



Scientific Drilling



ALTURA ENERGY LTD.

Field: Hobbs, Grayburg

Site: Lea County, NM

Well: NHU #33-513

Wellpath: VH/DH - Job #32K0400142/139

Survey: 4/26/00-5/3/00

SUR: 1659/s & 918/w

BAH: 1676/s & 663/w

L-33-18s-38e

3D-025-34980

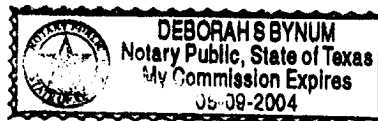
This survey is correct to the best of my knowledge
and is supported by actual field data.

Deborah S Bynum.....Company Representative

Notorized this date 27th of June, 2000.

Deborah S Bynum

Notary Signature
County of Midland
State of Texas





SCIENTIFIC DRILLING SURVEY REPORT

Company: ALTURA ENERGY LTD.
Field: Hobbs, Grayburg
Site: Lea County, NM
Well: NHU #33-513
Wellpath: VH/DH - Job #32K0400142/1

Date: 6/27/2000 Time: 14:33:04 Page: 1
Co-ordinate(NE) Reference: Site: Lea County, NM, True North
Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level
Section (VS) Reference: Slot (0.0E,0.0N,272.9Azi)
Survey Calculation Method: Minimum Curvature

Survey: 4/26/00-5/3/00
KSRG 0'-2343'/S/T 2407'-4373'

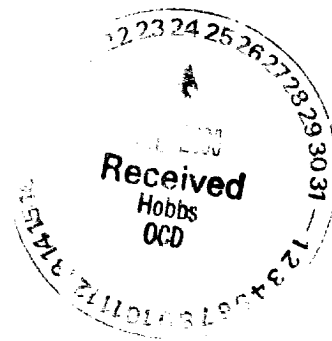
Start Date: 5/19/2000

Company: SDI
Tool: Keeper

Engineer: DeSpain/Woolfolk

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS d/100ft	ClsA deg	ClsD ft
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.0
100.0	0.71	22.05	100.0	0.6	0.2	-0.2	0.71	22.05	0.6
200.0	1.03	6.59	200.0	2.0	0.6	-0.5	0.39	15.56	2.1
300.0	0.65	2.78	300.0	3.5	0.7	-0.5	0.38	11.29	3.6
400.0	0.82	352.43	400.0	4.8	0.6	-0.4	0.22	7.54	4.8
500.0	0.65	349.11	500.0	6.0	0.4	-0.1	0.18	4.08	6.1
600.0	0.93	348.62	599.9	7.4	0.2	0.2	0.28	1.27	7.4
700.0	0.82	4.74	699.9	8.9	0.1	0.4	0.27	0.40	8.9
800.0	0.55	4.58	799.9	10.1	0.2	0.4	0.27	0.91	10.1
900.0	0.48	1.65	899.9	11.0	0.2	0.3	0.07	1.10	11.0
1000.0	0.56	62.27	999.9	11.6	0.7	-0.1	0.53	3.22	11.7
1100.0	0.80	72.34	1099.9	12.1	1.8	-1.1	0.27	8.26	12.2
1200.0	0.99	65.26	1199.9	12.7	3.2	-2.6	0.22	14.21	13.1
1300.0	0.85	83.54	1299.9	13.1	4.7	-4.1	0.32	19.84	13.9
1400.0	1.01	92.30	1399.9	13.1	6.3	-5.7	0.21	25.76	14.6
1500.0	0.88	99.93	1499.9	13.0	8.0	-7.3	0.18	31.59	15.2
1600.0	0.59	116.54	1599.9	12.6	9.2	-8.5	0.36	36.09	15.6
1700.0	0.11	114.62	1699.9	12.3	9.7	-9.1	0.48	38.29	15.7
1800.0	0.20	173.44	1799.9	12.1	9.9	-9.2	0.17	39.08	15.6
1900.0	0.20	162.74	1899.9	11.8	9.9	-9.3	0.04	40.08	15.4
2000.0	0.22	83.39	1999.9	11.6	10.2	-9.6	0.27	41.12	15.5
2100.0	0.53	59.97	2099.8	11.9	10.8	-10.1	0.34	42.11	16.0
2200.0	0.67	63.66	2199.8	12.4	11.7	-11.0	0.15	43.31	17.0
2300.0	0.86	55.67	2299.8	13.1	12.8	-12.1	0.22	44.45	18.3
2343.0	0.94	55.59	2342.8	13.5	13.4	-12.7	0.19	44.84	19.0
2407.0	0.60	18.52	2406.8	14.1	13.9	-13.2	0.92	44.70	19.8
2438.0	0.94	318.13	2437.8	14.4	13.8	-13.1	2.67	43.76	20.0
2469.0	1.51	307.86	2468.8	14.9	13.3	-12.5	1.96	41.87	19.9
2532.0	2.47	287.42	2531.8	15.8	11.4	-10.5	1.87	35.77	19.4
2595.0	3.88	274.98	2594.7	16.4	7.9	-7.1	2.48	25.89	18.2
2657.0	4.67	269.22	2656.5	16.5	3.3	-2.5	1.45	11.40	16.8
2720.0	6.10	266.20	2719.2	16.3	-2.6	3.4	2.31	350.99	16.5
2782.0	7.10	271.10	2780.8	16.1	-9.7	10.5	1.85	328.95	18.8
2846.0	7.90	269.70	2844.3	16.2	-18.0	18.8	1.28	311.84	24.2
2909.0	8.90	269.90	2906.6	16.1	-27.3	28.0	1.59	300.62	31.7
2971.0	9.30	271.50	2967.8	16.3	-37.1	37.8	0.76	293.68	40.5
3034.0	8.50	273.10	3030.1	16.6	-46.8	47.6	1.33	289.57	49.7
3096.0	8.60	270.20	3091.4	16.9	-56.0	56.8	0.71	286.79	58.5
3188.0	8.60	267.20	3182.3	16.6	-69.8	70.5	0.49	283.38	71.7
3250.0	8.60	268.10	3243.6	16.2	-79.0	79.7	0.22	281.59	80.7
3314.0	8.70	269.20	3306.9	16.0	-88.6	89.3	0.30	280.22	90.1
3377.0	9.20	269.20	3369.1	15.8	-98.4	99.1	0.79	279.14	99.7
3439.0	8.50	271.80	3430.4	15.9	-108.0	108.6	1.30	278.39	109.1
3499.0	8.30	274.20	3489.8	16.4	-116.7	117.4	0.67	277.99	117.9
3557.0	8.70	271.00	3547.1	16.8	-125.3	126.0	1.07	277.62	126.4
3623.0	9.20	268.50	3612.3	16.7	-135.6	136.2	0.96	277.03	136.6
3684.0	9.30	267.90	3672.5	16.4	-145.4	146.0	0.23	276.44	146.3
3745.0	8.70	271.20	3732.8	16.3	-154.9	155.5	1.30	276.01	155.7



SCIENTIFIC DRILLING

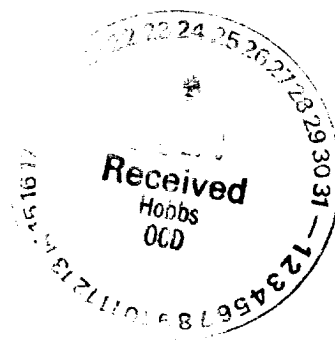
SURVEY REPORT

Company: ALTURA ENERGY LTD.
Field: Hobbs, Grayburg
Site: Lea County, NM
Well: NHU #33-513
Wellpath: VH/DH - Job #32K0400142/1

Date: 6/27/2000 **Time:** 14:33:04 **Page:** 2
Co-ordinate(N/E) Reference: Site: Lea County, NM, True North
Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level
Section (VS) Reference: Slot (0.0E,0.0N,272.9Azi)
Survey Calculation Method: Minimum Curvature

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS d/100ft	ClsA deg	ClsD ft
3806.0	9.20	269.20	3793.0	16.3	-164.4	165.0	0.97	275.68	165.2
3870.0	9.90	268.20	3856.1	16.1	-175.0	175.6	1.12	275.26	175.7
3932.0	9.70	269.30	3917.2	15.9	-185.5	186.1	0.44	274.89	186.2
3994.0	9.00	272.60	3978.4	16.0	-195.6	196.2	1.42	274.68	196.3
4057.0	9.20	269.30	4040.6	16.2	-205.6	206.1	0.89	274.50	206.2
4120.0	9.20	269.30	4102.8	16.1	-215.6	216.2	0.00	274.26	216.2
4213.0	9.00	271.80	4194.6	16.2	-230.3	230.9	0.48	274.02	230.9
4276.0	8.90	272.40	4256.9	16.6	-240.1	240.7	0.22	273.94	240.7
4373.0	8.90	272.40	4352.7	17.2	-255.1	255.7	0.00	273.85	255.7





Scientific
Drilling

ALTURA ENERGY LTD.

File: Hobbs, Grayburg

Site: Lea County, NM

Well: NHU #33-513

Wellpath: VH/DH - Job #32K0400142/139

Survey: 4/26/00-5/3/00

Altura
ENERGY LTD.

