

OKC

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Geoservices, Inc.

October 8, 1991

Mr. Steve Matthews
Drilling Superintendent
Canadian Hunter Exploration Ltd.
435 - 4th Ave. S.W.
Calgary, Alberta T2P 3A8

RECEIVED
MAR 1992
OIL COMPANY
DIST. 3

Dear Mr. Matthews:

Please find enclosed a certified copy of the bottom hole location for you Jicarrilla #8I-1 well. If I can be of any further assistance, or if you require any additional information, please do not hesitate to contact me.

Sincerely,
GEOSERVICES, INC.



Jeffry Wilson
Operations Manager

JW/m
enclosure

file:w:\dir\mwd\sm1008jw

Geoservices-Directional

Deviation report



Well : JICARILLA #8I-1
 Field : WILDCAT
 Company : AMERICAN HUNTER

Coordinates

Well head : Target : Impact :
 X = 0.0 X = -2865.0 X = 0.0
 Y = 0.0 Y = 0.0 Y = 0.0
 Z = 0.0 Z = 2621.0 Z = 0.0

Horizontal displacement 2866.17 ft
 Total vertical depth 2621.00 ft Kick off point 1309.00 ft
 Magnetic declination 12.25 deg Convergence 0.00 deg
 Horizontal projection computed in azimuth North 270.00 deg. (SW 90.00)

Surv no	Measured depth feet	Drift angle degree	Azimuth magnt. degree	Azimuth geogr. degree	Vertical depth feet	Horizontl prjction feet	Horizontl displcmt feet	Average Az(geo) degree	Relative East/West feet	Coordinates. Nor/South feet	Dog leg /100f
Computation method : Radius of curvature											
1	10.0	0.01	347.75	360.00	10.0	-0.0	0.4	0.00	0.0 E	0.4 N	42.9
2	336.0	0.10	347.75	360.00	336.0	-0.0	0.7	0.00	0.0 E	0.7 N	0.0
3	361.0	2.07	84.23	96.48	361.0	-0.4	1.0	17.74	0.3 E	1.0 N	8.3
4	453.0	1.98	86.39	98.64	452.9	-3.6	3.6	81.15	3.5 E	0.6 N	0.1
5	545.0	2.32	78.54	90.79	544.9	-7.0	7.0	87.81	7.0 E	0.3 N	0.5
6	638.0	2.05	82.30	94.55	637.8	-10.6	10.5	89.45	10.5 E	0.1 N	0.3
7	730.0	2.49	77.30	89.55	729.7	-14.2	14.2	90.12	14.2 E	0.0 S	0.5
8	822.0	2.51	74.27	86.52	821.6	-18.2	18.2	89.66	18.2 E	0.1 N	0.1
9	915.0	2.87	69.41	81.66	914.5	-22.5	22.5	88.58	22.5 E	0.6 N	0.5
10	1007.0	3.23	66.83	79.08	1006.4	-27.4	27.4	87.12	27.3 E	1.4 N	0.4
11	1099.0	3.30	65.19	77.44	1098.3	-32.5	32.5	85.69	32.5 E	2.4 N	0.1
12	1192.0	3.77	60.85	73.10	1191.1	-38.0	38.2	84.14	38.0 E	3.9 N	0.6
13	1284.0	4.31	60.20	72.45	1282.8	-44.2	44.6	82.50	44.2 E	5.8 N	0.6
14	1292.0	4.25	63.00	75.25	1290.8	-44.8	45.2	82.38	44.8 E	6.0 N	2.6
15	1322.0	2.50	62.00	74.25	1320.8	-46.5	46.9	82.10	46.5 E	6.5 N	5.8
16	1353.0	0.62	55.00	67.25	1351.8	-47.3	47.7	81.90	47.3 E	6.7 N	6.1
17	1384.0	1.50	261.50	273.75	1382.8	-47.2	47.7	81.40	47.2 E	7.1 N	6.7
18	1414.0	3.50	259.50	271.75	1412.7	-45.9	46.4	81.08	45.9 E	7.2 N	6.7
19	1446.0	5.62	256.00	268.25	1444.6	-43.4	43.9	80.57	43.3 E	7.2 N	6.7
20	1478.0	8.12	258.50	270.75	1476.4	-39.5	40.2	79.72	39.5 E	7.2 N	7.8
21	1510.0	11.12	259.50	271.75	1507.9	-34.2	34.9	77.96	34.2 E	7.3 N	9.4
22	1541.0	14.75	259.00	271.25	1538.1	-27.3	28.2	74.67	27.2 E	7.5 N	11.7
23	1572.0	18.25	258.50	270.75	1567.9	-18.5	19.9	67.54	18.4 E	7.6 N	11.3
24	1604.1	21.88	258.50	270.75	1598.0	-7.5	10.8	43.76	7.4 E	7.8 N	11.3
25	1632.9	25.25	256.00	268.25	1624.4	4.1	8.7	331.98	4.1 W	7.7 N	12.2
26	1664.1	28.75	256.00	268.25	1652.2	18.2	19.6	291.62	18.2 W	7.2 N	11.2
27	1695.0	32.87	255.00	267.25	1678.7	34.0	34.7	280.98	34.1 W	6.6 N	13.4
28	1727.0	36.87	255.50	267.75	1705.0	52.3	52.7	276.34	52.3 W	5.8 N	12.5
29	1759.0	40.75	256.50	268.75	1729.9	72.4	72.6	274.11	72.4 W	5.2 N	12.3
30	1790.0	44.50	257.00	269.25	1752.7	93.3	93.5	272.96	93.4 W	4.8 N	12.1
31	1819.0	48.12	257.00	269.25	1772.7	114.3	114.4	272.28	114.3 W	4.6 N	12.5
32	1851.0	51.50	256.00	268.25	1793.4	138.7	138.8	271.66	138.8 W	4.0 N	10.8
33	1883.0	54.12	256.50	268.75	1812.7	164.2	164.3	271.17	164.2 W	3.4 N	8.3
34	1914.0	55.75	257.00	269.25	1830.5	189.6	189.6	270.88	189.6 W	2.9 N	5.4
35	1945.0	57.25	256.50	268.75	1847.6	215.4	215.5	270.66	215.5 W	2.5 N	5.0

Geoservices-Directional

Deviation report



Well : JICARILLA #81-1
 Field : WILDCAT
 Company : AMERICAN HUNTER

Surv no	Measured depth feet	Drift angle degree	Azimut magnt. degree	Azimut geogr. degree	Vertical depth feet	Horizntl prjction feet	Horizntl displcmt feet	Average Az(geo) degree	.Relative East/West feet	Coordinates. Nor/South feet	Dog leg /100f
Computation method :			Radius of curvature								
36	1975.0	59.25	257.50	269.75	1863.4	240.9	241.0	270.51	241.0 W	2.1 N	7.2
37	2006.0	61.50	255.50	267.75	1878.8	267.9	267.9	270.33	267.9 W	1.5 N	9.2
38	2023.0	63.25	254.50	266.75	1886.6	282.9	282.9	270.17	282.9 W	0.8 N	11.5
39	2037.0	64.62	254.00	266.25	1892.8	295.5	295.5	270.01	295.5 W	0.1 N	10.3
40	2053.0	66.37	253.50	265.75	1899.4	310.0	310.0	269.82	310.0 W	1.0 S	11.3
41	2137.0	71.87	249.50	261.75	1929.4	388.0	388.1	268.60	388.0 W	9.5 S	7.9
42	2153.0	72.12	249.50	261.75	1934.3	403.0	403.2	268.34	403.0 W	11.7 S	1.5
43	2172.0	72.37	250.00	262.25	1940.1	421.0	421.2	268.07	421.0 W	14.2 S	2.8
44	2179.0	72.75	250.00	262.25	1942.2	427.6	427.9	267.98	427.6 W	15.1 S	5.3
45	2211.0	73.50	250.50	262.75	1951.5	457.9	458.3	267.61	457.9 W	19.1 S	2.7
46	2245.0	75.00	250.50	262.75	1960.7	490.4	491.0	267.29	490.4 W	23.2 S	4.4
47	2274.0	76.62	250.00	262.25	1967.8	518.3	519.0	267.03	518.3 W	26.9 S	5.8
48	2305.0	77.62	250.00	262.25	1974.7	548.2	549.1	266.77	548.2 W	31.0 S	3.2
49	2334.0	78.12	249.50	261.75	1980.8	576.3	577.4	266.53	576.3 W	34.9 S	2.4
50	2366.0	78.75	249.50	261.75	1987.2	607.3	608.6	266.29	607.3 W	39.4 S	1.9
51	2378.0	78.50	249.50	261.75	1989.6	619.0	620.3	266.20	619.0 W	41.1 S	2.0
52	2395.0	78.50	250.00	262.25	1993.0	635.5	636.9	266.09	635.5 W	43.4 S	2.8
53	2425.0	78.87	249.50	261.75	1998.9	664.6	666.3	265.91	664.6 W	47.5 S	2.0
54	2456.0	78.87	249.50	261.75	2004.9	694.7	696.6	265.73	694.7 W	51.9 S	0.0
55	2486.0	77.75	250.00	262.25	2010.9	723.8	726.0	265.58	723.8 W	56.0 S	4.1
56	2517.0	77.37	250.00	262.25	2017.6	753.8	756.2	265.44	753.8 W	60.1 S	1.2
57	2546.0	77.12	250.00	262.25	2024.0	781.8	784.4	265.33	781.8 W	63.9 S	0.8
58	2578.0	76.87	250.50	262.75	2031.2	812.7	815.6	265.22	812.7 W	67.9 S	1.7
59	2607.0	76.37	250.50	262.75	2037.9	840.7	843.7	265.14	840.7 W	71.5 S	1.7
60	2639.0	76.62	250.50	262.75	2045.4	871.6	874.8	265.05	871.6 W	75.4 S	0.8
61	2668.0	76.87	250.50	262.75	2052.1	899.6	903.0	264.98	899.6 W	79.0 S	0.9
62	2698.0	76.87	250.50	262.75	2058.9	928.6	932.2	264.91	928.6 W	82.7 S	0.0
63	2730.0	77.37	251.50	263.75	2066.0	959.5	963.4	264.86	959.5 W	86.3 S	3.4
64	2760.0	76.62	250.50	262.75	2072.8	988.6	992.6	264.81	988.6 W	89.8 S	4.1
65	2792.0	76.75	251.00	263.25	2080.1	1019.5	1023.8	264.76	1019.5 W	93.6 S	1.6
66	2822.0	76.62	251.00	263.25	2087.0	1048.5	1052.9	264.71	1048.5 W	97.0 S	0.4
67	2852.0	76.37	250.50	262.75	2094.0	1077.4	1082.1	264.67	1077.4 W	100.6 S	1.8
68	2884.0	75.75	251.00	263.25	2101.8	1108.2	1113.1	264.62	1108.2 W	104.3 S	2.4
69	2913.0	75.50	251.00	263.25	2109.0	1136.1	1141.2	264.59	1136.1 W	107.6 S	0.9
70	2943.0	75.12	252.00	264.25	2116.6	1165.0	1170.2	264.57	1165.0 W	110.8 S	3.4
71	2973.0	74.87	251.00	263.25	2124.3	1193.8	1199.2	264.55	1193.8 W	114.0 S	3.3
72	3002.0	74.62	250.50	262.75	2132.0	1221.6	1227.2	264.51	1221.6 W	117.4 S	1.9
73	3031.0	74.75	250.50	262.75	2139.6	1249.3	1255.1	264.47	1249.3 W	120.9 S	0.4
74	3062.0	75.00	251.00	263.25	2147.7	1279.0	1285.1	264.44	1279.0 W	124.5 S	1.7
75	3093.0	74.75	251.00	263.25	2155.8	1308.7	1315.0	264.41	1308.7 W	128.1 S	0.8
76	3124.0	74.62	251.50	263.75	2164.0	1338.4	1344.9	264.39	1338.4 W	131.4 S	1.6
77	3154.0	74.75	251.00	263.25	2171.9	1367.2	1373.8	264.37	1367.2 W	134.7 S	1.6
78	3185.0	75.12	251.50	263.75	2180.0	1396.9	1403.7	264.35	1396.9 W	138.1 S	1.9

Geoservices-Directional

Deviation report



Well : JICARILLA #81-1
 Field : WILDCAT
 Company : AMERICAN HUNTER

Surv no	Measured depth feet	Drift angle degree	Azimut magnt. degree	Azimut geogr. degree	Vertical depth feet	Horizntl prjction feet	Horizntl displcmt feet	Average Az(geo) degree	.Relative East/West feet	Coordinates. Nor/South feet	Dog leg /100f
Computation method :			Radius of curvature								
79	3216.0	75.50	251.50	263.75	2187.8	1426.7	1433.7	264.34	1426.7 W	141.4 S	1.2
80	3246.0	75.37	252.50	264.75	2195.4	1455.6	1462.8	264.34	1455.6 W	144.3 S	3.2
81	3277.0	75.25	251.50	263.75	2203.2	1485.5	1492.7	264.34	1485.5 W	147.3 S	3.1
82	3308.0	75.75	251.50	263.75	2211.0	1515.3	1522.8	264.33	1515.3 W	150.6 S	1.6
83	3339.0	75.62	251.50	263.75	2218.7	1545.2	1552.8	264.31	1545.2 W	153.8 S	0.4
84	3370.0	75.62	252.00	264.25	2226.4	1575.0	1582.8	264.31	1575.0 W	157.0 S	1.5
85	3399.0	75.50	252.00	264.25	2233.6	1603.0	1610.9	264.31	1603.0 W	159.8 S	0.4
86	3430.0	75.25	252.50	264.75	2241.4	1632.8	1640.9	264.31	1632.8 W	162.7 S	1.7
87	3462.0	74.75	252.50	264.75	2249.7	1663.6	1671.8	264.32	1663.6 W	165.5 S	1.6
88	3493.0	74.75	252.50	264.75	2257.8	1693.4	1701.7	264.33	1693.4 W	168.2 S	0.0
89	3524.0	75.75	252.50	264.75	2265.7	1723.2	1731.7	264.33	1723.2 W	171.0 S	3.2
90	3555.0	76.00	253.00	265.25	2273.3	1753.2	1761.8	264.35	1753.2 W	173.6 S	1.7
91	3585.0	76.37	252.50	264.75	2280.5	1782.2	1790.9	264.36	1782.2 W	176.1 S	2.0
92	3615.0	76.12	252.00	264.25	2287.6	1811.2	1820.0	264.36	1811.2 W	178.9 S	1.8
93	3645.0	76.25	252.50	264.75	2294.8	1840.2	1849.2	264.36	1840.2 W	181.7 S	1.7
94	3676.0	76.12	252.50	264.75	2302.2	1870.2	1879.3	264.37	1870.2 W	184.5 S	0.4
95	3706.0	76.00	252.50	264.75	2309.4	1899.2	1908.4	264.37	1899.2 W	187.1 S	0.4
96	3737.0	76.00	252.00	264.25	2316.9	1929.1	1938.5	264.37	1929.1 W	190.0 S	1.5
97	3768.0	76.37	253.00	265.25	2324.3	1959.1	1968.6	264.38	1959.1 W	192.8 S	3.3
98	3798.0	76.25	252.50	264.75	2331.4	1988.1	1997.7	264.39	1988.1 W	195.3 S	1.7
99	3828.0	76.50	252.50	264.75	2338.5	2017.2	2026.9	264.39	2017.2 W	198.0 S	0.8
100	3860.0	77.00	252.50	264.75	2345.8	2048.2	2058.0	264.40	2048.2 W	200.8 S	1.6
101	3889.0	77.25	252.50	264.75	2352.3	2076.3	2086.3	264.40	2076.3 W	203.4 S	0.8
102	3921.0	78.37	252.50	264.75	2359.0	2107.5	2117.6	264.41	2107.5 W	206.3 S	3.5
103	3952.0	78.62	253.00	265.25	2365.2	2137.7	2147.9	264.42	2137.7 W	208.9 S	1.8
104	3981.0	79.37	252.50	264.75	2370.7	2166.1	2176.4	264.43	2166.1 W	211.4 S	3.1
105	4012.0	80.25	253.00	265.25	2376.2	2196.5	2206.9	264.43	2196.5 W	214.1 S	3.2
106	4042.0	80.75	252.50	264.75	2381.2	2226.0	2236.5	264.44	2226.0 W	216.6 S	2.3
107	4073.0	80.37	252.00	264.25	2386.3	2256.4	2267.1	264.44	2256.4 W	219.6 S	2.0
108	4102.0	80.87	252.00	264.25	2391.0	2284.9	2295.7	264.44	2284.9 W	222.4 S	1.7
109	4133.0	81.75	252.50	264.75	2395.7	2315.4	2326.3	264.44	2315.4 W	225.4 S	3.2
110	4163.0	81.37	252.50	264.75	2400.1	2344.9	2356.0	264.44	2344.9 W	228.1 S	1.3
111	4194.0	82.00	252.50	264.75	2404.6	2375.5	2386.7	264.45	2375.5 W	230.9 S	2.0

SUBSCRIBED AND SWORN TO BEFORE ME THIS 30th DAY OF OCTOBER, 1991.

NOTARY PUBLIC

COUNTY, TEXAS