Initial

Application

Part I

Received: <u>12/16/2019</u>

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



December 13, 2019

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, New Mexico 87505

Subject: Vista Disposal Solutions, LLC – Kathy Federal SWD #2

Application for Authorization to Inject

To Whom It May Concern,

On behalf of Vista Disposal Solutions, LLC (Vista), ALL Consulting, LLC (ALL) is submitting the enclosed Application for Authorization to Inject for the Kathy Federal SWD #2, a proposed salt water disposal well, in Lea County, NM.

Should you have any questions regarding the enclosed application, please contact Dan Arthur at (918) 382-7581 or darthur@all-llc.com.

Sincerely,

ALL Consulting

Dan Arthur

President/Chief Engineer

Signature

Revised March 23, 2017

LC2FF-191216-C-1080

REVIEWER:

APP NO:

e-mail Address

pBL1935133931

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Geological & Engineering Bureau -1220 South St. Francis Drive, Santa Fe, NM 87505



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	OMINISTRATIVE APPL			
	ATORY FOR ALL ADMINISTRATIVE INS WHICH REQUIRE PROCESSIN			VISION RULES AND
Applicant:		C	GRID I	Number:
Vell Name:		A		
Pool:		P	ool Co	de:
SUBMIT ACCURATE AND COM	IPLETE INFORMATION INDICATE		ESS THE	TYPE OF APPLICATION
B. Check one only for [1] [1] Commingling – Sto	it - Simultaneous Dec NSP _(PROJECT AREA) or [II] orage - Measurement TB PLC PC	dication NSP(PRORATION UNIT)		SWD-2359
<u> </u>	IX SWD IPI		JOVCIY	
				FOR OCD ONLY
2) NOTIFICATION REQUIRED TO		apply.		Notice Complete
C. Application require D. Notification and/or E. Notification and/or	royalty owners, reven	l by SLO		Application Content Complete
F. Surface owner G. For all of the above H. No notice required	e, proof of notification	n or publication is a	ttached	d, and/or,
 CERTIFICATION: I hereby ce administrative approval is a understand that no action notifications are submitted 	ccurate and comple will be taken on this a	ete to the best of my	y knowl	edge. I also
Note: Statement mus	st be completed by an individ	dual with managerial and/	or supervi	sory capacity.
		Data		
		Date		
Print or Type Name	DANIEL ARTHUR DANIEL ARTHUR DANIEL ARTHUR 12/13/19	Phone Nur	mber	

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 RecoveryPressure MaintenanceXDisposalStorage Application qualifies for administrative approval?YesNo
II.	OPERATOR: _Vista Disposal Solutions, LLC
	ADDRESS: <u>12444 NM 10th St.</u> , Building G, Suite 202-512, Yukon, OK 73099
	CONTACT PARTY Nate Alleman PHONE: 918-382-7581
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?YesXNo 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:
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, 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.).
*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.
	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.
	Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief. NAME: Dan Arthur, P.E., SPEC SIGNATURE: DATE: 12/13/2019 darthur@all-llc.com 12/13/2019
XV.	E-MAIL ADDRESS: If the information required under Sections VI, V Please show the date and circumstances of the earlier submittal: we have been previously submitted, it need not be resubmitted.

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.

Application for Authorization to Inject Well Name: Kathy Federal SWD #2

III - Well Data (The Wellbore Diagram is included as Attachment 1)

Α.

(1) General Well Information:

Operator: Vista Disposal Solutions, LLC (OGRID No. 329051)

Lease Name & Well Number: Kathy Federal SWD #2 Location Footage Calls: 2,153' FNL & 612' FWL Legal Location: Unit Letter E, S3 T26S R34E

Ground Elevation: 3,313'

Proposed Injection Interval: 5,390' - 6,135'

County: Lea

(2) Casing Information:

Туре	Hole Size	Casing Size	Casing Weight	Setting Depth	Sacks of Cement	Estimated TOC	Method Determined
Surface	24"	20"	133.0 lb./ft	860'	885	Surface	Circulation
Intermediate 1	14-3/4"	13-3/8"	68.0 lb./ft	5,340'	1,200	Surface	Circulation
Production	12-1/4"	9-5/8"	53.5 lb./ft	6,235'	300	5,200'	CBL

(3) Tubing Information:

5.5" (20# N-80 LTC) of fiberglass-coated injection tubing with setting depth of 5,370'

(4) Packer Information: Baker Hornet or equivalent packer set at 5,370'

В.

(1) Injection Formation Name: Bell Canyon

Pool Name: SWD; BELL CANYON

Pool Code: 96769

- (2) Injection Interval: Perforated injection between 5,390' 6,135'
- (3) Drilling Purpose: New Drill for Salt Water Disposal
- (4) Other Perforated Intervals: No other perforated intervals exist.
- (5) Overlying Oil and Gas Zones: No overlying oil and gas zones exist.

Underlying Oil and Gas Zones: Below are the approximate formation tops for known oil and

gas producing zones in the area.

• Bone Springs (9,415')

V – Well and Lease Maps

The following maps are included in **Attachment 2**:

- 2-mile Oil & Gas Well Map
- 2-mile Lease Map
- 2-mile Mineral Ownership Map
- 2-mile Surface Ownership Map
- 1/2-mile Well Detail List w/ Casing Information for Penetrating Wells
- Penetrating wells Wellbore Diagram
- Potash Lease Map

VI – AOR Well List

A list of the wells within the 1/2-mile AOR is included in **Attachment 2**.

There are nine wells that penetrate the injection zone; seven of the wells are proposed wells that will penetrate the injection zone, and, based on application information, they will be properly cased and cemented to isolate the injection zone. Additionally, there are two plugged wells that penetrate the injection zone that have been plugged & abandoned. Wellbore diagrams and casing & cementing information for these wells are included in **Attachment 2**.

VII – Proposed Operation

- (1) Proposed Maximum Injection Rate: 25,000 bpd Proposed Average Injection Rate: 12,500 bpd
- (2) A closed system will be used.
- (3) Proposed Maximum Surface Injection Pressure: 1,078 psi (based on 0.2 psi per foot)
 Proposed Average Surface Injection Pressure: approximately 750 psi
- (4) Source Water Analysis: It is expected that the injectate will consist of produced water from production wells completed in the Wolfcamp and Bone Springs formations. Analysis of water from these formations is included in *Attachment 3*.
- (5) Injection Formation Water Analysis: The proposed SWD will be injecting water into the Bell Canyon formation which is a non-productive zone known to be compatible with formation water from the Wolfcamp and Bone Springs formations. Water analyses results were selected from intervals comparable to that of the injection zone in the Bell Canyon Formation Delaware Mountain Group. Water analysis from in the area are included in Attachment 4.

VIII – Geologic Description

The proposed injection interval includes the Bell Canyon formations from 5,390-6,135 feet. This formation consists of clastic sandstones, interbedded with several tight limestone members. Several thick sections of porous sandstone capable of taking water are present within the subject formation in the area.

The base of the deepest Underground Source of Drinking Water (USDW) is at a depth of approximately 835 feet. Surface casing will be set at a depth of 860 feet, which is 25 feet below the top of the Rustler formation, which isolates the USDW. Geophysical log assessment was conducted to accurately determine the top of the Rustler formation, and the top and the base of the Salado formation in this area. Water well depths in the area range from approximately 50 - 160 feet below ground surface.

IX – Proposed Stimulation Program

A small cleanup acid job may be used to remove mud and drill cuttings from the formation. However, no other formation stimulation is currently planned.

X – Logging and Test Data

Geophysical logs will be submitted to the Division upon completion of the well.

XI – Fresh Groundwater Samples

Based on a review of data from the New Mexico Office of the State Engineer, there are no groundwater wells located within 1-mile of the proposed SWD location; therefore, no groundwater samples were collected in association with this application.

A water well map of the area is included in **Attachment 5**.

XII – No Hydrologic Connection Statement & Technical Assessment & Feasibility for Injection

ALL Consulting (ALL) has examined all available public and published geologic and engineering data, and has found no evidence of open faults or any other hydrologic connection between the injection interval and overlying Underground Sources of Drinking Water (USDWs). Additionally, the casing, cementing, and completion program has been designed to further ensure that there will be no hydrologic connection, nor will it allow for migration of injectate below the proposed injection interval that could affect correlative rights issues.

Additionally, ALL Consulting has conducted an extensive technical review and geologic assessment of the alleged New Mexico Oil Conservation Division Delaware Mountain Group (DMG) saltwater disposal well impacts to production wells and drilling operations associated with the Brushy Canyon Formation. A letter from ALL's qualified geological expert not only addresses the issue of no hydrologic connection, but also states that the Bell Canyon Formation includes viable injection intervals with multiple confining zones is included in *Attachment 6*.

XIII – Proof of Notice

A Public Notice was filed with the Hobbs News - Sun newspaper and an affidavit is included in **Attachment 7**.

A copy of the application was mailed to the OCD District Office, landowner, and leasehold operators within 1/2-mile of the proposed SWD location. A list of the recipients, as well as delivery confirmations, are included in **Attachment 7**.

Attachment 1:

- C-102
- Wellbore Diagram

Attachment 2: Area of Review Information:

- 2-mile Oil & Gas Well Map
- 2-mile Lease Map
- 2-mile Mineral Ownership Map
- 2-mile Surface Ownership Map
- 1/2-mile Well Detail List w/ Casing Information for the Penetrating Wells
- Penetrating Wells Wellbore Diagram
- Potash Lease Map

Attachment 3: Source Water Analyses

Attachment 4: Injection Formation Water Analyses

Attachment 5: Water Well Map and Well Data

Attachment 6: No Hydrologic Connection Statement & Technical Assessment & Feasibility for Injection

Attachment 7: Public Notice Affidavit and Notice of Application Confirmations

- C-102
- Wellbore Diagram

1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 DISTRICT II 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720 DISTRICT III 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 DISTRICT IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

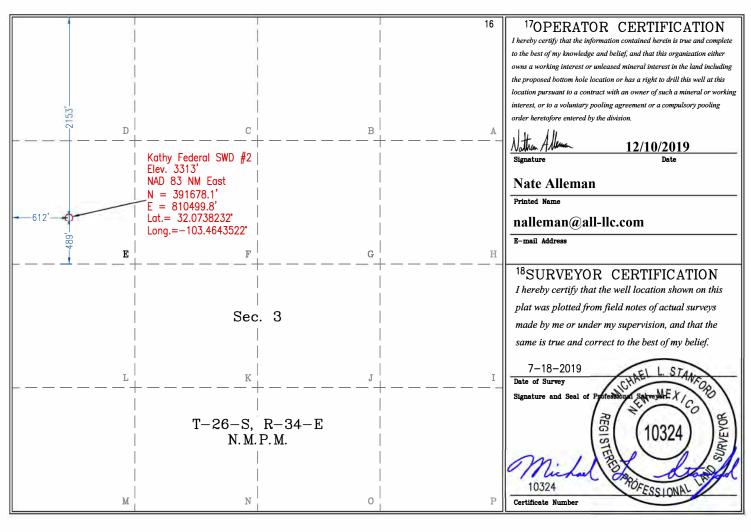
State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-102 Revised August 1, 2011 Submit one copy to appropriate District Office

☐ AMENDED REPORT

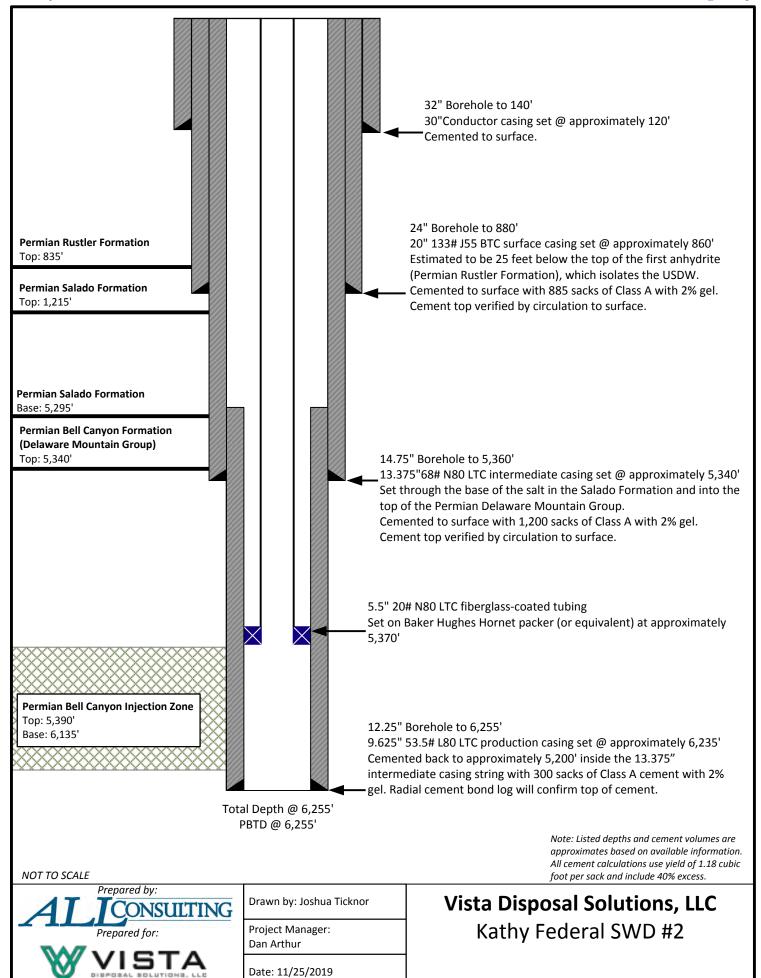
			WELL	LOCAT	ION AND	ACREAGE D	EDICATION	PLAT			
	¹ API Numbe	er		²₽∞ 96769	l Code	SWD; Bell	Canyon	³ Pool Name	90		
⁴ Proper	⁴ Property Code Kathy Federal SWD Froperty Name										
	70GRID No. 329051 Vista Disposal Solutions, LLC										
	10Surface Location										
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County		
E	3	26-S	34-E		2153'	North	612'	West	Lea		
			¹¹ Bott	om Hol	le Location	If Different F	rom 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 Acre	Dedicated Acres ¹³ Joint or Infill ¹⁴ Consolidation Code ¹⁵ Order 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.



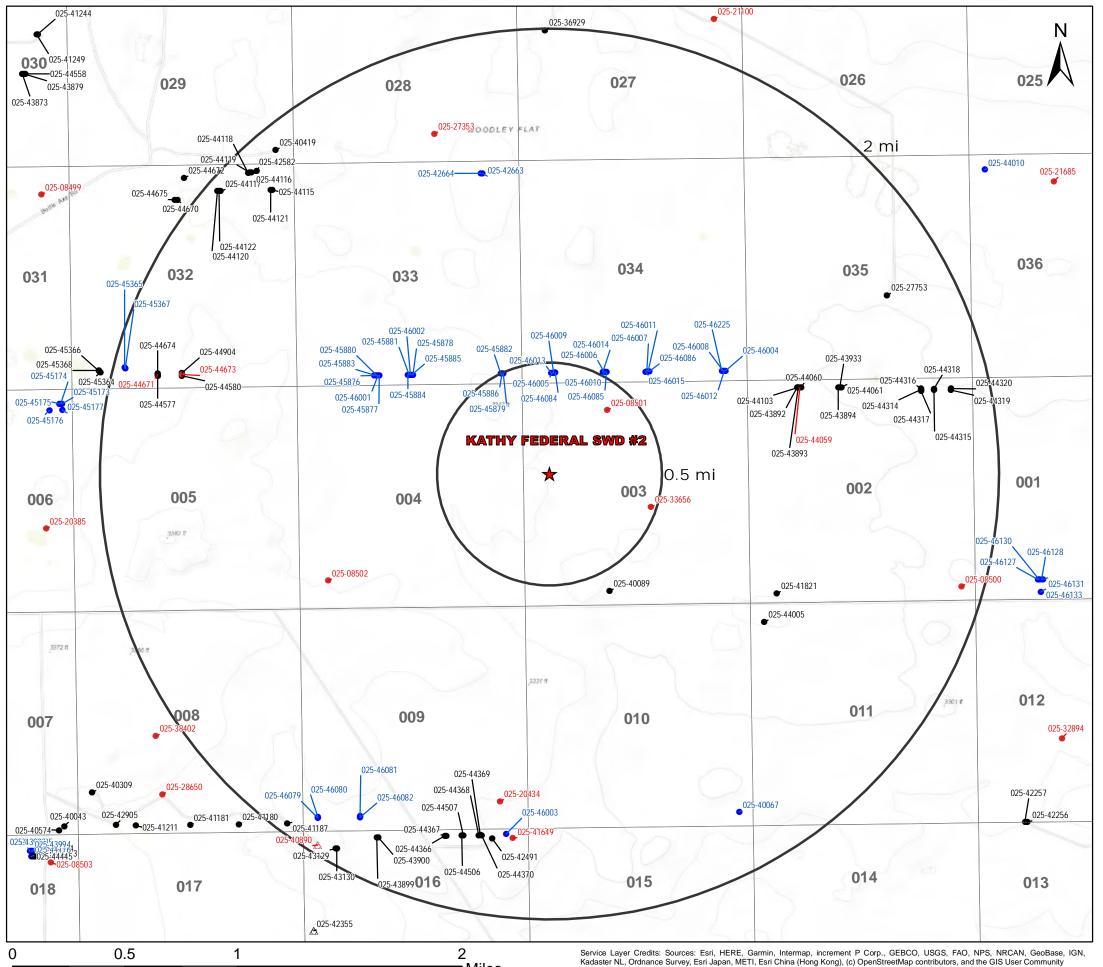
16.1 Miles W-SW of _____ Jal ____, New Mexico.

A-12815_1 File No.



Area of Review Information:

- 2-mile Oil & Gas Well Map
- 2-mile Lease Map
- 2-mile Mineral Ownership Map
- 2-mile Surface Ownership Map
- 1/2-mile Well Detail List w/ Casing Information for the Penetrating Wells
- Penetrating Wells Wellbore Diagram
- Potash Lease Map



■ Miles

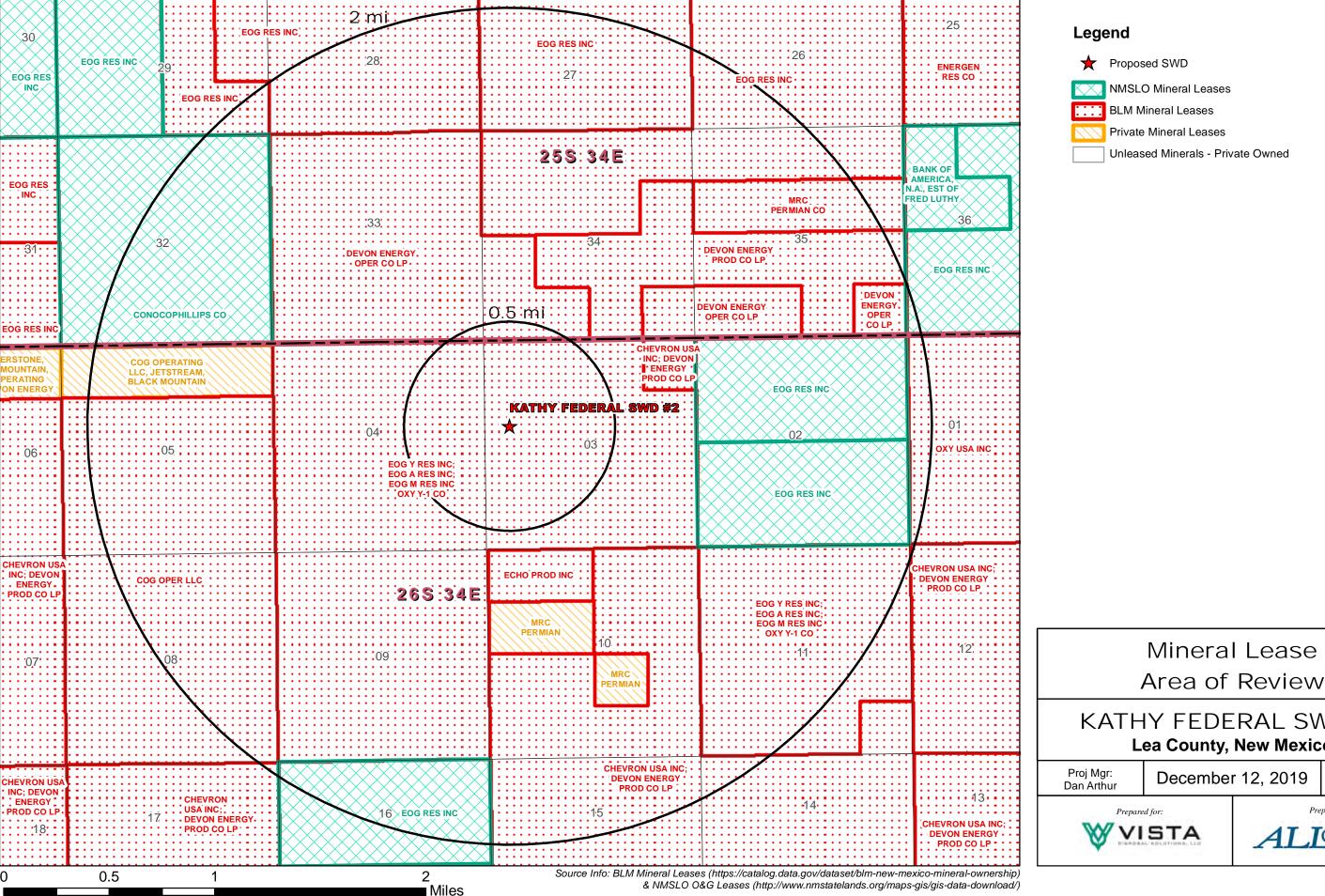
Legend

- Proposed SWD
- Oil, Active (69)
- Oil, New (54)
- Oil, Plugged (18)
- △ Salt Water Injection, Active (1)
- △ Salt Water Injection, Plugged (1)

Source Info: NMOCD O&G Wells updated 7/30/2019 (http://www.emnrd.state.nm.us/OCD/ocdgis.html)



Received by OCD: 12/16/2019 5:54:21 PM Page 14 of 38



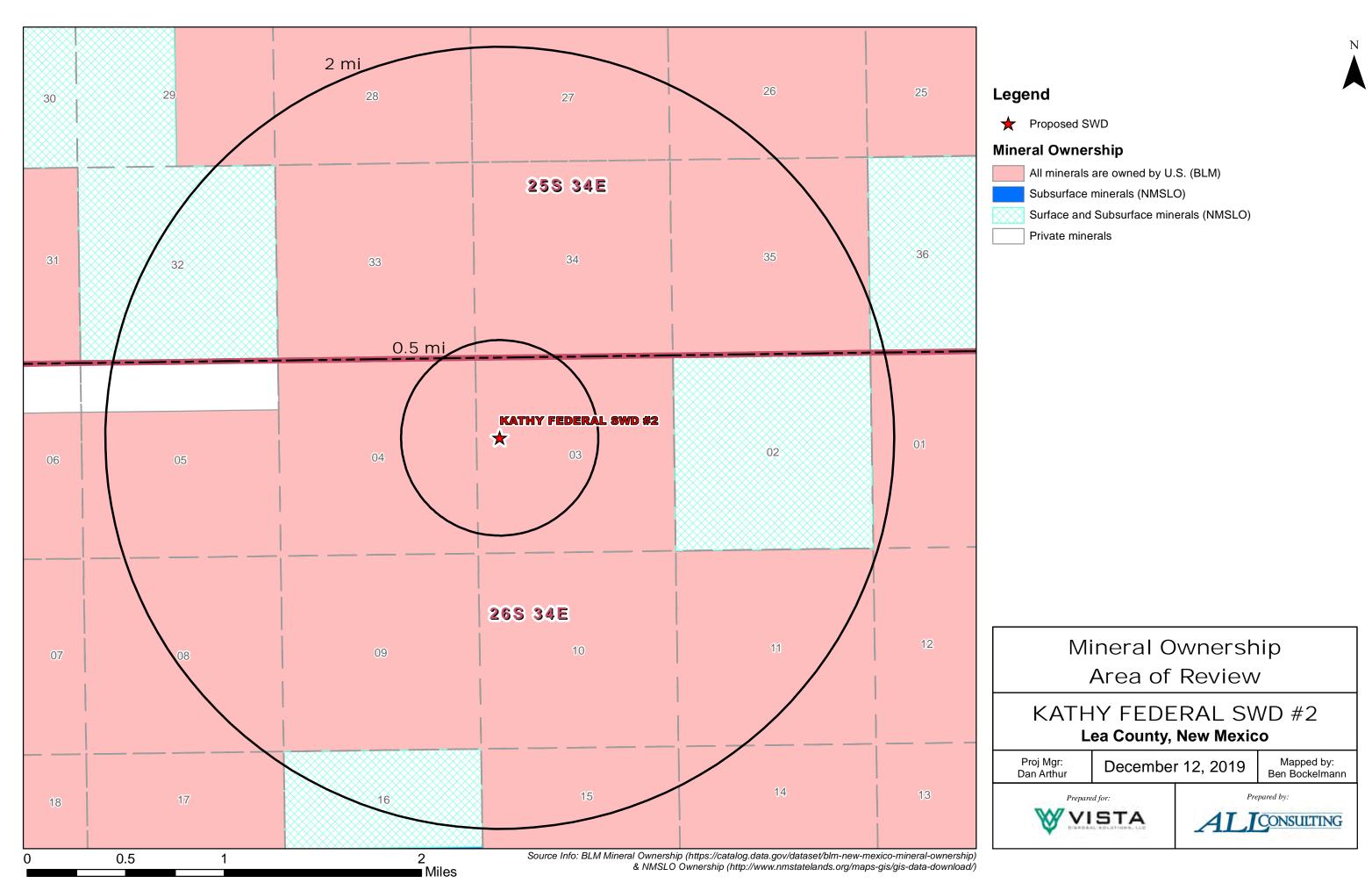


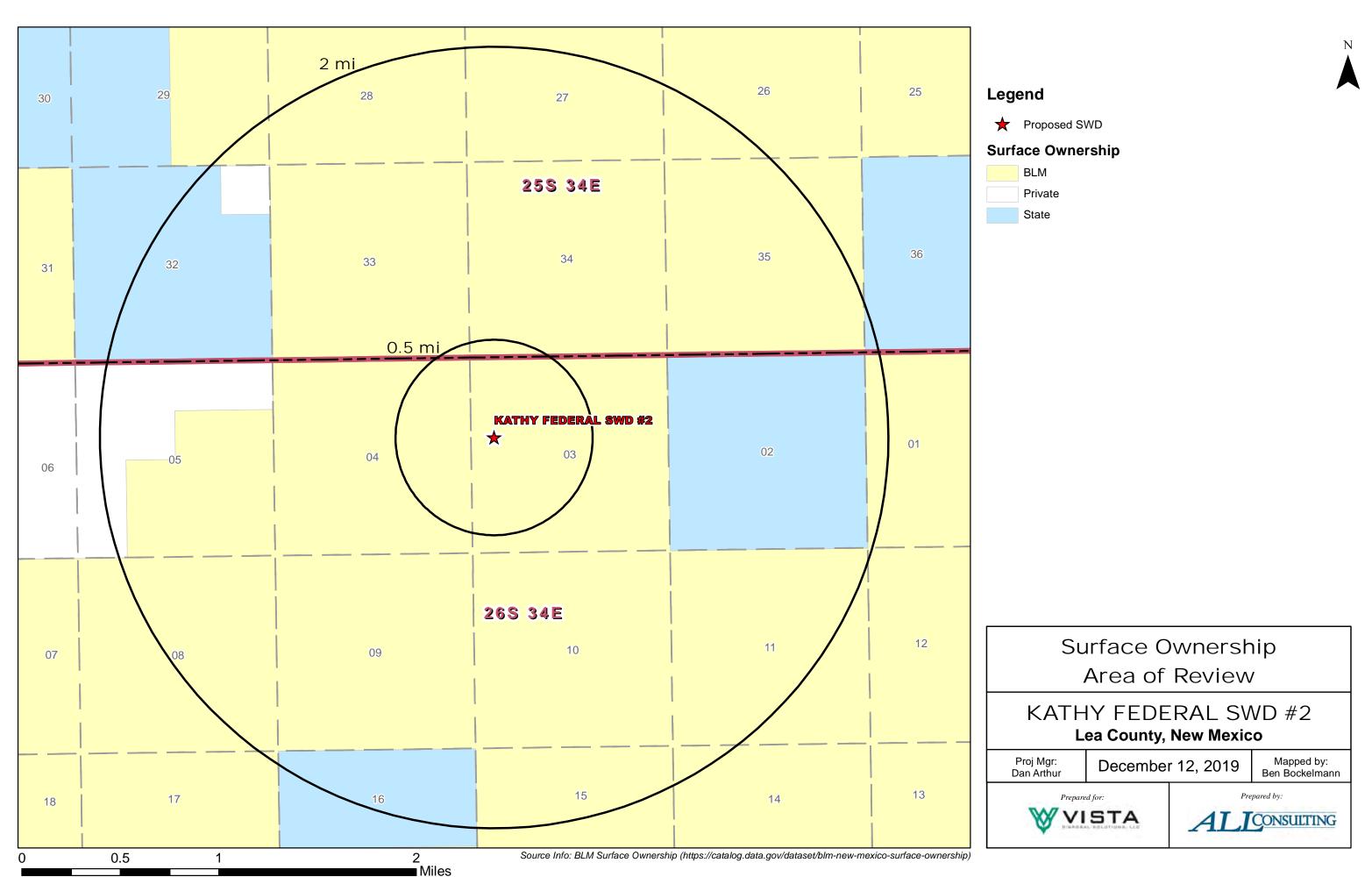
Mineral Lease

KATHY FEDERAL SWD #2 **Lea County, New Mexico**

> Mapped by: Ben Bockelmann







AORT	abulation	for Kathy	Federal SWD #2	(Top of Inje	ection Interval: 5,3	390')	
Well Name	API#	Well Type	Operator	Spud Date	Location (Sec., Tn., Rng.)	Total Vertical Depth (feet)	Penetrate Inj. Zone?
STRANGER 34 FEDERAL COM #001H	30-025-46084	O	DEVON ENERGY PRODUCTION COMPANY, LP	Not drilled	M-34-25S-34E	Proposed (12,539)	Yes
STRANGER 34 FEDERAL COM #013H	30-025-46013	O	DEVON ENERGY PRODUCTION COMPANY, LP	Not drilled	M-34-25S-34E	Proposed (12,890)	Yes
STRANGER 33 FEDERAL #004H	30-025-45879	0	DEVON ENERGY PRODUCTION COMPANY, LP	Not drilled	P-33-25S-34E	Proposed (12,540)	Yes
STRANGER 33 FEDERAL #011H	30-025-45886	0	DEVON ENERGY PRODUCTION COMPANY, LP	Not drilled	P-33-25S-33E	Proposed (12,790)	Yes
STRANGER 34 FEDERAL COM #005H	30-025-46005	0	DEVON ENERGY PRODUCTION COMPANY, LP	Not drilled	M-34-25S-34E	Proposed (12,670)	Yes
STRANGER 34 FEDERAL COM #009H	30-025-46009	O	DEVON ENERGY PRODUCTION COMPANY, LP	Not drilled	M-34-25S-34E	Proposed (12,770)	Yes
STRANGER 33 FEDERAL #007H	30-025-45882	O	DEVON ENERGY PRODUCTION COMPANY, LP	Not drilled	P-33-25S-34E	Proposed (12,690)	Yes
DEAN APQ FEDERAL #001	30-025-33656	Plugged	EOG Y RESOURCES, INC.	10/29/1996	J-03-26S-34E	Plugged (12,850)	Yes
PRE-ONGARD WELL #001 (GULF YATES FEDERAL WELL #001)	30-025-08501	Plugged	PRE-ONGARD WELL OPERATOR (Gulf Oil Corporation)	4/26/1961	C-03-26S-34E	Plugged (5,506)	Yes

		Casi			netrating the Kathy	reuerai 3vv	U #Z INJECT	lion Zone						
			Sur	face Casing					Inter	mediate Cas	sing			
Well Name	Set Depth	Casing Size	TOC	TOC Method Determined	Sks of Cement	Hole size	Set Depth	Casing Size	TOC	TOC Method Determined	Sks of Cement	Hole Size		
STRANGER 34 FEDERAL COM #001H	930	13 3/8	TBD; G.S.	Circulation	637 (Class C)	17 1/2	5000	9 5/8	TBD; G.S.	Circulation	Lead: 990 (Class C) Tail: 153 (Class C)	12 1/4		
STRANGER 34 FEDERAL COM #013H	930	10 3/4	TBD; G.S.	Circulation	510 (Class C)	14 3/4	12229	7 5/8	TBD; G.S.	Circulation	Lead: 436 sxs Tuned Light Tail: 482(Class H)	9 7/8		
STRANGER 33 FEDERAL #004H	940	13 3/8	TBD; G.S.	Circulation	637 (Class C)	17 1/2	5000	9 5/8	TBD; G.S.	Circulation	Lead: 990 (Class C) Tail: 153 (Class C)	12 1/4		
STRANGER 33 FEDERAL #011H	940	10 3/4	TBD; G.S.	Circulation	510 (Class C)	14 3/4	12219	7 5/8	TBD; G.S.	Circulation	Lead: 733 sxs Tuned Light Tail: 607 (Class H)	9 7/8		
STRANGER 34 FEDERAL COM #005H	930	10 3/4	TBD; G.S.	Circulation	510 (Class C)	14 3/4	12108	7 5/8	TBD; G.S.	Circulation	Lead: 738 sxs Tuned Light Tail: 591 (Class H)	9 7/8		
STRANGER 34 FEDERAL COM #009H	930	10 3/4	TBD; G.S.	Circulation	510 (Class C)	14 3/4	12202	7 5/8	TBD; G.S.	Circulation	Lead: 732 sxs Tuned Light Tail: 607 (Class H)	9 7/8		
STRANGER 33 FEDERAL #007H	940	10 3/4	TBD; G.S.	Circulation	510 (Class C)	14 3/4	12131	7 5/8	TBD; G.S.	Circulation	Lead: 741 sxs Tuned Light Tail: 590 (Class H)	9 7/8		
DEAN APQ FEDERAL #001	1000	11 3/4	G.S.	Circulation	Lead: 600 (Class C) Tail: 250 (Class C)	14 3/4	5200	8 5/8	G.S.	Circulation	Lead: 1500 sxs Pacesetter Lite (Class C) Tail: 250 (Class C)	11		
PRE-ONGARD WELL #001 (GULF YATES FEDERAL WELL #001)	400	8 5/8	G.S.	Circulation	150	11	Drilled to 5600; No casing set	N/A	N/A	N/A	(Plugged as dry hole)	7 7/8		
	Production Casing & Intermediate II Casing								Liner/ Tubing & Production Casing					
Well Name (Well Information Continued)	Set Depth	Casing Size	TOC	TOC Method Determined	Sks of Cement	Hole Size	Set Depth	Casing Size	TOC	TOC Method Determined	Sks of Cement	Hole Size		
STRANGER 34 FEDERAL COM #001H	17414	5 1/2	TBD; Minimum 4800' (200' into previous casing string)	CBL	Lead: 684 sxs Tuned Lite. (Yield 3.27) Tail: 1455 (Class H)	8 3/4	N/A	N/A	N/A	N/A	N/A	N/A		
STRANGER 34 FEDERAL COM #013H	12229 - 12816	7 5/8	TBD; G.S.	Circulation	1st Stage: 1000 (Class C) 2nd Stage: 609 (Class H)	8 3/4	17761	5 1/2	TBD; Minimum: 12616 (200' inside previous casing)	CBL	813 (Class H)	6 3/4		
STRANGER 33 FEDERAL #004H	17345	5 1/2	TBD; Minimum 4800' (200' into previous casing string)	CBL	Lead: 684 sxs Tuned Lite Tail: 1437 (Class H)	8 3/4	N/A	N/A	N/A TBD;	N/A	N/A	N/A		
STRANGER 33 FEDERAL #011H	12219 - 12930	7 5/8	TBD; G.S.	Circulation	1st Stage: 1000 (Class C) 2nd Stage: 609 (Class H)	8 3/4	17672	5 1/2	Minimum: 12730 (200' inside previous casing)	CBL	388 (Class H)	6 3/4		
STRANGER 34 FEDERAL COM #005H	12108 - 13001	7 5/8	TBD; G.S.	Circulation	1st Stage: 1000 (Class C)) 2nd Stage: 609 (Class H)	8 3/4	17637	5 1/2	TBD; Minimum: 12801 (200' inside previous casing)	CBL	379.29 (Class H)	6 3/4		
STRANGER 34 FEDERAL COM #009H	12202 - 12919	7 5/8	TBD; G.S.	Circulation	1st Stage: 1000(Class C) 2nd Stage: 609(Class H)	8 3/4	17736	5 1/2	TBD; Minimum: 12719 (200' inside previous casing)	CBL	393.48 (Class H)	6 3/4		
STRANGER 33 FEDERAL #007H	12131 - 13033	7 5/8	TBD; G.S.	Circulation	1st Stage: 1000(Class C) 2nd Stage: 609(Class H)	8 3/4	17507	5 1/2	TBD; Minimum: 12833 (200' inside previous casing)	CBL	367 (Class H)	63/4		
DEAN APQ FEDERAL #001	12850	5 1/2	7560	CBL	1st Stage: 350 (Class H) 2nd Stage: Lead: 950 sxs Pacesetter Lite (Class C) Tail: 150 (Class H))	7 7/8		7300. Casing Splic	e @ 8836 w/6		2970 - 3100. 75 sx cmt plug 512 t plug @ 9300 - 9500. CIBP @ 1 ttached Below).			
PRE-ONGARD WELL #001 (GULF YATES FEDERAL WELL #001)	N/A	N/A	N/A	N/A	N/A	N/A	Plugging Inform			; mud to 3020; 30 sxs t to surface (WBD At	s to 2860; mud to 440; 20 sxs citached Below).	mt to 350; mud		

GULF OIL CORPORATION, GULF YATES FEDERAL WELL #001 API# 30-025-08501

Scaled

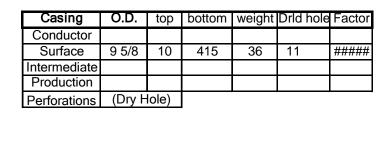
Operator: GULF OIL CORPORATION

FIELD: WILDCAT

LEASE: GULF YATES FEDERAL

COUNTY: LEA

Location: 660 FNL, 1980 FWL of Sec 3



12/12/2019

F DELEON

1 NEW MEXICO

C 26-S, 24-E, Sec 3

DATE:

BY:

WELL:

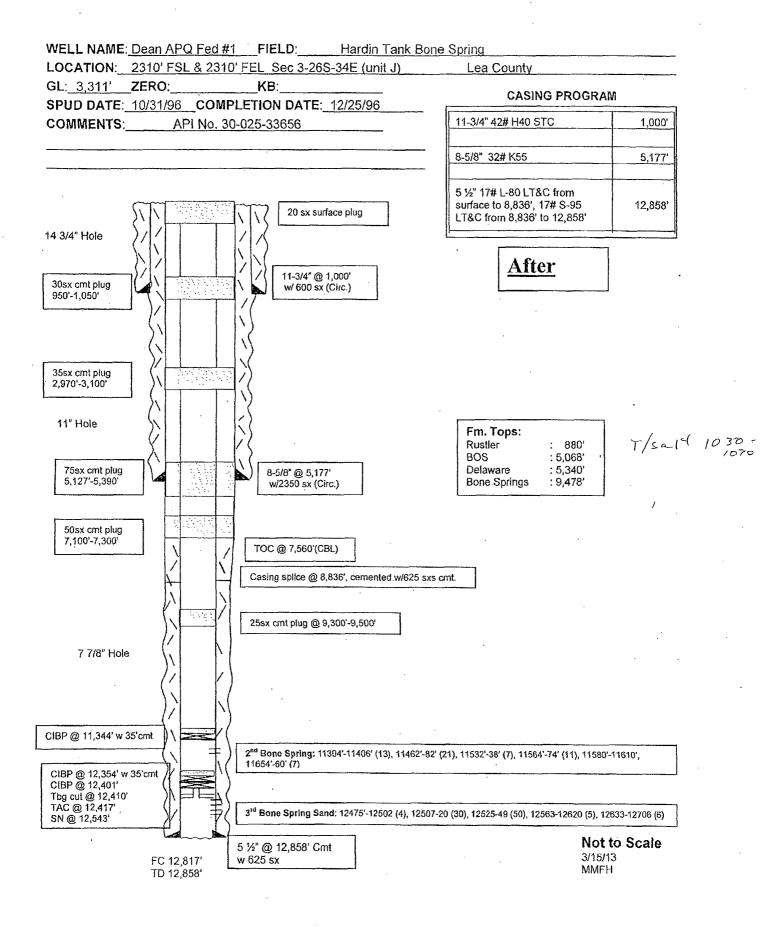
STATE:

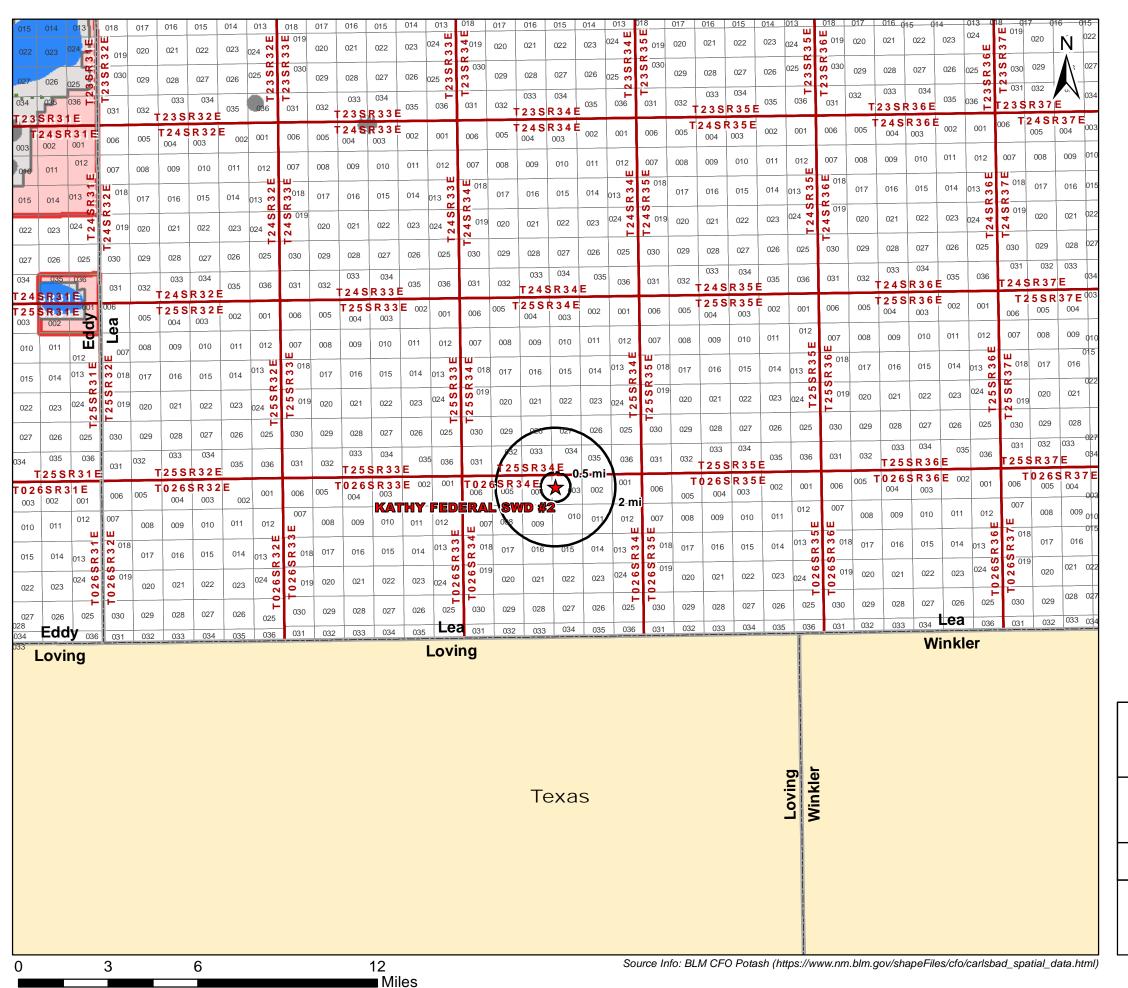
Survey:

			Scaled
			Depth G.S.
GS to 86'		25 Sx Cement Plug	0.S. 0
GO 10 00		(Drilling Mud between plugs)	169
		(Simily was serveen plage)	254
350'		20 Sx Cement Plug top	339
415'		9 5/8" Surface Casing	424
440'		_	508
			593
			678
			762 847
			932
			1016
			1101
			1186
			1271
		(5 ····)	1355
		(Drilling Mud between plugs)	1440
			1525 1609
			1694
			1779
			1864
			1948
			2033
			2118
			2202 2287
			2372
			2457
			2541
			2626
			2711
2806'		20 Sy Coment Plug ten	2795 2880
2000		20 Sx Cement Plug top	2965
3020'			3049
			3134
			3219
			3304
			3388
			3473 3558
			3642
			3727
			3812
			3897
			3981
			4066 4151
			4235
			4320
		(Drilling Mud between plugs)	4405
			4490
			4574
			4659 4744
			4744 4828
			4913
			4998
5045'		90 sx Cement Plug top	5082
			5167
			5252
			5337 5421
5506'			5421 5506
2300	TD 5,506'		3000
	,		

Cement	Slurry	Class	Sacks	Volume	Yield	Fillup	bottom	top
Surface		?	150		1.18		415	
Intermediate								
ntermed. DV7								
Production								
			-					

Groundwater	S.C. set @ 400
TD =	5506
PBTD =	
SPUD DATE:	4/26/1961
PLUG DATE:	5/9/1961
CURRENT STATUS	S:
DERRICK FLOOR =	3314'
Elevation =	





Legend

Proposed SWD
Ore Type - Measured
Ore Type - Indicated
KPLA
SOPA
Drill Islands
Status
Approved
Nominated



Source Water Analyses



Water Analysis

Date: 23-Aug-11

2708 West County Road, Hobbs NM 88240
Phone (575) 392-5556 Fax (575) 392-7307

Company		Nell Name	Draw 1#	ounty	State
		BD		rea .	New Mexico
Sample Source	Swab Sa	mple	Sample #	ddy	/ <i>-265-296</i> 1
Formation			Depth		
Specific Gravity	1.170		SG @	60 °F	1.172
ρН	6.30		ક	ulfides	Absent
Temperature (*F)	70		Reducing I	Agents	
Cations					
Sodium (Calc)	and the transport designation of the second section of the section	in Mg/L	77,962	in PPM	66,520
Calcium		in Mg/L	4,000	in PPM	3,413
Magnesium		in Mg/L	1,200	in PPM	1,024
Soluable Iron (FE2)		in Mg/L	10.0	in PPM	9
Anions					
Chlorides		in Mg/L	130,000	in PPM	110,922
Suttates		in Mg/L	250	in PPM	213
Bicarbonates		in Mg/L	127	in PPM	108
Total Hardness (as CaCO	3)	in Mg/L	15,000	in PPM	12,799
Total Dissolved Solids (Ca	i(c)	in Mg/L	213,549	in PPM	182,209
Equivalent NaCl Concentr	ation	in Mg/L	182,868	in PPM	156,031
Scaling Tendencies					
Calcium Carbonate Index	Pamata / 500	000 - 1 000 000	Possible / Above 1	000 000 Pmhahi	507,520
Calcium Sulfate (Gyp) Indi		- 1,000,000	, r usualer rigger		1,000,000
		000 - 10,000,00	Possible / Above 1		•
This Calculation is only an appi	roximation and	i ie only vaild i	efore treatment o	f a well or severa	l weeks after

Report # 3188

Remarks

RW=.048@70F

Sec 22, T25,5,R28E

Bone Spring

North Permian Basin Region P.O. Box 740 Sundown, TX 79372-0740 (806) 229-8121 Lab Team Leader - Shella Hernandez (432) 495-7240

Water Analysis Report by Baker Petrolite

Company: **PERMIAN BASIN** Region:

Account Manager: TONY HERNANDEZ (575) 910-7135

Area:

ARTESIA, NM

534665

Lease/Platform:

PINOCHLE 'BPN' STATE COM

Sample #: Analysis ID #:

Sales RDT:

106795

Entity (or well #):

Analysis Cost:

\$90.00

33514.1

Formation:

UNKNOWN

Sample Point:

WELLHEAD

Summary		Aı	salysis of Sa	mple 534665 @ 75	F	
Sampling Date: 03/10/11	Anions	mg/l	meq/I	Cations	mg/l	meq/
Analysis Date: 03/18/11	Chloride:	109618.0	3091.92	Sodium:	70275.7	3056.82
Analyst: SANDRA GOMEZ	Bicarbonate:	2135.0	34.99	Magnesium:	195.0	18.04
	Carbonate:	0.0	٥.	Calcium:	844.0	42.12
TDS (mg/t or g/m3): 184911.1	Sulfate:	747.0	15.55	Strontium:	220.0	5.02
Density (g/cm3, tonne/m3): 1.113	Phosphale:			Barlum:	0.8	0.01
Anion/Cation Ratio: 1	Borate:			Iron:	6.5	0.23
	Silicate:		ľ	Polassium:	889.0	22.22
				Aluminum:		
Carbon Dioxide: 0 50 PPM	Hydrogen Sulfide:		0 PPM	Chromlum:		
Oxygen:	at lat time of execution			Сорраг:		
Comments:	pH at time of sampling:	•	′1	Lead:		
	pH at time of analysis:			Manganese:	0.100	0.
	pH used in Calculatio	n:	7	Nickel:		

Conditions Values (Values Calculated at the Given Conditions - Amounts of Scale in Ib/1000 bbl											
	Gauge Press.			Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄		CO ₂ Press					
F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi			
80	0	1.08	188.52	-1.20	0.00	-1.18	0.00	-0.11	0.00	0.58	0.29	1.72			
100	0	1.10	208.05	-1.29	0.00	-1.20	0.00	-0.15	0.00	0.35	0.29	2.35			
120	0	1.12	224.17	-1.36	0.00	-1.19	0.00	-0.17	0.00	0.16	0.00	3,17			
140	0	1.13	243.17	-1.42	0.00	-1.18	0.00	-0.18	0.00	0.00	0.00	4.21			

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

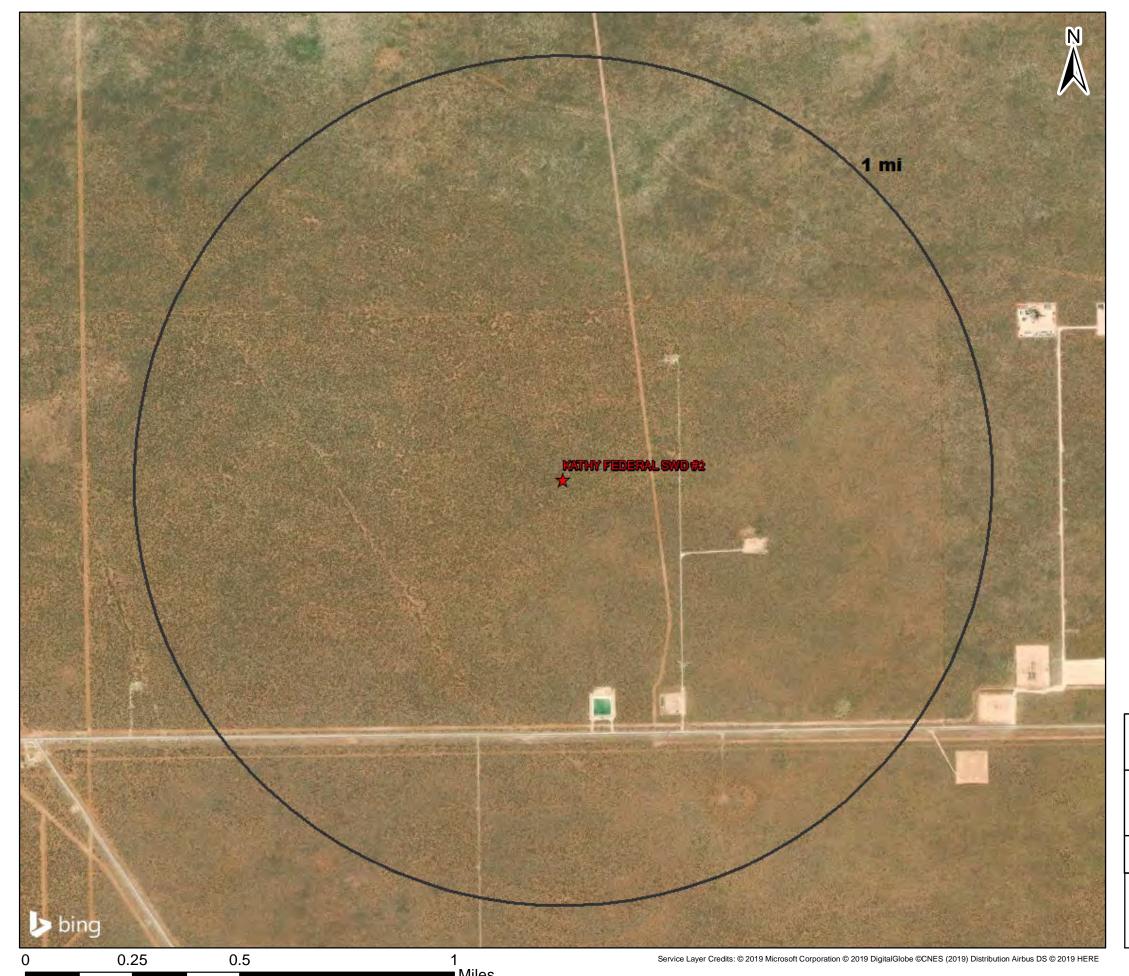
Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

Injection Formation Water Analyses

Page 25 of 38

								Injed	ction Forma	tion Water	Analysis								
Vista Disposal Solutions, LLC - Delaware Mountain Group Formation																			
Wellname	API	Latitude	Longitude	Section	Township	Range	Unit	Ftgns	Ftgew	County	State	Company	Field	Formation	Depth	Tds_mgL	Chloride_mgL	Bicarbonate_mgL S	ulfate_mgL
NORTH EL MAR UNIT #017	3002508430	32.016605	-103.617691	30	26S	33E	E	1880N	660W	LEA	NM		EL MAR	DELAWARE	4742	254756	159400	80	210
NORTH EL MAR UNIT #057	3002508440	32.001946	-103.6131134	31	26S	33E	F	1935N	2090W	LEA	NM		EL MAR	DELAWARE	4777	259554	163000	61	253
GOEDEKE #002	3002508407	32.059799	-103.5579987	10	26S	33E	G	1980N	1980E	LEA	NM		SALADO DRAW	DELAWARE	5200	293925	184000	85	210
MARSHALL #001	3002508358	32.284832	-103.6176224	19	23S	33E	М	660S	660W	LEA	NM		CRUZ	DELAWARE	5237	238931	148600	127	156
NORTH EL MAR UNIT #022	3002508278	32.011662	-103.6262207	25	26S	32E	J	1980S	1980E	LEA	NM		EL MAR	DELAWARE	4749	244815	153500	88	220
NORTH EL MAR UNIT #032	3002508291	32.008019	-103.6434479	26	26S	32E	0	660S	1980E	LEA	NM		EL MAR	DELAWARE	4605	254895	5		
NORTH EL MAR UNIT #028	3002508296	32.011654	-103.6521072	26	26S	32E	L	1980S	660W	LEA	NM		EL MAR	DELAWARE	4565	249479	156000	976	373
NORTH EL MAR UNIT #045	3002508308	32.004387	-103.6381302	35	26S	32E	Α	660N	330E	LEA	NM		EL MAR	DELAWARE	4633	255115	160000	85	310
COTTON DRAW UNIT #024	3002508176	32.143189	-103.6650696	10	25S	32E	K	1980S	1980W	LEA	NM		PADUCA	DELAWARE	4787	246555	152600	112	939
COTTON DRAW UNIT #001	3002508182	32.125053	-103.6693573	15	25S	32E	М	660S	660W	LEA	NM		PADUCA	DELAWARE	4804	308600)		
COTTON DRAW UNIT #001	3002508182	32.125053	-103.6693573	15	25S	32E	М	660S	660W	LEA	NM		PADUCA	DELAWARE	4804	309990)		
MONSANTO STATE #001	3002508196	32.128666	-103.6736145	16	25S	32E	I	1980S	660E	LEA	NM		PADUCA	DELAWARE	4800	224016	138600	139	462
COTTON DRAW UNIT #004	3002508221	32.121422	-103.6693649	22	25S	32E	D	660N	660W	LEA	NM		PADUCA	DELAWARE	4685	276839	170500	198	552
G E JORDAN NCT-1 #021	3002508226	32.107822	-103.6704102	27	25S	32E	D	330N	330W	LEA	NM		PADUCA	DELAWARE	4498	239464	147800	64	908
HANAGAN B FEDERAL #001	3002508151	32.212124	-103.6603851	15	24S	32E	0	660S	1980E	LEA	NM		DOUBLE X	DELAWARE	4955	229878	142200	168	491
HANAGAN B FEDERAL #001	3002508151	32.212124	-103.6603851	15	24S	32E	0	660S	1980E	LEA	NM		DOUBLE X	DELAWARE	4955	229709	142100	168	491

Water Well Map and Well Data



Legend

★ Proposed SWD

NMOSE PODs

Status

- Active (0)
- Pending (0)
- O Change Location of Well (0)
- O Capped (0)
- Plugged (0)
- Incomplete (0)
- Unknown (0)



Water Well Sampling Rationale									
Vista Disposal Solutions, LLC - Kathy Federal SWD #2									
SWD	SWD Water Wells Owner Available Contact Information Use Sampling Required Notes								
Note: No water wells are present within 1 mile of the proposed SWD location.									

No Hydrologic Connection Statement & Technical

Assessment & Feasibility for Injection



December 13, 2019

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, New Mexico 87505

Subject: Vista Disposal Solutions, LLC – Hydrologic Connection Statement

To Whom It May Concern:

The purpose of this letter is to affirm that ALL Consulting (ALL), on behalf of Vista Disposal Solutions, LLC (Vista), has conducted an extensive technical review of the available geologic and engineering data and finds no evidence of open faults or any other hydrologic connection between the proposed Bell Canyon Formation disposal zone and any underground sources of drinking water.

Additionally, please find attached ALL's Technical Assessment and Feasibility document addressing injection into the Bell Canyon Formation at the proposed disposal well location.

Sincerely,

Tom Tomastik

Tom Tomastik, CPG Chief Geologist ALL Consulting



VISTA DISPOSAL SOLUTIONS

TECHNICAL ASSESSMENT AND FEASIBILITY FOR INJECTION INTO THE BELL CANYON FORMATION OF THE DELAWARE MOUNTAIN GROUP

ALL Consulting (ALL) has conducted an extensive technical review and geological assessment of the alleged New Mexico Oil Conservation Division (OCD) Delaware Mountain Group (DMG) saltwater disposal well (SWD) impacts to production wells and drilling operations associated with the Brushy Canyon Formation of the DMG in the Lea County, New Mexico area. This technical review included evaluation and analysis of the OCD DMG Cases and technical data submitted by both Chevron and Occidental (OXY) in defense of their disposal operations into the Bell Canyon and Cherry Canyon formations in Eddy County. OCD found in favor of both Chevron and OXY to continue disposal operations at their injection wells with additional technical requirements and testing. ALL is providing the following technical information in support of allowing the permitting of new disposal operations by Vista Disposal Solutions, LLC (Vista) into the Bell Canyon Formation (Bell Canyon).

- ALL will be submitting permit applications for Vista to dispose of oilfield waste fluids into only the Bell Canyon of the DMG.
- All disposal operations will be cased hole with perforations.
- There is approximately 600 to 800 feet of viable injection interval within the Bell Canyon with porosities ranging from 12 to 28% and averaging approximately 18%. These zones are consistent with the Bell Canyon across the area of interest (AOI) for Vista.
- All these proposed injection intervals show resistivity readings less than 10 ohm/meters, which is indicative of natural brine in the formation, so there is adequate porosity and permeability.
- Proposed bottom perforations would be approximate 100 to 150 feet above the top of the Cherry Canyon Formation and at least 1,500 to 1,600 feet above the top of the Brushy Canyon Formation.
- ALL has identified three to four consistent confining zones within the bottom of the Bell Canyon that have low porosities and high resistivities indicating that these zones will serve as barriers to downward fluid migration.
- There is no oil and gas production from the Bell Canyon or Cherry Canyon formations within a two-mile radius of the proposed SWD and there are adequate barriers and rock thickness to prevent fluid migration into the Brushy Canyon Formation.
- Injection pressures will be limited to the regulatory approved maximum allowable surface pressure based on 0.2 psi per foot.
- If OCD requires additional downhole testing requirements like was required in the Chevron and Oxy cases, Vista would be willing to perform the OCD required downhole testing such as initial pressure fall-off testing, radioactive tracer and temperature surveys,

- and record original bottom hole pressures to further demonstrate the technical feasibility of injection into the Bell Canyon.
- The potential for over pressurization of this injection interval can be addressed with the spacing of hundreds of perforations into porous and permeable zones within the Bell Canyon, which allows for injectate dispersion and reduces the potential for pressure build-up. Additionally, ALL has found several Bell Canyon SWDs in the OCD records that operated under a vacuum situation.
- With a sound pre-treatment and filtering system at the surface, issues such as skin effect
 and even potential formation damage can be avoided, which often leads to formation
 pressure build-up. ALL has extensive experience and expertise with pre-treatment and
 filtering systems to avoid these issues.
- Additional technical documentation can be provided by ALL if OCD deems additional information is necessary.

Public Notice Affidavit and Notice of Application Confirmations

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 December 14, 2019 and ending with the issue dated December 14, 2019.

Publisher

Sworn and subscribed to before me this 14th day of December 2019.

Business Manager

My commission expires

anuary 29, 2023

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

LEGAL

LEGAL

LEGAL NOTICE DECEMBER 14, 2019

APPLICATION FOR AUTHORIZATION TO INJECT

NOTICE IS HEREBY GIVEN: That Vista Disposal Solutions, LLC, 12444 NW 10th St., Building G., Suite 202-512, Yukon, OK 73099, is requesting that the New Mexico Oil Conservation Division administratively approve the APPLICATION FOR AUTHORIZATION TO INJECT as follows:

PURPOSE: The intended purpose of the injection well is to dispose of salt water produced from permitted oil and gas wells.

WELL NAME AND LOCATION: Kathy Federal SWD #2 SW 14 NW 14, Section 03, Township 26S, Range 34E 2.153' FNL & 612' FWL Lea County, NM

NAME AND DEPTH OF DISPOSAL ZONE: Bell Canyon (5,390 - 6,135) EXPECTED MAXIMUM INJECTION RATE: 25,000 Bbls/day EXPECTED MAXIMUM INJECTION PRESSURE: 1,078 psi (surface)

Objections or requests for hearing must be filed with the New Mexico Oil Conservation Division within fifteen (15) days. Any objection or request for hearing should be mailed to the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505.

Additional information may be obtained by contacting Nate Alleman at 918-382-7581 #34983

67115320

00237216

DANIEL ARTHUR ALL CONSULTING 1718 S. CHEYENNE AVE. TULSA, OK 74119

APPLICATION FOR AUTHORIZATION TO INJECT

NOTICE IS HEREBY GIVEN: That Vista Disposal Solutions, LLC, 12444 NW 10th St., Building G, Suite 202-512, Yukon, OK 73099, is requesting that the New Mexico Oil Conservation Division administratively approve the APPLICATION FOR AUTHORIZATION TO INJECT as follows:

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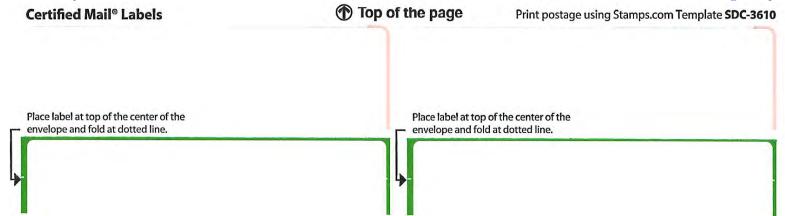
WELL NAME AND LOCATION:	Kathy Federal SWD #2 SW ¹ / ₄ NW ¹ / ₄ , Section 03, Township 26S, Ra	unge 34E				
2,153' FNL & 612' FWL						
Lea County, NM						
NAME AND DEPTH OF DISPOSA	AL ZONE: Bell Canyon (5,390 – 6,13)	5)				
EXPECTED MAXIMUM INJECTI	ON RATE: 25,000 Bbls/day					
EXPECTED MAXIMUM INJECTI	ON PRESSURE: 1,078 psi (surface)					

Objections or requests for hearing must be filed with the New Mexico Oil Conservation Division within fifteen (15) days. Any objection or request for hearing should be mailed to the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505.

Additional information may be obtained by contacting Nate Alleman at 918-382-7581.

Kathy Federal SWD #2 - Notice of Application Recipients										
Entity	Address	City	State	Zip Code						
Landowner & Mineral Owner										
New Mexico BLM	620 E Greene St.	Carlsbad	NM	88220						
	OCD District									
NMOCD District 1	1625 N. French Drive	Hobbs	NM	88240						
Leasehold Operators										
Devon Energy Production Company, LP (DEVON ENERGY PROD CO LP)	6488 Seven Rivers Hwy.	Artesia	NM	88210						
EOG Resources, Inc. (EOG Y RES INC) (EOG A RES INC) (EOG M RES INC)	104 S. 4th Street	Artesia	NM	88210						
OXY-1 Company (OXY Y-1 CO)	P.O. Box 27570	Houston	TX	77227						

Notes: The table above shows the Entities who were identified as parties of interest requiring notification on either the 1/2-mile well detail list (Attachment 2) or on the 2-mile Mineral Lease Map (Attachment 2). The names listed above in parenthesis, are the abbreviated entity names used on either the 1/2-mile well detail list (Attachment 2) or on the 2-mile Mineral Lease Map (Attachment 2).



Place label at top of the center of the envelope and fold at dotted line,

ALL Consulting 1718 S. Cheyenne Ave. Tulsa, OK 74119

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