

PENWELL ENERGY, INC.

1100 ARCO BUILDING
600 N. MARIENFELD
MIDLAND, TEXAS 79701

OFF: (915) 683-2534
FAX: (915) 683-4514

B-8-19N-4W
30-643-20949
Eagle Spring 8 Fed. #1

March 21, 2000



I declare that I am authorized to make this certification, that I have personal knowledge of all information presented in the attached directional survey and that all data presented is true, correct, and complete to the best of my knowledge.

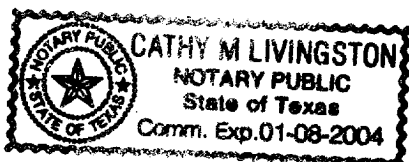
Signature: *Bill Pierce*
Name & Title: Bill Pierce – Manager of Operations
Date: March 21, 2000

STATE OF TEXAS)
) SS:
COUNTY OF MIDLAND)

The foregoing instrument was acknowledged before me on this 21st day of March, 2000 by Bill Pierce.
Witness my hand and seal.

Cathy Livingston
Notary Public – Cathy Livingston

My commission expires: 01-08-2004





Scientific Drilling International

CASPER, WY

Company: PENWELL ENERGY INC.	Date: 3/7/2000	Time: 11:43:56	Page: 1
Field: Sandoval County, NM	Co-ordinate(NE) Reference:	Site: Eagle Springs 8 Fed. #1, True Nort	
Site: Eagle Springs 8 Fed. #1	Vertical (TVD) Reference:	System: Mean Sea Level	
Well: #1	Section (VS) Reference:	Well (0.0E,0.0N,360.0Azi)	
Wellpath: OH Original hole	Survey Calculation Method:	Minimum Curvature	

Survey: Survey #1	Start Date: 3/7/2000
Company: Scientific Drilling Intr'l	Engineer: Dave Doney
Tool: Gyro	

Field: Sandoval County, NM

Map System:	Map Zone:
Ellipsoid:	North Reference: True
Sys Datum: Mean Sea Level	Geomagnetic Model: igrf2000

Site: Eagle Springs 8 Fed. #1	
SHL SEC.8,T19N,R4W 263'FNL & 2545'FEL	
BHL SEC.8,T19N,R4W 303.44'FNL & 2552.37'FEL	
Site Position:	Northing: m
From: Local Only	Easting: m
Position Uncertainty: 0.00 ft	Latitude:
Water Depth: 0.00 ft	Longitude:
	Magnetic Declination: 0.00 deg
	Grid Convergence: deg

Well: #1	
Well Position: +N/-S 0.00 ft	Northing: m
From Slot: +E/-W 0.00 ft	Easting: m
Position Uncertainty: 0.00 ft	Latitude:
	Longitude:

Wellpath: OH Original hole	Drilled From: Surface
	Tie-on Depth: ft
Vertical Section: +N/-S 0.00 ft	V.Section Direction: 360.00 deg
From: Well +E/-W 0.00 ft	
Measured Depth Reference: Mean Sea Level 0.00 ft	Above System Datum: Mean Sea Level

Survey

Meas Depth ft	Inclination deg	Azimuth deg	TVD ft	Vert Sect ft	N/S ft	E/W ft	DLS deg/100ft	CLen ft	ClsD ft	ClsA deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.13	112.57	100.00	-0.04	-0.04	0.10	0.13	100.00	0.11	112.57
200.00	0.14	1.25	200.00	0.04	0.04	0.21	0.22	100.00	0.22	80.62
300.00	0.43	293.65	300.00	0.31	0.31	-0.13	0.40	100.00	0.33	337.28
400.00	0.35	285.22	400.00	0.54	0.54	-0.77	0.10	100.00	0.94	305.06
500.00	0.32	282.51	499.99	0.68	0.68	-1.33	0.03	100.00	1.50	296.97
600.00	0.28	279.26	599.99	0.78	0.78	-1.85	0.04	100.00	2.01	292.85
700.00	0.27	293.22	699.99	0.91	0.91	-2.31	0.07	100.00	2.48	291.56
800.00	0.09	281.99	799.99	1.02	1.02	-2.60	0.18	100.00	2.79	291.43
900.00	0.17	311.45	899.99	1.13	1.13	-2.79	0.10	100.00	3.01	292.15
1000.00	0.06	335.49	999.99	1.28	1.28	-2.92	0.12	100.00	3.19	293.68
1100.00	0.24	265.48	1099.99	1.31	1.31	-3.15	0.23	100.00	3.41	292.60
1200.00	0.28	261.90	1199.99	1.26	1.26	-3.60	0.04	100.00	3.82	289.29
1300.00	0.49	243.97	1299.99	1.04	1.04	-4.23	0.24	100.00	4.35	283.81
1400.00	0.44	222.02	1399.98	0.57	0.57	-4.87	0.18	100.00	4.90	276.63
1500.00	0.52	213.07	1499.98	-0.10	-0.10	-5.37	0.11	100.00	5.37	268.94
1600.00	0.54	211.15	1599.98	-0.88	-0.88	-5.87	0.03	100.00	5.93	261.44
1700.00	0.76	220.76	1699.97	-1.79	-1.79	-6.54	0.24	100.00	6.78	254.71
1800.00	0.79	210.06	1799.96	-2.89	-2.89	-7.32	0.15	100.00	7.87	248.47
1900.00	0.67	214.13	1899.95	-3.97	-3.97	-7.99	0.13	100.00	8.92	243.60
2000.00	0.62	213.18	1999.95	-4.91	-4.91	-8.62	0.05	100.00	9.92	240.35
2100.00	0.52	202.08	2099.94	-5.78	-5.78	-9.08	0.15	100.00	10.77	237.54
2200.00	0.58	207.60	2199.94	-6.65	-6.65	-9.49	0.08	100.00	11.59	234.99
2300.00	0.59	200.02	2299.93	-7.58	-7.58	-9.90	0.08	100.00	12.47	232.56
2400.00	0.59	188.78	2399.93	-8.57	-8.57	-10.15	0.12	100.00	13.29	229.83
2500.00	0.60	175.79	2499.92	-9.60	-9.60	-10.20	0.13	100.00	14.01	226.71



Scientific Drilling International

CASPER, WY

Company: PENWELL ENERGY INC.
Field: Sandoval County, NM
Site: Eagle Springs 8 Fed. #1
Well: #1
Wellpath: OH Original hole

Date: 3/7/2000 Time: 11:43:56 Page: 2
Co-ordinate(NE) Reference: Site: Eagle Springs 8 Fed. #1, True Nort
Vertical (TVD) Reference: System: Mean Sea Level
Section (VS) Reference: Well (0.0E,0.0N,360.0Azi)
Survey Calculation Method: Minimum Curvature

Survey

Meas Depth ft	Inclination deg	Azimuth deg	TVD ft	Vert Sect ft	N/S ft	E/W ft	DLS deg/100ft	CLen ft	ClsD ft	ClsA deg
2600.00	0.60	173.49	2599.91	-10.65	-10.65	-10.10	0.02	100.00	14.67	223.49
2700.00	0.60	175.16	2699.91	-11.69	-11.69	-9.99	0.02	100.00	15.38	220.53
2800.00	0.68	167.27	2799.90	-12.79	-12.79	-9.82	0.12	100.00	16.12	217.52
2900.00	0.69	170.56	2899.90	-13.96	-13.96	-9.59	0.04	100.00	16.94	214.48
3000.00	0.68	177.00	2999.89	-15.15	-15.15	-9.46	0.08	100.00	17.86	211.98
3100.00	0.70	185.32	3099.88	-16.35	-16.35	-9.49	0.10	100.00	18.90	210.12
3200.00	0.70	207.72	3199.87	-17.50	-17.50	-9.83	0.27	100.00	20.07	209.32
3300.00	0.56	213.02	3299.87	-18.45	-18.45	-10.38	0.15	100.00	21.17	209.36
3400.00	0.54	208.63	3399.86	-19.27	-19.27	-10.87	0.05	100.00	22.12	209.42
3500.00	0.35	212.49	3499.86	-19.94	-19.94	-11.26	0.19	100.00	22.90	209.45
3600.00	0.44	225.35	3599.86	-20.47	-20.47	-11.70	0.13	100.00	23.58	209.74
3700.00	0.44	217.91	3699.85	-21.04	-21.04	-12.20	0.06	100.00	24.33	210.11
3800.00	0.45	210.25	3799.85	-21.68	-21.68	-12.64	0.06	100.00	25.10	210.23
3900.00	0.42	252.38	3899.85	-22.14	-22.14	-13.19	0.31	100.00	25.76	210.78
4000.00	0.53	254.56	3999.85	-22.37	-22.37	-13.98	0.11	100.00	26.38	212.01
4100.00	0.66	259.57	4099.84	-22.60	-22.60	-14.99	0.14	100.00	27.12	213.56
4200.00	0.62	249.20	4199.83	-22.89	-22.89	-16.07	0.12	100.00	27.97	215.06
4300.00	0.45	197.77	4299.83	-23.46	-23.46	-16.69	0.49	100.00	28.79	215.43
4400.00	0.43	180.88	4399.83	-24.21	-24.21	-16.82	0.13	100.00	29.48	214.79
4500.00	0.24	153.57	4499.83	-24.77	-24.77	-16.73	0.24	100.00	29.89	214.03
4600.00	0.31	129.10	4599.82	-25.13	-25.13	-16.43	0.14	100.00	30.02	213.17
4700.00	0.27	133.75	4699.82	-25.46	-25.46	-16.05	0.05	100.00	30.10	212.22
4800.00	0.35	153.47	4799.82	-25.90	-25.90	-15.74	0.13	100.00	30.31	211.29
4900.00	0.81	151.84	4899.82	-26.80	-26.80	-15.27	0.46	100.00	30.84	209.68
5000.00	0.77	138.68	4999.81	-27.92	-27.92	-14.49	0.19	100.00	31.46	207.43
5100.00	0.84	145.22	5099.80	-29.03	-29.03	-13.63	0.12	100.00	32.07	205.15
5200.00	1.07	149.29	5199.78	-30.43	-30.43	-12.73	0.24	100.00	32.99	202.71
5300.00	1.27	150.52	5299.76	-32.20	-32.20	-11.71	0.20	100.00	34.27	199.99
5400.00	1.50	147.87	5399.73	-34.28	-34.28	-10.47	0.24	100.00	35.84	196.99
5500.00	1.95	150.15	5499.69	-36.86	-36.86	-8.93	0.46	100.00	37.93	193.62
5600.00	1.61	160.42	5599.64	-39.66	-39.66	-7.61	0.46	100.00	40.38	190.86
5630.00	1.52	165.22	5629.63	-40.44	-40.44	-7.37	0.53	30.00	41.11	190.33



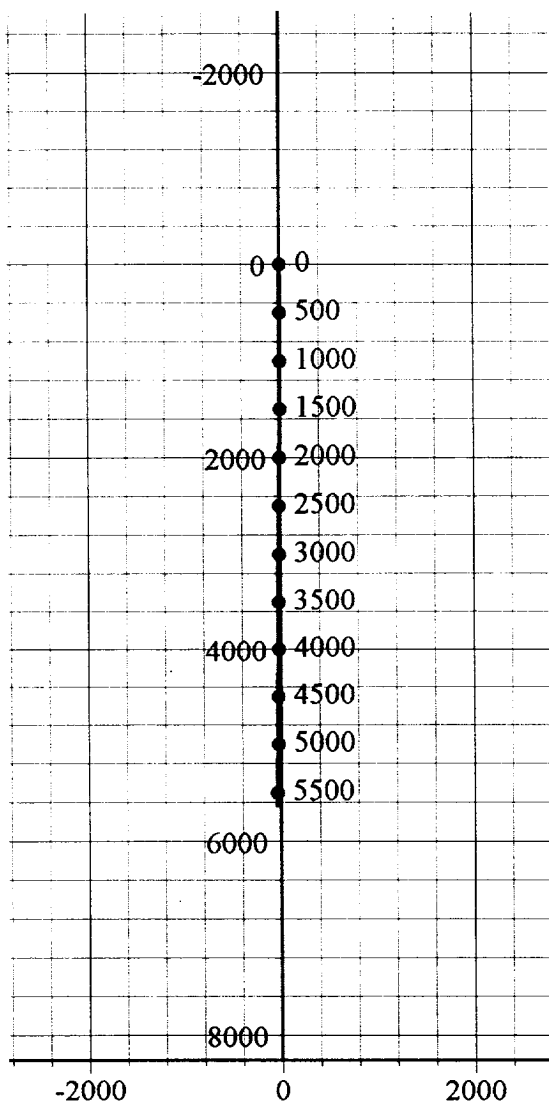
Scientific
Drilling

PENWELL ENERGY INC.



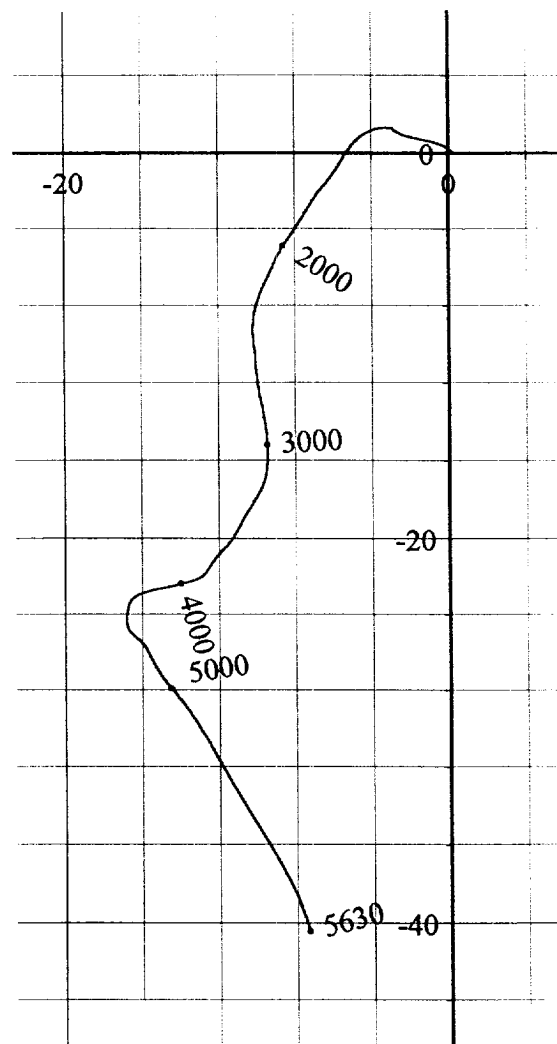
All Angles Relative
To True North
True North: 0.00
Magnetic North: 0.00

True Vertical Depth [2000ft/in]



Vertical Section at 360.00° [2000ft/in]

South(-)/North(+) [10ft/in]



West(-)/East(+) [10ft/in]

BOTTOM HOLE CLOSURE

41.11 ft. 190.33° Azimuth

FINAL STATION

5630' MD 5629.63' TVD
1.52° Angle 165.22° Azimuth
South 40.44 ft. West 7.37 ft.
-40.44' Vert. Sect.

Field: Sandoval County, NM
Site: Eagle Springs 8 Fed. #1
Well: #1
Wellpath: OH Original hole
Survey: Survey #1

Survey: Survey #1 (#1/OH Original hole)

Created By: Judi Moore

Date: 3/7/2000

Checked: _____

Date: _____

Approved: _____

Date: _____