

TEXAS AMERICAN RESOURCES CO.

Field: Weld County, CO
Site: Cass Farms 44-34H
Well: #44-34H
Wellpath: Lateral
Plan: Plan #1

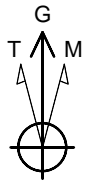


Section Distances

SL
290'FSL, 660'FWL

Entry Point
861'FSL, 652'FEL

PBHL
600'FNL, 600'FEL



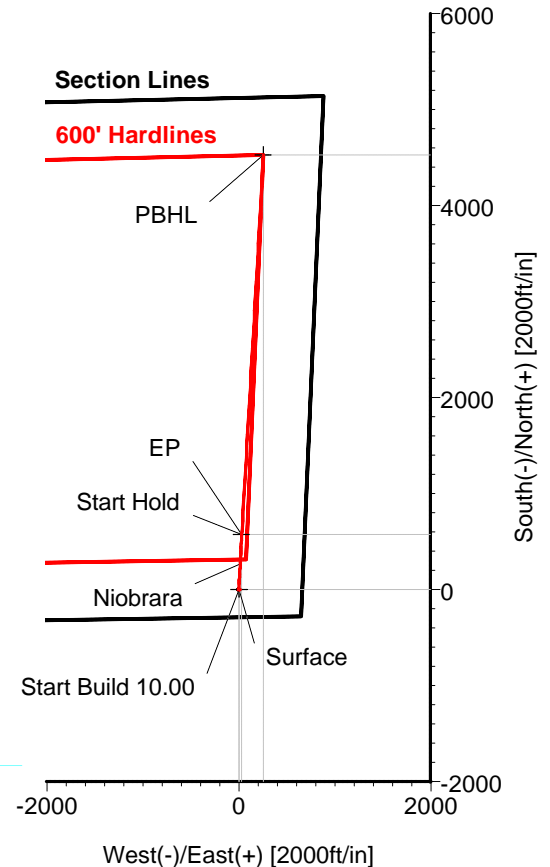
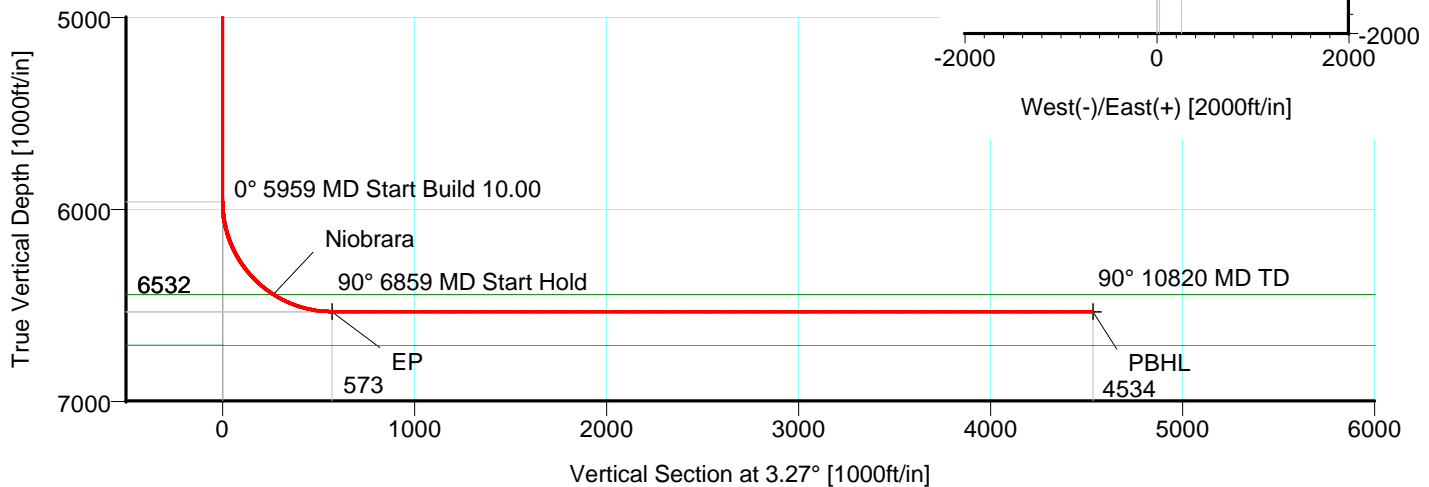
Azimuths to Grid North
True North: -0.78°
Magnetic North: 7.86°

Magnetic Field
Strength: 53333nT
Dip Angle: 67.30°
Date: 06/07/2011
Model: IGRF2010

FORMATION TOP DETAILS

No.	TVDPath	MDPath	Formation
1	1642.00	1642.00	Pierre
2	6442.00	6533.54	Niobrara

Pilot Hole will be drilled to 7207'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	1467732.00	3333233.30	40°36'40.044N	104°17'59.154W	Point
EP	6532.00	572.02	32.73	1468304.02	3333266.03	40°36'45.691N	104°17'58.630W	Point
PBHL	6532.00	4526.91	259.00	1472258.91	3333492.30	40°37'24.737N	104°17'55.001W	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	3.27	0.00	0.00	0.00	0.00	0.00	0.00	
2	5959.04	0.00	3.27	5959.04	0.00	0.00	0.00	0.00	0.00	
3	6859.04	90.00	3.27	6532.00	572.02	32.73	10.00	3.27	572.96	
4	10820.39	90.00	3.27	6532.00	4526.91	259.00	0.00	0.00	4534.31	PBHL

Plan: Plan #1 (#44-34H/Lateral)

Created By: Ivonne Gonzalez

Date: 06/08/2011

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

Archer

ARCHER

Planning Report

Company: TEXAS AMERICAN RESOURCES CO. Field: Weld County, CO Site: Cass Farms 44-34H Well: #44-34H Wellpath: Lateral	Date: 06/08/2011 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference: Plan:	Time: 09:04:10 Well: #44-34H, Grid North 4877'GL+15'KB 4892.0 Well (0.00N,0.00E,3.27Azi) Plan #1	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

Site: Cass Farms 44-34H	
Site Position: From: Map Position Uncertainty: 0.00 ft Ground Level: 4877.00 ft	Northing: 1467732.00 ft Easting: 3333233.30 ft Latitude: 40 36 40.044 N Longitude: 104 17 59.154 W North Reference: Grid Grid Convergence: 0.78 deg

Well: #44-34H	Slot Name:
Well Position: +N/-S 0.00 ft +E/-W 0.00 ft Position Uncertainty: 0.00 ft	Northing: 1467732.00 ft Easting : 3333233.30 ft Latitude: 40 36 40.044 N Longitude: 104 17 59.154 W

Wellpath: Lateral Current Datum: 4877'GL+15'KB Magnetic Data: 06/07/2011 Field Strength: 53333 nT Vertical Section: Depth From (TVD) ft	Height 4892.00 ft	Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 8.64 deg Mag Dip Angle: 67.30 deg +N/-S ft +E/-W ft Direction deg
0.00	0.00	0.00 3.27

Plan: Plan #1 Principal: No	Date Composed: 06/07/2011 Version: 1 Tied-to: From Surface
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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	3.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5959.04	0.00	3.27	5959.04	0.00	0.00	0.00	0.00	0.00	0.00	
6859.04	90.00	3.27	6532.00	572.02	32.73	10.00	10.00	0.00	3.27	
10820.39	90.00	3.27	6532.00	4526.91	259.00	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
5959.04	0.00	3.27	5959.04	0.00	0.00	0.00	0.00	0.00	0.00	
6000.00	4.10	3.27	5999.97	1.46	0.08	1.46	10.00	10.00	0.00	
6050.00	9.10	3.27	6049.62	7.19	0.41	7.20	10.00	10.00	0.00	
6100.00	14.10	3.27	6098.58	17.22	0.99	17.25	10.00	10.00	0.00	
6150.00	19.10	3.27	6146.48	31.48	1.80	31.53	10.00	10.00	0.00	
6200.00	24.10	3.27	6192.96	49.84	2.85	49.93	10.00	10.00	0.00	
6250.00	29.10	3.27	6237.65	72.18	4.13	72.30	10.00	10.00	0.00	
6300.00	34.10	3.27	6280.23	98.33	5.63	98.49	10.00	10.00	0.00	
6350.00	39.10	3.27	6320.36	128.08	7.33	128.29	10.00	10.00	0.00	
6400.00	44.10	3.27	6357.74	161.21	9.22	161.47	10.00	10.00	0.00	
6450.00	49.10	3.27	6392.09	197.46	11.30	197.79	10.00	10.00	0.00	
6500.00	54.10	3.27	6423.14	236.57	13.53	236.96	10.00	10.00	0.00	
6533.54	57.45	3.27	6442.00	264.25	15.12	264.68	10.00	10.00	0.00	Niobrara
6550.00	59.10	3.27	6450.66	278.23	15.92	278.68	10.00	10.00	0.00	
6600.00	64.10	3.27	6474.43	322.12	18.43	322.65	10.00	10.00	0.00	
6650.00	69.10	3.27	6494.29	367.92	21.05	368.52	10.00	10.00	0.00	
6700.00	74.10	3.27	6510.07	415.27	23.76	415.95	10.00	10.00	0.00	

ARCHER

Planning Report

Company: TEXAS AMERICAN RESOURCES CO.
Field: Weld County, CO
Site: Cass Farms 44-34H
Well: #44-34H
Wellpath: Lateral

Date: 06/08/2011
Co-ordinate(NE) Reference: Well: #44-34H, Grid North
Vertical (TVD) Reference: 4877'GL+15'KB 4892.0
Section (VS) Reference: Well (0.00N,0.00E,3.27Azi)
Plan: Plan #1

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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
6750.00	79.10	3.27	6521.66	463.81	26.54	464.57	10.00	10.00	0.00	
6800.00	84.10	3.27	6528.96	513.18	29.36	514.02	10.00	10.00	0.00	
6850.00	89.10	3.27	6531.93	563.00	32.21	563.92	10.00	10.00	0.00	
6859.04	90.00	3.27	6532.00	572.02	32.73	572.96	10.00	10.00	0.00	
6900.00	90.00	3.27	6532.00	612.91	35.07	613.92	0.00	0.00	0.00	
7000.00	90.00	3.27	6532.00	712.75	40.78	713.92	0.00	0.00	0.00	
7100.00	90.00	3.27	6532.00	812.59	46.49	813.92	0.00	0.00	0.00	
7200.00	90.00	3.27	6532.00	912.42	52.20	913.92	0.00	0.00	0.00	
7300.00	90.00	3.27	6532.00	1012.26	57.91	1013.92	0.00	0.00	0.00	
7400.00	90.00	3.27	6532.00	1112.10	63.63	1113.92	0.00	0.00	0.00	
7500.00	90.00	3.27	6532.00	1211.93	69.34	1213.92	0.00	0.00	0.00	
7600.00	90.00	3.27	6532.00	1311.77	75.05	1313.92	0.00	0.00	0.00	
7700.00	90.00	3.27	6532.00	1411.61	80.76	1413.92	0.00	0.00	0.00	
7800.00	90.00	3.27	6532.00	1511.44	86.47	1513.92	0.00	0.00	0.00	
7900.00	90.00	3.27	6532.00	1611.28	92.19	1613.92	0.00	0.00	0.00	
8000.00	90.00	3.27	6532.00	1711.12	97.90	1713.92	0.00	0.00	0.00	
8100.00	90.00	3.27	6532.00	1810.95	103.61	1813.92	0.00	0.00	0.00	
8200.00	90.00	3.27	6532.00	1910.79	109.32	1913.92	0.00	0.00	0.00	
8300.00	90.00	3.27	6532.00	2010.63	115.03	2013.92	0.00	0.00	0.00	
8400.00	90.00	3.27	6532.00	2110.46	120.75	2113.92	0.00	0.00	0.00	
8500.00	90.00	3.27	6532.00	2210.30	126.46	2213.92	0.00	0.00	0.00	
8600.00	90.00	3.27	6532.00	2310.14	132.17	2313.92	0.00	0.00	0.00	
8700.00	90.00	3.27	6532.00	2409.97	137.88	2413.92	0.00	0.00	0.00	
8800.00	90.00	3.27	6532.00	2509.81	143.59	2513.92	0.00	0.00	0.00	
8900.00	90.00	3.27	6532.00	2609.65	149.30	2613.92	0.00	0.00	0.00	
9000.00	90.00	3.27	6532.00	2709.48	155.02	2713.92	0.00	0.00	0.00	
9100.00	90.00	3.27	6532.00	2809.32	160.73	2813.92	0.00	0.00	0.00	
9200.00	90.00	3.27	6532.00	2909.16	166.44	2913.92	0.00	0.00	0.00	
9300.00	90.00	3.27	6532.00	3009.00	172.15	3013.92	0.00	0.00	0.00	
9400.00	90.00	3.27	6532.00	3108.83	177.86	3113.92	0.00	0.00	0.00	
9500.00	90.00	3.27	6532.00	3208.67	183.58	3213.92	0.00	0.00	0.00	
9600.00	90.00	3.27	6532.00	3308.51	189.29	3313.92	0.00	0.00	0.00	
9700.00	90.00	3.27	6532.00	3408.34	195.00	3413.92	0.00	0.00	0.00	
9800.00	90.00	3.27	6532.00	3508.18	200.71	3513.92	0.00	0.00	0.00	
9900.00	90.00	3.27	6532.00	3608.02	206.42	3613.92	0.00	0.00	0.00	
10000.00	90.00	3.27	6532.00	3707.85	212.14	3713.92	0.00	0.00	0.00	
10100.00	90.00	3.27	6532.00	3807.69	217.85	3813.92	0.00	0.00	0.00	
10200.00	90.00	3.27	6532.00	3907.53	223.56	3913.92	0.00	0.00	0.00	
10300.00	90.00	3.27	6532.00	4007.36	229.27	4013.92	0.00	0.00	0.00	
10400.00	90.00	3.27	6532.00	4107.20	234.98	4113.92	0.00	0.00	0.00	
10500.00	90.00	3.27	6532.00	4207.04	240.70	4213.92	0.00	0.00	0.00	
10600.00	90.00	3.27	6532.00	4306.87	246.41	4313.92	0.00	0.00	0.00	
10700.00	90.00	3.27	6532.00	4406.71	252.12	4413.92	0.00	0.00	0.00	
10800.00	90.00	3.27	6532.00	4506.55	257.83	4513.92	0.00	0.00	0.00	
10820.39	90.00	3.27	6532.00	4526.91	259.00	4534.31	0.00	0.00	0.00	PBHL

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude --->			<--- Longitude --->				
								Deg	Min	Sec	Deg	Min	Sec		
Surface			0.00	0.00	0.00	1467732.00	3333233.30	40	36	40.044	N	104	17	59.154	W
EP			6532.00	572.02	32.73	1468304.02	3333266.03	40	36	45.691	N	104	17	58.630	W

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Planning Report

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Site: Cass Farms 44-34H
Well: #44-34H
Wellpath: Lateral

Date: 06/08/2011
Co-ordinate(NE) Reference: Well: #44-34H, Grid North
Vertical (TVD) Reference: 4877'GL+15'KB 4892.0
Section (VS) Reference: Well (0.00N,0.00E,3.27Azi)
Plan: Plan #1

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Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<---- Latitude ---->			<--- Longitude --->		
								Deg	Min	Sec	Deg	Min	Sec
PBHL			6532.00	4526.91	259.00	1472258.91	3333492.30	40	37	24.737 N	104	17	55.001 W

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
1642.00	1642.00	Pierre		0.00	3.27
6533.54	6442.00	Niobrara		0.00	3.27
	0.00	Codell		0.00	3.27