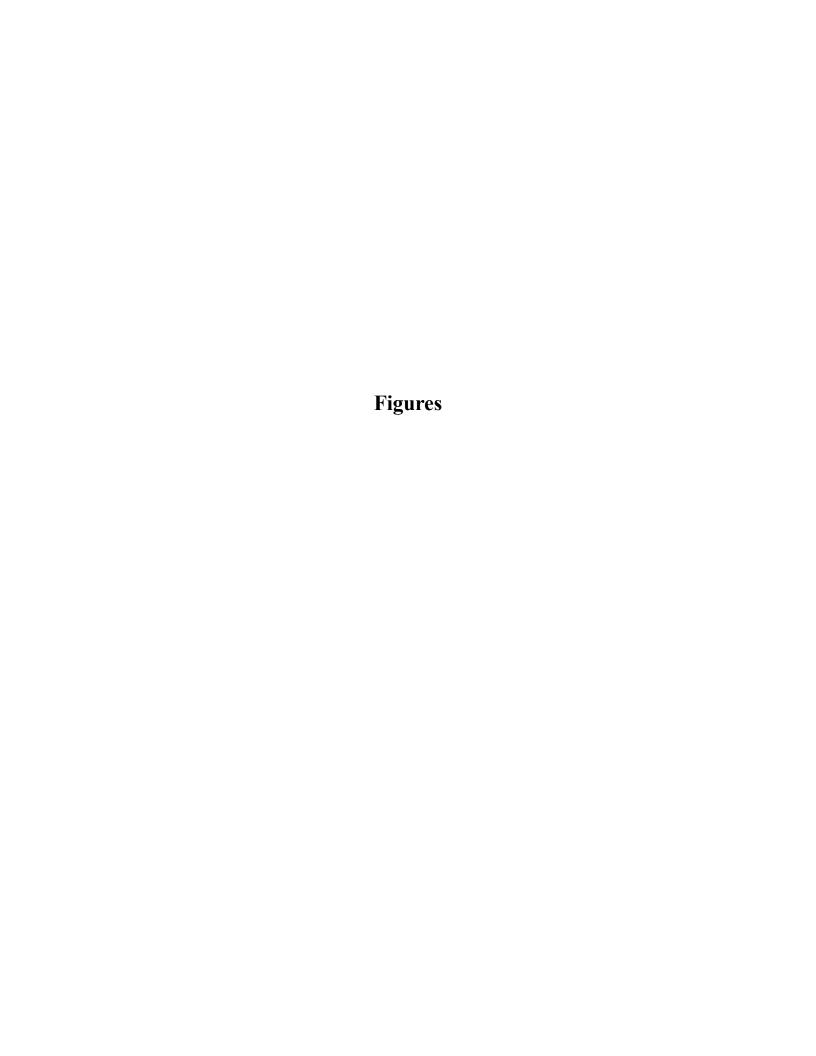
7.0 AFFIRMATIVE STATEMENT OF LACK OF HYDRAULIC CONNECTION BETWEEN PROPOSED INJECTION ZONE AND KNOWN SOURCES OF DRINKING WATER

As part of the work performed to support this application, a detailed investigation of the structure, stratigraphy and hydrogeology of the area surrounding the proposed 3Bear Merchant State 12 SWD #1well has been performed. The investigation included the analysis of available geologic data and hydrogeologic data from wells and literature identified in Sections 3, 4 and 5 above including related appendices. Based on this investigation and analysis of these data, it is clear that there are no open fractures, faults or other structures which could potentially result in the communication of fluids between the proposed injection zone with any known sources of drinking water or oil or gas production in the vicinity as described above in Sections 4 and 5 of this application.

I have reviewed this information and affirm that is correct to the best of my knowledge.

Alberto A. Gutierrez, R.G President Geolex, Inc.

Date:



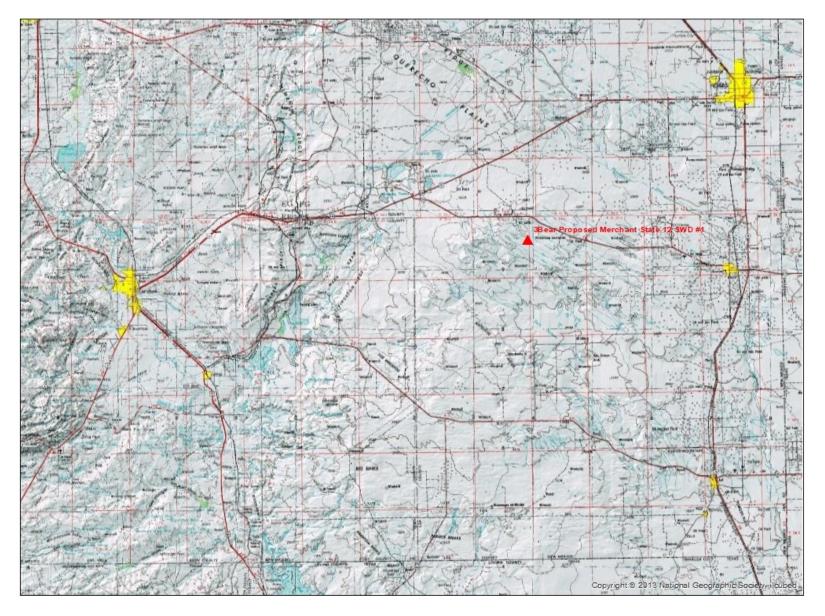


Figure 1: Location of Proposed 3Bear Merchant State 12 SWD #1





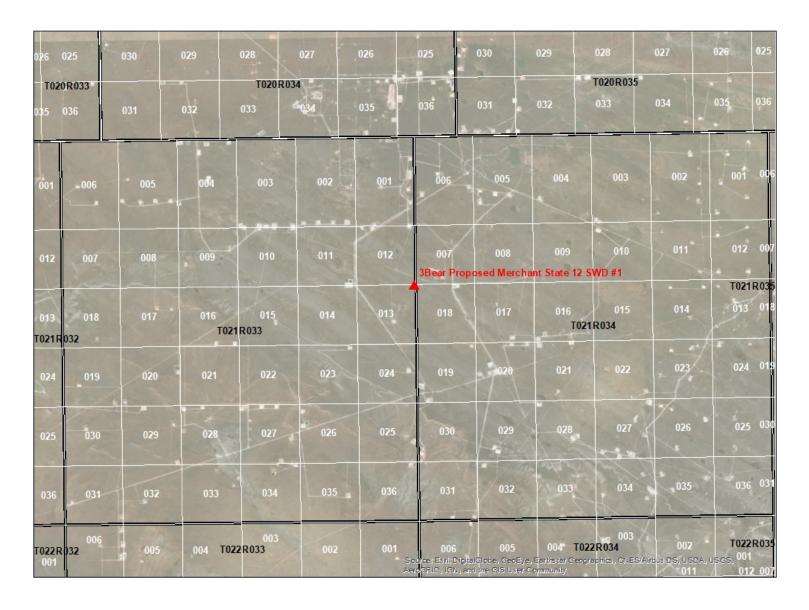


Figure 2: Detail Location of 3Bear Proposed Merchant State 12 SWD #1





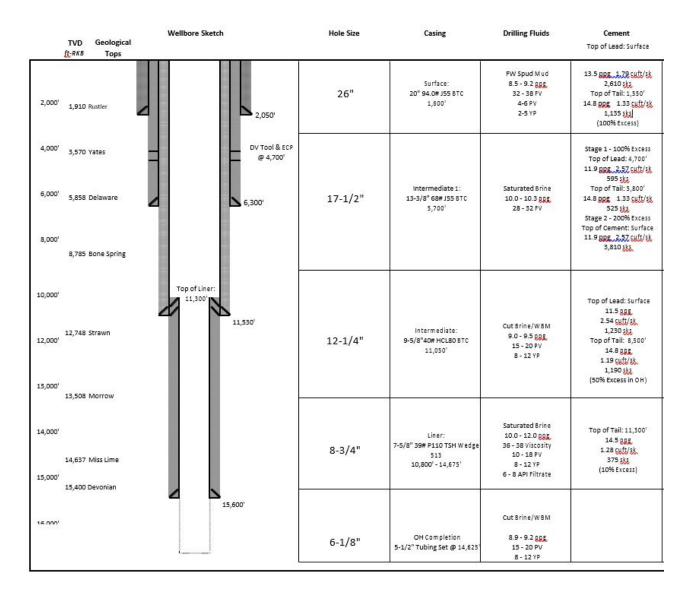


Figure 3: Well Schematic for Proposed 3 Bear Merchant State 12 SWD #1





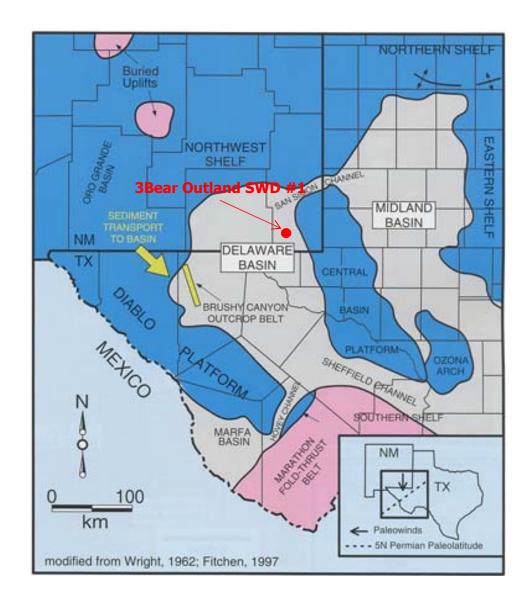


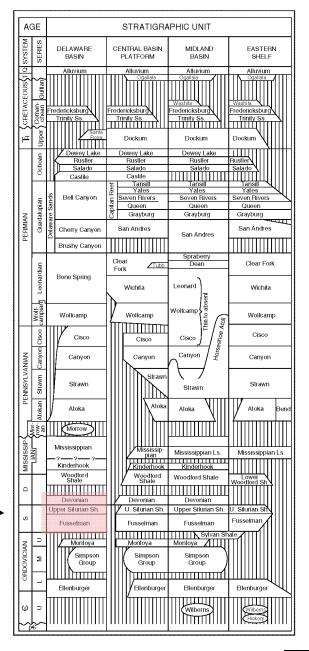
Figure 4: General Structure of the Permian Basin





Figure 5: General Stratigraphy of the Permian Basin

Proposed Injection Zone: Devonian and Silurian







Appendix A:

Information on Oil and Gas Wells within Two Miles of Proposed 3Bear Merchant State 12 SWD #1

Table A-1: Wells within Two Miles of Proposed 3Bear Outland SWD #1

Figure A-1: Wells within Two Miles of Proposed 3Bear Outland SWD #1

Attachment A-1: Plugging Information for Well 3002520920

	Table	A1: List	of Recorded \	Wells with	n 2 Miles	of Proposed	d 3Bear Mer	chant State 1	L2 SWD #	1				
OPERATOR	WELLNAME	RANGE	TOWNSHIP	SECTION	SDIVUL	SPUDDATE	PLUGDATE	TVDDEPTH	ELEVGL	WELLTYPE	COMPLSTATUS	LATITUDE	LONGITUDE	MILES
3BEAR FIELD SERVICES LLP	MERCHANT STATE 12 SWD #1	33E	21.0S	12	Р			0		S	New (Not drilled or compl)	32.48662	-103.51837	, ,
SOUTHWESTERN INC	PHILLIPS STATE 001	34E	21.05	7	М	9-Jun-58	18-Aug-58	3755	0	0	Plugged	32.48785326	-103.5152958	3 0.19
BRUNSON & MCKNIGHT	BERRY 001	34E	21.05	7	N	4-Oct-63	10-Jan-76	15593		G	Plugged	32.48756944	-103.5115126	-
EMPEROR OIL CO	AMERADA B STATE 001	33E	21.0S	13	G	4-Nov-63	6-Dec-53	3540	0	0	Plugged	32.48058453	-103.5239085	-
UNION OIL CO OF CALIFORNIA	BERRY STATE UNIT 001	33E	21.0S	13	J	22-Aug-81	27-Nov-81	14550		0	Plugged	32.47695658	-103.5239135	-
VICKERS PETROLEUM CO	STATE C 001	34E	21.05	7	F	19-Sep-51	3-Nov-51	3837		0	Plugged	32.49421687	-103.5099097	
SHELL OIL CO	STATE E 001	34E	21.0S	7	i	8-Oct-51	24-Oct-51	670		0	Plugged	32.4914995	-103.5069497	_
CARPER DRILLING CO	STATE AC 001	34E	21.0S	7	ı	6-Oct-62	13-Oct-62	3752		0	Plugged	32.49156812	-103.5069887	-
J D COOK ET AL	STATE 001	33E	21.0S	12	B	na	na	3807		0	Plugged	32.49781477	-103.5249609	-
EOG RESOURCES INC	NECTARINE 13 STATE COM 501H	33E	21.0S	13	D	12-May-17	IIa	10886	3778	_	Active	32.48552575	-103.5338344	
YATES PETROLEUM CORPORATION	LEMAY ADA STATE COM 301H	34E	21.0S	7	G	31-Oct-85	10-Nov-85	3835		0	Plugged	32.49603875	-103.5358344	7 0.94
COG OPERATING LLC	BOBWHITE 12 STATE COM 003H	33E	21.0S	12	4	30-Jan-15	10-1100-63	11630	3777	0	Active	32.49969364	-103.5009477	_
SEABOARD OIL CO	NEW MEXICO STATE 001	33E	21.0S 21.0S	13	Α		24 D 50	5000		0		32.49969364	-103.5192182	7 0.94
					0	17-Aug-56	21-Dec-56			0	Plugged			
VILAS P SHELDON	AMERADA STATE 001	33E	21.05	13	0	19-Mar-50	11-May-50	4018	_	_	Plugged	32.47332822	-103.5239186	+
COG OPERATING LLC	BOBWHITE 12 STATE COM 012H	33E	21.05	12	A	24-Mar-18		11031	3773	0	Active	32.49958485	-103.5218362	+
COG OPERATING LLC	BOBWHITE 12 STATE COM 007H	33E	21.05	12	В	10-Jul-17		10585	3768	0	Active	32.49958525	-103.5227492	+
COG OPERATING LLC	BOBWHITE 12 STATE COM 002H	33E	21.05	12	В	12-May-17		10926	3773	0	Active	32.49961331	-103.5240545	
EOG RESOURCES INC	CRANBERRY BSU STATE COM 001H	33E	21.0S	11	Р	18-Jul-14		11600	3786	0	Active	32.48619519	-103.5365637	_
EOG RESOURCES INC	DATE BTB STATE COM 004H	33E	21.0S	14	A	17-Jul-14		11821	3788	0	Active	32.48612095	-103.5365733	+
EOG RESOURCES INC	DATE BTB STATE COM 008H	33E	21.0S	14	Α	20-Jul-14		10981	3791	0	Active	32.48611932	-103.5371272	_
EOG RESOURCES INC	CRANBERRY BSU STATE COM 005H	33E	21.0S	11	Р	20-Jul-14		10917	3790	0	Active	32.48620178	-103.5371274	1.12
HUDSON & HUDSON INC	AMERADA STATE 001	33E	21.05	24	Α	2-Jan-00	2-Jan-00	4042	0	0	Plugged	32.46986824	-103.520697	7 1.13
COG OPERATING LLC	BOBWHITE 12 001H	33E	21.05	12	С	3-Oct-12		11662	3777	0	Active	32.49938223	-103.5298794	4 1.15
COG OPERATING LLC	BOBWHITE 12 STATE COM 004H	33E	21.05	12	D	14-May-15		11639	3783	0	Active	32.49969976	-103.5331182	2 1.29
COG OPERATING LLC	LIGHTNING P-38 STATE 003H	33E	21.05	1	I	23-Feb-12		10781	3752	0	Active	32.5055757	-103.5186647	7 1.34
EOG Y RESOURCES, INC.	ALPHABET AQR STATE 001	34E	21.05	17	F	29-Sep-96	5-Feb-05	14303	3745	0	Plugged	32.48065083	-103.4940491	1 1.44
EOG RESOURCES INC	NERVOSA 24 STATE COM 601H	33E	21.05	24	Н	20-Apr-17		11759	3764	0	Active	32.46499162	-103.5185939	1.45
EOG Y RESOURCES, INC.	PERSIMMON BSS STATE COM 004	33E	21.05	24	Н	30-Jun-16	18-Jun-18	95	3694	0	Plugged	32.46486517	-103.5194441	1 1.47
EOG Y RESOURCES, INC.	NERVOSA BTT STATE COM 001	33E	21.0S	24	Н	27-Feb-15	19-Jun-18	235	3694	0	Plugged	32.46486517	-103.5195418	3 1.47
EOG RESOURCES INC	BOSTON BSN STATE COM 001H	34E	21.05	6	13	11-Mar-13		11689	3741	0	Active	32.50749842	-103.5154284	1.48
EOG RESOURCES INC	BELFAST BSL STATE COM 001	34E	21.0S	6	13	25-Feb-13	16-Apr-13	4579	3740	0	Plugged	32.50755339	-103.5154281	1 1.49
EOG RESOURCES INC	BELFAST BSL STATE COM 001Y	34E	21.0S	6	13	17-Apr-13		10801	3740	0	Active	32.50769083	-103.5154274	1 1.49
WILSON OIL CO	CHARLOTTE STATE 001	34E	21.0S	5	М	2-Jan-00	2-Jan-00	4208	0	0	Plugged	32.50150238	-103.4994167	7 1.51
COG OPERATING LLC	BEN LILLY 2 STATE COM 001H	33E	21.0S	2	Р	19-Dec-13		10824	3784	0	Active	32.50104734	-103.5368715	5 1.51
EMPEROR OIL CO	STATE 001	34E	21.0S	6	J	2-Jan-00	2-Jan-00	3957	0	0	Plugged	32.50601672	-103.506943	3 1.51
COG OPERATING LLC	BEN LILLY 2 STATE COM 005H	33E	21.0S	2	P	4-Oct-14		11437	3784	0	Active	32.50104734	-103.5374354	_
CIMAREX ENERGY CO.	WITHERSPOON 23 STATE 004H	33E	21.0S	23	Α	19-Feb-14		9633	3780	0	Active	32.4706659	-103.5370151	_
EOG RESOURCES INC	PERSIMMON 24 STATE COM 201H	33E	21.0S	24	ı	7-Feb-17		9554	3756	0	Active	32.46349397	-103.5181395	_
COG OPERATING LLC	LIGHTNING P-38 STATE 006H	33E	21.0S	1	16	1-Jan-14		11468	3751	0	Active	32.50885799	-103.519343	_
EOG RESOURCES INC	DATE 14 STATE COM 602H	33E	21.0S	14	0	1 3011 14		11400	3786	0	New (Not drilled or compl)	32.47220623	-103.5393314	_
W H MCKINLEY & PAUL E PLUMMER	MOBIL STATE 001	33E	21.0S	11	B	2-Jan-00	2-Jan-00	100		0	Plugged	32.49961895	-103.5399907	+
BURLINGTON RESOURCES OIL & GAS CO	PLATINUM STATE 001	34F	21.0S	17	C	17-Oct-95	26-Jul-02	6570	3734	0		32.4806606	-103.3399907	_
		34E	21.0S 21.0S	1/	c		_	10000	3718	0	Plugged	32.49970335		-
EOG Y RESOURCES, INC.	ALPHABET UNIT 001			17		29-Feb-96	1-Feb-00			0	Plugged		-103.4951162	_
VICKERS PETROLEUM CO	SHELL STATE 001	34E	21.05	17		2-Jan-00	2-Jan-00	4116	_	0	Plugged	32.48429231	-103.4898362	_
SNOWDEN & MCSWEENEY	MCNUTT STATE 001	33E	21.05	1	L	2-Jan-00	2-Jan-00	3826	_	0	Plugged	32.50687098	-103.5335314	_
COG OPERATING LLC	BEN LILLY 2 STATE COM 002H	33E	21.05	2	0	17-Jan-13		11465	3808	0	Active	32.50104731	-103.5411743	_
COG OPERATING LLC	LIGHTNING 1 STATE SWD 001	33E	21.0S	1	. 14	21-Apr-13		7505	3783	5	Active	32.50970253	-103.5271377	_
EOG RESOURCES INC	NECTARINE BSQ STATE COM 002	33E	21.0S	24	L	30-Jun-16	21-Jun-19	90	3784	O	Plugged	32.46374858	-103.5323851	1 1.7
PAUL E PLUMMER & W H MCKINLEY	SINCLAIR STATE 002	33E	21.0S	2	1	2-Jan-00	2-Jan-00	3791		0	Plugged	32.50519629	-103.5378355	_
COG OPERATING LLC	LIGHTNING 1 STATE SWD 002	33E	21.0S	1	14	10-Feb-17		16500	3782	S	Active	32.51052715	-103.5271297	
COG OPERATING LLC	LIGHTNING P-38 STATE 005H	33E	21.0S	1	9	9-Mar-13		11457	3759	0	Active	32.5118735	-103.5187285	_
EOG Y RESOURCES, INC.	BERRY APN STATE 001	34E	21.0S	5	L	11-Oct-95	16-Mar-17	14160	3731		Plugged	32.50604163	-103.4983378	_
EMPEROR OIL CO	STATE 001	33E	21.0S	14	N	2-Jan-00	2-Jan-00	3715	_	0	Plugged	32.47333583	-103.5452903	_
PAUL E PLUMMER & W H MCKINLEY	SINCLAIR STATE 001	33E	21.05	2	J	2-Jan-00	2-Jan-00	3850	0	0	Plugged	32.50506145	-103.539987	7 1.8

MEWBOURNE OIL CO	BIRDDOG 20 17 B2ED STATE COM 001H	34E	21.05	20	E	9-Jul-16		10828	3721	0	Active	32.46503294	-103.4981843	1.85
EOG RESOURCES INC	BLACKBERRY BKB STATE COM 001H	34E	21.05	6	16	7-Feb-11		8855	3727	0	Active	32.50919651	-103.501472	1.86
DAN C BERRY	SINCLAIR STATE 001	33E	21.05	1	13	2-Jan-00	2-Jan-00	3784	0	0	Plugged	32.50959223	-103.5335287	1.86
AMERADA PETROLEUM CORP	STATE SLA 001	33E	21.05	24	Р	2-Jan-00	2-Jan-00	6370	0	0	Plugged	32.45882209	-103.5196373	1.88
COG OPERATING LLC	OSPREY 20 STATE COM 004H	34E	21.05	20	L	23-Oct-14		10990	3741	0	Active	32.4637693	-103.4992641	1.88
COG OPERATING LLC	COSMO 8 STATE 004H	34E	21.05	8	Р	4-Apr-12		10810	3714	0	Active	32.48788687	-103.4856702	1.89
FOUNDATION ENERGY MANAGEMENT, LLC	GETTY 6 STATE COM 001	34E	21.05	6	11	5-May-80		14140	3753	0	Active	32.51268477	-103.5102411	1.89
DEVON ENERGY PRODUCTION COMPANY, LP	PENNYPACKER 17 STATE 001H	34E	21.05	17	0	30-Jul-13		10836	3756	0	Active	32.47249354	-103.489764	1.89
COG OPERATING LLC	BEN LILLY 2 STATE COM 003H	33E	21.05	2	N	20-Sep-13		11421	3824	0	Active	32.50104728	-103.545416	1.91
EOG RESOURCES INC	BERRY APN STATE 002H	34E	21.05	5	13	26-Mar-12		10687	3723	0	Active	32.50825461	-103.4982329	1.91
COG OPERATING LLC	OSPREY 20 STATE COM 006H	34E	21.05	20	В	2-Mar-15		10962	3752	0	Active	32.47106368	-103.490137	1.92
EOG RESOURCES INC	BERRY 8 STATE COM 202H	34E	21.05	8	Н			0	3710	0	New (Not drilled or compl)	32.49430485	-103.4862098	1.93
CHARLES B READ	SINCLAIR STATE 002	33E	21.05	2	N	2-Jan-00	2-Jan-00	3875	0	0	Plugged	32.50325238	-103.544212	1.94
EOG RESOURCES INC	BERRY 8 STATE COM 201H	34E	21.05	8	Н			0	3710	0	New (Not drilled or compl)	32.49428294	-103.4861025	1.94
COG OPERATING LLC	OSPREY 20 STATE COM 002H	34E	21.05	20	В	3-Dec-14		11884	3752	0	Active	32.47106421	-103.489746	1.94
DAN C BERRY	HUMBLE STATE 001	33E	21.05	2	16	2-Jan-00	2-Jan-00	3805	0	0	Plugged	32.50868718	-103.5378323	1.94

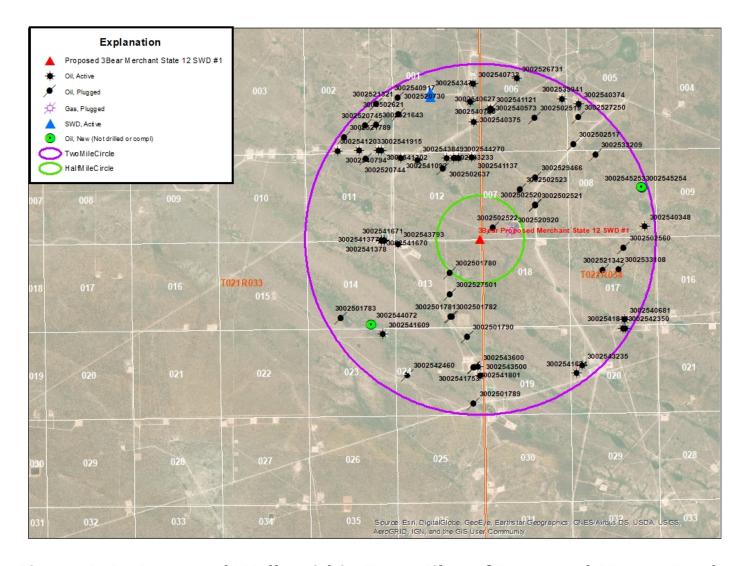


Figure A-1: Reported Wells within Two Miles of Proposed 3Bear Merchant State 12 SWD #1





No. or cories accelved	-		Form C-103
DISTRIBUTION	1		Supersedes Old C-102 and C-103
SANTA FE	NEW MEXICO OIL CONS	ERVATION COMMISSION	Ellective 1-1-65
FILE .			
U.S.G.S.	7		Su. Indicate Type of Lease
LAND OFFICE	7		State Fee X
<u> </u>	-	·	5. State Oil 6 Gas Legan No.
OPERATOR	_l		of the state of th
			mmmmmm
CHUS	RY NOTICES AND REPORTS ON	WELLS	
UTL TATELLA	TION FOR PLEASUE -" FORM C-101 FOR SUC	H PROPUTALS.)	
1.	,		7, Unit Agreement Name
OIL WELL X	ОТНЕЯ-		
2. Name of Operator			8. Form or Lease Hame
Brunso	n & McKnight		Berry
3, Address of Operator			9. Well No.
P. O.	Box 1039, Hobbs, New 1	Mexico 88240	1 1
4. Location of Well N	554 South	1821	10. Field and Pool, or Wildot
		LINE AND FEET FR	Berry - Morrow
	•		
West	7 TOWNSHIP 21S	34E	
THECINE, SECT	TOWNSHIP	RANGE	
mmmmm	15, Elevation (Show whether	DF. RT. GR. etc.)	12. County
	3750 GR	,,,	Lea
Check	Appropriate Box To Indicate N	lature of Notice, Report or (Other Data
NOTICE OF I	NTENTION TO:	SUBSEQUE	NT REPORT OF:
PERFORM REMEDIAL WORK	PLUS AND ABANDON	REMEDIAL WORK	ALTERING CASING
	, , , , , , , , , , , , , , , , , , , ,		,
TEMPORABLY ABANDON	Г—)	COMMENCE DRILLING OPNS.	PLUG AND ASANDONMENT K
PULL OR ALTER CASING	CHANGE PLANS	CASING TEST AND CEMENT JOB	
		OTHER	LJ
STHER			
		<u></u>	
17. Describe Proposed or Completed C work) SEE RULE 1103.	perations (Clearly state all pertinent dete	ills, and give perlinent dates, includi	ing estimated date of starting any proposed
•			
 Killed well 			
	d and put on Blowout :		•,
	cker and pulled tubing		
Set bridge	plug in 4 1/2" casing	@ 13,005', capped	with 35' of cement.
5. Displaced h	ole with salt- gel mu	d.	
	led 4998' of 4 1/2" c		
7 Set 100' pl	ug across stub 04998'		
9 Sot 100 pl	ug across stub @4998' ug in 9 5/8 from 1950	-1850'	
0. Set 100 pt	ug in 9 5/8 from 475-	275 ·	
9. Set 100 pl	ug III 9 5/6 IIOM 4/5-	J, J •	
10. Set surface			•
11. Installed d			
12. Cleaned loc	ation and abandoned w	ett.	
		•	
		•	•
			•
		•	
			•
18. I hereby certify that the information	above is true and complete to the best o	f my knowledge and belief.	
	-		
law T		Agent	January 10,1976
SIGNED TO	ZICIA TITLE		DATE
	,	•	3 W 1 W 1 W 1 W 1 W 1 W 1 W 1 W 1 W 1 W
APPRAUER AV			PATE PAGE STO
~ · · · · · · · · · · · · · · · · · · ·			

		
NO. OF COPIES RECEIVED		Form C-103
DISTRIBUTION		Supersedes Old C-102 and C-103
SANTA FE	NEW MEXICO OIL CONSERVATION COMMISSION	Effective 1-1-65
FILE		
U.S.G.S.		Sa. Indicate Type of Lease
		State X Fee
LAND OFFICE	· ·	5, State Oil & Gas Lease No.
OPERATOR		E-1923
		E-T352
SUN GOO NOT USE THIS FORM FOR	NDRY NOTICES AND REPORTS ON WELLS REPORTS ON WELLS REACTION FOR PLUMMET - FORM C-1911 FOR SUCH PROPERTIES.	
OIL GAS WELL X	OTHER-	7. Unit Agreement Name
2. Name of Operator Brunson & Mcl	Knight	8. Form or Lease Name Berry
3. Address of Operator		9. Well No.
P. O. Box 29	7, Hobbs, New Mexico 88240	10. Field and Pool, or Wildeat
	554 FEET FROM THE SOUTH LINE AND 1821 FEET FROM	•
West LINE, 5	7 21S 34E	
THE LINE, S	NAPA	MHHHHHHH
	15. Elevation (Show whether DF, RT, GR, ctc.)	12. County
	3758 GR	Lea
Che	ck Appropriate Box To Indicate Nature of Notice, Report or Ot FINTENTION TO: SUBSEQUEN	her Data T REPORT OF:
PERFORM REMEDIAL WORK	PLUG AND ABANDON X REMEDIAL WORK	ALTERNIS CASING
Ħ		ALTERING CASING
TEMPORARILY ABANDON	COMMENCE DRILLING OPNS.	PLUG AND ASANDONMENT
PULL OR ALTER CASING	CHANGE PLANS CASING TEST AND CEMENT JOB	_
	OTHER	
DTHER		
		
 Describe Proposed or Complete work) SEE RULE 1103. 	ed Operations (Clearly state all pertinent details, and give pertinent dates, including	estimated date of starting any proposed
1. Kill Well		
	in tall DOD and wasset we show	
	, install BOP and unseat packer.	
3. Pull and lag	y down 2 3/8 tubing.	
4. Set BP on w	ireline @ $13,000'\pm$, cap with three sacks o	f cement, 35'.
5. Free point.	shoot off and pull one joint of 4 1/2 cas:	ing.
	s plug across 4 1/2" stub in 7" casing.	
7 Pull 4 1/2"	casing to 5590' and set a 40 sack plug act	rose 7" stub
		coss / Seas
	9 5/8 casing.	. "
	casing to 1950', set 40 sack plug 100' act	ross top of
	1850' in 9 5/8 casing.	
	der of 4 $1/2$ " casing, set a 10 sack plug at	t surface.
10. Install dry	hole marker.	
11. Clean locat		
Estimated s	tarting date December 22, 1975.	
# HOO -	15 SX PER PLUG - TO ALLOW FOR	CONTAMINTION GOING
18. I hereby certify that the informa-	ation above is true and complete to the best of my knowledge and belief.	
1/22 7	farera THE Agent	*DATE 12-5-75
SIGHED	TITLE TITLE	DATE / Z
ŕ		go to the least of
I DODOUGD BY	TITLE	DATE

Appendix B:

Identification of Operators, Lessees, Surface Owners, and other Interested Parties within One Half Mile of Proposed 3Bear Merchant State 12 SWD#1 for Notices; Copies of Notice Letters and Certified Mail Receipts, and Affidavit of Publication of Newspaper Notice

Table B-1: Operators, Lessees and Surface Owners within One Half Mile of

Proposed 3Bear Merchant State 12 SWD #1

Figure B-1: Operators within One-Half Mile of Proposed 3Bear Merchant State 12

SWD #1

Figure B-2: Lessees within One-Half Mile of Proposed 3Bear Merchant State 12

SWD #1

Figure B-3: Surface Owners within One Half Mile of Proposed 3Bear Merchant

State 12 SWD #1

Merchant State 12 SWD No. 1 1 Mile Offset Operators and Lessees List

S/T/R	QQ UNIT LETTER(S)	OPERATOR	MINERAL LESSEE	MINERAL OWNER	SURFACE OWNER	ADDRESS 1	ADDRESS 2
01/21S/33E	0	-	CHASE OIL CORPORATION	-	-	P. O. BOX 1767	ARTESIA, NM 882111767
	Р	-	-	PRIVATE MINERALS	-	-	-
11/21S/33E	I,P	EOG RESOURCES INC	-	-	-	P.O.BOX 2267	MIDLAND, TX 79702
12/21S/33E	ENTIRE SECTION	COG OPERATING LLC	-	-	-	600 W ILLINOIS AVE	MIDLAND, TX 79701
13/21S/33E	A,D,E,H,I,L,M,P	EOG RESOURCES INC	-	-	-	P.O.BOX 2267	MIDLAND, TX 79702
	ENTIRE SECTION	-	EOG RESOURCES INC	-	-	P.O.BOX 2267	MIDLAND, TX 79702
14/21S/33E	A,H	EOG RESOURCES INC	-	-	-	P.O.BOX 2267	MIDLAND, TX 79702
06/21S/34E	M	EOG RESOURCES INC	-	-	-	P.O.BOX 2267	MIDLAND, TX 79702
07/21S/34E	D,E	EOG RESOURCES INC	-	-	-	P.O.BOX 2267	MIDLAND, TX 79702
	A,B,C,D,E,F,G,H,I,J,O,P	-	EOG RESOURCES INC	-	-	P.O.BOX 2267	MIDLAND, TX 79702
	M,N,O,P	-	CONOCOPHILLIPS COMPANY	-	-	P.O.BOX 2197, OFFICE EC3-10-W285	HOUSTON, TX 77252
18/21S/34E	A,B,C,D,E,F,G,H	-	EOG RESOURCES INC	-	-	P.O. BOX 2267	MIDLAND, TX 79702
	I,J,K,L,M,N,O,P	-	CENTENNIAL RESOURCE PRODUCTION, LLC	-	-	1001 17th STREET, SUITE 1800	DENVER, CO 80202
12/21S/33E	Р	-	-	-	MERCHANT LIVESTOCK	P.O. BOX 1105	EUNICE, NM 88231

Table B1a: Offset Operators and Lessees

Merchant State 12 SWD No. 1 One-Half and One-Mile Surface Owners List

S/T/R	QQ UNIT LETTER(S)	SURFACE OWNER	ADDRESS 1	ADDRESS 2				
<i>5/1/1</i> (1/2 MILE RADIUS							
12/21S/33E	I, J, N, O, P	MERCHANT LIVESTOCK	P.O. BOX 1105	EUNICE NM, 88231				
-	Н	STATE OF NEW MEXICO	310 OLD SANTA FE TRAIL	SANTA FE, NM 87501				
13/21S/33E	G	MERCHANT LIVESTOCK	P.O. BOX 1105	EUNICE NM, 88231				
-	A, B, C, H	STATE OF NEW MEXICO	310 OLD SANTA FE TRAIL	SANTA FE, NM 87501				
7/21S/34E	E, M, N	•	-	-				
-	K, L	MERCHANT LIVESTOCK	P.O. BOX 1105	EUNICE NM, 88231				
18/21S/34E	C, D, E, F,	STATE OF NEW MEXICO	310 OLD SANTA FE TRAIL	SANTA FE, NM 87501				
	1 MILE RADIUS							
6/21S/34E	M	STATE OF NEW MEXICO	310 OLD SANTA FE TRAIL	SANTA FE, NM 87501				
7/21S/34E	B, C, D, F	•	-	-				
-	l, J	MERCHANT LIVESTOCK	P.O. BOX 1105	EUNICE NM, 88231				
18/21S/34E	A, B, G, H, I , J, K, L, M, N	STATE OF NEW MEXICO	310 OLD SANTA FE TRAIL	SANTA FE, NM 87501				
13/21S/33E	D, E, F, I, J, K, L, N, O, P	•	<u>-</u>	-				
14/21S/33E	A	-	<u>-</u>	-				
11/21S/33E	I, P	-	-	-				
1/21S/33E	O, P	-	-	-				
12/21S/33E	A, C, E, F, G	-	-	-				
-	B, L, K, M	MERCHANT LIVESTOCK	P.O. BOX 1105	EUNICE NM, 88231				

Table B-1b: One-Half and One-Mile Surface Owners

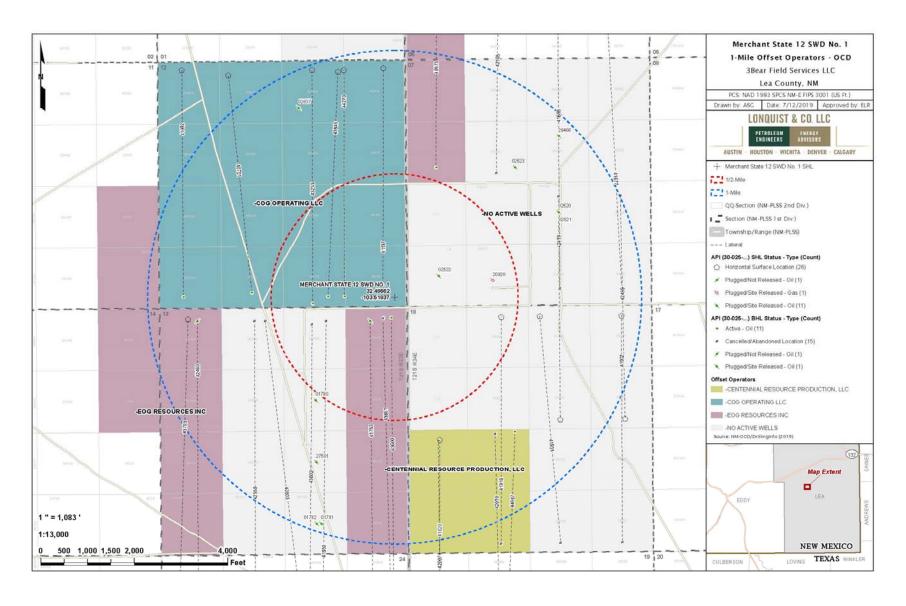


Figure B-1: Operators within One-Half Mile of Proposed 3Bear Merchant State 12 SWD #1



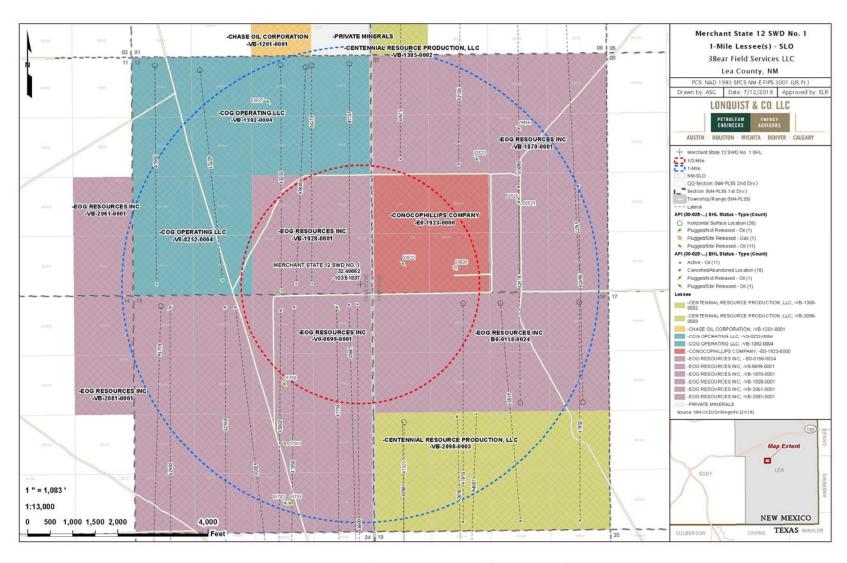


Figure B-2: Lessees within One-Half Mile of 3Bear Proposed Merchant State 12 SWD #1





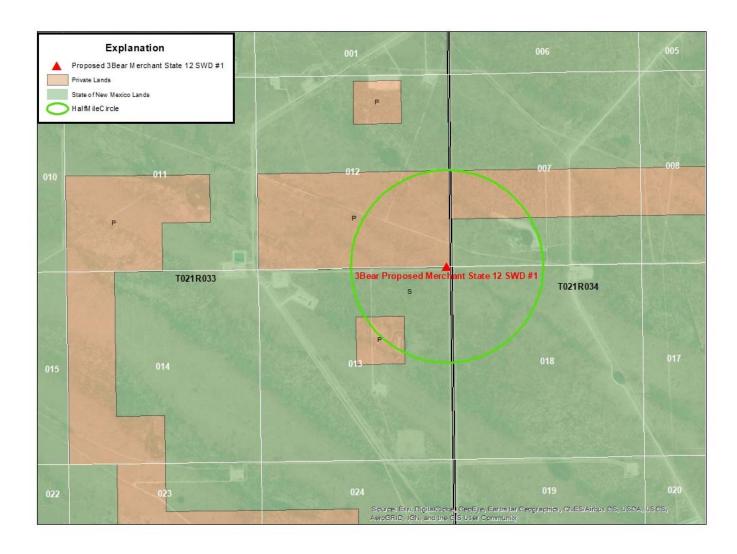


Figure B-3: Surface Owners within One-Half Mile of Proposed 3Bear Merchant State 12 SWD #1









August 20, 2019

COG Operating LLC 600 Illinois Ave. Midland, Texas 79701

<u>VIA CERTIFIED MAIL</u> RETURN RECEIPT REQUESTED

RE: 3BEAR FIELD SERVICES LLC PROPOSED MERCHANT STATE 12 SWD #1

To Whom It May Concern:

Attached for your review is Form C-108, Application for Authorization to Inject, and its supplemental documents prepared for 3Bear Field Services LLC's Merchant State 12 SWD No. 1 well, located at 205' FSL, 255' FEL in Section 12, T21S, R33E in Lea County, New Mexico, approximately 24 miles Southwest of Hobbs, New Mexico

Section XIV of Form C-108 requires that the surface land owner on which the well is located and each leasehold operator within a one-half mile radius of the proposed well location be furnished with the application.

According to the New Mexico Oil Conservation Division, surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date in which this application was mailed to them.

If you have any questions concerning this application you may contact Mr. Alberto Gutierrez or Mr. James C. Hunter at (505) 842-8000 at Geolex, Inc.; 500 Marquette Avenue NW, Suite 1350; Albuquerque, New Mexico 87102.

Sincerely, Geolex, Inc.

Alberto A. Guliérrez, C.P.G.

President

Consultant to 3Bear Field Services LLP

Enclosure: C-108 Application for Authority to Inject



email: aag@geolex.com

web: www.geolex.com



August 20, 2019

ConocoPhillips Company P.O. Box 2197 Houston, Texas 77252

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RE: 3BEAR FIELD SERVICES LLC PROPOSED MERCHANT STATE 12 SWD #1

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Sincerely, Geolex, Inc

Alberto A. Gutierrez, C.P.G.

President

Consultant to 3Bear Field Services LLP

Enclosure: C-108 Application for Authority to Inject



email: aag@geolex.com

web: www.geolex.com



August 20, 2019

EOG Resources, Inc. P.O. Box 2267 Midland, Texas 79702

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RE: 3BEAR FIELD SERVICES LLC PROPOSED MERCHANT STATE 12 SWD #1

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Alberto A. Gutiewez, C.P.G.

President

Consultant to 3Bear Field Services LLP

Enclosure: C-108 Application for Authority to Inject





August 20, 2019

State of New Mexico 310 Old Santa Fe Trail Santa Fe, New Mexico 87501

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RE: 3BEAR FIELD SERVICES LLC PROPOSED MERCHANT STATE 12 SWD #1

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Sincerely, Geolex, Inc.

Alberto A. Gutiérrez, C.P.G.

President

Consultant to 3Bear Field Services LLP

Enclosure: C-108 Application for Authority to Inject

email: aag@geolex.com web: www.geolex.com





August 20, 2019

Merchant Livestock P.O. Box 1105 Eunice, New Mexico 88231

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RE: 3BEAR FIELD SERVICES LLC PROPOSED MERCHANT STATE 12 SWD #1

To Whom It May Concern:

Attached for your review is Form C-108, Application for Authorization to Inject, and its supplemental documents prepared for 3Bear Field Services LLC's Merchant State 12 SWD No. 1 well, located at 205' FSL, 255' FEL in Section 12, T21S, R33E in Lea County, New Mexico, approximately 24 miles Southwest of Hobbs, New Mexico

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Sincerely, Geolex, Inc.

Alberto A. Gutiérre, C.P.G.

President

Consultant to 3Bear Field Services LLP

Enclosure: C-108 Application for Authority to Inject

phone: 505-842-8000 fax: 505-842-7380 email: aag@geolex.com web: www.geolex.com



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See Reverse for Instructions



18-025

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See Reverse for Instructions

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Apt. No., or PO Box

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PS Form 3811, April 2015 PSN 7530-02-000-9053	Domestic Return Receipt

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Affidavit of Publication

STATE OF NEW MEXICO **COUNTY OF LEA**

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

> Beginning with the issue dated August 21, 2019 and ending with the issue dated August 21, 2019.

ublisher

Sworn and subscribed to before me this 21st day of August 2019.

Business Manager

My commission expires

My commission expires

Vanuary 29, 2023

(Seal)

OFFICIAL SEAL

GUSSIE BLACK

Notary Public

State of New Mexico

My Commission Expires

This newspaper is duly qualified to publish

legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

LEGALS

LEGAL NOTICE AUGUST 21, 2019

3Bear Field Services LLC, 415 W. Wall St., Suite 1212, Midland, Texas 79701, is filling. Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division for administrative approval for its salt water Mexico Oil Conservation Division for administrative approval for its salt water disposal well Merchant State 12 SWD No. 1. The proposed well will be located at 205' FSL, 255' FEL in Section 12, T21S, R33E in Lea County, New Mexico, approximately 24 miles Southwest of Hobbs, New Mexico. Disposal water will be sourced from area production, and will be injected into the Devonian to Montoya Formations through an open hole completion between approximately 15,600' and a total depth of approximately 16,500' feet. The maximum allowable operating surface pressure will not exceed 3,120 psig with a maximum rate of 25,000 BWPD. Interested parties opposing the actions must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505, within 15 days. Additional information can be obtained from the 87505, Within 15 days.
Additional information can
be obtained from the
applicant's agent, Geolex,
Inc. 500 Marquette Avenue,
NW, Albuquerque, NM
87.102. #34601

67101169

00232347

ALBERTO A. GUTIERREZ GEOLEX, INC. 500 MARQUETTE AVE. NW, SUITE 1350 ALBUQUERQUE, NM 87102