



XTO Energy Inc.

HALLIBURTON

Sperry Drilling

Project: Eddy County, NM (NAD27)

Site: Nash Unit

Well: Nash Unit No 45H

Wellbore: Wellbore #1

Plan: Surveys

Rig: Pioneer 33

SURFACE LOCATION

US State Plane 1927 (Exact solution)

New Mexico East 3001

Elevation: GL 3015' + KB 17' @ 3032.00usft (Pioneer 33)

Northings Easting Longitude

476986.30 626431.00 32° 18' 38.478 N 103° 55' 26.760 W

To convert a Magnetic Direction to a Grid Direction, Add 7.32°

Magnetic Model: BGGM2014 Date: 10-Jul-14

Azimuths to Grid North

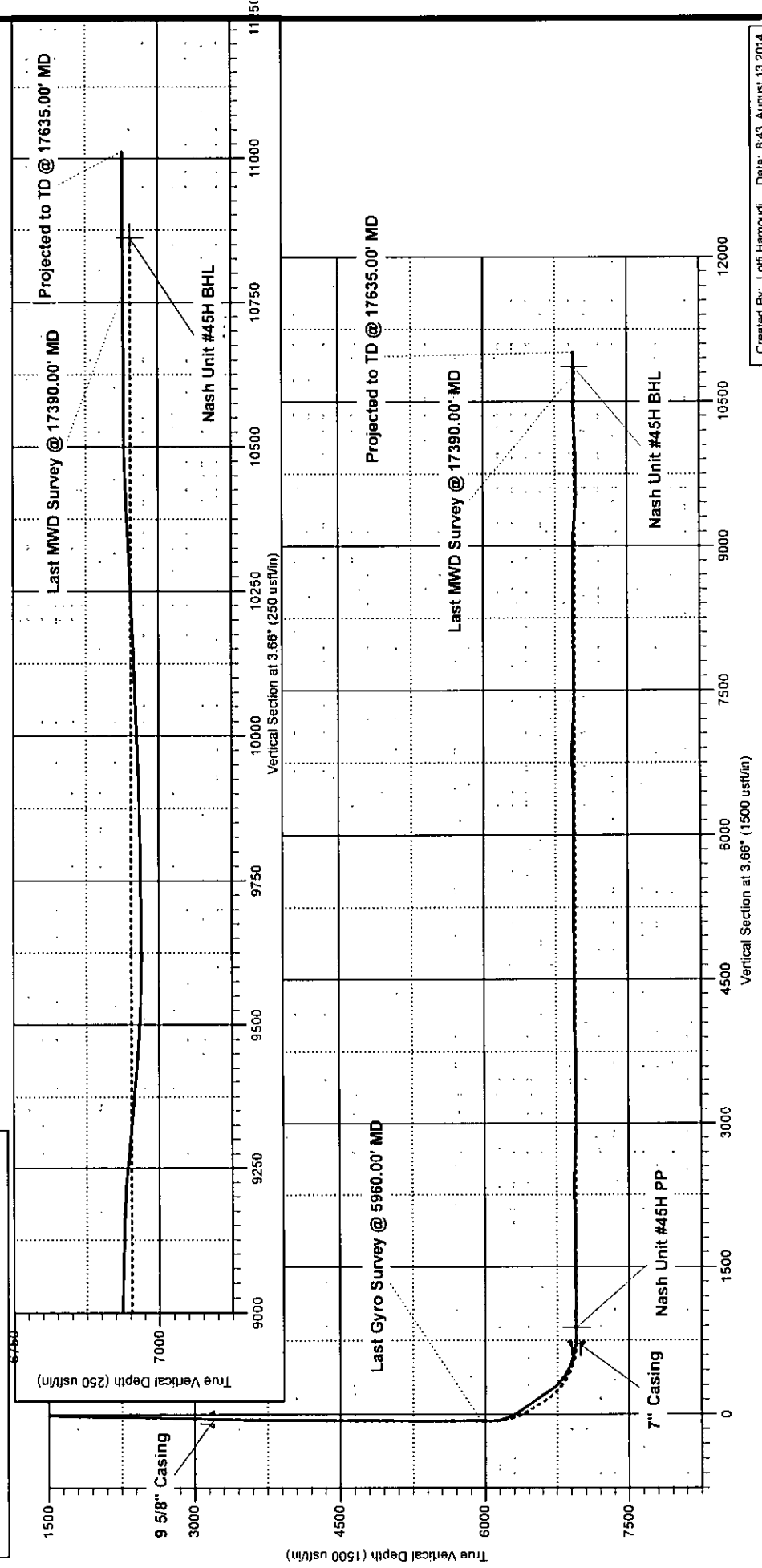
30-015-42048

CASING DETAILS

TVD	MD	Name
175.00	175.00	13 3/8" Casing
3200.00	3200.67	9 5/8" Casing
6952.00	7385.71	7" Casing

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Nash Unit #45H BHL	6952.00	10840.30	693.00	487826.60	627124.00	32° 20' 25.727 N	103° 55' 18.200 W
Nash Unit #45H PP	6952.00	879.90	56.20	477866.20	626487.20	32° 18' 47.183 N	103° 55' 26.066 W



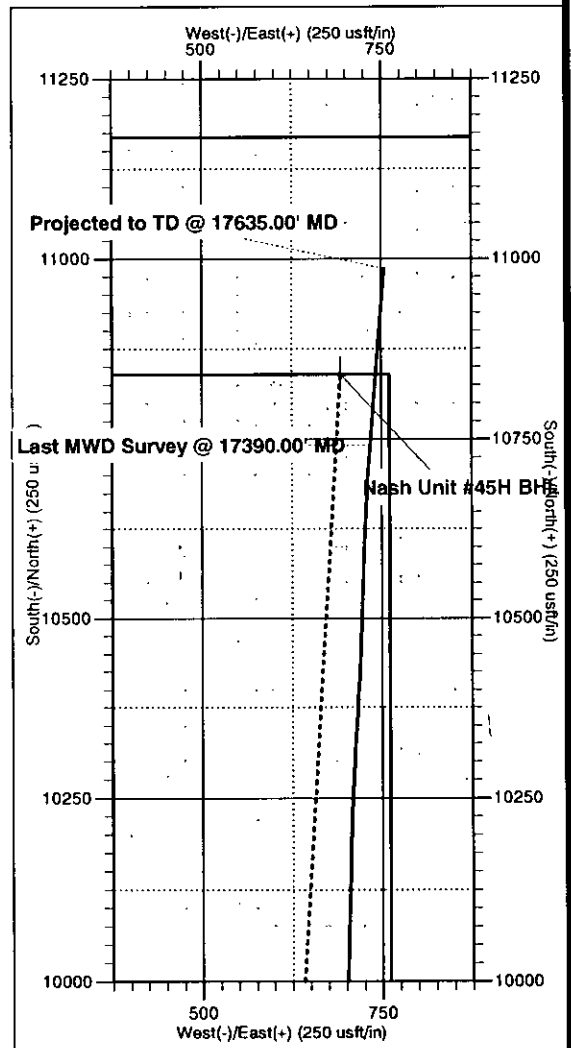
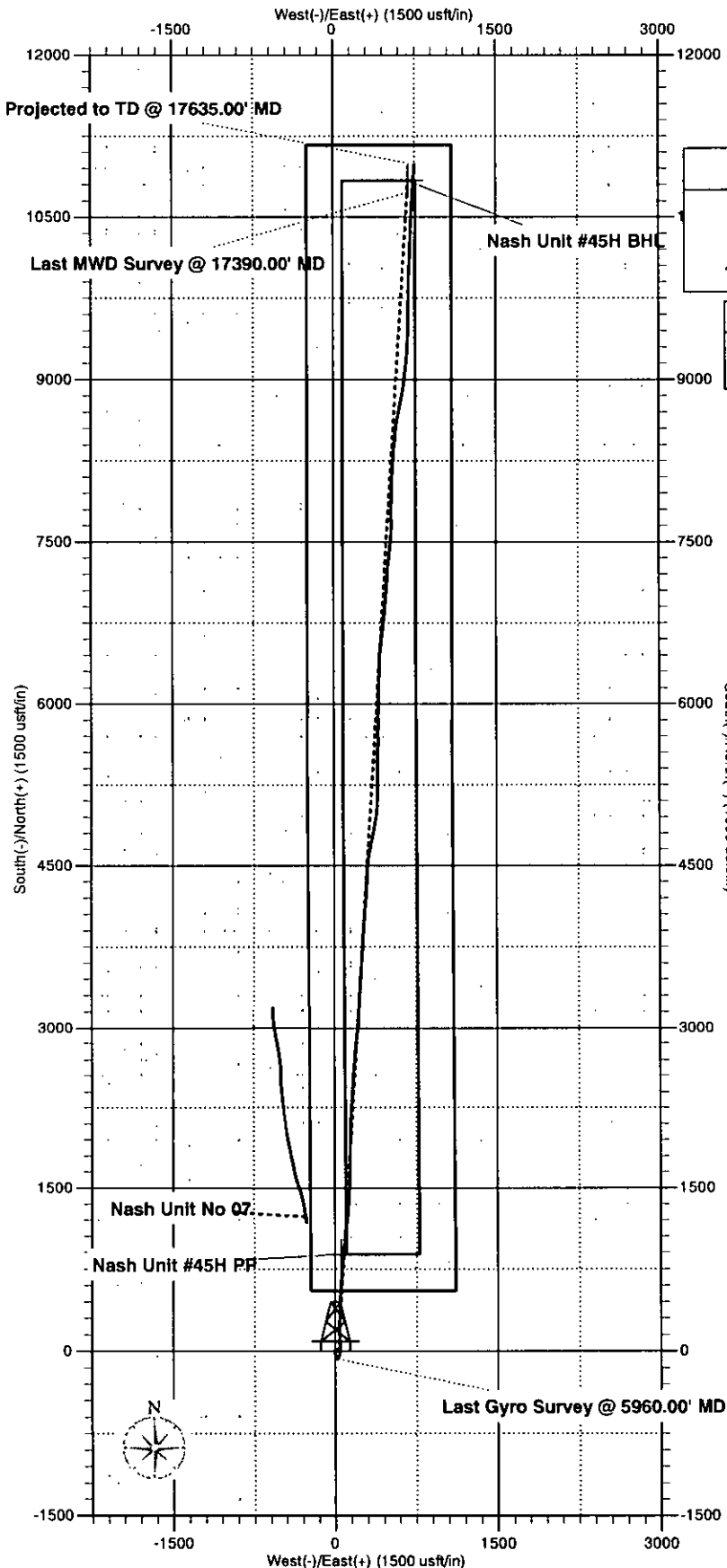
Project: Eddy County, NM (NAD27)
Site: Nash Unit
Well: Nash Unit No 45H
Wellbore: Wellbore #1
Plan: Surveys
Rig: Pioneer 33

SURFACE LOCATION

US State Plane 1927 (Exact solution)
 New Mexico East 3001
 Elevation: GL 3015' + KB 17' @ 3032.00usft (Pioneer 33)
 Northing 476986.30 Easting 626431.00 Latitude 32° 18' 38.478 N Longitude 103° 55' 26.760 W

To convert a Magnetic Direction to a Grid Direction, Add 7.32°

Magnetic Model: BGGM2014 Date: 10-Jul-14
 Azimuths to Grid North



XTO Energy Inc.

Eddy County, NM (NAD27)

Nash Unit

Nash Unit No 45H

Wellbore #1

Design: Surveys

Sperry Drilling Services Combo Report

13 August, 2014

Well Coordinates: 476,986.30 N, 626,431.00 E (32° 18' 38.48" N, 103° 55' 26.76" W)
Ground Level: 3,015.00 usft

Local Coordinate Origin: Centered on Well Nash Unit No 45H
Viewing Datum: _ GL 3015' + KB 17' @ 3032.00usft (Pioneer 33)
TVDs to System: N
North Reference: Grid
Unit System: API - US Survey Feet

Version: 5000.1 Build: 72

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Design Report for Nash Unit No 45H - Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates Northing (usft)	Eastings (usft)	Map Coordinates Northing (usft)	Eastings (usft)	Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
0.00	0.00	0.00	-3,032.00	0.00	0.00 N	0.00 E	476,986.30	626,431.00	0.00	0.00	
100.00	0.18	173.08	-2,932.00	100.00	0.16 S	0.02 E	476,986.14	626,431.02	0.18	-0.15	
200.00	0.10	239.92	-2,832.00	200.00	0.36 S	0.04 W	476,985.94	626,430.96	0.17	-0.36	
300.00	0.25	242.34	-2,732.00	300.00	0.50 S	0.31 W	476,985.80	626,430.69	0.15	-0.52	
400.00	0.19	182.63	-2,632.00	400.00	0.77 S	0.51 W	476,985.53	626,430.49	0.23	-0.80	
500.00	0.35	219.77	-2,532.00	500.00	1.17 S	0.71 W	476,985.13	626,430.29	0.23	-1.21	
600.00	0.22	193.79	-2,432.00	600.00	1.59 S	0.95 W	476,984.71	626,430.05	0.18	-1.65	
700.00	0.03	286.90	-2,332.00	700.00	1.77 S	1.02 W	476,984.53	626,429.98	0.22	-1.83	
800.00	0.44	165.69	-2,232.01	799.99	2.13 S	0.95 W	476,984.17	626,430.05	0.46	-2.19	
900.00	0.77	189.07	-2,132.01	899.99	3.17 S	0.96 W	476,983.13	626,430.04	0.41	-3.22	
1,000.00	0.82	183.60	-2,032.02	999.98	4.55 S	1.11 W	476,981.75	626,429.89	0.09	-4.61	
1,100.00	0.74	184.85	-1,932.03	1,099.97	5.90 S	1.21 W	476,980.40	626,429.79	0.08	-5.97	
1,200.00	0.84	184.76	-1,832.04	1,199.96	7.28 S	1.33 W	476,979.02	626,429.67	0.10	-7.35	
1,300.00	1.28	196.74	-1,732.06	1,299.94	9.08 S	1.71 W	476,977.22	626,429.29	0.49	-9.17	
1,400.00	1.27	195.33	-1,632.08	1,399.92	11.22 S	2.33 W	476,975.08	626,428.67	0.03	-11.34	
1,500.00	1.33	188.98	-1,532.11	1,499.89	13.43 S	2.80 W	476,972.87	626,428.20	0.16	-13.56	
1,600.00	1.35	191.02	-1,432.13	1,599.87	15.73 S	3.21 W	476,970.57	626,427.79	0.05	-15.91	
1,700.00	1.21	190.61	-1,332.16	1,699.84	17.93 S	3.63 W	476,968.37	626,427.37	0.14	-18.12	
1,800.00	1.24	192.54	-1,232.18	1,799.82	20.02 S	4.06 W	476,966.28	626,426.94	0.05	-20.24	
1,900.00	0.70	178.51	-1,132.20	1,899.80	21.69 S	4.27 W	476,964.61	626,426.73	0.59	-21.92	
2,000.00	0.66	163.95	-1,032.20	1,999.80	22.85 S	4.10 W	476,963.45	626,426.90	0.18	-23.07	
2,100.00	0.61	174.45	-932.21	2,099.79	23.94 S	3.89 W	476,962.36	626,427.11	0.13	-24.14	
2,200.00	0.78	163.36	-832.22	2,199.78	25.07 S	3.53 W	476,961.23	626,427.47	0.30	-25.25	
2,300.00	0.98	158.54	-732.23	2,299.77	26.48 S	2.91 W	476,959.82	626,428.09	0.22	-26.61	
2,400.00	1.27	161.30	-632.25	2,399.75	28.25 S	2.07 W	476,958.05	626,428.93	0.32	-28.32	
2,500.00	1.89	147.64	-532.29	2,499.71	30.61 S	0.65 W	476,955.69	626,430.35	0.63	-30.59	
2,600.00	1.93	143.38	-432.34	2,599.66	33.36 S	1.23 E	476,952.94	626,432.23	0.15	-33.21	
2,700.00	1.90	141.41	-332.40	2,699.60	36.00 S	3.27 E	476,950.30	626,434.27	0.07	-35.72	
2,800.00	1.99	142.99	-232.46	2,799.54	38.69 S	5.35 E	476,947.61	626,436.35	0.10	-38.26	
2,900.00	1.95	147.65	-132.51	2,899.49	41.51 S	7.31 E	476,944.79	626,438.31	0.17	-40.96	
3,000.00	2.15	143.94	-32.58	2,999.42	44.46 S	9.32 E	476,941.84	626,440.32	0.24	-43.78	
3,100.00	1.79	147.96	67.36	3,099.36	47.30 S	11.25 E	476,939.00	626,442.25	0.39	-46.49	
3,200.00	1.23	154.73	167.33	3,199.33	49.60 S	12.54 E	476,936.70	626,443.54	0.59	-48.70	
3,300.00	0.91	170.56	267.31	3,299.31	51.35 S	13.13 E	476,934.95	626,444.13	0.43	-50.41	
3,400.00	0.75	167.46	367.30	3,399.30	52.77 S	13.40 E	476,933.53	626,444.40	0.17	-51.81	
3,500.00	0.47	167.96	467.29	3,499.29	53.81 S	13.63 E	476,932.49	626,444.63	0.28	-52.83	
3,600.00	0.47	147.71	567.29	3,599.29	54.56 S	13.93 E	476,931.74	626,444.93	0.17	-53.56	
3,700.00	0.49	156.67	667.29	3,699.29	55.31 S	14.31 E	476,930.99	626,445.31	0.09	-54.28	
3,800.00	0.84	152.89	767.28	3,799.28	56.36 S	14.80 E	476,929.94	626,445.80	0.36	-55.30	
3,900.00	0.87	140.90	867.27	3,899.27	57.60 S	15.61 E	476,928.70	626,446.61	0.18	-56.49	

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Design Report for Nash Unit No 45H - Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates Northing (usft)	Easting (usft)	Map Coordinates Northing (usft)	Easting (usft)	Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
4,000.00	0.82	154.86	967.26	3,999.26	58.84 S	16.39 E	476,927.46	626,447.39	0.21	-57.67	
4,100.00	0.72	160.10	1,067.25	4,099.25	60.07 S	16.91 E	476,926.23	626,447.91	0.12	-58.87	
4,200.00	0.46	161.62	1,167.24	4,199.24	61.05 S	17.25 E	476,925.25	626,448.25	0.26	-59.82	
4,300.00	0.45	129.48	1,267.24	4,299.24	61.68 S	17.68 E	476,924.62	626,448.68	0.25	-60.42	
4,400.00	0.32	166.89	1,367.24	4,399.24	62.20 S	18.05 E	476,924.10	626,449.05	0.28	-60.92	
4,500.00	0.26	178.51	1,467.24	4,499.24	62.70 S	18.12 E	476,923.60	626,449.12	0.08	-61.41	
4,600.00	0.25	122.84	1,567.24	4,599.24	63.04 S	18.31 E	476,923.26	626,449.31	0.24	-61.75	
4,700.00	0.11	33.61	1,667.24	4,699.24	63.08 S	18.54 E	476,923.22	626,449.54	0.27	-61.77	
4,800.00	0.15	97.90	1,767.24	4,799.24	63.02 S	18.72 E	476,923.28	626,449.72	0.14	-61.70	
4,900.00	0.14	114.82	1,867.24	4,899.24	63.09 S	18.97 E	476,923.21	626,449.97	0.04	-61.75	
5,000.00	0.18	146.26	1,967.24	4,999.24	63.27 S	19.16 E	476,923.03	626,450.16	0.09	-61.92	
5,100.00	0.10	120.08	2,067.23	5,099.23	63.44 S	19.33 E	476,922.86	626,450.33	0.10	-62.08	
5,200.00	0.24	159.32	2,167.23	5,199.23	63.68 S	19.48 E	476,922.62	626,450.48	0.17	-62.31	
5,300.00	0.35	148.75	2,267.23	5,299.23	64.14 S	19.71 E	476,922.16	626,450.71	0.12	-62.75	
5,400.00	0.34	155.34	2,367.23	5,399.23	64.67 S	19.99 E	476,921.63	626,450.99	0.04	-63.26	
5,500.00	0.38	125.97	2,467.23	5,499.23	65.14 S	20.38 E	476,921.16	626,451.38	0.19	-63.70	
5,600.00	0.46	150.08	2,567.23	5,599.23	65.68 S	20.85 E	476,920.62	626,451.85	0.19	-64.21	
5,700.00	0.29	136.44	2,667.22	5,699.22	66.21 S	21.23 E	476,920.09	626,452.23	0.19	-64.72	
5,800.00	0.64	153.23	2,767.22	5,799.22	66.89 S	21.65 E	476,919.41	626,452.65	0.37	-65.37	
5,900.00	0.58	161.43	2,867.22	5,899.22	67.87 S	22.06 E	476,918.43	626,453.06	0.11	-66.32	
5,960.00	0.52	160.67	2,927.21	5,959.21	68.42 S	22.25 E	476,917.88	626,453.25	0.10	-66.86	Last Gyro Survey @ 5960.00' MD
6,028.00	0.22	167.95	2,995.21	6,027.21	68.83 S	22.38 E	476,917.47	626,453.38	0.45	-67.27	
6,059.00	1.57	39.48	3,026.21	6,058.21	68.56 S	22.66 E	476,917.74	626,453.66	5.53	-66.98	
6,091.00	5.70	36.68	3,058.14	6,090.14	66.95 S	23.89 E	476,919.35	626,454.89	12.91	-65.29	
6,123.00	9.59	30.38	3,089.85	6,121.85	63.38 S	26.19 E	476,922.92	626,457.19	12.42	-61.58	
6,154.00	12.93	24.50	3,120.25	6,152.25	57.99 S	28.94 E	476,928.31	626,459.94	11.38	-56.03	
6,186.00	14.94	19.41	3,151.30	6,183.30	50.84 S	31.79 E	476,935.46	626,462.79	7.35	-48.71	
6,218.00	18.37	15.36	3,181.96	6,213.96	42.09 S	34.50 E	476,944.21	626,465.50	11.31	-39.80	
6,249.00	21.36	11.50	3,211.11	6,243.11	31.84 S	36.92 E	476,954.46	626,467.92	10.53	-29.42	
6,281.00	24.60	8.18	3,240.57	6,272.57	19.53 S	39.03 E	476,966.77	626,470.03	10.90	-17.00	
6,312.00	28.01	6.00	3,268.36	6,300.36	5.90 S	40.71 E	476,980.40	626,471.71	11.43	-3.29	
6,343.00	30.74	4.24	3,295.37	6,327.37	9.24 N	42.05 E	476,995.54	626,473.05	9.24	11.91	
6,375.00	32.61	2.02	3,322.60	6,354.60	26.02 N	42.96 E	477,012.32	626,473.96	6.89	28.70	
6,406.00	34.06	0.71	3,348.50	6,380.50	43.05 N	43.37 E	477,029.35	626,474.37	5.22	45.72	
6,437.00	34.83	358.36	3,374.07	6,406.07	60.58 N	43.22 E	477,046.88	626,474.22	4.95	63.21	
6,469.00	34.40	357.08	3,400.40	6,432.40	78.74 N	42.50 E	477,065.04	626,473.50	2.64	81.29	
6,500.00	34.16	357.19	3,426.02	6,458.02	96.18 N	41.63 E	477,082.48	626,472.63	0.80	98.64	
6,532.00	34.31	357.35	3,452.47	6,484.47	114.16 N	40.77 E	477,100.46	626,471.77	0.55	116.53	
6,563.00	33.45	357.65	3,478.21	6,510.21	131.42 N	40.01 E	477,117.72	626,471.01	2.83	133.71	

HALLIBURTON

Design Report for Nash Unit No 45H - Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates Northing (usft)	Eastings (usft)	Map Coordinates Northing (usft)	Eastings (usft)	Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
6,595.00	33.56	357.88	3,504.89	6,536.89	149.07 N	39.32 E	477,135.37	626,470.32	0.52	151.28	
6,626.00	33.40	358.31	3,530.75	6,562.75	166.17 N	38.76 E	477,152.47	626,469.76	0.92	168.30	
6,657.00	33.22	358.31	3,556.66	6,588.66	183.18 N	38.25 E	477,169.48	626,469.25	0.58	185.25	
6,688.00	32.77	358.38	3,582.66	6,614.66	200.06 N	37.77 E	477,186.36	626,468.77	1.46	202.06	
6,719.00	33.05	358.14	3,608.68	6,640.68	216.89 N	37.25 E	477,203.19	626,468.25	1.00	218.83	
6,750.00	33.40	358.49	3,634.61	6,666.61	233.87 N	36.76 E	477,220.17	626,467.76	1.29	235.74	
6,781.00	36.30	359.90	3,660.05	6,692.05	251.58 N	36.51 E	477,237.88	626,467.51	9.71	253.40	
6,817.00	40.34	368.29	3,688.29	6,720.29	273.89 N	37.01 E	477,260.19	626,468.01	12.10	275.69	
6,846.00	43.24	376	3,709.91	6,741.91	293.18 N	38.08 E	477,279.48	626,469.08	10.39	295.01	
6,875.00	45.31	382	3,730.67	6,762.67	313.38 N	39.41 E	477,299.68	626,470.41	7.14	315.26	
6,907.00	48.60	376	3,752.51	6,784.51	336.71 N	40.96 E	477,323.01	626,471.96	10.28	338.64	
6,939.00	50.89	341	3,773.19	6,805.19	361.09 N	42.49 E	477,347.39	626,473.49	7.20	363.06	
6,970.00	54.83	2.90	3,791.90	6,823.90	385.76 N	43.84 E	477,372.06	626,474.84	12.78	387.77	
7,002.00	58.10	3.76	3,809.58	6,841.58	412.38 N	45.40 E	477,398.68	626,476.40	10.46	414.44	
7,033.00	61.79	3.59	3,825.10	6,857.10	439.15 N	47.11 E	477,425.45	626,478.11	11.91	441.26	
7,065.00	63.45	3.75	3,839.82	6,871.82	467.51 N	48.93 E	477,453.81	626,479.93	5.21	469.68	
7,096.00	66.62	3.41	3,852.90	6,884.90	495.55 N	50.69 E	477,481.85	626,481.69	10.27	497.78	
7,127.00	70.14	3.06	3,864.32	6,896.32	524.32 N	52.31 E	477,510.62	626,483.31	11.40	526.59	
7,159.00	71.81	2.71	3,874.75	6,906.75	554.53 N	53.83 E	477,540.83	626,484.83	5.32	556.84	
7,190.00	74.44	2.53	3,883.75	6,915.75	584.17 N	55.19 E	477,570.47	626,486.19	8.50	586.50	
7,222.00	76.46	3.06	3,891.79	6,923.79	615.10 N	56.70 E	477,601.40	626,487.70	6.51	617.46	
7,253.00	78.13	2.88	3,898.61	6,930.61	645.30 N	58.27 E	477,631.60	626,489.27	5.42	647.70	
7,285.00	80.16	3.06	3,904.63	6,936.63	676.68 N	59.90 E	477,662.98	626,490.90	6.37	679.13	
7,313.00	83.52	3.26	3,908.61	6,940.61	704.35 N	61.42 E	477,690.65	626,492.42	12.02	706.84	
7,412.00	90.86	4.85	3,913.46	6,945.46	802.92 N	68.42 E	477,789.22	626,499.42	7.59	805.65	
7,506.00	89.44	3.75	3,913.21	6,945.21	896.65 N	75.46 E	477,882.95	626,506.46	1.91	899.64	
7,602.00	88.33	8.37	3,915.08	6,947.08	992.07 N	85.59 E	477,978.37	626,516.59	4.95	995.51	
7,690.00	87.69	6.07	3,918.14	6,950.14	1,079.31 N	96.64 E	478,065.61	626,527.64	2.71	1,083.28	
7,786.00	90.83	8.04	3,919.38	-6,951.38	1,174.56 N	108.43 E	478,160.86	626,539.43	3.86	1,179.08	
7,881.00	91.54	5.37	3,917.41	6,949.41	1,268.88 N	119.52 E	478,255.18	626,550.52	2.91	1,273.92	
7,976.00	90.68	3.12	3,915.57	6,947.57	1,363.59 N	126.55 E	478,349.89	626,557.55	2.54	1,368.89	
8,071.00	89.72	2.28	3,915.24	6,947.24	1,458.48 N	131.03 E	478,444.78	626,562.03	1.34	1,463.87	
8,167.00	91.14	3.94	3,914.52	6,946.52	1,554.34 N	136.23 E	478,540.64	626,567.23	2.28	1,559.86	
8,262.00	91.01	0.60	3,912.74	6,944.74	1,649.23 N	140.00 E	478,635.53	626,571.00	3.52	1,654.80	
8,358.00	85.36	359.68	3,915.77	6,947.77	1,745.14 N	140.23 E	478,731.44	626,571.23	5.96	1,750.53	
8,453.00	88.83	359.75	3,920.59	6,952.59	1,840.00 N	139.76 E	478,826.30	626,570.76	3.65	1,845.17	
8,548.00	92.31	1.86	3,919.64	6,951.64	1,934.97 N	141.09 E	478,921.27	626,572.09	4.28	1,940.03	
8,643.00	93.95	2.16	3,914.46	6,946.46	2,029.77 N	144.42 E	479,016.07	626,575.42	1.75	2,034.85	
8,738.00	92.44	0.98	3,909.16	6,941.16	2,124.58 N	147.02 E	479,110.88	626,578.02	2.02	2,129.63	

HALLIBURTON

Design Report for Nash Unit No 45H - Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates Northing (usft)	Eastings (usft)	Map Coordinates Northing (usft)	Eastings (usft)	Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
8,833.00	92.56	3.33	3,905.02	6,937.02	2,219.41 N	150.59 E	479,205.71	626,581.59	2.47	2,224.50	
8,928.00	89.97	3.99	3,902.92	6,934.92	2,314.19 N	156.65 E	479,300.49	626,587.65	2.81	2,319.47	
9,023.00	90.74	4.21	3,902.33	6,934.33	2,408.94 N	163.44 E	479,395.24	626,594.44	0.84	2,414.46	
9,118.00	86.79	2.83	3,904.38	6,936.38	2,503.72 N	169.27 E	479,490.02	626,600.27	4.40	2,509.42	
9,213.00	87.13	4.50	3,909.42	6,941.42	2,598.39 N	175.34 E	479,584.69	626,606.34	1.79	2,604.28	
9,308.00	85.41	5.14	3,915.60	6,947.60	2,692.85 N	183.30 E	479,679.15	626,614.30	1.93	2,699.06	
9,404.00	87.22	5.85	3,921.77	6,953.77	2,788.21 N	192.48 E	479,774.51	626,623.48	2.02	2,794.81	
9,499.00	90.74	5.59	3,923.46	6,955.46	2,882.70 N	201.94 E	479,869.00	626,632.94	3.72	2,889.71	
9,594.00	89.29	5.00	3,923.43	6,955.43	2,977.29 N	210.71 E	479,963.59	626,641.71	1.65	2,984.67	
9,690.00	91.14	4.11	3,923.07	6,955.07	3,072.99 N	218.33 E	480,059.29	626,649.33	2.14	3,080.65	
9,785.00	88.09	2.90	3,923.71	6,955.71	3,167.79 N	224.14 E	480,154.09	626,655.14	3.45	3,175.84	
9,879.00	90.22	3.74	3,925.10	6,957.10	3,261.62 N	229.58 E	480,247.92	626,660.58	2.44	3,269.62	
9,974.00	90.46	3.16	3,924.53	6,956.53	3,356.44 N	235.30 E	480,342.74	626,666.30	0.66	3,364.62	
10,069.00	91.48	3.06	3,922.93	6,954.93	3,451.29 N	240.45 E	480,437.59	626,671.45	1.08	3,459.60	
10,097.00	90.95	2.76	3,922.33	6,954.33	3,479.25 N	241.87 E	480,485.55	626,672.87	2.17	3,487.59	
10,190.00	89.78	3.36	3,921.74	6,953.74	3,572.11 N	246.84 E	480,558.41	626,677.84	1.41	3,580.58	
10,282.00	89.63	3.32	3,922.21	6,954.21	3,663.95 N	252.20 E	480,650.25	626,683.20	0.17	3,672.58	
10,377.00	91.94	4.04	3,920.91	6,952.91	3,758.74 N	258.29 E	480,745.04	626,689.29	2.55	3,767.56	
10,473.00	92.90	4.38	3,916.86	6,948.86	3,854.40 N	265.33 E	480,840.70	626,696.33	1.06	3,863.47	
10,568.00	91.98	4.77	3,912.81	6,944.81	3,949.01 N	272.90 E	480,935.31	626,703.90	1.05	3,958.37	
10,663.00	87.87	3.00	3,912.94	6,944.94	4,043.76 N	279.34 E	481,030.06	626,710.34	4.71	4,053.35	
10,758.00	92.93	6.37	3,912.27	6,944.27	4,138.40 N	287.09 E	481,124.70	626,718.09	6.40	4,148.28	
10,854.00	87.99	1.66	3,911.50	6,943.50	4,234.10 N	293.81 E	481,220.40	626,724.81	7.11	4,244.22	
10,949.00	92.50	3.00	3,911.10	6,943.10	4,329.00 N	297.87 E	481,315.30	626,728.67	4.95	4,339.17	
11,045.00	88.43	2.34	3,910.32	6,942.32	4,424.87 N	302.14 E	481,411.17	626,733.14	4.29	4,435.13	
11,140.00	89.78	7.83	3,911.80	6,943.80	4,519.45 N	310.56 E	481,505.75	626,741.56	5.95	4,530.05	
11,235.00	90.43	8.83	3,911.63	6,943.63	4,613.44 N	324.32 E	481,599.74	626,755.32	1.26	4,624.73	
11,330.00	92.56	10.83	3,909.15	6,941.15	4,707.01 N	340.53 E	481,693.31	626,771.53	3.08	4,719.14	
11,426.00	89.78	10.92	3,907.19	-6,939.19	4,801.25 N	358.64 E	481,787.55	626,789.64	2.90	4,814.35	
11,521.00	90.56	10.93	3,906.91	6,938.91	4,894.53 N	376.64 E	481,880.83	626,807.64	0.82	4,908.59	
11,616.00	91.11	7.35	3,905.52	6,937.52	4,988.30 N	391.73 E	481,974.60	626,822.73	3.81	5,003.13	
11,711.00	89.48	0.62	3,905.03	6,937.03	5,083.01 N	398.33 E	482,069.31	626,829.33	7.29	5,098.07	
11,807.00	90.40	1.41	3,905.13	6,937.13	5,178.99 N	400.03 E	482,165.29	626,831.03	1.26	5,193.96	
11,902.00	88.12	359.87	3,906.36	6,938.36	5,273.97 N	401.09 E	482,260.27	626,832.09	2.90	5,288.81	
11,997.00	89.91	0.88	3,907.99	6,939.99	5,368.95 N	401.71 E	482,355.25	626,832.71	2.16	5,383.64	
12,093.00	89.94	0.94	3,908.12	6,940.12	5,464.94 N	403.24 E	482,451.24	626,834.24	0.07	5,479.53	
12,188.00	89.20	359.62	3,908.83	6,940.83	5,559.93 N	403.70 E	482,546.23	626,834.70	1.59	5,574.36	
12,283.00	91.97	2.34	3,907.86	6,939.86	5,654.89 N	405.32 E	482,641.19	626,836.32	4.09	5,669.23	
12,378.00	89.66	0.31	3,906.51	6,938.51	5,749.85 N	407.52 E	482,736.15	626,838.52	3.24	5,764.13	

HALLIBURTON

Design Report for Nash Unit No 45H - Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates Northing (usft)	Eastings (usft)	Map Coordinates Northing (usft)	Eastings (usft)	Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
12,473.00	89.72	0.94	3,907.03	6,939.03	5,844.84 N	408.56 E	482,831.14	626,839.56	0.67	5,859.00	
12,569.00	89.17	1.16	3,907.96	6,939.96	5,940.82 N	410.32 E	482,927.12	626,841.32	0.62	5,954.89	
12,664.00	90.43	2.41	3,908.29	6,940.29	6,035.77 N	413.27 E	483,022.07	626,844.27	1.87	6,049.84	
12,759.00	88.46	359.41	3,909.21	6,941.21	6,130.74 N	414.78 E	483,117.04	626,845.78	3.78	6,144.71	
12,854.00	90.37	1.47	3,910.18	6,942.18	6,225.72 N	415.51 E	483,212.02	626,846.51	2.96	6,239.54	
12,950.00	90.59	0.88	3,909.37	6,941.37	6,321.69 N	417.48 E	483,307.99	626,848.48	0.66	6,335.45	
13,044.00	92.28	5.79	3,907.02	6,939.02	6,415.47 N	422.94 E	483,401.77	626,853.94	5.52	6,429.39	
13,139.00	92.80	4.98	3,902.81	6,934.81	6,509.96 N	431.85 E	483,496.26	626,862.85	1.01	6,524.25	
13,234.00	92.37	5.84	3,898.52	6,930.52	6,604.44 N	440.80 E	483,590.74	626,871.80	1.01	6,619.11	
13,329.00	93.06	6.58	3,894.02	6,926.02	6,698.77 N	451.06 E	483,685.07	626,882.06	1.06	6,713.90	
13,424.00	90.43	6.18	3,891.13	6,923.13	6,793.13 N	461.61 E	483,779.43	626,892.61	2.80	6,808.75	
13,520.00	87.29	5.77	3,893.04	6,925.04	6,888.58 N	471.60 E	483,874.88	626,902.60	3.30	6,904.64	
13,615.00	87.23	4.86	3,897.58	6,929.58	6,983.06 N	480.39 E	483,969.36	626,911.39	0.96	6,999.49	
13,710.00	86.52	3.11	3,902.76	6,934.76	7,077.69 N	486.99 E	484,063.99	626,917.99	1.99	7,094.34	
13,807.00	86.37	3.88	3,908.78	6,940.78	7,174.32 N	492.89 E	484,160.62	626,923.89	0.81	7,191.15	
13,902.00	87.72	6.14	3,913.67	6,945.67	7,268.82 N	501.17 E	484,255.12	626,932.17	2.77	7,285.99	
13,961.00	87.32	5.74	3,916.23	6,948.23	7,327.45 N	507.27 E	484,313.75	626,938.27	0.96	7,344.89	
14,056.00	92.40	5.94	3,916.46	6,948.46	7,421.93 N	516.94 E	484,408.23	626,947.94	5.35	7,439.79	
14,151.00	92.10	5.15	3,912.73	6,944.73	7,516.41 N	526.11 E	484,502.71	626,957.11	0.89	7,534.66	
14,247.00	90.37	1.59	3,910.66	6,942.66	7,612.20 N	531.75 E	484,598.50	626,962.75	4.12	7,630.62	
14,342.00	90.34	1.28	3,910.07	6,942.07	7,707.17 N	534.13 E	484,693.47	626,965.13	0.33	7,725.55	
14,438.00	90.06	0.28	3,909.74	6,941.74	7,803.16 N	535.44 E	484,789.46	626,966.44	1.08	7,821.42	
14,533.00	90.40	0.59	3,909.35	6,941.35	7,898.16 N	536.16 E	484,884.46	626,967.16	0.48	7,916.27	
14,628.00	92.16	1.69	3,907.23	6,939.23	7,993.11 N	538.05 E	484,979.41	626,969.05	2.18	8,011.15	
14,724.00	89.72	2.10	3,905.66	6,937.66	8,089.04 N	541.22 E	485,075.34	626,972.22	2.58	8,107.09	
14,819.00	90.34	3.49	3,905.61	6,937.61	8,183.92 N	545.85 E	485,170.22	626,976.85	1.60	8,202.07	
14,851.00	92.00	4.43	3,904.95	6,936.95	8,215.83 N	548.06 E	485,202.13	626,979.06	5.96	8,234.06	
14,914.00	90.37	3.41	3,903.65	6,935.65	8,278.67 N	552.37 E	485,264.97	626,983.37	3.05	8,297.05	
15,009.00	89.48	4.26	3,903.78	6,935.78	8,373.46 N	558.72 E	485,359.76	626,989.72	1.30	8,392.04	
15,105.00	89.88	6.30	3,904.31	6,936.31	8,469.04 N	567.55 E	485,455.34	626,998.55	2.17	8,488.00	
15,200.00	89.57	7.89	3,904.77	6,936.77	8,563.31 N	579.29 E	485,549.61	627,010.29	1.71	8,582.82	
15,295.00	91.11	10.86	3,904.20	6,936.20	8,657.03 N	594.76 E	485,643.33	627,025.76	3.52	8,677.34	
15,390.00	89.82	11.51	3,903.43	6,935.43	8,750.22 N	613.19 E	485,736.52	627,044.19	1.52	8,771.51	
15,447.00	88.15	9.55	3,904.44	6,936.44	8,806.24 N	623.60 E	485,792.54	627,054.60	4.52	8,828.09	
15,485.00	90.52	12.26	3,904.88	6,936.88	8,843.55 N	630.79 E	485,829.85	627,061.79	9.47	8,865.78	
15,547.00	90.59	9.53	3,904.28	6,936.28	8,904.42 N	642.51 E	485,890.72	627,073.51	4.40	8,927.27	
15,581.00	90.25	7.70	3,904.03	6,936.03	8,938.04 N	647.60 E	485,924.34	627,078.60	5.47	8,961.14	
15,622.00	89.57	7.23	3,904.10	6,936.10	8,978.69 N	652.92 E	485,964.99	627,083.92	2.02	9,002.05	
15,676.00	88.86	6.86	3,904.84	6,936.84	9,032.28 N	659.55 E	486,018.58	627,090.55	1.48	9,055.95	

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Design Report for Nash Unit No 45H - Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates Northing (usft)	Eastings (usft)	Map Coordinates Northing (usft)	Eastings (usft)	Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
15,771.00	88.03	6.08	3,907.42	6,939.42	9,126.63 N	670.25 E	486,112.93	627,101.25	1.20	9,150.80	
15,866.00	84.69	4.32	3,913.45	6,945.45	9,221.03 N	678.84 E	486,207.33	627,109.84	3.97	9,245.56	
15,961.00	84.66	2.60	3,922.26	6,954.26	9,315.45 N	684.55 E	486,301.75	627,115.55	1.80	9,340.14	
16,056.00	85.68	0.96	3,930.26	6,962.26	9,410.06 N	687.49 E	486,396.36	627,118.49	2.03	9,434.75	
16,152.00	88.15	1.86	3,935.43	6,967.43	9,505.88 N	689.85 E	486,492.18	627,120.85	2.74	9,530.53	
16,247.00	89.23	0.92	3,937.80	6,969.60	9,600.83 N	692.15 E	486,587.13	627,123.15	1.51	9,625.43	
16,342.00	92.34	1.17	3,936.30	6,968.30	9,695.79 N	693.88 E	486,682.09	627,124.88	3.28	9,720.31	
16,437.00	88.77	3.69	3,935.38	6,967.38	9,790.77 N	694.76 E	486,777.07	627,125.76	3.99	9,815.15	
16,533.00	93.09	2.79	3,933.82	6,965.82	9,886.70 N	697.01 E	486,873.00	627,128.01	5.42	9,911.02	
16,628.00	91.94	1.58	3,929.65	6,961.65	9,981.53 N	700.62 E	486,967.83	627,131.62	1.76	10,005.90	
16,724.00	92.28	1.29	3,926.12	6,958.12	10,077.44 N	703.03 E	487,063.74	627,134.03	0.47	10,101.76	
16,819.00	92.19	1.72	3,922.41	6,954.41	10,172.33 N	705.52 E	487,158.63	627,136.52	0.46	10,196.62	
16,914.00	93.15	2.79	3,917.99	6,949.99	10,267.15 N	709.25 E	487,253.45	627,140.25	1.51	10,291.48	
17,009.00	93.14	4.23	3,912.78	6,944.78	10,361.83 N	715.06 E	487,348.13	627,146.06	1.51	10,386.34	
17,104.00	90.83	2.33	3,909.49	6,941.49	10,456.60 N	720.49 E	487,442.90	627,151.49	3.15	10,481.27	
17,199.00	89.97	1.59	3,908.82	6,940.82	10,551.55 N	723.74 E	487,537.85	627,154.74	1.19	10,576.22	
17,294.00	90.34	3.05	3,908.57	6,940.57	10,646.46 N	727.59 E	487,632.76	627,158.59	1.59	10,671.19	
17,390.00	90.37	4.68	3,907.97	6,939.97	10,742.24 N	734.06 E	487,728.54	627,165.06	1.70	10,767.19	Last MWD Survey @ 17390.00' MD
17,635.00	90.37	4.68	3,906.39	6,938.39	10,986.42 N	754.04 E	487,972.72	627,185.04	0.00	11,012.14	Projected to TD @ 17635.00' MD

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
5,960.00	5,959.21	-68.42	22.25	Last Gyro Survey @ 5960.00' MD
17,390.00	6,939.97	10,742.24	734.06	Last MWD Survey @ 17390.00' MD
17,635.00	6,938.39	10,986.42	754.04	Projected to TD @ 17635.00' MD

Vertical Section Information

Angle Type	Target	Target	Azimuth (°)	Origin Type	Origin +N/-S (usft)	Origin +E/-W (usft)	Start TVD (usft)
Target	Nash Unit #45H BHL		3.66	Slot	0.00	0.00	0.00

HALLIBURTON

Design Report for Nash Unit No 45H - Surveys

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
100.00	5,960.00	VES Gyro	NS-Gyro-MS
6,028.00	7,253.00	Int. Sperry MWD	MWD+SC
7,285.00	17,635.00	Prod. Sperry MWD	MWD+SC

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Nash Unit #45H PP	0.00	0.00	6,952.00	879.90	56.20	477,866.20	626,487.20	32° 18' 47.183 N	3° 55' 26.066 W
- actual wellpath misses target center by 19.37usft at 7487.84usft MD (6945.08 TVD, 878.53 N, 74.24 E)									
- Point									
Nash Unit #45H BHL	0.00	0.00	6,952.00	10,840.30	693.00	487,826.60	627,124.00	32° 20' 25.727 N	3° 55' 18.200 W
- actual wellpath misses target center by 106.99usft at 17390.00usft MD (6939.97 TVD, 10742.24 N, 734.06 E)									
- Point									

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North Reference Sheet for Nash Unit - Nash Unit No 45H - 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 GL 3015' + KB 17' @ 3032.00usft (Pioneer 33). Northing and Easting are relative to Nash Unit No 45H

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 3001 using datum NAD 1927 (NADCON CONUS), ellipsoid Clarke 1866

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is 104° 20' 0.000 W", Longitude Origin: 0° 0' 0.000 E", Latitude Origin: 0° 0' 0.000 N"

False Easting: 500,000.00usft, False Northing: 0.00usft, Scale Reduction: 0.99992740

Grid Coordinates of Well: 476,986.30 usft N, 626,431.00 usft E

Geographical Coordinates of Well: 32° 18' 38.48" N, 103° 55' 26.76" W

Grid Convergence at Surface is: 0.22°

Based upon Minimum Curvature type calculations, at a Measured Depth of 17,635.00usft the Bottom Hole Displacement is 11,012.27usft in the Direction of 3.93° (Grid).

Magnetic Convergence at surface is: -7.32° (10 July 2014, , BGGM2014)

