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	,			Revised March 23, 2017
RECEIVED: 914/2017	REVIEWER: MAM	TYPE: LOFX ABOVE THIS TABLE FOR OCD DIVISION	APP NO: DMAM 1-	72545660
1		DIL CONSERVATIO & Engineering Bu	ON DIVISION ireau –	
	ADMINISTRATI	VE APPLICATION	CHECKLIST	
	T IS MANDATORY FOR ALL ADI REGULATIONS WHICH REQUIRE			IVISION RULES AND
plicant: Apache Corporat				Number: <u>873</u>
ell Name: West Blinebry			API: 30-02	
ol: Eunice; BLI-TU-DR, No	rth	· · · · · · ·	Pool Co	de: 22900
		DICATED BELOW	TO PROCESS THE	ETYPE OF APPLICATION
A. Location – Spa NSL B. Check one onl [1] Commingli DHC	cing Unit – Simultane NSP(PROJECT y for [1] or [11] ng – Storage – Measu CTB PLC Disposal – Pressure Ir	eous Dedication AREA) NSP(PRC Urement PC OLS		CEIVED CC
B. Royalty, ove C. Application D. Notification E. Notification F. Surface owr	ators or lease holders erriding royalty owne requires published n and/or concurrent of and/or concurrent of her above, proof of not	rs, revenue owner otice approval by SLO approval by BLM		For ocd only Notice Complete Application Content Complete
CERTIFICATION: I her administrative appro understand that no notifications are sub	oval is accurate and action will be taken o	complete to the b on this application	best of my knowl	edge. I also
Note: State	ment must be completed b	y an individual with man	agerial and/or supervi	sory capacity.
rian Wood			9- <u>9</u> -17 Date	

R-Lelood

505 466-8120 Phone Number

brian@permitswest.com e-mail Address Signature

Print or Type Name

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\$₽ATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

APPLICATION FOR AUTHORIZATION TO INJECT

	<u>APPLICATION FOR AUTHORIZATION TO INJECT</u>
I.	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 et al
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. WEST BLINEBRY DRINKARD UNIT
VII.	Attach data on the proposed operation, including: #184 (30-025-43804)
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
*VIII	Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
IX.	Describe the proposed stimulation program, if any.
*X.	Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
*XI.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
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
	SIGNATURE:DATE: AUG. 10, 2017
	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:

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

Side 2

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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

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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.

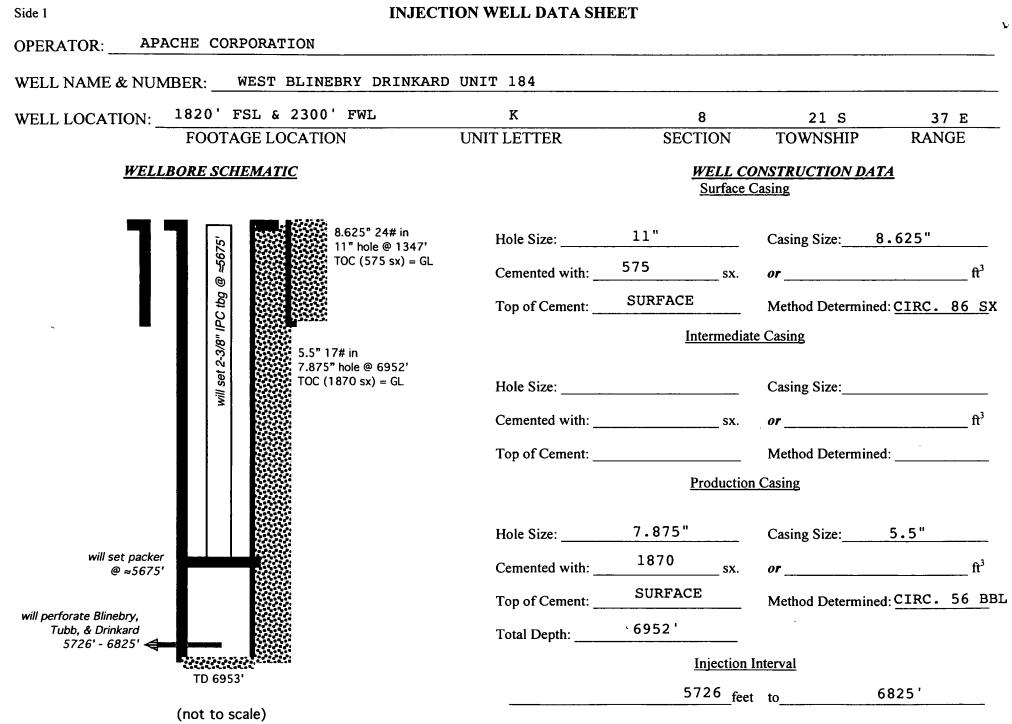
Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (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.



(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

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Tub	ing Size: 2-3/8" J-55 4.7# Lining Material: INTERNAL PLASTIC COAT
Тур	e of Packer: LOCK SET INJECTION
Pac	ker Setting Depth: _≈5675 '
Oth	er Type of Tubing/Casing Seal (if applicable):
	Additional Data
1.	Is this a new well drilled for injection? XXX YesNo
	If no, for what purpose was the well originally drilled?
	· · · · · · · · · · · · · · · · · · ·
2.	Name of the Injection Formation: BLINEBRY, TUBB, & DRINKARD
3.	Name of Field or Pool (if applicable): <u>EUNICE; BLI-TU-DR, NORTH (POOL CODE 22900)</u>
4.	Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used.
	NO
5.	Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:
	OVER: GRAYBURG (3733'), SAN ANDRES (3955')
	UNDER: ABO (6817')

APACHE CORPORATION WEST BLINEBRY DRINKARD UNIT 184 1820' FSL & 2300' FWL SEC. 8, T. 21 S., R. 37 E., LEA COUNTY, NM

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PAGE 1

30-025-43804

I. Goal is to complete a recently (May 2017) drilled 6953' well as a water injection well to increase oil recovery. The well will inject (5726' - 6825') into the Blinebry, Tubb, and Drinkard, which are in the Eunice; Blinebry-Tubb-Drinkard, North Pool (aka, Eunice; BLI-TU-DR, North and pool code = 22900).

Well and zones are part of the West Blinebry Drinkard Unit (Unit Number 300341, Case Numbers 14125 and 14126, both Order Number R-12981) that was established in 2008 by Apache. There have been 19 subsequent WFX approvals. This is an active water flood. Forty-eight water injectors are active or new in the Unit.

 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: BLM NMNM-090161
 Lease Size: 640 acres (see Exhibit A for maps and C-102)
 Closest Lease Line: 820'
 Lease Area: E2SW4 & SE4 of Section 8, T. 21 S., R. 37 E. et al
 Unit Size: 2,480 acres
 Closest Unit Line: 820'
 Unit Area:
 <u>T. 21 S., R. 37 E.</u>
 Section 4: Lot 15, S2SW4, & SE4
 Section 8: E2, NENW, & E2SW

Section 9 & 16: all Section 17: E2 & E2SW4 Section 21: E2NE4

A. (2) Surface casing (8.625", J-55, 24#) is set at 1347' in an 11" hole and cemented with 575 sacks, of which 86 sacks circulated to GL.



APACHE CORPORATION WEST BLINEBRY DRINKARD UNIT 184 1820' FSL & 2300' FWL SEC. 8, T. 21 S., R. 37 E., LEA COUNTY, NM

30-025-43804

Production casing (5.5", 17#, L-80) is set at 6952' in a 7.875" hole and cemented with 1870 sacks, of which 56 bbl circulated to GL.

Casing was hydraulically pressure tested to 500 psi.

- A. (3) Tubing specifications are 2.375", J-55, 4.7#, and internally plastic coated. Setting depth will be ≈5675'. (Disposal interval will be from 5726' to 6825'.)
- A. (4) A lock set injection packer will be set at $\approx 5675'$ ($\approx 50'$ above the highest proposed perforation of 5726').
- B. (1) Injection zone will be the Blinebry Drinkard interval. The interval is part of the Eunice; Blinebry-Tubb-Drinkard, North Pool. Estimated fracture gradient is ≈0.56 psi per foot.
- B. (2) Injection interval will be from 5726' to 6825' in a cased hole. See attached C-108 well profile for more perforation information.
- B. (3) Well was drilled as a water injection well.
- B. (4) Well will be perforated from 5726' to 6825' with 2 shots per foot. Shot diameter = 0.40".
- B. (5) Next higher oil or gas zone in the area of review is the San Andres. Its bottom is at 5205'. Injection will occur in the Blinebry and deeper. Blinebry top is at 5726'.

Next lower oil or gas zone in the area of review is the Abo. Its top is at 6831'. Deepest perforation will be 6825'.



PAGE 3

APACHE CORPORATION WEST BLINEBRY DRINKARD UNIT 184 1820' FSL & 2300' FWL SEC. 8, T. 21 S., R. 37 E., LEA COUNTY, NM

IV. This is not a horizontal or vertical expansion of an existing injection project. The case file for the unit approval (R-12981) includes a discussion of the water flood. There have been 19 subsequent WFX approvals.

V. Exhibit B shows and tabulates all 46 existing wells (33 oil wells + 6 P&A wells + 6 water injectors + 1 water supply well) within a half-mile radius, regardless of depth. Exhibit C shows all 539 existing wells (390 oil or gas wells + 68 injection or disposal wells + 68 P & A wells + 13 water supply wells) within a two-mile radius.

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

	r	r	1	
Aliquot Parts in Area of Review (T 21 S, R 37 E)	Lease Type	Lease	Lessee(s) of Record	Blinebry, Tubb, or Drinkard Operator
SENE Sec. 7	fee	M L Goins	J R Oil	none
NESE Sec. 7	fee	M L Goins	J R Oil	none now, J R in Drinkard until PB
SESE Sec. 7	fee	H T Mattern NCT C	Chevron	none now, Chevron in Drinkard until PB
NWNE & NENW Sec. 8	BLM	NMLC-031741A	Apache, Chevron, ConocoPhillips	Apache
NWNW Sec. 8	BLM	NMNM-125795	Apache, Chevron, ConocoPhillips	none
SWNW Sec. 8	fee	H T Mattern NCT C	Chevron	none now, Chevron in Blinebry until P&A
SENW Sec. 8	fee	H T Mattern NCT C	Chevron	none now, Chevron in Drinkard until PB
S2NE Sec. 8	BLM	NMLC-031741A	Apache, Chevron, ConocoPhillips	Apache
SE4 & E2SW4 Sec. 8	BLM	NMNM-090161	Apache, Chevron	Apache
NWSW Sec. 8	fee	H T Mattern NCT C	Chevron	none



APACHE CORPORATION WEST BLINEBRY DRINKARD UNIT 184 1820' FSL & 2300' FWL SEC. 8, T. 21 S., R. 37 E., LEA COUNTY, NM

PAGE 4

SWSW Sec. 8	fee	H T Mattern NCT C	Chevron	none now, Chevron in Blinebry until P&A
NENE Sec. 17	BLM	NMLC-032096A	Apache, Chevron	Apache
NWNE Sec. 17	fee	Weatherly	Apache	Apache
NENW Sec. 17 fee		Mittie Weatherly	Chevron	none now, Texaco (Chevron) in Drinkard until PB
NWNW Sec. 17	fee	Mittie Weatherly	Chevron	none

VI. Forty-six existing wells are within a half-mile radius. Thirty of the wells penetrated the Blinebry (5726'). The penetrators include 20 oil wells, 6 water injectors, 3 P&A wells, and 1 water supply well (plugged back from the Drinkard to the San Andres). A table abstracting the well construction details and histories of the penetrators is in Exhibit F. Diagrams of the P&A wells are also in Exhibit F.

- VII. 1. Average injection rate will be ≈2500 bwpd.Maximum injection rate will be 3000 bwpd.
 - 2. System will be closed. The well will tie into the existing Unit pipeline system. It consists of a branched injection system with centrifugal injection pumps.
 - 3. Average injection pressure will be ≈1100 psi. Maximum injection pressure will be 1120 psi (see item (13) of Order R-12981).
 - 4. Water source will be water pumped from two existing ≈4000' deep San Andres water supply wells, plus produced water from Blinebry, Tubb, and Drinkard zones. The source water and produced water are collected in separate skim tanks. The two water streams (source and produced) are commingled in a tank before being piped to the injection wells. A comparison of nearby analyses and San Andres follows. No compatibility problems have reported from the 47,270,878 barrels that have been injected in the unit to date.



APACHE CORPORATION WEST BLINEBRY DRINKARD UNIT 184 1820' FSL & 2300' FWL SEC. 8, T. 21 S., R. 37 E., LEA COUNTY, NM 3

PAGE 5

	NEDU Injection Pump Discharge	<u>San Andres 919-S</u>
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. There are 118 active or new oil wells in the Unit. It is the goal of the project 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, 1090' thick, and consists of tan to dark gray shallow marine carbonates, many of which have been dolomitized. Core filling and replacement anhydrite are 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 currently 106 Blinebry injectors, 124 Tubb injectors, and 152 Drinkard injectors in the state. The West Blinebry Drinkard Unit shares its east border with Apache's Northeast Drinkard Unit. Three other similar water floods (East Blinebry Drinkard Units, Central Drinkard Unit, and Warren Blinebry Unit) are



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APACHE CORPORATION WEST BLINEBRY DRINKARD UNIT 184 1820' FSL & 2300' FWL SEC. 8, T. 21 S., R. 37 E., LEA COUNTY, NM

within a mile of the West Blinebry Drinkard Unit. The Central Drinkard Unit has been under water flood since the 1960s.

Formation depths are:

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Quaternary = 0'
        Rustler = 1304'
        Tansill = 2533'
         Yates = 2666'
     Seven Rivers = 2918'
        Oueen = 3451'
        Penrose = 3561'
       Grayburg = 3728'
      San Andres = 3952'
        Glorieta = 5204'
       Paddock = 5281'
        Blinebry = 5726'
Injection interval = 5726' - 6825'
         Tubb = 6209'
       Drinkard = 6554'
         Abo = 6831'
          TD = 6953'
```

Office of the State Engineer records (Exhibit G) show one fresh water well (CP 01026 PD1) is within a mile radius. It, and a second well (CP 00447/00448) 1.26 miles southwest, were sampled on May 19, 2017. The Ogallala is 1.6 miles northeast.

Deepest water well within a 2-mile radius is 220'. No existing underground drinking water sources are below the injection interval within a 2-mile radius.

There will be >5,000' of vertical separation and hundreds of feet of salt and anhydrite between the bottom of the only likely underground fresh water source and the top of the injection interval.

Produced water is currently being injected (208 wells) or disposed (8 wells) into the Blinebry-Tubb-Drinkard, San Andres, Grayburg, Queen, Seven Rivers, and Yates within T. 21 S., R. 37 E.



APACHE CORPORATION PAGE 7 WEST BLINEBRY DRINKARD UNIT 184 1820' FSL & 2300' FWL SEC. 8, T. 21 S., R. 37 E., LEA COUNTY, NM 30-025-43804

IX. The well will be stimulated with acid to clean out scale or fill.

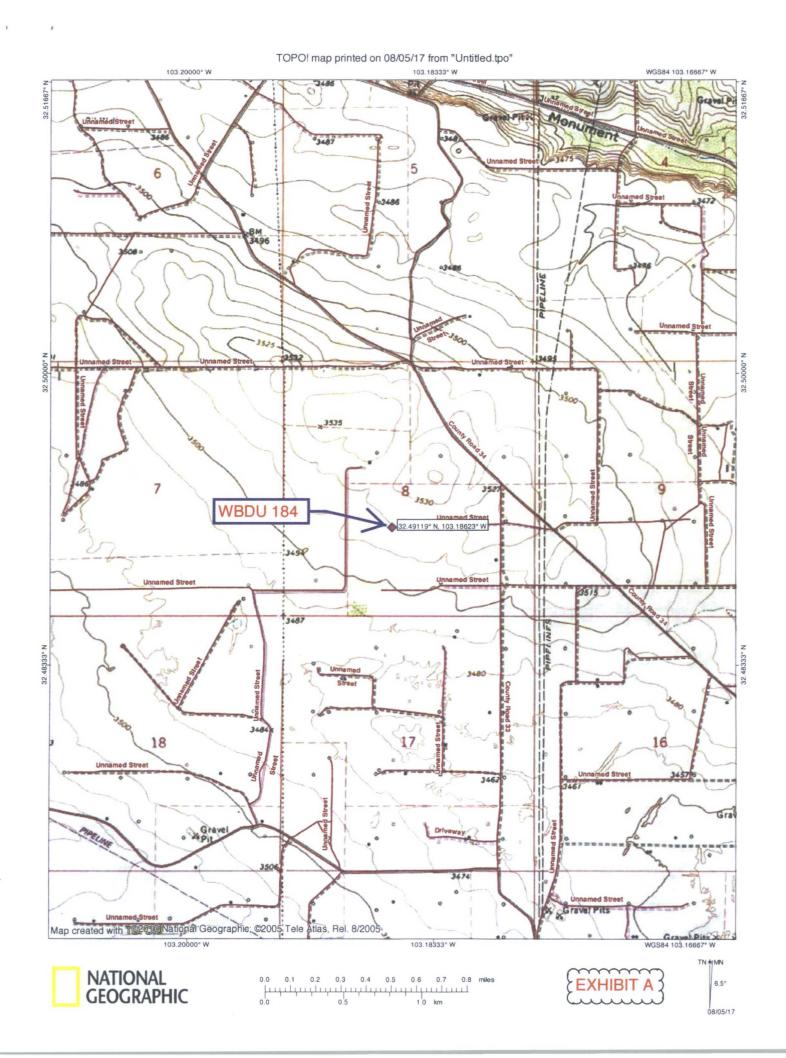
X. A CBL/GR/CCL log was run and submitted to NMOCD.

XI. One fresh water well is within a mile. Analyses from it and a second well just beyond a mile are in Exhibit G.

XII. Apache 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 \approx 109 miles southwest (Exhibit H). There are currently 106 Blinebry injectors, 124 Tubb injectors, and 152 Drinkard injectors in the state. Previously approved water flood expansions (WFX-) in the Unit include 854, 857, 913, 921, 922, 923, 924, 948, 952, 954, 955, 958, 959, 960, 962, 964, 965, 967, and 968.

XIII. A legal ad (see Exhibit I) was published on August 9, 2017. Notice (this application) has been sent (Exhibit J) to the surface owner (Millard Deck Estate), lessor (BLM), offset Blinebry, Tubb, or Drinkard operators (Chevron and J R Oil), lessees (Chevron, ConocoPhillips, and J R Oil), operators of other zones (Chevron, J R Oil, and Lanexco), and operating rights holders (Chevron USA Inc., Chevron USA Prod. Co., ConocoPhillips, Barbara Hannifin, Mark Hannifin, Patrick Hannifin, Robert Hannifin, John H. Hendrix Corp., Lanexco, Robert Lansford, NM Co. Inc., Oxy USA WTP, Penroc Oil Corp., Tommy Phipps, and Six Aeches Co.).





District I 1625 N. Prench 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 1200 S. St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3466 Fax: (505) 476-3462

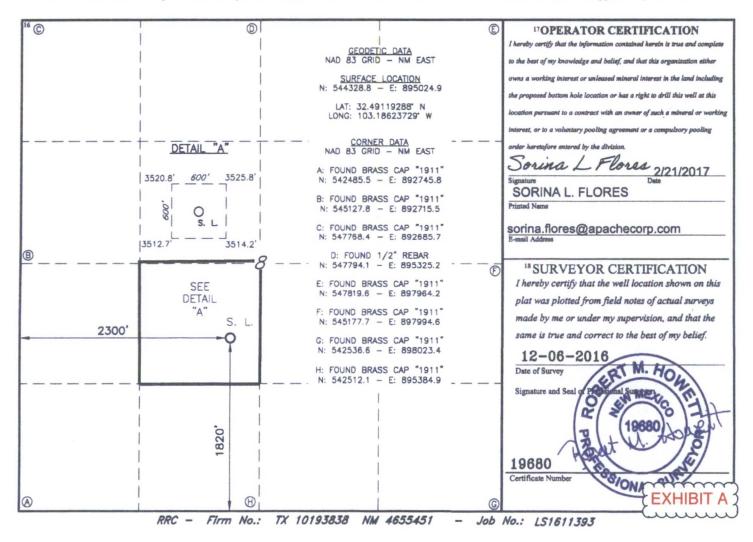
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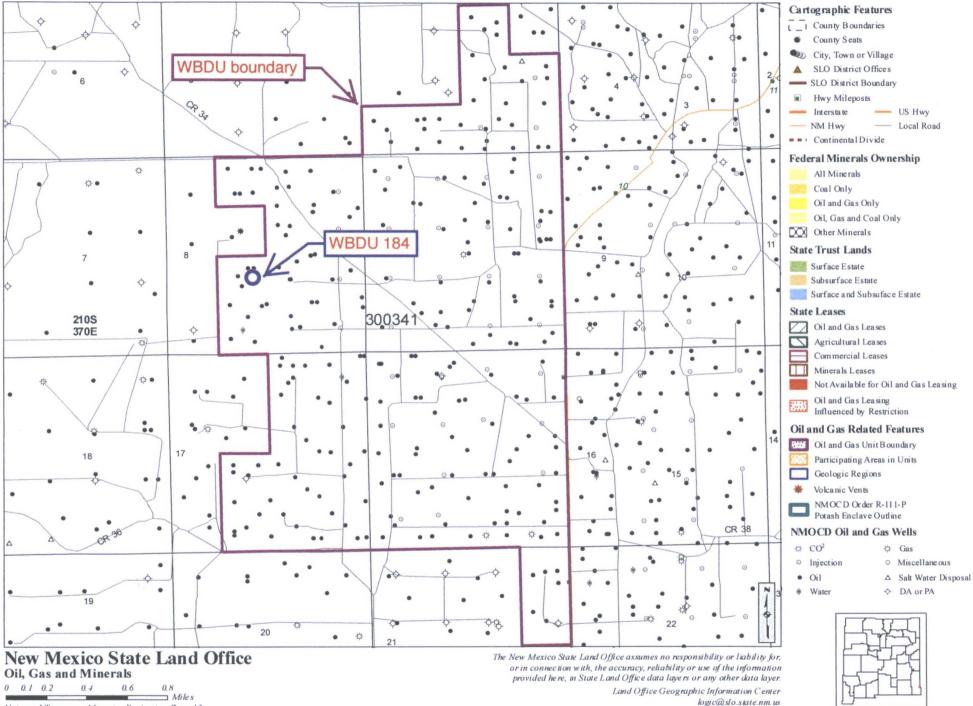
State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-102 Revised August 1, 2011 Submit one copy to appropriate District Office

AMENDED REPORT

		W	ELL L	OCATI	ON AND A	CREAG	E DEDIC	CATION PLA	Т		
1	API Number			2 Pool Co	de	³ Pool Name					
30-025- 7	138	04	22	900		EUNICE; BLI-TU-DR, NORTH					
4Property Cod					5 Proper	ty Name					6 Well Number
3734	-6	WEST BLINEBRY DRINKARD UNIT									184
7 OGRID N	0.	8 Operator Name								9	Elevation
873				A	PACHE CO	RPORA	TION				3519'
					10 Surfa	ce Locat	ion				
UL or lot no.	Section	Township	Range	Lot Idn	Feet from th	e Nor	th/South line	Feet From the	East/West line		County
K	8	21S	37E		1820	SC	UTH	2300	WE	ST	LEA
			11]	Bottom	Hole Locati	ion If Di	fferent Fr	om Surface			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from th		th/South line	Feet from the	East/We	est line	County
							HOB	P3 000			
12 Dedicated Acres	13 Joint	or Infill 14 (Consolidation	Code 1	5 Order No.		MAY	1 5 2017			
40							FIAT	1 5 777			

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



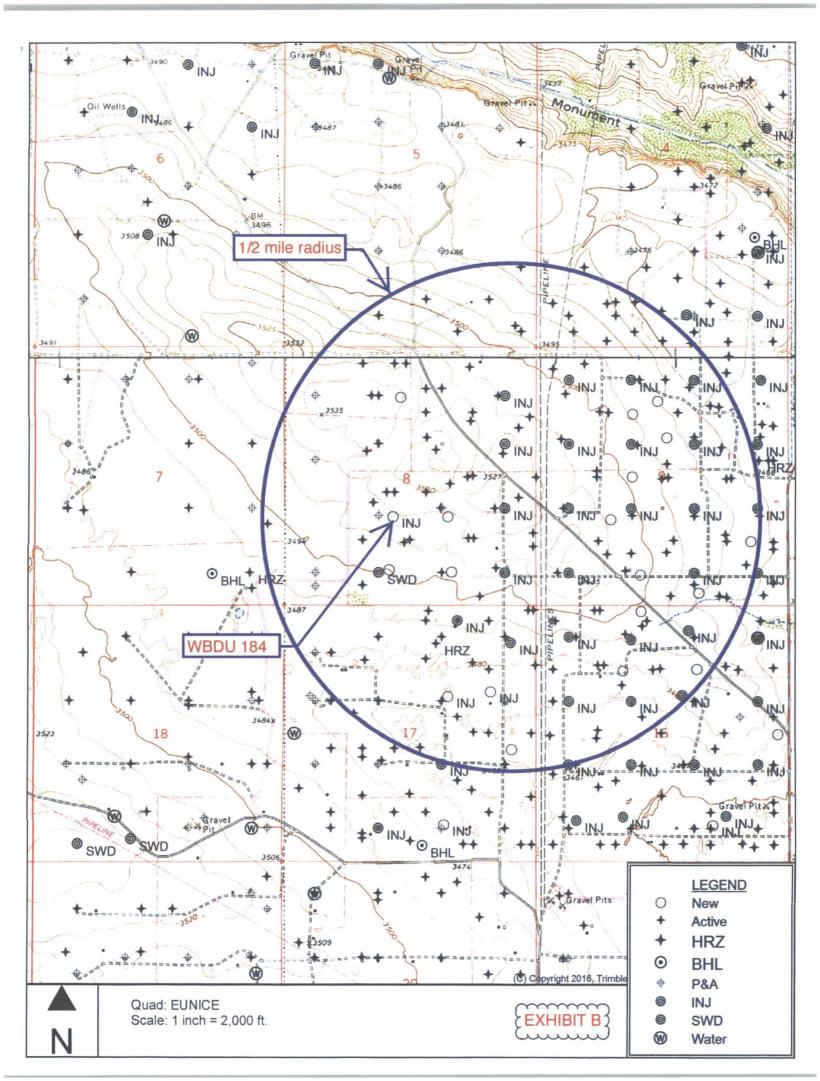


Universal Transverse Mercator Projection, Zone 13 1983 North American Datum

Created On: 5/19/2017 9:07:32 AM

EXHIBIT A

www.nmstatelands.org



ΑΡΙ	wнo	WELL	ТҮРЕ	UNIT- SECTION	TVD	ZONE	FEET FROM WBDU 184
3002535807	Apache	Hawk Federal B 1 029	P&A	K-8	4200	Penrose Skelly; Grayburg	296
3002526266	Apache	WBDU 044	о	K-8	6936	Eunice; Bli-Tu-Dr, N	488
3002539511	Apache	Hawk Federal B 1 055	ο	K-8	4507	Penrose Skelly; Grayburg	504
3002540678	Apache	Hawk Federal B 1 070	ο	K-8	7300	Wantz; Abo	521
3002537997	Apache	Hawk Federal B 1 051	0	N-8	4405	Penrose Skelly; Grayburg	573
3002537741	Apache	WBDU 047	ο	K-8	6950	Eunice; Bli-Tu-Dr, N	584
3002540273	Apache	WBDU 108	0	К-8	7265	Eunice; Bli-Tu-Dr, N	802
3002539407	Apache	WBDU 106	ο	J-8	7027	Eunice; Bli-Tu-Dr, N	805
3002542494	Apache	WBDU 192	ł	J-8	6974	Eunice; Bli-Tu-Dr, N	954
3002535878	Apache	Hawk Federal B 1 022	ο	J-8	4215	Penrose Skelly; Grayburg	990
3002522859	Conoco	Hawk B 1 014	P&A	J-8	6836	Eunice; Bli-Tu-Dr, N	1009
3002543780	Apache	WBDU 183	I	N-8	6961	Eunice; Bli-Tu-Dr, N	1080
3002526601	Apache	WBDU 043	wsw	N-8	6825	Penrose Skelly; Grayburg	1205
3002540458	Apache	Hawk Federal B 1 069	0	J-8	7500	Wantz; Abo	1321
3002525411	Chevron	H T Mattern NCT C 010	ο	F-8	7201	Wantz; Abo	1435
3002506436	Lanexco	Alves B 001	P&A	F-8	3679	Penrose Skelly; Grayburg	1506
3002521621	Apache	WBDU 024	о	G-8	6819	Eunice; Bli-Tu-Dr, N	1506
3002506435	Apache	Hawk Federal B 1 012	0	O-8	6722	Penrose Skelly; Grayburg	1540
3002540677	Apache	Hawk A 037	0	G-8	7500	Eunice; Bli-Tu-Dr, N	1549
3002540276	Apache	WBDU 135	ο	N-8	7125	Eunice; Bli-Tu-Dr, N	1550
3002535803	Apache	Hawk A 010	ο	G-8	4200	Penrose Skelly; Grayburg	1612

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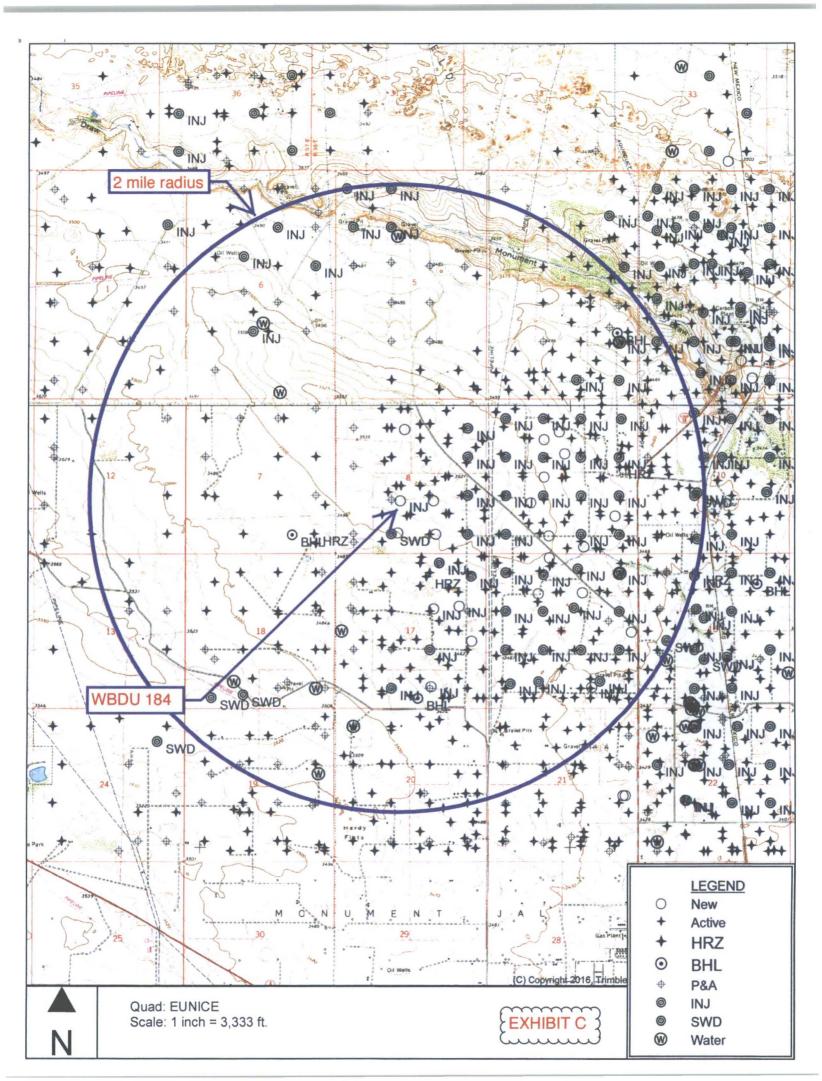
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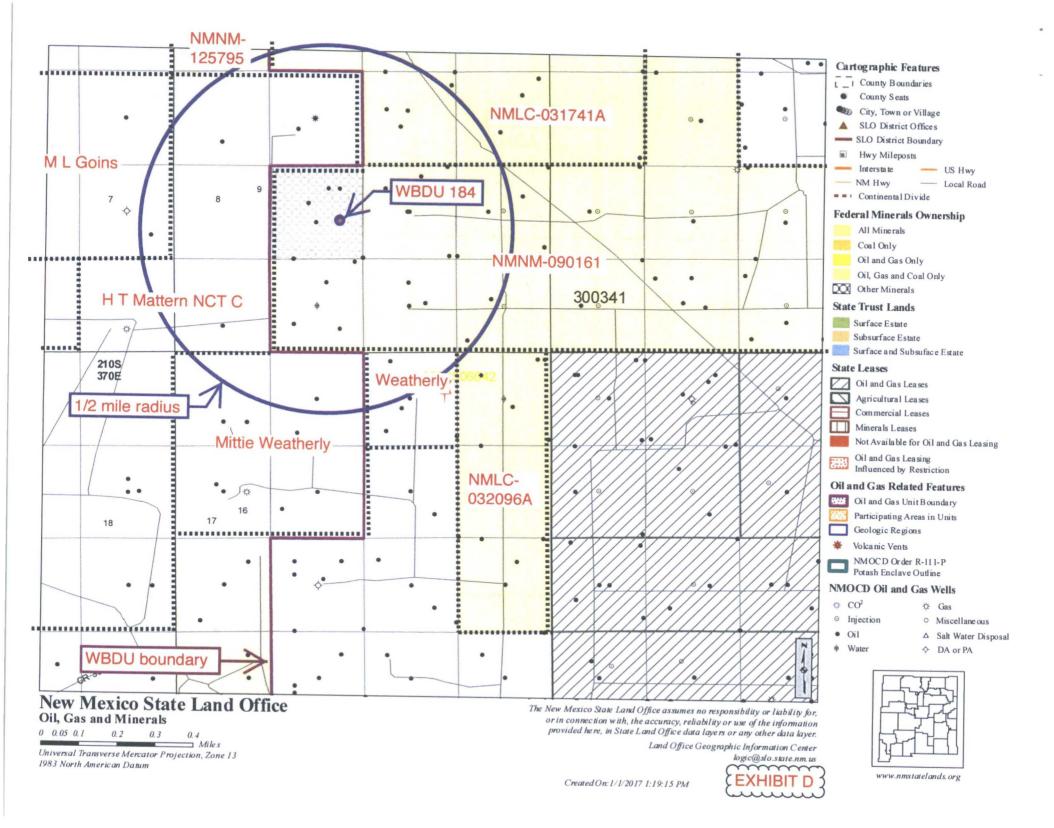
3002542493	Apache	WBDU 185	I	O-8	6945	Eunice; Bli-Tu-Dr, N	1615
3002537020	Apache	WBDU 046	0	J-8	7383	Eunice; Bli-Tu-Dr, N	1630
3002538493	Apache	Hawk Federal B 1 058	0	J-8	4193	Penrose Skelly; Grayburg	1710
3002538195	Apache	WBDU 030	0	G-8	7005	Eunice; Bli-Tu-Dr, N	1729
3002536158	Apache	Hawk Federal B 1 032	0	I-8	4200	Penrose Skelly; Grayburg	1736
3002525547	Chevron	H T Mattern NCT C 012	P&A	E-8	6800	Blinebry	1989
3002524060	Sohio	Alves A 002	P&A	M-8	4446	Penrose Skelly; Grayburg	1997
3002540695	Apache	WBDU 140	0	G-8	7150	Eunice; Bli-Tu-Dr, N	2027
3002539733	Apache	WBDU 109	0	B-17	7200	Eunice; Bli-Tu-Dr, N	2048
3002535877	Apache	Hawk Federal B 1 021	0	1-8	4212	Penrose Skelly; Grayburg	2124
3002525500	Chevron	H T Mattern NCT C 011	P&A	M-8	7125	Wantz; Abo	2174
3002538377	Apache	W W Weatherly 012	0	B-17	4150	Penrose Skelly; Grayburg	2224
3002506434	Apache	WBDU 041	I	1-8	6775	Eunice; Bli-Tu-Dr, N	2330
3002538021	Apache	Hawk A 020	0	G-8	4403	Penrose Skelly; Grayburg	2352
3002540274	Apache	WBDU 124	0	P-8	7300	Eunice; Bli-Tu-Dr, N	2396
3002535795	Apache	Hawk Federal B 1 018	0	P-8	4200	Penrose Skelly; Grayburg	2399
3002526265	Apache	WBDU 025	0	C-8	6880	Eunice; Bli-Tu-Dr, N	2484
3002506649	Chevron	Mittie Weatherly 003	0	C-17	6651	Penrose Skelly; Grayburg	2506
3002535951	Apache	Hawk A 017	0	C-8	4200	Penrose Skelly; Grayburg	2507
3002540272	Apache	WBDU 104	0	G-8	7293	Eunice; Bli-Tu-Dr, N	2514
3002506642	Apache	WBDU 065	I	B-17	6684	Eunice; Bli-Tu-Dr, N	2540
3002506433	Apache	WBDU 040	I	P-8	6758	Eunice; Bli-Tu-Dr, N	2549

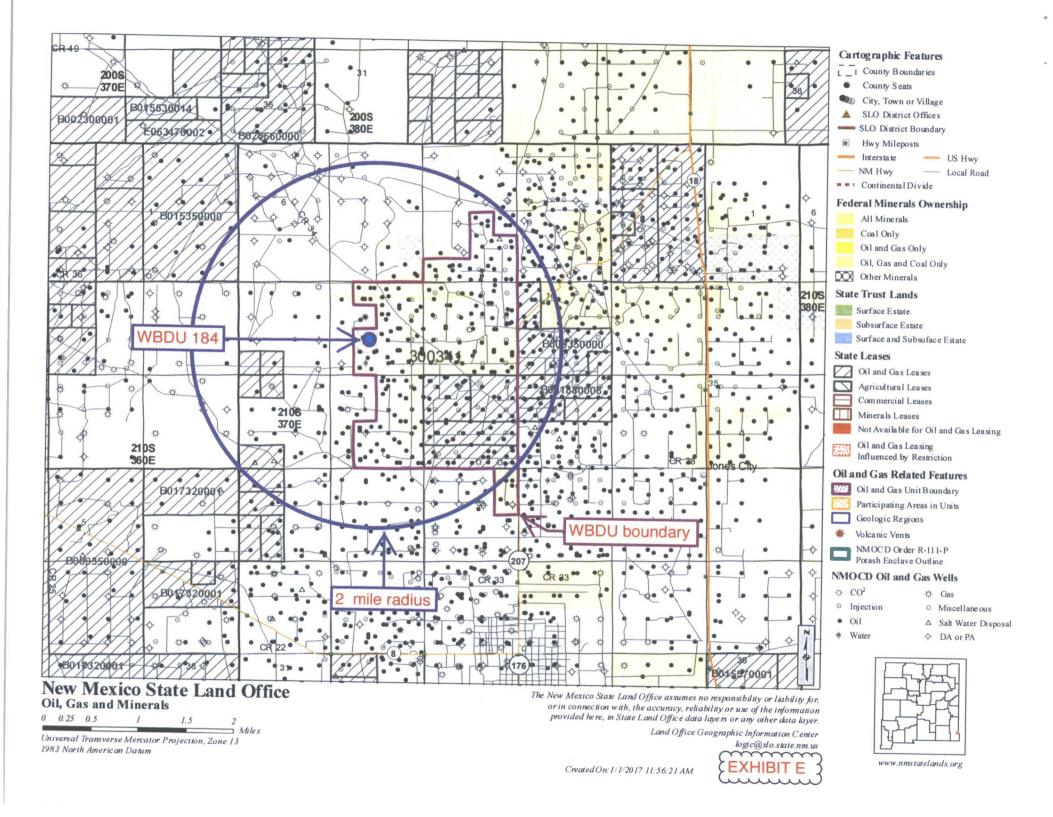
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3002538014	Apache	Hawk Federal B 1 050	0	I-8	4355	Penrose Skelly; Grayburg	2597
3002535804	Apache	Hawk A 011	0	H-8	4200	Penrose Skelly; Grayburg	2613
3002527439	J R Oil	M L Goins 004	0	I-7	6974	Eunice; Bli-Tu-Dr, N	2623
3002523717	Apache	W W Weatherly 005	о	B-17	3875	Penrose Skelly; Grayburg	2685







WELL	SPUD	TD	POOL	WELL TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	тос	HOW TOC DETERMINED
WBDU 044	5/26/79	6936	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1340	692 sx	GL	Circ
30-025-26266					7.875	5.5	6880	1760 sx	1478	No report
K-8-21S-37E										
Hawk Fed B 1 070	9/18/12	7300	Wantz; Abo	0	12.25	8.625	1380	500 sx	GL	Circ 80 sx
30-025-40678					7.875	5.5	7300	1450 sx	GL	Circ 224 sx
K-8-21S-37E										
WBDU 047	7/8/06	6950	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1318	550 sx	GL	Circ 122 sx
30-025-37741				-	7.875	5.5	6950	1150 sx	170	CBL
К-8-215-37Е										
WBDU 108	10/16/11	7265	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1330	730 sx	GL	Circ 231 sx
30-025-40273					7.875	5.5	7265	1200 sx	210	Circ 114 sx
K-8-21S-37E										

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WBDU 106	1/18/11	7027	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1399	665 sx	GL	Circ 80 sx
30-025-39407					7.875	5.5	7027	1410 sx	GL	Circ 120 sx
J-8-21S-37E									ſ	
WBDU 192	3/11/17	6974	Eunice; Bli-Tu-Dr, N		11	8.625	1421	575 sx	GL	Circ
30-025-42494					7.875	5.5	6974	1350 sx	190	CBL
J-8-21S-37E										
Hawk B 1 014	11/25/68	6836	Eunice; Bli-Tu-Dr, N	P&A	12.25	8.625	1322	650 sx	GL	Circ
30-025-22859					7.875	5.5	6836	625 sx	2900	No report
J-8-21S-37E										
WBDU 183	5/7/17	6961	Eunice; Bli-Tu-Dr, N	1	11	8.625	1348	575	GL	Circ 121 sx
30-025-43780					7.875	5.5	6961	1350 sx	GL	Circ 31 sx
N-8-21S-37E										

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WBDU 043	5/15/80	6825	Penrose Skelly; Grayburg	w	12.25	9.625	1350	485 sx	GL	Circ 200 sx
30-025-26601					8.75	7	6825	1750 sx	GL	Circ 200 sx
N-8-21S-37E										
Hawk Fed B 1 069	5/25/12	7500	Wantz; Abo	0	12.25	8.625	1389	725 sx	GL	Circ 226 bbl
30-025-40458	····				7.875	5.5	7500	1400 sx	86	CBL
J-8-21S-37E										
H T Mattern NCT C 010	3/4/77	7201	Wantz; Abo	0	12.25	8.625	1355	550 sx	GL	Circ
30-025-25411					7.875	5.5	6800	200 sx	GL	Circ
F-8-21S-37E										
WBDU 024	2/7/66	6819	Eunice; Bli-Tu-Dr, N	0	11	8.625	1330	600 sx	GL	Circ
30-025-21621					6.75	5.5	6819	640 sx	3125	Temp Survey
G-8-21S-37E										

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Hawk Fed B 1 012	4/4/52	6722	Penrose Skelly; Grayburg	0	17	13.375	238	260 sx	GL	Circ
30-025-06435					12.25	9.625	2856	1360 sx	GL	Circ
O-8-215-37E					8.75	7	6659	625 sx	2836	Temp Survey
Hawk A 037	12/1/12	7500	Eunice; Bli-Tu-Dr, N	0	11	8.625	1418	505 sx	GL	Circ 120 sx
30-025-40677					7.875	5.5	7500	1250 sx	210	Circ 124 sx
G-8-21S-37E										
WBDU 135	11/11/11	7125	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1317	710 sx	GL	Circ 163 sx
30-025-40276					7.875	5.5	7125	960 sx	GL	Circ 3 bbbls
N-8-21S-37E										
WBDU 185	2/27/17	6945	Eunice; Bli-Tu-Dri, N	l	11	8.625	1393	575 sx	GL	Circ 202 sx
30-025-42493					7.875	5.5	6942	1350 sx	1390	Temp Survey
O-8-21S-37E										

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WBDU 046	6/10/05	7383	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1420	650 sx	GL	Circ 87 sx
30-025-37020					7.875	5.5	7383	1300 sx	160	CBL
J-8-21S-37E										
WBDU 030	3/17/07	7005	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1307	575 sx	GL	Circ
30-025-38195					7.875	5.5	7005	1250 sx	100	CBL
G-8-21S-37E										
H T Mattern NCT C 012	6/4/77	6800	Blinebry	P&A	12.25	8.625	1354	500 sx	GL	Circ 40 sx
30-025-25547					7.875	5.5	6800	2125	GL	Circ
E-8-21S-37E										
WBDU 140	9/27/12	7150	Eunice; Bli-Tu-Dr, N	0	11	8.625	1375	500 sx	GL	Circ 80 sx
30-025-40695					7.875	5.5	7150	1350 sx	GL	Circ 210 sx
G-8-21S-37E										

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WBDU 109	4/25/10	7200	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1270	725 sx	GL	Circ
30-025-39733		:			7.875	5.5	7200	1175 sx	GL	Circ
B-17-21S-37E										
H T Mattern NCT C 011	4/7/77	7125	Wantz; Abo	P&A	12.25	8.625	1312	350 sx	GL	Circ
30-025-25500					7.875	5.5	6800	1665 sx	GL	Circ
M-8-215-37E	•									
WBDU 041	2/9/50	6775	Eunice; Bli-Tu-Dr, N	1	16.25	13.375	213	250 sx	GL	Circ
30-025-06434					12.25	9.625	2684	1750 sx	1300	Temp Survey
I-8-21S-37E					10.75	7	6774	822 sx	2804	Temp Survey
WBDU 124	10/24/11	7300	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1352	710 sx	GL	Circ 102 sx
30-025-40274			· · · · · · · · · · · · · · · · · · ·		7.875	5.5	7300	1225 sx	278	CBL
P-8-21S-37E										

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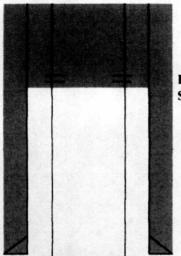
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WBDU 025	6/30/80	6880	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1335	672 sx	GL	Circ 90 sx
30-025-26265					7.875	5.5	6858	1760 sx	GL	Circ 75 sx
C-8-21S-37E										
Mittie Weatherly 003	10/13/52	6651	Penrose Skelly; Grayburg	0	17.5	13.375	314	325 sx	GL	Circ
30-025-06649					11	8.625	2812	1500 sx	GL	Circ
C-17-21S-37E					7.875	5.5	6650	350 sx	3200	CBL
WBDU 104	10/6/11	7293	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1398	750 sx	GL	Circ 131 sx
30-025-40272					7.875	5.5	7293	1190 sx	538	CBL
G-8-215-37E										
WBDU 065	11/16/51	6684	Eunice; Bli-Tu-Dr, N		12.5	10.75	282	250 sx	GL	Circ
30-025-06642					8.75	7.625	2759	1100 sx	GL	Circ
B-17-21S-37E					6.625	5.5	6582	200 sx	2600	Temp Survey

WBDU 040	11/12/49	6758	Eunice; Bli-Tu-Dr, N	1	17	13.375	229	250 sx	GL	Circ
30-025-06433					12.25	9.625	2818	1100 sx	1375	Temp Survey
P-8-21S-37E					8.75	7	6753	625 sx	2321	Temp Survey
M L Goins 004	8/9/81	6974	Eunice; Bli-Tu-Dr, N	0	12.25	8.625	1312	900 sx	GL	Circ
30-025-27439					7.875	4.5	6974	2300 sx	GL	Circ
I-7-21S-37E										

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Perforate 5 ½" csg. @ 350'. Squeeze cmt. to surface w/175 sx.

12 ¼" Hole; 8 5/8" csg. set @ 1,322' Cemented w/650 sx. Cement circulated to surface

Perforate 5 1/2" csg. @ 1,372'. Set 25 sx. cmt. plug @ 1,372'

Set 25 sx. cmt. plug @ 2,567'

TOC @ 2,900' (Well File)

Set cement retainer @ 3,400'. Pump 67 Bbls of Class C cmt. through retainer. Sting out of retainer & set 6 sx. cmt. on tool.

Casing collapsed @ 3,553'

San Andres Perforations: 4,151'-4,196' Squeezed w/100 Sx. cmt.

Blinebry Perforations: 5,666'-5,876'

Drinkard Perforations: 6,660'-6,700'

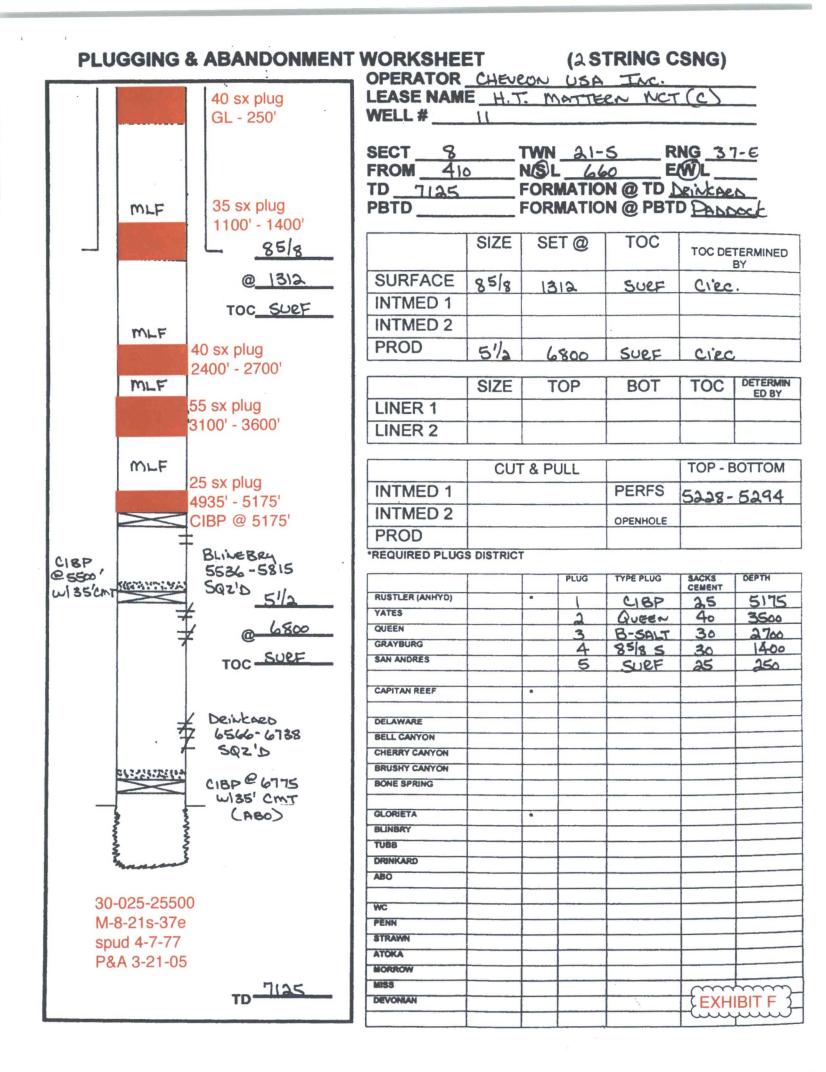
7 7/8" Hole; 5 1/2" csg. set @ 6,836' Cemented w/625 Sx. TOC @ 2,900' by Well File EXHIBIT F

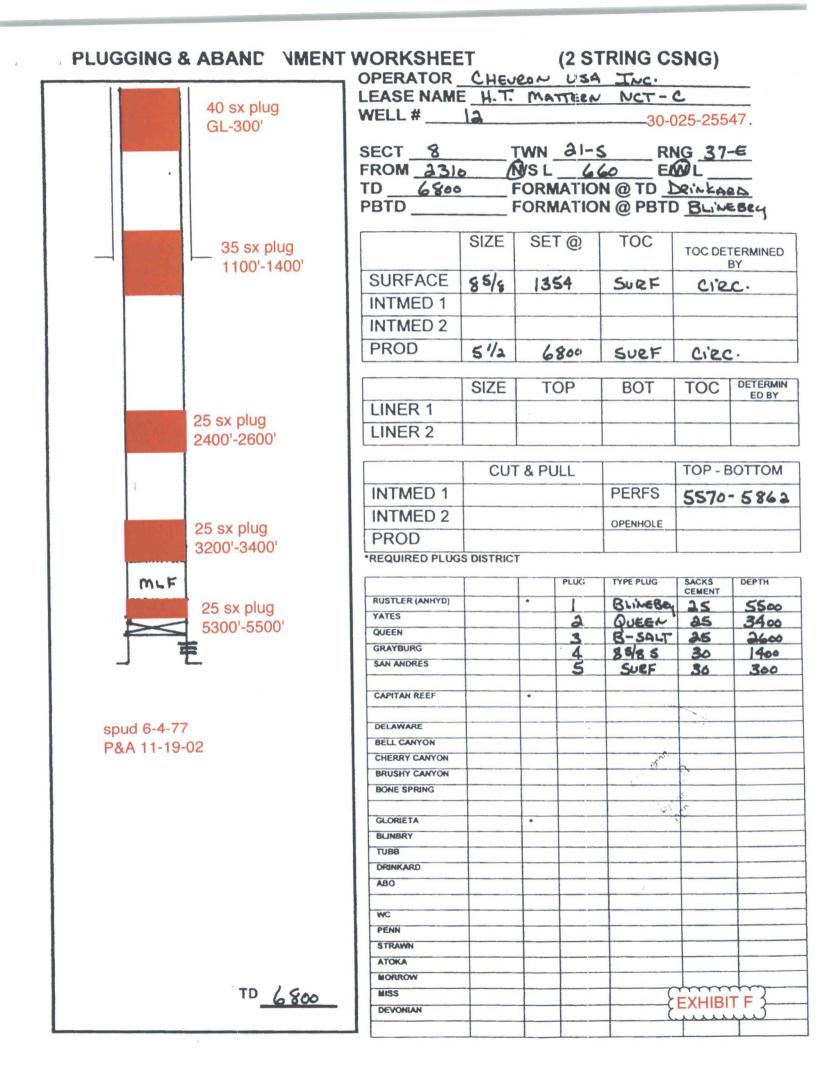
Apache Corporation Form C-108: 8 Wells-WBDU PA Schematic-Hawk B-1 No. 14

T.D. 6,836'

Conoco, Inc. Hawk B-1 No. 14 API No. 30-025-22859 1980' FSL & 1980' FEL, Unit J Section 8, T-21S, R-37E Type Well: Producer

> Date Drilled: 11/68 Date PA'd: 10/97







(A CT W######:

New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicate POD has been repla & no longer serves water right file.)	es the aced	(R=POD replaced, O=orphan C=the file closed)	ned,							V 2=NE est to la	3=SW 4=S rgest) (1	E) NAD83 UTM i	n meters)	(In	feet)	
			POD													
			Sub-		Q	Q	Q								W	ater
POD Number		Code		County						-	Х	Y		-	thWater Co	lumn
<u>CP01026 POD1</u>	1 mi	le =	CP	LE	1	1	3	17	21S	37E	669809	3594958	1500	167	95	72
CP 00986 POD1	1610) m	СР	LE	4	3	4	06	21S	37E	669110	3597437	1707	154		
CP 00447 POD1			CP	LE	2	4	4	18	21S	37E	669647	3594451* 🃢	2030	95		
CP 00448 POD1			CP	LE	2	4	4	18	21S	37E	669647	3594451*	2030	100		
<u>CP 00676</u>			СР	LE		4	4	18	215	37E	669548	3594352*	2160	140	106	34
<u>CP 00877</u>			СР	LE				06	21S	37E	668920	3598153* 🌘	2354	150	73	77
<u>CP 00895</u>			СР	LE		1	1	20	21S	37E	669957	3593956*	2419	163		
<u>CP 00554</u>			CP	LE		2	2	16	215	37E	672744	3595610*	2441	80	70	10
CP 01245 POD1			СР	LE			4	18	21S	37E	668676	3594411	2589	220		
<u>CP 01486 POD1</u>			СР	LE	4	2	1	05	21S	37E	670333	3599085	2754	140	52	88
<u>CP 00552</u>			CP	LE		2	4	04	21S	37E	672700	3598022* 🌘	2844	90	75	15
<u>CP 00553</u>			CP	LE		2	4	04	215	37E	672700	3598022*	2844	90	75	15
CP 00985 POD1			CP	LE	4	4	2	19	215	37E	669595	3593453	2992	160		
CP 00446 POD1			СР	LE	1	4	4	13	21S	36E	667871	3594424*	3177	185	148	37
<u>CP 00446 POD2</u>			CP	LE	1	4	4	13	215	36E	667871	3594424* 🍕	3177	200	151	49
												Ave	erage Depth to Wa	ter:	93 feet	:
													Minimum De	epth:	52 feet	t
													Maximum De	pth:	151 feet	t
Record Count: 15	5				aa		~ ~ ~	****								
UTMNAD83	Radius S	Search (in	meters):													
Easting (X)	: 6704	12		North	ing	(Y)	:	3596	332			Radius: 322	0			
*I FFM Is setion mos		DICC														

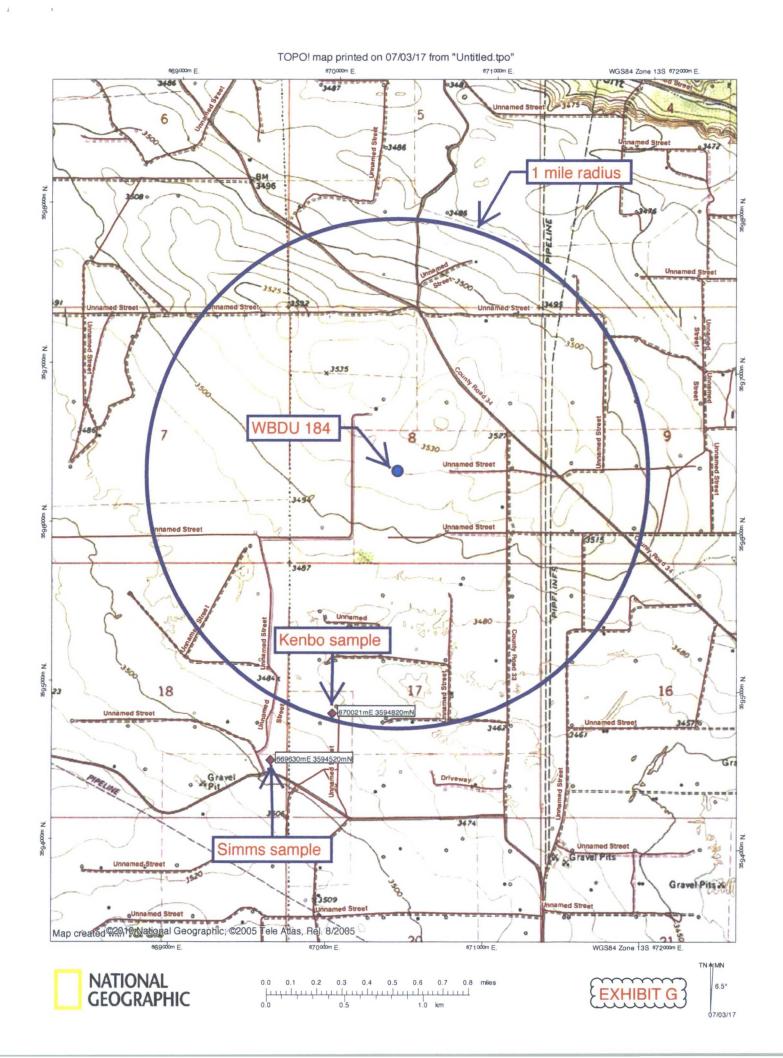
*UTM location was derived from PLSS - see Help

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.

8/5/17 2:28 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER





Analytical Report	
Lab Order 1705755	

Date Reported: 5/23/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Permits West			Client Samp	le ID: Ke	nbo Well	
Project: Apache WBDU 221,183			Collection	Date: 5/9	/2017 10:12:00 AM	
Lab ID: 1705755-001	Matrix:	AQUEOUS	Received	Date: 5/1	5/2017 1:20:00 PM	
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 1664B					Analy	st: SMS
N-Hexane Extractable Material	ND	10.4	mg/L	1	5/17/2017	31792
EPA METHOD 300.0: ANIONS					Analy	st: MRA
Chloride	57	10	mg/L	20	5/16/2017 6:49:50 PM	A R42844
SM2540C MOD: TOTAL DISSOLVED	SOLIDS				Analy	st: KS
Total Dissolved Solids	480	20.0	mg/L	1	5/17/2017 5:54:00 PM	M 31769

EXHIBIT G

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

Qualifiers:

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S

Value exceeds Maximum Contaminant Level.

H Holding times for preparation or analysis exceeded

% Recovery outside of range due to dilution or matrix

Sample Diluted Due to Matrix

ND Not Detected at the Reporting Limit

RPD outside accepted recovery limits

В	Analyte detected in the associated Method Blank

- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical	Report
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Lab Order 1705755

Date Reported: 5/23/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT:	Permits West			Client Samp	le ID: Sin	nms Pond	
Project:	Apache WBDU 221,183			Collection	Date: 5/9	/2017 11:16:00 AM	
Lab ID:	1705755-002	Matrix:	AQUEOUS	Received	Date: 5/1	5/2017 1:20:00 PM	
Analyses		Result	PQL Qu	ual Units	DF	Date Analyzed	Batch
EPA MET	HOD 1664B					Analys	st: SMS
N-Hexan	e Extractable Material	ND	9.75	mg/L	1	5/17/2017	31792
EPA MET	HOD 300.0: ANIONS					Analys	st: MRA
Chloride		130	10	mg/L	20	5/16/2017 7:14:40 PM	R42844
SM2540C	MOD: TOTAL DISSOLVED	SOLIDS				Analys	st: KS
Total Dis	solved Solids	680	20.0	* mg/L	1	5/17/2017 5:54:00 PM	31769



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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Ε	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 7
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	w	Sample container temperature is out of limit as specified

Analytical Report	
Lab Order 1705755	

Date Reported: 5/23/2017

5/17/2017 5:54:00 PM

31769

CLIENT: Permits West Client Sample ID: Decley Pond Apache WBDU 221,183 Collection Date: 5/9/2017 1:12:00 PM **Project:** Received Date: 5/15/2017 1:20:00 PM Lab ID: 1705755-003 Matrix: AQUEOUS Result Analyses **PQL Qual Units DF** Date Analyzed Batch Analyst: SMS **EPA METHOD 1664B** N-Hexane Extractable Material ND 31792 10.9 5/17/2017 mg/L 1 EPA METHOD 300.0: ANIONS Analyst: MRA Chloride 370 10 mg/L 20 5/16/2017 8:04:19 PM R42844 SM2540C MOD: TOTAL DISSOLVED SOLIDS Analyst: KS

20.0

mg/L

970

Hall Environmental Analysis Laboratory, Inc.

EXHIBIT G

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

В

Qualifiers:

Total Dissolved Solids

- 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
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical	Report
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Lab Order 1705755

Date Reported: 5/23/2017

CLIENT: Permits West Client Sample ID: McCasland Tank Apache WBDU 221,183 Collection Date: 5/10/2017 11:15:00 AM **Project:** Lab ID: 1705755-004 Matrix: AQUEOUS Received Date: 5/15/2017 1:20:00 PM **PQL** Qual Units Analyses Result **DF** Date Analyzed Batch **EPA METHOD 1664B** Analyst: SMS N-Hexane Extractable Material ND 11.4 5/17/2017 31792 mg/L 1 **EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 5/16/2017 8:29:09 PM R42844 48 10 20 mg/L SM2540C MOD: TOTAL DISSOLVED SOLIDS Analyst: KS **Total Dissolved Solids** 402 20.0 mg/L 5/17/2017 5:54:00 PM 31769 1

EXHIBIT G

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Ē	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 7
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

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QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1705755

23-May-17

Client: Permits West Project: Apache WBDU 221,183

Sample ID MB-31792	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	1664B			
Client ID: PBW	Batcl	h ID: 31	792	F	RunNo: 4	2900				
Prep Date: 5/17/2017	Analysis D)ate: 5 /	17/2017	5	SeqNo: 1	350672	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	ND	10.0							-	
Silica Gel Treated N-Hexane Extrac	ND	10.0								
Silica Gel Treated N-Hexane Extrac		10.0 ype: LC		Tes	tCode: Ef	PA Method	1664B	<u></u>		
	SampT				tCode: Ef		1664B			
Sample ID LCS-31792	SampT	Type: LC		F		2900	1664B Units: mg/L	7		
Sample ID LCS-31792 Client ID: LCSW	Samp1 Batcl	Type: LC	792 17/2017	F	RunNo: 4	2900		%RPD	RPDLimit	Qual
Sample ID LCS-31792 Client ID: LCSW Prep Date: 5/17/2017	SampT Batcl Analysis D	ype: LC n ID: 31 Date: 5/	792 17/2017	F	RunNo: 4 SeqNo: 1	2900 350673	Units: mg/L	%RPD	RPDLimit	Qual

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
- R RPD outside accepted recovery limits
- 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



QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705755

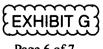
> 23-May-17 _____

Client: Permits West **Project:** Apache WBDU 221,183

Sample ID MB	SampType: mblk	TestCode: EPA Method	300.0: Anions			
Client ID: PBW	Batch ID: R42844	RunNo: 42844				
Prep Date:	Analysis Date: 5/16/2017	SeqNo: 1347914	Units: mg/L			
Analyte	Result PQL SPK value S	PK Ref Val %REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND 0.50					
Sample ID LCS	SampType: Ics	TestCode: EPA Method	300.0: Anions		<u></u>	
Sample ID LCS Client ID: LCSW		TestCode: EPA Method RunNo: 42844	300.0: Anions	<u></u>		
•	SampType: Ics		300.0: Anions Units: mg/L	<u></u>		<u></u>
Client ID: LCSW	SampType: Ics Batch ID: R42844	RunNo: 42844 SeqNo: 1347915		%RPD	RPDLimit	Qual

Qualifiers:

- Value exceeds Maximum Contaminant Level. ۰
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Ρ Sample pH Not In Range
- RL **Reporting Detection Limit**
- W Sample container temperature is out of limit as specified



Page 6 of 7

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

Client: Permits West Project: Apache WBDU 221,183

Sample ID MB-31769	SampType: MBLK	TestCode: SM2540C M	OD: Total Diss	olved So	lids	
Client ID: PBW	Batch ID: 31769	RunNo: 42866				
Prep Date: 5/16/2017	Analysis Date: 5/17/2017	SeqNo: 1348678	Units: mg/L			
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND 20.0					
Total Dissolved Solids Sample ID LCS-31769	ND 20.0 SampType: LCS	TestCode: SM2540C M	OD: Total Diss	olved So	lids	
	····	TestCode: SM2540C M RunNo: 42866	OD: Total Diss	olved So	lids	
Sample ID LCS-31769 Client ID: LCSW	SampType: LCS		OD: Total Diss Units: mg/L	olved So	lids	
Sample ID LCS-31769 Client ID: LCSW	SampType: LCS Batch ID: 31769 Analysis Date: 5/17/2017	RunNo: 42866	Units: mg/L	olved So %RPD	lids RPDLimit	Qual

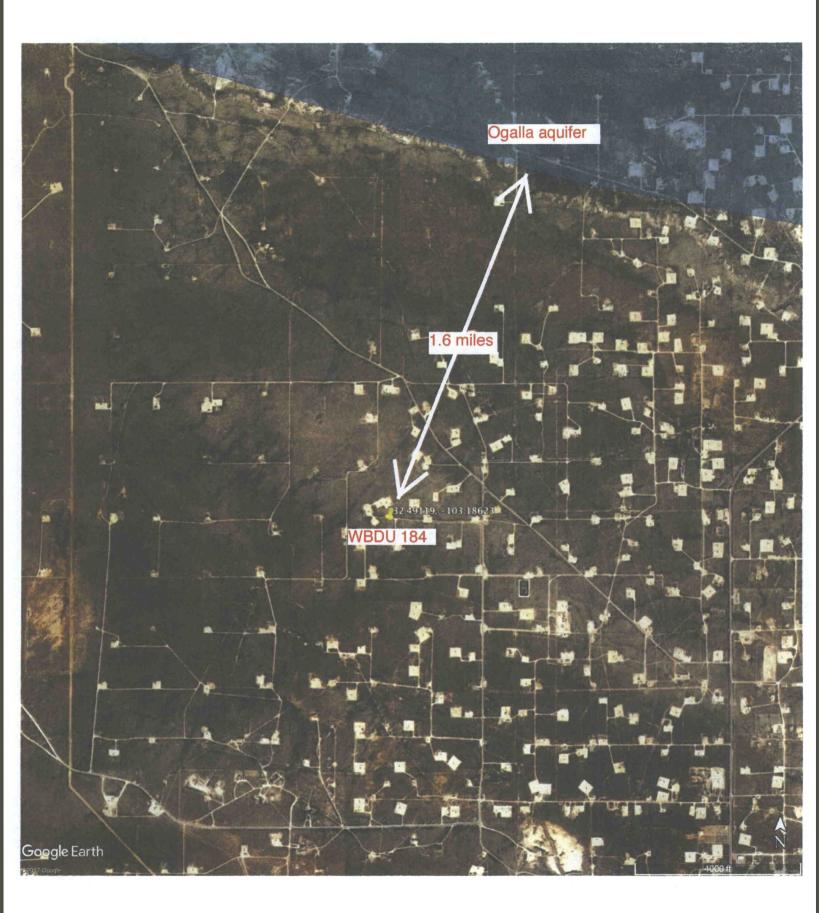
Qualifiers:

- * 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
- R RPD outside accepted recovery limits
- 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



WO#: 1705755

23-May-17

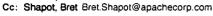








From: Oldani, Martin Martin.Oldani@apachecorp.com Subject: FW: shallow faulting in the vicinity of WBDU Date: January 11, 2016 at 4:27 PM To: brian@permitswest.com



Brian,

As per Mark's comments below, our G&G staff has taken a look at the potential issue of shallow faulting in the WBDU area and have concluded there is none present across the area and no danger of shallow faulting as a conduit to groundwater contamination.

Regards,

MARTIN J. OLDANI PERMIAN REGION EXPLORATION & EXPLOITATION MANAGER Apache main (432) 818 1000 | fax (432) 818 1982 office 6100A | direct (432) 818 1030 | mobile (432) 234-1925 martin.oldani@apachecorp.com

APACHE CORPORATION - PERMIAN REGION 303 Veterans Airway Park Midland, TX 79705

From: Pasley, Mark Sent: Monday, January 11, 2016 4:48 PM To: Oldani, Martin <Martin.Oldani@apachecorp.com> Cc: O'Shay, Justin <Justin.O'Shay@apachecorp.com>; Riley, Brent <Brent.Riley@apachecorp.com>; Shapot, Bret <Bret.Shapot@apachecorp.com>; Piggott, Fiona <fiona.piggott@apachecorp.com> Subject: shallow faulting in the vicinity of WBDU

Martin:

In reference to the meeting this morning where we discussed the possibility of shallow faulting in the WBDU area and its potential impact on the permitting of the injection well(s) into the Drinkard, I submit to you the attached slide set from me and Justin. You will see that we have done several extractions on the seismic data and there is no indication of faulting above the Glorieta which is well above the Drinkard and below the younger evaporites. Also, as we suspected, there are no surface faults mapped in the area – the nearest being more than 50 miles away.

Please contact me or Justin if you have further questions.

Sincerely,

DR. MARK PASLEY

GEOLOGICAL ADVISOR direct +1 432.818.1835 | mobile +1 832.943.9040 | office 6112A

APACHE PERMIAN

303 Veterans Airpark Lane Midland, TX 79705 USA ApacheCorp.com | LinkedIn | Facebook | Twitter | StockTwits | YouTube



Affidavit of Publication

STATE OF NEW MEXICO COUNTY OF LEA

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

> Beginning with the issue dated August 09, 2017 and ending with the issue dated August 09, 2017.

Ahren 11

Publisher

Sworn and subscribed to before me this 9th day of August 2017.

Business Manager

My commission expires Amuary 29, 2019 (Seal) OFFICIAL SEAL GUSSIE BLACK Notary Public State of New Mexico My Commission Expires

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said 02108485

BRIAN WOOD PERMITS WEST 37 VERANO LOOP SANTA FE, NM 87508 00197715



LEGAL NOTICE August 9, 2017

Apache Corporation is applying to drill the West Blinebry Drinkard Unit 184 well as a water Injection well. The well is staked at 1820 FSL & 2300 FWL, Sec. 6, T. 21 S., R. 37 E., Lea County, NM. This is 4 miles northwest of Eunice, NM. It will inject water into the Blinebry, Tubb, and Drinkard (maximum Injection pressure = 1,120 psi) from 5,726' to 6,825'. Injection will be at a maximum rate of 3,000 bwpd. Interested partles must file objections or requests for hearing with the NM OII 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.



August 10, 2017

Millard Deck Estate TYPICAL LETTER c/o Harding & Carbone Inc.

1235 North Loop West

Houston RX 77008

Apache Corporation is planning (see attached application) to complete its West Blinebry Drinkard Unit 184 as 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:West Blinebry Drinkard Unit 184 (BLM lease)TD = 6953'Proposed Injection Zones:Blinebry, Tubb, & Drinkard from 5726' to 6825'Where:1820' FSL & 2300' FWL Sec. 8, T. 21 S., R. 37 E., Lea County, NMApproximate Location:4 air miles NNW of Eunice, NMApplicant Name:Apache Corporation(432) 818-1062Applicant'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. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

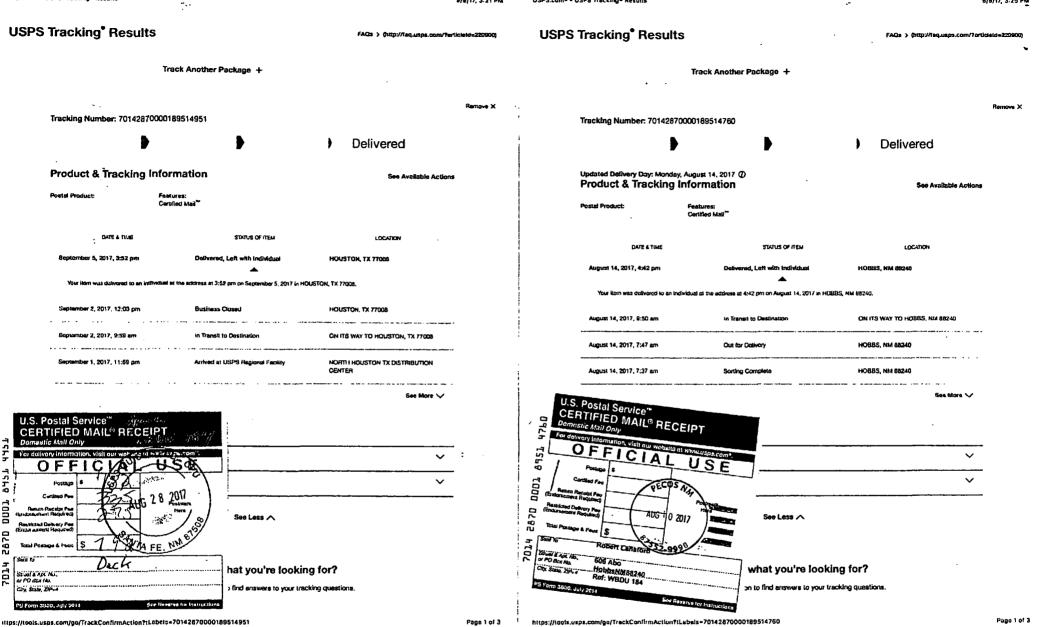
Brian Wood



9/9/17, 3:21 PM

USPS.com[®] - USPS Tracking[®] Results

8/9/17, 3:25 PM





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August 13, 2017, 9:24 am In Transit in Centionios ON IT'S WAY TO FORT WORTH, TX 78115 August 12, 2017, 2:44 pm Arrived at USPS Regional Facility FORT WORTH TX DISTRIBUTION CENTER

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Postel Product: August 16, 2017, 12:24 pm FORT WORTH TX DISTRIBUTION CENTER

See More 🗸

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Product & Tracking Information

DATE & TIME STATUS OF ITEM LOCATION

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Page 1 of 3



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See Available Actions

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HOBBS, NM 88240

ON ITS WAY TO HOBBS, NM 58240

HOB85, NM 88240

USPS Tracking[®] Results

Tracking Number: 70142870000189514878



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August 14, 2017, 7:47 am Distribution to PO Box in Progress

See More 🗸

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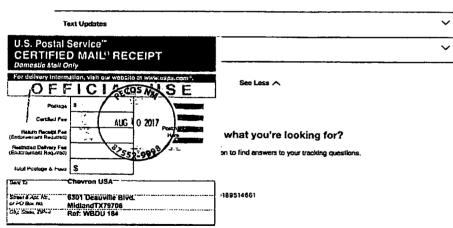
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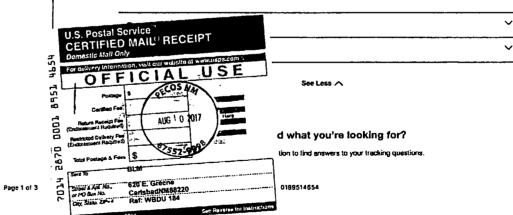
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Page 1 of 3

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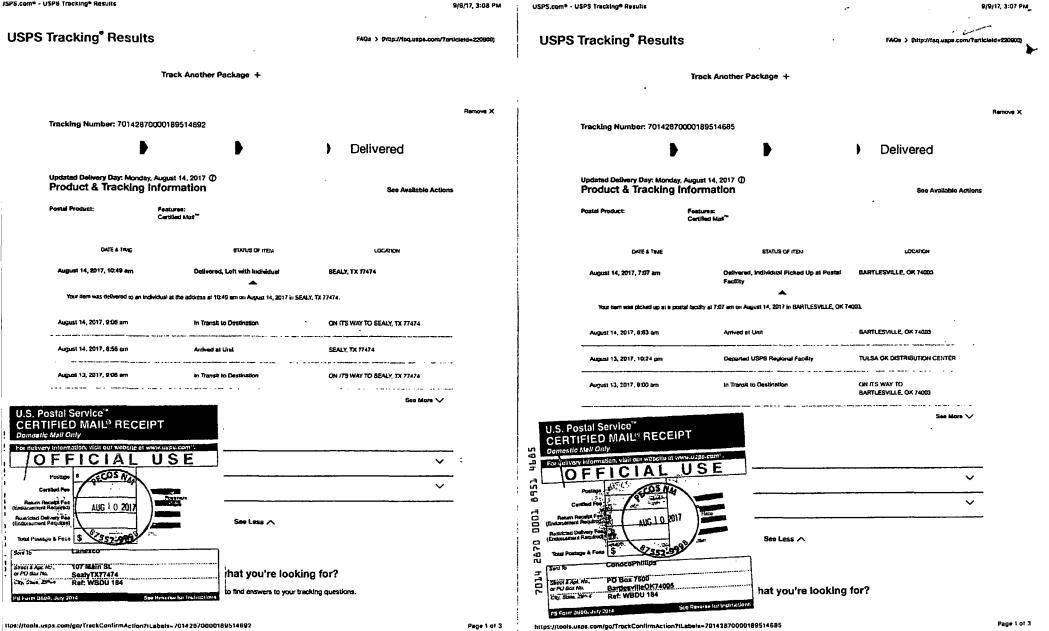






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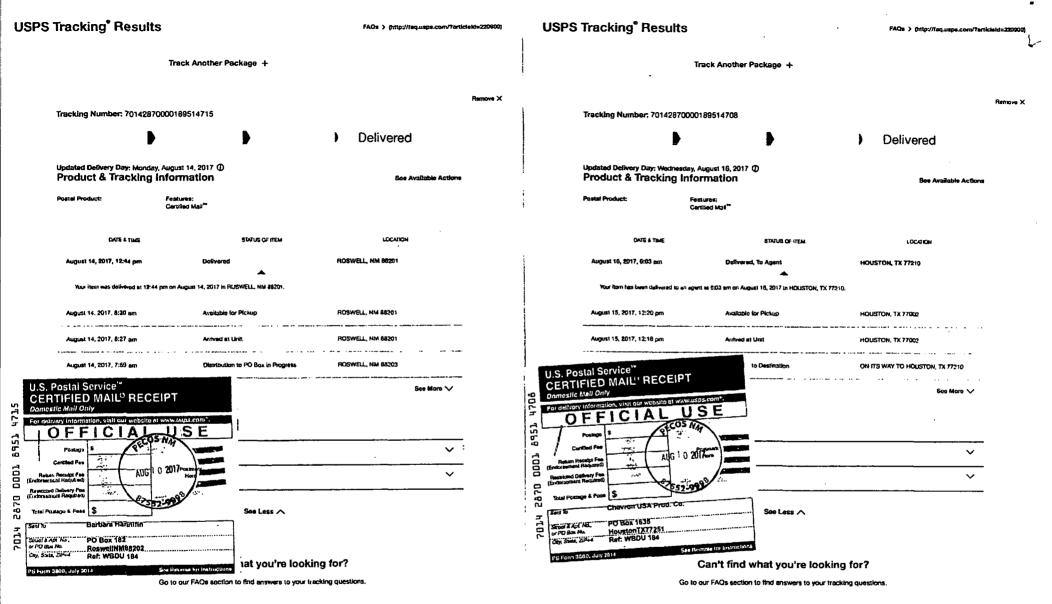


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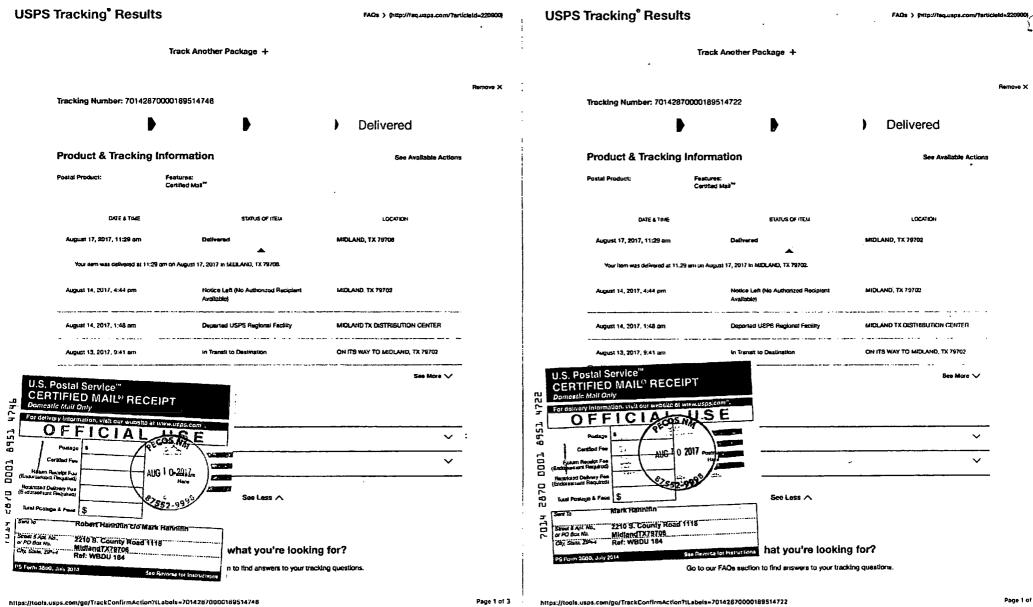
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Page 1 of 3

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9/9/17, 3:13 PM USPS.com^e - USPS Tracking^e Results 9/9/17, 3:12 PM **USPS Tracking**[®] Results USPS Tracking[•] Results FAQs > (http://faq.usps.com/?prticteld=220900) FAQs > (http://leq.usps.com/7articleid=220900 / Track Another Package + Track Another Package + Remove X Remove X Tracking Number: 70142870000189514753 Tracking Number: 70142870000189514777 Delivered Delivered **Product & Tracking Information Product & Tracking Information** See Available Actions See Available Actions Postal Product: Features: Postal Product: Features: Certified Mab" Certified Mail" DATE & TIME STATUS OF ITEM LOCATION STATUS OF ITEM LOCATION DATE & TIME red, Left with Individual MIDLAND, TX 79705 August 28, 2017, 12:57 pm Delivered MIDLAND, TX 79701 August 14, 2017, 11:31 em -Your item was delivered at 12:57 pm on August 28, 2017 in MIDLAND, TX 79701. Your item was delivered to an individual at the address at 11:31 am on August 14, 2017 in MIDLAND, TX 79705 ON ITS WAY TO MIDLAND, TX / 19705 August 24, 2017, 9:07 am Available for Pickup MIDLAND, TX 79702 August 14, 2017, 9:13 am In Transit to Destination ب المراجعة مع معالية المراجع MIDLAND, TX 79701 August 13, 2017, 10:13 pm Departed USPS Regional Fecility MIDLAND TX DISTRIBUTION CENTER August 24, 2017, 8:39 am Antwed at Unit والمعامية فالمعامية ON ITS WAY TO MIDLAND, TX 79705 August 13, 2017, 9:41 am In Transit to Destination August 17, 2017, 9:49 am ON ITS WAY TO MIDLAND, TX 79701 in Transil to Destination U.S. Postal Service" CERTIFIED MAIL^D RECEIPT Reg More V See More V U.S. Postal Service" Domestic Mail Only ß CERTIFIED MAIL® RECEIPT 5 For cell 1777 Domestic Mall Only sas com OFFICIAL USE For delivery information, visit our website of revieweed, com . 8951 OFFICIAL USE OF OS NA 8951 Pustan \mathbf{v} ECOS NA \sim Poctos ~ 2007 Castiled Fe AUG | 0 2017 H 1000 Hoten Recept Fee AUG 1 0 2017 2870 Sec. Sitricted Datesry Fee 2870 Thread I See Less 🔨 See Less 🔨 John Handrix Cor Total Postage & Fees 7014 6 Desta Dr., Suite 2100 MidlandTX79795 Ref: WBDU 184 See 1 Stroat & Apl Ha, MM Co. Inc. 7014 or HO bax No. Street & Act. No., or PO Bax No. PO Box 2479 City State 200+4 Midland 1X79702 Can Dara ZP-4 Ref: WBDU 184 PS Form 3820, July 2014 tee liesense for insure liesense hat you're looking for? hat you're looking for?

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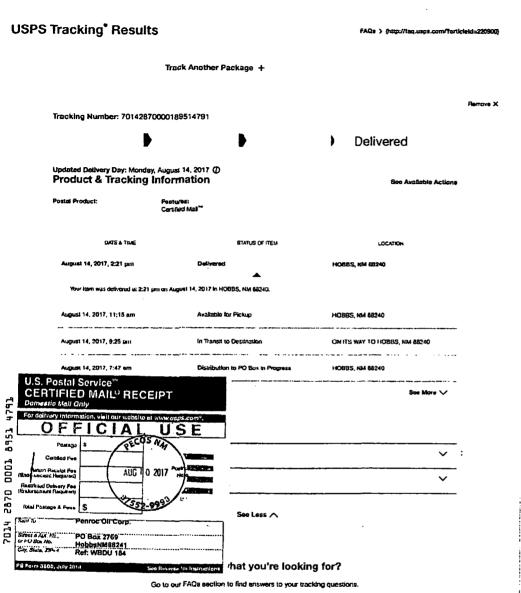
Go to our FAQs section to find answers to your tracking questions.

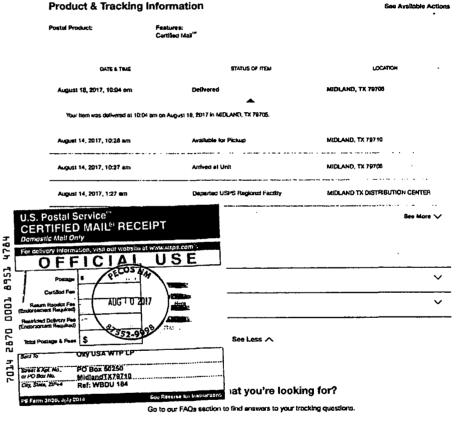
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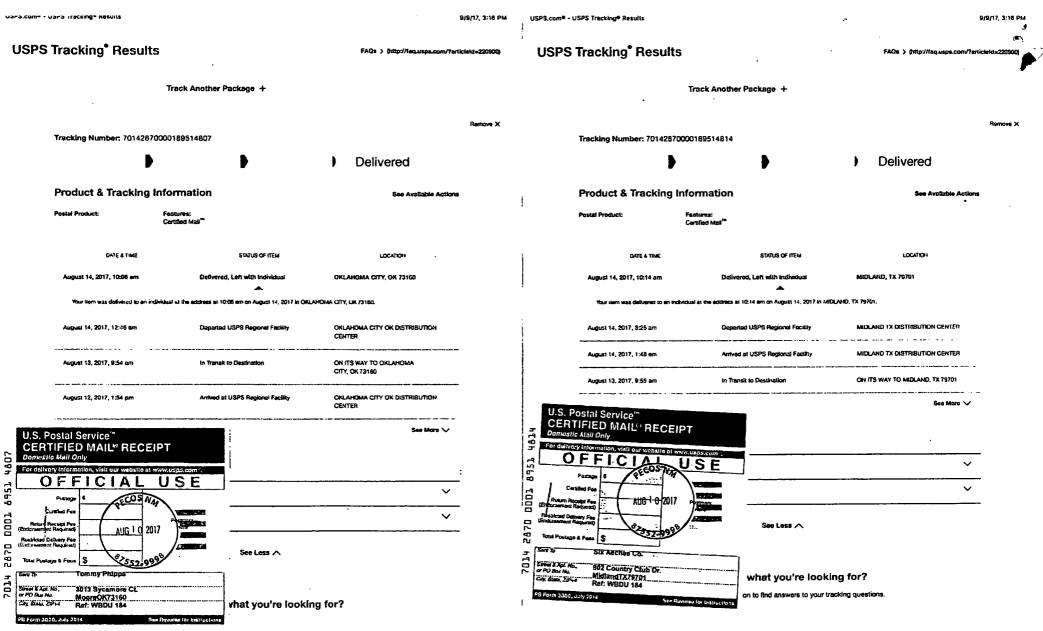
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