

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 24-T2N-R67W

Gee 37N-25HZX

Plan B

Plan: Rev B0 - Sidetrack

Sperry Drilling Services

Proposal Report

30 December, 2014

Well Coordinates: 1,290,448.65 N, 3,185,849.09 E (40° 07' 43.55" N, 104° 50' 07.28" W)

Ground Level: 4,859.00 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Geodetic Scale Factor Applied

Version: 5000.1 Build: 70

Centered on Well Gee 37N-25HZX

RKB = 16' @ 4875.00usft (Xtreme 22)

N

True

Dec-Deg - API - US Survey Feet - Custom

HALLIBURTON

Project: Weld County, CO (NAD 83)
Site: Sec. 24-T2N-R67W
Well: Gee 37N-25HZX
Wellbore: Plan B
Design: Rev B0 - Sidetrack

Anadarko Petroleum Corp.

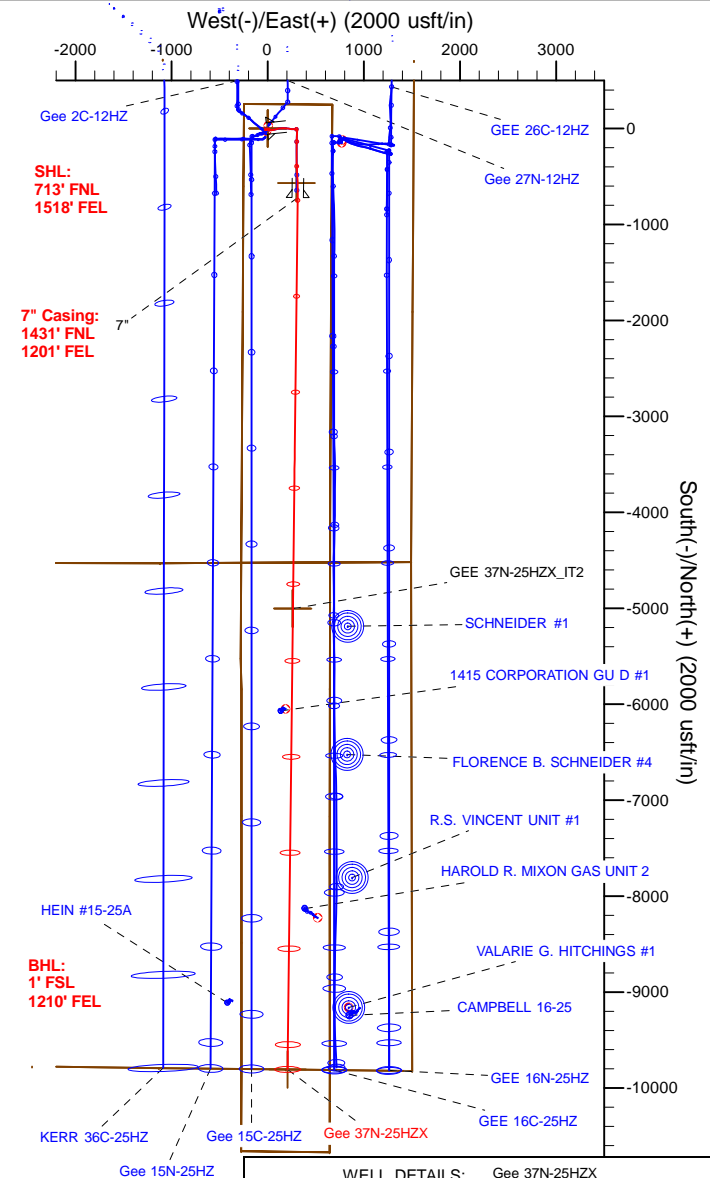
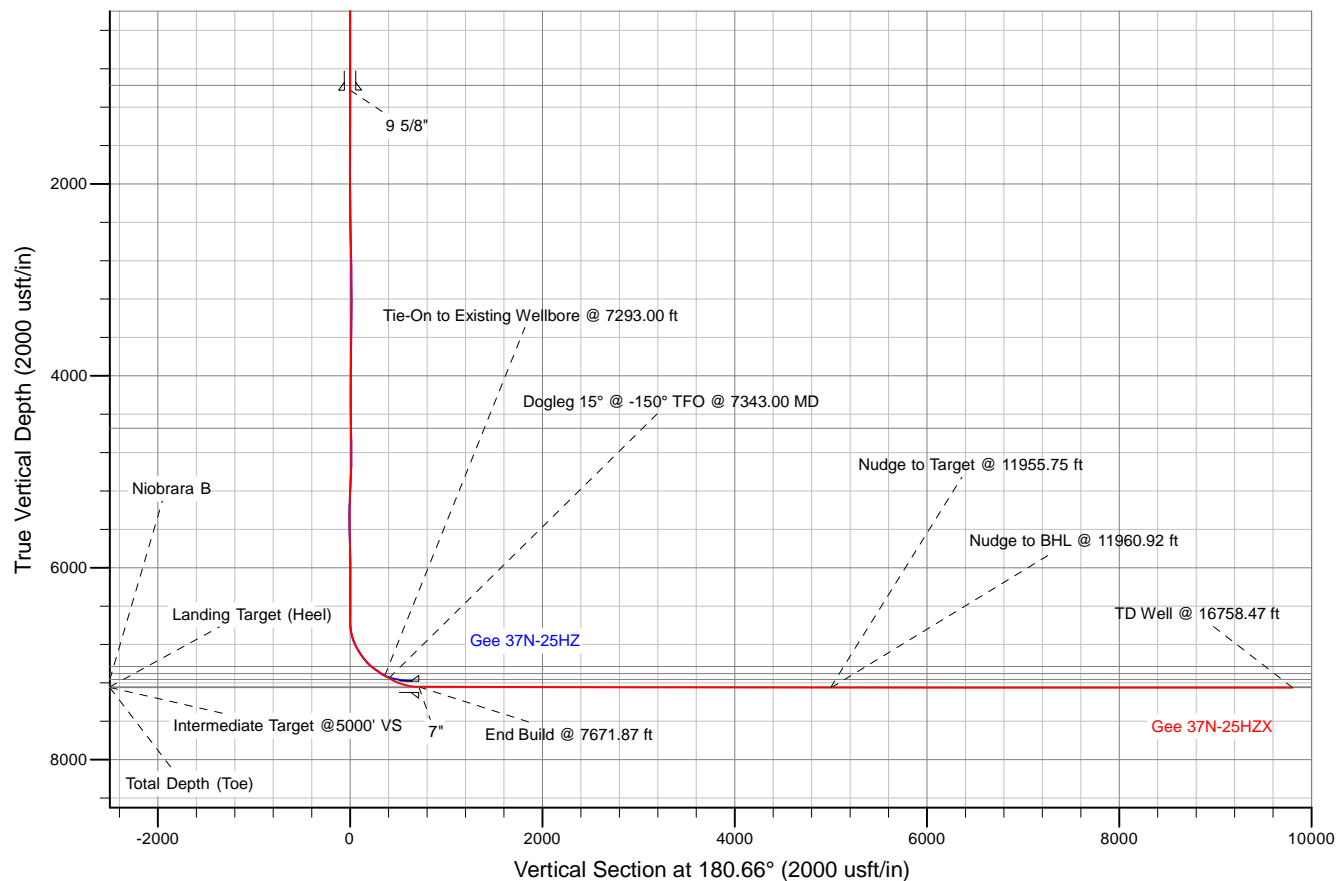
HALLIBURTON
Sperry Drilling

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	7293.00	63.85	179.60	7126.41	-364.75	300.25	0.00	0.00	361.26	Tie-On to Existing Wellbore @ 7293.00 ft
2	7343.00	57.42	175.16	7150.92	-408.24	302.19	15.00	-150.00	404.73	Dogleg 15° @ -150° TFO @ 7343.00 MD
3	7671.87	89.90	180.66	7242.28	-719.32	312.27	10.00	10.17	715.67	End Build @ 7671.87 ft
4	11955.75	89.90	180.66	7250.00	-5002.91	262.89	0.00	0.00	4999.55	Nudge to Target @ 11955.75 ft
5	11960.92	90.00	180.66	7250.00	-5008.07	262.83	2.00	0.17	5004.71	Nudge to BHL @ 11960.92 ft
6	16758.47	90.00	180.66	7250.00	-9805.31	207.50	0.00	0.00	9802.27	TD Well @ 16758.47 ft

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
GEE 37N-25HZX_LD	0.00	0.00	0.00	40.128763	-104.835356	Polygon
GEE 37N-25HZX_SEC	0.00	0.00	0.00	40.128763	-104.835356	Polygon
GEE 37N-25HZX_SHL	0.00	0.00	0.00	40.128763	-104.835356	Point
GEE 37N-25HZX_HEEL	7180.00	-567.00	298.00	40.127207	-104.834290	Point
GEE 37N-25HZX_BHL	7250.00	-9805.31	207.50	40.101847	-104.834614	Point
GEE 37N-25HZX_IT	7250.00	-5000.00	256.12	40.115038	-104.834440	Point
GEE 37N-25HZX_IT2	7250.00	-5002.91	262.89	40.115030	-104.834416	Point



WELL DETAILS: Gee 37N-25HZX

Ground Level: 4859.00

RKB = 16' @ 4875.00usft (Xtreme 22)

Plan: Rev B0 - Sidetrack (Gee 37N-25HZX/Plan B)

Created By: Katie Benner Date: 12/30/2014
Reviewed: Date:

Plan Report for Gee 37N-25HZX - Rev B0 - Sidetrack

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	Toolface Azimuth (°)
7,293.00	63.85	179.60	7,126.41	-364.75	300.25	361.26	0.00	0.00	0.00	0.00
Tie-On to Existing Wellbore @ 7293.00 ft										
7,300.00	62.94	179.01	7,129.54	-371.00	300.33	367.52	15.00	-12.97	-8.42	-150.00
7,343.00	57.42	175.16	7,150.92	-408.24	302.19	404.73	15.00	-12.83	-8.96	-149.74
Dogleg 15° @ -150° TFO @ 7343.00 MD										
7,368.14	59.90	175.67	7,164.00	-429.64	303.91	426.11	10.00	9.85	2.04	10.17
Niobrara B										
7,400.00	63.04	176.28	7,179.22	-457.56	305.87	454.01	10.00	9.86	1.93	9.91
7,500.00	72.91	178.02	7,216.68	-550.03	310.42	546.42	10.00	9.87	1.74	9.61
7,600.00	82.79	179.58	7,237.70	-647.64	312.43	644.00	10.00	9.88	1.56	8.96
7,671.87	89.90	180.66	7,242.28	-719.32	312.27	715.67	10.00	9.89	1.50	8.63
End Build @ 7671.87 ft - Landing Target (Heel) - 7"										
7,700.00	89.90	180.66	7,242.33	-747.45	311.95	743.80	0.00	0.00	0.00	0.00
7,800.00	89.90	180.66	7,242.51	-847.44	310.80	843.80	0.00	0.00	0.00	0.00
7,900.00	89.90	180.66	7,242.69	-947.43	309.64	943.80	0.00	0.00	0.00	0.00
8,000.00	89.90	180.66	7,242.87	-1,047.43	308.49	1,043.80	0.00	0.00	0.00	0.00
8,100.00	89.90	180.66	7,243.05	-1,147.42	307.34	1,143.80	0.00	0.00	0.00	0.00
8,200.00	89.90	180.66	7,243.23	-1,247.41	306.19	1,243.80	0.00	0.00	0.00	0.00
8,300.00	89.90	180.66	7,243.41	-1,347.41	305.03	1,343.80	0.00	0.00	0.00	0.00
8,400.00	89.90	180.66	7,243.59	-1,447.40	303.88	1,443.80	0.00	0.00	0.00	0.00
8,500.00	89.90	180.66	7,243.77	-1,547.39	302.73	1,543.80	0.00	0.00	0.00	0.00
8,600.00	89.90	180.66	7,243.95	-1,647.39	301.57	1,643.80	0.00	0.00	0.00	0.00
8,700.00	89.90	180.66	7,244.13	-1,747.38	300.42	1,743.80	0.00	0.00	0.00	0.00
8,800.00	89.90	180.66	7,244.31	-1,847.37	299.27	1,843.80	0.00	0.00	0.00	0.00
8,900.00	89.90	180.66	7,244.49	-1,947.37	298.12	1,943.80	0.00	0.00	0.00	0.00
9,000.00	89.90	180.66	7,244.68	-2,047.36	296.96	2,043.80	0.00	0.00	0.00	0.00
9,100.00	89.90	180.66	7,244.86	-2,147.35	295.81	2,143.80	0.00	0.00	0.00	0.00
9,200.00	89.90	180.66	7,245.04	-2,247.35	294.66	2,243.80	0.00	0.00	0.00	0.00
9,300.00	89.90	180.66	7,245.22	-2,347.34	293.50	2,343.80	0.00	0.00	0.00	0.00
9,400.00	89.90	180.66	7,245.40	-2,447.33	292.35	2,443.80	0.00	0.00	0.00	0.00
9,500.00	89.90	180.66	7,245.58	-2,547.32	291.20	2,543.80	0.00	0.00	0.00	0.00
9,600.00	89.90	180.66	7,245.76	-2,647.32	290.05	2,643.80	0.00	0.00	0.00	0.00
9,700.00	89.90	180.66	7,245.94	-2,747.31	288.89	2,743.80	0.00	0.00	0.00	0.00
9,800.00	89.90	180.66	7,246.12	-2,847.30	287.74	2,843.80	0.00	0.00	0.00	0.00
9,900.00	89.90	180.66	7,246.30	-2,947.30	286.59	2,943.80	0.00	0.00	0.00	0.00
10,000.00	89.90	180.66	7,246.48	-3,047.29	285.44	3,043.80	0.00	0.00	0.00	0.00
10,100.00	89.90	180.66	7,246.66	-3,147.28	284.28	3,143.80	0.00	0.00	0.00	0.00
10,200.00	89.90	180.66	7,246.84	-3,247.28	283.13	3,243.80	0.00	0.00	0.00	0.00
10,300.00	89.90	180.66	7,247.02	-3,347.27	281.98	3,343.80	0.00	0.00	0.00	0.00
10,400.00	89.90	180.66	7,247.20	-3,447.26	280.82	3,443.80	0.00	0.00	0.00	0.00
10,500.00	89.90	180.66	7,247.38	-3,547.26	279.67	3,543.80	0.00	0.00	0.00	0.00
10,600.00	89.90	180.66	7,247.56	-3,647.25	278.52	3,643.80	0.00	0.00	0.00	0.00
10,700.00	89.90	180.66	7,247.74	-3,747.24	277.37	3,743.80	0.00	0.00	0.00	0.00
10,800.00	89.90	180.66	7,247.92	-3,847.24	276.21	3,843.80	0.00	0.00	0.00	0.00
10,900.00	89.90	180.66	7,248.10	-3,947.23	275.06	3,943.80	0.00	0.00	0.00	0.00
11,000.00	89.90	180.66	7,248.28	-4,047.22	273.91	4,043.80	0.00	0.00	0.00	0.00
11,100.00	89.90	180.66	7,248.46	-4,147.22	272.75	4,143.80	0.00	0.00	0.00	0.00
11,200.00	89.90	180.66	7,248.64	-4,247.21	271.60	4,243.80	0.00	0.00	0.00	0.00
11,300.00	89.90	180.66	7,248.82	-4,347.20	270.45	4,343.80	0.00	0.00	0.00	0.00
11,400.00	89.90	180.66	7,249.00	-4,447.20	269.30	4,443.80	0.00	0.00	0.00	0.00
11,500.00	89.90	180.66	7,249.18	-4,547.19	268.14	4,543.80	0.00	0.00	0.00	0.00
11,600.00	89.90	180.66	7,249.36	-4,647.18	266.99	4,643.80	0.00	0.00	0.00	0.00
11,700.00	89.90	180.66	7,249.54	-4,747.18	265.84	4,743.80	0.00	0.00	0.00	0.00
11,800.00	89.90	180.66	7,249.72	-4,847.17	264.69	4,843.80	0.00	0.00	0.00	0.00
11,900.00	89.90	180.66	7,249.90	-4,947.16	263.53	4,943.80	0.00	0.00	0.00	0.00
11,955.75	89.90	180.66	7,250.00	-5,002.91	262.89	4,999.55	0.00	0.00	0.00	0.00
Nudge to Target @ 11955.75 ft - Intermediate Target @5000' VS										
11,960.92	90.00	180.66	7,250.00	-5,008.08	262.83	5,004.72	2.00	2.00	0.01	0.17

Plan Report for Gee 37N-25HZX - Rev B0 - Sidetrack

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	Toolface Azimuth (°)
Nudge to BHL @ 11960.92 ft										
12,000.00	90.00	180.66	7,250.00	-5,047.15	262.38	5,043.80	0.00	0.00	0.00	0.00
12,100.00	90.00	180.66	7,250.00	-5,147.15	261.23	5,143.80	0.00	0.00	0.00	0.00
12,200.00	90.00	180.66	7,250.00	-5,247.14	260.07	5,243.80	0.00	0.00	0.00	0.00
12,300.00	90.00	180.66	7,250.00	-5,347.13	258.92	5,343.80	0.00	0.00	0.00	0.00
12,400.00	90.00	180.66	7,250.00	-5,447.13	257.77	5,443.80	0.00	0.00	0.00	0.00
12,500.00	90.00	180.66	7,250.00	-5,547.12	256.61	5,543.80	0.00	0.00	0.00	0.00
12,600.00	90.00	180.66	7,250.00	-5,647.11	255.46	5,643.80	0.00	0.00	0.00	0.00
12,700.00	90.00	180.66	7,250.00	-5,747.11	254.31	5,743.80	0.00	0.00	0.00	0.00
12,800.00	90.00	180.66	7,250.00	-5,847.10	253.15	5,843.80	0.00	0.00	0.00	0.00
12,900.00	90.00	180.66	7,250.00	-5,947.09	252.00	5,943.80	0.00	0.00	0.00	0.00
13,000.00	90.00	180.66	7,250.00	-6,047.09	250.85	6,043.80	0.00	0.00	0.00	0.00
13,100.00	90.00	180.66	7,250.00	-6,147.08	249.69	6,143.80	0.00	0.00	0.00	0.00
13,200.00	90.00	180.66	7,250.00	-6,247.07	248.54	6,243.80	0.00	0.00	0.00	0.00
13,300.00	90.00	180.66	7,250.00	-6,347.07	247.39	6,343.80	0.00	0.00	0.00	0.00
13,400.00	90.00	180.66	7,250.00	-6,447.06	246.23	6,443.80	0.00	0.00	0.00	0.00
13,500.00	90.00	180.66	7,250.00	-6,547.06	245.08	6,543.80	0.00	0.00	0.00	0.00
13,600.00	90.00	180.66	7,250.00	-6,647.05	243.93	6,643.80	0.00	0.00	0.00	0.00
13,700.00	90.00	180.66	7,250.00	-6,747.04	242.77	6,743.80	0.00	0.00	0.00	0.00
13,800.00	90.00	180.66	7,250.00	-6,847.04	241.62	6,843.80	0.00	0.00	0.00	0.00
13,900.00	90.00	180.66	7,250.00	-6,947.03	240.47	6,943.80	0.00	0.00	0.00	0.00
14,000.00	90.00	180.66	7,250.00	-7,047.02	239.31	7,043.80	0.00	0.00	0.00	0.00
14,100.00	90.00	180.66	7,250.00	-7,147.02	238.16	7,143.80	0.00	0.00	0.00	0.00
14,200.00	90.00	180.66	7,250.00	-7,247.01	237.01	7,243.80	0.00	0.00	0.00	0.00
14,300.00	90.00	180.66	7,250.00	-7,347.00	235.85	7,343.80	0.00	0.00	0.00	0.00
14,400.00	90.00	180.66	7,250.00	-7,447.00	234.70	7,443.80	0.00	0.00	0.00	0.00
14,500.00	90.00	180.66	7,250.00	-7,546.99	233.55	7,543.80	0.00	0.00	0.00	0.00
14,600.00	90.00	180.66	7,250.00	-7,646.98	232.39	7,643.80	0.00	0.00	0.00	0.00
14,700.00	90.00	180.66	7,250.00	-7,746.98	231.24	7,743.80	0.00	0.00	0.00	0.00
14,800.00	90.00	180.66	7,250.00	-7,846.97	230.09	7,843.80	0.00	0.00	0.00	0.00
14,900.00	90.00	180.66	7,250.00	-7,946.96	228.93	7,943.80	0.00	0.00	0.00	0.00
15,000.00	90.00	180.66	7,250.00	-8,046.96	227.78	8,043.80	0.00	0.00	0.00	0.00
15,100.00	90.00	180.66	7,250.00	-8,146.95	226.63	8,143.80	0.00	0.00	0.00	0.00
15,200.00	90.00	180.66	7,250.00	-8,246.94	225.47	8,243.80	0.00	0.00	0.00	0.00
15,300.00	90.00	180.66	7,250.00	-8,346.94	224.32	8,343.80	0.00	0.00	0.00	0.00
15,400.00	90.00	180.66	7,250.00	-8,446.93	223.17	8,443.80	0.00	0.00	0.00	0.00
15,500.00	90.00	180.66	7,250.00	-8,546.92	222.01	8,543.80	0.00	0.00	0.00	0.00
15,600.00	90.00	180.66	7,250.00	-8,646.92	220.86	8,643.80	0.00	0.00	0.00	0.00
15,700.00	90.00	180.66	7,250.00	-8,746.91	219.71	8,743.80	0.00	0.00	0.00	0.00
15,800.00	90.00	180.66	7,250.00	-8,846.90	218.55	8,843.80	0.00	0.00	0.00	0.00
15,900.00	90.00	180.66	7,250.00	-8,946.90	217.40	8,943.80	0.00	0.00	0.00	0.00
16,000.00	90.00	180.66	7,250.00	-9,046.89	216.25	9,043.80	0.00	0.00	0.00	0.00
16,100.00	90.00	180.66	7,250.00	-9,146.88	215.09	9,143.80	0.00	0.00	0.00	0.00
16,200.00	90.00	180.66	7,250.00	-9,246.88	213.94	9,243.80	0.00	0.00	0.00	0.00
16,300.00	90.00	180.66	7,250.00	-9,346.87	212.79	9,343.80	0.00	0.00	0.00	0.00
16,400.00	90.00	180.66	7,250.00	-9,446.86	211.63	9,443.80	0.00	0.00	0.00	0.00
16,500.00	90.00	180.66	7,250.00	-9,546.86	210.48	9,543.80	0.00	0.00	0.00	0.00
16,600.00	90.00	180.66	7,250.00	-9,646.85	209.33	9,643.80	0.00	0.00	0.00	0.00
16,700.00	90.00	180.66	7,250.00	-9,746.84	208.17	9,743.80	0.00	0.00	0.00	0.00
16,758.47	90.00	180.66	7,250.00	-9,805.31	207.50	9,802.27	0.00	0.00	0.00	0.00
TD Well @ 16758.47 ft - Total Depth (Toe)										

Plan Report for Gee 37N-25HZX - Rev B0 - Sidetrack

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,293.00	7,126.41	-364.75	300.25	Tie-On to Existing Wellbore @ 7293.00 ft
7,343.00	7,150.92	-408.24	302.19	Dogleg 15° @ -150° TFO @ 7343.00 MD
7,671.87	7,242.28	-719.32	312.27	End Build @ 7671.87 ft
11,955.75	7,250.00	-5,002.91	262.89	Nudge to Target @ 11955.75 ft
11,960.92	7,250.00	-5,008.08	262.83	Nudge to BHL @ 11960.92 ft
16,758.47	7,250.00	-9,805.31	207.50	TD Well @ 16758.47 ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/_S (usft)	+E/-W (usft)	
User	No Target (Freehand)	180.66	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
100.00	977.00	VES Gyro Surface Surveys	NS-GYRO-MS
1,200.00	7,293.00	MWD Vertical/Build Surveys	MWD+IFR1+SC
7,293.00	16,758.47	Rev B0 - Sidetrack	MWD+IFR1+SC

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,025.00	1,024.97	9 5/8"	9-5/8	13-1/2
7,671.87	7,242.28	7"	7	8-3/4

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
975.03	975.00	Fox Hills Base		0.00	
4,547.78	4,547.00	Sussex		0.00	
7,122.71	7,030.00	Sharon Springs		0.00	
7,245.04	7,102.00	Niobrara A		0.00	
7,368.14	7,164.00	Niobrara B		0.00	
7,671.87	7,242.28	Landing Target (Heel)		0.00	
11,955.75	7,250.00	Intermediate Target @5000' VS		0.00	
16,758.47	7,250.00	Total Depth (Toe)		0.00	

Plan Report for Gee 37N-25HZX - Rev B0 - Sidetrack

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
GEE 37N-25HZ_SEC	0.00	0.00	0.00	Polygon
GEE 37N-25HZ_SHL	0.00	0.00	0.00	Point
GEE 37N-25HZ_LD	0.00	0.00	0.00	Polygon
GEE 37N-25HZ_HEEL	7,180.00	-567.00	298.00	Point
GEE 37N-25HZ_IT	7,250.00	-5,000.00	256.12	Point
GEE 37N-25HZ_IT2	7,250.00	-5,002.91	262.89	Point
GEE 37N-25HZ_BHL	7,250.00	-9,805.31	207.50	Point

Directional Difficulty Index

Average Dogleg over Survey:	0.43 °/100usft	Maximum Dogleg over Survey:	15.00 °/100usft at 7,343.00 usft
Net Tortousity applicable to Plans:	0.43 °/100usft	Directional Difficulty Index:	6.667

Audit Info

North Reference Sheet for Sec. 24-T2N-R67W - Gee 37N-25HZX - Plan B

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.
 Vertical Depths are relative to RKB = 16' @ 4875.00usft (Xtreme 22). Northing and Easting are relative to Gee 37N-25HZX
 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:0.000000°, Latitude Origin:40.783333°
 False Easting: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 0.99995910

Grid Coordinates of Well: 1,290,448.65 usft N, 3,185,849.09 usft E
 Geographical Coordinates of Well: 40° 07' 43.55" N, 104° 50' 07.28" W
 Grid Convergence at Surface is: 0.43°

Based upon Minimum Curvature type calculations, at a Measured Depth of 16,758.47usft
 the Bottom Hole Displacement is 9,807.50usft in the Direction of 178.79° (True).
 Magnetic Convergence at surface is: -8.09° (21 November 2014, , BGGM2014)

