				Revised March 23, 2017
RECEIVED: 4/01/2018	REVIEWER:	TYPE: UFX	APP NO:	66225217
•	- Geologic	D OIL CONSERVATI al & Engineering B ncis Drive, Santa F	ION DIVISION Jureau –	
THIS CHECK!		ATIVE APPLICATION		MISIONI DI II SE ANIO
INIS CHECK		UIRE PROCESSING AT THE DIV		VISION ROLES AND
Applicant: Apache Corpor				Number: <u>873</u>
/ell Name: East Blinebry			API: <u>30-02</u>	The second secon
ool: Eunice; BLL TU-DR, S	forth		Pool Co	de: <u>22900</u>
) TYPE OF APPLICATION		rhich apply for [A] neous Dedication	uf	TYPE OF APPLICATION -981
☐ DHC [II] Injection -	ling – Storage – Me C □CTB □PLC	C □PC □OLS e Increase – Enhanc	OLM	APR 02 2018 PHO 1:22
B. Royalty, ov C. Application D. Notification E. Surface ow	rators or lease holde erriding royalty own n requires published n and/or concurren n and/or concurren ner e above, proof of r	ers ners, revenue owne d notice It approval by SLO		FOR OCD ONLY Notice Complete Application Content Complete , and/or,

3) **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is accurate and complete to the best of my knowledge. I also understand that no action will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity,

,	,
	4 1-18
Brian Wood	Date
Print or Type Name	505 466 8120
Black	Phone Number
	brian@permitswest.com
Signature	e-mail Address

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

1.	PURPOSE: XXX Secondary Recovery Pressure Maintenance Disposal Storage Application qualifies for administrative approval? XXX Yes No
II.	OPERATOR: APACHE CORPORATION
	ADDRESS: 303 VETERANS AIRPARK LANE, SUITE 3000, MIDLAND, TX 79705
	CONTACT PARTY: BRIAN WOOD (PERMITS WEST, INC.) PHONE: 505 466-8120
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 XXX No If yes, give the Division order number authorizing the project: R-12981
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. EAST BLINEBRY DRINKARD UNIT 50
VII.	Attach data on the proposed operation, including: 30-025-06583
	 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.
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: BRIAN WOOD TITLE: CONSULTANT
	SIGNATURE: DATE: MAR. 19, 2018
	E-MAIL ADDRESS: brian@permitswest.com
*	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:

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

WELL LOCATION: _								21 S	37 E
	FOC	TAGE LC	OCATION	UNI	T LETTER	SEC	TION	TOWNSHIP	RANGE
	AS IS"	SCHEMAT.	<u>IC</u>						ATA
(no	t to sca	ıle)			Hole Size:	17.5"		Casing Size:	13.375"
		Г	13.375" 48# in 17.5" hole	@ 221'				or	ft ³
333	ion tbg		TOC (275 sx)	= GL (Circ.)	Top of Cement:	SURFACE		Method Determi	ned: CIRCULATED
	production tbg		8.625" 32# @ 3000	,		<u>Ī</u>	ntermediate	Casing	
			in 12.25" hole TOC (2040 sx) = GL	(circ. 400 sx) Hole Size:	12.25"		Casing Size:	8.625"
88					Cemented with:	2040	sx.	or	ft ³
			" 15.5# @ 6490' .875" hole		Top of Cement:	SURFACE		Method Determine	ned: CIRC. 400
		тос	C(350 sx) = 4100' (TS)			1	Production	Casing	
					Hole Size:	7.875"		Casing Size:	5.5"
		paci	ker		Cemented with:	350	SX.	or	ft ³
			Blinebry perfs		Top of Cement:	4100'		Method Determin	ned: TEMP. SURV.
	EN		5537' - 5848'		Total Depth:	6631'	(7.875"	@ 6490'; OF	H 6490' - TD)
							Injection In	terval	
2525		7.875" ope	en hole		UNIT LETTER SECTION TOWNSHIP RANGE				

INJECTION WELL DATA SHEET

VELL NAME & NU	JMBER:	EA	ST BLINEBRY DRIN	KARD UN	IT 50				
WELL LOCATION:			& 1980' FEL		В	1	4	21 S	37 E
	FOC	TAGE	ELOCATION	UN	IT LETTER	SECT	ΓΙΟΝ	TOWNSHIP	
WELLBORE SCHEMATIC							VELL CO Surface C	NSTRUCTION DATE	<u> [[A</u>
	"PROPOSI					55 62			
son son	(not to so	cale)	Data Data		Hole Size:	17.5"		Casing Size:1	13.375"
	5490'	T	13.375" 48# @ in 17.5" hole	221'	Cemented with:	275	sx.	or	ft ³
500g 5000 5000	@ 6q		100 (273 \$X) =	de (circ.)	Top of Cement: _	SURFACE		Method Determine	d: CIRCULATED
	will set 2.375" IPC tbg @ 5490		8.625" 32# @ 3000'			<u>In</u>	termediate	Casing	
	set 2.3		in 12.25" hole $TOC (2040 \text{ sx}) = GL (c)$	circ. 400 sx)	Hole Size:	12.25"		Casing Size: 8	.625"
888	will s	***			Cemented with:	2040	sx.	or	ft ³
			5.5" 15.5# @ 6490' in 7.875" hole		Top of Cement:	SURFACE		Method Determine	d: CIRC. 400 S
			TOC (350 sx) = 4100' (TS)		Production Casing				
will set packer @ 5490'					Hole Size:	7.875"		Casing Size:	5.5"
ill sqz Blinebry					Cemented with:	350	SX.	or	ft ³
5537' - 5693' then ≪ Il perf Blinebry	electron.				Top of Cement:	4100'		Method Determined	d: TEMP. SURV.
5578' - 6024'					Total Depth:	6631' (7.875"	@ 6490'; OH	6490' - TD)
will set CIBP + 2 sx cmt						Ī	njection Ir	nterval	
@ 6038'		7.875	" open hole			55	78 feet	to 6024'	
7.875" open hole 6490' - 6631' TD 6631' Drinkard			- 6631'			1 A C 1 T A		le; indicate which)	

INJECTION WELL DATA SHEET

Tul	oing Size: 2-3/8" J-55 4.7# Lining Material: INTERNAL PLASTIC COAT
Ty	pe of Packer: LOCK SET INJECTION
Pac	cker Setting Depth: _≈5490 '
Otl	ner Type of Tubing/Casing Seal (if applicable):
	Additional Data
1.	Is this a new well drilled for injection? Yes XXX No
	If no, for what purpose was the well originally drilled? DRINKARD OIL WELL
2.	Name of the Injection Formation: _BLINEBRY
3.	Name of Field or Pool (if applicable):EUNICE; BLI-TU-DR, NORTH (POOL CODE 22900
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) usedYES
	BLINEBRY (5537' - 5848') & DRINKARD OPEN HOLE (6490' - 6631')
5.	Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:
	OVER: SEVEN RIVERS (2850'), QUEEN (3505'), GRAYBURG (3745'),
	SAN ANDRES (3995')
	UNDER: TUBB (6025'), DRINKARD (6489'), ABO (6725')

I. Goal is to convert a 6631' deep oil well to a water injection well to increase oil recovery. The well will inject (5578' - 6024') into the Blinebry, which is part of the Eunice; Blinebry-Tubb-Drinkard, North Pool (aka, Eunice; BLI-TU-DR, North and pool code = 22900).

Well and zone are in the East Blinebry Drinkard Unit (Case Numbers 13503 and 13504, Order Numbers R-12394 and R-12395) that was formed in 2005 by Apache. Eight subsequent WFX approvals (WFX-819, -842, -904, -909, -963, -969, -977, and -978) have been issued to date. This is an active water flood. Twenty-four water injectors are in the Unit. Injection increase to 2100 psi was authorized (IPI-292) in 2008.

II. Operator: Apache Corporation (OGRID #873)

Operator phone number: (432) 818-1167

Operator address: 303 Veterans Airpark Lane, Suite 3000

Midland, TX 79705

Contact for Application: Brian Wood (Permits West, Inc.)

Phone: (505) 466-8120

III. A. (1) Lease: fee (Smith)

Lease Size: 80 acres (see Exhibit A for maps and C-102)

Closest Lease Line: 660'

Lease Area: W2NE4 Section 14, T. 21 S., R. 37 E. et al

Unit Size: 2080 acres BLM Unit #: NMNM-112723X

Closest Unit Line: 660'

Unit Area: <u>T. 21 S., R. 37 E.</u>

Section 1: Lots 11-15, W2SE4, & SW4

Section 11: E2 & NW4

Sections 12: W2 & W2E2

Section 13: W2, W2NW4, & NWSE

Section 14: NE4 & E2SE4

A. (2) Surface casing (13.375", 48#, H-40) is set at 221' in a 17.5" hole and cemented to GL (circulated) with 275 sacks.



Intermediate casing (8.625", 32#, H-40) is set at 3000' in a 12.25" hole and cemented to GL (400 sacks circulated) with 2040 sacks.

Production casing (5.5", 15.5#, J-55) is set at 6490' in a 7.875" hole and cemented to 4100' (temperature survey) with 350 sacks.

Well is completed open hole (7.875") from 6490' to 6631'.

CIBP will be set at ≈ 6038 ' and topped with 2 sacks cement. Mechanical integrity of the casing will be hydraulically pressure tested to 500 psi for 30 minutes.

- A. (3) Tubing will be 2-3/8" J-55 (4.7# IPC or 5.3# fiber lined). Setting depth will be ≈5490'. (Disposal interval will be 5578' 6024'.)
- A. (4) A lock set injection packer will be set at \approx 5490' (\approx 88' above the highest proposed perforation of 5578').
- B. (1) Injection zone will be the Blinebry carbonate. It is part of the Eunice; Blinebry-Tubb-Drinkard, North Pool. Fracture gradient is ≈0.56 psi/ft.
- B. (2) Injection interval will be from 5578' to 6024' in a cased hole. Well has been perforated in the Blinebry (5537' 5794'). Drinkard is open hole (6490' 6631').
- B. (3) Well was drilled in 1953 and completed in 1954 as a Drinkard oil well. Blinebry was added in 1957.
- B. (4) Well is currently perforated in Blinebry (5537' 5848'). Drinkard is open hole (6490' 6631'). Drinkard will be isolated and well will be perforated in Blinebry from 5578' to 6024' with 2 shots per foot. Shot diameter = 0.40". Perforation and isolation history follows on the next page.



DEPTH	ZONE	ACTION
5490'	Glorieta	will set injection packer
5537' - 5848'	Blinebry	perforated in 1986
5537' - 5693'	Blinebry	will squeeze w/ Class C
5578' – 6024'	Blinebry	will perforate
5748' - 5794'	Blinebry	perforated in 1957
6038'	Tubb	will set CIBP + 2 sx cmt
6475'	Drinkard	set production packer in 1963
6490' - 6631'	Drinkard	completed open hole in 1954

B. (5) Next higher potential oil or gas zone in the area of review is the Grayburg. Its bottom is at ≈3995'. Injection will occur in the Blinebry. Highest perforation will be 5578'.

Next lower oil or gas zone in the area of review is the Tubb, part of the same Eunice; Blinebry-Tubb-Drinkard, North Pool and same Unit. Tubb top is at 6025'. Deepest perforation will be 6024'.

- IV. This is not a horizontal or vertical expansion of an existing injection project. Case files 13503 and 13504 describe the water flood.
- V. Exhibit B shows and tabulates all 30 existing wells (25 oil wells + 4 injectors + 1 P&A) within a half-mile radius, regardless of depth. Exhibit C shows all 626 existing wells (429 oil or gas wells + 96 injection or disposal wells + 63 P&A wells + 37 water supply wells + 1 brine well) within a two-mile radius.

Exhibit D shows all leases (BLM, fee) within a half-mile radius. Exhibit E shows all lessors (BLM, fee, and state) within a two-mile radius. Leases within a half-mile are on the next page.



Aliquot Parts in Area of Review (T21S, R37E)	Lessor	Lease	Lessee(s) of Record	Blinebry, Tubb, or Drinkard Operator
SE4 Sec. 11	BLM	NMNM-125057	Apache, BP, Chevron	Apache
NESW & S2SW4 Sec. 11	fee	Nolan	Apache	Apache
SWSW Sec. 12	fee	Chesher	Apache	Apache
NWNW Sec. 13	fee	Gulf Bunin	Apache	Apache
SWNW Sec. 13	BLM	NMNM-125057	Apache, BP, Chevron	Apache
E2NE4 & NESE Sec. 14	BLM	NMNM-125057	Apache, BP, Chevron	Apache
W2NE4 Sec. 14	fee	Smith	Apache	Apache
E2NW4 Sec. 14	fee	Andrews	Apache	Apache
W2NW4 Sec. 14	fee	Owen	Apache	Apache
NESW Sec. 14	fee	Eubank	J R Cone	J R Cone
NWSE Sec. 14	fee	Naomi Keenum	Chevron	Chevron

- VI. Thirty existing wells are within a half-mile. All 30 wells penetrated the Blinebry. The penetrators include 25 oil wells, 4 injectors, and 1 P&A well. A table abstracting the construction details and histories of the penetrators is in Exhibit F. Exhibit G is a diagram of the P&A well.
- VII. 1. Average injection rate will be ≈400 bwpd. Maximum injection rate will be 500 bwpd.
 - 2. System is closed. Well will be tied into the existing unit pipeline system.
 - 3. Average injection pressure will be ≈2000 psi. Maximum injection pressure will be 2100 psi (IPI-292).



4. Water source will be water pumped from existing San Andres water supply wells. A comparison of nearby analyses and San Andres follows. No compatibility problems have reported from the 17,047,373 barrels that have been injected in the Unit to date.

	NEDU Injection Pump Discharge	San Andres 919-S
Anion/Cation Ratio	1.0	N/A
Barium	0.1 mg/l	0.38 mg/l
Bicarbonate	671.0 mg/l	562.0 mg/l
Calcium	1,099.0 mg/l	608.0 mg/l
Carbon Dioxide	80.0 ppm	80.0 ppm
Chloride	10,086.0 mg/l	6,200.0 mg/l
Hydrogen Sulfide	90.0 ppm	408.0 ppm
Iron	0.3 mg/l	0.0 mg/l
Magnesium	439.0 mg/l	244.0 mg/l
Manganese	N/A	0.01 mg/l
рН	7.5	6.49
Potassium	115.0 mg/l	N/A
Sodium	5,799.5 mg/l	3,909.0 mg/l
Strontium	28.0 mg/	19.0 mg/l
Sulfate	2,465.0 mg/l	1,750.0 mg/l
Total Dissolved Solids	20,702.9 mg/l	13,273.0 mg/l

5. The Unit has 91 oil wells. Project goal is to increase production.

VIII. The Unit is on the north end of a north-northwest to south-southeast trending anticline. It is part of the Penrose Skelly trend and parallels the west edge of the Central Basin Platform. Dips are 1° to 2°. The injection interval is Leonardian in age, 446' thick, and consists of tan to dark gray shallow marine carbonates, many of which have been dolomitized. Core filling and replacement anhydrite is common in the limestone. Nodular anhydrite is common in the dolomite. Five per cent porosity cut off is used to determine pay zones. Impermeable shale and carbonates vertically confine the interval.

There are 105 Blinebry injection wells in New Mexico. The East Blinebry Drinkard Unit shares its west border with Apache's Northeast Drinkard Unit. Three



other similar water floods (West Blinebry Drinkard Unit, Northeast Drinkard Unit, and Warren Blinebry Unit) are within a mile of the East Blinebry Drinkard Unit. The slightly more distant (2 miles) Central Drinkard Unit has been water flooded since the 1960s.

Formation depths are:

Quaternary = 0'
Rustler = 1315'
Tansill = 2410'
Seven Rivers = 2850'
Queen = 3505'
Grayburg = 3745'
San Andres = 3995'
Glorieta = 5200'
Blinebry = 5578'
injection interval = 5578' - 6024'
Blinebry marker = 5662'
Tubb = 6025'
Drinkard = 6489'
TD = 6631'

According to Office of the State Engineer records (Exhibit H), twelve fresh water wells are within a mile radius. Deepest of the 19 wells is 136'. Two water wells within 3900' were sampled (Exhibit H).

The same records show the deepest water well within 2 miles is 8130'. Three water wells within a 2-mile radius penetrated the Blinebry. All three are oil wells that were plugged back and converted to San Andres water supply wells for Apache water floods. Two are active and one is P&A (30-025-06606). Otherwise, deepest water well within 2-miles is 136'. The three deep water wells and their OSE and NMOCD identifying numbers are:

CP 00729 POD1 = 30-025-06606 CP 00731 POD 1 = 30-025-06742 CP 00732 POD1 = 30-025-06737

There will be >4,000' of vertical separation and hundreds of feet of salt and anhydrite between the bottom of the only likely underground fresh water source

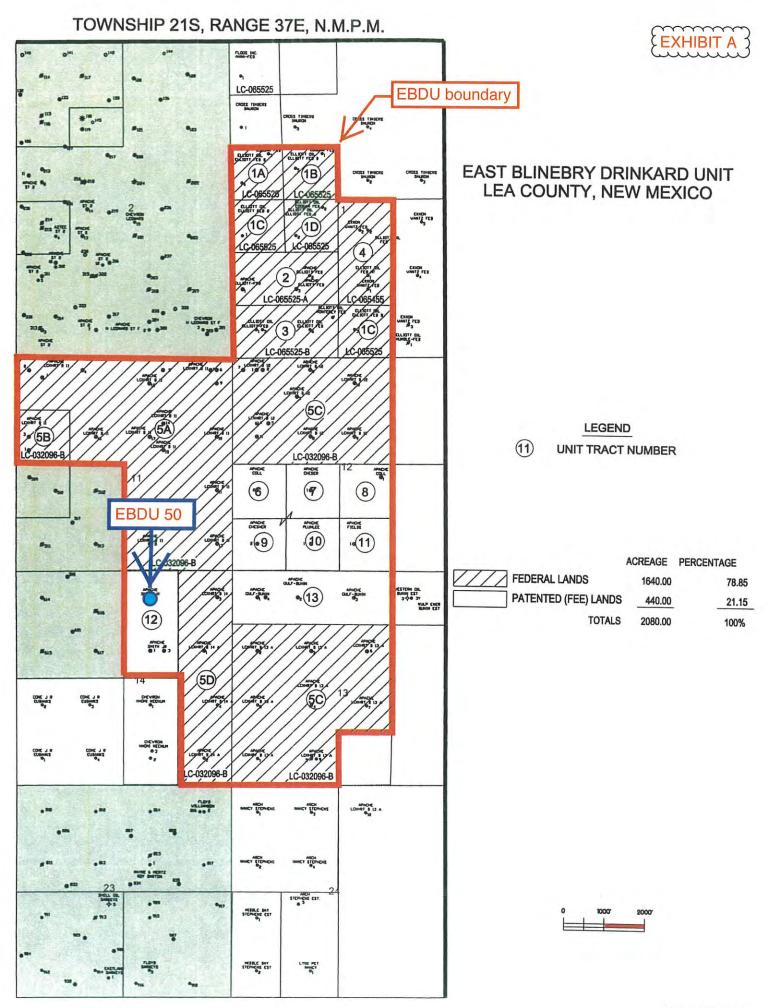


(Quaternary redbeds) and the top of the injection interval. Well is 1.5 miles south of the Ogallala aquifer (Exhibit H).

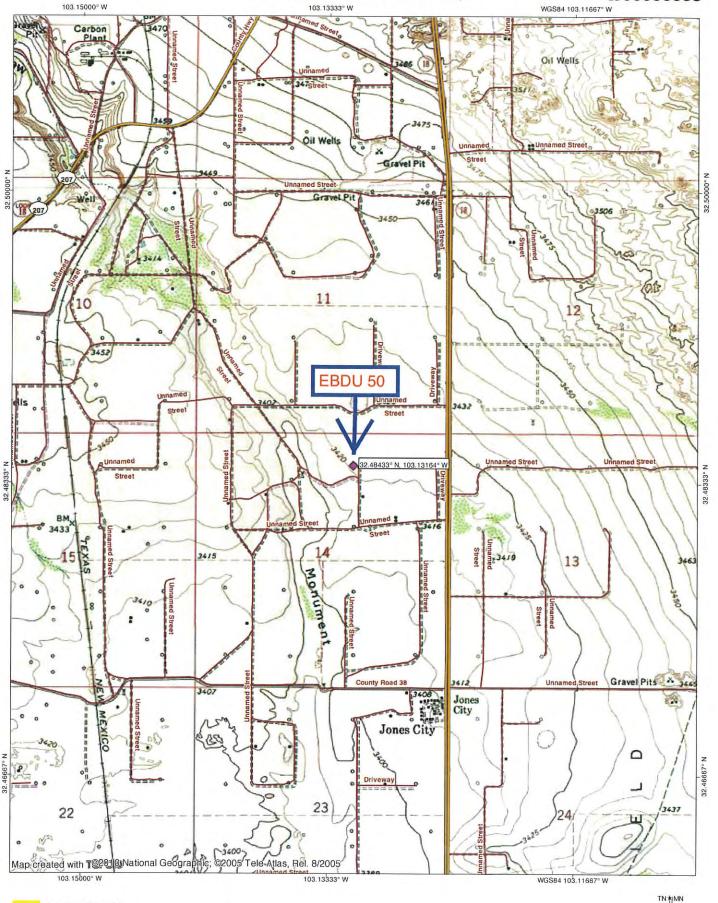
There are 214 active or new injection wells and 8 active disposal wells in the Blinebry-Tubb-Drinkard, San Andres, Grayburg, Queen, Seven Rivers, or Yates in T. 21 S., R. 37 E.

- IX. The well will be stimulated with acid to clean out scale or fill.
 - X. No logs are on file with NMOCD.
 - XI. Analyses from two fresh water wells within ≤3900' are in Exhibit H.
 - XII. Apache (Exhibit I) is not aware of any geologic or engineering data that may indicate the injection interval is in hydrologic connection with any underground sources of water. Closest Quaternary faults are ≈ 109 miles southwest (Exhibit I). There are 105 Blinebry injection wells in New Mexico. Previous water flood expansion approvals in the Unit are WFX-819, -842, -904, -909, -963, -969, -977, and -978.
 - XIII. A legal ad (see Exhibit J) was published on March 14, 2018. Notice (this application) has been sent (Exhibit K) to the surface owner (James Bryant), government lessors (BLM), lessees (BP, Chevron USA), and all operators (Chevron USA, J R Cone) within a half-mile regardless of depth.











0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 miles 0.0 0.5 1.0 km

TN★MN 6.5° 03/17/18

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EW MEXICO OIL CONSERVATION

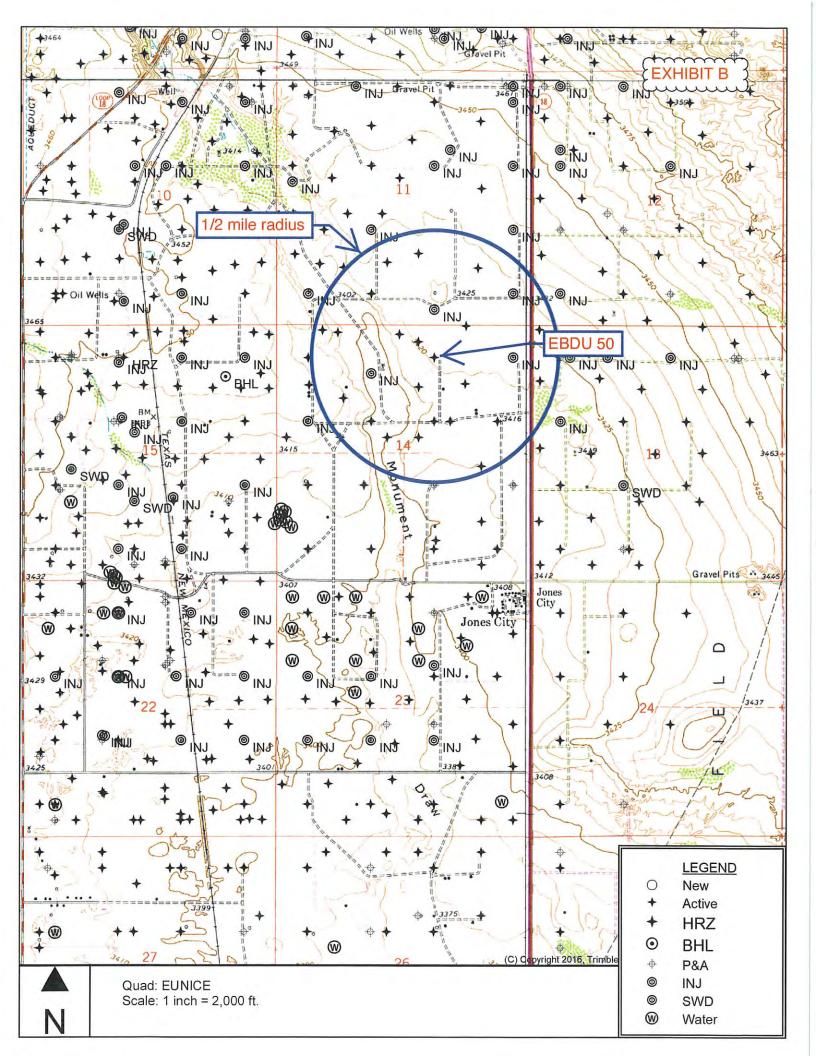
MMISSION

FORM C-128 Revised 5/1/57

WELL LOCATION AND ACREAGE DEDICATION PLAT

SEE INSTRUCTIONS FOR COMPLETING THIS FORM ON THE REVERSE SIDE

perator					
ັນ	mell U.1 Com	parij	Lease	Min off	Well No.
nit Letter B	Section 14	Township 215	Range 37E	County	98.
ctual Footage Lo					
660	feet from the	line and		eet from the	line
round Level Elev 3410'		ormation Dr ma er ä	Pool Drank	ET.C	Dedicated Acreage:
who has the rit another, 165— If the answer to wise? YES	sht to drill into an 3-29 (e) NMSA 19 6 question one is w()	d to produce from any poo 35 Comp.)	of and to appropriate the of all the owners been of Consolidation	e production either j	. ("Owner" means the person for himself and nmunitization agreement or other-
wner			Land Descr	iption	
	· · · · · · · · · · · · · · · · · · ·	SECTION B		i i i	CERTIFICATION
				Pos Disi	Original Signed R. A. LOWERY R. R. A. LOWERY R. R. A. LOWERY R. R. LOWERY R. R. LOWERY R. R. R. LOWERY R. R.
				sho plot surv sup and	creby certify that the well location wn on the plat in SECTION B was ted from field notes of actual veys made by me or under my ervision, and that the same is true correct to the best of my knowledge belief.
				Date	e Surveyed
	i I				istered Professional Engineer or Land Surveyor

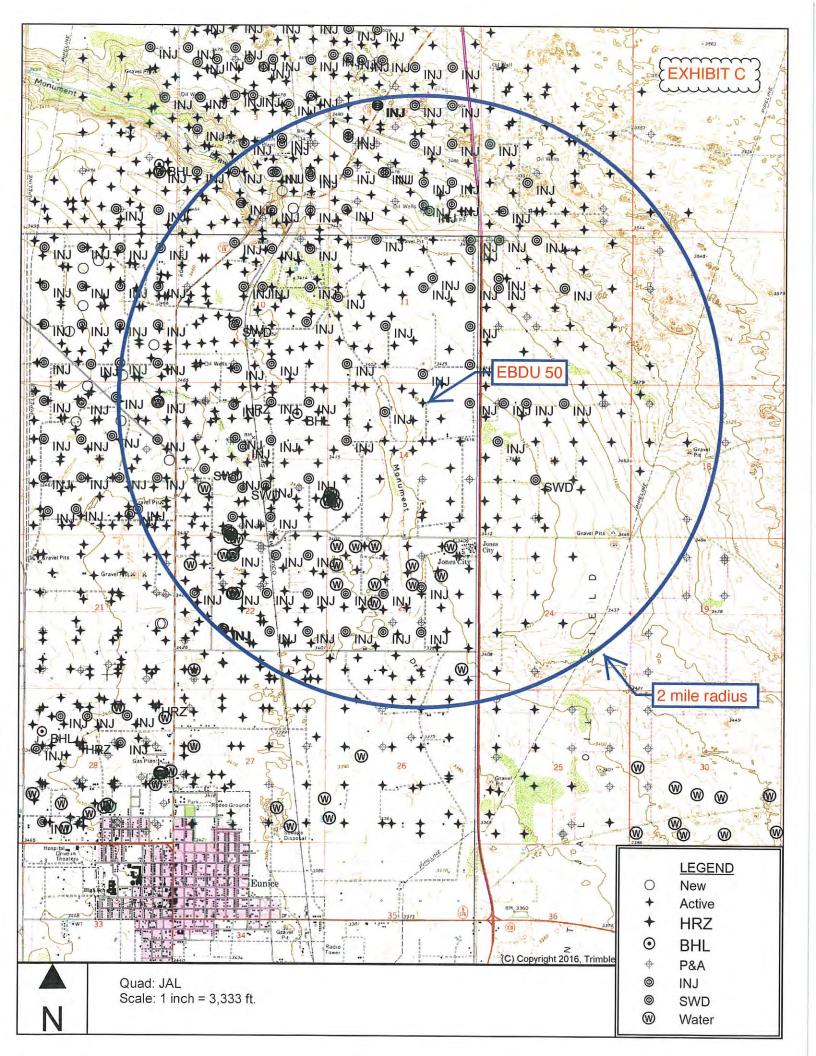


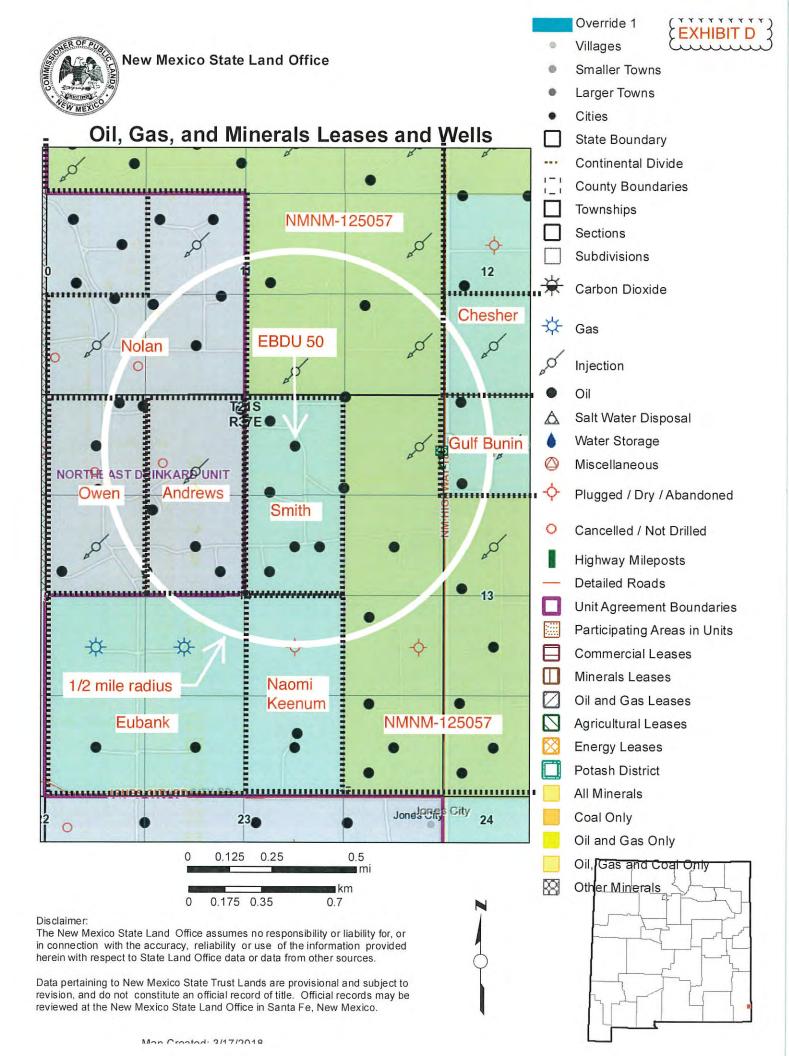
SORTED BY DISTANCE FROM EBDU 50

API	OPERATOR	WELL	WELL	UNIT- SECTION- T21S-R37E	TVD	ZONE	FEET FROM EBDU 50
3002536810	Apache	EBDU 052	0	B-14	8001	Eunice; Bli-Tu- Dr, N	468
3002538113	Apache	EBDU 060	0	B-14	6875	Eunice; Bli-Tu- Dr, N	698
3002539057	Apache	EBDU 081	0	B-14	6925	Eunice; Bli-Tu- Dr, N	757
3002537249	Apache	NEDU 529	0	C-14	6875	Eunice; Bli-Tu- Dr, N	851
3002539674	Apache	EBDU 080	0	A-14	6815	Eunice; Bli-Tu- Dr, N	901
3002506478	Apache	EBDU 017	1	0-11	7577	Eunice; Bli-Tu- Dr, N	990
3002506582	Apache	EBDU 049	0	G-14	7573	Eunice; Bli-Tu- Dr, N	1320
3002506581	Apache	NEDU 616	1	C-14	7743	Eunice; Bli-Tu- Dr, N	1336
3002506584	Apache	EBDU 051	0	G-14	5850	Eunice; Bli-Tu- Dr, N	1361
3002539275	Apache	EBDU 089	0	G-14	6905	Eunice; Bli-Tu- Dr, N	1651
3002506575	Apache	EBDU 045	1	A-14	5900	Eunice; Bli-Tu- Dr, N	1658
3002506580	Apache	NEDU 617	0	F-14	6613	Eunice; Bli-Tu- Dr, N	1849
3002506533	Apache	NEDU 513	0	N-11	6711	Eunice; Bli-Tu- Dr, N	1850
3002537724	Apache	NEDU 630	0	F-14	6751	Eunice; Bli-Tu- Dr, N	1870
3002506573	Apache	EBDU 043	0	H-14	6648	Eunice; Bli-Tu- Dr, N	1872
3002539406	Apache	EBDU 087	0	P-11	6950	Eunice; Bli-Tu- Dr, N	2050
3002534741	Apache	NEDU 621	0	F-14	6820	Eunice; Bli-Tu- Dr, N	2057
3002534740	Apache	NEDU 518	0	D-14	6860	Eunice; Bli-Tu- Dr, N	2066
3002506528	Apache	EBDU 022	Ţ.	P-11	5900	Eunice; Bli-Tu- Dr, N	2119
3002538501	Apache	EBDU 070	0	D-13	6950	Eunice; Bli-Tu- Dr, N	2187
3002538536	Apache	EBDU 071	0	D-13	7000	Eunice; Bli-Tu- Dr, N	2205

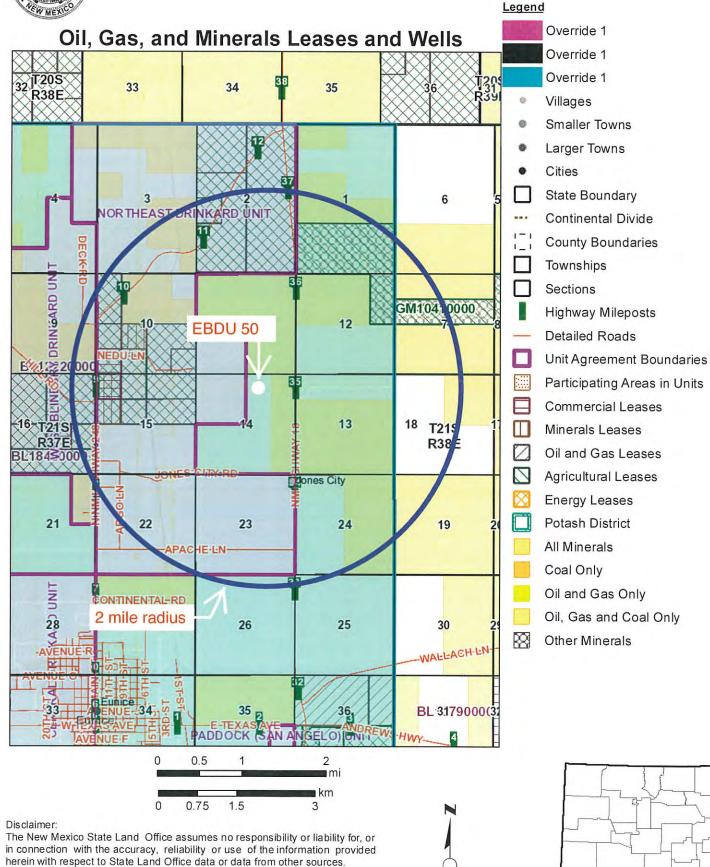
SORTED BY DISTANCE FROM EBDU 50

3002537673	Apache	NEDU 528	0	N-11	6900	Eunice; Bli-Tu- Dr, N	2242
3002538234	Apache	EBDU 063	0	J-11	6968	Eunice; Bli-Tu- Dr, N	2244
3002541168	Apache	NEDU 565	0	D-14	6945	Eunice; Bli-Tu- Dr, N	2408
3002538280	Apache	EBDU 061	0	I-14	6875	Eunice; Bli-Tu- Dr, N	2421
3002536804	Apache	NEDU 626	0	F-14	6850	Eunice; Bli-Tu- Dr, N	2553
3002506579	Apache	NEDU 614	0	D-14	7614	Eunice; Bli-Tu- Dr, N	2622
3002506530	Apache	EBDU 024	0	J-11	6760	Eunice; Bli-Tu- Dr, N	2640
3002506577	Chevron	Naomi Keenum 001	P&A	J-14	7325	Eunice; Bli-Tu- Dr, N	2640
3002534885	Apache	NEDU 517	0	N-11	6860	Eunice; Bli-Tu- Dr, N	2644









Data pertaining to New Mexico State Trust Lands are provisional and subject to revision, and do not constitute an official record of title. Official records may be reviewed at the New Mexico State Land Office in Santa Fe, New Mexico.

WELL	SPUD	TVD	POOL	WELL TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	тос	HOW TOC DETERMINED
EBDU 052	12/10/04	8001	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1274	575 sx	GL	Circ 121 sx
30-025-36810					7.875	5.5	6850	1100 sx	1290	No report
B-14-21S-37E										
EBDU 060	5/5/07	6875	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1312	600 sx	GL	Circ
30-025-38113					7.875	5.5	6875	1100 sx	40	CBL
B-14-21S-37E										
EBDU 081	9/26/08	6925	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1375	700 sx	GL	Circ
30-025-39057					7.875	5.5	6925	1600 sx	114	CBL
B-14-21S-37E										
NEDU 529	7/7/05	6875	Eunice; Bli-Tu-Dr. N	0	12.25	8.625	1198	575 sx	GL	Circ 128 sx
30-025-37249					7.875	5.5	6898	1300 sx	150	CBL
C-14-21S-37E										

EBDU 080	3/19/10	6815	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1352	700 sx	GL	Circ
30-025-39674					7.875	5.5	6815	1150 sx	150	No report
A-14-21S-37E										
EBDU 017	6/27/53	7577	Eunice; Bli-Tu-Dr, N	J.	17.5	13.375	268	2550 sx	GL	Cîrc
30-025-06478					12.25	9.625	2996	2100 sx	GL	Circ
O-11-21S-37E					8.75	7	7576	861 sx	3380	No report
EBDU 049	3/14/52	7573	Eunice; Bli-Tu-Dr, N	0	17.25	13.375	205	250 sx	GL	Circ 65 sx
30-025-06582					11	8.625	3000	2400 sx	GL	Circ
G-14-21S-37E					7.875	5.5	6808	300 sx	5423	CBL
NEDU 616	11/13/52	7743	Eunice; Bli-Tu-Dr, N	Ē	17.5	13.375	222	250 sx	GL	Circ 50 sx
30-025-06581					11	8.625	3001	2000 sx	GL	Circ 400 sx
C-14-21S-37E					7.875	5.5	6940	450 sx	4985	Temp Survey

EBDU 051	10/5/57	5850	Eunice; Bli-Tu-Dr, N	0	17	13.375	271	300 sx	GL	Circ 25 sx
30-025-06584					11	8.625	2985	1600 sx	GL	Circ 70 sx
G-14-21S-37E					7.875	5.5	5837	375 sx	4119	No report
EBDU 089	8/23/09	6905	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1345	650 sx	GL	Circ
30-025-39275					7.875	5.5	6905	1150 sx	GL	Circ
G-14-21S-37E										
EBDU 045	8/18/56	5900	Eunice; Bli-Tu-Dr, N	10	No report	8.625	1411	725 sx	GL	Circ
30-025-06575					No report	5.5	5899	2575 sx	GL	Circ
A-14-21S-37E										
NEDU 617	8/4/52	6613	Eunice; Bli-Tu-Dr, N	0	17	13.375	214	250 sx	GL	Circ 60 sx
30-025-06580					11	8.625	3000	1800 sx	375	Temp Survey
F-14-21S-37E					7.875	5.5	6563	800 sx	2768	TOL

7							 	1		
NEDU 513	5/12/55	6711	Eunice; Bli-Tu-Dr. N	0	13.75	10.75	254	250 sx	GL	Circ
30-025-06533					9.875	7.625	3049	484 sx	700	No report
N-11-21S-37E					7.625	5.5	6479	1280 sx	GL	Circ
NEDU 630	5/11/06	6751	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1290	500 sx	GL	70 sx
30-025-37724					7.875	5.5	6751	900 sx	150	CBL
F-14-21S-37E										
EBDU 043	10/23/52	6648	Eunice; Bli-Tu-Dr, N			13.375	250	250 sx	GL	Circ
30-025-06573						9.625	3149	1570 sx	550	Temp Surv
H-14-21S-37E						7	6583	625 sx	3250	Temp Surv
EBDU 087	8/15/09	6950	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1390	650 sx	GL	Circ
30-025-39406					7.875	5.5	6950	1000 sx	GL	Circ
P-11-21S-37E										
		4								

NEDU 621	6/16/00	6820	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1261	460 sx	GL	Circ 81 sx
30-025-34741					7.875	5.5	6820	1425 sx	GL	Circ 116 sx
F-14-21S-37E										
NEDU 518	6/1/00	6860	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1269	460 sx	GL	Circ 125 sx
30-025-34740					7.875	5.5	6860	1400 sx	GL	Circ 120 sx
D-14-21S-37E										
EBDU 022	6/15/56	5900	Eunice; Bli-Tu-Dr, N	Í	12.25	8.625	1400	750 sx	GL	Circ
30-025-06528					8.625	5.5	5899	3200 sx	2250	CBL
P-11-21S-37E										
EBDU 070	1/12/08	6950	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1390	650 sx	GL	Circ
30-025-38501					7.875	5.5	6950	1150 sx	84	CBL
D-13-21S-37E										

EBDU 071	1/30/08	7000	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1407	650 sx	GL	Circ
30-025-38536					7.875	5.5	7000	1200 sx	50	CBL
D-13-21S-37E										
	20									
NEDU 528	2/24/06	6900	Eunice; Bli-Tu-Dr. N	0	12.25	8.625	1230	525 sx	GL	Circ 104 sx
30-025-37673					7.875	5.5	6900	1325 sx	190	CBL
N-11-21S-37E										
EBDU 063	5/26/07	6968	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1321	600 sx	GL	Circ
30-025-38234					7.875	5.5	6968	1050 sx	70	CBL
J-11-21S-37E										
NEDU 565	9/8/13	6945	Eunice; Bli-Tu-Dr, N	0	11	8.875	1285	475 sx	GL	Circ 64 sx
30-025-41168					7.875	5.5	6955	1350 sx	GL	Circ 199 sx
D-14-21S-37E							0			
								1		

4/26/07	6875	Eunice; Bli-Tu-Dr, N	О	12.25	8.625	1325	600 sx	GL	Circ
				7.875	5.5	6875	1050 sx	100	CBL
10/29/04	6850	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1275	600 sx	GL	Circ 141 sx
				7.875	5.5	6850	1150 sx	137	No report
4/8/50	7614	Eunice; Bli-Tu-Dr, N	0	17.25	13.375	1350	150 sx	GL	Circ
				11	8.625	2930	800 sx	1350	Temp Survey
				7.875	5.5	3153	875 sx	3152	Temp Survey
1/12/60	6760	Eunice; Bli-Tu-Dr, N	0	17.5	13.375	307	260 sx	GL	Circ
				12.25	9.625	2995	1150 sx	2000	Calc.
				8.75	7	6760	500 sx	3000	Calc.
	10/29/04	10/29/04 6850 4/8/50 7614	10/29/04 6850 Eunice; Bli-Tu-Dr, N 4/8/50 7614 Eunice; Bli-Tu-Dr, N	10/29/04 6850 Eunice; Bli-Tu-Dr, N O 4/8/50 7614 Eunice; Bli-Tu-Dr, N O	7.875 10/29/04 6850 Eunice; Bli-Tu-Dr, N O 12.25 4/8/50 7614 Eunice; Bli-Tu-Dr, N O 17.25 1/12/60 6760 Eunice; Bli-Tu-Dr, N O 17.5 1/12/50 17.5	7.875 5.5 10/29/04 6850 Eunice; Bli-Tu-Dr, N O 12.25 8.625 4/8/50 7614 Eunice; Bli-Tu-Dr, N O 17.25 13.375 1/12/60 6760 Eunice; Bli-Tu-Dr, N O 17.5 13.375 1/12/60 6760 Eunice; Bli-Tu-Dr, N O 17.5 9.625	7.875 5.5 6875 7.875 5.5 6875 10/29/04 6850 Eunice; Bli-Tu-Dr, N O 12.25 8.625 1275 7.875 5.5 6850 4/8/50 7614 Eunice; Bli-Tu-Dr, N O 17.25 13.375 1350 1/12/60 6760 Eunice; Bli-Tu-Dr, N O 17.5 13.375 307	7.875 5.5 6875 1050 sx 10/29/04 6850 Eunice; Bli-Tu-Dr, N O 12.25 8.625 1275 600 sx 7.875 5.5 6850 1150 sx 7.875 5.5 6850 1150 sx 4/8/50 7614 Eunice; Bli-Tu-Dr, N O 17.25 13.375 1350 150 sx 11 8.625 2930 800 sx 7.875 5.5 3153 875 sx 1/12/60 6760 Eunice; Bli-Tu-Dr, N O 17.5 13.375 307 260 sx	7.875 5.5 6875 1050 sx 100 10/29/04 6850 Eunice; Bli-Tu-Dr, N O 12.25 8.625 1275 600 sx GL 7.875 5.5 6850 1150 sx 137 4/8/50 7614 Eunice; Bli-Tu-Dr, N O 17.25 13.375 1350 150 sx GL 11 8.625 2930 800 sx 1350 7.875 5.5 3153 875 sx 3152 1/12/60 6760 Eunice; Bli-Tu-Dr, N O 17.5 13.375 307 260 sx GL

Naomi Keenum 001	12/16/52	7325	Eunice; Bli-Tu-Dr. N	P & A	17.25	12.75	200	250 sx	GL	Circ
30-025-06577					11	8.625	2999	2025 sx	GL	Circ 24 sx
J-14-21S-37E					7.875	5.5	7325	695 sx	3098	Temp Survey
NEDU 517	5/17/00	6860	Eunice; Bli-Tu-Dr. N	0	12.25	8.625	1341	460 sx	GL	Circ 96 sx
30-025-34885					7.875	5.5	6860	1340 sx	GL	Circ 125 sx
N-11-21S-37E										



New Mexico Office of the State Engineer EXHIBIT H

Water Column/Average Depth to Water

(A CLW#### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is

POD

closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

		POD													
DOD Name Land	G-1	Sub-	0		Q			TT.					o Edizable co		Water
POD Number CP 00137 POD1	Code	CP	County LE					Tws 21S	Rng 37E	X 676862	Y 3595783*		epthWellDept 65	hWater C	olumn
CP 01185 POD2		CP	LE		1	3	14	218	37E	674623	3594674	1356	70		
CP 01185 POD1		CP	LE		1	3	14	218	37E	674598	3594689	1363	70		
CP 01185 POD4		CP	LE		i	3	14	218	37E	674633	3594610	1397	70		
CP 01574 POD2		CP	LE	1	3	3	14	21S	37E	674666	3594578	1400	68	57	11
CP 01110 POD1		CP	LE		1	3	14	21S	37E	674586	3594648	1401	70		
CP 01110 POD2		CP	LE		1	3	14	21S	37E	674586	3594648	1401	70		
<u>CP 01110 POD3</u>		CP	LE		1	3	14	21S	37E	674586	3594648	1401	70		
CP 01110 POD4		CP	LE		1	3	14	21S	37E	674586	3594648	1401	20		
CP 01110 POD5		CP	LE		1	3	14	215	37E	674586	3594648	1401	20		
CP 01185 POD3		CP	LE		1	3	14	21S	37E	674592	3594620	1417	70		
<u>CP 01574 POD1</u>		CP	LE	2	4	4	15	21S	37E	674559	3594598	1456	68	57	11
CP 00239 POD1		CP	LE	1	1	2	23	215	37E	675485	3594152*	1509	89	61	28
CP 00562		CP	LE	1	2	2	23	215	37E	675887	3594159*	1537	136	65	71
CP 00235 POD1		CP	LE	2	2	1	23	21S	37E	675283	3594144*	1540	81		
CP 00235 POD2	1 mile =	CP	LE	.1	2	1	23	21S	37E	675083	3594144*	1588	96	65	31
<u>CP 00134 POD1</u>	1610 m	CP	LE	1	1	1	24	21S	37E	676289	3594166*	1664	85		
CP 00235 POD6		CP	LE	2	1	1	23	218	37E	674881	3594137*	1665	85	65	20
CP 00235 POD8		CP	LE	3	1	2	23	21S	37E	675485	3593952*	1709	94	58	36
CP 00236 POD1		CP	LE	3	1	2	23	21S	37E	675485	3593952*	1709	83		
CP 00240 POD1		CP	LE	4	2	1	23	215	37E	675283	3593944*	1737			
CP 00241 POD1		CP	LE	4	2	1	23	215	37E	675283	3593944*	1737	79		
CP 00235 POD3		CP	LE	1	1	1	23	21S	37E	674681	3594137*	1756	90	61	29
CP 00700		CP	LE			2	23	21S	37E	675794	3593851*	1824	75	65	10
CP 00235 POD10		CP	LE	1	3	2	23	21S	37E	675492	3593749*	1912	92	60	32
CP 00235 POD11		CP	LE	1	3	2	23	21S	37E	675492	3593749*	1912	97	60	37
CP 00237 POD1		CP	LE	1	3	2	23	215	37E	675492	3593749*	1912	84		
CP 00235 POD7		CP	LE	3	1	1	23	21S	37E	674681	3593937*	1932	85	65	20
CP 00235 POD5		CP	LE	1	4	1	23	218	37E	675090	3593742*	1973	90	70	20
CP 00235 POD4		CP	LE	1	3	1	23	218	37E	674688	3593735*	2111	100	80	20

CP 00238 POD1		CP	LE	3	3	2	23	215	37E	675492	3593549* 🐫	2111	81		
CP 00235 POD9		CP	LE	3	4	1	23	215	37E	675090	3593542*	2168	94	58	36
<u>CP 00286 POD1</u>		CP	LE	2	1	2	10	218	37E	674019	3597338*	2275	70		
CP 01575 POD2		CP	LE	2	2	1	22	218	37E	673615	3594181	2439	35	35	0
CP 01141 POD4		CP	LE				15	218	37E	673556	3594239	2453	45		
<u>CP 01141 POD2</u>		CP	LE				15	21S	37E	673543	3594250	2457	40		
CP 01141 POD3		СР	LE				15	21S	37E	673520	3594272	2463	40		
CP 01575 POD1		CP	LE	1	2	1	22	21S	37E	673544	3594204	2482	40	35	5
CP 00729 POD1		CP	LE	4	1	3	15	218	37E	673259	3594711*	2485	8015		
<u>CP 00731 POD1</u>		СР	LE		2	1	22	21S	37E	673577	3594015*	2573	8130		
CP 00252 POD1		CP	LE	4	2	4	22	21S	37E	674493	3593125*	2748	106	78	28
CP 00554		CP	LE		2	2	16	21S	37E	672744	3595610*	2812	80	70	10
<u>CP 01222 POD3</u>		CP	LE	2	4	4	23	21S	37E	676036	3592871	2829	60	48	12
CP 00732 POD1		CP	LE		4	1	22	21S	37E	673584	3593613*	2842	6633		
CP 00881		CP	LE		4	4	22	21S	37E	674402	3592824*	3061	95	53	42
<u>CP 00251 POD1</u>		CP	LE	2	3	4	22	21S	37E	674099	3592915*	3107	103		
CP 00197	O	CP	LE	1	4	1	01	215	37E	676611	3598599*	3122	85		
CP 00197 POD1		CP	LE	1	4	1	01	21S	37E	676611	3598599*	3122	85		

Average Depth to Water:

60 feet

Minimum Depth:

35 feet

Maximum Depth:

80 feet

Record Count: 48

UTMNAD83 Radius Search (in meters):

Easting (X): 675556

Northing (Y): 3595660

Radius: 3220

*UTM location was derived from PLSS - see Help

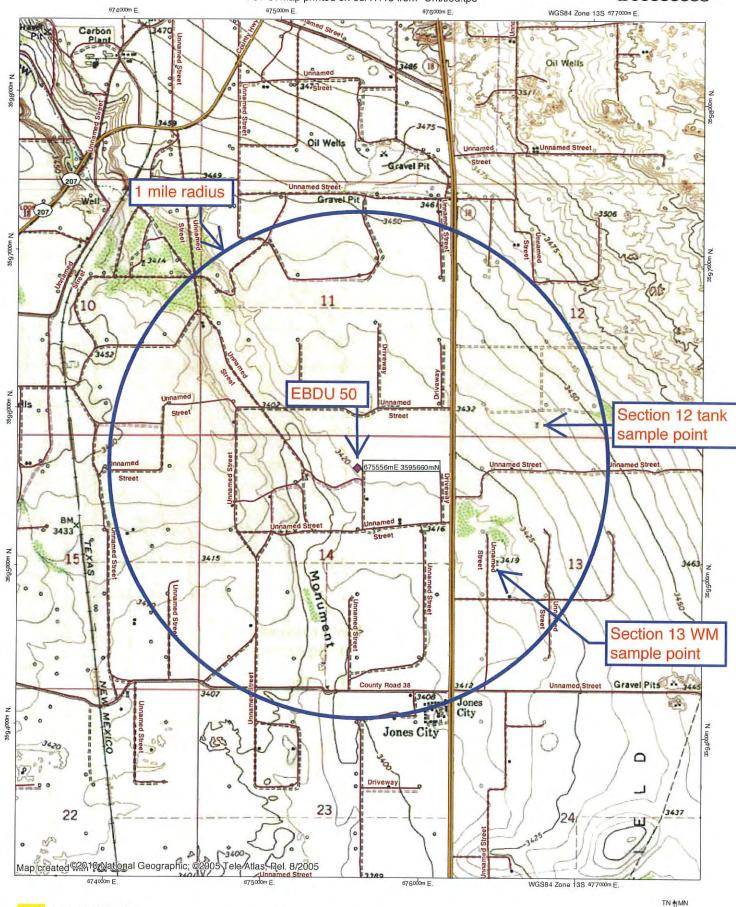
The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

3/17/18 10:28 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER









TN MN 6.5° 03/17/18



Lab Order 1708C75

Date Reported: 9/11/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Permits West ≈3900' ENE

Client Sample ID: Section 12 Tank

of EBDU 50 Project: Apache EBDU 24 et al Collection Date: 8/18/2017 10:28:00 AM Lab ID: 1708C75-001

Matrix: AQUEOUS Received Date: 8/22/2017 2:00:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	670	25	*	mg/L	50	8/31/2017 6:31:12 PM
EPA METHOD 1664B						Analyst: MAB
N-Hexane Extractable Material	ND	10.7		mg/L	1	9/1/2017
SM2540C MOD: TOTAL DISSOLVED	SOLIDS					Analyst: SRM
Total Dissolved Solids	1770	20.0	*	mg/L	1	8/25/2017 5:04:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified



Lab Order 1708C75

Date Reported: 9/11/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Permits West

≈3400' SE

of EBDU 50

Client Sample ID: Section 13 WM

Project:

Apache EBDU 24 et al

Collection Date: 8/18/2017 11:19:00 AM

Lab ID: 1708C75-002 Matrix: AQUEOUS

Received Date: 8/22/2017 2:00:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	280	10	*	mg/L	20	8/25/2017 12:24:29 AM
EPA METHOD 1664B						Analyst: MAB
N-Hexane Extractable Material	ND	9.95		mg/L	1	9/1/2017
SM2540C MOD: TOTAL DISSOLVE	D SOLIDS					Analyst: SRM
Total Dissolved Solids	930	20.0	*	mg/L	1	8/25/2017 5:04:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 7
- Sample pH Not In Range P
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified



Lab Order 1708C75

Date Reported: 9/11/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Permits West

Client Sample ID: Decky Pond

Project: Apache EBDU 24 et al

Collection Date: 8/18/2017 2:20:00 PM

Lab ID:

1708C75-003

Matrix: AQUEOUS

Received Date: 8/22/2017 2:00:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	360	10		mg/L	20	8/25/2017 12:49:18 AM
EPA METHOD 1664B						Analyst: MAB
N-Hexane Extractable Material	ND	9.93		mg/L	1	9/1/2017
SM2540C MOD: TOTAL DISSOLVE	D SOLIDS					Analyst: SRM
Total Dissolved Solids	1040	20.0	*	mg/L	1	8/25/2017 5:04:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 7 J
- Sample pH Not In Range P
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified



Lab Order 1708C75

Date Reported: 9/11/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Permits West

Client Sample ID: Section 15 Tank

Project: Apache EBDU 24 et al

Collection Date: 8/18/2017 5:17:00 PM

Lab ID: 1708C75-004

Matrix: AQUEOUS

Received Date: 8/22/2017 2:00:00 PM

Analyses	Result	PQL (Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	660	25	*	mg/L	50	9/5/2017 6:57:19 PM
EPA METHOD 1664B						Analyst: MAB
N-Hexane Extractable Material	ND	10.1		mg/L	1	9/1/2017
SM2540C MOD: TOTAL DISSOLVE	D SOLIDS					Analyst: SRM
Total Dissolved Solids	1730	40.0	*D	mg/L	1	8/25/2017 5:04:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

WO#:

11-Sep-17

Hall Environmental Analysis Laboratory, Inc.

Client:

Permits West

Project:

Apache EBDU 24 et al

Sample ID MB-33659

SampType: MBLK

TestCode: EPA Method 1664B

Client ID: PBW Batch ID: 33659

RunNo: 45373

Prep Date: 9/1/2017

Analysis Date: 9/1/2017

SeqNo: 1437730

Units: mg/L

Analyte

Result PQL SPK value SPK Ref Val

%REC LowLimit HighLimit

Qual

N-Hexane Extractable Material

ND 10.0

SampType: LCS

TestCode: EPA Method 1664B

Sample ID LCS-33659 Client ID: LCSW

Batch ID: 33659

RunNo: 45373

Prep Date: 9/1/2017

Analysis Date: 9/1/2017

SeqNo: 1437731

Units: mg/L

Analyte

Result PQL

RPDLimit

RPDLimit

Qual

114

33.8

SPK value SPK Ref Val

%REC 84.5

78

HighLimit

N-Hexane Extractable Material

10.0

40.00

0

LowLimit

%RPD

%RPD

Qualifiers:

Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded H

PQL Practical Quanitative Limit

- Value exceeds Maximum Contaminant Level.
- ND Not Detected at the Reporting Limit
- % Recovery outside of range due to dilution or matrix
- - B Analyte detected in the associated Method Blank E Value above quantitation range
 - J Analyte detected below quantitation limits P Sample pH Not In Range
 - RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Page 5 of 7

QC SUMMARY REPORT

WO#: 1708C75

Hall Environmental Analysis Laboratory, Inc.

11-Sep-17

Client: Permits West

Project: Apache EBDU 24 et al

Sample ID MB SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBW Batch ID: R45189 RunNo: 45189

Prep Date: Analysis Date: 8/24/2017 SeqNo: 1432143 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC HighLimit LowLimit %RPD **RPDLimit** Qual

Chloride ND 0.50

Sample ID LCS SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSW Batch ID: R45189 RunNo: 45189

Prep Date: Analysis Date: 8/24/2017 SeqNo: 1432144 Units: ma/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Chloride 5.0 0.50 5.000 100 110

Sample ID MB SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBW Batch ID: R45380 RunNo: 45380

Prep Date: Analysis Date: 8/31/2017 SeqNo: 1437942 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Chloride ND 0.50

Sample ID LCS SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSW Batch ID: R45380 RunNo: 45380

Prep Date: Analysis Date: 8/31/2017 SeqNo: 1437943 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

4.6 Chloride 0.50 5.000 0 92.8 90

Sample ID MB SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBW Batch ID: A45445 RunNo: 45445

Prep Date: Analysis Date: 9/5/2017 SeqNo: 1439920 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Chloride 0.50 ND

Sample ID LCS-b SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSW Batch ID: A45445 RunNo: 45445

Prep Date: Analysis Date: 9/5/2017 SeqNo: 1439922 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Chloride 4.6 0.50 5.000 91.9 90 110

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit
- Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Page 6 of 7

QC SUMMARY REPORT



Hall Environmental Analysis Laboratory, Inc.

11-Sep-17

Client: Permits West

Project: Apache EBDU 24 et al

Sample ID MB-33526 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PBW Batch ID: 33526 RunNo: 45227

Prep Date: 8/23/2017 Analysis Date: 8/25/2017 SeqNo: 1432473 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Total Dissolved Solids ND 20.0

Sample ID LCS-33526 SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Batch ID: 33526 RunNo: 45227

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Total Dissolved Solids 1030 20.0 1000 0 103 80 120

Sample ID 1708C75-004AMS SampType: MS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: Section 15 Tank Batch ID: 33526 RunNo: 45227

Prep Date: 8/23/2017 Analysis Date: 8/25/2017 SeqNo: 1432494 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Total Dissolved Solids 3830 40.0 2000 1728 105 80 120 D

Sample ID 1708C75-004AMSD SampType: MSD TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: Section 15 Tank Batch ID: 33526 RunNo: 45227

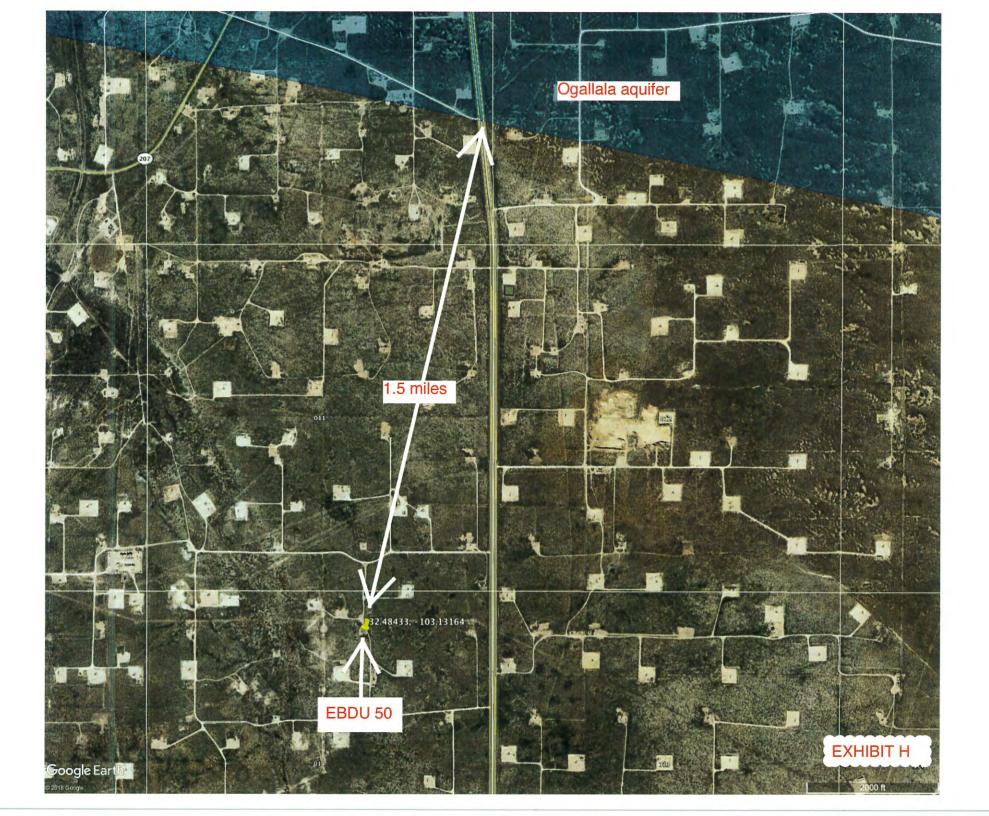
Prep Date: 8/23/2017 Analysis Date: 8/25/2017 SeqNo: 1432495 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Total Dissolved Solids 3850 40.0 2000 1728 106 80 120 0.625 5 D

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- POL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 7 of 7





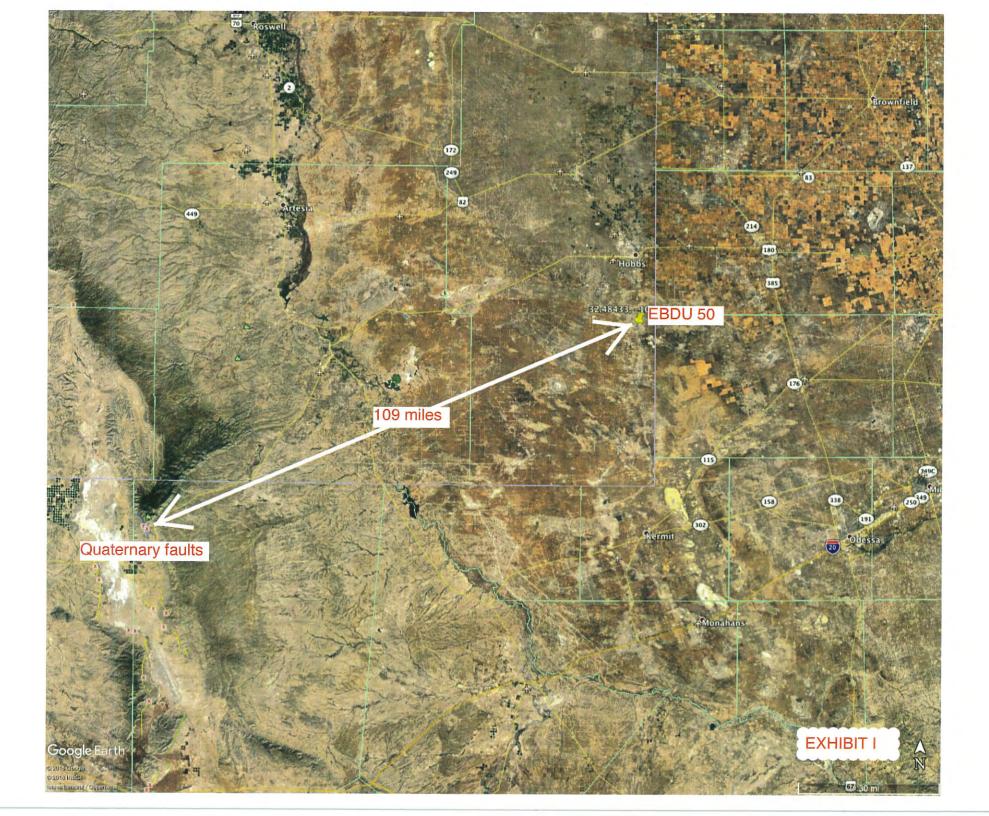


Form C-108
Affirmative Statement
Apache Corporation
East Blinebry Drinkard Unit
Section 14, T-21-S, R-37-E
Lea County, New Mexico

The extractions from the seismic data show no evidence of faulting at (or above) the Glorieta in this area and surface mapping from the USGS confirms that no faults are known at the surface. In addition, we have no empirical evidence that our injection operations at EBDU are affected by faulting at the Glorieta level, the evaporites, or the surface. Available geologic and engineering data has been examined and no evidence of open faults or hydrological connection between the injection zone and any underground sources of drinking water has been found.

Justin Wagner Geologist I 8/14/2017

Date



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 March 14, 2018 and ending with the issue dated March 14, 2018.

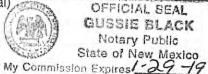
Publisher

Sworn and subscribed to before me this 14th day of March 2018.

Business Manager

My commission expires

January 29, 2019 (Seal)



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

EXHIBIT]

LEGALS

LEGAL NOTICE March 14, 2018

March 14, 2018

Apache Corporation is applying to convert the East Blinebry Drinkard Unit 50 oil well to a water injection well. The well is at 660 FNL & 1980 FEL, Sec. 14, T. 21 S., R. 37 E., Lea County, NM. This is 3-1/2 miles north-northeast of Eunice, NM. It will inject water into the Blinebry (maximum injection pressure = 2,100 psi) from 5,578' to 6,024'. Injection will be at a maximum rate of 500 bwpd. Interested parties must file objections or requests for hearing with the NM. Oil Conservation Division, 1220 South Saint Francis Dr., Santa Fe, NM. 87505 within 15 days. Additional information can be obtained by contacting: Brian Wood, Permits West, Inc., 37 Verano Loop, Santa Fe, NM. 87508. Phone number is (505) 466-8120. #32607

02108485

BRIAN WOOD PERMITS WEST 37 VERANO LOOP SANTA FE, NM 87508 00208565



March 19, 2018

James Allen Bryant 8204 Indigo Court NE Albuquerque NM 87122

TYPICAL LETTER

Apache Corporation is applying (see attached application) to convert its East Blinebry Drinkard Unit 50 oil well to a water injection well. As required by NM Oil Conservation Division (NMOCD) Rules, I am notifying you of the following proposed water injection well. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: East Blinebry Drinkard Unit 50 (fee lease)

Proposed Injection Zone: Blinebry from 5,578' to 6,024'

Where: 660' FNL & 1980' FEL Sec. 14, T. 21 S., R. 37 E., Lea County, NM

Approximate Location: 3-1/2 air miles NNE of Eunice, NM

Applicant Name: Apache Corporation (432) 818-1062

Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

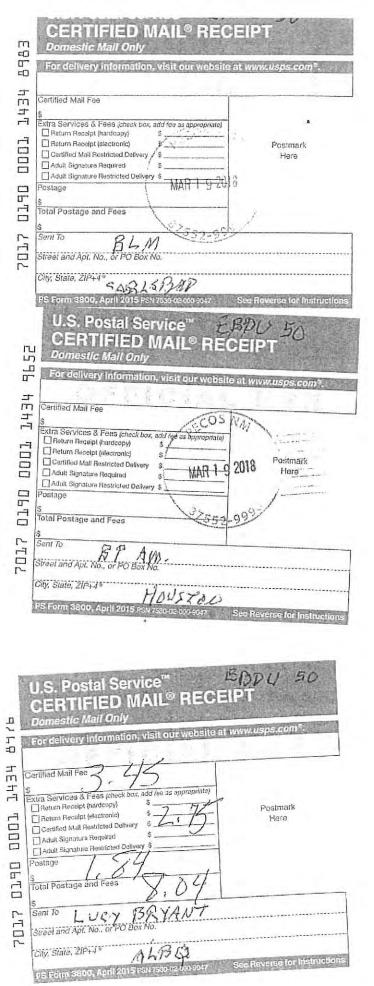
<u>Submittal Information:</u> Application for a water injection well will be filed with the NMOCD. If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. NMOCD address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Phone is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

Brian Wood





9669	CERTIFIED MAIL®	
7434	Cartified Mail Fee	2003
000	Return Receipt (electronic) S Mill Cartified Mail Restricted Delivery S Mill Adult Signature Required S Adult Signature Restricted Delivery S Postocia	AR 1 9 2018 Posimerk Here
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Cit	lly, Stele, ZIA+19 A I D LAWD, T S Form 3800, April 2015 PSN 7580-02-000-50	7 See Reverse for Instructions



EXHIBIT K

NDER: COMPLETE THIS SECTION	PLETE THIS SECTION ON DELIVERY	SENDER: 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 mallplace, or on the front it space permits. Article Addressed to:	A Signature X	Complete liems 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 mailplece, or on the front if space parmits. Article Addressed to:	A. Signature X. J. 11 J. M Agent Addresses B. Received by (Printed Name) C. Date of Delivery
LM 20 E. Greene arlsbad NM 88220	If YES, enter delivery address balow:	J R Cone Operating LLC PO Box 10217 Lubbock TX 79408	D. Is delivery address different from item 1? ☐ Yes If YES, enter delivery address below: ☐ No
Article Number (Transfer from service label)	3. Service Type G Adult Signature Adult Signature Adult Signature Restricted Delivery B Control of Adult Restricted Delivery C Control of Adult Restricted Delivery C Collect on Delivery Instruct Mal Restricted Delivery Instruct Mal Restricted Delivery Brandandon Signature Confirmation Signature Confirmat	Apachie – £600 3732 7335 6667 28 Apachie – £600 3732 7335 6667 28 2. Article Number (Transfer from service libre) 7017 0170 0001 1434 9	J. Sarvites Type
Form 3811, July 2015 PSN 7530-02-000-9053	Domestic Return Receipt	PS Form 3811, July 2015 PSN 7530-02-000-9053	Domestic Ratum Receipt
BENDER COMPLETE THIS SECTION © Complete Rems 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. I. Article Addressed to: 1/R 3. James Allen Bryant 8204 Indigo Court NE Albuquerque NM 87122	GOWPLETETHIS SECTION ON DELIVERY Software Agent Addressee Repayed by Entried Nation C. Otto of Polivery D. In delivery address different from Item 17 Yea If YES, enter delivery address below:		
Apachie 9 2402 37 32 7335 6667 35 I. Article Number (Transfer from service fabel) 7017 0190 0001 1,434 8 IS Form 3811, July 2015 PSN 7530-02-000-9653	3. Service Type Adult Signature Patricited Delivery Adult Signature Patricited Delivery Cartified Mail Rotristed Delivery Cartified Mail Rotristed Delivery Called the Delivery Cartified Mail Rotristed Delivery Cartified Mail Express/8 Replace Mail Resignation Cartified Mail Express/8 Resturate Mail Patricited Delivery Cartified Mail Express/8 Replaced Mail Resignation Rotristed Cellwery Cartified Mail Express/8 Resturate Mail Patricited Delivery Cartified Mail Express/8 Replaced Mail Resignation Resturate Mail Express/8 Replaced Mail Resignation Resturate Mail Resignation Resturate Mail Resignation Resturate Mail Resignation Resignation Resignation Resignation Resignation Resignation Resignation Resignation Resignation Resignation Resignation Resignation Re		
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 mallplece, or on the front if space permits. Article Addressed to:	Agent Agent Agent Addresses B. Received by (Printed Name) C. Dits or During D. Ip delivery address different from item 17 Yes If YES, enter delivery address below: No		
P American Production 37 N. Eldridge Parkway ouston TX 77079			
9590 9402 3732 7335 6667 11 pache – E500 50	3. Service Type Adult Signature Restricted Delivery Priority Mol Express Registered Mail's Conflicted Mail's Registered Mail's Restricted Delivery Certified Mail Restricted Delivery Collect on Delivery Col		
IDER: COMPLETE THIS SECTION Complete items 1, 2, and 3. Print your name and address on the reverse to that we can return the card to you. Attach this card to the back of the mailplace, or on the front if space permits. Writcle Addressed to: TeVTON USA	COMPLETE THIS SECTION ON DELIVERY A Storyfor X A Storyfo		
I01 Deauville Mand TX 79706			
ache 2406 3732 7335 6667 04	Service Type Adult Signature A		EXHIBIT K

FORM C-108 Technica	Review Summary	[Prepared b	y reviewer and includ	ded with application; V16.2]		
DATE RECORD: First Rec: 4/07	Admin Complete: 4/V	or Sus	spended:	Add. Request/Reply:		
ORDER TYPE: WFX PMX / SWD	Number: Orde	r Date:	Legacy Perm	its/Orders: <u> </u>		
Well No. 50 Well Name(s): EBD9						
API:30-0 25-06583 Spud	Date: 12-31-1453	New or Old (<u></u>	Class II Primacy 03/07/1982)		
Footages / 480FEL Lo	or Unit 3 Sec/4	Tsp Z	S Rae 3 >	Ecounty Leg		
General Location: 22 miles NE/ BLM 100K Map: 541 Operator: Ax	whe cor-	OGBID	\$73 Conts	Brien woods		
COMPLIANCE RULE 5.9: Total Wells:	etive: Einel Assur	2 1/_ Comp	Orders All Ais	250 OV2 Potos 4-16-24		
•		Comp	i. Order ? 7 (2) 1: 18	5.5.9 UK? Date:_/_/}		
WELL FILE REVIEWED Current Status:	Market Control	/	/	-14		
WELL DIAGRAMS: NEW: Proposed O or RE-ENTE	R: Before Conv. D After C	onv. Ø L	ogs in Imaging: 🖊	7//4—		
Planned Rehab Work to Well:						
Well Construction Details Sizes (in)	Setting		Cement	Cement Top and		
Borenole / Pip	Z. A.	Stage Tool	Sx or Cf	Determination Method		
Planned _or Existing _Surface /7 \(\frac{7}{2} \) /3 \(\frac{7}{2} \)	7 223	Stage 1001	250	SUPFICE/VISCO		
Planned_or Existing _Interm/Prod 7 7 5	" (44 d) "		350	4100/73		
Planned_or Existing Prod/Liner	0110		330	1,,00,,0		
Planned_or Existing Liner						
		Inj Length	Commissio	n/Onevetien Deteiler		
Planned_or Existing OH / PERF	orly .	446	<u></u>	n/Operation Details:		
Injection Lithostratigraphic Units: Depths (ft)	Injection or Confining Units	Tops	Drilled TD	PBTD 6038		
Adjacent Unit: Litho. Struc. Por.	BL	5578		NEW PBTD		
Confining Unit: Litho. Struc. Por.	T6	6025	' '	or NEW Perfs		
Proposed Inj Interval TOP:			Tubing Size	Inter Coated?		
Proposed Inj Interval BOTTOM:			Proposed Packer	Depth <u>5440</u> ft		
	Confining Unit: Litho. Struc. Por. Min. Packer Depth 5 7 7 (100-ft limit)					
Adjacent Unit: Litho. Struc. Por. Proposed Max. Surface Press. 2/0 psi						
AOR: Hydrologic and Geologic Information Admin. Inj. Press. 2/00 (0.2 psi per ft)						
POTASH: R-111-PNoticed?BLM Sec Ord \(\text{WIPP} \) Noticed?Salt/Salado T:B: <u>NW</u> : Cliff House fm						
NMOSE Basin: CAPITAN REEF: thru adj No. GW Wells in 1-Mile Radius? 1 Z-FW Analysis?						
Disposal Fluid: Formation Source(s) Phodycettzu Analysis? Y On Lease Operator Only or Commercial						
Disposal Interval: Inject Rate (Avg/Max BWPD): 400/500 Protectable Waters? Source: System Closed or Open						
HC Potential: Producing Interval? Formerly Producing? Method: Logs/DST/P&A/Other 2-Mi Radius Pool Map						
AOR Wells: 1/2-M Radius Map and Well List? No. Penetrating Wells: 30 [AOR Horizontals: AOR SWDs:]						
Penetrating Wells: No. Active Wells 25 Num Repairs?on which well(s)?Diagrams?						
Penetrating Wells: No. P&A WellsNum Repa	rs?on which well(s)?			Diagrams?		
NOTICE: Newspaper Date MAnchi 4 201 Mine	ral Owner Brm	_ Surface C	Owner James	Bry - 14N. Date 3-19-2018		
Penetrating Wells: No. P&A Wells Num Repairs?on which well(s)?						
Order Conditions: Issues: BLIHEL						
Additonal COAs:	<i>'</i>					