### BEFORE THE NEW MEXICO OIL CONSERVATION DIVISION

APPLICATION OF VISTA DISPOSAL SOLUTIONS LLC, FOR A SALT WATER DISPOSAL WELL, IN LEA COUNTY, NEW MEXICO.

Case No.

### APPLICATION FOR SALT WATER DISPOSAL

Vista Disposal Solutions LLC, by and through its undersigned attorney, applies for an order approving a salt water disposal well, and in support thereof, states:

- 1. Applicant seeks an order proposing a salt water disposal well for its Kathy Federal SWD #2, (Pool Code 96769) to be drilled at a location 2,153' FNL and 612' FWL, Unit E, Section 3, Township 26 South, Range 34 East, N.M.P.M., Lea County, New Mexico.
- 2. Applicant proposes to set a packer at 5,370' feet below the surface of the earth and then inject into the Bell Canyon formation at depths between 5,390' through 6,135' open hole, as stated in the attached C-108.
  - 3. Attached hereto as Exhibit A is the C-108.
  - 4. The granting of this application will prevent waste and protect correlative rights.

**WHEREFORE**, Applicant requests that, after notice and hearing, the Division enter its order approving this application.

Respectfully submitted,

PADILLA LAW FIRM, P.A.

/s/ Ernest L. Padilla

ERNEST L. PADILLA
Attorney for Vista Disposal Solutions, LLC
PO Box 2523
Santa Fe, New Mexico 87504
505-988-7577
padillalaw@qwestoffice.net

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

FORM C-108 Revised June 10, 2003

### APPLICATION FOR AUTHORIZATION TO INJECT

I.	PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage Application qualifies for administrative approval? X Yes No
II.	OPERATOR: Vista Disposal Solutions, LLC
	ADDRESS: 12444 NM 10th St., 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? 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>
*VII	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: Dan Arthur, P.E., SPEC TITLE: President/Chief Engineer
	SIGNATURE: DATE: 12/13/2019
	E-MAIL ADDRESS: darthur@all-llc.com
XV.	If the information required under Sections VI, V  Please show the date and circumstances of the earlier submittal:
DIST	RIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office
	- 6 and and ably to summer a time one ably to me abbidobitate Digition Office

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)

A.

### (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

DISTRICT I
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

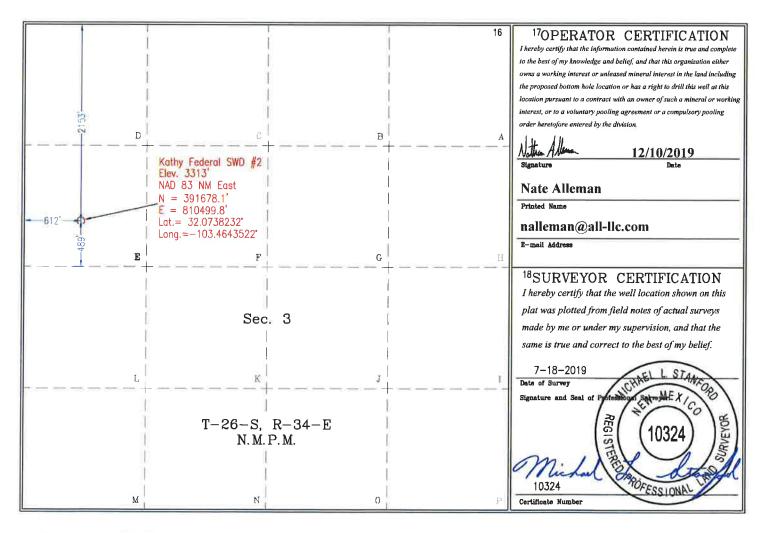
Form C-102 Revised August 1, 2011 Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

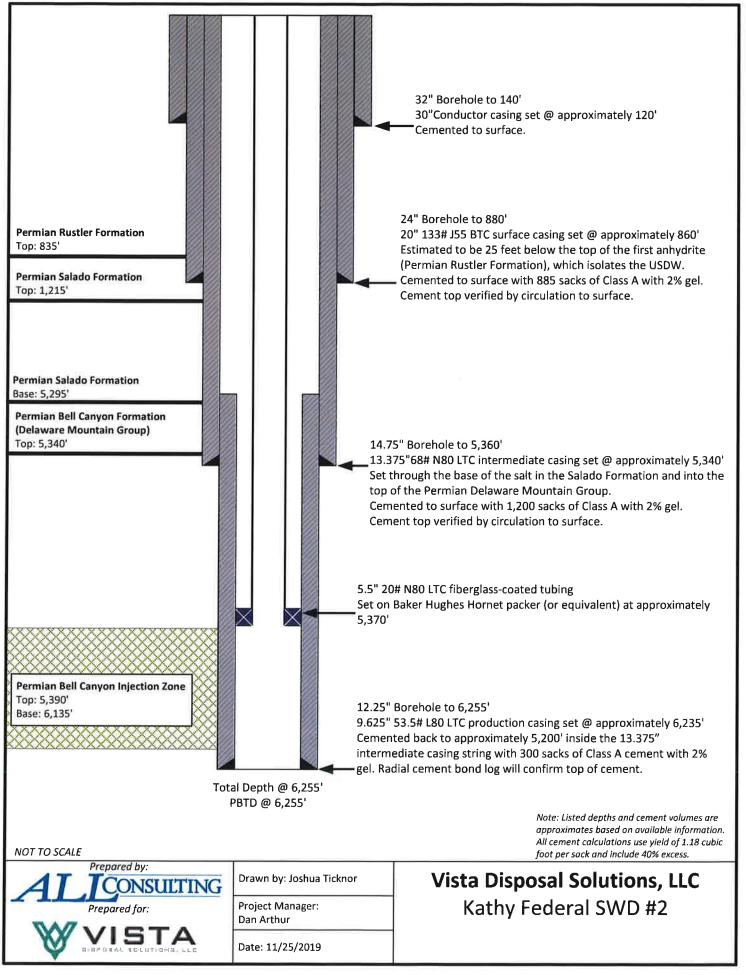
	API Numbe	er		<sup>²</sup> P∞ 96769	l Code	SWD; Bell	Canyon	<sup>3</sup> Pool Name	
<sup>4</sup> Proper	ty Code	K	athy Fe	ederal		erty Name		<sup>6</sup> Well Number 2	
70GRI 32905:		SElevation 3313							
					<sup>10</sup> Surface	Location			
L or lot no.							Feet from the	East/West line	County
E							612'	West	Lea
			11Bott	om Ho	e Location 1	f Different F	rom Surface		
L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acre	s <sup>13</sup> Joint o	r Infill	Consolidation C	code 150	rder 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.



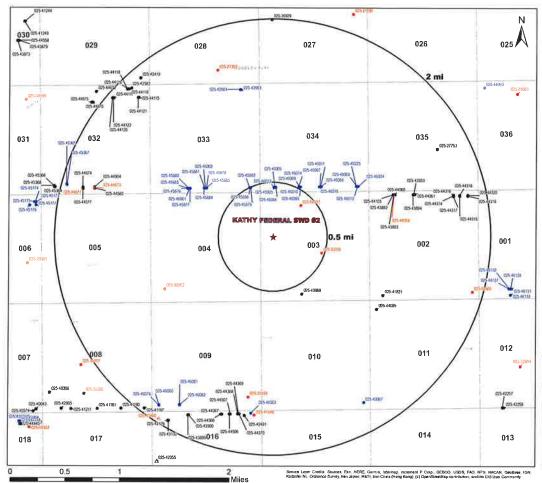
16.1 Miles W-SW of Jal , New Mexico.

File No. <u>A-12815\_1</u>



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
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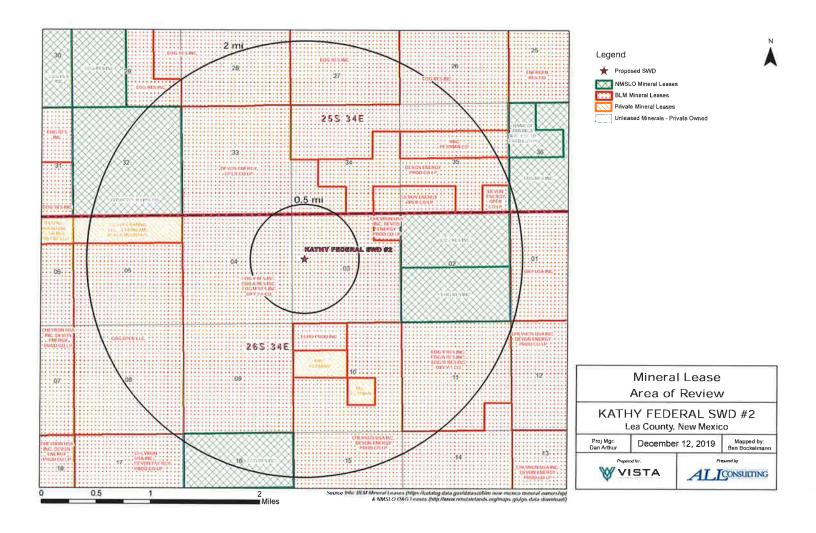


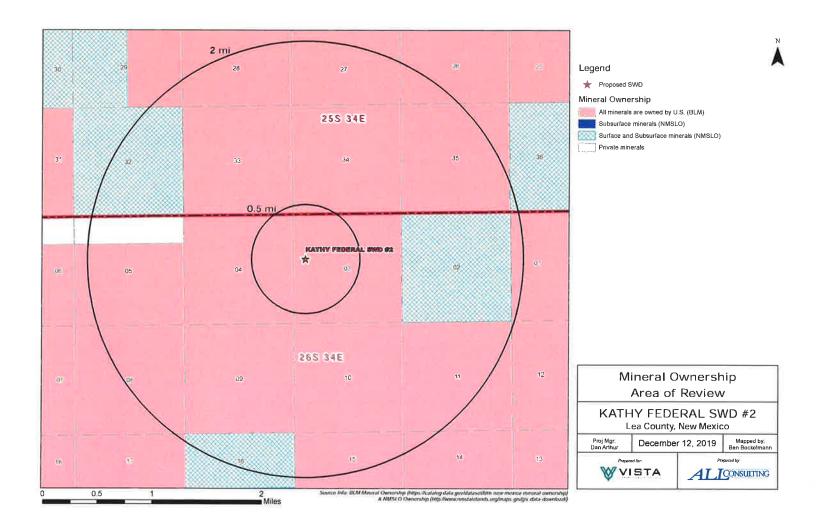
### Legend

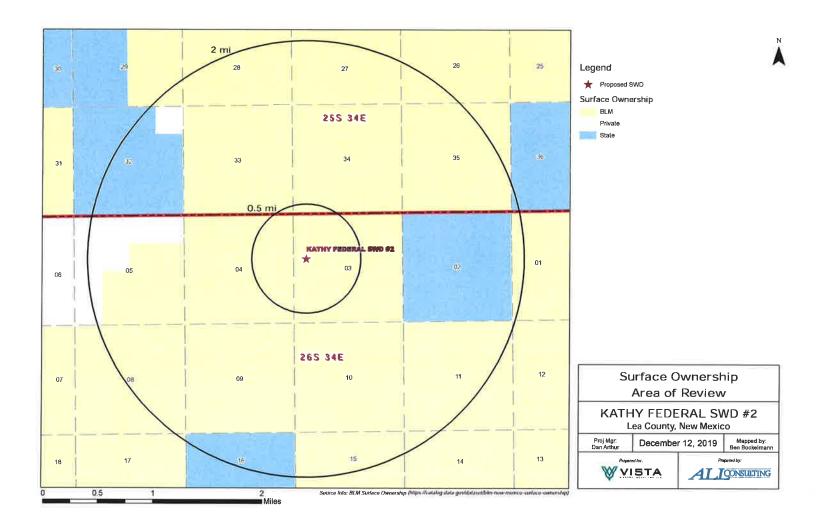
- ★ Proposed SWD
- Oil, Active (69)
- Oil, New (54)
- Oil, Plugged (18)
- A Salt Water Injection, Active (1)
- Salt Water Injection, Plugged (1)

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









AOR 1	<b>Tabulation</b>	for Kathy	Federal SWD #2	(Top of Inje	ction Interval: 5,	390')	
Well Name	API#	Well Type	Operator	Spud Date	Location (Sec., Tr., Rng.)	Total Vertical Depth (feet)	Penetrate Inj. Zone?
STRANGER 34 FEDERAL COM #001H	30-025-46084	0	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-34-255-34E	Proposed (12,890)	Yes
STRANGER 33 FEDERAL 8004H	30-025-45879	o	DEVON ENERGY PRODUCTION COMPANY, LP	Not drillad	P-33-25S-34E	Proposed (12,540)	Yes
STRANGER 33 FEDERAL #011H	30-025-45886	o	DEVON ENERGY PRODUCTION COMPANY, LP	Not drilled	P-33-25S-33E	Praposed (12,790)	Yes
STRANGER 34 FEDERAL COM 8005H	30-025-46005	o	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 8007H	30-025-45882	ō	DEVON ENERGY PRODUCTION COMPANY, LP	Not drilled	P-33-25S-34E	Proposed (12,690)	Yes
DEAN APQ FEDERAL 8001	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-D3-26S-34E	Plugged (5,506)	Yes

	Maria Cara		ng Information fo	rface Casing						dina Co	-t			
		1	30	TOC Method										
Well Name	Set Depth	Casing Size	тос	TOC Method Determined	Sks of Cement	Hole size	Set Depth	Casing Size	тос	TOC Method Determined	Sks of Cement	Hole Siz		
RANGER 34 FEDERAL COM 8013H 930  STRANGER 33 FEDERAL 8004H 940  STRANGER 33 FEDERAL 8001H 940  RANGER 34 FEDERAL COM 8005H 930  RANGER 34 FEDERAL COM 8009H 920  STRANGER 35 FEDERAL 8007H 440  DEAN APQ FEDERAL 8001 1000  PRE-ONGARD WELL 8001 400  Well Name  (Well Information Continued) Set Del  RANGER 34 FEDERAL COM 8001H 17414  RANGER 34 FEDERAL COM 8013H 12229 12	930	13 3/8	TBO; G.S.	Circulation	637 (Class C)	17 1/2	5000	9 5/A	TBO; G S	Circulation	Lead: 990 (Class C) Tall: 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	3 5/8	TBD; G.S.	Circulation	Lead 436 as Yuned Light Tail: 482(Class H)	9 7/8		
STRANGER 33 FEDERAL #004H	940	13 3/8	TBD; G 5	Circulation	637 (Class C)	17 1/2	5000	9 5/8	TBD; G.S.	Circulation	Lead: 990 (Class C) Tall: 153 (Class C)	12 1/4		
STRANGER 33 FEDERAL #011H	940	10 3/4	TBD; G S.	Circulation	S10 (Class C)	14 3/4	12219	7 5/8	TBD; G.S.	Circulation	Lead: 733 sss Tuned Light Tail: 607 (Class H)	9 7/8		
STRANGER 34 FEDERAL COM #005H	930	10 3/4	TBD; G S	Circulation	S10 (Class C)	14 3/4	12108	7 5/8	TBD; G.S.	Circulation	(ead: 738 ses Tuned Light Tail: 591 (Class H)	97/8		
STRANGER 34 FEDERAL COM #009H	930	10 3/4	TBD; G.S.	Circulation	SEO (Class C)	14 3/4	12202	7 5/8	TBD; G S.	Circulation	Tail: 607 (Class H)	1 7/B		
STRANGER 33 FEDERAL 8007H	940	103/4	TBD; G.S.	Circulation	SSD (Class C)	14 3/4	12131	7 5/8	TBD; G S	Circulation	Lead: 741 sxs Tuned Light Tail: 590 (Class H)	97/8		
DEAN APQ FEDERAL #001	1000	11 3/4	G.S.	Circulation	Lead: 600 (Class C) Tall: 250 (Class C)	143/4	5200	8 5/8	G.S.	Circulation	Lead: 1500 are Pacesetter Lite (Class C) Tall: 250 (Class C)	11		
PRE-ONGARD WELL #001 (GULF YAYES FEDERAL WELL #001)	400	8 5/8	G.S.	Circulation	150	11	Drilled to \$600; No casing set	N/A	N/A	N/A	(Plugged as dry hole)	7 7/8		
		2 1 Sec.	Production Casin	& Intermed	liate II Casing		Liner/ Tubing & Production Casing							
Well Name (Well Information Continued)	Set Depth	Casing Size	тос	TOC Method Determined	Sks of Cement	Hole Size	Set Depth	Casing Size	тос	TOC Method Determined	Sks of Cement	Hole Size		
STRANGER 34 FEDERAL COM #001H	17414	51/2	TBD; Minimum 4800' (200' into previous casing string)	CBL	Lead: 684 ces Tuned Lite. (Vield 3 27) Tall: 1455 (Class H)	6 3/4	N/A	N/A	N/A	N/A	N/A	N/A		
STRANGER 34 FEDERAL COM #013H	12229 - 12816	7 5/A	TBD; G S	Circulation	Ist Stage: J000 (Class C) 2nd Stage: 609 (Class H)	8 3/4	17761	5 1/2	TBD; Minimum: 12616 (200' inside previous casing)	СВГ	B13 (Class H)	€3/4		
STRANGER 33 FEDERAL #004H	17345	\$1/2	TBD; Minimum 4800" (200" into previous casing string)	CBL	Lead: 684 sax Tuned Lite Tall: 1437 (Class H)			N/A	N/A	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)	#3/4	17672	\$1/2	TBD, Minimum: 12730 (200' Inside previous casing)	СВГ	SSA (Class H)	63/4		
STRANGER 34 FEDERAL COM #005H	12108 - 13001	7 5/8	TBD; G.S.	Circulation	1st Stage: 1000 (Class C)) 2nd Stage: 609 (Class H)	83/4	17637	\$1/2	TBD; Minimum: 12801 (200' inside previous casing)	CBL	379.29 (Class H)	63/4		
STRANGER 34 FEDERAL COM #009H	12202 - 12919	7 5/8	Tab; G S.	Circulation	Ist Stage: 1000(Class C) 2nd Stage: 609(Class H)	83/4	17736	\$1/2	TBD; Minimum: 12719 (200' Inside previous casing)	СВГ	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)	83/4	17507	\$1/2	TBD; Minimum: 12833 (200' inside previous casing)	CBL	367 (Class H)	. 4 3/4		
DEAN APQ FEDERAL #001	12850	51/2	7560	CBL	1st Stage: 350 (Class H) 2nd Stage: Lead: 950 sys Pacesetter Lite (Class C) Tail: 150 (Class H))	77/8		300 Casing Splice	plug @ 950-10 @ 8836 w/67		970 - 3100, 75 sx cmt plug 512 t plug @ 9300 - 9500, CIBP @ 1: tached Below),			
PRE-ONGARD WELL #001 (GULF YATES FEDERAL WELL #001)	N/A	N/A	N/A	N/A	N/A									

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

Operator: FIELD:

**GULF OIL CORPORATION** 

WILDCAT LEASE:

**GULF YATES FEDERAL** 

COUNTY: Location:

660 FNL, 1980 FWL of Sec 3

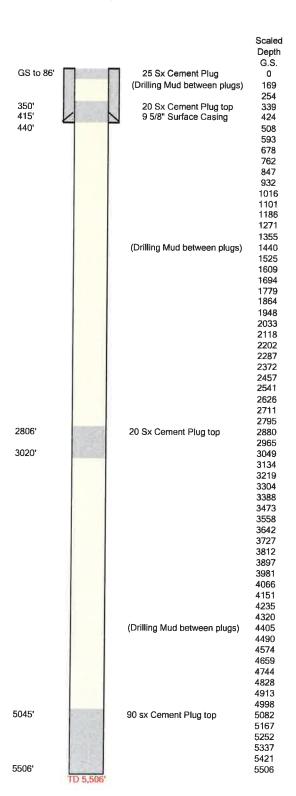
DATE:

12/12/2019

BY: WELL:

F DELEON

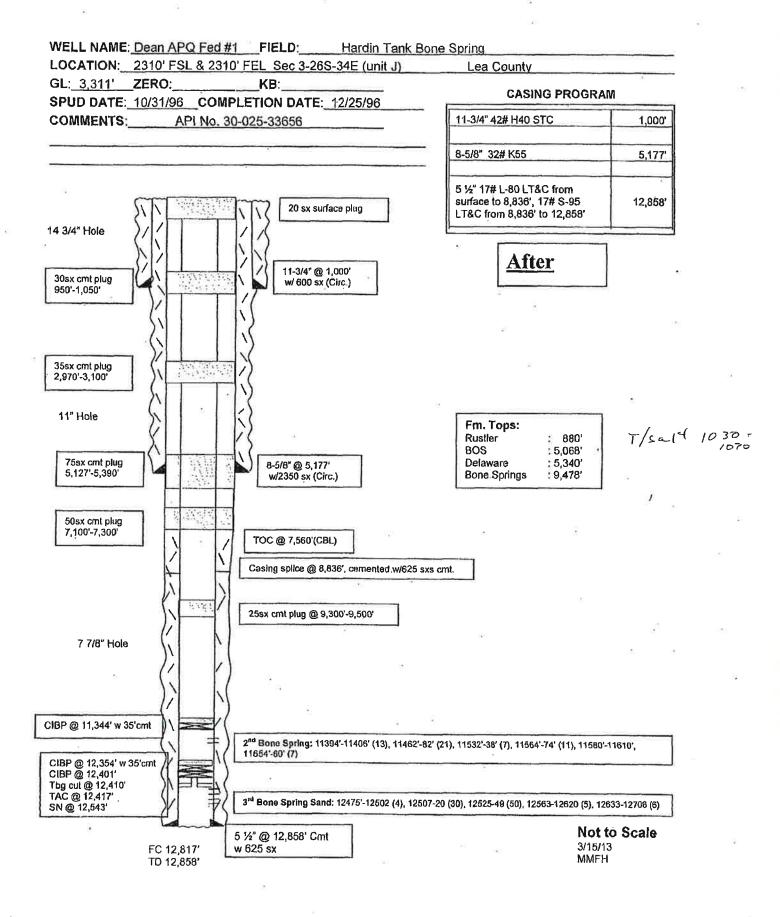
STATE: Survey: **NEW MEXICO** C 26-S, 24-E, Sec 3

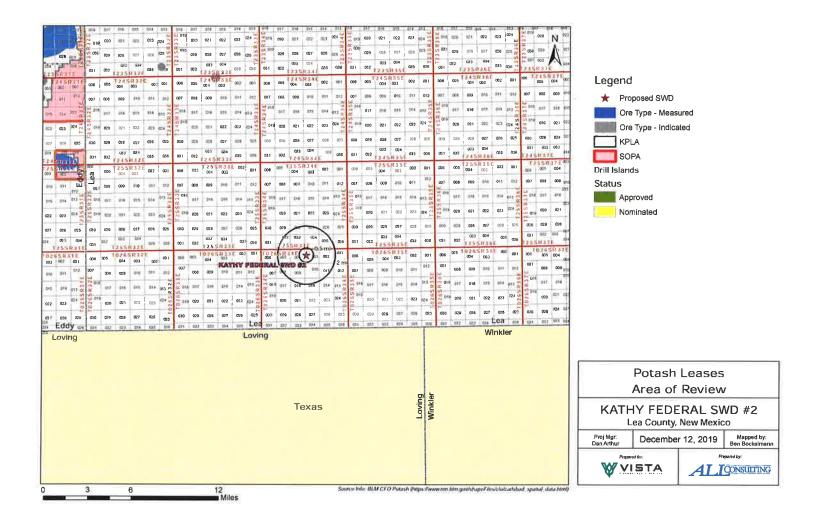


Casing	O.D.	top	bottom	weight	Orld hole	Factor
Conductor						
Surface	9 5/8	10	415	36	11	******
Intermediate						
Production						
Perforations	(Dry F	tole)				

Cement	Slurry	Class	Sacks	Volume	Yield	Fillup	pottom	top
Surface		?	150		1.18		415	
Intermediate								
ntermed. DVT								
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 =	





**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		Well Name	Draw L	County	State
		BD		Fee.	New Mexico
Sample Source	Swab Sa	ımple	Sample #	ddy	1-265-294
Formation			Depth		
Specific Gravity	1.170		SG (	60 °F	1.172
ρΗ	6.30		\$	Sulfides	Absent
Temperature (*F)	70		Reducing	Agents	
Cations					
Sodium (Calc)	***********	in Mg/L	77,962	in PPM	66,520
Calcium		in Mg/L	4,000	in PPM	3,413
Megnesium		in Mg/L	1,200	in PPM	1,024
Soluable fron (FE2)		in Mg/L	10.0	in PPM	•
Anions					
Chlorides		in Mg/L	130,000	in PPM	110,922
Sulfates		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 Solida (Ca	(c)	in Mg/L	213,549	in PPM	182,209
Equivalent NaCl Concentre	ation	in Mg/L	182,868	in PPM	155,031
scaling Tendencies					
Calcium Carbonate index Bebw 500,000	Ramate / 500,	000 - 1,000,000	Possible / Above 1	,000,0 <b>00</b> Probable	507,520
Calcium Sulfate (Gyp) Inde	X			1	000,000
Below 500,000	Remote / 500,0	00 - 10,000,00	Possible / Above 1	0,000,000 Probable	•

Report #

Remarks

3188

RW=.048@70F

Sec 22, T25,5,R28E

Bone Spring

North Permian Basin Region P.O. Box 740 Sundown, TX 79372-0740 (808) 228-8121 Lab Team Leader - Sheliz Hernandez (432) 495-7240

### Water Analysis Report by Baker Petrolite

Company: Sales RDT: 33514.1 Region: PERMIAN BASIN Account Manager: TONY HERNANDEZ (575) 910-7135 ARTESIA, NM Area: 534665 Sample #: PINOCHLE 'BPN' STATE COM 106795 Lease/Platform: Analysis ID #:

Analysis Cost:

\$90.00

Entity (or well #):

UNKNOWN

WELLHEAD Sample Point:

Formation:

Summary	Analysis of Sample 534685 @ 75 F												
Sampling Date: 03/10/11	Anions	mg/i	meq/i	Cations	mg/l	meg/i							
Analysis Date: 03/16/11	Chloride:	109618.6	3081.92	Sodium;	70275,7	3058.82							
Anelyst: SANDRA GOMEZ	Bioarbonate:	2135.0	34.99	Magneslum:	195.0	16.04							
TDD (	Carbonate:	0.0	a.	Calcium:	844.0	42.12							
TDB (mg/l er g/m3): 184911.1	Sulfate:	747.0	15.55	Strontium:	220.0	5.02							
Density (g/cm3, tonne/m3): 1.113 Anion/Cation Statio: 1	Phosphale:			Barlum:	0.8	0.01							
Panomication rano:	Borate:		1	Iron:	6.5	0.23							
	Silicate:		Į	Polassium:	869.0	22.22							
Carbon Dloxide: 0 50 PPM	Hydrogen Suilide:		O PPM	Aluminum: Chromlum:									
Oxygan;	1		_	Copper:									
Comments:	pH at time of sampling:		71	Lead:									
	pH at time of analysis:		ſ	Manganese:	0.100	0.							
	pH used in Calculation	12	7	Nickel:									

Cond	itions		Values C	alculated	at the Give	n Conditi	lons - Amou	ints of Sc	ale in lb/10	00 bbl		
LAME	Gauge Press.	•	elcite GeCO <sub>3</sub>	Gypnum CaSO_22H <sub>2</sub> 0			ydrite a304	-	estite rSO <sub>4</sub>	B:	CO <sub>2</sub>	
	pel	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	pei
80	0	1.05	188.52	-1.20	0.00	-1.18	0.00	-0.11	0.00	0.56	0.29	1.72
100	0	1.10	206.05	-1.29	0.00	-1.20	0.00	-0.15	0.00	0.35	0.29	2.35
120	0	1.12	224.17	-1.38	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	00,0	0.00	0.00	4.21

using the sevently of the scale problem, both the esturation index (31) and emount of scale must be considered.

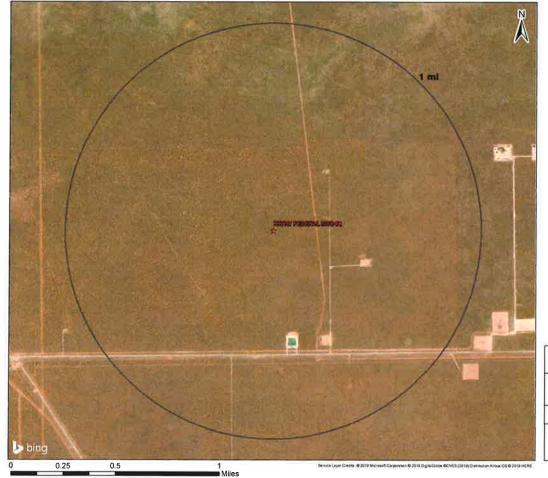
Note 2 Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the Sive scales.

Note 3: The reported GO2 pressure is noturally the calculated GO2 fugacity. It is usually nearly the same as the GO2 partial pressure.

**Injection Formation Water Analyses** 

		90000		10	V= 37			Infe	ction Form	tion Water	Analysis			The second	-				
					10.0		Wester Disp	posal Soluti	ons. LLC - E	elamure Mo	writain Gro	rup Formatio	10			3 000		100000	
Wellname	APS	Latitude	Longitude	Section	Township	Range	Unit.	figns	Etgew	County.	State	Company	Field	Formation	Depth	Tds mgs	Chloride_mgt.	bicarbonate mgi	Sulfate met
NORTH EL MAN UNIT #017	3002508430	12.016605	-103.617691	30	265	336	E	1880N	560W	IIA	NEA.		YL MAR	DELAWARE	4747	254756			210
NORTH EL MAR UNIT #057	30025/08440	12.001946	-103.6131134	33	265	136	f.	1935N	2090W	LEA	NM		EL MAIL	DELAWARE	4777	259554			253
GOEDEKE MOOZ	3002506402	12,059799	-103.5579987	10	265	33E	G	1980N	1980E	UEA	NM:		SALADO DRAW	DELAWARE	5200	293921	184000	85	216
MARSHALL WOOL	3002508358	12.284837	-103.6176724	19	235	3.00	1.4	6605	660W	LEA	NIM.		CRITIZ	DELAWARE	5237	238931			156
NORTH EL MAR LINIT 8022	3002508278	37,011667	-103.6262207	25	265	120	1	19805	1940E	ifA .	NM.		CLMAR	DELAWARE	4743	244815	153500		230
NORTH EL MAR UNIT 8032	3002508291	12.005019	-103.6434479	26	265	121	o	6605	19800	LEA	NM		EL MAR	DELAWARE	4605	254895			
NORTH EL MAR UNIT ROZE	300250#296	37.011654	-101.6571072	76	265	KHE	1.	19805	660W	tfA.	NM		CL MAR	DELAWARE	4565	249479		976	371
NORTH EL MAR UNIT BOLS	3002508308	37.004387	-103.6381102	15	265	32£	A	660N	3301	UfA	NA		EL MARI	DELAWARE	4633	255115			310
COTTON DNAW UNIT 1024	3002508176	12.143189	-103 6650696	10	255	326	X.	19805	1980W	LEA .	NM		PADUCA	DILAWARI	4787	246555			939
COTTON DRAW UNIT #001	3002508182	32.125053	-103.6493573	15	255	321	M	6605	660W	LEA:	NA		PADUCA	DELAWARE	4804	308600		-	- 22
COTTON DRAW UNIT HOO!	3002508182	32.125053	-103 6693573	15	255	320	M	6605	660N	UEA	NA.		PADUCA	DELAWARE	4804	309990			
MONSANTO STATE 1001	3002508196	37.128666	-103.6736145	16	255	376	1	19805	6608	LLA:	NM		PADUCA	DELAWARE	4800	224016		119	463
COTTON DRAW UNIT #004	3002508221	32,131422	-103 6693649	22	255	121	D .	SSON	660W	LEA	NM		PADUCA	DELAWARE	4665	276639	170500		552
G E JORDAN NCT-1 r021	3007598226	32.107822	-103.6704103			120	t)	330N	330W	LIA	NM		PADUCA	DELAWARI	4498	239464			
HANAGAN B FEDERAL 1001	3002508153	32,212124	-101 6601851			326	0	6605	19806	UEA	NA		DOUBLE X	DELAWARE	4955	229878	147200		
HANAGAN B FEBERAL 1001	3007508151	32.212124	-103.6603851	15	245	326	0	5605	1980E	LEA	NM.		DOUBLE X	DELAWARE	4955	229709	142100		

Water Well Map and Well Data



### Legend

★ Proposed SWD

### NMOSE PODs

### Status

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

Water Wells Area of Review

KATHY FEDERAL SWD #2
Lea County, New Mexico

Proj Mgr.
Oan Arthur

December 12, 2019

Mapped by:
Ben Bockelmann

Propured by:
WY15TA

ALICONSULTING

Vista Disposal Solutions, LLC - Kathy Federal SWD #2									
SWD	Water Wells	Owner	Available Contact Information	Usë	Sampling Required	Notes			
					1				

# Attachment 6 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

Seall

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: Kethy Federal SWD SW 14 NW 14, Section 03, Township 26S, Range 34E 2.153' FNL 8 612' FWL Lea County, NM

NAME AND DEPTH OF DISPOSAL ZONE: HOL Canyon (5,390 - 6,135) EXPECTED MAXIMUM INJECTION RATE: 25,000 Bbis/day EXPECTED MAXIMUM INJECTION PRESSURE: 1.078 psi (surface)

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

Additional Information may be obtained by contacting Nate Alleman at \$18-382-7861 #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 10<sup>th</sup> 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 ¼ NW ¼, 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.

Kathy Federal SWD #2 - Notice of Application Recipients									
Entity	Address	City	State	Zip Code					
	andowner & Mineral Owner		N I S						
New Mexico BLM	620 E Greene St.	Carlsbad	NM	88220					
	OCD District	Amin's and							
NMOCD District 1	1625 N. French Drive	Hobbs	NM	88240					
	Leasehold Operators		6 14 713	RIC ST					
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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Devon Energy Production Company, LP 6488 Seven Rivers Hwy. Artesia NM 88210-9134

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Artesia NM 88210-2123

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**OXY Y-1 Company** P.O. Box 27570 Houston TX 77227-7570