



KANSAS CORPORATION COMMISSION 1085970  
OIL & GAS CONSERVATION DIVISION

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: \_\_\_\_\_

API No. 15 - 15-007-23770-01-00

Spot Description: \_\_\_\_\_  
SW NE NW SW Sec. 12 Twp. 35 S. R. 10  East  West  
2059 Feet from  North /  South Line of Section  
890 Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:  
 NE  NW  SE  SW

County: Barber  
Lease Name: SCHROCK 3510 Well #: 12-1H  
Field Name: Wildcat

Producing Formation: Mississippi  
Elevation: Ground: 1305 Kelly Bushing: 1329

Total Depth: 9332 Plug Back Total Depth: \_\_\_\_\_  
Amount of Surface Pipe Set and Cemented at: 800 Feet

Multiple 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.

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 #: \_\_\_\_\_

01/05/2012 02/22/2012 03/30/2012

Spud Date or Recompletion Date Date Reached TD Completion Date or Recompletion Date

**Drilling Fluid Management Plan**  
(Data must be collected from the Reserve Pit)

Chloride content: 0 ppm Fluid volume: 0 bbls

Dewatering method used: Hauled to Disposal

Location of fluid disposal if hauled offsite:

Operator Name: Plumb Thicket Landfill

Lease Name: N/A License #: 99999

Quarter SW Sec. 4 Twp. 31 S. R. 6  East  West

County: Harper Permit #: KDHE Permit No. 0842

**AFFIDAVIT**

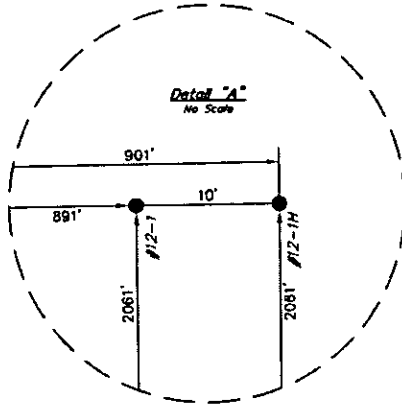
I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

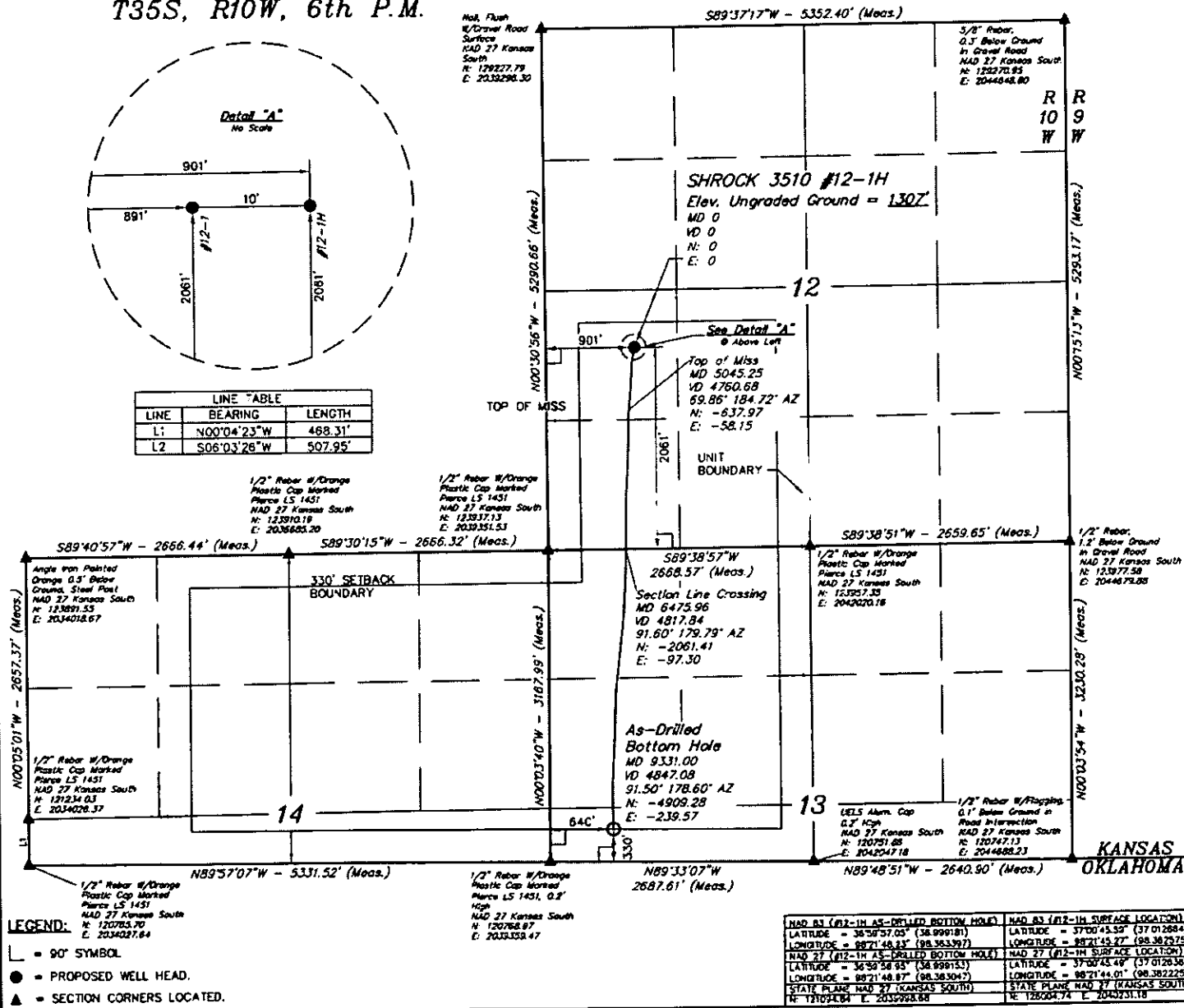
**KCC Office Use ONLY**

Letter of Confidentiality Received  
Date: 02/29/2012  
 Confidential Release Date: 02/28/2014  
 Wireline Log Received  
 Geologist Report Received  
 UIC Distribution  
ALT  I  II  III Approved by: NAOMI JAMES Date: 07/03/2012

T35S, R10W, 6th P.M.



LINE TABLE		
LINE	BEARING	LENGTH
L1	N00°04'23"W	488.31'
L2	S06°03'26"W	507.95'



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

**SGOMI**

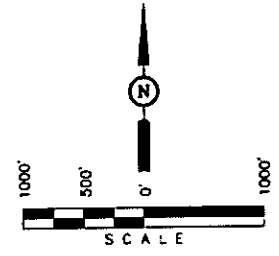
Well location, SCHROCK 3510 #12-1H, located as shown in the NW 1/4 SW 1/4 of Section 12, T35S, R10W, 6th P.M., Harper County, Kansas.

**BASIS OF ELEVATION**

SPOT ELEVATION LOCATED AT THE NORTHEAST CORNER OF SECTION 22, T35S, R7W, 6th P.M. TAKEN FROM THE ANTHONY, QUADRANGLE, KANSAS, HARPER COUNTY, 7.5 MINUTE QUAD (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 1348 FEET.

**BASIS OF BEARINGS**

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



**CERTIFICATE**

THIS IS TO CERTIFY THAT THE ABOVE PLANS AND FIELD NOTES OF ACTUAL SURVEYS MADE BY ME UNDER SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

*[Signature]*  
 REGISTERED LAND SURVEYOR  
 STATE OF KANSAS

**KANSAS OKLAHOMA**

NAD 83 (#12-1H AS-DRILLED BOTTOM HOLE) LATITUDE = 38°59'57.05" (38.999181) LONGITUDE = 98°21'48.83" (98.363307)	NAD 83 (#12-1H SURFACE LOCATION) LATITUDE = 37°02'43.55" (37.045684) LONGITUDE = 98°21'45.27" (98.362975)
NAD 27 (#12-1H AS-DRILLED BOTTOM HOLE) LATITUDE = 36°59'58.95" (36.999153) LONGITUDE = 98°21'48.87" (98.363047)	NAD 27 (#12-1H SURFACE LOCATION) LATITUDE = 37°02'43.49" (37.042636) LONGITUDE = 98°21'44.01" (98.362225)
STATE PLANE NAD 27 (KANSAS SOUTH) N: 12099484 E: 2033998.88	STATE PLANE NAD 27 (KANSAS SOUTH) N: 12060474 E: 2040231.18

<b>UNITAH ENGINEERING &amp; LAND SURVEYING</b>	
85 SOUTH 200 EAST - VERNAL, UTAH 84078	
(435) 789-1017	
SCALE 1" = 1000'	DATE SURVEYED: 02-28-12
PARTY L.S. K.M. C.A.G.	DATE DRAWN: 06-25-12
WEATHER COOL	REFERENCES G.L.O. PLAT
	FILE SGOMI

# Shell Exploration & Production Co. Inc.

Barber Co. (NAD-27)

Sec 12-T35S-R10W

Schrock 3510 #12-1H / Job # 8485875/ Nab 180

API #15-007-

Wellbore #1

Design: Wellbore #1

## Sperry Drilling Services Combo Report With Grid North & True North

28 February, 2012

Surface UWI : API #15-007-

Well Coordinates: 126,004.66 N, 2,040,221.23 E (37° 00' 45.49" N, 098° 21' 44.14" W)

Ground Level: 1,307.00 ft

Local Coordinate Origin:

Centered on Well Schrock 3510 #12-1H / Job # 8485875/ Nab 180

Viewing Datum:

Well @ 1329.00ft

TVDs to System:

N

North Reference:

True

Unit System:

API-US New

Version: 2003.21 Build: 43

**HALLIBURTON**

**HALLIBURTON****Design Report for Schrock 3510 #12-1H / Job # 8485875/ Nab 180 - Wellbore #1**

Measured Depth (ft)	Inclination (°)	Grid Azimuth (°)	True 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	359.92	0.00	-1,329.00	0.00	0.00 N	0.00 E	126,004.66	2,040,221.23	0.00	0.00	
111.00	0.00	229.34	229.42	-1,218.00	111.00	0.00 N	0.00 E	126,004.66	2,040,221.23	0.00	0.00	First MWD Surveys
143.00	0.37	170.66	170.74	-1,186.00	143.00	0.10 S	0.02 E	126,004.56	2,040,221.25	1.16	0.03	
173.00	0.22	130.85	130.93	-1,156.00	173.00	0.24 S	0.08 E	126,004.42	2,040,221.31	0.82	0.03	
235.00	1.64	229.87	229.95	-1,094.01	234.99	0.88 S	0.51 W	126,003.78	2,040,220.72	2.72	0.83	
297.00	1.96	252.10	252.18	-1,032.04	296.96	1.78 S	2.20 W	126,002.88	2,040,219.03	1.23	2.74	
358.00	2.62	255.93	256.01	-971.09	357.91	2.44 S	4.55 W	126,002.22	2,040,216.69	1.11	5.15	
420.00	3.59	263.54	263.62	-909.18	419.82	2.99 S	7.85 W	126,001.65	2,040,213.38	1.70	8.39	
481.00	3.99	275.36	275.44	-848.31	480.69	3.01 S	11.86 W	126,001.64	2,040,209.37	1.44	12.06	
579.00	3.01	280.26	280.34	-750.50	578.50	2.22 S	17.79 W	126,002.41	2,040,203.44	1.04	17.16	
672.00	1.55	280.38	280.46	-657.57	671.43	1.55 S	21.43 W	126,003.07	2,040,199.80	1.57	20.21	
747.00	0.80	213.63	213.71	-582.59	746.41	1.80 S	22.72 W	126,002.82	2,040,198.52	1.92	21.49	
897.00	0.64	186.55	186.63	-432.60	896.40	3.51 S	23.39 W	126,001.12	2,040,197.84	0.25	22.80	
992.00	0.57	186.23	186.31	-337.60	991.40	4.50 S	23.51 W	126,000.12	2,040,197.73	0.07	23.31	
1,086.00	0.72	196.51	196.59	-243.61	1,085.39	5.54 S	23.73 W	125,999.09	2,040,197.51	0.20	23.93	
1,181.00	0.46	179.93	180.01	-148.61	1,180.39	6.49 S	23.90 W	125,998.14	2,040,197.34	0.32	24.47	
1,276.00	0.46	178.16	178.24	-53.62	1,275.38	7.25 S	23.89 W	125,997.37	2,040,197.35	0.01	24.77	
1,371.00	0.36	181.46	181.54	41.38	1,370.38	7.93 S	23.88 W	125,996.69	2,040,197.36	0.11	25.04	
1,466.00	0.41	178.46	178.54	136.38	1,465.38	8.57 S	23.88 W	125,996.06	2,040,197.36	0.06	25.30	
1,561.00	0.63	187.66	187.74	231.38	1,560.38	9.43 S	23.94 W	125,995.20	2,040,197.30	0.25	25.71	
1,656.00	0.53	197.14	197.22	326.37	1,655.37	10.36 S	24.14 W	125,994.26	2,040,197.10	0.15	26.27	
1,751.00	0.26	210.91	210.99	421.37	1,750.37	10.97 S	24.38 W	125,993.66	2,040,196.86	0.30	26.74	
1,846.00	0.44	212.61	212.69	516.37	1,845.37	11.46 S	24.69 W	125,993.16	2,040,196.55	0.19	27.22	
1,941.00	0.10	186.67	186.75	611.37	1,940.37	11.85 S	24.90 W	125,992.77	2,040,196.35	0.37	27.57	
2,035.00	0.13	3.69	3.77	705.36	2,034.36	11.82 S	24.90 W	125,992.80	2,040,196.35	0.24	27.56	
2,130.00	0.09	341.56	341.64	800.36	2,129.36	11.65 S	24.92 W	125,992.98	2,040,196.33	0.06	27.50	
2,225.00	0.06	75.17	75.25	895.36	2,224.36	11.56 S	24.89 W	125,993.06	2,040,196.35	0.12	27.44	
2,320.00	0.27	105.03	105.11	990.36	2,319.36	11.61 S	24.63 W	125,993.02	2,040,196.62	0.23	27.22	
2,415.00	0.22	66.23	66.31	1,085.36	2,414.36	11.59 S	24.25 W	125,993.03	2,040,197.00	0.18	26.87	
2,510.00	0.06	49.48	49.56	1,180.36	2,509.36	11.49 S	24.04 W	125,993.14	2,040,197.21	0.17	26.64	
2,605.00	0.25	24.79	24.87	1,275.36	2,604.36	11.27 S	23.92 W	125,993.36	2,040,197.33	0.21	26.43	
2,700.00	0.11	347.69	347.77	1,370.36	2,699.36	10.99 S	23.85 W	125,993.63	2,040,197.40	0.18	26.26	
2,795.00	0.19	341.89	341.97	1,465.36	2,794.36	10.75 S	23.92 W	125,993.87	2,040,197.33	0.09	26.22	
2,890.00	0.07	133.64	133.72	1,560.36	2,889.36	10.64 S	23.92 W	125,993.98	2,040,197.32	0.27	26.18	
2,984.00	0.31	326.77	326.85	1,654.36	2,983.36	10.47 S	24.02 W	125,994.16	2,040,197.22	0.40	26.20	
3,079.00	0.31	341.88	341.96	1,749.36	3,078.36	10.01 S	24.24 W	125,994.62	2,040,197.00	0.09	26.22	
3,174.00	0.38	29.10	29.18	1,844.36	3,173.36	9.49 S	24.17 W	125,995.13	2,040,197.08	0.30	25.94	

**HALLIBURTON****Design Report for Schrock 3510 #12-1H / Job # 8485875/ Nab 180 - Wellbore #1**

Measured Depth (ft)	Inclination (°)	Grid Azimuth (°)	True 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)			
3,269.00	0.10	7.12	7.20	1,939.36	3,268.36	9.13 S	24.00 W	125,995.49	2,040,197.24	0.30	25.64	
3,364.00	0.37	12.10	12.18	2,034.36	3,363.36	8.75 S	23.93 W	125,995.87	2,040,197.31	0.28	25.42	
3,459.00	0.34	5.82	5.90	2,129.35	3,458.35	8.17 S	23.83 W	125,996.46	2,040,197.41	0.05	25.10	
3,552.00	0.64	44.95	45.03	2,222.35	3,551.35	7.53 S	23.44 W	125,997.10	2,040,197.80	0.47	24.48	
3,647.00	0.38	41.90	41.98	2,317.35	3,646.35	6.92 S	22.85 W	125,997.71	2,040,198.39	0.28	23.69	
3,742.00	0.42	26.76	26.84	2,412.35	3,741.35	6.37 S	22.48 W	125,998.25	2,040,198.75	0.12	23.13	
3,837.00	0.20	359.38	359.46	2,507.34	3,836.34	5.90 S	22.33 W	125,998.73	2,040,198.91	0.27	22.80	
3,932.00	0.47	94.51	94.59	2,602.34	3,931.34	5.76 S	21.94 W	125,998.86	2,040,199.30	0.55	22.39	
4,016.00	3.06	149.36	149.44	2,686.30	4,015.30	7.72 S	20.46 W	125,996.91	2,040,200.78	3.35	21.83	
4,047.00	7.39	171.32	171.40	2,717.16	4,046.16	10.41 S	19.74 W	125,994.22	2,040,201.51	15.14	22.27	
4,079.00	11.27	172.20	172.28	2,748.74	4,077.74	15.54 S	19.01 W	125,989.09	2,040,202.24	12.13	23.69	
4,111.00	13.35	173.80	173.88	2,780.00	4,109.00	22.31 S	18.20 W	125,982.32	2,040,203.07	6.59	25.70	
4,142.00	16.34	173.37	173.45	2,809.96	4,138.96	30.21 S	17.32 W	125,974.43	2,040,203.96	9.65	28.10	
4,174.00	20.11	175.10	175.18	2,840.35	4,169.35	40.16 S	16.34 W	125,964.47	2,040,204.95	11.90	31.26	
4,205.00	22.17	175.57	175.65	2,869.26	4,198.26	51.31 S	15.45 W	125,953.33	2,040,205.86	6.67	34.97	
4,237.00	25.41	177.50	177.58	2,898.54	4,227.54	64.19 S	14.70 W	125,940.45	2,040,206.62	10.41	39.52	
4,269.00	27.06	182.87	182.95	2,927.25	4,256.25	78.32 S	14.79 W	125,926.31	2,040,206.56	9.03	45.34	
4,300.00	29.41	186.62	186.70	2,954.56	4,283.56	92.93 S	16.04 W	125,911.71	2,040,205.33	9.50	52.42	
4,332.00	30.90	190.45	190.53	2,982.23	4,311.23	108.81 S	18.46 W	125,895.82	2,040,202.93	7.60	61.09	
4,363.00	31.26	191.65	191.73	3,008.78	4,337.78	124.51 S	21.55 W	125,880.12	2,040,199.87	2.31	70.29	
4,395.00	31.04	186.85	186.93	3,036.17	4,365.17	140.84 S	24.23 W	125,863.79	2,040,197.21	7.79	79.38	
4,427.00	31.39	186.67	186.75	3,063.54	4,392.54	157.30 S	26.21 W	125,847.32	2,040,195.26	1.13	87.87	
4,458.00	31.95	183.47	183.55	3,089.92	4,418.92	173.51 S	27.66 W	125,831.11	2,040,193.82	5.71	95.79	
4,490.00	34.79	184.03	184.11	3,116.64	4,445.64	191.07 S	28.84 W	125,813.55	2,040,192.67	8.93	104.01	
4,522.00	38.20	181.59	181.67	3,142.37	4,471.37	210.07 S	29.78 W	125,794.55	2,040,191.76	11.58	112.59	
4,553.00	40.72	181.92	182.00	3,166.30	4,495.30	229.76 S	30.42 W	125,774.86	2,040,191.15	8.16	121.17	
4,585.00	43.85	183.77	183.85	3,189.97	4,518.97	251.26 S	31.53 W	125,753.36	2,040,190.08	10.53	130.92	
4,616.00	45.85	181.71	181.79	3,211.95	4,540.95	273.09 S	32.59 W	125,731.52	2,040,189.04	7.97	140.77	
4,648.00	48.46	182.22	182.30	3,233.71	4,562.71	296.53 S	33.43 W	125,708.08	2,040,188.23	8.24	151.07	
4,679.00	50.79	181.81	181.89	3,253.79	4,582.79	320.13 S	34.30 W	125,684.48	2,040,187.41	7.58	161.44	
4,711.00	53.97	182.26	182.34	3,273.32	4,602.32	345.46 S	35.23 W	125,659.15	2,040,186.51	10.00	172.59	
4,743.00	55.80	183.01	183.09	3,291.72	4,620.72	371.60 S	36.47 W	125,633.00	2,040,185.30	6.03	184.35	
4,774.00	59.12	184.40	184.48	3,308.40	4,637.40	397.68 S	38.21 W	125,606.93	2,040,183.61	11.36	196.53	
4,806.00	59.94	184.87	184.95	3,324.62	4,653.62	425.16 S	40.47 W	125,579.44	2,040,181.39	2.86	209.77	
4,838.00	60.33	184.73	184.81	3,340.56	4,669.56	452.81 S	42.83 W	125,551.79	2,040,179.07	1.28	223.17	
4,901.00	60.76	184.58	184.66	3,371.54	4,700.54	507.48 S	47.36 W	125,497.11	2,040,174.62	0.71	249.52	
4,932.00	62.35	184.93	185.01	3,386.30	4,715.30	534.64 S	49.66 W	125,469.95	2,040,172.36	5.22	262.66	

**HALLIBURTON****Design Report for Schrock 3510 #12-1H / Job # 8485875/ Nab 180 - Wellbore #1**

Measured Depth (ft)	Inclination (°)	Grid Azimuth (°)	True 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)			
4,964.00	64.76	184.66	184.74	3,400.55	4,729.55	563.19 S	52.09 W	125,441.40	2,040,169.97	7.57	276.49	
4,995.00	67.03	184.62	184.70	3,413.21	4,742.21	591.39 S	54.42 W	125,413.20	2,040,167.68	7.32	290.08	
5,027.00	68.82	184.36	184.44	3,425.24	4,754.24	620.94 S	56.78 W	125,383.63	2,040,165.36	5.64	304.25	
5,045.25	69.86	184.63	184.72	3,431.68	4,760.68	637.97 S	58.15 W	125,366.61	2,040,164.03	5.89	312.41	Top of Miss 4773' TVD (1426' FSL, 828' FWL)
5,059.00	70.65	184.84	184.92	3,436.32	4,765.32	650.86 S	59.23 W	125,353.71	2,040,162.96	5.89	318.64	
5,090.00	73.03	183.30	183.38	3,445.98	4,774.98	680.24 S	61.36 W	125,324.33	2,040,160.87	9.01	332.53	
5,122.00	75.59	181.76	181.84	3,454.64	4,783.64	711.01 S	62.76 W	125,293.56	2,040,159.52	9.24	346.31	
5,154.00	76.55	181.24	181.32	3,462.34	4,791.34	742.06 S	63.62 W	125,262.51	2,040,158.71	3.39	359.71	
5,185.00	77.98	180.60	180.68	3,469.17	4,798.17	772.29 S	64.15 W	125,232.28	2,040,158.23	5.03	372.48	
5,217.00	80.60	180.92	181.00	3,475.12	4,804.12	803.72 S	64.61 W	125,200.84	2,040,157.81	8.25	385.68	
5,248.00	84.10	180.11	180.19	3,479.25	4,808.25	834.44 S	64.93 W	125,170.12	2,040,157.54	11.58	398.46	
5,280.00	86.62	180.55	180.63	3,481.84	4,810.84	866.33 S	65.15 W	125,138.23	2,040,157.36	7.99	411.63	
5,312.00	87.72	180.07	180.15	3,483.42	4,812.42	898.29 S	65.37 W	125,106.27	2,040,157.19	3.75	424.81	
5,385.00	90.46	182.27	182.35	3,484.57	4,813.57	971.26 S	66.96 W	125,033.31	2,040,155.70	4.81	455.92	
5,417.00	90.80	181.78	181.86	3,484.22	4,813.22	1,003.23 S	68.14 W	125,001.33	2,040,154.57	1.86	469.99	
5,448.00	90.99	181.49	181.57	3,483.74	4,812.74	1,034.21 S	69.07 W	124,970.35	2,040,153.69	1.12	483.43	
5,480.00	89.51	181.20	181.28	3,483.60	4,812.60	1,066.20 S	69.86 W	124,938.36	2,040,152.94	4.71	497.16	
5,512.00	88.15	181.51	181.59	3,484.25	4,813.25	1,098.19 S	70.66 W	124,906.37	2,040,152.19	4.36	510.89	
5,543.00	88.03	181.27	181.35	3,485.29	4,814.29	1,129.16 S	71.46 W	124,875.40	2,040,151.44	0.87	524.20	
5,638.00	88.58	182.17	182.25	3,488.10	4,817.10	1,224.07 S	74.44 W	124,780.49	2,040,148.60	1.11	565.50	
5,733.00	89.32	183.79	183.87	3,489.84	4,818.84	1,318.91 S	79.51 W	124,685.63	2,040,143.67	1.87	608.68	
5,828.00	90.83	183.33	183.41	3,489.71	4,818.71	1,413.72 S	85.54 W	124,590.82	2,040,137.78	1.66	652.72	
5,922.00	90.09	182.07	182.15	3,488.96	4,817.96	1,507.60 S	90.10 W	124,496.93	2,040,133.36	1.55	695.04	
6,018.00	90.06	181.96	182.04	3,488.83	4,817.83	1,603.54 S	93.61 W	124,400.99	2,040,129.99	0.12	737.24	
6,113.00	88.98	181.14	181.22	3,489.63	4,818.63	1,698.49 S	96.31 W	124,306.03	2,040,127.43	1.43	778.30	
6,207.00	89.48	179.96	180.04	3,490.89	4,819.89	1,792.48 S	97.35 W	124,212.04	2,040,126.53	1.36	817.44	
6,302.00	90.40	179.96	180.04	3,490.99	4,819.99	1,887.48 S	97.41 W	124,117.05	2,040,126.61	0.97	856.11	
6,397.00	91.60	179.71	179.79	3,489.33	4,818.33	1,982.46 S	97.27 W	124,022.06	2,040,126.89	1.29	894.59	
6,492.00	89.11	180.17	180.25	3,488.74	4,817.74	2,077.45 S	97.31 W	123,927.07	2,040,126.99	2.67	933.22	
6,587.00	89.11	180.84	180.92	3,490.22	4,819.22	2,172.43 S	98.28 W	123,832.09	2,040,126.16	0.71	972.71	
6,681.00	89.35	181.87	181.95	3,491.48	4,820.48	2,266.39 S	100.63 W	123,738.12	2,040,123.95	1.13	1,013.05	
6,764.00	90.28	180.95	181.03	3,491.75	4,820.75	2,349.36 S	102.79 W	123,655.15	2,040,121.91	1.58	1,048.74	
6,858.00	89.78	183.65	183.73	3,491.70	4,820.70	2,443.27 S	106.69 W	123,561.24	2,040,118.15	2.92	1,090.48	
6,953.00	90.83	182.55	182.63	3,491.20	4,820.20	2,538.12 S	111.96 W	123,466.38	2,040,113.02	1.60	1,133.84	
7,048.00	91.20	183.47	183.55	3,489.51	4,818.51	2,632.97 S	117.08 W	123,371.53	2,040,108.04	1.04	1,177.07	
7,143.00	90.28	183.93	184.01	3,488.29	4,817.29	2,727.75 S	123.34 W	123,276.73	2,040,101.92	1.08	1,221.31	

**HALLIBURTON****Design Report for Schrock 3510 #12-1H / Job # 8485875/ Nab 180 - Wellbore #1**

Measured Depth (ft)	Inclination (°)	Grid Azimuth (°)	True 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)			
7,238.00	88.52	185.67	185.75	3,489.28	4,818.28	2,822.40 S	131.42 W	123,182.08	2,040,093.98	2.61	1,267.16	
7,333.00	86.64	187.18	187.26	3,493.29	4,822.29	2,916.69 S	142.17 W	123,087.76	2,040,083.37	2.54	1,315.30	
7,427.00	87.50	186.07	186.15	3,498.10	4,827.10	3,009.93 S	153.13 W	122,994.52	2,040,072.54	1.49	1,363.21	
7,525.00	88.46	185.40	185.48	3,501.55	4,830.55	3,107.36 S	163.06 W	122,897.07	2,040,062.76	1.19	1,411.88	
7,618.00	87.53	186.35	186.43	3,504.81	4,833.81	3,199.80 S	172.70 W	122,804.61	2,040,053.26	1.43	1,458.25	
7,713.00	88.09	186.51	186.59	3,508.44	4,837.44	3,294.12 S	183.46 W	122,710.28	2,040,042.64	0.61	1,506.42	
7,808.00	88.68	186.84	186.92	3,511.11	4,840.11	3,388.42 S	194.63 W	122,615.96	2,040,031.60	0.71	1,554.95	
7,903.00	86.11	185.67	185.75	3,515.43	4,844.43	3,482.73 S	205.10 W	122,521.63	2,040,021.27	2.97	1,602.85	
7,998.00	86.45	182.69	182.77	3,521.60	4,850.60	3,577.26 S	212.14 W	122,427.10	2,040,014.37	3.15	1,647.70	
8,093.00	88.12	180.66	180.74	3,526.10	4,855.10	3,672.10 S	215.05 W	122,332.25	2,040,011.61	2.77	1,688.90	
8,188.00	90.68	181.39	181.47	3,527.09	4,856.09	3,767.07 S	216.88 W	122,237.28	2,040,009.92	2.80	1,729.17	
8,283.00	91.73	181.29	181.37	3,525.09	4,854.09	3,862.02 S	219.23 W	122,142.33	2,040,007.70	1.11	1,769.91	
8,377.00	90.00	182.32	182.40	3,523.67	4,852.67	3,955.95 S	222.33 W	122,048.39	2,040,004.75	2.14	1,810.91	
8,472.00	92.03	182.39	182.47	3,521.99	4,850.99	4,050.85 S	226.36 W	121,953.49	2,040,000.85	2.14	1,853.17	
8,567.00	89.54	183.11	183.19	3,520.69	4,849.69	4,145.71 S	231.05 W	121,858.62	2,039,996.30	2.73	1,896.01	
8,662.00	90.62	182.22	182.30	3,520.56	4,849.56	4,240.60 S	235.60 W	121,763.72	2,039,991.90	1.47	1,938.73	
8,757.00	89.72	183.33	183.41	3,520.28	4,849.28	4,335.48 S	240.33 W	121,668.84	2,039,987.30	1.50	1,981.61	
8,852.00	90.86	180.95	181.03	3,519.79	4,848.79	4,430.40 S	244.01 W	121,573.91	2,039,983.76	2.78	2,023.55	
8,946.00	89.60	180.88	180.96	3,519.42	4,848.42	4,524.38 S	245.64 W	121,479.93	2,039,982.27	1.34	2,063.24	
9,041.00	89.63	179.43	179.51	3,520.06	4,849.06	4,619.38 S	246.03 W	121,384.93	2,039,982.02	1.53	2,102.20	
9,136.00	89.82	178.72	178.80	3,520.51	4,849.51	4,714.37 S	244.63 W	121,289.95	2,039,983.56	0.77	2,139.53	
9,231.00	90.65	178.27	178.35	3,520.12	4,849.12	4,809.33 S	242.27 W	121,194.98	2,039,986.07	0.99	2,175.97	
9,277.00	91.23	178.34	178.42	3,519.37	4,848.37	4,855.31 S	240.97 W	121,149.01	2,039,987.43	1.27	2,193.47	Last MWD Survey
9,325.14	91.47	178.50	178.58	3,518.23	4,847.23	4,903.42 S	239.71 W	121,100.90	2,039,988.76	0.60	2,211.87	PBHL Schrock 3510 #12-1H / 335' FSL 600' FWL
9,331.00	91.50	178.52	178.60	3,518.08	4,847.08	4,909.28 S	239.57 W	121,095.05	2,039,988.91	0.60	2,214.12	Projection to TD

**Design Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
111.00	111.00	0.00	0.00	First MWD Surveys
9,277.00	4,848.37	-4,855.31	-240.97	Last MWD Survey
9,331.00	4,847.08	-4,909.28	-239.57	Projection to TD

**HALLIBURTON**

**Design Report for Schrock 3510 #12-1H / Job # 8485875/ Nab 180 - Wellbore #1**

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (ft)	Origin +E/-W (ft)	Start TVD (ft)
User	No Target (Freehand)	246.02	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
111.00	9,331.00	MWD	MWD+SC

Design Targets

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

Directional Difficulty Index

Average Dogleg over Survey:	1.98 °/100ft	Maximum Dogleg over Survey:	15.14 °/100ft at 4,047.00 ft
Net Tortousity applicable to Plans:	0.95 °/100ft	Directional Difficulty Index:	6.245

Audit Info



**HALLIBURTON****North Reference Sheet for Sec 12-T35S-R10W - Schrock 3510 #12-1H / Job # 8485875/ Nab 180 - 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 @ 1329.00ft. Northing and Easting are relative to Schrock 3510 #12-1H / Job # 8485875/ Nab 180

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: 1.00005963

Grid Coordinates of Well: 126,004.66 ft N, 2,040,221.23 ft E

Geographical Coordinates of Well: 37° 00' 45.49" N, 098° 21' 44.14" W

Grid Convergence at Surface is: 0.08°

Based upon Minimum Curvature type calculations, at a Measured Depth of 9,331.00ft  
the Bottom Hole Displacement is 4,915.12ft in the Direction of 182.79° (True).

Magnetic Convergence at surface is: -4.90° (17 August 2011, , BGGM2011)

