

District I
1625 N French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax (575) 393-0720

District II
811 S First St., Artesia, NM 88210
Phone (575) 748-1283 Fax (575) 748-9720

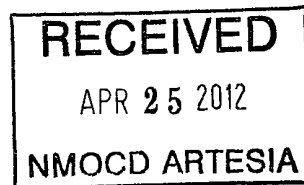
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone (505) 334-6178 Fax (505) 334-6170

District IV
1220 S St Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax (505) 476-3462

State of New Mexico
Energy Minerals and Natural Resources

Form C-101
Revised December 16, 2011

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



Permit

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address		² OGRID Number
Apache Corporation		873
303 Veterans Airpark Ln., #3000, Midland, TX 79705		³ API Number 30-015-03188
⁴ Property Code 001465	⁵ Property Name Empire Abo Unit	⁶ Well No 45

⁷ Surface Location

UL - Lot E	Section 30	Township 17 S	Range 29 E	Lot Idn	Feet from 2310	N/S Line North	Feet From 330	E/W Line West	County Eddy
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⁸ Pool Information

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Additional Well Information

⁹ Work Type D	¹⁰ Well Type S	¹¹ Cable/Rotary R	¹² Lease Type S	¹³ Ground Level Elevation 3,660'
¹⁴ Multiple No	¹⁵ Proposed Depth 6375'	¹⁶ Formation SWD; Abo	¹⁷ Contractor	¹⁸ Spud Date upon approval
Depth to Ground water >100'		Distance from nearest fresh water well 2,647'		Distance to nearest surface water >mile

¹⁹ Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf.	11"	8-5/8"	24	724'	300 sx	GL
Prod.	7-7/8"	5-1/2"	14 & 15.5	6,375'	600 sx	1,180'

Casing/Cement Program: Additional Comments

Will drill to original TD (6375) & complete as SWD (5998-6334).

Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
	2,000	2,000	

I hereby certify that the information given above is true and complete to the best of my knowledge and belief

I further certify that the drilling pit will be constructed according to NMOCD guidelines ☐, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Signature

Printed name Brian Wood

Title Consultant

E-mail Address brian@permitswest.com

Date Apr. 23, 2012 Phone (505) 466-8120

OIL CONSERVATION DIVISION

Approved By.

Title

Approved Date

Expiration Date

Conditions of Approval Attached

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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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-03188	² Pool Code 96091	³ Pool Name SWD; Abo
⁴ Property Code 001465	⁵ Property Name Empire Abo Unit	⁶ Well Number 45
⁷ OGRID No. 873	⁸ Operator Name Apache Corporation	⁹ Elevation 3,660' GL

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	30	17 S	29 E		2310	North	330	West	Eddy

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.

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

¹⁶ 	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature _____ Date 4-9-12 Printed Name Brian Wood E-mail Address brian@permitswest.com		
	¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Dec. 7, 1960 Date of Survey Signature and Seal of Professional Surveyor Original survey by James Brown on file with OCD Certificate Number 542		

Apache Corp.

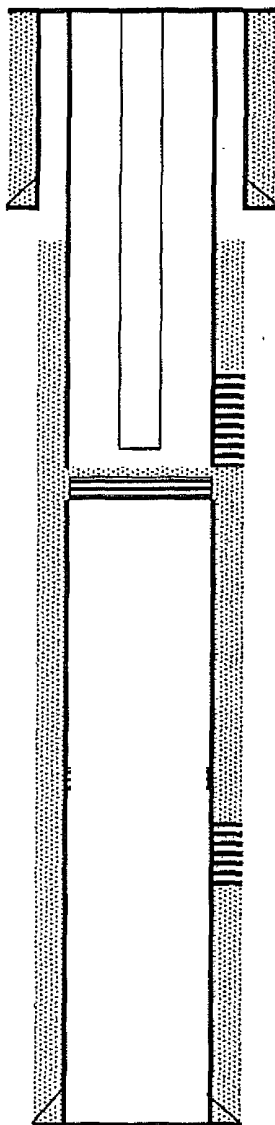
GROUP: Permian North
FIELD: Artesia (BP)
LEASE/UNIT: Empire Abo Unit
COUNTY: Eddy
API: 30-015-03188

DATE: Mar. 13, 2012
BY: Sarah Hardin
WELL: B-45
STATE: New Mexico

Unit Letter E, Section 30, T-17-S, R-29-E
Spud Date: 12/30/60

KB = 11'
GL = 3660'

"As Is"



8 5/8" 24# J-55 Set @ 724'
CMT W/ 300 SX (SURF/CIRC)

2 7/8" TUBING @ 5897'

ABO SHALE

8/98: Perf @ 5998'-6180' w/1 JSPF
8/98: Acidized w/3150 gals 15% NEFE
8/98: Frac w/61140# 20/40 sand
8/98: Possible CR @ 6198' w/cmt (Did not state that it was drilled out in reports)

ABO

2/71: Perf @ 6207', 6209', 6216', 6235', 6244', 6247', 6260', 6278', 6283', 6289' w/1 JSPF
2/71: Acidized w/5000 gals 20% LSTNE
3/71: Acidized w/5000 gals 20% LSTNE
8/71: Frac'd w/20000 gals mod brine & 35000 # 20/40 sand @ 17.9 BPM
9/88: Perf @ 6212'-6246'
9/88: Acidized w/1400 gals
8/98: Sq'd 6207'-6289' w/125 sx Class C cmt
9/88: CICR @ 6265'

ABO

8/71: 6306'-6311' w/1 JSPF
8/71: Acidized w/1500 gals 20% HCL-NE

ABO

1/61: Perf @ 6269'-92', 6306'-11', 6328'-34'
1/61: Acidized w/3000 gals acid
2/71: Sq'd perms w/250 sx Class C

5 1/2" 14/15.5# J-55 Set @ 6375'
CMT W/ 600 SX & 50 gal latex (TOC=1180')

TD: 6375'
PBTD: 6198'

INJECTION WELL DATA SHEET

OPERATOR: APACHE CORPORATION

WELL NAME & NUMBER: EMPIRE ABO UNIT 45

WELL LOCATION: <u>2310 FNL & 330 FWL</u>	<u>E</u>	<u>30</u>	<u>17 S</u>	<u>29 E</u>
FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: <u>11"</u>	Casing Size: <u>8-5/8"</u>
Cemented with: <u>300</u> sx.	<i>or</i> _____ ft ³
Top of Cement: <u>SURFACE</u>	Method Determined: <u>VISUAL</u>

Intermediate Casing

Hole Size: _____	Casing Size: _____
Cemented with: _____ sx.	<i>or</i> _____ ft ³
Top of Cement: _____	Method Determined: _____

Production Casing

Hole Size: <u>7-7/8"</u>	Casing Size: <u>5-1/2"</u>
Cemented with: <u>600</u> sx.	<i>or</i> _____ ft ³
Top of Cement: <u>1,180'</u>	Method Determined: <u>temperature</u>
Total Depth: <u>6,375'</u>	<u>survey</u>

Injection Interval (not continuous)

5,998' feet to 6,334'

(Perforated or Open Hole; indicate which)

