# Initial

# Application Part I

Received: 01/28/2019

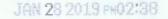
*This application is placed in file for record. It MAY or MAY NOT have been reviewed to be determined Administratively Complete* 

APP NO: PARAM / GO 2-8 59117 ERVATION DIVISION ering Bureau – Santa Fe, NM 87505 CATION CHECKLIST PPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND AT THE DIVISION LEVEL IN SANTA FE OGRID Number: 372603 API: 30-025-45390 Pool Code: 97869 EQUIRED TO PROCESS THE TYPE OF APPLICATION BELOW or [A] cation NSP (PRORATION UNIT) SD
ERVATION DIVISION ering Bureau – canta Fe, NM 87505 CATION CHECKLIST PPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND AT THE DIVISION LEVEL IN SANTA FE OGRID Number: 372603 API: 30-025-45390 Pool Code: 97869 EQUIRED TO PROCESS THE TYPE OF APPLICATION BELOW or [A] cation
PPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND AT THE DIVISION LEVEL IN SANTA FE OGRID Number: 372603 API: 30-025-45390 Pool Code: 97869 EQUIRED TO PROCESS THE TYPE OF APPLICATION BELOW or [A] cation
API: 30-025-45390 Pool Code: 97869 EQUIRED TO PROCESS THE TYPE OF APPLICATION BELOW or [A] cation
BELOW or [A] cation
or [A] cation
OLS OLM Enhanced Oil Recovery EOR PPR
pply. e owners by SLO by BLM FOR OCD ONLY Notice Complete Application Content Complete Domplete
n submitted with this application for to the best of my knowledge. I also plication until the required information and
Il with managerial and/or supervisory capacity.
January 24, 2019
Date
(512) 600-1777
Phone Number ramona@longuist.com

e-mail Address

Signature

# LONQUIST & CO. LLC





AUSTIN - HOUSTON - WICHITA - DENVER - CALGARY

January 24, 2019

New Mexico Energy, Minerals, and Natural Resources Department Oil Conservation Division District IV 1220 South St. Francis Drive Santa Fe, New Mexico 87505 (505) 476-3440

#### **RE:** SMITH RANCH SWD NO. 1 AUTHORIZATION TO INJECT

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 Service, LLC's (3Bear") Smith Ranch SWD No. 1. In addition, Forms C-101 and C-102 have also been included with this package. Notices have been sent to offset, operators, leaseholders and the surface owner. Proof of notice will be sent to the OCD upon receipt.

Any questions should be directed towards 3Bear Field Service, LLC's agent Lonquist & Co., LLC.

Regards,

Kamone Il Honey

Ramona Hovey Sr. Petroleum Engineer Lonquist & Co., LLC

(512) 600-1777 ramona@lonquist.com STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, New Mexico 87505

	APPLICATION FOR AUTHORIZATION TO INJECT
I.	PURPOSE:       Secondary Recovery       Pressure Maintenance       X       Disposal       Storage         Application qualifies for administrative approval?       X       Yes       No
II.	OPERATOR: <u>3Bear Field Service</u> , <u>LLC</u>
	ADDRESS: 415 W. Wall St., Suite 1212
	CONTACT PARTY: Kevin Burns PHONE: 432-686-2973
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.
IV.	Is this an expansion of an existing project? Yes X No If yes, give the Division order number authorizing the project:
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 drawn around each proposed injection well. This circle identifies the well's area of review.
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.
VII.	Attach data on the proposed operation, including:
	<ol> <li>Proposed average and maximum daily rate and volume of fluids to be injected;</li> <li>Whether the system is open or closed;</li> <li>Proposed average and maximum injection pressure;</li> <li>Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,</li> <li>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 chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby</li> </ol>
	wells, etc.).
*VIII.	Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
IX.	Describe the proposed stimulation program, if any.
*X.	Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
*XI.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
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.
XIII.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.
XIV.	Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
	NAME: Ramona Hovey

E-MAIL ADDRESS: ramona@longuist.com

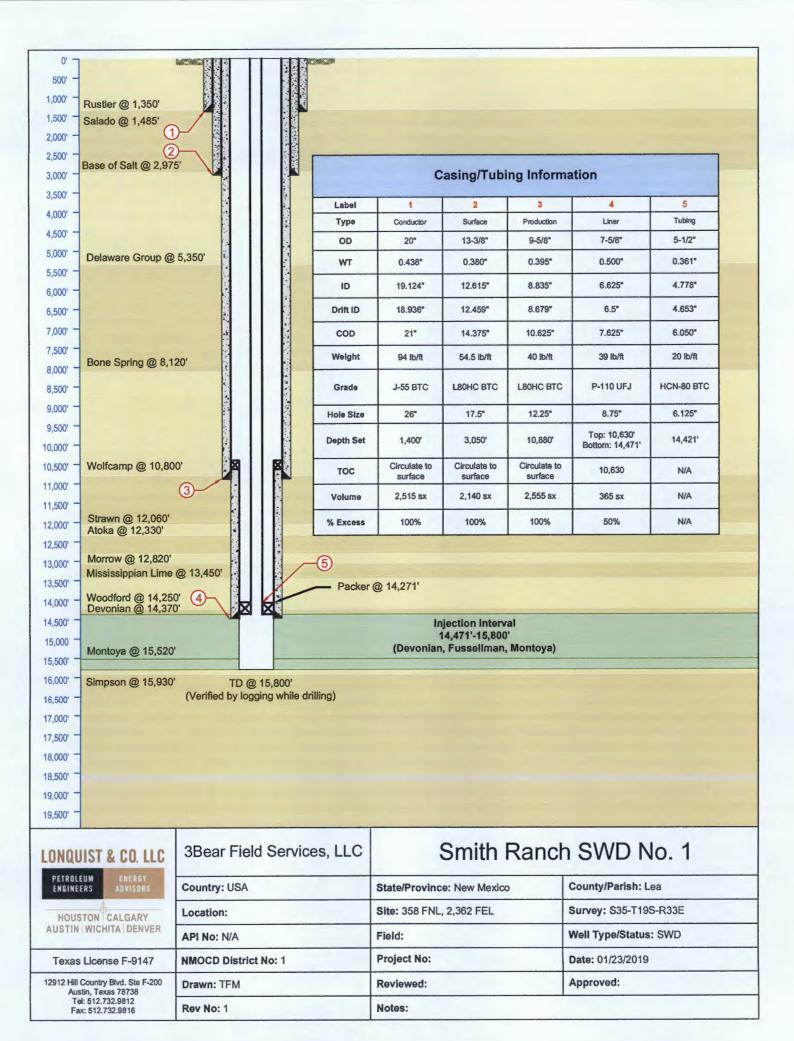
SIGNATURE:

xmus

\* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal:

thou

DATE: 1/24/2019





**3Bear Field Services, LLC** 

#### Smith Ranch SWD No. 1

#### FORM C-108 Supplemental Information III. Well Data

A. Wellbore Information

1.

Well information			
Lease Name	Smith Ranch SWD		
Well No.	1		
Location	S-35 T-19S R-33E		
Footage Location	358' FNL & 2,362' FEL		

2.

a. Wellbore Description

		Casing Infor	mation		
Туре	Surface	Intermediate Production		Liner	
OD	20"	13.375"	9.625"	7.625″	
WT	0.438"	0.38″	0.395"	0.500"	
ID	19.124"	12.615"	8.835"	6.625"	
Drift ID	18.936"	12.459"	8.679"	6.500"	
COD	21″	14.375"	10.625"	7.625"	
Weight	94 lb/ft	54.5 lb/ft	40 lb/ft	39 lb/ft	
Grade	J-55 BTC	L80HC BTC	L80HC BTC	P-110 UFJ	
Hole Size	26″	17.5"	12.25"	8.75"	
Depth Set	1,400'	3,050'	10,880'	10,630'-14,471'	

#### b. Cementing Program

		<b>Cement Information</b>	ı	
Casing String	Conductor	Intermediate	Intermediate 2	Liner
Lead Cement	Class C	Class C	Class H	
Lead Cement Volume	1,620 sks	1,485 sks	1,575 sks	
Lead Cement Density	12.2 ppg	12.7 ppg	12.7 ppg	
Tail Cement	Class C	Class C	Class H	Class H
Tail Cement Volume	895 sks	655 sks	980 sks	365 sks
Tail Cement Density	14.8 ppg	14.8 ppg	14.5 ppg	14.5 ppg
Cement Excess	100%	100%	100%	50%
тос	Surface	Surface	Surface	10,630'
Method	Circulate to Surface	Circulate to Surface	Circulate to Surface	Logged

3. Tubing Description

<b>Tubing Information</b>			
OD	5.5"		
WT	0.361″		
ID	4.778"		
Drift ID	4.653		
COD	6.050"		
Weight	20 lb/ft		
Grade	HCN-80 BTC		
Depth Set	0-14,421'		

Tubing will be lined with Duoline.

4. Packer Description

7-5/8" x 5-1/2" TCPC Permanent Packer with High Temp Elastomer and Full Inconel 925 trim

#### B. Completion Information

1. Injection Formation: Devonian, Silurian, Fusselman, Montoya

2. Gross Injection Interval: 14,471'-15,800'

Completion Type: Open Hole

- 3. Drilled for injection.
- 4. See the attached wellbore schematic.
- 5. Oil and Gas Bearing Zones within area of well:

Formation	Depth
Delaware	5,350'
Bone Spring	8,120'
Wolfcamp	10,800'
Strawn	12,060'
Atoka	12,330'

#### VI. Area of Review

No wells within the area of review penetrate the proposed injection zone.

#### VII. Proposed Operation Data

1. Proposed Daily Rate of Fluids to be Injection:

Average Volume: 20,000 BPD Maximum Volume: 25,000 BPD

- 2. Closed System
- 3. Anticipated Injection Pressure:

Average Injection Pressure: 2,156 PSI (surface pressure) Maximum Injection Pressure: 2,874 PSI (surface pressure)

- 4. The injection fluid is to be locally produced water. It is expected that the source water will predominantly be from the Bone Spring and Wolfcamp formations. Attached are produced water sample analyses taken from the closest wells that feature samples from the Bone Spring, Wolfcamp, Artesia, Pennsylvanian, San Andreas, and Delaware formations.
- The disposal interval is non-productive. No water samples are available from the surrounding area.

#### VIII. Geological Data

#### Devonian Formation Lithology:

The Devonian formation is a dolomitic ramp carbonate that occurs below the Woodford shale and above the Fusselman formation. Strata found in the Devonian formation include two major groups, the Wristen Buildups and the Thirtyone Deepwater Chert, with the Wristen being more abundant. The Wristen Groups is composed of mixed limestone and dolomites with mudstone to grainstone and boundstone textures. Porosity in the Wristen group is a result of both primary and secondary development. Present are moldic, vugular, karstic (including collapse breccia) features that allow for higher porosities and permeabilities. The Thirtyone Formation contains two end-member reservoir facies, skeletal packstones/grainstones and spiculitic chert, with most of the porosity and permeability found in the coarsely crystalline cherty dolomite. These particular characteristics allow for this formation to be a tremendous Salt Water Disposal horizon.

#### Fusselman Formation Lithology:

The Silurian/Ordovician Fusselman Formation is stratigraphically below the Wristen Group and is above and separated from the Montoya Formation by the Sylvan Shale. The Sylvan Shale is the lower confining layer for the proposed Smith Ranch SWD No. 1 well. Fusselman facies include a laminated skeletal wackestone in the upper part and a buildup complex in the lower part composed of ooid and bryozoan grainstones. These grainstones can also be potentially prolific zones for disposal.

Montoya Formation Lithology:

The Montoya Group of Late Ordovician age unconformably overlies the Simpson Group. The Montoya is composed of light gray to medium-dark gray, fine- to medium-crystalline, calcareous dolomite, some units of which are interbedded with shale or dark-gray limestone and some units of which contain white to very light-gray chert. The Montoya carbonate limestone dolomite sequence is dense, impermeable, and non-porous.

#### A. Injection Zone: Siluro-Devonian Formation

Formation	Depth
Rustler	1,350′
Salado	1,485'
Delaware	5,350'
Bone Spring	8,120'
Wolfcamp	10,800'
Strawn	12,060'
Atoka	12,330'
Morrow	12,820'
Barnett	13,070'
Mississippian Lime	13,450'
Woodford	14,250'
Devonian	14,370'
Montoya	15,520'
Simpson	15,930'

#### B. Underground Sources of Drinking Water

One water well exists within one mile of the proposed well. Across the area, fresh water wells are usually drilled between 50' and 850' in depth. The Rustler is known to exist in this general area and may also be another USDW and will be protected through the top of the Salado Formation at 1,485' by setting surface casing at 1,400' and intermediate casing at 3,050' below the Salado.

IX. Proposed Stimulation Program

No stimulation program planned.

X. Logging and Test Data on the Well

There are no logs or test data on the well. During the process of drilling and completion resistivity, gamma ray, and density logs will be run.

XI. Chemical Analysis of Fresh Water Wells

Attached is a map of the one (1) water well that exist within one mile of the well location. Samples from the well have been obtained and analysis results will be provided as soon as possible. A Water Right Summary from the New Mexico Office of the State Engineer is attached for water well CP-00658-POD1.

District 1 1625 N. French Dr., 1	Hobbs, NM 88	3240				lew Mexico			Form C- Revised July 18, 20
Phone: (575) 393-610 District II	51 Fax: (575)	393-0720		Energy	Minerals an	d Natural R	NOV 292018 NOV 292018 NOV 292018	)	Revised July 16, 24
811 S. First St., Arter Phone: (575) 748-12	sia, NM 88210 83 Fax: (575)	) 748-9720			Oil Conserv	ation Divisio	105300		MENDED REPOR
District III 1000 Rio Brazos Roa	d, Aztec, NM	87410			1220 Cauth 6	E Email H	06- 2018	5	
Phone: (505) 334-61 District IV	78 Fax: (505)	334-6170			1220 South 2	st. Francis Di	. NN 291	.0	F/
1220 S. St. Francis D Phone: (505) 476-344	r., Santa Fe, N 50 Fax: (505)	IM 87505 476-3462			Santa Fe,	NM 87505	NOIN	ED	• •
							DECE.		
APPLIC	ATIO	N FOR	PERMIT T	O DRILL,	RE-ENTE	R, DEEPEN	, PLUGBACK	, OR ADI	<b>DAZONE</b>
			<sup>1</sup> Operator Name a BEAR FIELD S					OGRID Numb 372603	er
			1512 LARIMER	ST., SUITE 54				<sup>3</sup> APLNumber	1-0
* Property	Code	- 1	DENVER, CO 8		Property Name		30-0	25-4	6390
32.2	Code y	8			ITH RANCH S	WD			1
				<sup>7.</sup> Si	urface Locatio	n			
UL - Lot A	Section	Township 19S	Range 33E	Lot Ida	Feet from 358	N/S Line	Feet From 2362	E/W Line	County
A	35	193	352	L Duomoo	ed Bottom Ho	NORTH	2302	EAST	LEA
UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
				9. Pe	ool Informatio	n			
					Name ONIAN-SILUE	UAN			Pool Code 97869
				Addition	al Well Inform	nation			
". Work	Гуре		<sup>12</sup> . Well Type S		13. Cable/Rotary		14. Lease Type	15. Grou	and Level Elevation
16. Multi	ple		17. Proposed Depth		R <sup>18.</sup> Formation		<sup>19.</sup> Contractor		3253 25 7.
YES			15,800'	SI	LURO-DEVON	IAN	JDC DRILLING		PROVAL OF C-10
Depth to Ground 110'	water		Distar	ce from nearest 2963'	fresh water well			e to nearest surf	
			1				11,000	(LAGUNA TO	JNIO)
XI WE WILL DE I	ising a clo	osed-loop	system in lieu of						
			21.	Proposed Ca	sing and Cem	ent Program			tione -
Туре	Hole	Size	Casing Size	Casing We	eight/ft	Setting Depth	Sacks of Cer	ment	Estimated TOC
SURF	26"		20.0"	94# J-:	55	1400	2515		0
INTER	17.5	;	13.375"	54.5#	J-55	3050	2140		0
A INTER-2	12.2	5 <sup>n</sup>	9.625"	40#1	L-80 HC	10880	2555		0
0	-					ional Comment			
-	/7.625"/3	9# P-110					0'-15800'; PLEASI	E SEE ATTAC	CHED WBD
LINER/8.75"						-			
LINER/8.75"					wout Prevent				
LINER/8.75"			W	orking Pressure		Test Pres	sure	Mar	nufacturer
LINER/8.75"	Туре		CEE ATTA						
LINER/8.75"	Туре		SEE ATTA	CHMENT					
			1						
	fy that the		SEE ATTA		to the	OIL	CONSERVATIO	ON DIVISI	ON

Printed name: JENNIFER E	LROD	Title: Petroleum Engineer
Title: SR. REGULATORY TECH		Approved Date: 12/04/18 Expiration Date: 12/04/20
E-mail Address: jelrod@chis	sholmenergy.com	
Date: 11/29/2018	Phone: 817-953-3728	Conditions of Approval Attached

See Attached Conditions of Approval

#### CONDITIONS OF APPROVAL

API #	Operator	Well name & Number
30-025-45390	3BEAR FIELD SERVICES LLC	SMITH RANCH SWD # 001

Applicable conditions of approval marked with XXXXXX

#### Administrative Orders Required

XXXXXXXX Review administrative order when approved for additional conditions of approval			

#### Other wells

#### Casing

XXXXXXX	1)	SURFACE & INTERMEDIATE CASING - Cement must circulate to surface
	2)	PRODUCTION CASING - Cement must circulate to surface
	3)	Liner – Cement must tie back into production casing
XXXXXXX	Surfa	ce casing must be set 25' below top of Rustler Anhydrite in order to seal off protectable water

## XXXXXXX Must notify OCD Hobbs Office if lost circulation is encountered at 575-370-3186

#### Water flows

XXXXXXX	Must notify OCD Hobbs Office of any water flow in the Salado formation at 575-370-3186. Report depth
	and flow rate.

#### Stage Tool

XXXXXXX	Must notify OCD Hobbs Office prior to running Stage Tool at 575-370-3186
XXXXXXX	If using Stage Tool on Surface casing, Stage Tool must be greater than 350' and a minimum 200 feet above surface shoe.
XXXXXXX	When using a Stage Tool on Intermediate or Production Casing Stage must be a minimum of 50 feet below previous casing shoe.

Completion & Production

XXXXXXX	Will require a deviational survey with the C-105
XXXXXXX	Must notify Hobbs OCD office prior to conducting MIT (575) 393-6161 ext. 114
XXXXXXX	May not inject prior to SWD order approval
XXXXXXX	Must conduct & pass MIT prior to any injection

District.1 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 District.11 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720 District.111 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 District.1V 1220 S. E. Engoie Dr. Santa Fa. NM 87505	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505
1220 S. St, Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462	RC

	PI Number 25-4	1390	978	<sup>2</sup> Pool Code 369		SILURO-DE	<sup>3</sup> Pool Name VONIAN			
Property C 32244	ode				<sup>5</sup> Property Na SMITH RANCH		* Wi	<sup>6</sup> Well Number 1		
<sup>7</sup> OCRID N 372603				3BE		'Elevation 3595'				
					" Surface Lo	ocation				
UL or let no. NE 1/4 (A)		Tewnship 19S	Range 33E	Lot Ida	Feet from the 358	North/South line NORTH	Feet from the 2,362	East/West line EAST	County LEA	
			" Bott	om Hole	Location If I	Different From	Surface			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
<sup>12</sup> Dedicated Acres	<sup>13</sup> Joint of	r Infill <sup>14</sup> Co	onsolidation Co	ode 15 Orde	er No.					

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location parsuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling
arder heretofare entered by the division. <u>Generation Elsed</u> Signature JENNIFER ELROD Printed Name Jelrod@chisholmenergy.com E-mail Address
*SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the test of me belief. 6/02/18 Date of Survey Signature and Seal of Profession Surveyor. 22896

W:00000 - WE Projects/81551 - 3 Bear SWD/Survey/Drawings/Exhibits/61551\_Smith Ranch SWD/61551\_Smith Ranch SWD C-102\_REV1

From: Bell, Ric [mailto:Ric.Bell@mosaicco.com] Sent: Tuesday, November 6, 2018 10:48 AM To: Kevin Burns <<u>kburns@3bearllc.com</u>>; jrutley@blm.gov Cc: Douglas Swanson <<u>tbarsllc@aol.com</u>>; Morehouse, Dan <<u>Dan.Morehouse@mosaicco.com</u>> Subject: 3 Bear Energy SWD Wells

Kevin,

Mosaic will not object to the #2 Smith Ranch SWD located 1297'FNL, 1154FEL, Sec 25, T19S, R33E. We will also not object to the #1 Smith Ranch SWD located 358'FNL, 2362FEL, Sec 35, T19S, R33E. Cheers, **Ric** 

Mosaic

Ric Bell | Senior Geologist The Mosaic Company | 1361 Potash Mines Road | Carlsbad, New Mexico, 88220 P: 575.628.6242 |C: 575.361.3854 | E: <u>ric.bell@mosaicco.com</u> | W: <u>www.mosaicco.com</u>

From: Rutley, James [mailto:jrutley@blm.gov] Sent: Tuesday, November 6, 2018 9:32 AM To: Kevin Burns <<u>kburns@3bearllc.com</u>> Cc: Bell, Ric - Carlsbad (Third Party) <<u>ric.bell@mosaicco.com</u>>; Douglas Swanson <<u>tbarsllc@aol.com</u>>; <u>dan.morehouse@mosaicco.com</u> Subject: Re: [EXTERNAL] FW: 3 Bear Energy proposed SWD well 19-33 Sec 35

Good Morning Kevin,

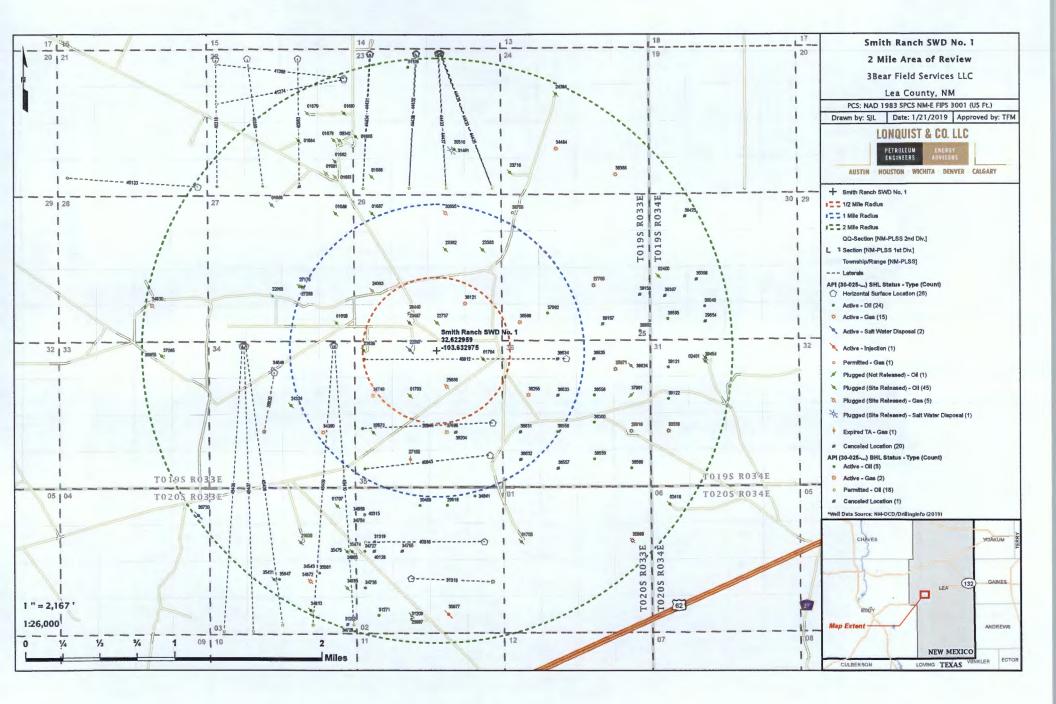
I apologize for not getting back to you sooner. We're a little thin staffed in geology department with two employees going to other departments both in our office and the State Office. Covering a lot of ground till the positions are filled.

I have reviewed both Smith Ranch SWD locations in Sections 25 and 35 of 19S 33E. BLM has no concern with either location as staked. The Section 35 well is within the corridor for drilling being established to the east and west of this location. The Section 25 well is outside of R-111-P and development area is not required.

Thank you for running the locations by me.

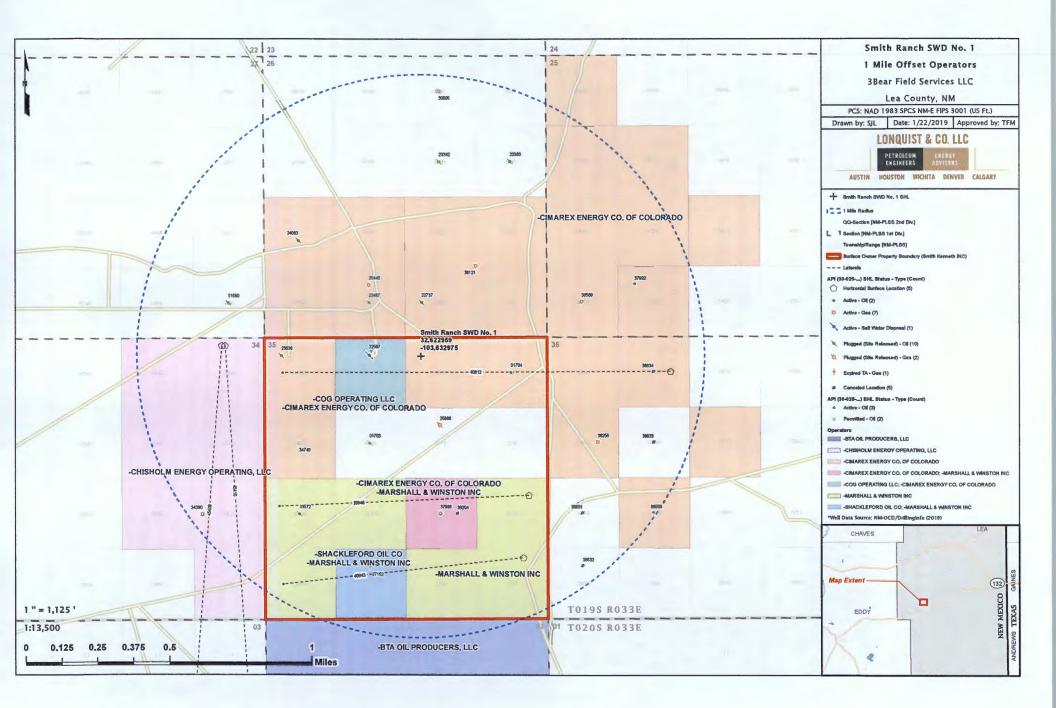
Jim

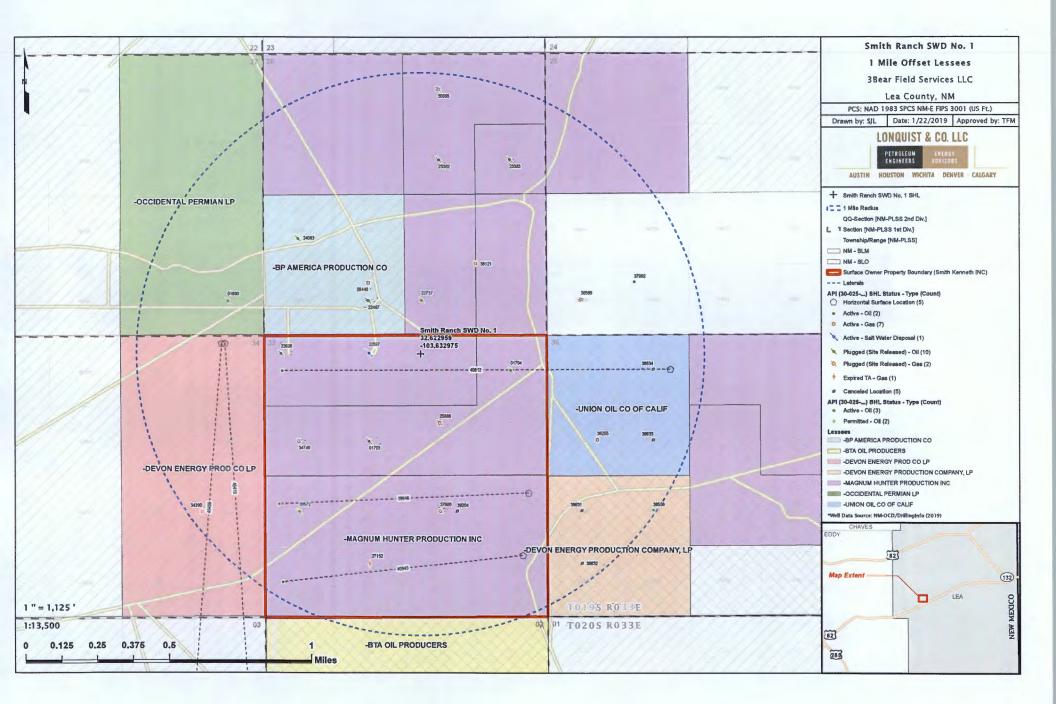
Sames OS. Rulley



#### Smith Ranch SWD No. 1 1 Mile Area of Review List

PI (30-025)	WELL NAME	WELL TYPE	STATUS	OPERATOR	TVD (FT.)	LATITUDE (NAD83 DD)	LONGITUDE (NAD83 DD)	DATE DRILLED	FIELD
01690	PRE-ONGARD WELL #001	0	P	PRE-ONGARD WELL OPERATOR	3525	32.6257553000	-103.644660900	9/28/1948	•
01703	PRE-ONGARD WELL #001	0	р	PRE-ONGARD WELL OPERATOR	3615	32.6184883000	-103.636108400	12/14/1956	
01704	PRE-ONGARD WELL #001	0	Р	PRE-ONGARD WELL OPERATOR	4150	32.6221046000	-103.627533000	NR	
22487	BATE FEDERAL #001	0	Р	COG OPERATING LLC	3397	32.6257439000	-103.636085500	4/28/1968	[27390] GEM, YATES, EAST
22597	BATE FEDERAL #003	5	A	COG OPERATING LLC	3514	32.6230240000	-103.636093100	5/31/1968	[96090] SWD, YATES; [96141] SWD, YATES-SEVEN RIVERS
22737	PRE-ONGARD WELL #001	0	Р	PRE-ONGARD WELL OPERATOR	3570	32.6257401000	-103.632881200	9/10/1968	
23382	PRE-ONGARD WELL #001	0	P	PRE-ONGARD WELL OPERATOR	3655	32.6329880000	-103.631782500	11/29/1969	•
23383	PRE-ONGARD WELL #001	0	P	PRE-ONGARD WELL OPERATOR	70	32.6329842000	-103.627494800	11/30/1969	
23636	PRE-ONGARD WELL #001	0	Р	PRE-ONGARD WELL OPERATOR	3406	32.6230316000	-103.641449000	11/24/1970	•
24083	PRE-ONGARD WELL #002	0	P	PRE-ONGARD WELL OPERATOR	3453	32.6289673000	-103.640358000	4/10/1972	
25886	LAGUNA DEEP FEDERAL #001	G	Р	CIMAREX ENERGY CO. OF COLORADO	14753	32.6193886000	-103.631835900	7/29/1978	(58960) TEAS, BONE SPRING; (77380) GEM, MORROW, EAST (GAS)
26440	LAGUNA DEEP FEDERAL UNIT #002	G	A	CIMAREX ENERGY CO. OF COLORADO	13490	32.6266518000	-103.636077900	11/8/1979	(58960) TEAS, BONE SPRING; [77380] GEM, MORROW, EAST (GAS)
27152	LAGUNA DEEP FEDERAL #003	G	E	SHACKELFORD OIL CO	13600	32.6121445000	-103.636131300	8/30/1981	[27390] GEM, YATES, EAST; [58960] TEAS, BONE SPRING; [77380] GEM, MORROW, EAST (GAS)
30695	LAGUNA DEEP FEDERAL UNIT #004	G	P	CIMAREX ENERGY CO. OF COLORADO	13560	32.6366158000	-103.631767300	10/16/1989	[77380] GEM, MORROW, EAST (GAS)
33572	GEM 35 FEDERAL #001	0	P	BEPCO, LP	3500	32.6148682000	-103.640411400	9/6/1996	[96838] DRY AND ABANDONED
34390	JADE 34 FEDERAL #001	G	A	CHISHOLM ENERGY OPERATING, LLC	13690	32.6148720000	-103.646286000	12/4/2009	(58960) TEAS, BONE SPRING; (77380) GEM, MORROW, EAST (GAS)
34749	LAGUNA DEEP FEDERAL UNIT #005	G	A	CIMAREX ENERGY CO. OF COLORADO	13650	32.6184921000	-103.640396100	11/2/1999	(58960) TEAS, BONE SPRING; (77380) GEM, MORROW, EAST (GAS)
36255	LAGUNA DEEP UNIT #007	G	A	CIMAREX ENERGY CO. OF COLORADO	13617	32.6184692000	-103.622322100	6/11/2003	[2260] APACHE RIDGE, BONE SPRING; (77380) GEM, MORROW, EAST (GAS); [96485] QUAIL RIDGE, ATOKA (GAS)
36569	LAGUNA DEEP UNIT #008	G	A	CIMAREX ENERGY CO. OF COLORADO	13660	32.6257286000	-103.623230000	8/22/2005	[77380] GEM, MORROW, EAST (GAS)
37686	LAGUNA DEEP UNIT #009	G	A	CIMAREX ENERGY CO. OF COLORADO	13635	32.6148605000	-103.631851200	8/1/2006	(59500) TONTO, WOLFCAMP
37992	LAGUNA DEEP UNIT #012	0	A	CIMAREX ENERGY CO. OF COLORADO	10460	32.6266327000	-103.620010400	8/4/2006	[2260] APACHE RIDGE, BONE SPRING
38121	LAGUNA DEEP UNIT #010	G	A	CIMAREX ENERGY CO. OF COLORADO	13669	32.6276054000	-103.629592900	11/16/2006	[77380] GEM, MORROW, EAST (GAS)
38556	LAGUNA DEEP UNIT #016	0	A	CIMAREX ENERGY CO. OF COLORADO	10430	32.6148491000	-103.618988000	10/11/2007	[2260] APACHE RIDGE, BONE SPRING
38631	LAGUNA DEEP UNIT #018	0	C	CIMAREX ENERGY CO. OF COLORADO	0	32.6148540840	-103.623267787		[2260] APACHE RIDGE, BONE SPRING
38632	LAGUNA DEEP UNIT #019	0	C	CIMAREX ENERGY CO. OF COLORADO	0	32.6121191504	-103.623278946		[2260] APACHE RIDGE, BONE SPRING
38633	LAGUNA DEEP UNIT #020	0	С	CIMAREX ENERGY CO. OF COLORADO	0	32.6184684677	-103.618945447		[2260] APACHE RIDGE, BONE SPRING
38634	LAGUNA DEEP UNIT #021C	0	C	CIMAREX ENERGY CO. OF COLORADO	0	32.6220967188	-103.618930626		[2260] APACHE RIDGE, BONE SPRING
39204	LAGUNA DEEP UNIT #022J	0	C	MURCHISON OIL & GAS INC	0	32.6148602127	-103.630806107		[58960] TEAS, BONE SPRING
39946	LAGUNA DEEP UNIT 35 FEDERAL #001	0	A	MARSHALL & WINSTON INC	9341	32.6157646000	-103.626487700	11/7/2010	(58960) TEAS, BONE SPRING
40812	LAGUNA DEEP UNIT #021H	0	A	CIMAREX ENERGY CO. OF COLORADO	9380	32.6220970000	-103.617889400	11/16/2012	[58960] TEAS, BONE SPRING
40943	LAGUNA DEEP UNIT 35 FEDERAL #002H	0	A	MARSHALL & WINSTON INC	9429	32.6125488000	-103.626846300	7/4/2013	[58960] TEAS, BONE SPRING
45409	JADE 34 3 285 FEDERAL COM #007H	0	N	CHISHOLM ENERGY OPERATING LLC	0	32.6235430000	-103.645082000		[58960] TEAS, BONE SPRING
45410	JADE 34 3 2BS FEDERAL COM #008H	0	N	CHISHOLM ENERGY OPERATING LLC	0	32.6235430000	-103.644886000		[58960] TEAS, BONE SPRING

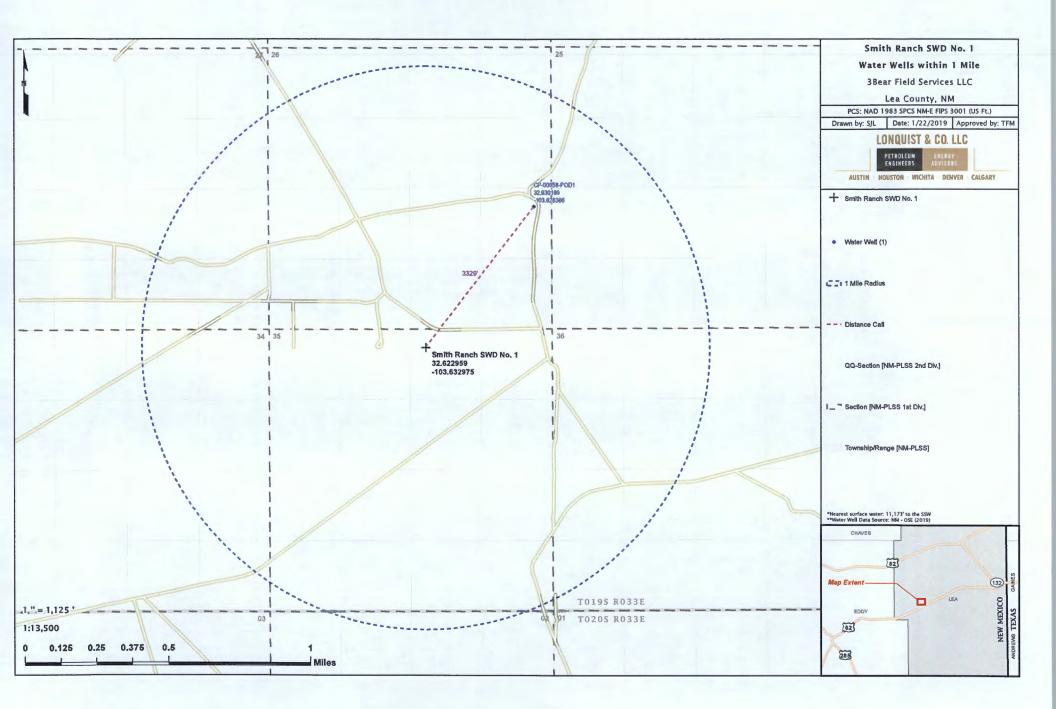




#### Smith Ranch SWD No. 1 1 Mile Offset Operators and Lessees List

S/T/R	QQ UNIT LETTER(S)	OPERATOR	MINERAL LESSEE	MINERAL OWNER	SURFACE OWNER	ADDRESS 1	ADDRESS 2
27/19S/33E	A,G,H,I,J,O,P	-	OCCIDENTAL PERMIAN LP		-	5 E GREENWAY PLAZA #110	HOUSTON, TX 77046
26/195/33E	I,J,K,L,M,N,O,P	CIMAREX ENERGY CO. OF COLORADO	-			202 S. CHEYENNE AVE. SUITE 1000	TULSA, OK 74103
	A,B,C,D,E,F,G,H	-	MAGNUM HUNTER PRODUCTION INC	-	-	202 S. CHEYENNE AVE. SUITE 1000	TULSA, OK 74103
25/19S/33E	D,E,F,J,K,L,M,N	CIMAREX ENERGY CO. OF COLORADO		-	-	202 S. CHEYENNE AVE. SUITE 1000	TULSA, OK 74103
	0	-	-	PRIVATE (UNKNOWN)	SMITH KENNETH INC	267 SMITH RANCH RD	HOBBS, NM 88240
36/19S/33E	C,D,E,G,K	CIMAREX ENERGY CO. OF COLORADO				202 S. CHEYENNE AVE. SUITE 1000	TULSA, OK 74103
	F	-	UNION OIL CO OF CALIF			PO BOX 2100	HOUSTON, TX 77210
	B	-	MAGNUM HUNTER PRODUCTION INC			600 N MARIENFELD STREET, SUITE 600	MIDLAND, TX 79701
	LMN		DEVON ENERGY PRODUCTION COMPANY, LP			333 W. SHERIDAN AVENUE	OKLAHOMA CITY, OK 73102
35/19S/33E	A.B.D.E	CIMAREX ENERGY CO. OF COLORADO			-	202 S. CHEYENNE AVE. SUITE 1000	TULSA, OK 74103
	C	CIMAREX ENERGY CO. OF COLORADO	-		-	202 S. CHEYENNE AVE, SUITE 1000	TULSA, OK 74103
		COG OPERATING LLC				550 W TEXAS	MIDLAND, TX 79701
	I.K.L.M.O.P	MARSHALL & WINSTON INC		•	-	PO BOX 50880	MIDLAND, TX 79710
	1	MARSHALL & WINSTON INC			-	PO BOX 50880	MIDLAND, TX 79710
		CIMAREX ENERGY CO. OF COLORADO	-			202 S. CHEYENNE AVE. SUITE 1000	TULSA, OK 74103
	N	MARSHALL & WINSTON INC			-	PO BOX 50880	MIDLAND, TX 79710
		SHACKLEFORD OIL CO			•	PO BOX 10685	MIDLAND, TX 79702
	F.G.H		MAGNUM HUNTER PRODUCTION INC	•	-	202 S. CHEYENNE AVE. SUITE 1000	TULSA, OK 74103
34/19S/33E	A,B,G,H,I,J,P	CHISHOLM ENERGY OPERATING, LLC				801 CHERRY STREET	FORT WORTH, TX 76102
2/205/33E	A,B,C,D	BTA OIL PRODUCERS, LLC				104 S PECOS	MIDLAND, TX 79701
Surface Location	-			-	SMITH KENNETH INC	267 SMITH RANCH RD	HOBBS, NM 88240

									VD No. 1 Offsettin								
Well Name	API	Section	Township	Range	Unit	Formation	ph	TDS (mg/L)	Sodium (mg/L)	Calcium (mg/L)	Iron (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Chloride (mg/L)	Bicarbonate (mg/L)	Sulfate (mg/L)	CO2 (mg/L)
MAGNOLIA STATE #001	3002501701	3	2 195	33E	B	ARTESIA		8771						4301	1538		
NELLIS FEDERAL #003	3002526091		6 195	33E	F	ARTESIA	6.8	70660						42600			
BATE FEDERAL #003	3002522597	3	5 195	33E	C	ARTESIA	7.8	117622	2					66700	506	5800	)
NELLIS A FEDERAL #004	3002525912		8 195	33E	E	BONE SPRING	6.9	48582	2					28900	763	160	
MALACHITE 22 FEDERAL #001H	3002540318	2	2 195	33E	D	BONE SPRING 1ST SAND	6.4		73407	1293	33	265	0.26	116995	780		
PLAYA 2 STATE #001H	3002540405		2 195	34E	N	BONE SPRING 3RD SAND	6.5	182368	41880	7125	31.4	1158	1.06	81893	353.8	823	3 190
PLAYA 2 STATE #002H	3002540549		2 195	34E	М	BONE SPRING 3RD SAND	6.48	182368	41450	8421	28.1	1 1264	0.8	85041	362	956	5 180
LUSK AHB FEDERAL #002	3002531042	3	5 195	32E	G	DELAWARE	6.05	220235	5	22044	45	3525		136969	122	450	)
LUSK AHB FEDERAL #005	3002531151	3	5 195	32E	В	DELAWARE	6.86	172408	3	12024	28	1945		104976	146	1800	)
LUSK AHB FEDERAL #006	3002531314	3	5 195	32E	A	DELAWARE	6.86	125179		4509	3	3 1520		74983	3 220	2900	>
LUSK AHB FEDERAL #006	3002531314	3	5 195	32E	A	DELAWARE	7.1	125396	5	3507	1 8	912		69984	303		
NEW MEXICO 24 FEDERAL COM #	3002539741	2	4 185	33E	A	DELAWARE-CHERRY CANYO	7.07	232774.2	67508.7	15857	1 8	3 3523	0.2	143232	73.2	887	7 240
STATE CL #003	3002501575		2 185	33E	D	GRAYBURG/SAN ANDRES		76321	L					44800	450	3000	)
INEXCO AHY FEDERAL #001	3002525470		7 195	33E	н	PENNSYLVANIAN	6.5			5600	50	975.3		37062	610	12.5	5
<b>BUFFALO FEDERAL UNIT #004</b>	3002501661		4 195	33E	H	PENNSYLVANIAN		163468	3					99880	415	848	3
FEDERAL AC #002	3002501675	1	8 195	33E	E	PENNSYLVANIAN		1305	5					140	232	510	)
LAGUNA PLATA FEDERAL #001	3002501678	2	2 195	33E	1	WOLFCAMP		4691	5		-			27270	714	1116	â



v Purpose: PL v Status: DC cres: 0 iversion: 2 Owner: KE Owner: KE OWNF 1993-0 DCL 1982-11-13 Diversion	CL DECL ENNETH SM Sta 1 18-23 CHG	ITH tus	e: - e/Case: - ion Desc.	RING From/ To T	Acres Div	version Consumptiv
cres: 0 iversion: 2 Owner: KE coc File/Act COWNF 1993-0 DCL 1982-11-17	Sta Sta 1 8-23 CHG	Subfil Cause ITH tus 2 Transact PRC CP 00658	ion Desc.	То		version Consumptiv
iversion: 2 Owner: KE oc File/Act COWNF 1993-0 OCL 1982-11-17	Sta 1 18-23 CHG	Cause ITH tus 2 Transact PRC CP 00658	ion Desc.	То		version Consumptiv
Owner: KE oc File/Act COWNF 1993-0 DCL 1982-11-17	Sta 1 18-23 CHG	ITH tus 2 Transact PRC CP 00658	ion Desc.	То		version Consumptiv
e oc File/Act COWNF 1993-0 DCL 1982-11-17	Sta 1 18-23 CHG	tus 2 Transact PRC CP 00658	3	То		version Consumptiv
oc File/Act COWNF 1993-0 DCL 1982-11-17	1 8-23 CHG	2 Transact PRC CP 00658	3	То		version Consumptiv
OWNF 1993-0		PRC CP 00658	3			version Consumptiv
OCL 1982-11-17				т	0	
	7 DCL	PRC CP 00658	3		U	0
Diversion				т	0	2
12/31/1920	DCL	0	2 <u>CP 00658</u>	POD1	Shallow	
	g Acres 0	Diversion 2				
				escription		
0	2	PLS 12/31/19	920 GW			
	Priority 12/31/1920 Q 6 4 Sec Tws Rn Acres Diversi	*) after northing value indicates Priority Status 12/31/1920 DCL Q Q 6 4 Sec Tws Rng Acres 0 Acres Diversion CU	*) after northing value indicates UTM location wa Priority Status Acres Divers 12/31/1920 DCL 0 Q Q 6 4 Sec Tws Rng Acres Diversion 0 2 Acres Diversion CU Use Priority	*) after northing value indicates UTM location was derived from I Priority Status Acres Diversion Pod Num 12/31/1920 DCL 0 2 CP 00658 Q Q 6 4 Sec Tws Rng Acres Diversion CU Use P 0 2 PLS 12 Acres Diversion CU Use Priority Source Do	*) after northing value indicates UTM location was derived from PLSS - see Hell Priority Status Acres Diversion Pod Number 12/31/1920 DCL 0 2 <u>CP 00658 POD1</u> Q Q 6 4 Sec Tws Rng Acres Diversion CU Use Priority State 0 2 PLS 12/31/1920 D Acres Diversion CU Use Priority Source Description	*) after northing value indicates UTM location was derived from PLSS - see Help Priority Status Acres Diversion Pod Number Source 12/31/1920 DCL 0 2 CP 00658 POD1 Shallow Q Q 6 4 Sec Tws Rng Acres Diversion CU Use Priority Status Other Loc 0 2 PLS 12/31/1920 DCL NO PLAC

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

### 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 spaper, and not a supplement thereof t for a period of 1 issue(s).

> Beginning with the issue dated August 03, 2018 and ending with the issue dated August 03, 2018.

n. 11

Publisher

Sworn and subscribed to before me this 3rd day of August 2018.

in Black

BI less Manager

My commission expires January 29, 2019 aal



withis newspapenie duly qualified to publish legal notices or advertisements within the ing of Section 3, Chapter 167, Laws of n 1937 and payment of fees for said

LEGALS

LEGAL NOTICE August 3, 2018

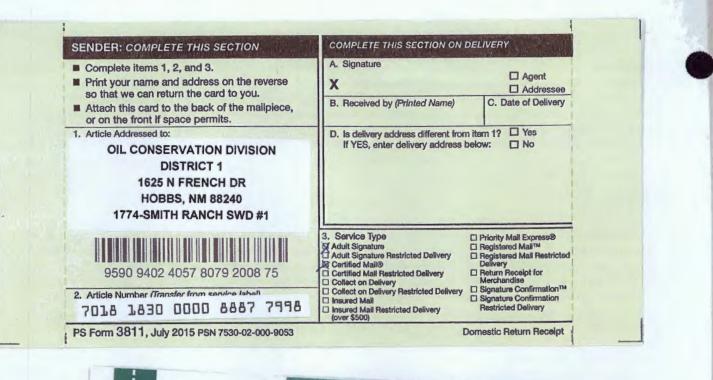
August 3, 2018 3Bear Field Services, ILC is applying to drill the Smith Ranch SWD 1 as a salivater disposal well. Disposal will be in the Silurian and Devoilan from 13, 977 MD-15477 MD. The well will be located 33.8 miles northwest from Monument, NM 0, 358 FNL 8/2362 FEL, Sec. 35, T 195, R-33E, Lea County, NM. Maximum Injection rate of vith an ey, injection rate, of s. 2, 340, psl. There et and the sub file objections or requests for hearing with the E. N.M. R. D. 011 Conservation Division, 1220 South Saint Francis Dr. Santa Fe, NM 87505 within 16 days. 15 days.

Additional Information can be obtained by contacting: Jennifer Eirod, Chisholm Energy Operating, 801 Cherry St., Suite 1200-Unit 20, Fort Worth, TX 76102; (817)953-3728 33066

67115144

00216020

BETTIE WATSON CHISHOLM ENERGY OPERATING, LLC 801 CHERRY ST. STE 1200-UNIT 20 FORT WORTH, TX 76102





ENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY	
Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits.	A. Signature X B. Received by (Printed Name)	Agent Addressee C. Date of Delivery
Article Addressed to: KENNETH SMITH INC 267 SMITH RANCH ROAD HOBBS NM 88240 1774-SMITH RANCH SWD #1	D. Is delivery address different from if YES, enter delivery address be	
9590 9402 4057 8079 2008 82 Article Number (Transfer from service label) 7018 1830 0000 8887 8001	K       Adult Signature       Figure Restricted Delivery       Calibrian         Cartified Mail®       Certified Mail®       Collect on Delivery       Calibrian         Collect on Delivery       Collect on Delivery       Calibrian	<ul> <li>Priority Mail Express®</li> <li>Registered Mail™</li> <li>Registered Mail Restricted Delivery</li> <li>Return Receipt for Merchandise</li> <li>Signature Confirmation™</li> <li>Signature Confirmation Restricted Delivery</li> </ul>



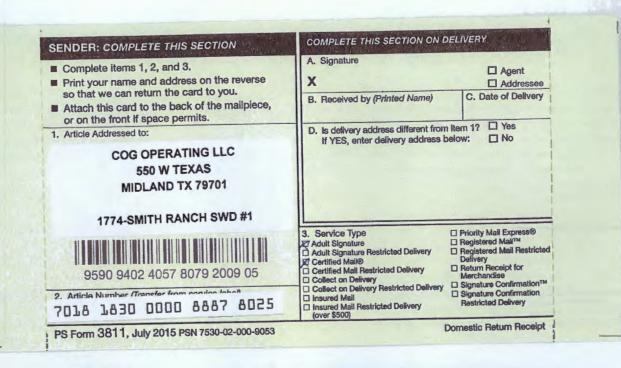


Str

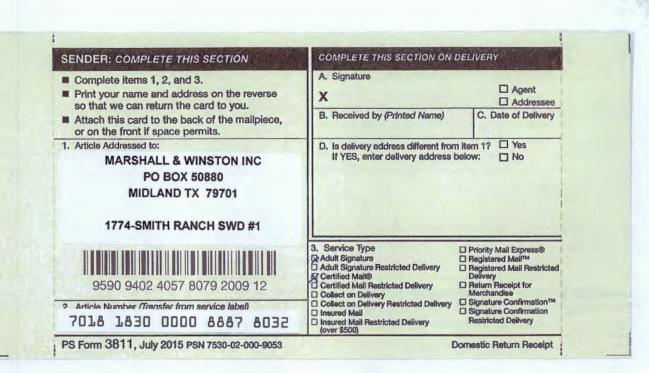
Cit

1774-SMITH RANCH SWD #1

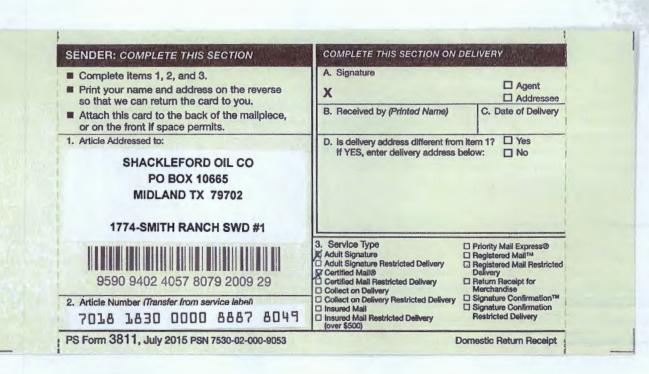
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



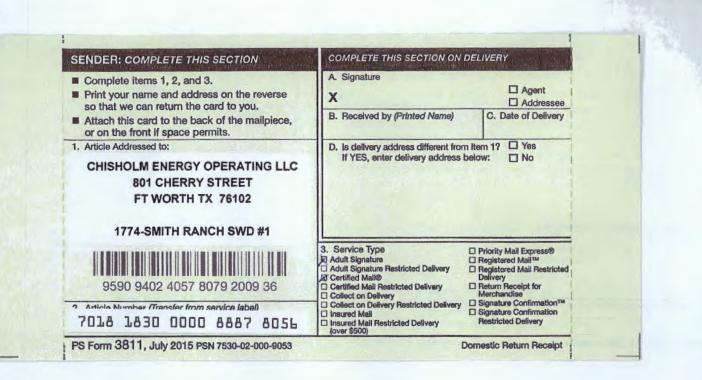




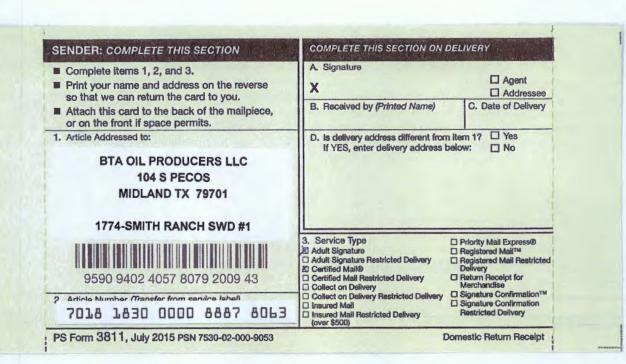




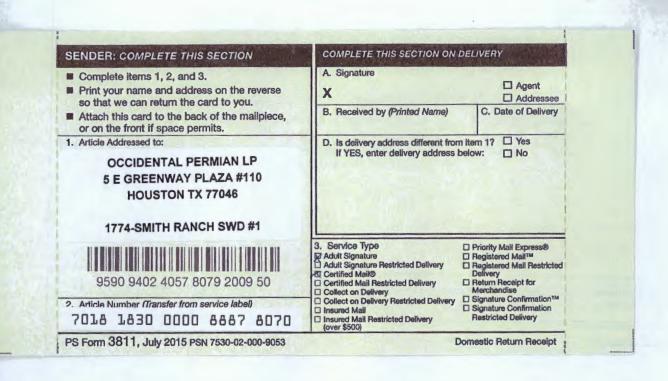




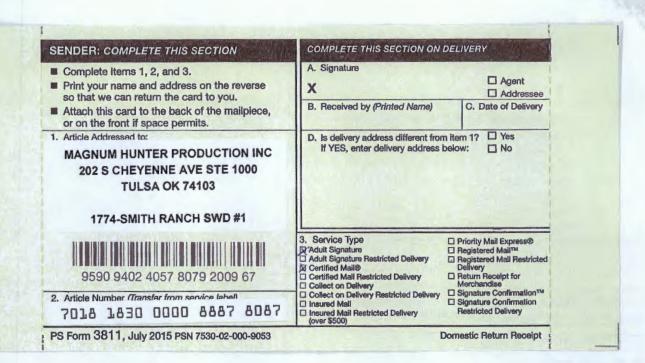




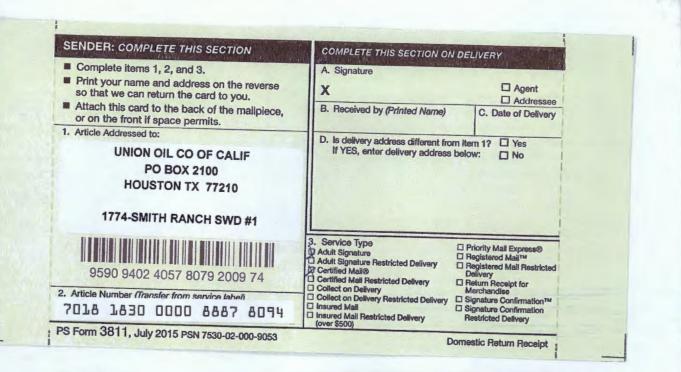




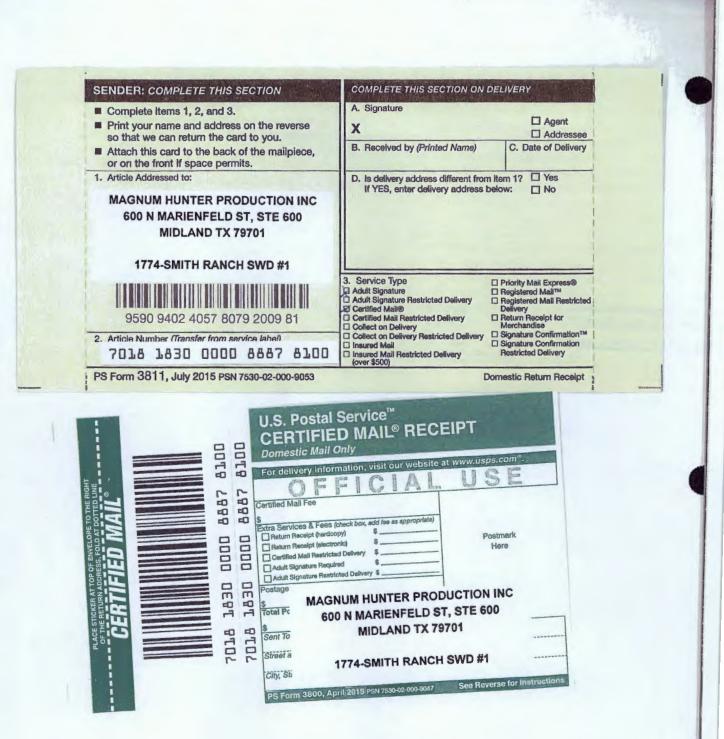












ENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DE	LIVERY
<ul> <li>Complete items 1, 2, and 3.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	A. Signature X B. Received by (Printed Name)	Agent Addressee C. Date of Delivery
1. Article Addressed to:	D. Is delivery address different from If YES, enter delivery address be	
DEVON ENERGY PRODUCTION CO. LP 333 W SHERIDAN AVE OKLAHOMA CITY OK 73102		
ATT ONITH BANCH SWD #1		
1774-SMITH RANCH SWD #1 9590 9402 4057 8079 2009 98	E Adult Signature Adult Signature Restricted Delivery Certified Mail® Certified Mail® Collect on Delivery	Priority Mall Express® Registered Mail <sup>TM</sup> Registered Mail <sup>TM</sup> Registered Mail <sup>TM</sup> Return Receipt for Merchandlse Signature Confirmation <sup>TM</sup> Signature Confirmation



AUSTIN HOUSTON PETROLEUM ENERGY ENGINEERS ADVISORS WICHITA CALGARY

www.lonquist.com

January 24, 2019

BTA Oil Producers, LLC 104 S Pecos Midland, TX 79701

Subject: Smith Ranch SWD No. 1 Authorization to Inject

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 Smith Ranch SWD No. 1 well. 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. The notice of application has been extended to a one-mile radius

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.

Any questions should be directed towards 3Bear Field Services LLC's agent, Lonquist & Co., LLC.

Regards,

Stephen L. Pattee, P.G. Regulatory Manager Lonquist & Co., LLC

AUSTIN HOUSTON PETROLEUM ENERGY ENGINEERS ADVISORS WICHITA CALGARY

www.lonquist.com

January 24, 2019

Chisholm Energy Operating, LLC 801 Cherry Street Fort Worth, TX 76102

Subject: Smith Ranch SWD No. 1 Authorization to Inject

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 Smith Ranch SWD No. 1 well. 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. The notice of application has been extended to a one-mile radius

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.

Any questions should be directed towards 3Bear Field Services LLC's agent, Lonquist & Co., LLC.

Regards,

Stephen L. Pattee, P.G. Regulatory Manager Lonquist & Co., LLC

AUSTIN HOUSTON PETROLEUM ENERGY ENGINEERS ADVISORS WICHITA CALGARY

www.lonquist.com

January 24, 2019

Cimarex Energy Co. of Colorado 202 S. Cheyenne Ave. Suite 1000 Tulsa, OK 74102

Subject: Smith Ranch SWD No. 1 Authorization to Inject

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 Smith Ranch SWD No. 1 well. 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. The notice of application has been extended to a one-mile radius

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.

Any questions should be directed towards 3Bear Field Servcies LLC's agent, Lonquist & Co., LLC.

Regards,

Stephen L. Pattee, P.G. Regulatory Manager Lonquist & Co., LLC

AUSTIN HOUSTON PETROLEUM ENERGY ENGINEERS ADVISORS WICHITA CALGARY

www.lonquist.com

January 24, 2019

COG Operating LLC 550 W Texas Midland, TX 79701

Subject: Smith Ranch SWD No. 1 Authorization to Inject

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 Smith Ranch SWD No. 1 well. 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. The notice of application has been extended to a one-mile radius

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.

Any questions should be directed towards 3Bear Field Services LLC's agent, Lonquist & Co., LLC.

Regards,

Stephen L. Pattee, P.G. Regulatory Manager Longuist & Co., LLC

AUSTIN HOUSTON PETROLEUM ENERGY ENGINEERS ADVISORS WICHITA CALGARY

www.lonquist.com

January 24, 2019

Devon Energy Production Company, LP 333 W. Sheridan Avenue Oklahoma City, OK 73102

Subject: Smith Ranch SWD No. 1 Authorization to Inject

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 Smith Ranch SWD No. 1 well. 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. The notice of application has been extended to a one-mile radius

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.

Any questions should be directed towards 3Bear Field Services LLC's agent, Lonquist & Co., LLC.

Regards,

Stephen L. Pattee, P.G. Regulatory Manager Lonquist & Co., LLC

AUSTIN HOUSTON PETROLEUM ENERGY ENGINEERS ADVISORS WICHITA CALGARY

www.longuist.com

January 24, 2019

Kenneth Smith Inc. 207 Smith Ranch Rd. Hobbs, NM 88240

Subject: Smith Ranch SWD No. 1 Authorization to Inject

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 Smith Ranch SWD No. 1 well. 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. The notice of application has been extended to a one-mile radius

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.

Any questions should be directed towards 3Bear Field Services LLC's agent, Lonquist & Co., LLC.

Regards,

Stephen L. Pattee, P.G. Regulatory Manager Lonquist & Co., LLC

AUSTIN HOUSTON PETROLEUM ENERGY ENGINEERS ADVISORS WICHITA CALGARY

www.lonquist.com

January 24, 2019

Magnum Hunter Production Inc. 600 N Marienfeld Street, Suite 600 Midland, TX 79701

Subject: Smith Ranch SWD No. 1 Authorization to Inject

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 Smith Ranch SWD No. 1 well. 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. The notice of application has been extended to a one-mile radius

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.

Any questions should be directed towards 3Bear Field Services LLC's agent, Lonquist & Co., LLC.

Regards,

Stephen L. Pattee, P.G. Regulatory Manager Longuist & Co., LLC

AUSTIN HOUSTON PETROLEUM ENERGY ENGINEERS ADVISORS WICHITA CALGARY

www.lonquist.com

January 24, 2019

Magnum Hunter Production Inc 202 S. Cheyenne Ave. Suite 1000 Tulsa, OK 74102

Subject: Smith Ranch SWD No. 1 Authorization to Inject

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 Smith Ranch SWD No. 1 well. 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. The notice of application has been extended to a one-mile radius

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.

Any questions should be directed towards 3Bear Field Services LLC's agent, Lonquist & Co., LLC.

Regards,

Stephen L. Pattee, P.G. Regulatory Manager Longuist & Co., LLC

AUSTIN HOUSTON PETROLEUM ENERGY ENGINEERS ADVISORS WICHITA CALGARY

www.lonquist.com

January 24, 2019

Marshall & Winston Inc. PO Box 50880 Midland, TX 79701

Subject: Smith Ranch SWD No. 1 Authorization to Inject

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 Smith Ranch SWD No. 1 well. 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. The notice of application has been extended to a one-mile radius

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.

Any questions should be directed towards 3Bear Field Services LLC's agent, Lonquist & Co., LLC.

Regards,

Stephen L. Pattee, P.G. Regulatory Manager Lonquist & Co., LLC

ENERGY

ADVISORS

AUSTIN HOUSTON PETROLEUM ENGINEERS WICHITA CALGARY

www.lonquist.com

January 24, 2019

Occidental Permian LP 5 E Greenway Plaza #110 Houston, TX 77046

Subject: Smith Ranch SWD No. 1 Authorization to Inject

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 Smith Ranch SWD No. 1 well. 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. The notice of application has been extended to a one-mile radius

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.

Any questions should be directed towards 3Bear Field Servcies LLC's agent, Lonquist & Co., LLC.

Regards,

Stephen L. Pattee, P.G. Regulatory Manager Longuist & Co., LLC

AUSTIN HOUSTON PETROLEUM ENERGY ENGINEERS ADVISORS WICHITA CALGARY

www.lonquist.com

January 24, 2019

OIL CONSERVATION DIVISION DISTRICT I 1625 N FRENCH DRIVE HOBBS, NM 88240

Subject: Smith Ranch SWD No. 1 Authorization to Inject

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 Smith Ranch SWD No. 1 well. 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. The notice of application has been extended to a one-mile radius

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.

Any questions should be directed towards 3Bear Field Services LLC's agent, Lonquist & Co., LLC.

Regards,

Stephen L. Pattee, P.G. Regulatory Manager Lonquist & Co., LLC

AUSTIN HOUSTON PETROLEUM ENERGY ENGINEERS ADVISORS WICHITA CALGARY

www.lonquist.com

January 24, 2019

Shackleford Oil Co. PO Box 10665 Midland, TX 79702

Subject: Smith Ranch SWD No. 1 Authorization to Inject

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 Smith Ranch SWD No. 1 well. 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. The notice of application has been extended to a one-mile radius

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.

Any questions should be directed towards 3Bear Field Services LLC's agent, Lonquist & Co., LLC.

Regards,

Stephen L. Pattee, P.G. Regulatory Manager Lonquist & Co., LLC

AUSTIN HOUSTON PETROLEUM ENERGY ENGINEERS ADVISORS WICHITA CALGARY

www.longuist.com

January 24, 2019

Union Oil Co. of Calif PO Box 2100 Houston, TX 77210

Subject: Smith Ranch SWD No. 1 Authorization to Inject

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 Smith Ranch SWD No. 1 well. 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. The notice of application has been extended to a one-mile radius

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.

Any questions should be directed towards 3Bear Field Services LLC's agent, Lonquist & Co., LLC.

Regards,

Stephen L. Pattee, P.G. Regulatory Manager Lonquist & Co., LLC

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, New Mexico 87505

	APPLICATION FOR AUTHORIZATION TO INJECT						
I.	PURPOSE:       Secondary Recovery       Pressure Maintenance       X       Disposal       Storage         Application qualifies for administrative approval?       X       Yes       No						
II.	OPERATOR: <u>3Bear Field Service</u> , LLC						
	ADDRESS: 415 W. Wall St., Suite 1212						
	CONTACT PARTY: Kevin Burns PHONE: 432-686-2973						
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.						
IV.	Is this an expansion of an existing project? Yes X No If yes, give the Division order number authorizing the project:						
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 drawn around each proposed injection well. This circle identifies the well's area of review.						
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.						
VII.	Attach data on the proposed operation, including:						
	<ol> <li>Proposed average and maximum daily rate and volume of fluids to be injected;</li> <li>Whether the system is open or closed;</li> <li>Proposed average and maximum injection pressure;</li> <li>Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,</li> <li>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 chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).</li> </ol>						
*VIII.	Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.						
IX.	Describe the proposed stimulation program, if any.						

\*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

- \*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- 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.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: Ramona Hovey	TITLE: Consulting Engineer - Agent for 3Bear Field Service
SIGNATURE: Kamura 14	DATE: <u>1/24/2019</u>
E-MAIL ADDRESS: ramona@longuist.com	Ť

 E-MAIL ADDRESS: <u>ramona@lonquist.com</u>
 If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: Side 2

#### 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.
  - (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.
  - (3) A description of the tubing to be used including its size, lining material, and setting depth.
  - (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

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.
  - (2) The injection interval and whether it is perforated or open-hole.
  - (3) State if the well was drilled for injection or, if not, the original purpose of the well.
  - (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.
  - (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.

#### 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.

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:

- (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.

### INJECTION WELL DATA SHEET

OPERATOR: 3Bear Field Services, LLC

WELL NAME & NUMBER: Smith Ranch SWD No. 1

WELLBORE SCHEMATIC

WELL LOCATION:

Side 1

358 FNL 2,362 FEL FOOTAGE LOCATION UNIT LETTER

<u>35</u> <u>198</u> SECTION TOWNSHIP

or

33E RANGE

ft3

ft3

ft<sup>3</sup>

#### WELL CONSTRUCTION DATA

Surface Casing

Hole Size: <u>26.000"</u> Cemented with: 2,515 <u>sx.</u> Top of Cement: <u>surface</u>

Hole Size: <u>17,500"</u> Cemented with: <u>2,140 sx</u>, Top of Cement: <u>surface</u>

Hole Size: <u>12.250"</u> Cemented with: <u>2.555 sx</u>, Top of Cement: <u>surface</u>

Hole Size: <u>8.750</u>" Cemented with: <u>365 sx.</u> Top of Cement: <u>10.630</u>" Total Depth: <u>15.800</u>" Method Determined: <u>circulation</u> 1<sup>#</sup>Intermediate Casing

Casing Size: 13.375"

Casing Size: 20.00"

or\_\_\_\_\_ft<sup>3</sup>

Method Determined: circulation

2<sup>md</sup> Intermediate Casing

Casing Size: <u>9,625"</u>

Method Determined: circulation

Production Liner

Casing Size: 7.625"

or

Method Determined: calculation

Injection Interval 14.471' feet to 15.800 feet (Open Hole) Side 2

#### **INJECTION WELL DATA SHEET**

Tubing Size: <u>5.5", 20 lb/ft, HCN-80, BTC from 0' – 14,421'</u> Lining Material: <u>Duoline</u>

Type of Packer: 7-5/8"" X 5-1/2" Permanent Packer with High Temp Elastomer and Full Inconel 925 trim

Packer Setting Depth: 14,421'

Other Type of Tubing/Casing Seal (if applicable): \_

### Additional Data

1. Is this a new well drilled for injection? X Yes No

If no, for what purpose was the well originally drilled?

- 2. Name of the Injection Formation: Devonian, Fusselman, Montoya
- 3. Name of Field or Pool (if applicable): SWD; Devonian-Silurian 97869
- 4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used.

### No, new drill.

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

Delaware: 5,350' Bone Spring: 8,120' Wolfcamp: 10,800' Strawn: 12,060' Atoka: 12,330'

District I 1625 N. French I Phone: (575) 393 District II				Energy	State of No Minerals and		sources of		Form C-10 Revised July 18, 20
811 S. First St., /	Artesia, NM 88	210		Encigy	Winci als and	i i aturar At	50000		
Phone: (575) 748 District III	-1283 Fax: (57	5) 748-9720			Oil Conserva	tion Division	18- 10	LA	MENDED REPOR
000 Rio Brazos hone: (505) 334	Road, Aztec, N	M 87410			1220 South St	Francis D	0 0 2011	5	-1
District IV	-0176 Fax. (50	5) 334-0170					NON LO	-0	r//
220 S. St. Franc hone: (505) 476	is Dr., Santa Fe -3460 Fax: (50	e, NM 87505 5) 476-3462			Santa Fe, l	NM 87505	NO. SEN	ED	
							Sources OGD DEC 3 OGD NOV 292018 NOV 292018 NOV 292018 NOV 292018 NOV 292018		
APPL	CATIC	<b>DN FOR</b>	* Operator Name	o DRILL, and Address	RE-ENTER	, DEEPEN,	PLUGBACK	OGRID Numb	D A ZONE
			<b>3BEAR FIELD</b>					372603	
			1512 LARIMER DENVER, CO 8		0		30-0	API Number	6390
* Prop	erty Code	8		SM	Property Name	7D		W	ell No. I
10					urface Location				
UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
A	35	195	33E		358	NORTH	2362	EAST	LEA
	1	1	1		ed Bottom Hole	1			
UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
	1	1		». Pe	ol Information		l		
				Pool	Name				Pool Code
				SWD; DEV	ONIAN-SILURI	AN			97869
				Addition	al Well Inform				
	ork Type		12. Well Type		13. Cable/Rotary	14. Lease Type		<sup>15.</sup> Ground Level Elevation	
N		_	S		R		2 4	3253 359	
<sup>16</sup> Multiple YES		<sup>17.</sup> Proposed Depth 15,800'	SI	18. Formation SILURO-DEVONIAN				<sup>277</sup> Spud Date PROVAL OF C-10	
				nce from nearest	om nearest fresh water well Distance to nearest surfa 3' 11,600 (LAGUNA TO				
We will b	e using a	closed-loop	system in lieu o						
	1	1	21.		sing and Ceme				
Туре	Hol	e Size	Casing Size	Casing We		Setting Depth	Sacks of Cer	ment	Estimated TOC
SURF	26'		20.0"	94# J-4	55	1400	2515		0

### **Casing/Cement Program: Additional Comments**

54.5# J-55

40# L-80 HC

INTER

PROD INTER 2

17.5

12.25"

13.375"

9.625"

LINER/8.75"/7.625"/39# P-110 UFJ/14471'/365 SXS/TOC @ 10630'; OPEN HOLE FROM 1400'-15800'; PLEASE SEE ATTACHED WBD

3050

10880

2140

2555

### <sup>22</sup> Proposed Blowout Prevention Program

Туре	Working Pressure	Test Pressure	Manufacturer
	SEE ATTACHMENT		

<sup>23.</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief.	OIL CONSERVATION DIVISION			
I further certify that I have complied with 19.15.14.9 (A) NMAC And/or 19.15.14.9 (B) NMAC K if applicable. Signature: Gennifer Elrod	Approved By:			
Printed name: JENNIFER ELROD	Title: Petroleum Engineer			
Title: SR. REGULATORY TECH	Approved Date: 12/04/18 Expiration Date: 12/04/20			
E-mail Address: jelrod@chisholmenergy.com				
Date: 11/29/2018 Phone: 817-953-3728	Conditions of Approval Attached			

See Attached Conditions of Approval

0

0

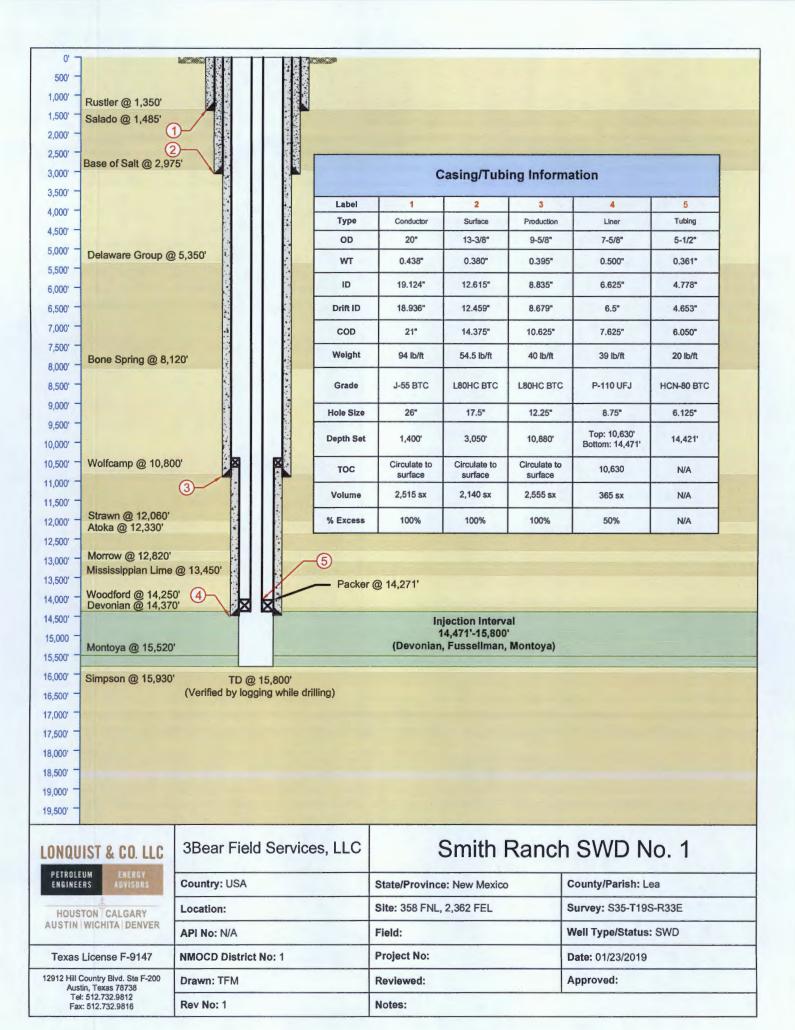
District I 1625 N. French Dr., Hobbs, NM 88240 Phone: (375) 393-6161 Fax: (375) 393-0720 District II 811 S. First St., Artesia, NM 88210 Phone: (375) 748-1283 Fax: (375) 748-9720 District III 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (305) 334-6178 Fax: (305) 334-6170 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505 RECENTED AMENDED REPORT
	WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-45390				<sup>2</sup> Pool Code 369		SILURO-DE	<sup>3</sup> Pool Name VONIAN		
Property C 32244			<sup>5</sup> Property Name SMITH RANCH SWD				* W	* Well Number 1	
<sup>7</sup> OGRID No. 372603				* Operator Name 3BEAR FIELD SERVICES, LLC				* Elevation 3595'	
					" Surface Lo	ocation			
UL or lot no. NE 1/4 (A)	and the second second	Tewnship 19S	Range 33E	Lot Idn	Feet from the 358	North/South line NORTH	Feet from the 2,362	East/West line EAST	County LEA
			" Bott	om Hole	Location If I	Different From	Surface		
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
12 Dedicated Acres	13 Joint of	r Infill <sup>14</sup> C	onsolidation Co	ode <sup>15</sup> Ord	er No.				

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

N 1/4 CORNER SEC. 35 GLO BRASS CAP 1912	NE CORNER SEC. 35 GLO BRASS CAP 1912 N 89°42'28" E - 2,641.83'	<sup>17</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed battom hule location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling
PROPOSED SURFACE LOCATION 358' FNL / 2,362' FEL LAT=N 32.62295' LONG=W 103.63298' N: 591073.8 E: 756961.7	(2,362') GEODETIC DATA NAD 83 GRID - NM EAST	arder horetojare entered by the division. <u>Generifer Elrad</u> 11/29/2018 Signature Date JENNIFER ELROD Printed Name jelrod@chisholmenergy.com E-mail Address "SURVEYOR CERTIFICATION
	E 1/4 CORNER SEC. 35 GLO BRASS CAP 1912	"SORVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of medicef. 6/02/18 Date of Survey Signature and Seal of Professions Surveyor. 22896
	<u> </u>	22896 Certificate Number

W:100000 - WE Projects/81551 - 3 Bear SWD/Survey/Drawings/Exhlbits/81551\_Smith Ranch SWD/81551\_Smith Ranch SWD C-102\_REV1





**3Bear Field Services, LLC** 

### Smith Ranch SWD No. 1

## FORM C-108 Supplemental Information III. Well Data

A. Wellbore Information

1.

Well information			
Lease Name Smith Ranch SWD			
Well No.	1		
Location S-35 T-19S R-33E			
Footage Location	358' FNL & 2,362' FEL		

2.

a. Wellbore Description

	Casing Information						
Туре	Surface	Intermediate	Production	Liner			
OD	20″	13.375"	9.625"	7.625"			
WT	0.438"	0.38″	0.395"	0.500"			
ID	19.124"	12.615"	8.835"	6.625"			
Drift ID	18.936"	12.459"	8.679"	6.500"			
COD	21″	14.375"	10.625"	7.625"			
Weight	94 lb/ft	54.5 lb/ft	40 lb/ft	39 lb/ft			
Grade	J-55 BTC	L80HC BTC	L80HC BTC	P-110 UFJ			
Hole Size	26"	17.5"	12.25"	8.75"			
Depth Set	1,400'	3,050'	10,880'	10,630'-14,471'			

### b. Cementing Program

		<b>Cement Information</b>	1	
Casing String	Conductor	Intermediate	Intermediate 2	Liner
Lead Cement	Class C	Class C	Class H	
Lead Cement Volume	1,620 sks	1,485 sks	1,575 sks	
Lead Cement Density	12.2 ppg	12.7 ppg	12.7 ppg	
Tail Cement	Class C	Class C	Class H	Class H
Tail Cement Volume	895 sks	655 sks	980 sks	365 sks
Tail Cement Density	14.8 ppg	14.8 ppg	14.5 ppg	14.5 ppg
Cement Excess	100%	100%	100%	50%
тос	Surface	Surface	Surface	10,630'
Method	Circulate to Surface	Circulate to Surface	Circulate to Surface	Logged

3. Tubing Description

Tubing Information				
OD	5.5"			
WT	0.361"			
ID	4.778"			
Drift ID	4.653			
COD	6.050"			
Weight	20 lb/ft			
Grade	HCN-80 BTC			
Depth Set	0-14,421'			

Tubing will be lined with Duoline.

4. Packer Description

7-5/8" x 5-1/2" TCPC Permanent Packer with High Temp Elastomer and Full Inconel 925 trim

## B. Completion Information

1. Injection Formation: Devonian, Silurian, Fusselman, Montoya

2. Gross Injection Interval: 14,471'-15,800'

Completion Type: Open Hole

- 3. Drilled for injection.
- 4. See the attached wellbore schematic.
- 5. Oil and Gas Bearing Zones within area of well:

Formation	Depth
Delaware	5,350'
Bone Spring	8,120'
Wolfcamp	10,800'
Strawn	12,060'
Atoka	12,330'

### VI. Area of Review

No wells within the area of review penetrate the proposed injection zone.

### VII. Proposed Operation Data

1. Proposed Daily Rate of Fluids to be Injection:

Average Volume: 20,000 BPD Maximum Volume: 25,000 BPD

- 2. Closed System
- 3. Anticipated Injection Pressure:

Average Injection Pressure: 2,156 PSI (surface pressure) Maximum Injection Pressure: 2,874 PSI (surface pressure)

- 4. The injection fluid is to be locally produced water. It is expected that the source water will predominantly be from the Bone Spring and Wofcamp formations. Attached are produced water sample analyses taken from the closest wells that feature samples from the Bone Spring, Wolfcamp, Artesia, Pennsylvanian, San Andreas, and Delaware formations.
- 5. The disposal interval is non-productive. No water samples are available from the surrounding area.

### VIII. Geological Data

#### **Devonian Formation Lithology:**

The Devonian formation is a dolomitic ramp carbonate that occurs below the Woodford shale and above the Fusselman formation. Strata found in the Devonian formation include two major groups, the Wristen Buildups and the Thirtyone Deepwater Chert, with the Wristen being more abundant. The Wristen Groups is composed of mixed limestone and dolomites with mudstone to grainstone and boundstone textures. Porosity in the Wristen group is a result of both primary and secondary development. Present are moldic, vugular, karstic (including collapse breccia) features that allow for higher porosities and permeabilities. The Thirtyone Formation contains two end-member reservoir facies, skeletal packstones/grainstones and spiculitic chert, with most of the porosity and permeability found in the coarsely crystalline cherty dolomite. These particular characteristics allow for this formation to be a tremendous Salt Water Disposal horizon.

#### Fusselman Formation Lithology:

The Silurian/Ordovician Fusselman Formation is stratigraphically below the Wristen Group and is above and separated from the Montoya Formation by the Sylvan Shale. The Sylvan Shale is the lower confining layer for the proposed Smith Ranch SWD No. 1 well. Fusselman facies include a laminated skeletal wackestone in the upper part and a buildup complex in the lower part composed of ooid and bryozoan grainstones. These grainstones can also be potentially prolific zones for disposal.

#### Montoya Formation Lithology:

The Montoya Group of Late Ordovician age unconformably overlies the Simpson Group. The Montoya is composed of light gray to medium-dark gray, fine- to medium-crystalline, calcareous dolomite, some units of which are interbedded with shale or dark-gray limestone and some units of which contain white to very light-gray chert. The Montoya carbonate limestone dolomite sequence is dense, impermeable, and non-porous.

#### A. Injection Zone: Siluro-Devonian Formation

Formation	Depth
Rustler	1,350'
Salado	1,485'
Delaware	5,350'
Bone Spring	8,120′
Wolfcamp	10,800'
Strawn	12,060'
Atoka	12,330'
Morrow	12,820'
Barnett	13,070'
Mississippian Lime	13,450'
Woodford	14,250'
Devonian	14,370'
Montoya	15,520'
Simpson	15,930'

### B. Underground Sources of Drinking Water

One water well exists within one mile of the proposed well. Across the area, fresh water wells are usually drilled between 50' and 850' in depth. The Rustler is known to exist in this general area and may also be another USDW and will be protected through the top of the Salado Formation at 1,485' by setting surface casing at 1,400' and intermediate casing at 3,050' below the Salado.

IX. Proposed Stimulation Program

No stimulation program planned.

X. Logging and Test Data on the Well

There are no logs or test data on the well. During the process of drilling and completion resistivity, gamma ray, and density logs will be run.

XI. Chemical Analysis of Fresh Water Wells

Attached is a map of the one (1) water well that exist within one mile of the well location. Samples from the well have been obtained and analysis results will be provided as soon as possible. A Water Right Summary from the New Mexico Office of the State Engineer is attached for water well CP-00658-POD1.