

REVERSED PROPOSED PATH

Apache Corporation

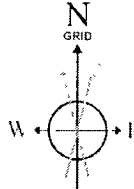
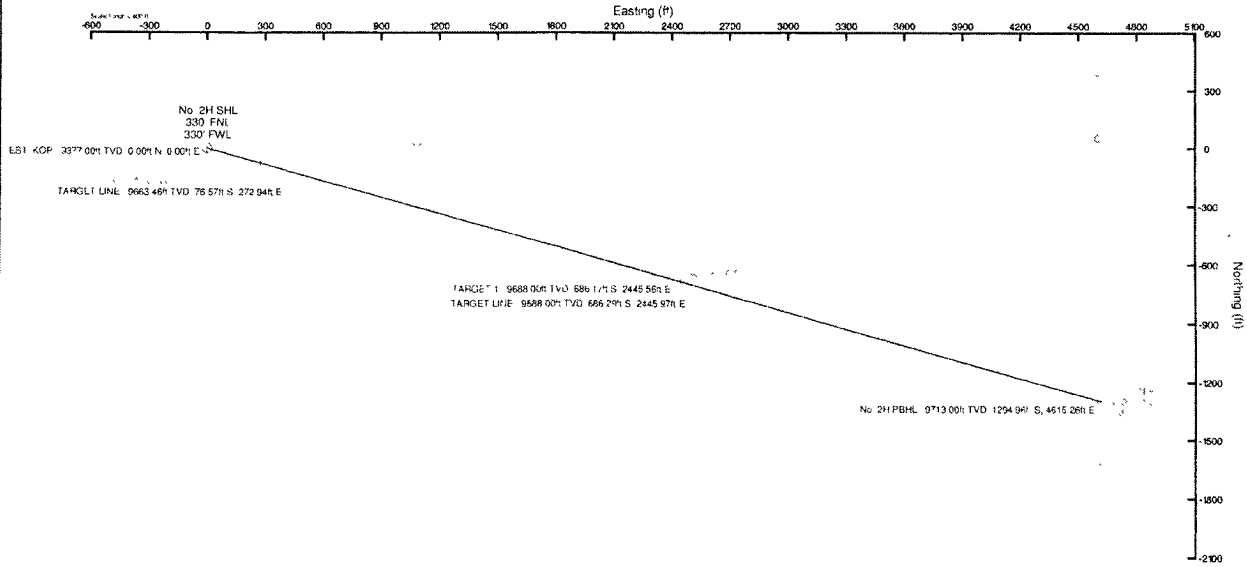
Location Lea County, NM
Field (UNO) Sec 23 T14S, R34E
Facility Uno State No. 2H

Slot No. 2H SHL
Well No. 2H
Wellbore No. 2H PWB

**BAKER
HUGHES**

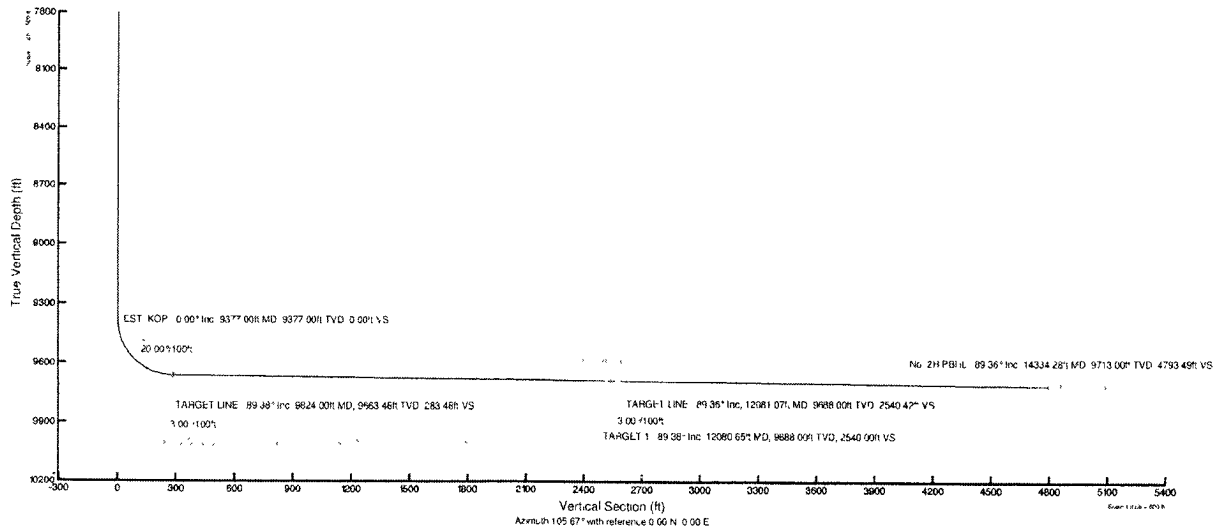
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	105.670	0.00	0.00	0.00	0.00	0.00
EST KOP	9377.00	0.000	105.670	9377.00	0.00	0.00	0.00	0.00
TARGET LINE	9824.00	89.377	105.673	9663.46	-76.57	272.94	3.00	283.48
TARGET 1	12080.65	89.377	105.673	9688.00	-686.17	2445.56	0.00	2540.00
TARGET LINE	12081.07	89.364	105.673	9688.00	-686.29	2445.97	3.00	2540.42
No. 2H PBHL	14334.28	89.364	105.673	9713.00	-1294.96	4615.26	0.00	4793.49



BGGM (1945.0 to 2011.0) Dip: 61.06° Field: 49311.5 nT
Magnetic North is 7.76 degrees East of True North (at 7/8/2010)
Grid North is 0.46 degrees East of True North
To correct azimuth from True to Grid subtract 0.46 degrees
To correct azimuth from Magnetic to Grid add 7.30 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.30 = 97.30

Plot reference wellpath is Prelim_8	Grid System: NAD83 / TM New Mexico State Planes Eastern Zone (3001) US feet
True vertical depths are referenced to Rig on No. 2H SHL (GL)	North Reference: Grid north
Mensured depths are referenced to Rig on No. 2H SHL (GL)	Scale: True distance
Rig on No. 2H SHL (GL) to Mean Sea Level: 4116 feet	Depths are in feet
Mean Sea Level to Mud line (Facility: Uno State No. 2H): -41.6 feet	Created by: Victor Hernandez on 8/2/2010
Coordinates are in feet referenced to SL	



CORPORATION

Planned Wellpath Report

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Operator	Apache Corporation	Slot	No. 2H SHL
Area	Lea County, NM	Well	No. 2H
Field	(UNO) Sec 23, T14S, R34E	Wellbore	No. 2H PWB
Facility	Uno State No. 2H		

Projection System	NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet	Software System	WellArchitect® 2.0
North Reference	Grid	User	Victor Hernandez
Scale	0.999986	Report Generated	8/2/2010 at 11:31:32 AM
Convergence at slot	0.46° East	Database/Source file	WA_Midland/No. 2H_PWB.xml

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	0.00	0.00	799910.02	763660.84	33°05'47.148"N	103°29'20.425"W
Facility Reference Pt			799910.02	763660.84	33°05'47.148"N	103°29'20.425"W
Field Reference Pt			799910.02	763660.84	33°05'47.148"N	103°29'20.425"W

Calculation method	Minimum curvature	Rig on No. 2H SHL (GL) to GL	0.00ft
Horizontal Reference Pt	SL	Rig on No. 2H SHL (GL) to Mean Sea Level	4116.00ft
Vertical Reference Pt	Rig on No. 2H SHL (GL)	GL to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 2H SHL (GL)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	105.67°

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**BAKER
HUGHES**

Operator Apache Corporation

Slot No. 2H SHL

Arca Lea County, NM

Well No. 2H

Field (UNO) Sec 23, T14S, R34E

Wellbore No. 2H PWB

Facility Uno State No. 2H

WELLPATH DATA (56 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	105.670	0.00	0.00	0.00	0.00	799910.02	763660.84	33°05'47.148"N	103°29'20.425"W	0.00	Tie On
9377.00	0.000	105.670	9377.00	0.00	0.00	0.00	799910.02	763660.84	33°05'47.148"N	103°29'20.425"W	0.00	EST KOP
9477.00†	20.000	105.670	9474.98	17.28	-4.67	16.63	799926.65	763656.17	33°05'47.100"N	103°29'20.230"W	20.00	
9577.00†	40.000	105.670	9561.15	67.02	-18.10	64.53	799974.55	763642.73	33°05'46.964"N	103°29'19.668"W	20.00	
9677.00†	60.000	105.670	9625.10	143.24	-38.69	137.92	800047.93	763622.15	33°05'46.754"N	103°29'18.808"W	20.00	
9777.00†	80.000	105.670	9659.13	236.73	-63.94	227.93	800137.95	763596.90	33°05'46.497"N	103°29'17.752"W	20.00	
9823.89	89.377	105.670	9663.46	283.36	-76.54	272.83	800182.84	763584.30	33°05'46.369"N	103°29'17.226"W	20.00	END OF CURVE
9824.00	89.377	105.673	9663.46	283.48	-76.57	272.94	800182.95	763584.27	33°05'46.369"N	103°29'17.224"W	3.00	TARGET LINE
9877.00†	89.377	105.673	9664.04	336.48	-90.88	323.97	800233.98	763569.95	33°05'46.223"N	103°29'16.626"W	0.00	
9977.00†	89.377	105.673	9665.13	436.47	-117.90	420.25	800330.25	763542.94	33°05'45.948"N	103°29'15.497"W	0.00	
10077.00†	89.377	105.673	9666.21	536.46	-144.91	516.52	800426.53	763515.93	33°05'45.673"N	103°29'14.368"W	0.00	
10177.00†	89.377	105.673	9667.30	636.46	-171.93	612.80	800522.80	763488.91	33°05'45.398"N	103°29'13.239"W	0.00	
10277.00†	89.377	105.673	9668.39	736.45	-198.94	709.07	800619.08	763461.90	33°05'45.123"N	103°29'12.110"W	0.00	
10377.00†	89.377	105.673	9669.48	836.45	-225.95	805.35	800715.35	763434.89	33°05'44.848"N	103°29'10.981"W	0.00	
10477.00†	89.377	105.673	9670.56	936.44	-252.97	901.63	800811.63	763407.87	33°05'44.573"N	103°29'09.852"W	0.00	
10577.00†	89.377	105.673	9671.65	1036.43	-279.98	997.90	800907.90	763380.86	33°05'44.298"N	103°29'08.723"W	0.00	
10677.00†	89.377	105.673	9672.74	1136.43	-306.99	1094.18	801004.17	763353.85	33°05'44.023"N	103°29'07.593"W	0.00	
10777.00†	89.377	105.673	9673.83	1236.42	-334.01	1190.45	801100.45	763326.84	33°05'43.748"N	103°29'06.464"W	0.00	
10877.00†	89.377	105.673	9674.91	1336.42	-361.02	1286.73	801196.72	763299.82	33°05'43.473"N	103°29'05.335"W	0.00	
10977.00†	89.377	105.673	9676.00	1436.41	-388.03	1383.01	801293.00	763272.81	33°05'43.198"N	103°29'04.206"W	0.00	
11077.00†	89.377	105.673	9677.09	1536.40	-415.05	1479.28	801389.27	763245.80	33°05'42.923"N	103°29'03.077"W	0.00	
11177.00†	89.377	105.673	9678.17	1636.40	-442.06	1575.56	801485.55	763218.78	33°05'42.648"N	103°29'01.948"W	0.00	
11277.00†	89.377	105.673	9679.26	1736.39	-469.08	1671.83	801581.82	763191.77	33°05'42.374"N	103°29'00.819"W	0.00	
11377.00†	89.377	105.673	9680.35	1836.39	-496.09	1768.11	801678.10	763164.76	33°05'42.099"N	103°28'59.690"W	0.00	
11477.00†	89.377	105.673	9681.44	1936.38	-523.10	1864.39	801774.37	763137.74	33°05'41.824"N	103°28'58.561"W	0.00	
11577.00†	89.377	105.673	9682.52	2036.38	-550.12	1960.66	801870.65	763110.73	33°05'41.549"N	103°28'57.432"W	0.00	
11677.00†	89.377	105.673	9683.61	2136.37	-577.13	2056.94	801966.92	763083.72	33°05'41.274"N	103°28'56.303"W	0.00	
11777.00†	89.377	105.673	9684.70	2236.36	-604.14	2153.21	802063.19	763056.70	33°05'40.999"N	103°28'55.174"W	0.00	
11877.00†	89.377	105.673	9685.79	2336.36	-631.16	2249.49	802159.47	763029.69	33°05'40.724"N	103°28'54.045"W	0.00	
11977.00†	89.377	105.673	9686.87	2436.35	-658.17	2345.77	802255.74	763002.68	33°05'40.449"N	103°28'52.916"W	0.00	



Planned Wellpath Report

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Operator **Apache Corporation** Slot **No. 2H SHL**
Area **Lea County, NM** Well **No. 2H**
Field **(UNO) Sec 23, T14S, R34E** Wellbore **No. 2H PWB**
Facility **Uno State No. 2H**

WELLPATH DATA (56 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12077.00†	89.377	105.673	9687.96	2536.35	-685.19	2442.04	802352.02	762975.66	33°05'40.174"N	103°28'51.787"W	0.00	
12080.65	89.377	105.673	9688.00 ¹	2540.00	-686.17	2445.56	802355.54	762974.68	33°05'40.164"N	103°28'51.746"W	0.00	TARGET 1
12081.07	89.364	105.673	9688.00	2540.42	-686.29	2445.97	802355.94	762974.56	33°05'40.162"N	103°28'51.741"W	3.00	TARGET LINE
12177.00†	89.364	105.673	9689.07	2636.34	-712.20	2538.32	802448.29	762948.65	33°05'39.899"N	103°28'50.658"W	0.00	
12277.00†	89.364	105.673	9690.18	2736.33	-739.21	2634.59	802544.57	762921.64	33°05'39.624"N	103°28'49.529"W	0.00	
12377.00†	89.364	105.673	9691.29	2836.33	-766.23	2730.87	802640.84	762894.62	33°05'39.349"N	103°28'48.400"W	0.00	
12477.00†	89.364	105.673	9692.40	2936.32	-793.24	2827.15	802737.11	762867.61	33°05'39.074"N	103°28'47.271"W	0.00	
12577.00†	89.364	105.673	9693.51	3036.32	-820.25	2923.42	802833.39	762840.60	33°05'38.799"N	103°28'46.142"W	0.00	
12677.00†	89.364	105.673	9694.62	3136.31	-847.27	3019.70	802929.66	762813.58	33°05'38.524"N	103°28'45.013"W	0.00	
12777.00†	89.364	105.673	9695.72	3236.30	-874.28	3115.97	803025.94	762786.57	33°05'38.249"N	103°28'43.884"W	0.00	
12877.00†	89.364	105.673	9696.83	3336.30	-901.29	3212.25	803122.21	762759.56	33°05'37.974"N	103°28'42.755"W	0.00	
12977.00†	89.364	105.673	9697.94	3436.29	-928.31	3308.52	803218.49	762732.54	33°05'37.699"N	103°28'41.626"W	0.00	
13077.00†	89.364	105.673	9699.05	3536.28	-955.32	3404.80	803314.76	762705.53	33°05'37.424"N	103°28'40.497"W	0.00	
13177.00†	89.364	105.673	9700.16	3636.28	-982.33	3501.08	803411.03	762678.52	33°05'37.149"N	103°28'39.368"W	0.00	
13277.00†	89.364	105.673	9701.27	3736.27	-1009.35	3597.35	803507.31	762651.51	33°05'36.874"N	103°28'38.239"W	0.00	
13377.00†	89.364	105.673	9702.38	3836.27	-1036.36	3693.63	803603.58	762624.49	33°05'36.599"N	103°28'37.110"W	0.00	
13477.00†	89.364	105.673	9703.49	3936.26	-1063.38	3789.90	803699.86	762597.48	33°05'36.323"N	103°28'35.981"W	0.00	
13577.00†	89.364	105.673	9704.60	4036.25	-1090.39	3886.18	803796.13	762570.47	33°05'36.048"N	103°28'34.852"W	0.00	
13677.00†	89.364	105.673	9705.71	4136.25	-1117.40	3982.46	803892.41	762543.45	33°05'35.773"N	103°28'33.723"W	0.00	
13777.00†	89.364	105.673	9706.82	4236.24	-1144.42	4078.73	803988.68	762516.44	33°05'35.498"N	103°28'32.594"W	0.00	
13877.00†	89.364	105.673	9707.93	4336.24	-1171.43	4175.01	804084.95	762489.43	33°05'35.223"N	103°28'31.465"W	0.00	
13977.00†	89.364	105.673	9709.04	4436.23	-1198.44	4271.28	804181.23	762462.41	33°05'34.948"N	103°28'30.336"W	0.00	
14077.00†	89.364	105.673	9710.15	4536.22	-1225.46	4367.56	804277.50	762435.40	33°05'34.673"N	103°28'29.207"W	0.00	
14177.00†	89.364	105.673	9711.26	4636.22	-1252.47	4463.83	804373.78	762408.39	33°05'34.398"N	103°28'28.078"W	0.00	
14277.00†	89.364	105.673	9712.36	4736.21	-1279.48	4560.11	804470.05	762381.37	33°05'34.123"N	103°28'26.949"W	0.00	
14334.28	89.364	105.673	9713.00 ²	4793.49	-1294.96	4615.26	804525.20	762365.90	33°05'33.966"N	103°28'26.303"W	0.00	No. 2H PBHL

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Planned Wellpath Report

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Operator	Apache Corporation	Slot	No. 2H SHL
Area	Lea County, NM	Well	No. 2H
Field	(UNO) Sec 23, T14S, R34E	Wellbore	No. 2H PWB
Facility	Uno State No. 2H		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 2H TGT 1	12080.65	9688.00	-686.17	2445.56	802355.54	762974.68	33°05'40.164"N	103°28'51.746"W	point
2) No. 2H PBHL	14334.28	9713.00	-1294.96	4615.26	804525.20	762365.90	33°05'33.966"N	103°28'26.303"W	point

SURVEY PROGRAM Ref Wellbore: No. 2H PWB Ref Wellpath: Prelim_8

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	14334.28	NaviTrak (Standard)		No. 2H PWB