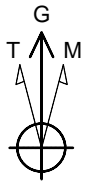


TEXAS AMERICAN RESOURCES CO.

Field: Weld County, CO
Site: Cass Farms 11-27H
Well: #11-27H
Wellpath: Lateral
Plan: Plan #4



Azimuths to Grid North
True North: -0.77°
Magnetic North: 7.97°

Magnetic Field
Strength: 53413nT
Dip Angle: 67.34°
Date: 10/21/2010
Model: IGRF2010

Section Distances

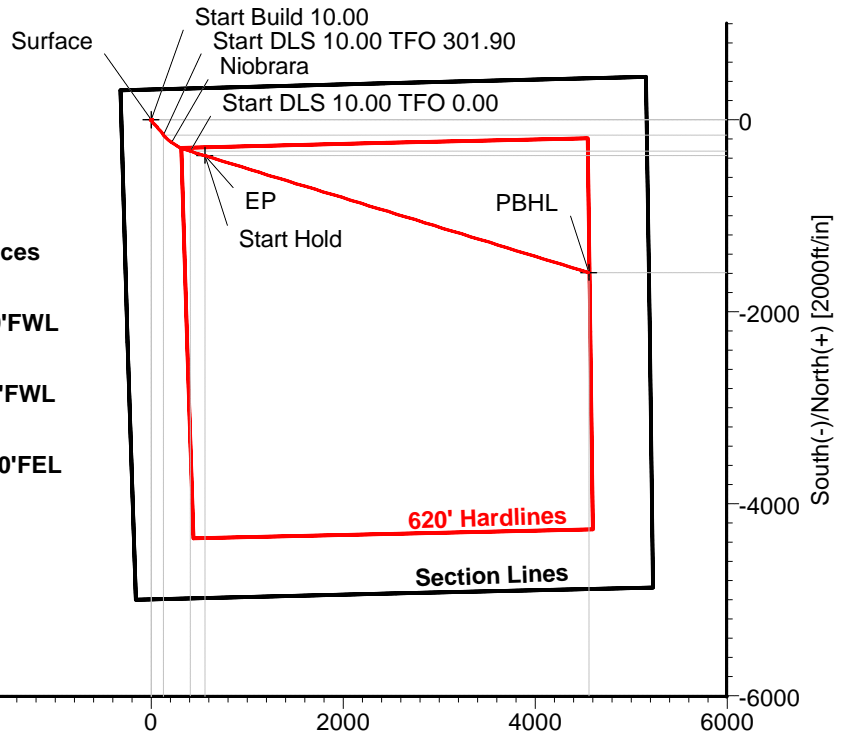
SL
320.0'FNL, 310.0'FWL

Entry Point
705.4FNL, 860.3'FWL

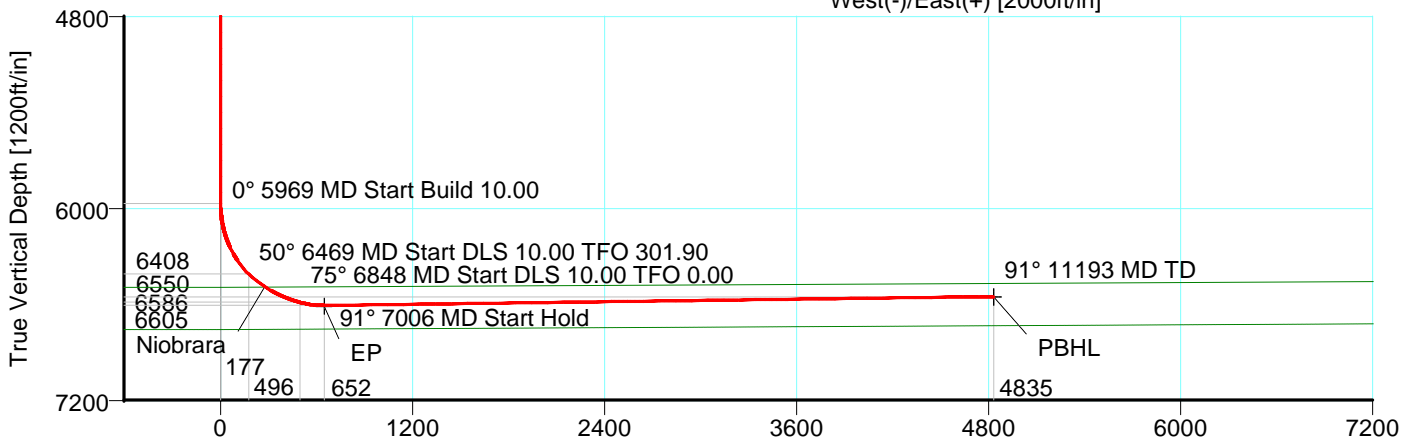
PBHL
2024.0'FNL, 620.0'FEL

FORMATION TOP DETAILS

No.	TVDPath	MDPath	Formation
1	6488.42	6605.46	Niobrara



Pilot Hole will be drilled to 7065'TVD
then plug back to KOP



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Surface	0.00	0.00	0.00	1477743.16	3328897.01	40°38'19.536N	104°18'53.640W	Point
PBHL	6550.00	-1591.00	4566.15	1476152.17	3333463.17	40°38'03.209N	104°17'54.695W	Point
EP	6610.00	-371.29	560.99	1477371.87	3329458.00	40°38'15.793N	104°18'46.428W	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	139.60	0.00	0.00	0.00	0.00	0.00	0.00	
2	5969.35	0.00	139.60	5969.35	0.00	0.00	0.00	139.60	0.00	
3	6469.35	50.00	139.60	6408.26	-155.86	132.65	10.00	139.60	176.55	
4	6848.15	75.00	106.94	6585.53	-325.89	411.94	10.00	301.90	496.23	
5	7005.68	90.75	106.94	6605.00	-371.28	561.00	10.00	0.00	651.93	
6	11192.79	90.75	106.94	6550.00	-1591.00	4566.15	0.00	0.00	4835.39	PBHL

Plan: Plan #4 (#11-27H/Lateral)

ALLIS-CHALMERS DIRECTIONAL DRILLING SERVICES
911 Regional Park Drive Houston, Texas 77060
Phone: 713-934-9600 Fax: 713-934-9067



DIRECTIONAL
DRILLING SERVICES

Created By: Ivonne Gonzalez

Date: 10/21/2010

Allis-Chalmers Energy, Inc.

Planning Report

Company: TEXAS AMERICAN RESOURCES CO. Field: Weld County, CO Site: Cass Farms 11-27H Well: #11-27H Wellpath: Lateral	Date: 10/21/2010 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference: Plan:	Time: 09:30:27 Well: #11-27H, Grid North Est.4883'GL+22'KB 4905.0 Well (0.00N,0.00E,109.21Azi) Plan #4	Page: 1
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Field: Weld County, CO Map System: US State Plane Coordinate System 1983 Geo Datum: GRS 1980 Sys Datum: Mean Sea Level	Map Zone: Colorado, Northern Zone Coordinate System: Well Centre Geomagnetic Model: IGRF2010
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Site: Cass Farms 11-27H Site Position: From: Geographic Position Uncertainty: 0.00 ft Ground Level: 4883.00 ft	Northing: 1477743.16 ft Easting: 3328897.01 ft Latitude: 40 38 19.536 N Longitude: 104 18 53.640 W North Reference: Grid Grid Convergence: 0.77 deg
---	--

Well: #11-27H Well Position: +N/-S 0.00 ft +E/-W 0.00 ft Position Uncertainty: 0.00 ft	Slot Name: Latitude: 40 38 19.536 N Longitude: 104 18 53.640 W
--	---

Wellpath: Lateral Current Datum: Est.4883'GL+22'KB Magnetic Data: 10/21/2010 Field Strength: 53413 nT Vertical Section: Depth From (TVD) ft	Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 8.73 deg Mag Dip Angle: 67.34 deg +N/-S ft +E/-W ft Direction deg
0.00	0.00

Plan: Plan #4 p4 for updated surface plat Principal: No	Date Composed: 10/05/2010 Version: 1 Tied-to: User Defined
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Plan Section Information										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	139.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5969.35	0.00	139.60	5969.35	0.00	0.00	0.00	0.00	0.00	139.60	
6469.35	50.00	139.60	6408.26	-155.86	132.65	10.00	10.00	0.00	139.60	
6848.15	75.00	106.94	6585.53	-325.89	411.94	10.00	6.60	-8.62	301.90	
7005.68	90.75	106.94	6605.00	-371.28	561.00	10.00	10.00	0.00	0.00	
11192.79	90.75	106.94	6550.00	-1591.00	4566.15	0.00	0.00	0.00	0.00	PBHL

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	Tool/Comment
5969.35	0.00	139.60	5969.35	0.00	0.00	0.00	0.00	0.00	0.00	
6000.00	3.07	139.60	5999.99	-0.62	0.53	0.71	10.00	10.00	0.00	
6050.00	8.07	139.60	6049.73	-4.32	3.67	4.89	10.00	10.00	0.00	
6100.00	13.07	139.60	6098.87	-11.29	9.61	12.79	10.00	10.00	0.00	
6150.00	18.07	139.60	6147.02	-21.51	18.31	24.36	10.00	10.00	0.00	
6200.00	23.07	139.60	6193.82	-34.88	29.68	39.51	10.00	10.00	0.00	
6250.00	28.07	139.60	6238.91	-51.31	43.66	58.11	10.00	10.00	0.00	
6300.00	33.07	139.60	6281.95	-70.66	60.14	80.04	10.00	10.00	0.00	
6350.00	38.07	139.60	6322.61	-92.80	78.98	105.12	10.00	10.00	0.00	
6400.00	43.07	139.60	6360.58	-117.56	100.05	133.16	10.00	10.00	0.00	
6450.00	48.07	139.60	6395.58	-144.74	123.18	163.94	10.00	10.00	0.00	
6469.35	50.00	139.60	6408.26	-155.86	132.65	176.55	10.00	10.00	0.00	
6500.00	51.67	136.28	6427.62	-173.50	148.57	197.38	10.00	5.44	-10.82	
6550.00	54.57	131.19	6457.64	-201.10	177.47	233.76	10.00	5.81	-10.18	
6600.00	57.68	126.47	6485.51	-227.10	209.81	272.85	10.00	6.21	-9.44	

Allis-Chalmers Energy, Inc.

Planning Report

Company: TEXAS AMERICAN RESOURCES CO.
Field: Weld County, CO
Site: Cass Farms 11-27H
Well: #11-27H
Wellpath: Lateral

Date: 10/21/2010
Co-ordinate(NE) Reference: Well: #11-27H, Grid North
Vertical (TVD) Reference: Est.4883'GL+22'KB 4905.0
Section (VS) Reference: Well (0.00N,0.00E,109.21Azi)
Plan: Plan #4

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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	Tool/Comment
6605.46	58.03	125.98	6488.42	-229.83	213.54	277.27	10.00	6.40	-9.07	Niobrara
6650.00	60.95	122.07	6511.03	-251.28	245.34	314.36	10.00	6.56	-8.77	
6700.00	64.35	117.95	6534.01	-273.46	283.79	357.97	10.00	6.81	-8.25	
6750.00	67.87	114.06	6554.26	-293.47	324.87	403.34	10.00	7.03	-7.78	
6800.00	71.47	110.36	6571.64	-311.17	368.27	450.15	10.00	7.20	-7.40	
6848.15	75.00	106.94	6585.53	-325.89	411.94	496.23	10.00	7.34	-7.10	
6850.00	75.19	106.94	6586.01	-326.41	413.65	498.02	10.00	10.00	0.00	
6900.00	80.19	106.94	6596.67	-340.64	460.37	546.82	10.00	10.00	0.00	
6950.00	85.19	106.94	6603.03	-355.08	507.80	596.35	10.00	10.00	0.00	
7000.00	90.19	106.94	6605.05	-369.63	555.57	646.26	10.00	10.00	0.00	
7005.68	90.75	106.94	6605.00	-371.28	561.00	651.93	10.00	10.00	0.00	
7100.00	90.75	106.94	6603.76	-398.76	651.23	746.17	0.00	0.00	0.00	
7200.00	90.75	106.94	6602.45	-427.89	746.88	846.08	0.00	0.00	0.00	
7300.00	90.75	106.94	6601.14	-457.02	842.53	946.00	0.00	0.00	0.00	
7400.00	90.75	106.94	6599.82	-486.15	938.19	1045.91	0.00	0.00	0.00	
7500.00	90.75	106.94	6598.51	-515.28	1033.84	1145.82	0.00	0.00	0.00	
7600.00	90.75	106.94	6597.20	-544.41	1129.50	1245.73	0.00	0.00	0.00	
7700.00	90.75	106.94	6595.88	-573.54	1225.15	1345.65	0.00	0.00	0.00	
7800.00	90.75	106.94	6594.57	-602.67	1320.81	1445.56	0.00	0.00	0.00	
7900.00	90.75	106.94	6593.25	-631.80	1416.46	1545.47	0.00	0.00	0.00	
8000.00	90.75	106.94	6591.94	-660.93	1512.11	1645.39	0.00	0.00	0.00	
8100.00	90.75	106.94	6590.63	-690.06	1607.77	1745.30	0.00	0.00	0.00	
8200.00	90.75	106.94	6589.31	-719.19	1703.42	1845.21	0.00	0.00	0.00	
8300.00	90.75	106.94	6588.00	-748.32	1799.08	1945.12	0.00	0.00	0.00	
8400.00	90.75	106.94	6586.69	-777.45	1894.73	2045.04	0.00	0.00	0.00	
8500.00	90.75	106.94	6585.37	-806.58	1990.38	2144.95	0.00	0.00	0.00	
8600.00	90.75	106.94	6584.06	-835.71	2086.04	2244.86	0.00	0.00	0.00	
8700.00	90.75	106.94	6582.75	-864.84	2181.69	2344.77	0.00	0.00	0.00	
8800.00	90.75	106.94	6581.43	-893.97	2277.35	2444.69	0.00	0.00	0.00	
8900.00	90.75	106.94	6580.12	-923.10	2373.00	2544.60	0.00	0.00	0.00	
9000.00	90.75	106.94	6578.80	-952.23	2468.65	2644.51	0.00	0.00	0.00	
9100.00	90.75	106.94	6577.49	-981.36	2564.31	2744.43	0.00	0.00	0.00	
9200.00	90.75	106.94	6576.18	-1010.49	2659.96	2844.34	0.00	0.00	0.00	
9300.00	90.75	106.94	6574.86	-1039.62	2755.62	2944.25	0.00	0.00	0.00	
9400.00	90.75	106.94	6573.55	-1068.75	2851.27	3044.16	0.00	0.00	0.00	
9500.00	90.75	106.94	6572.24	-1097.88	2946.93	3144.08	0.00	0.00	0.00	
9600.00	90.75	106.94	6570.92	-1127.01	3042.58	3243.99	0.00	0.00	0.00	
9700.00	90.75	106.94	6569.61	-1156.14	3138.23	3343.90	0.00	0.00	0.00	
9800.00	90.75	106.94	6568.30	-1185.27	3233.89	3443.81	0.00	0.00	0.00	
9900.00	90.75	106.94	6566.98	-1214.40	3329.54	3543.73	0.00	0.00	0.00	
10000.00	90.75	106.94	6565.67	-1243.53	3425.20	3643.64	0.00	0.00	0.00	
10100.00	90.75	106.94	6564.36	-1272.66	3520.85	3743.55	0.00	0.00	0.00	
10200.00	90.75	106.94	6563.04	-1301.79	3616.50	3843.47	0.00	0.00	0.00	
10300.00	90.75	106.94	6561.73	-1330.92	3712.16	3943.38	0.00	0.00	0.00	
10400.00	90.75	106.94	6560.41	-1360.05	3807.81	4043.29	0.00	0.00	0.00	
10500.00	90.75	106.94	6559.10	-1389.18	3903.47	4143.20	0.00	0.00	0.00	
10600.00	90.75	106.94	6557.79	-1418.31	3999.12	4243.12	0.00	0.00	0.00	
10700.00	90.75	106.94	6556.47	-1447.44	4094.78	4343.03	0.00	0.00	0.00	
10800.00	90.75	106.94	6555.16	-1476.58	4190.43	4442.94	0.00	0.00	0.00	
10900.00	90.75	106.94	6553.85	-1505.71	4286.08	4542.85	0.00	0.00	0.00	
11000.00	90.75	106.94	6552.53	-1534.84	4381.74	4642.77	0.00	0.00	0.00	PBHL
11100.00	90.75	106.94	6551.22	-1563.97	4477.39	4742.68	0.00	0.00	0.00	
11192.79	90.75	106.94	6550.00	-1591.00	4566.15	4835.39	0.00	0.00	0.00	

Allis-Chalmers Energy, Inc.

Planning Report

Company: TEXAS AMERICAN RESOURCES CO.
Field: Weld County, CO
Site: Cass Farms 11-27H
Well: #11-27H
Wellpath: Lateral

Date: 10/21/2010
Co-ordinate(NE) Reference: Well: #11-27H, Grid North
Vertical (TVD) Reference: Est.4883'GL+22'KB 4905.0
Section (VS) Reference: Well (0.00N,0.00E,109.21Azi)
Plan: Plan #4

Page: 3

Targets

Name	Description		TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<---- Latitude ---->			<--- Longitude --->				
	Dip.	Dir.						Deg	Min	Sec	Deg	Min	Sec		
Surface			0.00	0.00	0.00	1477743.16	3328897.01	40	38	19.536	N	104	18	53.640	W
PBHL			6550.00	-1591.00	4566.15	1476152.17	3333463.17	40	38	3.209	N	104	17	54.695	W
EP			6610.00	-371.29	560.99	1477371.87	3329458.00	40	38	15.793	N	104	18	46.428	W

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
6605.46	6488.42	Niobrara		-0.29	132.82
	0.00	Codell		-0.29	132.82