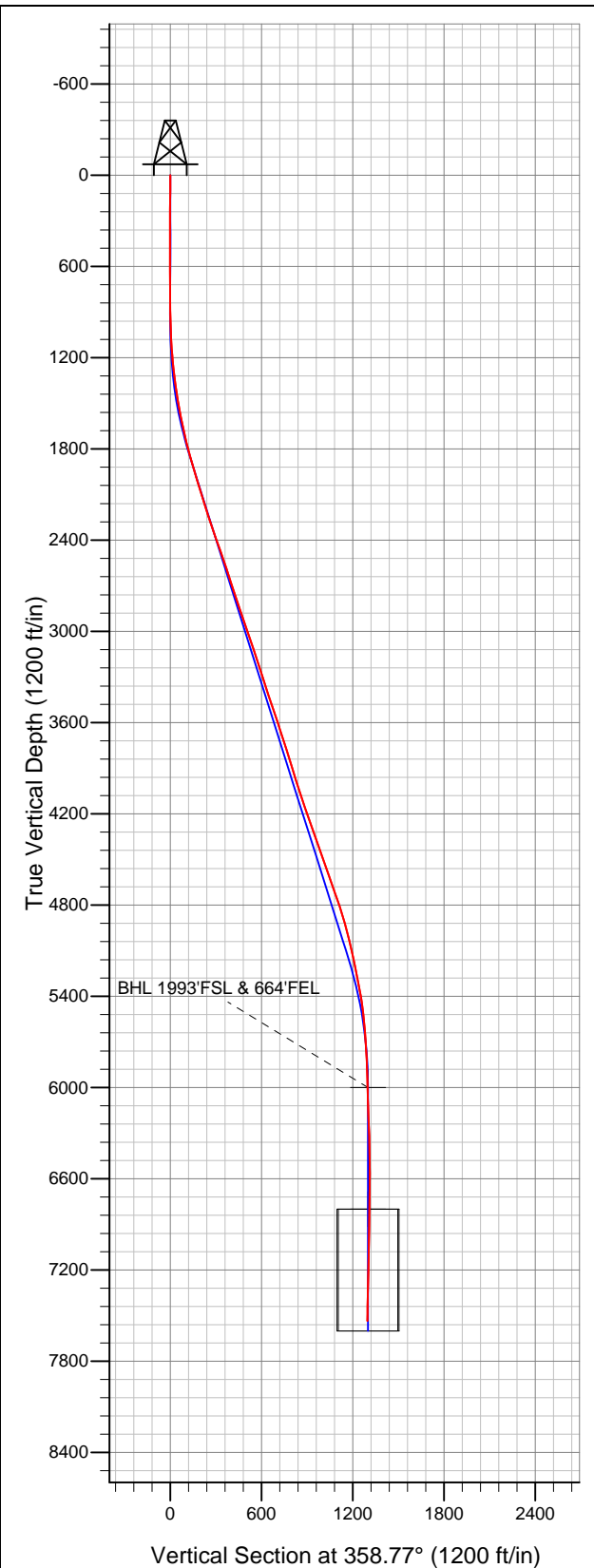


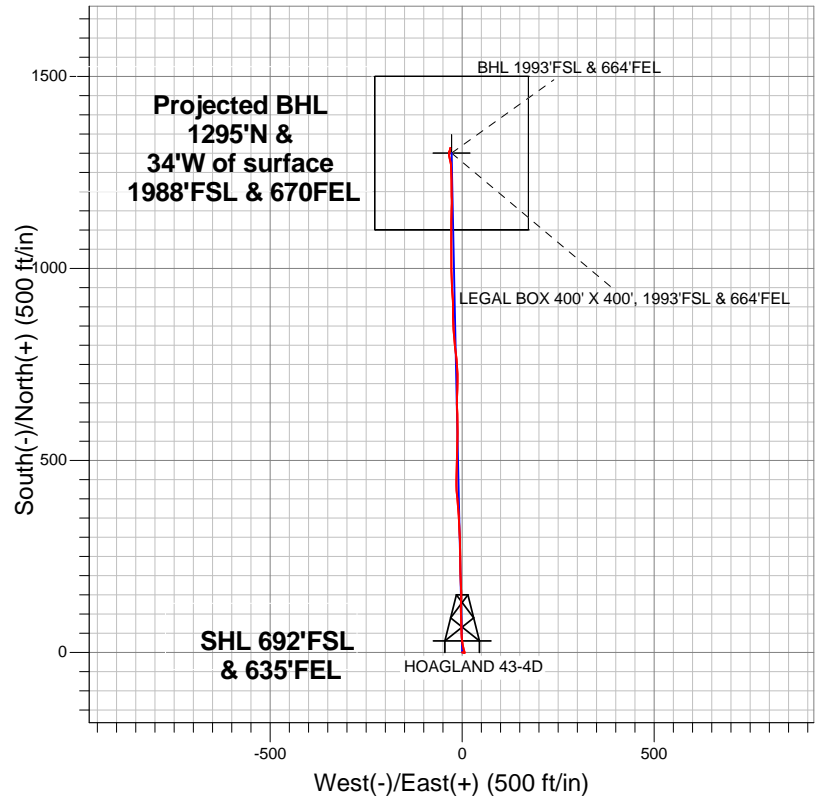
Well Name: HOAGLAND 43-4D

Surface Location: HOAGLAND 34-4D PAD 4-3N-68W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 5013.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1334177.52	3139298.12	40.249640	-105.000950	
		EST KB 13'	RKB @ 5026.0ft (EST KB 13')			



Apollo Operating, LLC.



- LEGEND
- Wellbore #1
 - HOAGLAND 43-4D, Wellbore #1, PLAN 1 (5-17-12) R V0
 - Survey #1

Final Survey Plot

Projected Final Survey -
 7725'MD & 7534'TVD @ 1296'VS
 1.40 deg Inc 192.90 deg AZ

Project: SEC.4-T3N-R68W
 Site: HOAGLAND 34-4D PAD 4-3N-68W
 Well: HOAGLAND 43-4D
 Plan: Wellbore #1



Apollo Operating, LLC.

SEC.4-T3N-R68W

HOAGLAND 34-4D PAD 4-3N-68W

HOAGLAND 43-4D

Wellbore #1

Survey: Survey #1

Standard Survey Report

30 May, 2012

Company:	Apollo Operating, LLC.	Local Co-ordinate Reference:	Well HOAGLAND 43-4D
Project:	SEC.4-T3N-R68W	TVD Reference:	RKB @ 5026.0ft (EST KB 13')
Site:	HOAGLAND 34-4D PAD 4-3N-68W	MD Reference:	RKB @ 5026.0ft (EST KB 13')
Well:	HOAGLAND 43-4D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.4-T3N-R68W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site		HOAGLAND 34-4D PAD 4-3N-68W			
Site Position:		Northing:	1,334,118.93 ft	Latitude:	40.249480
From:	Lat/Long	Easting:	3,139,242.63 ft	Longitude:	-105.001150
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.32 °

Well	HOAGLAND 43-4D					
Well Position	+N/-S	0.0 ft	Northing:	1,334,177.52 ft	Latitude:	40.249640
	+E/-W	0.0 ft	Easting:	3,139,298.12 ft	Longitude:	-105.000950
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,013.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/17/2012	8.85	66.86	52,928

Design	Wellbore #1			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	6,000.0	0.0	0.0	358.77

Survey Program		Date	5/30/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
99.0	7,725.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

Survey										
	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)
Main Survey	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	99.0	0.50	106.40	99.0	-0.1	0.4	-0.1	0.51	0.51	0.00
	220.0	1.00	95.80	220.0	-0.4	2.0	-0.4	0.43	0.41	-8.76
	342.0	0.40	99.20	342.0	-0.6	3.5	-0.6	0.49	-0.49	2.79
	464.0	0.60	119.50	464.0	-0.9	4.4	-1.0	0.22	0.16	16.64
	588.0	0.50	96.40	588.0	-1.3	5.5	-1.4	0.19	-0.08	-18.63
	691.0	0.40	97.10	691.0	-1.4	6.3	-1.5	0.10	-0.10	0.68
	768.0	0.40	25.40	768.0	-1.2	6.7	-1.3	0.61	0.00	-93.12
	893.0	1.20	336.20	893.0	0.4	6.4	0.3	0.79	0.64	-39.36
	1,017.0	1.80	343.40	1,016.9	3.4	5.3	3.3	0.51	0.48	5.81
	1,142.0	4.20	347.10	1,141.7	9.8	3.7	9.7	1.93	1.92	2.96
	1,267.0	6.30	347.80	1,266.2	21.0	1.2	20.9	1.68	1.68	0.56
	1,392.0	7.80	356.20	1,390.3	36.1	-0.8	36.1	1.45	1.20	6.72

Company:	Apollo Operating, LLC.	Local Co-ordinate Reference:	Well HOAGLAND 43-4D
Project:	SEC.4-T3N-R68W	TVD Reference:	RKB @ 5026.0ft (EST KB 13')
Site:	HOAGLAND 34-4D PAD 4-3N-68W	MD Reference:	RKB @ 5026.0ft (EST KB 13')
Well:	HOAGLAND 43-4D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey										
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)	
1,516.0	10.10	357.50	1,512.7	55.4	-1.8	55.4	1.86	1.85	1.05	
1,641.0	12.20	358.90	1,635.4	79.5	-2.5	79.6	1.69	1.68	1.12	
1,766.0	13.20	358.30	1,757.3	107.0	-3.2	107.1	0.81	0.80	-0.48	
1,891.0	16.60	2.70	1,878.1	139.1	-2.8	139.2	2.86	2.72	3.52	
2,016.0	16.50	356.40	1,997.9	174.7	-3.1	174.7	1.44	-0.08	-5.04	
2,140.0	17.10	359.00	2,116.6	210.5	-4.5	210.5	0.78	0.48	2.10	
2,265.0	18.10	358.50	2,235.8	248.3	-5.3	248.3	0.81	0.80	-0.40	
2,390.0	19.60	359.40	2,354.1	288.6	-6.0	288.7	1.22	1.20	0.72	
2,515.0	19.60	357.30	2,471.8	330.6	-7.3	330.6	0.56	0.00	-1.68	
2,639.0	18.00	354.10	2,589.2	370.4	-10.2	370.5	1.53	-1.29	-2.58	
2,764.0	17.80	355.20	2,708.2	408.6	-13.8	408.8	0.31	-0.16	0.88	
2,889.0	19.10	0.10	2,826.7	448.1	-15.4	448.4	1.62	1.04	3.92	
3,014.0	19.30	3.10	2,944.8	489.2	-14.2	489.4	0.81	0.16	2.40	
3,138.0	18.00	1.50	3,062.3	528.8	-12.6	529.0	1.13	-1.05	-1.29	
3,263.0	18.30	0.30	3,181.1	567.8	-12.0	567.9	0.38	0.24	-0.96	
3,388.0	18.00	357.50	3,299.8	606.7	-12.7	606.8	0.74	-0.24	-2.24	
3,513.0	18.30	0.10	3,418.6	645.6	-13.5	645.7	0.69	0.24	2.08	
3,637.0	19.10	2.40	3,536.1	685.3	-12.6	685.5	0.88	0.65	1.85	
3,762.0	17.80	358.30	3,654.7	724.9	-12.4	725.0	1.47	-1.04	-3.28	
3,887.0	17.90	354.80	3,773.6	763.1	-14.7	763.2	0.86	0.08	-2.80	
4,012.0	17.60	352.50	3,892.7	801.0	-18.9	801.2	0.61	-0.24	-1.84	
4,136.0	17.10	357.10	4,011.1	837.8	-22.2	838.1	1.18	-0.40	3.71	
4,261.0	18.00	359.60	4,130.2	875.4	-23.3	875.7	0.94	0.72	2.00	
4,386.0	20.30	357.80	4,248.3	916.4	-24.3	916.7	1.90	1.84	-1.44	
4,511.0	19.70	356.40	4,365.8	959.1	-26.4	959.5	0.61	-0.48	-1.12	
4,635.0	19.10	358.50	4,482.7	1,000.3	-28.3	1,000.6	0.74	-0.48	1.69	
4,760.0	19.10	1.50	4,600.9	1,041.1	-28.3	1,041.5	0.79	0.00	2.40	
4,885.0	19.70	359.40	4,718.8	1,082.7	-28.0	1,083.0	0.74	0.48	-1.68	
5,010.0	17.50	0.60	4,837.2	1,122.5	-28.0	1,122.9	1.79	-1.76	0.96	
5,135.0	15.10	1.00	4,957.2	1,157.6	-27.5	1,157.9	1.92	-1.92	0.32	
5,260.0	12.80	359.00	5,078.5	1,187.7	-27.5	1,188.0	1.88	-1.84	-1.60	
5,384.0	11.80	0.50	5,199.7	1,214.1	-27.6	1,214.5	0.85	-0.81	1.21	
5,509.0	11.00	357.80	5,322.2	1,238.8	-27.9	1,239.2	0.77	-0.64	-2.16	
5,634.0	8.10	358.30	5,445.4	1,259.6	-28.7	1,259.9	2.32	-2.32	0.40	
5,758.0	6.10	350.60	5,568.5	1,274.8	-30.0	1,275.1	1.78	-1.61	-6.21	
5,883.0	3.60	343.80	5,693.0	1,285.1	-32.2	1,285.5	2.05	-2.00	-5.44	
6,008.0	2.40	349.90	5,817.9	1,291.5	-33.7	1,291.9	0.99	-0.96	4.88	
6,133.0	1.80	359.00	5,942.8	1,296.0	-34.2	1,296.4	0.55	-0.48	7.28	
6,190.4	1.70	4.11	6,000.1	1,297.8	-34.2	1,298.2	0.32	-0.18	8.91	
BHL 1993'FSL & 664'FEL										
6,257.0	1.60	10.80	6,066.7	1,299.7	-33.9	1,300.1	0.32	-0.15	10.04	
6,382.0	1.80	17.90	6,191.7	1,303.2	-33.0	1,303.6	0.23	0.16	5.68	
6,507.0	2.40	12.20	6,316.6	1,307.7	-31.8	1,308.0	0.51	0.48	-4.56	
6,632.0	1.10	2.00	6,441.5	1,311.4	-31.2	1,311.8	1.07	-1.04	-8.16	
6,756.0	0.20	38.40	6,565.5	1,312.8	-31.1	1,313.1	0.76	-0.73	29.35	
6,881.0	0.90	194.30	6,690.5	1,312.0	-31.2	1,312.4	0.87	0.56	124.72	
6,990.7	0.99	188.70	6,800.1	1,310.2	-31.5	1,310.6	0.12	0.08	-5.10	
LEGAL BOX 400' X 400', 1993'FSL & 664'FEL										
7,006.0	1.00	188.00	6,815.5	1,310.0	-31.6	1,310.3	0.12	0.08	-4.59	
7,131.0	1.20	190.80	6,940.5	1,307.6	-32.0	1,308.0	0.17	0.16	2.24	
7,255.0	1.30	196.60	7,064.4	1,305.0	-32.6	1,305.4	0.13	0.08	4.68	
7,380.0	1.10	187.00	7,189.4	1,302.4	-33.2	1,302.8	0.23	-0.16	-7.68	
7,505.0	1.10	181.20	7,314.4	1,300.0	-33.3	1,300.5	0.09	0.00	-4.64	
7,630.0	1.20	181.70	7,439.4	1,297.5	-33.4	1,297.9	0.08	0.08	0.40	

Company:	Apollo Operating, LLC.	Local Co-ordinate Reference:	Well HOAGLAND 43-4D
Project:	SEC.4-T3N-R68W	TVD Reference:	RKB @ 5026.0ft (EST KB 13')
Site:	HOAGLAND 34-4D PAD 4-3N-68W	MD Reference:	RKB @ 5026.0ft (EST KB 13')
Well:	HOAGLAND 43-4D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey										
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)	
7,679.0	1.40	192.90	7,488.3	1,296.4	-33.5	1,296.9	0.66	0.41	22.86	
7,725.0	1.40	192.90	7,534.3	1,295.3	-33.8	1,295.8	0.00	0.00	0.00	

Checked By: _____	Approved By: _____	Date: _____
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