

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

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

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

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

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

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

RECEIVED

DEC 11 2010

AMOC D ARTESIA

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-41723	Pool Code 3250	Pool Name Atoka Glorieta Yeso
Property Code 38945	Property Name PATTON 5 FEE	Well Number 3H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3380'

Surface Location

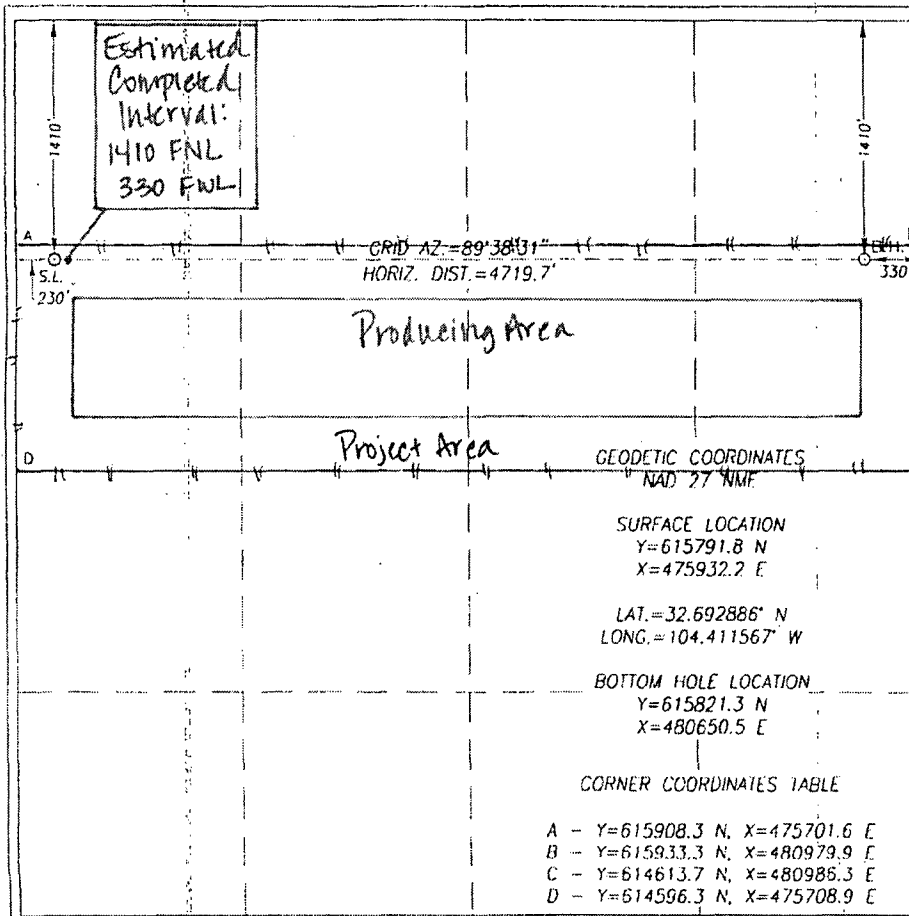
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	5	19-S	26-E		1410	NORTH	230	WEST	EDDY

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
H	5	19-S	26-E		1410	NORTH	330	EAST	EDDY

Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.
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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



OPERATOR CERTIFICATION

I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature: [Signature] Date: 12-11-13

Printed Name: Kelly J. Holly

E-mail Address: kholly@concho.com

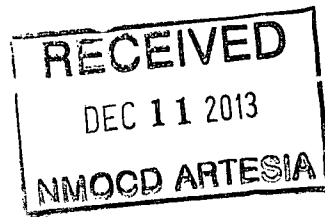
SURVEYOR CERTIFICATION

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.

JULY 8, 2013

Date of Survey
Signature & Seal of Professional Surveyor:

[Signature]
Certificate Number: 12641
Ronald J. Eidson 3239
ACK REL W.O. 13.11.0786 JWSC W.O. 13.13.1364



Apache Corporation

Eddy County, New Mexico (NAD 83)

Sec 32, T17S, R28E

AB State 647 #13 API# 30-015-41497

Wellbore #1

Design: Wellbore #1

Standard Survey Report

16 October, 2013





DDC
Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well AB State 647 #13
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3700.0usft (Capstar)
Site:	Sec 32, T17S, R28E	MD Reference:	WELL @ 3700.0usft (Capstar)
Well:	AB State 647 #13	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Eddy County, New Mexico (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 32, T17S, R28E		
Site Position:		Northing:	651,211.44 usft
From:	Map	Easting:	582,974.92 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 47' 24.499 N
		Longitude:	104° 11' 52.221 W
		Grid Convergence:	0.07 °

Well	AB State 647 #13		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 47' 2.964 N
		Longitude:	104° 12' 18.207 W
		Ground Level:	3,689.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	9/20/2013	7.64
			Dip Angle
			(°)
			60.54
			Field Strength
			(nT)
			48,655

Design	Wellbore #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			359.00

Survey Program	Date 10/16/2013		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
86.6	374.0	GyroData Gyro (Wellbore #1)	Good_gyro
447.0	5,065.0	MWD (Wellbore #1)	Good Gyro

Survey										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn	
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate	
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
86.6	0.50	300.45	86.6	0.2	-0.3	0.2	0.58	0.58	0.00	
115.5	0.55	287.18	115.5	0.3	-0.6	0.3	0.45	0.17	-45.92	
143.1	0.52	287.14	143.1	0.4	-0.8	0.4	0.11	-0.11	-0.14	
171.3	0.43	275.66	171.3	0.4	-1.0	0.4	0.46	-0.32	-40.71	
200.3	0.37	296.81	200.3	0.5	-1.2	0.5	0.55	-0.21	72.93	
230.3	0.19	282.23	230.3	0.5	-1.4	0.6	0.64	-0.60	-48.60	
258.6	0.25	279.87	258.6	0.5	-1.5	0.6	0.21	0.21	-8.34	
286.8	0.27	296.78	286.8	0.6	-1.6	0.6	0.28	0.07	59.96	
316.6	0.26	303.28	316.6	0.7	-1.7	0.7	0.11	-0.03	21.81	



DDC
Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well AB State 647 #13
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3700.0usft (Capstar)
Site:	Sec 32, T17S, R28E	MD Reference:	WELL @ 3700.0usft (Capstar)
Well:	AB State 647 #13	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
344.1	0.23	270.33	344.1	0.7	-1.8	0.7	0.52	-0.11	-119.82
374.0	0.19	285.05	374.0	0.7	-1.9	0.7	0.22	-0.13	49.23
Tie In @ 374' MD / 374' TVD									
447.0	0.30	109.90	447.0	0.7	-1.9	0.7	0.67	0.15	-239.93
550.0	0.20	114.60	550.0	0.5	-1.4	0.5	0.10	-0.10	4.56
620.0	1.00	21.50	620.0	1.0	-1.1	1.0	1.47	1.14	-133.00
706.0	1.20	11.80	706.0	2.6	-0.7	2.6	0.32	0.23	-11.28
834.0	1.70	9.00	833.9	5.8	-0.1	5.8	0.39	0.39	-2.19
876.0	1.80	6.30	875.9	7.1	0.1	7.1	0.31	0.24	-6.43
962.0	2.60	356.70	961.8	10.4	0.1	10.3	1.02	0.93	-11.16
1,047.0	3.00	358.80	1,046.7	14.5	0.0	14.5	0.49	0.47	2.47
1,132.0	3.00	1.80	1,131.6	18.9	0.0	18.9	0.18	0.00	3.53
1,260.0	2.50	4.60	1,259.5	25.1	0.3	25.1	0.40	-0.39	2.19
1,346.0	2.90	1.40	1,345.4	29.1	0.5	29.1	0.50	0.47	-3.72
1,431.0	3.60	355.40	1,430.2	33.9	0.4	33.9	0.91	0.82	-7.06
1,517.0	3.50	354.90	1,516.1	39.2	-0.1	39.2	0.12	-0.12	-0.58
1,602.0	3.10	354.00	1,600.9	44.1	-0.6	44.1	0.47	-0.47	-1.06
1,687.0	2.80	355.40	1,685.8	48.5	-1.0	48.5	0.36	-0.35	1.65
1,773.0	2.70	0.00	1,771.7	52.6	-1.1	52.6	0.28	-0.12	5.35
1,858.0	3.00	3.70	1,856.6	56.8	-1.0	56.8	0.41	0.35	4.35
1,944.0	2.90	7.40	1,942.5	61.2	-0.6	61.2	0.25	-0.12	4.30
2,029.0	2.80	10.20	2,027.4	65.4	0.1	65.4	0.20	-0.12	3.29
2,114.0	3.30	12.00	2,112.3	69.8	1.0	69.8	0.60	0.59	2.12
2,200.0	3.50	15.00	2,198.1	74.8	2.1	74.7	0.31	0.23	3.49
2,285.0	3.50	13.50	2,283.0	79.8	3.4	79.7	0.11	0.00	-1.76
2,371.0	3.30	13.70	2,368.8	84.8	4.6	84.7	0.23	-0.23	0.23
2,456.0	3.80	359.70	2,453.7	90.0	5.2	89.9	1.17	0.59	-16.47
2,542.0	3.80	356.80	2,539.5	95.6	5.0	95.5	0.22	0.00	-3.37
2,627.0	3.70	356.80	2,624.3	101.2	4.7	101.1	0.12	-0.12	0.00
2,712.0	3.50	357.00	2,709.1	106.5	4.4	106.4	0.24	-0.24	0.24
2,790.6	3.50	354.26	2,787.6	111.3	4.0	111.2	0.21	0.00	-3.49
Crossed Hard Line @ 2791' MD / 2788' TVD									
2,798.0	3.50	354.00	2,795.0	111.8	4.0	111.7	0.21	0.01	-3.49
2,883.0	3.50	354.70	2,879.8	116.9	3.5	116.8	0.05	0.00	0.82
3,053.0	2.40	344.50	3,049.6	125.5	2.1	125.5	0.71	-0.65	-6.00
3,139.0	1.30	342.10	3,135.5	128.2	1.3	128.1	1.28	-1.28	-2.79
3,224.0	0.70	102.00	3,220.5	129.0	1.5	129.0	2.07	-0.71	141.06
3,352.0	0.50	53.60	3,348.5	129.2	2.7	129.1	0.41	-0.16	-37.81
3,523.0	0.40	77.00	3,519.5	129.7	3.9	129.7	0.12	-0.06	13.68
3,694.0	0.40	111.10	3,690.5	129.7	5.0	129.6	0.14	0.00	19.94
3,865.0	0.50	148.70	3,861.5	128.8	6.0	128.7	0.18	0.06	21.99
4,035.0	0.20	144.50	4,031.5	127.9	6.5	127.8	0.18	-0.18	-2.47
4,206.0	0.30	106.50	4,202.5	127.6	7.1	127.4	0.11	0.06	-22.22



DDC
Survey Report

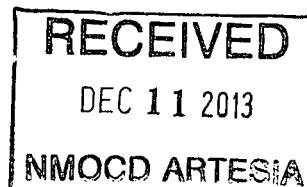


Company:	Apache Corporation	Local Co-ordinate Reference:	Well AB State 647 #13
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3700.0usft (Capstar)
Site:	Sec 32, T17S, R28E	MD Reference:	WELL @ 3700.0usft (Capstar)
Well:	AB State 647 #13	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,334.0	0.40	92.10	4,330.5	127.5	7.9	127.3	0.10	0.08	-11.25	
4,505.0	0.80	52.00	4,501.5	128.2	9.4	128.0	0.33	0.23	-23.45	
4,590.0	0.50	340.90	4,586.5	128.9	9.8	128.7	0.93	-0.35	-83.65	
4,676.0	1.10	9.30	4,672.5	130.1	9.8	129.9	0.82	0.70	33.02	
4,761.0	1.30	8.80	4,757.5	131.8	10.1	131.6	0.24	0.24	-0.59	
4,847.0	1.10	329.40	4,843.4	133.5	9.8	133.3	0.97	-0.23	-45.81	
4,932.0	1.50	319.40	4,928.4	135.0	8.7	134.9	0.54	0.47	-11.76	
5,015.0	0.70	287.80	5,011.4	136.0	7.5	135.9	1.18	-0.96	-38.07	
5,065.0	0.70	287.80	5,061.4	136.2	6.9	136.1	0.00	0.00	0.00	
TD @ 5065' MD / 5061' TVD										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
374.0	374.0	0.7	-1.9	Tie In @ 374' MD / 374' TVD
2,790.6	2,787.6	111.3	4.0	Crossed Hard Line @ 2791' MD / 2788' TVD
5,065.0	5,061.4	136.2	6.9	TD @ 5065' MD / 5061' TVD

Checked By: _____ Approved By: _____ Date: _____



Apache Corporation

Eddy County, New Mexico (NAD 83)

Sec 32, T17S, R28E

AB State 647 #13 API # 30 -015-41497

Wellbore #1

Design: Wellbore #1

Survey Report - Geographic

16 October, 2013





DDC
Survey Report - Geographic



Company:	Apache Corporation	Local Co-ordinate Reference:	Well AB State 647 #13
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3700.0usft (Capstar)
Site:	Sec 32, T17S, R28E	MD Reference:	WELL @ 3700.0usft (Capstar)
Well:	AB State 647 #13	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Eddy County, New Mexico (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 32, T17S, R28E		
Site Position:		Northing:	651,211.44 usft
From:	Map	Easting:	582,974.92 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 47' 24.499 N
		Longitude:	104° 11' 52.221 W
		Grid Convergence:	0.07 °

Well	AB State 647 #13		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 47' 2.964 N
		Longitude:	104° 12' 18.207 W
		Ground Level:	3,689.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	9/20/2013	7.64
			Dip Angle
			(°)
			60.54
			Field Strength
			(nT)
			48,655

Design	Wellbore #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			359.00

Survey Program	Date 10/16/2013		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
86.6	374.0	GyroData Gyro (Wellbore #1)	Good_gyro
447.0	5,065.0	MWD (Wellbore #1)	Good Gyro

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Map	Map	Latitude	Longitude
Depth	(°)	(°)	Depth	(usft)	(usft)	Northing	Easting		
(usft)			(usft)			(usft)	(usft)		
0.0	0.00	0.00	0.0	0.0	0.0	649,032.33	580,759.39	32° 47' 2.964 N	104° 12' 18.207 W
86.6	0.50	300.45	86.6	0.2	-0.3	649,032.53	580,759.07	32° 47' 2.966 N	104° 12' 18.210 W
115.5	0.55	287.18	115.5	0.3	-0.6	649,032.63	580,758.83	32° 47' 2.967 N	104° 12' 18.213 W
143.1	0.52	287.14	143.1	0.4	-0.8	649,032.71	580,758.58	32° 47' 2.968 N	104° 12' 18.216 W
171.3	0.43	275.66	171.3	0.4	-1.0	649,032.76	580,758.35	32° 47' 2.968 N	104° 12' 18.219 W
200.3	0.37	296.81	200.3	0.5	-1.2	649,032.81	580,758.16	32° 47' 2.969 N	104° 12' 18.221 W
230.3	0.19	282.23	230.3	0.5	-1.4	649,032.86	580,758.03	32° 47' 2.969 N	104° 12' 18.223 W
258.6	0.25	279.87	258.6	0.5	-1.5	649,032.88	580,757.92	32° 47' 2.970 N	104° 12' 18.224 W
286.8	0.27	296.78	286.8	0.6	-1.6	649,032.92	580,757.80	32° 47' 2.970 N	104° 12' 18.225 W
316.6	0.26	303.28	316.6	0.7	-1.7	649,032.99	580,757.68	32° 47' 2.971 N	104° 12' 18.227 W
344.1	0.23	270.33	344.1	0.7	-1.8	649,033.03	580,757.57	32° 47' 2.971 N	104° 12' 18.228 W



DDC
Survey Report - Geographic



Company:	Apache Corporation	Local Co-ordinate Reference:	Well AB State 647 #13
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3700.0usft (Capstar)
Site:	Sec 32, T17S, R28E	MD Reference:	WELL @ 3700.0usft (Capstar)
Well:	AB State 647 #13	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
374.0	0.19	285.05	374.0	0.7	-1.9	649,033.04	580,757.46	32° 47' 2.971 N	104° 12' 18.229 W
Tie In @ 374' MD / 374' TVD									
447.0	0.30	109.90	447.0	0.7	-1.9	649,033.01	580,757.53	32° 47' 2.971 N	104° 12' 18.228 W
550.0	0.20	114.60	550.0	0.5	-1.4	649,032.84	580,757.94	32° 47' 2.969 N	104° 12' 18.224 W
620.0	1.00	21.50	620.0	1.0	-1.1	649,033.36	580,758.28	32° 47' 2.974 N	104° 12' 18.220 W
706.0	1.20	11.80	706.0	2.6	-0.7	649,034.94	580,758.74	32° 47' 2.990 N	104° 12' 18.214 W
834.0	1.70	9.00	833.9	5.8	-0.1	649,038.12	580,759.31	32° 47' 3.021 N	104° 12' 18.207 W
876.0	1.80	6.30	875.9	7.1	0.1	649,039.39	580,759.48	32° 47' 3.034 N	104° 12' 18.205 W
962.0	2.60	356.70	961.8	10.4	0.1	649,042.68	580,759.52	32° 47' 3.067 N	104° 12' 18.205 W
1,047.0	3.00	358.80	1,046.7	14.5	0.0	649,046.83	580,759.36	32° 47' 3.108 N	104° 12' 18.207 W
1,132.0	3.00	1.80	1,131.6	18.9	0.0	649,051.28	580,759.38	32° 47' 3.152 N	104° 12' 18.206 W
1,260.0	2.50	4.60	1,259.5	25.1	0.3	649,057.41	580,759.71	32° 47' 3.212 N	104° 12' 18.202 W
1,346.0	2.90	1.40	1,345.4	29.1	0.5	649,061.46	580,759.91	32° 47' 3.252 N	104° 12' 18.200 W
1,431.0	3.60	355.40	1,430.2	33.9	0.4	649,066.27	580,759.75	32° 47' 3.300 N	104° 12' 18.202 W
1,517.0	3.50	354.90	1,516.1	39.2	-0.1	649,071.57	580,759.30	32° 47' 3.352 N	104° 12' 18.207 W
1,602.0	3.10	354.00	1,600.9	44.1	-0.6	649,076.44	580,758.83	32° 47' 3.401 N	104° 12' 18.213 W
1,687.0	2.80	355.40	1,685.8	48.5	-1.0	649,080.80	580,758.42	32° 47' 3.444 N	104° 12' 18.217 W
1,773.0	2.70	0.00	1,771.7	52.6	-1.1	649,084.92	580,758.26	32° 47' 3.484 N	104° 12' 18.219 W
1,858.0	3.00	3.70	1,856.6	56.8	-1.0	649,089.14	580,758.40	32° 47' 3.526 N	104° 12' 18.217 W
1,944.0	2.90	7.40	1,942.5	61.2	-0.6	649,093.54	580,758.82	32° 47' 3.570 N	104° 12' 18.212 W
2,029.0	2.80	10.20	2,027.4	65.4	0.1	649,097.72	580,759.47	32° 47' 3.611 N	104° 12' 18.205 W
2,114.0	3.30	12.00	2,112.3	69.8	1.0	649,102.15	580,760.35	32° 47' 3.655 N	104° 12' 18.194 W
2,200.0	3.50	15.00	2,198.1	74.8	2.1	649,107.11	580,761.54	32° 47' 3.704 N	104° 12' 18.180 W
2,285.0	3.50	13.50	2,283.0	79.8	3.4	649,112.14	580,762.82	32° 47' 3.754 N	104° 12' 18.165 W
2,371.0	3.30	13.70	2,368.8	84.8	4.6	649,117.10	580,764.02	32° 47' 3.803 N	104° 12' 18.151 W
2,456.0	3.80	359.70	2,453.7	90.0	5.2	649,122.29	580,764.58	32° 47' 3.854 N	104° 12' 18.145 W
2,542.0	3.80	356.80	2,539.5	95.6	5.0	649,127.98	580,764.41	32° 47' 3.911 N	104° 12' 18.146 W
2,627.0	3.70	356.80	2,624.3	101.2	4.7	649,133.53	580,764.10	32° 47' 3.966 N	104° 12' 18.150 W
2,712.0	3.50	357.00	2,709.1	106.5	4.4	649,138.86	580,763.81	32° 47' 4.018 N	104° 12' 18.153 W
2,790.6	3.50	354.26	2,787.6	111.3	4.0	649,143.65	580,763.44	32° 47' 4.066 N	104° 12' 18.158 W
Crossed Hard Line @ 2791' MD / 2788' TVD									
2,798.0	3.50	354.00	2,795.0	111.8	4.0	649,144.10	580,763.40	32° 47' 4.070 N	104° 12' 18.158 W
2,883.0	3.50	354.70	2,879.8	116.9	3.5	649,149.26	580,762.88	32° 47' 4.121 N	104° 12' 18.164 W
3,053.0	2.40	344.50	3,049.6	125.5	2.1	649,157.86	580,761.45	32° 47' 4.206 N	104° 12' 18.181 W
3,139.0	1.30	342.10	3,135.5	128.2	1.3	649,160.52	580,760.67	32° 47' 4.233 N	104° 12' 18.190 W
3,224.0	0.70	102.00	3,220.5	129.0	1.5	649,161.33	580,760.88	32° 47' 4.241 N	104° 12' 18.187 W
3,352.0	0.50	53.60	3,348.5	129.2	2.7	649,161.50	580,762.10	32° 47' 4.242 N	104° 12' 18.173 W
3,523.0	0.40	77.00	3,519.5	129.7	3.9	649,162.08	580,763.28	32° 47' 4.248 N	104° 12' 18.159 W
3,694.0	0.40	111.10	3,690.5	129.7	5.0	649,162.00	580,764.42	32° 47' 4.247 N	104° 12' 18.146 W
3,865.0	0.50	148.70	3,861.5	128.8	6.0	649,161.14	580,765.36	32° 47' 4.239 N	104° 12' 18.135 W
4,035.0	0.20	144.50	4,031.5	127.9	6.5	649,160.27	580,765.92	32° 47' 4.230 N	104° 12' 18.128 W
4,206.0	0.30	106.50	4,202.5	127.6	7.1	649,159.90	580,766.52	32° 47' 4.226 N	104° 12' 18.121 W
4,334.0	0.40	92.10	4,330.5	127.5	7.9	649,159.79	580,767.29	32° 47' 4.225 N	104° 12' 18.112 W
4,505.0	0.80	52.00	4,501.5	128.2	9.4	649,160.50	580,768.83	32° 47' 4.232 N	104° 12' 18.094 W
4,590.0	0.50	340.90	4,586.5	128.9	9.8	649,161.22	580,769.18	32° 47' 4.239 N	104° 12' 18.090 W
4,676.0	1.10	9.30	4,672.5	130.1	9.8	649,162.38	580,769.19	32° 47' 4.251 N	104° 12' 18.090 W
4,761.0	1.30	8.80	4,757.5	131.8	10.1	649,164.14	580,769.47	32° 47' 4.268 N	104° 12' 18.087 W
4,847.0	1.10	329.40	4,843.4	133.5	9.8	649,165.82	580,769.19	32° 47' 4.285 N	104° 12' 18.090 W
4,932.0	1.50	319.40	4,928.4	135.0	8.7	649,167.36	580,768.06	32° 47' 4.300 N	104° 12' 18.103 W
5,015.0	0.70	287.80	5,011.4	136.0	7.5	649,168.34	580,766.87	32° 47' 4.310 N	104° 12' 18.117 W
5,065.0	0.70	287.80	5,061.4	136.2	6.9	649,168.53	580,766.28	32° 47' 4.312 N	104° 12' 18.124 W
TD @ 5065' MD / 5061' TVD									



DDC
Survey Report - Geographic



Company:	Apache Corporation	Local Co-ordinate Reference:	Well AB State 647 #13
Project:	Eddy County, New Mexico (NAD 83)	TVD Reference:	WELL @ 3700.0usft (Capstar)
Site:	Sec 32, T17S, R28E	MD Reference:	WELL @ 3700.0usft (Capstar)
Well:	AB State 647 #13	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
374.0	374.0	0.7	-1.9	Tie In @ 374' MD / 374' TVD
2,790.6	2,787.6	111.3	4.0	Crossed Hard Line @ 2791' MD / 2788' TVD
5,065.0	5,061.4	136.2	6.9	TD @ 5065' MD / 5061' TVD

Checked By: _____ Approved By: _____ Date: _____

Apache Corporation
303 Veterans Airpark Lane, #3000
Midland, TX 79705

AB State 647 #13 API# 30-015-41497
Eddy County, New Mexico 220' FSLT + 350' FWL ULM 32-178-28E

413

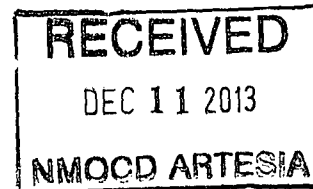
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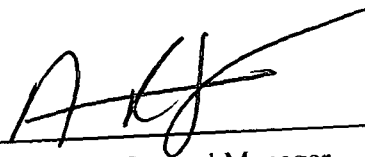
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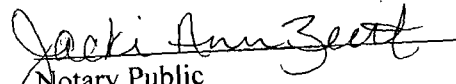
3.61

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Archie Brown - General Manager

The attached instrument was acknowledged before me on the 22nd day of October, 2013 by
Archie Brown - General Manager, CapStar Drilling, Inc.


Notary Public

