

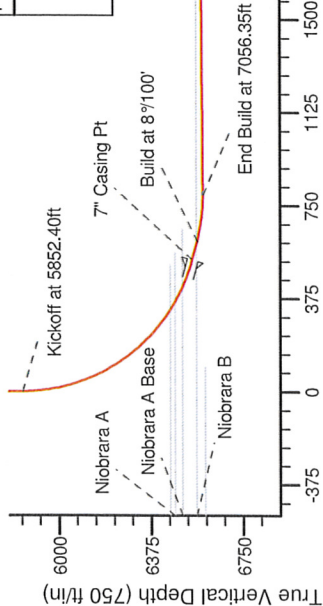
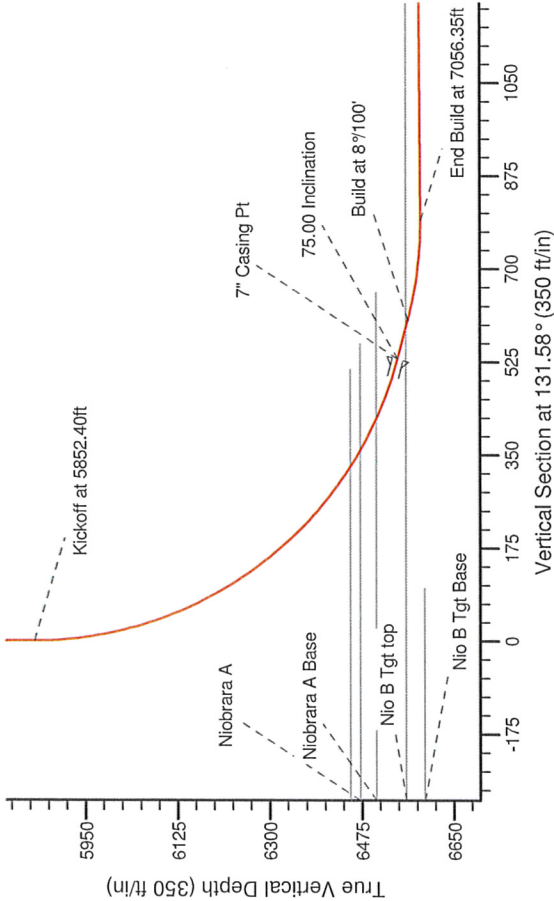
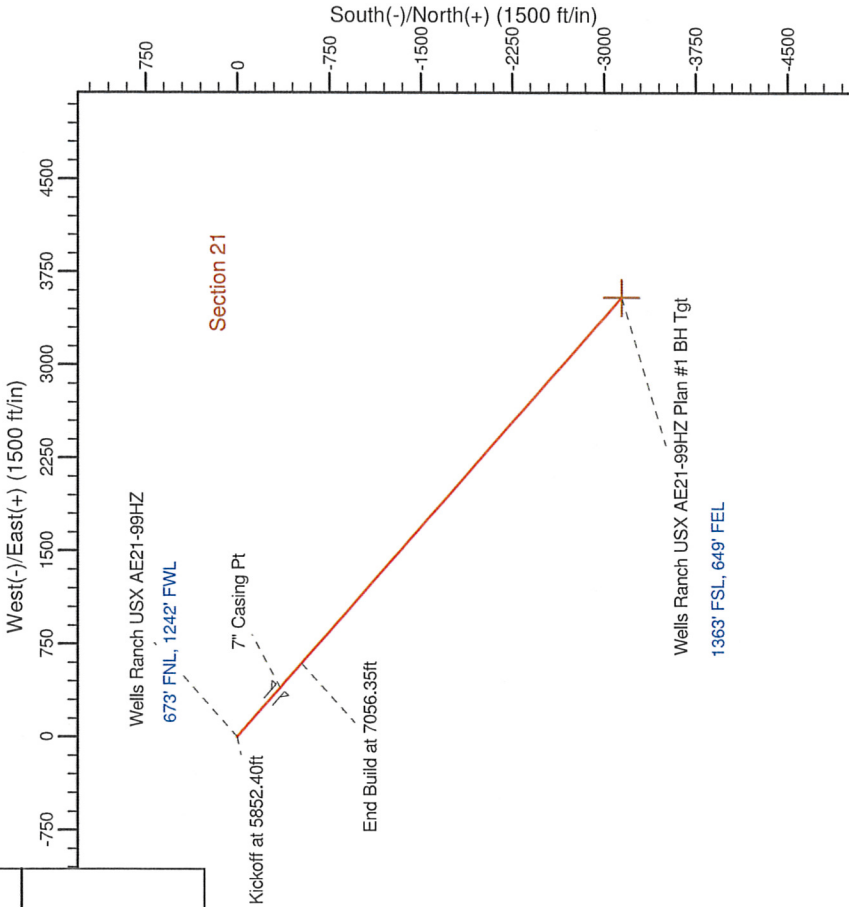
Project: Weld County, CO (Nad 83, North Zone)
Site: Sec. 21-T6N-R62W
Well: Wells Ranch USX AE21-99HZ
Wellbore: Wellbore #1
Design: Plan #1 Proposal

Noble Energy (Rockies)

HALLIBURTON

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5852.40	0.00	0.00	5852.40	0.00	0.00	0.00	0.00	0.00	0.00
3	6789.90	75.00	131.58	6544.19	-352.30	397.07	8.00	131.58	530.83	530.83
4	6864.90	75.00	131.58	6563.60	-400.38	451.26	0.00	0.00	603.28	603.28
5	7056.35	90.32	131.58	6588.00	-526.02	592.88	8.00	-0.01	792.59	792.59
6	11002.43	90.32	131.58	6566.23	-3144.78	3544.68	0.00	0.00	4738.61	4738.61



Plan: Plan #1 Proposal (Wells Ranch USX AE21-99HZ Wellbore #1)

Created By: Puneet Bhatia Date: 11/24/2009

WELL DETAILS: Wells Ranch USX AE21-99HZ

Ground Level: 4876.00
Easting: 3324649.62
Northing: 1419093.96
Latitude: 40° 28' 40.620 N
Longitude: 104° 19' 58.656 W

Noble Energy (Rockies)

Weld County, CO (Nad 83, North Zone)

Sec. 21-T6N-R62W

Wells Ranch USX AE21-99HZ

Wellbore #1

Plan: Plan #1 Proposal

Sperry Drilling Services

Proposal Report

24 November, 2009

Well Coordinates: 1,419,093.96 N, 3,324,649.62 E (40° 28' 40.62" N, 104° 19' 58.66" W)

Ground Level: 4,876.00 ft

Local Coordinate Origin:

Centered on Site Sec. 21-T6N-R62W

Viewing Datum:

RKB - 13' @ 4917.00ft

TVDs to System:

N

North Reference:

Grid

Unit System:

API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 431

HALLIBURTON

Plan Report for Wells Ranch USX AE21-99HZ - Plan #1 Proposal

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Plan Report for Wells Ranch USX AE21-99HZ - Plan #1 Proposal

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
5,852.40	0.00	0.00	5,852.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kickoff at 5852.40ft										
5,900.00	3.81	131.58	5,899.96	-1.05	1.18	1.58	8.00	8.00	0.00	131.58
6,000.00	11.81	131.58	5,998.96	-10.06	11.34	15.16	8.00	8.00	0.00	0.00
6,100.00	19.81	131.58	6,095.10	-28.12	31.70	42.37	8.00	8.00	0.00	0.00
6,200.00	27.81	131.58	6,186.51	-54.89	61.87	82.71	8.00	8.00	0.00	0.00
6,300.00	35.81	131.58	6,271.43	-89.84	101.26	135.37	8.00	8.00	0.00	0.00
6,400.00	43.81	131.58	6,348.18	-132.30	149.11	199.34	8.00	8.00	0.00	0.00
6,500.00	51.81	131.58	6,415.29	-181.43	204.49	273.37	8.00	8.00	0.00	0.00
6,566.64	57.14	131.58	6,454.00	-217.41	245.04	327.59	8.00	8.00	0.00	0.00
Niobrara										
6,600.00	59.81	131.58	6,471.44	-236.28	266.31	356.02	8.00	8.00	0.00	0.00
6,603.11	60.06	131.58	6,473.00	-238.07	268.32	358.71	8.00	8.00	0.00	0.00
Niobrara A										
6,668.48	65.29	131.58	6,503.00	-276.60	311.75	416.77	8.00	8.00	0.00	0.00
Niobrara A Base										
6,700.00	67.81	131.58	6,515.54	-295.79	333.38	445.68	8.00	8.00	0.00	0.00
6,789.90	75.00	131.58	6,544.19	-352.30	397.07	530.83	8.00	8.00	0.00	0.00
75.00 Inclination - 7" Casing Pt										
6,800.00	75.00	131.58	6,546.81	-358.78	404.37	540.59	0.00	0.00	0.00	0.00
6,850.97	75.00	131.58	6,560.00	-391.45	441.20	589.82	0.00	0.00	0.00	0.00
Niobrara B - Nio B Tgt top										
6,864.90	75.00	131.58	6,563.60	-400.38	451.26	603.28	0.00	0.00	0.00	0.00
Build at 8°/100'										
6,900.00	77.81	131.58	6,571.86	-423.02	476.78	637.39	8.00	8.00	0.00	-0.01
7,000.00	85.81	131.58	6,586.09	-488.66	550.76	736.29	8.00	8.00	0.00	-0.01
7,056.35	90.32	131.58	6,588.00	-526.02	592.87	792.59	8.00	8.00	0.00	-0.01
End Build at 7056.35ft										
7,100.00	90.32	131.58	6,587.76	-554.99	625.53	836.24	0.00	0.00	0.00	-0.01
7,200.00	90.32	131.58	6,587.21	-621.35	700.33	936.24	0.00	0.00	0.00	0.00
7,300.00	90.32	131.58	6,586.65	-687.72	775.13	1,036.24	0.00	0.00	0.00	0.00
7,400.00	90.32	131.58	6,586.10	-754.08	849.94	1,136.24	0.00	0.00	0.00	0.00
7,500.00	90.32	131.58	6,585.55	-820.45	924.74	1,236.23	0.00	0.00	0.00	0.00
7,600.00	90.32	131.58	6,585.00	-886.81	999.54	1,336.23	0.00	0.00	0.00	0.00
7,700.00	90.32	131.58	6,584.45	-953.17	1,074.35	1,436.23	0.00	0.00	0.00	0.00
7,800.00	90.32	131.58	6,583.90	-1,019.54	1,149.15	1,536.23	0.00	0.00	0.00	0.00
7,900.00	90.32	131.58	6,583.34	-1,085.90	1,223.96	1,636.23	0.00	0.00	0.00	0.00
8,000.00	90.32	131.58	6,582.79	-1,152.26	1,298.76	1,736.23	0.00	0.00	0.00	0.00
8,100.00	90.32	131.58	6,582.24	-1,218.63	1,373.56	1,836.23	0.00	0.00	0.00	0.00
8,200.00	90.32	131.58	6,581.69	-1,284.99	1,448.37	1,936.22	0.00	0.00	0.00	0.00
8,300.00	90.32	131.58	6,581.14	-1,351.35	1,523.17	2,036.22	0.00	0.00	0.00	0.00
8,400.00	90.32	131.58	6,580.59	-1,417.72	1,597.97	2,136.22	0.00	0.00	0.00	0.00
8,500.00	90.32	131.58	6,580.03	-1,484.08	1,672.78	2,236.22	0.00	0.00	0.00	0.00
8,600.00	90.32	131.58	6,579.48	-1,550.44	1,747.58	2,336.22	0.00	0.00	0.00	0.00
8,700.00	90.32	131.58	6,578.93	-1,616.81	1,822.38	2,436.22	0.00	0.00	0.00	0.00
8,800.00	90.32	131.58	6,578.38	-1,683.17	1,897.19	2,536.22	0.00	0.00	0.00	0.00
8,900.00	90.32	131.58	6,577.83	-1,749.53	1,971.99	2,636.21	0.00	0.00	0.00	0.00
9,000.00	90.32	131.58	6,577.28	-1,815.90	2,046.80	2,736.21	0.00	0.00	0.00	0.00
9,100.00	90.32	131.58	6,576.72	-1,882.26	2,121.60	2,836.21	0.00	0.00	0.00	0.00
9,200.00	90.32	131.58	6,576.17	-1,948.63	2,196.40	2,936.21	0.00	0.00	0.00	0.00
9,300.00	90.32	131.58	6,575.62	-2,014.99	2,271.21	3,036.21	0.00	0.00	0.00	0.00
9,400.00	90.32	131.58	6,575.07	-2,081.35	2,346.01	3,136.21	0.00	0.00	0.00	0.00
9,500.00	90.32	131.58	6,574.52	-2,147.72	2,420.81	3,236.20	0.00	0.00	0.00	0.00
9,600.00	90.32	131.58	6,573.97	-2,214.08	2,495.62	3,336.20	0.00	0.00	0.00	0.00
9,700.00	90.32	131.58	6,573.41	-2,280.44	2,570.42	3,436.20	0.00	0.00	0.00	0.00
9,800.00	90.32	131.58	6,572.86	-2,346.81	2,645.22	3,536.20	0.00	0.00	0.00	0.00
9,900.00	90.32	131.58	6,572.31	-2,413.17	2,720.03	3,636.20	0.00	0.00	0.00	0.00
10,000.00	90.32	131.58	6,571.76	-2,479.53	2,794.83	3,736.20	0.00	0.00	0.00	0.00
10,100.00	90.32	131.58	6,571.21	-2,545.90	2,869.63	3,836.20	0.00	0.00	0.00	0.00

Plan Report for Wells Ranch USX AE21-99HZ - Plan #1 Proposal

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Toolface Azimuth (°)
10,200.00	90.32	131.58	6,570.66	-2,612.26	2,944.44	3,936.19	0.00	0.00	0.00	0.00
10,300.00	90.32	131.58	6,570.10	-2,678.62	3,019.24	4,036.19	0.00	0.00	0.00	0.00
10,400.00	90.32	131.58	6,569.55	-2,744.99	3,094.05	4,136.19	0.00	0.00	0.00	0.00
10,500.00	90.32	131.58	6,569.00	-2,811.35	3,168.85	4,236.19	0.00	0.00	0.00	0.00
10,600.00	90.32	131.58	6,568.45	-2,877.71	3,243.65	4,336.19	0.00	0.00	0.00	0.00
10,700.00	90.32	131.58	6,567.90	-2,944.08	3,318.46	4,436.19	0.00	0.00	0.00	0.00
10,800.00	90.32	131.58	6,567.35	-3,010.44	3,393.26	4,536.18	0.00	0.00	0.00	0.00
10,900.00	90.32	131.58	6,566.79	-3,076.81	3,468.06	4,636.18	0.00	0.00	0.00	0.00
11,000.00	90.32	131.58	6,566.24	-3,143.17	3,542.87	4,736.18	0.00	0.00	0.00	0.00
11,002.43	90.32	131.58	6,566.23	-3,144.78	3,544.68	4,738.61	0.00	0.00	0.00	0.00

Wells Ranch USX AE21-99HZ Plan #1 BH Tgt

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
5,852.40	5,852.40	0.00	0.00	Kickoff at 5852.40ft
6,789.90	6,544.19	-352.30	397.07	75.00 Inclination
6,864.90	6,563.60	-400.38	451.26	Build at 8°/100'
7,056.35	6,588.00	-526.02	592.87	End Build at 7056.35ft
11,002.43	6,566.23	-3,144.78	3,544.68	Total Depth = 11002.43ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (ft)	Origin +E/-W (ft)	Start TVD (ft)
TD	No Target (Freehand)	131.58	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	11,002.03	Plan #1 Proposal	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
6,789.90	6,544.19	7" Casing Pt	7	12-1/4

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	6,595.00	Nio B Tgt Base		0.00	
6,566.64	6,454.00	Niobrara		0.00	
6,603.11	6,473.00	Niobrara A		0.00	
6,668.48	6,503.00	Niobrara A Base		0.00	
6,850.97	6,560.00	Niobrara B		0.00	
6,850.97	6,560.00	Nio B Tgt top		0.00	

Plan Report for Wells Ranch USX AE21-99HZ - Plan #1 Proposal

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Wells Ranch USX AE21-99HZ Plan #1 BH Tgt	6,566.23	-3,144.78	3,544.68	Point

North Reference Sheet for Sec. 21-T6N-R62W - Wells Ranch USX AE21-99HZ - Wellbore #1

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to RKB - 13' @ 4917.00ft. Northing and Easting are relative to Sec. 21-T6N-R62W

Coordinate System is US State Plane 1983, Colorado Northern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is -105.50°, Longitude Origin: 0° 0' 0.000 E°, Latitude Origin: 40° 47' 0.000 N°

False Easting: 3,000,000.00ft, False Northing: 1,000,000.00ft, Scale Reduction: 0.99996469

Grid Coordinates of Well: 1,419,093.96 ft N, 3,324,649.62 ft E

Geographical Coordinates of Well: 40° 28' 40.62" N, 104° 19' 58.66" W

Grid Convergence at Surface is: 0.75°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,002.43ft

the Bottom Hole Displacement is 4,738.61ft in the Direction of 131.58° (Grid).

Magnetic Convergence at surface is: -8.06° (24 November 2009, , BGGM2008)

