

Results of Directional Survey

Zone: **BLINEBRY**

API number:	30-025-39651		
OGRID:		Operator:	APACHE CORP
		Property:	KOOL # 3

surface	ULSTR:	B	14	T 20S	R 38E
				367 FNL	1849 FEL

BH Loc	ULSTR:	B	14	T 20S	R 38E
7310	MD	7304.7	TVD	354 FNL	1674 FEL

Top Perf/OH	ULSTR:	B	14	T 20S	R 38E
6029	MD	6023.8	TVD	354 FNL	1680 FEL

Bot Perf/OH	ULSTR:	B	14	T 20S	R 38E
6500	MD	6494.8	TVD	352 FNL	1680 FEL

	MD	N/S	E/W	VD
	5946	12.80	168.70	5940.8
TOP PERFS/OH	6029	12.98	168.70	6023.80
	6135	13.20	168.70	6129.80
	6326	13.80	168.70	6320.80
BOT PERFS/OH	6500	14.53	168.61	6494.80
	6517	14.60	168.60	6511.80

NEXT TO LAST	7089	13.50	173.40	7083.70
LAST READING	7260	12.90	175.00	7254.70
TD	7310	12.72	175.47	7304.70

Surface Location	367	FN	1849	FE
Projected BHL	354	FN	1674	FE
Location of				
Top Perfs/OH	354	FN	1680	FE
Bottom Perfs/OH	352	FN	1680	FE

SUMMARY of Subsurface Locations

Surface Location	B-14-20S-38E	367	FN	1849	FE	Vert. Depth
Top Perfs/OH	B-14-20S-38E	354	FN	1680	FE	6023.80
Bottom Perfs/OH	B-14-20S-38E	352	FN	1680	FE	6494.80
Projected TD	B-14-20S-38E	354	FN	1674	FE	7304.70

Results of Directional Survey

Zone: TUBB

API number:	30-025-39651		
OGRID:		Operator:	APACHE CORP
		Property:	KOOL # 3

surface	ULSTR:	B	14	T 20S	R 38E
				367 FNL	1849 FEL

BH Loc	ULSTR:	B	14	T 20S	R 38E
7310 MD			7304.7 TVD	354 FNL	1674 FEL

Top Perf/OH	ULSTR:	B	14	T 20S	R 38E
6603 MD			6597.8 TVD	352 FNL	1680 FEL

Bot Perf/OH	ULSTR:	B	14	T 20S	R 38E
6833 MD			6827.8 TVD	352 FNL	1679 FEL

	MD	N/S	E/W	VD
	6517	14.60	168.60	6511.80
TOP PERFS/OH	6603	15.05	168.74	6597.80
	6708	15.60	168.90	6702.80
	6708	15.60	168.90	6702.80
BOT PERFS/OH	6833	15.34	170.27	6827.80
	6899	15.20	171.00	6893.80

NEXT TO LAST	7089	13.50	173.40	7083.70
LAST READING	7260	12.90	175.00	7254.70
TD	7310	12.72	175.47	7304.70

Surface Location	367 FN	1849 FE
Projected BHL	354 FN	1674 FE
Location of		
Top Perfs/OH	352 FN	1680 FE
Bottom Perfs/OH	352 FN	1679 FE

SUMMARY of Subsurface Locations

Surface Location	B-14-20S-38E	367 FN	1849 FE	Vert. Depth
Top Perfs/OH	B-14-20S-38E	352 FN	1680 FE	6597.80
Bottom Perfs/OH	B-14-20S-38E	352 FN	1679 FE	6827.80
Projected TD	B-14-20S-38E	354 FN	1674 FE	7304.70

Results of Directional Survey

Zone: **DRINKARD**

API number:	30-025-39651		
OGRID:		Operator:	APACHE CORP
		Property:	KOOL # 3

surface	ULSTR:	B	14	T 20S	R 38E
				367 FNL	1849 FEL

BH Loc	ULSTR:	B	14	T 20S	R 38E
7310	MD	7304.7	TVD	354 FNL	1674 FEL

Top Perf/OH	ULSTR:	B	14	T 20S	R 38E
6917	MD	6911.8	TVD	352 FNL	1678 FEL

Bot Perf/OH	ULSTR:	B	14	T 20S	R 38E
7084	MD	7078.7	TVD	353 FNL	1676 FEL

	MD	N/S	E/W	VD
	6899	15.20	171.00	6893.80
TOP PERFS/OH	6917	15.04	171.23	6911.79
	7089	13.50	173.40	7083.70
	6899	15.20	171.00	6893.80
BOT PERFS/OH	7084	13.54	173.34	7078.70
	7089	13.50	173.40	7083.70

NEXT TO LAST	7089	13.50	173.40	7083.70
LAST READING	7260	12.90	175.00	7254.70
TD	7310	12.72	175.47	7304.70

Surface Location	367 FN	1849 FE
Projected BHL	354 FN	1674 FE
Location of		
Top Perfs/OH	352 FN	1678 FE
Bottom Perfs/OH	353 FN	1676 FE

SUMMARY of Subsurface Locations

Surface Location	B-14-20S-38E	367 FN	1849 FE	Vert. Depth
Top Perfs/OH	B-14-20S-38E	352 FN	1678 FE	6911.79
Bottom Perfs/OH	B-14-20S-38E	353 FN	1676 FE	7078.70
Projected TD	B-14-20S-38E	354 FN	1674 FE	7304.70

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SEP 30 2010
HOBBSD

APACHE CORPORATION

Lea County, NM (NAD27 NME)

Kool #3

Kool #3

OH

SUR @ B-14-20s-38e, 367/N & 1849/E
BHL @ B-14-20s-38e, 354/N & 1674/E
API # 30-025-39651

Survey: MWD Survey

SDI Standard Survey Report

30 August, 2010

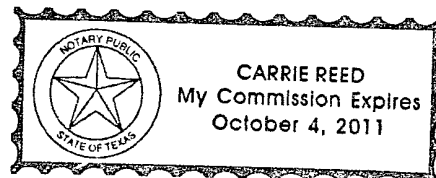
This survey is correct to the best of my knowledge and is supported by actual field data.

Richard

Notorized this date 31st of August, 2010.

Carrie Reed

Notary Signature
County of Midland
State of Texas



Scientific Drilling International, Inc.
SDI Standard Survey Report

Company:	APACHE CORPORATION	Local Co-ordinate Reference:	Well: Kool #3
Project:	Lea County, NM (NAD27:NME)	TVD Reference:	RKB Elev (11') @ 3584.0usft (Capstar #19)
Site:	Kool #3	MD Reference:	RKB Elev (11') @ 3584.0usft (Capstar #19)
Well:	Kool #3	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM:Regulatory

Project:	Lea County, NM (NAD27:NME), USA		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Well	Kool #3					
Well Position	+N/-S	0 0 usft	Northing:	576,596 10 usft	Latitude:	32° 34' 45 387 N
	+E/-W	0 0 usft	Easting:	874,910 60 usft	Longitude:	103° 6' 58.494 W
Position Uncertainty		0 0 usft	Wellhead Elevation:	usft	Ground Level:	3,573 0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	7/30/2010	7 49	60 64	49,000

Design		Actual		
Audit Notes:				
Version:	1 0	Phase:	ACTUAL	Tie On Depth: 0 0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0 0	0 0	86.92

Survey Program		Date	8/3/2010		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
84 5	2,721.8	Gyro Survey (OH)	Keeper	Keeper Standard Rate Gyro	
2,807 0	7,310.0	MWD Survey (OH)	MWD	MWD - Standard ISCWSA	

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
0 0	0 00	0 00	0 0	0 0	0 0	0.00	0 0
84 5	0 92	285 16	84 5	0 2	-0 7	285 16	0 7
144.3	0 88	286 58	144.3	0 4	-1.6	285 56	1 6
232.2	0 58	289 42	232 2	0 8	-2.6	286.44	2 7
320 1	0 40	292 64	320.1	1 0	-3 3	287 37	3 5
406 1	0 43	232 03	406 1	1 0	-3 9	283.94	4 0
437 9	0 35	243 54	437 9	0 8	-4 0	281 76	4 1
533 1	0 42	247 19	533 1	0.6	-4 6	277.10	4 7
628 2	0 46	240 72	628 2	0 3	-5 3	272 76	5 3
723 4	0 45	243 50	723 4	-0 1	-5 9	269.04	5 9
818 6	0 45	253 18	818 6	-0 4	-6 6	266 77	6 6
913 7	0 30	219 87	913 7	-0.7	-7 2	264 62	7 2
1,008 9	0 37	244 76	1,008.9	-1 0	-7 6	262.53	7 7
1,104 0	0 18	248 04	1,104.0	-1 2	-8 0	261 60	8 1
1,199 2	0 50	221.27	1,199 2	-1.6	-8 4	259 56	8 6
1,294 4	0 46	223 32	1,294 4	-2 1	-9 0	256 56	9 2

Scientific Drilling International, Inc.
SDI Standard Survey Report

Company:	APACHE CORPORATION	Local Co-ordinate Reference:	Well: Kool #3
Project:	Lea County, NM (NAD27-NME)	TVD Reference:	RKB Elev (11') @ 3584.0usft (Capstar #19)
Site:	Kool #3	MD Reference:	RKB Elev (11') @ 3584.0usft (Capstar #19)
Well:	Kool #3	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,389.5	0.36	224.04	1,389.5	-2.6	-9.4	254.39	9.8
1,484.7	0.43	260.96	1,484.7	-2.9	-10.0	253.78	10.4
1,579.8	0.38	242.51	1,579.7	-3.1	-10.6	253.69	11.1
1,675.0	0.10	211.69	1,674.9	-3.3	-10.9	253.11	11.4
1,770.2	0.08	187.15	1,770.1	-3.5	-11.0	252.53	11.5
1,865.3	0.24	164.91	1,865.2	-3.7	-11.0	251.25	11.6
1,960.5	0.34	137.25	1,960.4	-4.1	-10.7	248.97	11.5
2,055.7	0.68	87.98	2,055.6	-4.3	-10.0	246.61	10.8
2,150.8	1.18	82.85	2,150.7	-4.2	-8.4	243.68	9.4
2,246.0	1.71	83.44	2,245.9	-3.9	-6.0	237.26	7.2
2,341.1	1.83	76.95	2,341.0	-3.4	-3.1	222.97	4.6
2,436.3	2.16	68.50	2,436.1	-2.4	0.0	179.83	2.4
2,531.4	2.47	68.19	2,531.1	-1.0	3.6	104.95	3.7
2,626.6	2.88	67.40	2,626.2	0.7	7.7	84.61	7.7
2,721.8	2.64	65.12	2,721.3	2.6	11.9	77.81	12.2

Scientific Drilling International, Inc.
SDI Standard Survey Report

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Project:	Lea County, NM (NAD27 NME)	TVD Reference:	RKB Elev (11) @ 3584.0usft (Capstar #19)
Site:	Kool #3	MD Reference:	RKB Elev (11) @ 3584.0usft (Capstar #19)
Well:	Kool #3	North Reference:	Grnd
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM-Regulatory

Project:	Lea County, NM (NAD27 NME), USA		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Well:	Kool #3			
Well Position	+N/-S	0 0 usft	Northing:	576,596 10 usft
	+E/-W	0 0 usft	Easting:	874,910.60 usft
Position Uncertainty		0 0 usft	Wellhead Elevation:	usft
			Ground Level:	3,573 0 usft

Wellbore:	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF200510	7/30/2010	7 49	60 64	49,000

Design:	Actual			
Audit Notes:				
Version:	1 0	Phase:	ACTUAL	Tie On Depth: 0 0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0 0	0 0	0 0	86 92

Survey Program:	Date: 8/30/2010			
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
84 5	2,721.8	Gyro Survey (OH)	Keeper	Keeper Standard Rate Gyro
2,807.0	7,310 0	MWD Survey (OH)	MWD	MWD - Standard ISCWSA

Survey								
Measured Depth	Inclination	Azimuth	True Vertical	North/South	East/West	Closure Azimuth	Closure Distance	
(usft)	(°)	(°)	Depth	(usft)	(usft)	(°)	(usft)	
2,721 8	2 64	65 12	2,721 3	2 6	11 9	77 81	12 2	
2,807 0	2 31	61 46	2,806 4	4 2	15 2	74 48	15 7	
2,902 0	3 58	77 63	2,901 3	5 8	19 8	73 73	20 6	
2,998 0	3 34	96 63	2,997 1	6 1	25 5	76 56	26 2	
3,093 0	3 01	91 39	3,092 0	5 7	30 7	79 48	31 2	
3,186 0	2 81	85 82	3,184 9	5 8	35 4	80 68	35 9	
3,282 0	3 86	87 11	3,280 7	6 1	41 0	81 48	41 4	
3,377 0	3 29	86 99	3,375 5	6 4	46 9	82 17	47 3	
3,473 0	4 28	94 42	3,471 3	6 3	53 2	83 23	53 6	
3,568 0	3 64	91 03	3,566 1	6 0	59 8	84 28	60 1	
3,663 0	3 19	89 71	3,660 9	5 9	65 4	84 81	65 7	
3,759 0	3 67	87 65	3,756 7	6 1	71 2	85 11	71 4	
3,855 0	3 40	86 78	3,852 6	6 4	77 1	85 27	77 4	
3,950 0	3 21	87 34	3,947 4	6 7	82 6	85 39	82 8	
4,046 0	3 12	88 62	4,043 2	6 8	87 9	85 55	88 1	
4,141 0	2 81	89 30	4,138 1	6 9	92 8	85 73	93 0	

Scientific Drilling International, Inc.
SDI Standard Survey Report

Company:	APACHE CORPORATION	Local Co-ordinate Reference:	Well Kool #3
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	RKB Elev (11') @ 3584.0usft (Capstar #19)
Site:	Kool #3	MD Reference:	RKB Elev (11') @ 3584.0usft (Capstar #19)
Well:	Kool #3	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM-Regulatory

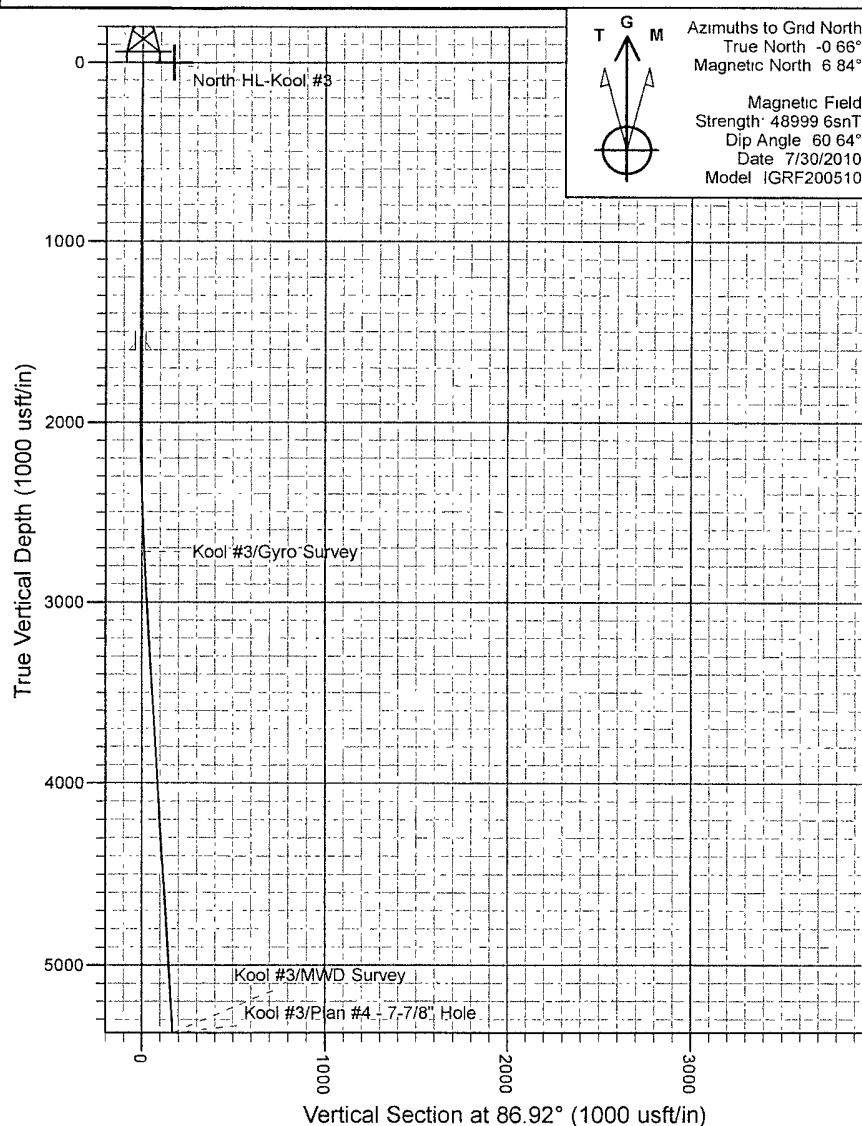
Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
4,237.0	2.60	84.89	4,234.0	7.2	97.3	85.79	97.6
4,332.0	4.35	91.11	4,328.8	7.3	103.0	85.96	103.3
4,427.0	4.44	91.06	4,423.6	7.1	110.3	86.30	110.6
4,522.0	4.47	89.93	4,518.3	7.1	117.7	86.56	117.9
4,617.0	4.20	90.83	4,613.0	7.0	124.9	86.78	125.1
4,712.0	4.06	89.83	4,707.7	7.0	131.7	86.96	131.9
4,807.0	3.17	83.09	4,802.6	7.3	137.7	86.96	137.9
4,903.0	3.09	85.70	4,898.4	7.8	142.9	86.86	143.1
4,998.0	3.08	87.59	4,993.3	8.1	148.0	86.86	148.2
5,092.0	2.87	88.42	5,087.2	8.3	152.9	86.89	153.1
5,186.0	2.97	89.06	5,181.0	8.4	157.7	86.95	157.9
5,281.0	2.78	88.07	5,275.9	8.5	162.4	87.00	162.7
5,376.0	1.81	75.94	5,370.8	9.0	166.2	86.91	166.4
5,471.0	0.74	22.44	5,465.8	9.9	167.9	86.63	168.2
5,566.0	1.01	24.78	5,560.8	11.2	168.5	86.19	168.8
5,661.0	0.24	359.10	5,655.8	12.2	168.8	85.87	169.3
5,756.0	0.14	340.20	5,750.8	12.5	168.8	85.77	169.2
5,946.0	0.08	353.30	5,940.8	12.8	168.7	85.65	169.2
6,135.0	0.14	10.25	6,129.8	13.2	168.7	85.53	169.2
6,326.0	0.24	351.60	6,320.8	13.8	168.7	85.31	169.3
6,517.0	0.20	358.40	6,511.8	14.6	168.6	85.07	169.2
6,708.0	0.45	25.32	6,702.8	15.6	168.9	84.74	169.6
6,899.0	1.24	121.80	6,893.8	15.2	171.0	84.94	171.7
7,089.0	0.51	130.60	7,083.7	13.5	173.4	85.54	173.9
7,260.0	0.69	94.57	7,254.7	12.9	175.0	85.77	175.5
7,310.0	0.69	94.57	7,304.7	12.9	175.6	85.80	176.1

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,721.8	2,721.3	2.6	11.9	Gyro tie-in
7,260.0	7,254.7	12.9	175.0	Last MWD Survey
7,310.0	7,304.7	12.9	175.6	Projection to Bit



Scientific Drilling
Directional Drilling Operations

Project: Lea County, NM (NAD27 NME)
Kool #3
Well: Kool #3
Wellbore: OH
Design: Plan #4 - 7-7/8" Hole
Site:



Azimuths to Grid North
True North -0 66°
Magnetic North 6 84°
Magnetic Field
Strength: 48999 6snT
Dip Angle: 60 64°
Date: 7/30/2010
Model: IGRF200510

+N/-S
0.0

+E/-W
0.0

Northing
576596.10

WELL DETAILS Kool #3

RKB Elev (11') @ 3584.0usft (Capstar #19)

Ground Level: 3573.0

Easting

Latitude

Longitude

Slot

874910.60

32° 34' 45.387 N

103° 6' 58.494 W

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Kool #3, Grid North

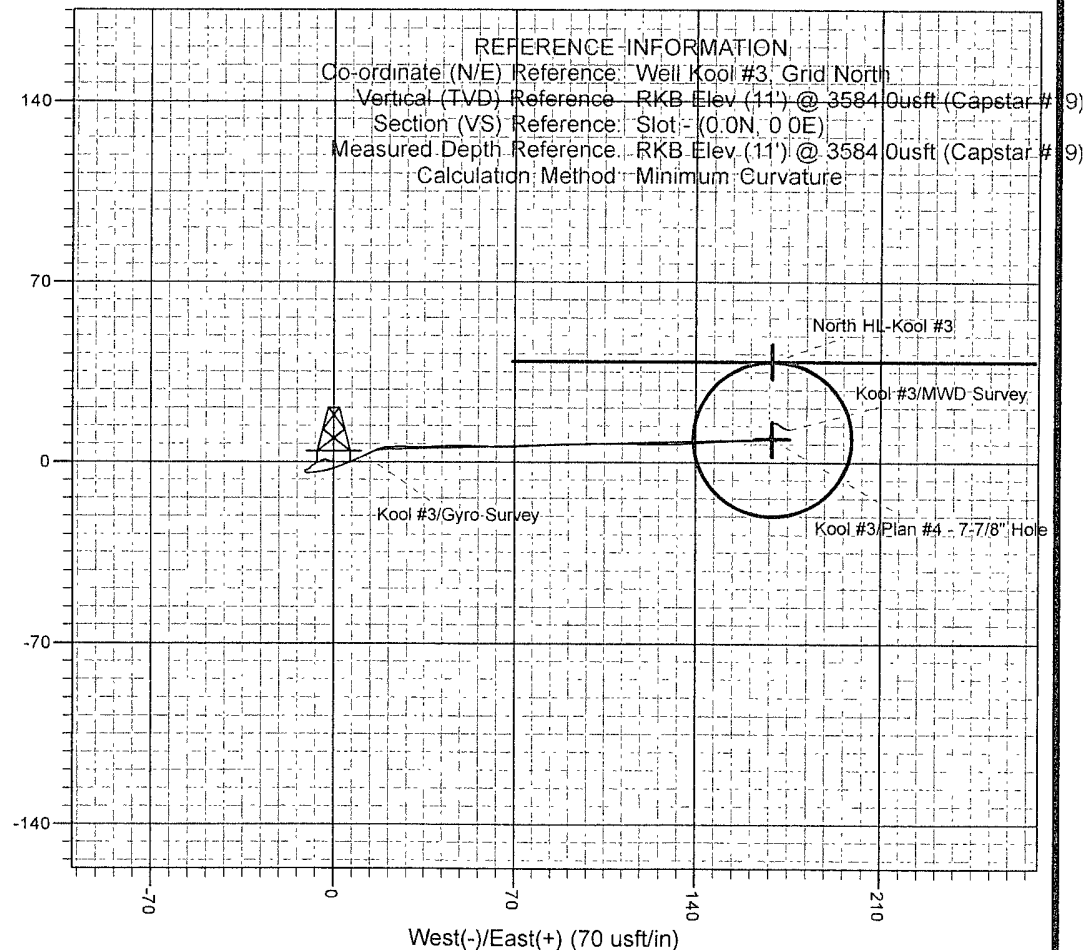
Vertical (TVD) Reference: RKB Elev (11') @ 3584.0usft (Capstar #19)

Section (VS) Reference: Slot: (0.0N, 0.0E)

Measured Depth Reference: RKB Elev (11') @ 3584.0usft (Capstar #19)

Calculation Method: Minimum Curvature

South(-)/North(+) (70 usft/in)



COMPANY DETAILS: APACHE CORPORATION
141131

Calculation Method: Minimum Curvature
Error System: ISCWSA
Scan Method: Closest Approach 3D
Error Surface: Elliptical Conic
Warning Method: Error Ratio

PROJECT DETAILS: Lea County, NM (NAD27 NME)
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

SITE DETAILS: Kool #3
Site Centre Latitude: 32° 34' 45.387 N
Longitude: 103° 6' 58.494 W
Positional Uncertainty: 0.0
Convergence: 0.66
Local North: Grid