

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1102473

Form ACO-1

June 2009

Form Must Be Typed

Form must be Signed

All blanks must be Filled

CONFIDENTIAL**WELL COMPLETION FORM****WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # 34574
 Name: Shell Gulf of Mexico Inc.
 Address 1: 150 N DAIRY-ASHFORD (77079)
 Address 2: PO BOX 576 (77001-0576)
 City: HOUSTON State: TX Zip: 77001 + 0576
 Contact Person: Damonica Pierson
 Phone: (832) 337-2172
 CONTRACTOR: License # 34718
 Name: Nabors Drilling USA, LP
 Wellsite Geologist: Jack Grow
 Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SLOW
 Gas D&A ENHR SIGW
 OG GSW Temp. Abd.
 CM (Coal Bed Methane)
 Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
 Conv. to GSW

 Plug Back: _____ Plug Back Total Depth _____ Commingled Permit #: _____ Dual Completion Permit #: _____ SWD Permit #: _____ ENHR Permit #: _____ GSW Permit #: _____

07/04/2012 09/22/2012 11/03/2012

Spud Date or Date Reached TD Completion Date or
Recompletion Date Recompletion DateAPI No. 15 - 15-191-22656-01-00

Spot Description: _____
W2_SW_SW_SE Sec. 25 Twp. 31 S. R. 4 East West
330 Feet from North / South Line of Section
2431 Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

 NE NW SE SWCounty: SumnerLease Name: HEIMERMAN FARMS 3104 Well #: 25-1HField Name: WildcatProducing Formation: MississippiElevation: Ground: 1311 Kelly Bushing: 1342Total Depth: 9047 Plug Back Total Depth: 9002Amount of Surface Pipe Set and Cemented at: 385 FeetMultiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: 0 ppm Fluid volume: 0 bblsDewatering method used: Hauled to Disposal

Location of fluid disposal if hauled offsite:

Operator Name: Plumb Thicket LandfillLease Name: N/A License #: 99999Quarter SW Sec. 4 Twp. 31 S. R. 6 East WestCounty: Harper Permit #: KDHE Permit No. 0842**AFFIDAVIT**

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically**KCC Office Use ONLY** Letter of Confidentiality ReceivedDate: 08/14/2012 Confidential Release Date: _____ Wireline Log Received Geologist Report Received UIC DistributionALT I II III Approved by: NAOMO JAMES Date: 11/27/2012

T31S, R4W, 6th P.M.

SGOMI

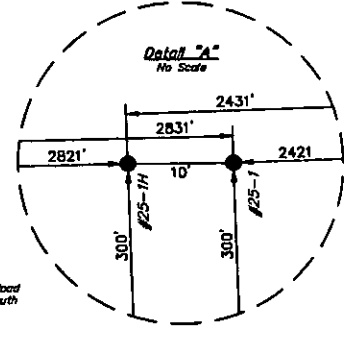
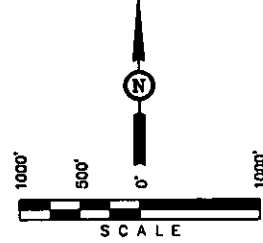
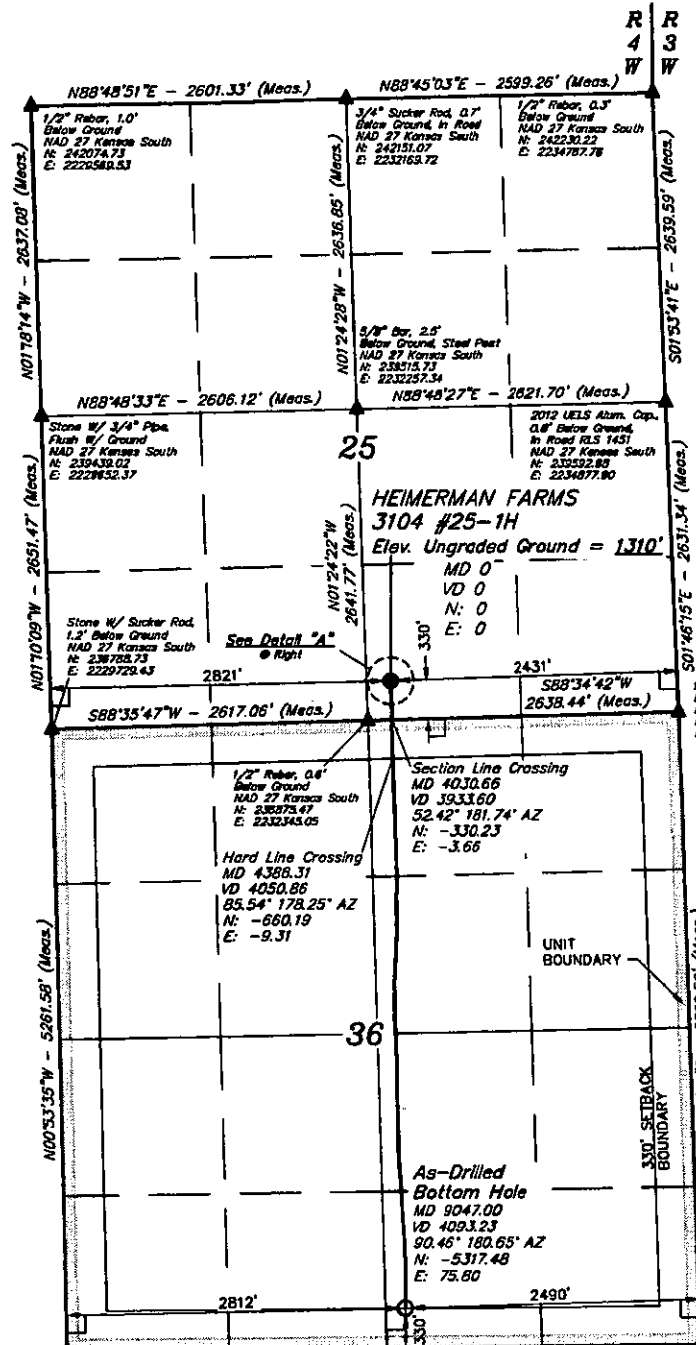
Well location, HEIMERMAN FARMS 3104 #25-1H, located as shown in the SW 1/4 SE 1/4 of Section 25, T31S, R4W, 6th P.M., Sumner County, Kansas.

BASIS OF ELEVATION

BLACK ELEVATION LOCATED AT THE NORTHEAST CORNER OF SECTION 25, T31S, R4W, 6th P.M. TAKEN FROM THE MILAN, QUADRANGLE, KANSAS, SUMNER COUNTY, 7.5 MINUTE QUAD (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 1333 FEET.

BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.



2012 UELS Alum. Cap.
0.2" High, RLS 1451,
Steel Post
NAD 27 Kansas South
N: 231528.00
E: 2229837.01

White Stone, 1.0' Below
Ground, 10' in Road Intersection
NAD 27 Kansas South
N: 231528.39
E: 2229837.18

CERTIFICATE
THIS IS TO CERTIFY THAT THE ABOVE MAP WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.
[Signature]
REGISTERED LAND SURVEYOR
REGISTRATION NO. NS-1000
STATE OF KANSAS
NOV 12 2012

LEGEND:
 L = 90° SYMBOL
 ● = PROPOSED WELL HEAD.
 ▲ = SECTION CORNERS LOCATED.

NOTE:
AS-DRILLED WELL BORE PATH AND INFORMATION PROVIDED BY SGOMI.

NAD 83 (25-1H AS-DRILLED BOTTOM HOLE)		NAD 83 (25-1H SURFACE LOCATION)	
LATITUDE = 37°18'02.85" (37.300819)	LONGITUDE = 97°42'01.77" (97.700478)	LATITUDE = 37°18'53.52" (37.315422)	LONGITUDE = 97°42'02.88" (97.700738)
NAD 27 (25-1H AS-DRILLED BOTTOM HOLE)		NAD 27 (25-1H SURFACE LOCATION)	
LATITUDE = 37°18'02.88" (37.300820)	LONGITUDE = 97°42'00.53" (97.700147)	LATITUDE = 37°18'53.45" (37.315403)	LONGITUDE = 97°42'01.48" (97.700411)
STATE PLANE NAD 27 (KANSAS SOUTH) N: 231185.84 E: 2229830.88	STATE PLANE NAD 27 (KANSAS SOUTH) N: 231185.84 E: 2229830.88	STATE PLANE NAD 27 (KANSAS SOUTH) N: 231528.39 E: 2229837.18	STATE PLANE NAD 27 (KANSAS SOUTH) N: 231528.39 E: 2229837.18

UNTAH ENGINEERING & LAND SURVEYING			
65 SOUTH 200 EAST - VERNAL, UTAH 84078			
(435) 789-1017			
SCALE 1" = 1000'	DATE SURVEYED: 09-24-12	DATE DRAWN: 11-13-12	
PARTY L.S. J.P. C.A.G.	REFERENCES G.L.O. PLAT		
WEATHER COLD	FILE SGOMI		

Shell Exploration & Production Co. Inc.

Sumner Co. KS (NAD 27)

Sec 25-T31S-R4W

Heimerman Farms 3104 #25-1H / Job #9777742 / Nabors 102

Wellbore #1

Survey: MWD Surveys

Sperry Drilling Services

Combo Report

24 September, 2012

Well Coordinates: 237,212.36 N, 2,232,538.99 E (37° 18' 55.45" N, 097° 42' 01.48" W)

Ground Level: 1,310.00 ft

Local Coordinate Origin:

Centered on Well Heimerman Farms 3104 #25-1H / Job #9777742 / Nabors 102

Viewing Datum:

WELL @ 1341.70ft (Original Well Elev)

TVDs to System:

N

North Reference:

True

Unit System:

API US Survey Feet

Version: 2003.21 Build: 43

HALLIBURTON

HALLIBURTON

Survey Report for Heimerman Farms 3104 #25-1H / Job #9777742 / Nabors 102 - MWD Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate ("/100ft)	Vertical Section (ft)	Comments
					Northing (ft)	Easting (ft)	Northing (ft)	Easting (ft)			
0.00	0.00	0.00	-1,341.70	0.00	0.00 N	0.00 E	237,212.36	2,232,538.99	0.00	0.00	
178.00	1.10	151.80	-1,163.71	177.99	1.51 S	0.81 E	237,210.86	2,232,539.81	0.62	1.52	First Sperry MWD Survey
332.00	0.85	167.02	-1,009.73	331.97	3.92 S	1.76 E	237,208.45	2,232,540.79	0.23	3.95	
506.00	4.60	222.12	-835.95	505.75	10.36 S	2.63 W	237,201.98	2,232,536.45	2.40	10.31	
597.00	5.63	224.80	-745.31	596.39	16.23 S	8.22 W	237,196.06	2,232,530.91	1.16	16.10	
688.00	6.12	214.17	-654.79	686.91	23.41 S	14.09 W	237,188.83	2,232,525.10	1.31	23.18	
778.00	4.85	191.10	-565.19	776.51	31.12 S	17.52 W	237,181.09	2,232,521.74	2.80	30.83	
877.00	3.77	154.14	-466.45	875.25	38.15 S	16.91 W	237,174.06	2,232,522.41	2.95	37.88	
968.00	3.43	143.12	-375.63	966.07	43.02 S	13.97 W	237,169.22	2,232,525.39	0.85	42.79	
1,062.00	3.50	150.31	-281.80	1,059.90	47.77 S	10.86 W	237,164.50	2,232,528.54	0.47	47.58	
1,156.00	1.12	168.66	-187.88	1,153.82	51.16 S	9.26 W	237,161.12	2,232,530.17	2.62	51.00	
1,251.00	0.18	155.10	-92.89	1,248.81	52.20 S	9.01 W	237,160.08	2,232,530.43	1.00	52.05	
1,345.00	0.53	180.38	1.11	1,342.81	52.77 S	8.95 W	237,159.51	2,232,530.49	0.40	52.62	
1,439.00	0.44	185.37	95.10	1,436.80	53.57 S	8.99 W	237,158.72	2,232,530.46	0.11	53.42	
1,628.00	0.43	124.87	284.10	1,625.80	54.70 S	8.47 W	237,157.59	2,232,530.99	0.23	54.55	
1,817.00	0.29	108.86	473.10	1,814.80	55.26 S	7.44 W	237,157.04	2,232,532.02	0.09	55.13	
2,006.00	0.89	78.51	662.09	2,003.79	55.12 S	5.55 W	237,157.20	2,232,533.91	0.35	55.02	
2,195.00	0.66	59.48	851.07	2,192.77	54.27 S	3.17 W	237,158.06	2,232,536.28	0.18	54.21	
2,384.00	0.62	48.02	1,040.06	2,381.76	53.04 S	1.47 W	237,159.31	2,232,537.97	0.07	53.01	
2,573.00	0.64	97.23	1,229.05	2,570.75	52.48 S	0.33 E	237,159.88	2,232,539.77	0.28	52.48	
2,761.00	0.52	92.58	1,417.04	2,758.74	52.66 S	2.23 E	237,159.73	2,232,541.67	0.07	52.68	
2,950.00	0.14	315.94	1,606.03	2,947.73	52.53 S	2.92 E	237,159.86	2,232,542.36	0.33	52.57	
3,139.00	0.26	337.51	1,795.03	3,136.73	51.97 S	2.60 E	237,160.42	2,232,542.03	0.07	52.00	
3,328.00	0.43	234.37	1,984.03	3,325.73	51.98 S	1.86 E	237,160.40	2,232,541.29	0.29	52.01	
3,422.00	0.13	293.30	2,078.03	3,419.73	52.15 S	1.47 E	237,160.23	2,232,540.91	0.40	52.16	
3,454.00	0.90	180.64	2,110.03	3,451.73	52.38 S	1.44 E	237,159.99	2,232,540.88	2.99	52.40	
3,485.00	4.10	175.74	2,141.00	3,482.70	53.73 S	1.52 E	237,158.64	2,232,540.97	10.34	53.75	
3,517.00	7.77	177.35	2,172.82	3,514.52	57.03 S	1.70 E	237,155.34	2,232,541.18	11.48	57.05	
3,548.00	11.34	179.28	2,203.38	3,545.08	62.18 S	1.84 E	237,150.20	2,232,541.36	11.56	62.20	
3,580.00	15.27	179.61	2,234.52	3,576.22	69.54 S	1.91 E	237,142.84	2,232,541.49	12.28	69.56	
3,611.00	18.88	180.81	2,264.15	3,605.85	78.64 S	1.86 E	237,133.74	2,232,541.53	11.70	78.66	
3,643.00	22.29	180.22	2,294.10	3,635.80	89.89 S	1.77 E	237,122.49	2,232,541.53	10.68	89.91	
3,674.00	25.11	180.56	2,322.48	3,664.18	102.35 S	1.68 E	237,110.03	2,232,541.55	9.11	102.36	
3,705.00	27.50	179.92	2,350.27	3,691.97	116.08 S	1.62 E	237,096.29	2,232,541.61	7.76	116.10	
3,737.00	30.00	179.82	2,378.32	3,720.02	131.47 S	1.66 E	237,080.90	2,232,541.78	7.81	131.48	
3,769.00	33.29	178.15	2,405.56	3,747.26	148.26 S	1.97 E	237,064.13	2,232,542.23	10.64	148.27	
3,800.00	37.11	177.78	2,430.89	3,772.59	166.11 S	2.61 E	237,046.28	2,232,543.02	12.34	166.13	
3,832.00	40.21	178.09	2,455.87	3,797.57	186.09 S	3.32 E	237,026.31	2,232,543.91	9.71	186.12	
3,863.00	42.53	178.07	2,479.14	3,820.84	206.56 S	4.01 E	237,005.84	2,232,544.77	7.48	206.60	

HALLIBURTON**Survey Report for Heimerman Farms 3104 #25-1H / Job #9777742 / Nabors 102 - MWD Surveys**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100ft)	Vertical Section (ft)	Comments
					Northing (ft)	Easting (ft)	Northing (ft)	Easting (ft)			
3,895.00	43.86	179.10	2,502.46	3,844.16	228.46 S	4.55 E	236,983.95	2,232,545.50	4.70	228.50	
3,926.00	46.24	179.83	2,524.36	3,866.06	250.39 S	4.75 E	236,962.02	2,232,545.89	7.86	250.44	
3,958.00	48.35	180.50	2,546.07	3,887.77	273.91 S	4.68 E	236,938.50	2,232,546.02	6.77	273.95	
3,989.00	50.26	180.90	2,566.28	3,907.98	297.41 S	4.39 E	236,915.00	2,232,545.93	6.24	297.44	
4,020.00	52.42	181.74	2,585.64	3,927.34	321.61 S	3.83 E	236,890.80	2,232,545.58	7.28	321.63	
4,052.00	55.69	181.27	2,604.43	3,946.13	347.50 S	3.15 E	236,864.90	2,232,545.12	10.29	347.51	
4,083.00	59.59	180.80	2,621.01	3,962.71	373.68 S	2.68 E	236,838.72	2,232,544.88	12.65	373.67	
4,115.00	61.83	179.80	2,636.67	3,978.37	401.58 S	2.54 E	236,810.81	2,232,544.97	7.51	401.57	
4,146.00	64.24	179.13	2,650.73	3,992.43	429.21 S	2.80 E	236,783.19	2,232,545.47	8.01	429.20	
4,178.00	66.96	179.26	2,663.94	4,005.64	458.35 S	3.21 E	236,754.06	2,232,546.13	8.51	458.34	
4,209.00	69.32	178.18	2,675.49	4,017.19	487.11 S	3.85 E	236,725.30	2,232,547.02	8.27	487.11	
4,241.00	72.78	178.44	2,685.88	4,027.58	517.36 S	4.75 E	236,695.06	2,232,548.17	10.84	517.37	
4,272.00	75.94	178.08	2,694.23	4,035.93	547.19 S	5.65 E	236,665.24	2,232,549.34	10.25	547.21	
4,304.00	79.31	177.82	2,701.09	4,042.79	578.42 S	6.77 E	236,634.02	2,232,550.72	10.56	578.46	
4,355.00	85.54	178.25	2,707.81	4,049.51	628.92 S	8.50 E	236,583.53	2,232,552.89	12.24	628.98	
4,457.00	89.51	178.78	2,712.21	4,053.91	730.77 S	11.14 E	236,481.71	2,232,556.40	3.93	730.86	
4,489.00	89.63	178.87	2,712.45	4,054.15	762.77 S	11.80 E	236,449.73	2,232,557.33	0.47	762.86	
4,583.00	89.97	178.41	2,712.78	4,054.48	856.74 S	14.03 E	236,355.78	2,232,560.37	0.61	856.85	
4,677.00	89.42	178.48	2,713.28	4,054.98	950.70 S	16.58 E	236,261.84	2,232,563.72	0.59	950.84	
4,772.00	89.57	178.82	2,714.12	4,055.82	1,045.67 S	18.82 E	236,166.89	2,232,566.77	0.39	1,045.84	
4,866.00	89.97	178.35	2,714.50	4,056.20	1,139.64 S	21.14 E	236,072.94	2,232,569.90	0.66	1,139.83	
4,961.00	89.54	178.64	2,714.90	4,056.60	1,234.61 S	23.63 E	235,978.00	2,232,573.21	0.55	1,234.83	
5,055.00	89.94	178.83	2,715.33	4,057.03	1,328.58 S	25.71 E	235,884.05	2,232,576.09	0.47	1,328.82	
5,149.00	89.94	179.06	2,715.43	4,057.13	1,422.57 S	27.44 E	235,790.08	2,232,578.63	0.24	1,422.82	
5,244.00	88.43	177.69	2,716.78	4,058.48	1,517.51 S	30.13 E	235,695.16	2,232,582.14	2.15	1,517.80	
5,338.00	89.20	180.04	2,718.72	4,060.42	1,611.47 S	31.99 E	235,601.23	2,232,584.80	2.63	1,611.77	
5,433.00	91.33	180.99	2,718.28	4,059.98	1,706.46 S	31.14 E	235,506.24	2,232,584.76	2.45	1,706.74	
5,527.00	89.23	180.94	2,717.82	4,059.52	1,800.44 S	29.56 E	235,412.25	2,232,583.99	2.23	1,800.68	
5,621.00	88.64	180.16	2,719.57	4,061.27	1,894.42 S	28.66 E	235,318.26	2,232,583.89	1.04	1,894.63	
5,712.00	88.77	179.87	2,721.63	4,063.33	1,985.39 S	28.63 E	235,227.29	2,232,584.65	0.35	1,985.60	
5,803.00	90.37	181.03	2,722.31	4,064.01	2,076.38 S	27.92 E	235,136.30	2,232,584.71	2.17	2,076.56	
5,893.00	88.95	180.78	2,722.84	4,064.54	2,166.37 S	26.50 E	235,046.30	2,232,584.06	1.60	2,166.51	
5,985.00	90.46	182.15	2,723.32	4,065.02	2,258.33 S	24.14 E	234,954.32	2,232,582.50	2.22	2,258.43	
6,076.00	89.10	182.95	2,723.67	4,065.37	2,349.24 S	20.10 E	234,863.39	2,232,579.23	1.73	2,349.26	
6,167.00	87.81	183.05	2,726.12	4,067.82	2,440.08 S	15.33 E	234,772.51	2,232,575.25	1.42	2,440.01	
6,258.00	86.91	183.15	2,730.31	4,072.01	2,530.85 S	10.42 E	234,681.70	2,232,571.11	1.00	2,530.69	
6,348.00	86.60	180.96	2,735.41	4,077.11	2,620.64 S	7.20 E	234,591.88	2,232,568.66	2.45	2,620.42	
6,439.00	87.75	179.80	2,739.89	4,081.59	2,711.52 S	6.59 E	234,501.00	2,232,568.84	1.79	2,711.28	
6,530.00	87.57	179.18	2,743.61	4,085.31	2,802.44 S	7.40 E	234,410.09	2,232,570.43	0.71	2,802.20	

HALLIBURTON**Survey Report for Heimerman Farms 3104 #25-1H / Job #977742 / Nabors 102 - MWD Surveys**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100ft)	Vertical Section (ft)	Comments
					Northing (ft)	Easting (ft)	Northing (ft)	Easting (ft)			
6,624.00	88.46	178.40	2,746.86	4,088.56	2,896.36 S	9.39 E	234,316.19	2,232,573.22	1.26	2,896.14	
6,719.00	89.72	177.70	2,748.37	4,090.07	2,991.30 S	12.62 E	234,221.29	2,232,577.26	1.52	2,991.11	
6,813.00	89.41	178.50	2,749.09	4,090.79	3,085.24 S	15.74 E	234,127.37	2,232,581.18	0.91	3,085.09	
6,908.00	89.54	178.85	2,749.96	4,091.66	3,180.21 S	17.93 E	234,032.43	2,232,584.20	0.39	3,180.09	
7,002.00	90.28	177.95	2,750.10	4,091.80	3,274.17 S	20.56 E	233,938.49	2,232,587.63	1.24	3,274.08	
7,096.00	90.28	179.27	2,749.65	4,091.35	3,368.14 S	22.84 E	233,844.55	2,232,590.71	1.40	3,368.07	
7,191.00	90.92	180.14	2,748.65	4,090.35	3,463.13 S	23.33 E	233,749.56	2,232,592.02	1.14	3,463.06	
7,285.00	90.56	179.20	2,747.44	4,089.14	3,557.12 S	23.87 E	233,655.58	2,232,593.36	1.07	3,557.05	
7,380.00	89.14	178.76	2,747.69	4,089.39	3,652.10 S	25.56 E	233,560.62	2,232,595.87	1.56	3,652.04	
7,474.00	87.74	179.85	2,750.24	4,091.94	3,746.06 S	26.70 E	233,466.68	2,232,597.81	1.89	3,746.00	
7,569.00	89.69	180.64	2,752.37	4,094.07	3,841.03 S	26.29 E	233,371.71	2,232,598.22	2.21	3,840.96	
7,663.00	87.90	179.33	2,754.35	4,096.05	3,935.00 S	26.32 E	233,277.74	2,232,599.05	2.36	3,934.92	
7,758.00	89.45	176.52	2,756.55	4,098.25	4,029.90 S	29.76 E	233,182.87	2,232,603.30	3.38	4,029.86	
7,852.00	91.32	175.37	2,755.92	4,097.62	4,123.66 S	36.40 E	233,089.17	2,232,610.76	2.34	4,123.71	
7,947.00	90.00	176.20	2,754.82	4,096.52	4,218.39 S	43.38 E	232,994.50	2,232,618.55	1.64	4,218.55	
8,041.00	90.22	177.12	2,754.64	4,096.34	4,312.23 S	48.86 E	232,900.71	2,232,624.83	1.01	4,312.46	
8,135.00	90.25	177.19	2,754.26	4,095.96	4,406.12 S	53.53 E	232,806.87	2,232,630.30	0.08	4,406.41	
8,230.00	90.06	177.54	2,754.00	4,095.70	4,501.01 S	57.89 E	232,712.02	2,232,635.48	0.42	4,501.36	
8,324.00	89.29	176.24	2,754.53	4,096.23	4,594.87 S	62.99 E	232,618.21	2,232,641.39	1.61	4,595.29	
8,419.00	90.09	177.27	2,755.05	4,096.75	4,689.72 S	68.37 E	232,523.41	2,232,647.58	1.37	4,690.21	
8,513.00	90.00	176.73	2,754.97	4,096.67	4,783.59 S	73.29 E	232,429.59	2,232,653.30	0.58	4,784.15	
8,608.00	90.15	178.97	2,754.85	4,096.55	4,878.51 S	76.85 E	232,334.69	2,232,657.68	2.36	4,879.12	
8,702.00	90.40	179.49	2,754.40	4,096.10	4,972.50 S	78.12 E	232,240.72	2,232,659.75	0.61	4,973.12	
8,797.00	90.52	180.71	2,753.63	4,095.33	5,067.50 S	77.95 E	232,145.73	2,232,660.40	1.29	5,068.10	
8,891.00	90.49	180.22	2,752.81	4,094.51	5,161.49 S	77.19 E	232,051.73	2,232,660.44	0.52	5,162.07	
8,993.00	90.46	180.65	2,751.96	4,093.66	5,263.49 S	76.41 E	231,949.73	2,232,660.54	0.42	5,264.03	Final Sperry MWD Survey
9,047.00	90.46	180.65	2,751.53	4,093.23	5,317.48 S	75.80 E	231,895.74	2,232,660.39	0.00	5,318.01	Projection to TD

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
178.00	177.99	-1.51	0.81	First Sperry MWD Survey
8,993.00	4,093.66	-5,263.49	76.41	Final Sperry MWD Survey
9,047.00	4,093.23	-5,317.48	75.80	Projection to TD

HALLIBURTON

Survey Report for Helmerman Farms 3104 #25-1H / Job #9777742 / Nabors 102 - MWD Surveys

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (ft)	Origin +E/-W (ft)	Start TVD (ft)
User	No Target (Freehand)	179.08	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
178.00	9,047.00	MWD Surveys	MWD+SC

Design Targets

Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	0	0	0	0	0	0	0		
- Shape									

Directional Difficulty Index

Average Dogleg over Survey:	1.92 °/100ft	Maximum Dogleg over Survey:	12.65 °/100ft at 4,083.00 ft
Net Tortousity applicable to Plans:	0.78 °/100ft	Directional Difficulty Index:	6.311

Audit Info

HALLIBURTON**North Reference Sheet for Sec 25-T31S-R4W - Heimerman Farms 3104 #25-1H / Job #9777742 / Nabors 102 - Wellbore #1**

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

Vertical Depths are relative to WELL @ 1341.70ft (Original Well Elev). Northing and Easting are relative to Heimerman Farms 3104 #25-1H / Job #9777742 / Nabors 102

Coordinate System is US State Plane 1927 (Exact solution), Kansas South 1502 using datum NAD 1927 (NADCON CONUS), ellipsoid Clarke 1866

Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is 98° 30' 0.000 W°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:37° 16' 0.000 N°

False Easting: 2,000,000.00ft, False Northing: 0.00ft, Scale Reduction: 0.99999078

Grid Coordinates of Well: 237,212.36 ft N, 2,232,538.99 ft E

Geographical Coordinates of Well: 37° 18' 55.45" N, 097° 42' 01.48" W

Grid Convergence at Surface is: 0.49°

Based upon Minimum Curvature type calculations, at a Measured Depth of 9,047.00ft the Bottom Hole Displacement is 5,318.02ft in the Direction of 179.18° (True).

Magnetic Convergence at surface is: -3.92° (27 August 2012, , BGGM2012)

