



Scientific Drilling Survey



Company: Apache Corporation Date: 2005-07-20 Time: 11:37:56 Page: 1
Field: NEDU Co-ordinate(NE) Reference: Well: NEDU #529, Grid North
Site: Lea County, NM Vertical (TVD) Reference: AGL 3418 & KB 9 3427.0
Well: NEDU #529 Section (VS) Reference: Well (0.00N,0.00E,263.46Azi)
Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Field: NEDU

Map System: US State Plane Coordinate System 1927
Geo Datum: NAD27 (Clarke 1866)
Sys Datum: Mean Sea Level

Map Zone: New Mexico, Eastern Zone
Coordinate System: Well Centre
Geomagnetic Model: igrf2005

Site: Lea County, NM

Site Position: Northing: 544965.00 ft Latitude: 32 29 33.349 N
From: Map Easting: 866763.00 ft Longitude: 103 8 37.823 W
Position Uncertainty: 0.00 ft North Reference: Grid
Ground Level: 0.00 ft Grid Convergence: 0.64 deg

Well: NEDU #529

Slot Name:

Well Position: +N/-S -2511.10 ft Northing: 542453.90 ft Latitude: 32 29 8.150 N
+E/-W 3206.00 ft Easting: 869969.00 ft Longitude: 103 8 0.728 W
Position Uncertainty: 0.00 ft

Wellpath: 1

Drilled From: Surface

Current Datum: AGL 3418 & KB 9 Height 3427.00 ft Tie-on Depth: 0.00 ft
Magnetic Data: 2005-04-21 Above System Datum: Mean Sea Level
Field Strength: 49487 nT Declination: 8.13 deg
Vertical Section: Depth From (TVD) +N/-S +E/-W Mag Dip Angle: 60.67 deg
ft ft ft deg
0.00 0.00 0.00 263.46

Survey Program for Definitive Wellpath

Date: 2005-07-20 Validated: No
Actual From To Survey

Version: 0
Toolcode

Tool Name

Actual From	To	Survey	Toolcode	Tool Name
100.00	2445.00	Gyro (100.00-2445.00)	Keeper	Keeper Standard Rate Gyro
2462.00	6811.00	MWD (2462.00-6811.00)	MWD	MWD - Standard ISCWSA

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	ClsA deg	ClsD ft	Tool
0.00	0.00	359.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIE LINE
100.00	0.26	175.59	100.00	-0.23	0.02	0.01	0.26	0.26	0.00	175.59	0.23	Keeper
200.00	0.30	169.30	200.00	-0.71	0.08	0.00	0.05	0.00	-6.29	173.29	0.71	Keeper
300.00	0.47	186.65	300.00	-1.37	0.08	0.07	0.20	0.17	17.35	176.48	1.38	Keeper
400.00	0.19	228.79	399.99	-1.89	-0.09	0.30	0.35	-0.28	42.14	182.65	1.89	Keeper
500.00	0.34	232.68	499.99	-2.18	-0.45	0.69	0.15	0.15	3.89	191.62	2.23	Keeper
600.00	0.37	292.10	599.99	-2.24	-0.98	1.23	0.35	0.03	59.42	203.72	2.44	Keeper
700.00	0.20	306.68	699.99	-2.01	-1.42	1.64	0.18	-0.17	14.58	215.25	2.46	Keeper
800.00	0.33	279.00	799.99	-1.86	-1.85	2.05	0.18	0.13	-27.68	224.75	2.62	Keeper
900.00	0.54	307.77	899.99	-1.53	-2.50	2.66	0.30	0.21	28.77	238.58	2.93	Keeper
1000.00	0.50	299.60	999.98	-1.03	-3.26	3.35	0.08	-0.04	-8.17	252.51	3.41	Keeper
1100.00	0.60	299.47	1099.98	-0.55	-4.09	4.13	0.10	0.10	-0.13	262.31	4.13	Keeper
1200.00	0.43	300.84	1199.97	-0.10	-4.87	4.85	0.17	-0.17	1.37	268.79	4.87	Keeper
1300.00	0.80	313.12	1299.97	0.57	-5.70	5.60	0.39	0.37	12.28	275.68	5.73	Keeper
1400.00	0.88	302.93	1399.96	1.46	-6.85	6.64	0.17	0.08	-10.19	282.04	7.01	Keeper
1500.00	0.88	304.44	1499.95	2.31	-8.13	7.82	0.02	0.00	1.51	285.88	8.46	Keeper
1600.00	0.90	301.75	1599.93	3.16	-9.43	9.01	0.05	0.02	-2.69	288.52	9.95	Keeper
1700.00	1.02	305.91	1699.92	4.10	-10.82	10.29	0.14	0.12	4.16	290.73	11.57	Keeper
1800.00	1.03	306.58	1799.90	5.15	-12.27	11.60	0.02	0.01	0.67	292.79	13.30	Keeper
1900.00	0.84	328.13	1899.89	6.31	-13.37	12.57	0.40	-0.19	21.55	295.27	14.79	Keeper
2000.00	0.57	10.42	1999.88	7.42	-13.67	12.74	0.57	-0.27	42.29	298.50	15.56	Keeper
2100.00	0.68	14.28	2099.88	8.49	-13.43	12.38	0.12	0.11	3.86	302.28	15.89	Keeper

SUR: C-14-21s-37e, 180N & 2570W
BHL: C-14-21s-37e, 228N & 2124W
API #30-025-37249

Company: Apache Corporation
Field: NEDU
Site: Lea County, NM
Well: NEDU #529
Wellpath: 1

Date: 2005-07-20 **Time:** 11:37:56 **Page:** 2
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Section (VS) Reference: Well (0.00N,0.00E,263.46Azi)
Survey Calculation Method: Minimum Curvature **Db:** Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	ClsA deg	ClsD ft	Tool
2200.00	0.66	12.57	2199.87	9.63	-13.16	11.98	0.03	-0.02	-1.71	306.18	16.31	Keeper
2300.00	0.57	32.50	2299.86	10.61	-12.77	11.48	0.23	-0.09	19.93	309.71	16.60	Keeper
2400.00	1.12	58.02	2399.85	11.54	-11.67	10.28	0.65	0.55	25.52	314.68	16.42	Keeper
2445.00	1.07	61.44	2444.85	11.98	-10.93	9.50	0.18	-0.11	7.60	317.61	16.22	Keeper
2462.00	0.84	34.46	2461.84	12.16	-10.72	9.27	2.93	-1.35	-158.71	318.59	16.21	MWD
2556.00	3.72	266.81	2555.78	12.56	-13.38	11.86	4.56	3.06	-135.80	313.18	18.35	MWD
2619.00	3.67	258.97	2618.65	12.06	-17.40	15.91	0.81	-0.08	-12.44	304.72	21.17	MWD
2651.00	3.50	256.61	2650.59	11.63	-19.35	17.90	0.70	-0.53	-7.37	301.01	22.58	MWD
2745.00	5.45	256.00	2744.30	9.89	-26.48	25.18	2.08	2.07	-0.65	290.48	28.26	MWD
2837.00	5.24	252.37	2835.90	7.56	-34.72	33.63	0.43	-0.23	-3.95	282.28	35.53	MWD
2932.00	4.81	251.68	2930.53	4.99	-42.64	41.79	0.46	-0.45	-0.73	276.68	42.93	MWD
3026.00	6.03	268.38	3024.12	3.62	-51.31	50.57	2.11	1.30	17.77	274.03	51.44	MWD
3121.00	4.93	263.66	3118.68	3.02	-60.36	59.62	1.25	-1.16	-4.97	272.87	60.43	MWD
3216.00	4.36	267.35	3213.37	2.41	-68.02	67.31	0.68	-0.60	3.88	272.03	68.06	MWD
3309.00	6.48	262.65	3305.95	1.57	-76.76	76.08	2.33	2.28	-5.05	271.17	76.78	MWD
3404.00	5.61	261.84	3400.42	0.23	-86.67	86.08	0.92	-0.92	-0.85	270.15	86.67	MWD
3498.00	6.59	258.98	3493.89	-1.46	-96.52	96.05	1.09	1.04	-3.04	269.13	96.53	MWD
3593.00	6.00	253.85	3588.31	-3.88	-106.64	106.38	0.86	-0.62	-5.40	267.92	106.71	MWD
3688.00	5.49	254.80	3682.84	-6.45	-115.79	115.77	0.55	-0.54	1.00	266.81	115.97	MWD
3781.00	6.75	264.87	3775.31	-8.11	-125.53	125.63	1.78	1.35	10.83	266.30	125.79	MWD
3875.00	5.76	259.88	3868.75	-9.43	-135.67	135.86	1.20	-1.05	-5.31	266.02	136.00	MWD
3970.00	6.68	259.67	3963.19	-11.26	-145.80	146.14	0.97	0.97	-0.22	265.58	146.24	MWD
4064.00	6.38	260.90	4056.58	-13.07	-156.34	156.81	0.35	-0.32	1.31	265.22	156.88	MWD
4159.00	6.37	262.93	4150.99	-14.55	-166.78	167.35	0.24	-0.01	2.14	265.01	167.41	MWD
4254.00	6.08	261.87	4245.43	-15.91	-176.99	177.65	0.33	-0.31	-1.12	264.86	177.70	MWD
4348.00	5.69	262.60	4338.93	-17.21	-186.54	187.29	0.42	-0.41	0.78	264.73	187.33	MWD
4443.00	5.36	264.86	4433.49	-18.22	-195.63	196.43	0.42	-0.35	2.38	264.68	196.48	MWD
4536.00	5.02	269.14	4526.11	-18.67	-204.02	204.82	0.55	-0.37	4.60	264.77	204.88	MWD
4631.00	5.39	261.53	4620.72	-19.39	-212.59	213.42	0.82	0.39	-8.01	264.79	213.48	MWD
4725.00	6.78	258.72	4714.19	-21.12	-222.40	223.36	1.51	1.48	-2.99	264.57	223.40	MWD
4819.00	6.41	258.48	4807.57	-23.26	-232.99	234.12	0.39	-0.39	-0.26	264.30	234.14	MWD
4914.00	6.34	257.68	4901.98	-25.43	-243.31	244.62	0.12	-0.07	-0.84	264.03	244.63	MWD
5008.00	6.01	254.80	4995.43	-27.83	-253.13	254.65	0.48	-0.35	-3.06	263.73	254.65	MWD
5102.00	5.86	257.92	5088.93	-30.13	-262.57	264.29	0.38	-0.16	3.32	263.45	264.29	MWD
5197.00	5.63	255.19	5183.45	-32.33	-271.81	273.73	0.38	-0.24	-2.87	263.22	273.73	MWD
5260.00	5.38	257.63	5246.16	-33.76	-277.69	279.72	0.54	-0.40	3.87	263.07	279.73	MWD
5355.00	4.55	269.82	5340.81	-34.72	-285.81	287.90	1.41	-0.87	12.83	263.07	287.91	MWD
5449.00	5.12	273.96	5434.47	-34.44	-293.72	295.73	0.71	0.61	4.40	263.31	295.73	MWD
5543.00	5.48	270.85	5528.07	-34.09	-302.39	304.31	0.49	0.38	-3.31	263.57	304.31	MWD
5637.00	6.75	264.72	5621.54	-34.53	-312.38	314.28	1.52	1.35	-6.52	263.69	314.28	MWD
5731.00	6.35	263.93	5714.92	-35.59	-323.05	325.00	0.44	-0.43	-0.84	263.71	325.00	MWD
5826.00	6.22	266.23	5809.35	-36.48	-333.41	335.39	0.30	-0.14	2.42	263.76	335.40	MWD
5920.00	5.99	266.59	5902.82	-37.11	-343.39	345.38	0.25	-0.24	0.38	263.83	345.39	MWD
6015.00	5.71	267.30	5997.32	-37.63	-353.06	355.04	0.30	-0.29	0.75	263.92	355.05	MWD
6109.00	5.78	269.24	6090.85	-37.91	-362.46	364.42	0.22	0.07	2.06	264.03	364.44	MWD
6203.00	6.60	266.38	6184.30	-38.31	-372.58	374.52	0.93	0.87	-3.04	264.13	374.55	MWD
6298.00	6.42	259.54	6278.69	-39.62	-383.26	385.27	0.84	-0.19	-7.20	264.10	385.30	MWD
6391.00	6.06	259.03	6371.14	-41.50	-393.19	395.36	0.39	-0.39	-0.55	263.97	395.37	MWD
6486.00	6.12	260.81	6465.61	-43.26	-403.11	405.41	0.21	0.06	1.87	263.87	405.42	MWD
6580.00	5.92	263.30	6559.09	-44.63	-412.87	415.27	0.35	-0.21	2.65	263.83	415.28	MWD
6675.00	5.97	262.97	6653.58	-45.80	-422.64	425.11	0.06	0.05	-0.35	263.81	425.11	MWD
6769.00	6.03	263.93	6747.06	-46.92	-432.40	434.93	0.12	0.06	1.02	263.81	434.94	MWD
6811.00	6.00	263.00	6788.83	-47.43	-436.77	439.33	0.24	-0.07	-2.21	263.80	439.34	MWD

FROM :

PHONE NO. :

Jul. 20 2005 07:32AM P1

3:15 PM 7/19/2005

Company: APACHE CORP.

Drillers: MADDUX / PARKS

Well: NEDU #529

Depth Units: Feet

Location: EUNICE N. MEXICO

Section Azm: 263.46°

RIG: CAP STAR #8

Field: NEDU

Correction: 8.13° Grid North

RKB: 0

Station	Depth	Inc.	Azm.	T.V.D.	+N/-S	+E/-W	V. Sect.	DLS
39	5920	5.99	266.59	5901.97	-37.11	-343.38	345.38	0.25
40	6015	5.71	267.30	5996.48	-37.62	-353.05	355.04	0.30
41	6109	5.78	269.24	6090.01	-37.91	-362.46	364.42	0.22
42	6203	6.60	266.38	6183.46	-38.31	-372.58	374.52	0.93
43	6298	6.42	259.54	6277.85	-39.62	-383.25	385.27	0.84
44	6391	6.06	259.03	6370.30	-41.50	-393.19	395.35	0.39
45	6486	6.12	260.81	6464.76	-43.26	-403.11	405.41	0.21
46	6580	5.92	263.30	6558.24	-44.63	-412.87	415.26	0.35
47	6675	5.97	262.97	6652.73	-45.80	-422.64	425.10	0.06
48	6769	6.03	263.93	6746.22	-46.92	-432.40	434.93	0.12
TD	6898	6.06	264.36	6874.50	-48.31	-445.91	448.51	0.04