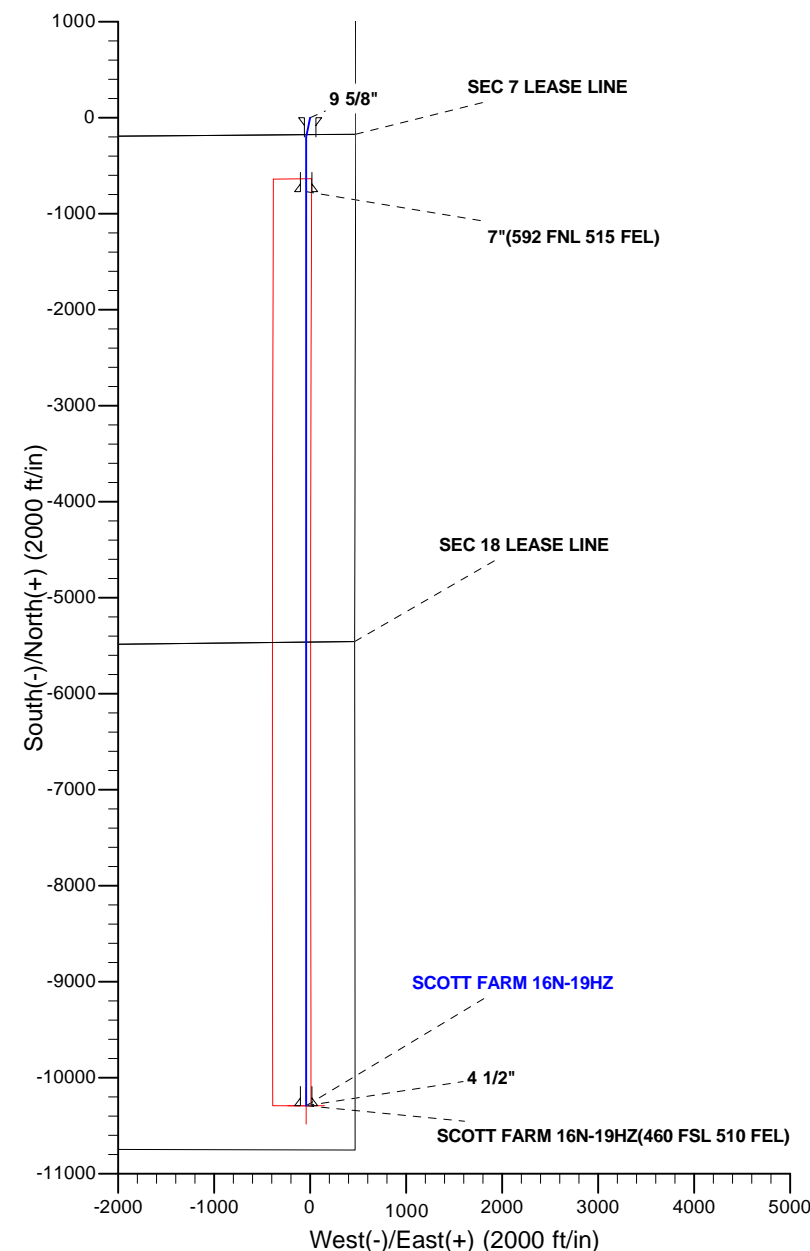
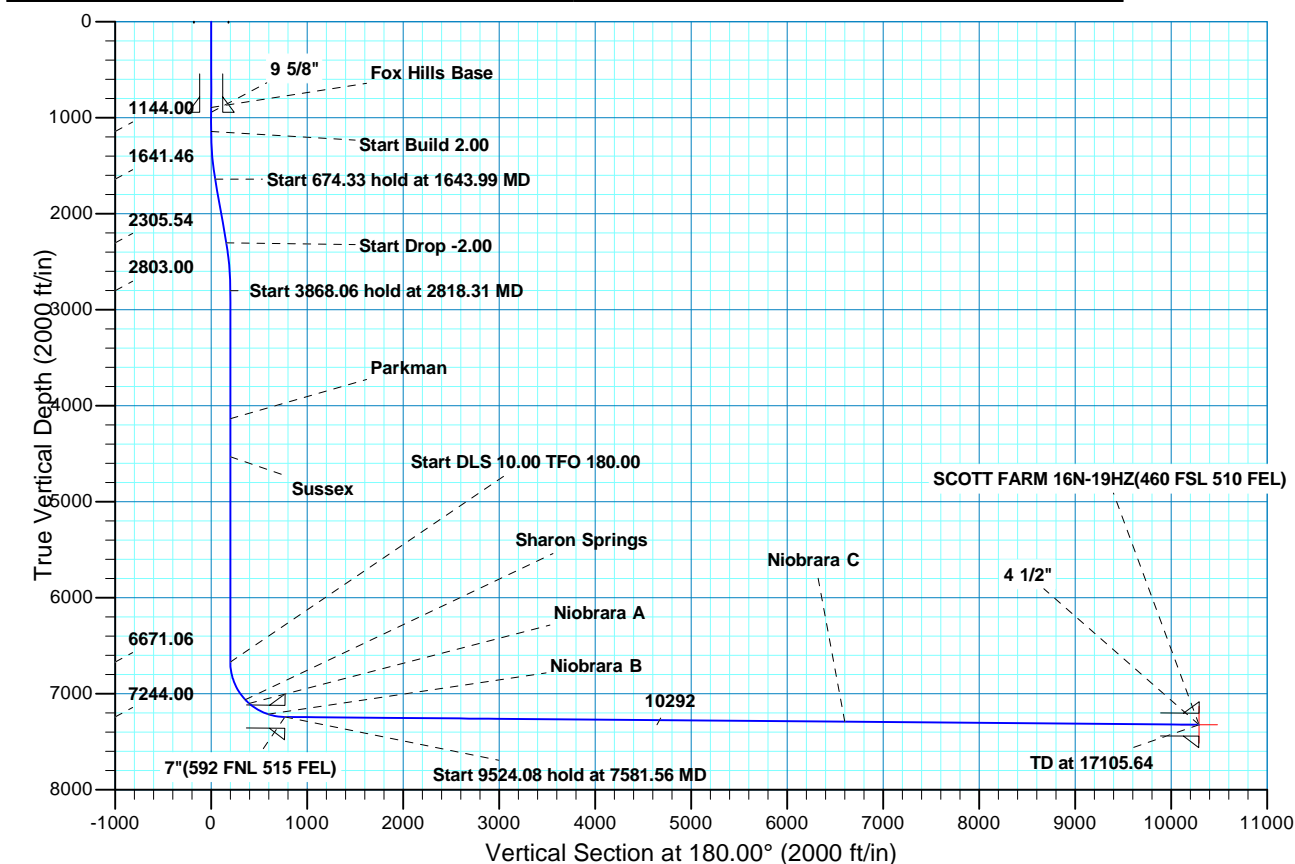


WELL DETAILS: SCOTT FARM 16N-19HZ									
GL 4944 & KB17 @ 4944.00ft (ASSUMED)									
	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
	0.00	0.00	1265067.20	3192533.47	40.0589490	-104.8121560			
SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1144.00	0.00	0.00	1144.00	0.00	0.00	0.00	0.00	0.00	
1643.99	10.00	191.55	1641.46	-42.64	-8.72	2.00	191.55	42.64	
2318.32	10.00	191.55	2305.54	-157.36	-32.17	0.00	0.00	157.36	
2818.31	0.00	0.00	2803.00	-200.00	-40.88	2.00	180.00	200.00	
6686.37	0.00	0.00	6671.06	-200.00	-40.88	0.00	0.00	200.00	
7581.56	89.52	180.00	7244.00	-768.14	-40.88	10.00	180.00	768.14	
17105.64	89.52	180.00	7324.00	10291.89	-40.88	0.00	0.00	10291.89	SCOTT FARM 16N-19HZ(460 FSL 510 FEL)
CASING DETAILS					FORMATION TOP DETAILS				
TVD	MD	Name	Size		TVDPath	MDPath	Formation	Inc	
944.00	944.00	9 5/8"	9.625		894.00	894.00	Fox Hills Base	0.00	
7244.00	7581.56	7"	7.000		4137.00	4152.31	Parkman	0.00	
7324.00	17105.64	4 1/2"	4.500		4532.00	4547.31	Sussex	0.00	
					7064.00	7119.37	Sharon Springs	43.30	
					7102.00	7174.13	Niobrara A	48.78	
					7215.00	7403.24	Niobrara B	71.69	
					7293.00	13415.17	Niobrara C	89.52	





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

SCOTT FARM PAD 16C-19HZ

SCOTT FARM 16N-19HZ

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

11 July, 2013

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well SCOTT FARM 16N-19HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4944 & KB17 @ 4944.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4944 & KB17 @ 4944.00ft (ASSUMED)
Site:	SCOTT FARM PAD 16C-19HZ	North Reference:	True
Well:	SCOTT FARM 16N-19HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Project	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	SCOTT FARM PAD 16C-19HZ, SESE SECTION 7 T1N R66W			
Site Position:		Northing:	1,265,066.02 usft	Latitude: 40.0589470
From:	Lat/Long	Easting:	3,192,473.29 usft	Longitude: -104.8123710
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: 0.44 °

Well	SCOTT FARM 16N-19HZ, 175' FSL 475' FEL			
Well Position	+N/-S	0.72 ft	Northing:	1,265,067.20 usft
	+E/-W	60.18 ft	Easting:	3,192,533.47 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	Ground Level: 4,927.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	2013/07/10	8.61	66.69	52,659

Design	PLAN #1 PRELIMINARY			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	180.00

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,144.00	0.00	0.00	1,144.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,643.99	10.00	191.55	1,641.46	-42.64	-8.72	2.00	2.00	0.00	191.55	
2,318.32	10.00	191.55	2,305.54	-157.36	-32.17	0.00	0.00	0.00	0.00	
2,818.31	0.00	0.00	2,803.00	-200.00	-40.88	2.00	-2.00	0.00	180.00	
6,686.37	0.00	0.00	6,671.06	-200.00	-40.88	0.00	0.00	0.00	0.00	
7,581.56	89.52	180.00	7,244.00	-768.14	-40.88	10.00	10.00	20.11	180.00	
17,105.64	89.52	180.00	7,324.00	-10,291.89	-40.88	0.00	0.00	0.00	0.00	SCOTT FARM 16N-1'

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well SCOTT FARM 16N-19HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4944 & KB17 @ 4944.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4944 & KB17 @ 4944.00ft (ASSUMED)
Site:	SCOTT FARM PAD 16C-19HZ	North Reference:	True
Well:	SCOTT FARM 16N-19HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned 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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
894.00	0.00	0.00	894.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Base									
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
944.00	0.00	0.00	944.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,144.00	0.00	0.00	1,144.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,200.00	1.12	191.55	1,200.00	-0.54	-0.11	0.54	2.00	2.00	0.00
1,300.00	3.12	191.55	1,299.92	-4.16	-0.85	4.16	2.00	2.00	0.00
1,400.00	5.12	191.55	1,399.66	-11.20	-2.29	11.20	2.00	2.00	0.00
1,500.00	7.12	191.55	1,499.08	-21.64	-4.42	21.64	2.00	2.00	0.00
1,600.00	9.12	191.55	1,598.08	-35.48	-7.25	35.48	2.00	2.00	0.00
1,643.99	10.00	191.55	1,641.46	-42.64	-8.72	42.64	2.00	2.00	0.00
Start 674.33 hold at 1643.99 MD									
1,700.00	10.00	191.55	1,696.61	-52.17	-10.66	52.17	0.00	0.00	0.00
1,800.00	10.00	191.55	1,795.10	-69.18	-14.14	69.18	0.00	0.00	0.00
1,900.00	10.00	191.55	1,893.58	-86.19	-17.62	86.19	0.00	0.00	0.00
2,000.00	10.00	191.55	1,992.06	-103.21	-21.10	103.21	0.00	0.00	0.00
2,100.00	10.00	191.55	2,090.54	-120.22	-24.58	120.22	0.00	0.00	0.00
2,200.00	10.00	191.55	2,189.02	-137.23	-28.05	137.23	0.00	0.00	0.00
2,300.00	10.00	191.55	2,287.50	-154.24	-31.53	154.24	0.00	0.00	0.00
2,318.32	10.00	191.55	2,305.54	-157.36	-32.17	157.36	0.00	0.00	0.00
Start Drop -2.00									
2,400.00	8.37	191.55	2,386.17	-170.13	-34.78	170.13	2.00	-2.00	0.00
2,500.00	6.37	191.55	2,485.34	-182.69	-37.35	182.69	2.00	-2.00	0.00
2,600.00	4.37	191.55	2,584.90	-191.85	-39.22	191.85	2.00	-2.00	0.00
2,700.00	2.37	191.55	2,684.72	-197.61	-40.39	197.61	2.00	-2.00	0.00
2,800.00	0.37	191.55	2,784.69	-199.94	-40.87	199.94	2.00	-2.00	0.00
2,818.31	0.00	0.00	2,803.00	-200.00	-40.88	200.00	2.00	-2.00	0.00
Start 3868.06 hold at 2818.31 MD									
2,900.00	0.00	0.00	2,884.69	-200.00	-40.88	200.00	0.00	0.00	0.00
3,000.00	0.00	0.00	2,984.69	-200.00	-40.88	200.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,084.69	-200.00	-40.88	200.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,184.69	-200.00	-40.88	200.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,284.69	-200.00	-40.88	200.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,384.69	-200.00	-40.88	200.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,484.69	-200.00	-40.88	200.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,584.69	-200.00	-40.88	200.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,684.69	-200.00	-40.88	200.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,784.69	-200.00	-40.88	200.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,884.69	-200.00	-40.88	200.00	0.00	0.00	0.00
4,000.00	0.00	0.00	3,984.69	-200.00	-40.88	200.00	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well SCOTT FARM 16N-19HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4944 & KB17 @ 4944.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4944 & KB17 @ 4944.00ft (ASSUMED)
Site:	SCOTT FARM PAD 16C-19HZ	North Reference:	True
Well:	SCOTT FARM 16N-19HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned 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)	
4,100.00	0.00	0.00	4,084.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
4,152.31	0.00	0.00	4,137.00	-200.00	-40.88	200.00	0.00	0.00	0.00	
Parkman										
4,200.00	0.00	0.00	4,184.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
4,300.00	0.00	0.00	4,284.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
4,400.00	0.00	0.00	4,384.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
4,500.00	0.00	0.00	4,484.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
4,547.31	0.00	0.00	4,532.00	-200.00	-40.88	200.00	0.00	0.00	0.00	
Sussex										
4,600.00	0.00	0.00	4,584.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
4,700.00	0.00	0.00	4,684.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
4,800.00	0.00	0.00	4,784.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,884.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,984.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
5,100.00	0.00	0.00	5,084.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,184.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,284.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,384.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,484.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,584.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,684.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,784.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,884.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,984.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,084.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,184.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,284.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,384.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,484.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,584.69	-200.00	-40.88	200.00	0.00	0.00	0.00	
6,686.37	0.00	0.00	6,671.06	-200.00	-40.88	200.00	0.00	0.00	0.00	
Start DLS 10.00 TFO 180.00										
6,700.00	1.36	180.00	6,684.69	-200.16	-40.88	200.16	10.00	10.00	0.00	
6,800.00	11.36	180.00	6,783.94	-211.23	-40.88	211.23	10.00	10.00	0.00	
6,900.00	21.36	180.00	6,879.77	-239.37	-40.88	239.37	10.00	10.00	0.00	
7,000.00	31.36	180.00	6,969.26	-283.71	-40.88	283.71	10.00	10.00	0.00	
7,100.00	41.36	180.00	7,049.68	-342.93	-40.88	342.93	10.00	10.00	0.00	
7,119.37	43.30	180.00	7,064.00	-355.97	-40.88	355.97	10.00	10.00	0.00	
Sharon Springs										
7,174.13	48.78	180.00	7,102.00	-395.37	-40.88	395.37	10.00	10.00	0.00	
Niobrara A										
7,200.00	51.36	180.00	7,118.61	-415.21	-40.88	415.21	10.00	10.00	0.00	
7,300.00	61.36	180.00	7,173.93	-498.36	-40.88	498.36	10.00	10.00	0.00	
7,400.00	71.36	180.00	7,213.97	-589.85	-40.88	589.85	10.00	10.00	0.00	
7,403.24	71.69	180.00	7,215.00	-592.93	-40.88	592.93	10.00	10.00	0.00	
Niobrara B										
7,500.00	81.36	180.00	7,237.52	-686.91	-40.88	686.91	10.00	10.00	0.00	
7,581.56	89.52	180.00	7,244.00	-768.14	-40.88	768.14	10.00	10.00	0.00	
Start 9524.08 hold at 7581.56 MD - 7"(592 FNL 515 FEL)										
7,600.00	89.52	180.00	7,244.15	-786.58	-40.88	786.58	0.00	0.00	0.00	
7,700.00	89.52	180.00	7,244.99	-886.58	-40.88	886.58	0.00	0.00	0.00	
7,800.00	89.52	180.00	7,245.83	-986.58	-40.88	986.58	0.00	0.00	0.00	
7,900.00	89.52	180.00	7,246.67	-1,086.57	-40.88	1,086.57	0.00	0.00	0.00	

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well SCOTT FARM 16N-19HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4944 & KB17 @ 4944.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4944 & KB17 @ 4944.00ft (ASSUMED)
Site:	SCOTT FARM PAD 16C-19HZ	North Reference:	True
Well:	SCOTT FARM 16N-19HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned 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)	
8,000.00	89.52	180.00	7,247.51	-1,186.57	-40.88	1,186.57	0.00	0.00	0.00	
8,100.00	89.52	180.00	7,248.35	-1,286.57	-40.88	1,286.57	0.00	0.00	0.00	
8,200.00	89.52	180.00	7,249.19	-1,386.56	-40.88	1,386.56	0.00	0.00	0.00	
8,300.00	89.52	180.00	7,250.03	-1,486.56	-40.88	1,486.56	0.00	0.00	0.00	
8,400.00	89.52	180.00	7,250.87	-1,586.56	-40.88	1,586.56	0.00	0.00	0.00	
8,500.00	89.52	180.00	7,251.71	-1,686.55	-40.88	1,686.55	0.00	0.00	0.00	
8,600.00	89.52	180.00	7,252.55	-1,786.55	-40.88	1,786.55	0.00	0.00	0.00	
8,700.00	89.52	180.00	7,253.39	-1,886.55	-40.88	1,886.55	0.00	0.00	0.00	
8,800.00	89.52	180.00	7,254.23	-1,986.54	-40.88	1,986.54	0.00	0.00	0.00	
8,900.00	89.52	180.00	7,255.07	-2,086.54	-40.88	2,086.54	0.00	0.00	0.00	
9,000.00	89.52	180.00	7,255.91	-2,186.53	-40.88	2,186.53	0.00	0.00	0.00	
9,100.00	89.52	180.00	7,256.75	-2,286.53	-40.88	2,286.53	0.00	0.00	0.00	
9,200.00	89.52	180.00	7,257.59	-2,386.53	-40.88	2,386.53	0.00	0.00	0.00	
9,300.00	89.52	180.00	7,258.43	-2,486.52	-40.88	2,486.52	0.00	0.00	0.00	
9,400.00	89.52	180.00	7,259.27	-2,586.52	-40.88	2,586.52	0.00	0.00	0.00	
9,500.00	89.52	180.00	7,260.11	-2,686.52	-40.88	2,686.52	0.00	0.00	0.00	
9,600.00	89.52	180.00	7,260.95	-2,786.51	-40.88	2,786.51	0.00	0.00	0.00	
9,700.00	89.52	180.00	7,261.79	-2,886.51	-40.88	2,886.51	0.00	0.00	0.00	
9,800.00	89.52	180.00	7,262.63	-2,986.51	-40.88	2,986.51	0.00	0.00	0.00	
9,900.00	89.52	180.00	7,263.47	-3,086.50	-40.88	3,086.50	0.00	0.00	0.00	
10,000.00	89.52	180.00	7,264.31	-3,186.50	-40.88	3,186.50	0.00	0.00	0.00	
10,100.00	89.52	180.00	7,265.15	-3,286.50	-40.88	3,286.50	0.00	0.00	0.00	
10,200.00	89.52	180.00	7,265.99	-3,386.49	-40.88	3,386.49	0.00	0.00	0.00	
10,300.00	89.52	180.00	7,266.83	-3,486.49	-40.88	3,486.49	0.00	0.00	0.00	
10,400.00	89.52	180.00	7,267.67	-3,586.49	-40.88	3,586.49	0.00	0.00	0.00	
10,500.00	89.52	180.00	7,268.51	-3,686.48	-40.88	3,686.48	0.00	0.00	0.00	
10,600.00	89.52	180.00	7,269.35	-3,786.48	-40.88	3,786.48	0.00	0.00	0.00	
10,700.00	89.52	180.00	7,270.19	-3,886.47	-40.88	3,886.47	0.00	0.00	0.00	
10,800.00	89.52	180.00	7,271.03	-3,986.47	-40.88	3,986.47	0.00	0.00	0.00	
10,900.00	89.52	180.00	7,271.87	-4,086.47	-40.88	4,086.47	0.00	0.00	0.00	
11,000.00	89.52	180.00	7,272.71	-4,186.46	-40.88	4,186.46	0.00	0.00	0.00	
11,100.00	89.52	180.00	7,273.55	-4,286.46	-40.88	4,286.46	0.00	0.00	0.00	
11,200.00	89.52	180.00	7,274.39	-4,386.46	-40.88	4,386.46	0.00	0.00	0.00	
11,300.00	89.52	180.00	7,275.23	-4,486.45	-40.88	4,486.45	0.00	0.00	0.00	
11,400.00	89.52	180.00	7,276.07	-4,586.45	-40.88	4,586.45	0.00	0.00	0.00	
11,500.00	89.52	180.00	7,276.91	-4,686.45	-40.88	4,686.45	0.00	0.00	0.00	
11,600.00	89.52	180.00	7,277.75	-4,786.44	-40.88	4,786.44	0.00	0.00	0.00	
11,700.00	89.52	180.00	7,278.59	-4,886.44	-40.88	4,886.44	0.00	0.00	0.00	
11,800.00	89.52	180.00	7,279.43	-4,986.44	-40.88	4,986.44	0.00	0.00	0.00	
11,900.00	89.52	180.00	7,280.27	-5,086.43	-40.88	5,086.43	0.00	0.00	0.00	
12,000.00	89.52	180.00	7,281.11	-5,186.43	-40.88	5,186.43	0.00	0.00	0.00	
12,100.00	89.52	180.00	7,281.95	-5,286.43	-40.88	5,286.43	0.00	0.00	0.00	
12,200.00	89.52	180.00	7,282.79	-5,386.42	-40.88	5,386.42	0.00	0.00	0.00	
12,300.00	89.52	180.00	7,283.63	-5,486.42	-40.88	5,486.42	0.00	0.00	0.00	
12,400.00	89.52	180.00	7,284.47	-5,586.41	-40.88	5,586.41	0.00	0.00	0.00	
12,500.00	89.52	180.00	7,285.31	-5,686.41	-40.88	5,686.41	0.00	0.00	0.00	
12,600.00	89.52	180.00	7,286.15	-5,786.41	-40.88	5,786.41	0.00	0.00	0.00	
12,700.00	89.52	180.00	7,286.99	-5,886.40	-40.88	5,886.40	0.00	0.00	0.00	
12,800.00	89.52	180.00	7,287.83	-5,986.40	-40.88	5,986.40	0.00	0.00	0.00	
12,900.00	89.52	180.00	7,288.67	-6,086.40	-40.88	6,086.40	0.00	0.00	0.00	
13,000.00	89.52	180.00	7,289.51	-6,186.39	-40.88	6,186.39	0.00	0.00	0.00	
13,100.00	89.52	180.00	7,290.35	-6,286.39	-40.88	6,286.39	0.00	0.00	0.00	
13,200.00	89.52	180.00	7,291.19	-6,386.39	-40.88	6,386.39	0.00	0.00	0.00	
13,300.00	89.52	180.00	7,292.03	-6,486.38	-40.88	6,486.38	0.00	0.00	0.00	

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well SCOTT FARM 16N-19HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4944 & KB17 @ 4944.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4944 & KB17 @ 4944.00ft (ASSUMED)
Site:	SCOTT FARM PAD 16C-19HZ	North Reference:	True
Well:	SCOTT FARM 16N-19HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Planned 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)	
13,400.00	89.52	180.00	7,292.87	-6,586.38	-40.88	6,586.38	0.00	0.00	0.00	
13,415.17	89.52	180.00	7,293.00	-6,601.55	-40.88	6,601.55	0.00	0.00	0.00	
Niobrara C										
13,500.00	89.52	180.00	7,293.71	-6,686.38	-40.88	6,686.38	0.00	0.00	0.00	
13,600.00	89.52	180.00	7,294.55	-6,786.37	-40.88	6,786.37	0.00	0.00	0.00	
13,700.00	89.52	180.00	7,295.39	-6,886.37	-40.88	6,886.37	0.00	0.00	0.00	
13,800.00	89.52	180.00	7,296.23	-6,986.37	-40.88	6,986.37	0.00	0.00	0.00	
13,900.00	89.52	180.00	7,297.07	-7,086.36	-40.88	7,086.36	0.00	0.00	0.00	
14,000.00	89.52	180.00	7,297.91	-7,186.36	-40.88	7,186.36	0.00	0.00	0.00	
14,100.00	89.52	180.00	7,298.75	-7,286.35	-40.88	7,286.35	0.00	0.00	0.00	
14,200.00	89.52	180.00	7,299.59	-7,386.35	-40.88	7,386.35	0.00	0.00	0.00	
14,300.00	89.52	180.00	7,300.43	-7,486.35	-40.88	7,486.35	0.00	0.00	0.00	
14,400.00	89.52	180.00	7,301.27	-7,586.34	-40.88	7,586.34	0.00	0.00	0.00	
14,500.00	89.52	180.00	7,302.11	-7,686.34	-40.88	7,686.34	0.00	0.00	0.00	
14,600.00	89.52	180.00	7,302.95	-7,786.34	-40.88	7,786.34	0.00	0.00	0.00	
14,700.00	89.52	180.00	7,303.79	-7,886.33	-40.88	7,886.33	0.00	0.00	0.00	
14,800.00	89.52	180.00	7,304.63	-7,986.33	-40.88	7,986.33	0.00	0.00	0.00	
14,900.00	89.52	180.00	7,305.47	-8,086.33	-40.88	8,086.33	0.00	0.00	0.00	
15,000.00	89.52	180.00	7,306.31	-8,186.32	-40.88	8,186.32	0.00	0.00	0.00	
15,100.00	89.52	180.00	7,307.15	-8,286.32	-40.88	8,286.32	0.00	0.00	0.00	
15,200.00	89.52	180.00	7,307.99	-8,386.32	-40.88	8,386.32	0.00	0.00	0.00	
15,300.00	89.52	180.00	7,308.83	-8,486.31	-40.88	8,486.31	0.00	0.00	0.00	
15,400.00	89.52	180.00	7,309.67	-8,586.31	-40.88	8,586.31	0.00	0.00	0.00	
15,500.00	89.52	180.00	7,310.51	-8,686.31	-40.88	8,686.31	0.00	0.00	0.00	
15,600.00	89.52	180.00	7,311.35	-8,786.30	-40.88	8,786.30	0.00	0.00	0.00	
15,700.00	89.52	180.00	7,312.19	-8,886.30	-40.88	8,886.30	0.00	0.00	0.00	
15,800.00	89.52	180.00	7,313.03	-8,986.29	-40.88	8,986.29	0.00	0.00	0.00	
15,900.00	89.52	180.00	7,313.87	-9,086.29	-40.88	9,086.29	0.00	0.00	0.00	
16,000.00	89.52	180.00	7,314.71	-9,186.29	-40.88	9,186.29	0.00	0.00	0.00	
16,100.00	89.52	180.00	7,315.55	-9,286.28	-40.88	9,286.28	0.00	0.00	0.00	
16,200.00	89.52	180.00	7,316.39	-9,386.28	-40.88	9,386.28	0.00	0.00	0.00	
16,300.00	89.52	180.00	7,317.23	-9,486.28	-40.88	9,486.28	0.00	0.00	0.00	
16,400.00	89.52	180.00	7,318.07	-9,586.27	-40.88	9,586.27	0.00	0.00	0.00	
16,500.00	89.52	180.00	7,318.91	-9,686.27	-40.88	9,686.27	0.00	0.00	0.00	
16,600.00	89.52	180.00	7,319.75	-9,786.27	-40.88	9,786.27	0.00	0.00	0.00	
16,700.00	89.52	180.00	7,320.59	-9,886.26	-40.88	9,886.26	0.00	0.00	0.00	
16,800.00	89.52	180.00	7,321.43	-9,986.26	-40.88	9,986.26	0.00	0.00	0.00	
16,900.00	89.52	180.00	7,322.27	-10,086.26	-40.88	10,086.26	0.00	0.00	0.00	
17,000.00	89.52	180.00	7,323.11	-10,186.25	-40.88	10,186.25	0.00	0.00	0.00	
17,100.00	89.52	180.00	7,323.95	-10,286.25	-40.88	10,286.25	0.00	0.00	0.00	
17,105.64	89.52	180.00	7,324.00	-10,291.89	-40.88	10,291.89	0.00	0.00	0.00	
SCOTT FARM 16N-19HZ(460 FSL 510 FEL)										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
SCOTT FARM 16N-19H	0.00	0.00	7,324.00	-10,291.89	-40.88	1,254,775.33	3,192,572.42	40.0306960	-104.8123020	
- plan hits target center										
- Point										

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well SCOTT FARM 16N-19HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4944 & KB17 @ 4944.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4944 & KB17 @ 4944.00ft (ASSUMED)
Site:	SCOTT FARM PAD 16C-19HZ	North Reference:	True
Well:	SCOTT FARM 16N-19HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
944.00	944.00	9 5/8"	9.625	12.250	
7,581.56	7,244.00	7"(592 FNL 515 FEL)	7.000	7.500	
17,105.64	7,324.00	4 1/2"	4.500	6.125	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
894.00	894.00	Fox Hills Base			
4,152.31	4,137.00	Parkman			
4,547.31	4,532.00	Sussex			
7,119.37	7,064.00	Sharon Springs			
7,174.13	7,102.00	Niobrara A			
7,403.24	7,215.00	Niobrara B			
13,415.17	7,293.00	Niobrara C			

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,144.00	1,144.00	0.00	0.00	Start Build 2.00
1,643.99	1,641.46	-42.64	-8.72	Start 674.33 hold at 1643.99 MD
2,318.32	2,305.54	-157.36	-32.17	Start Drop -2.00
2,818.31	2,803.00	-200.00	-40.88	Start 3868.06 hold at 2818.31 MD
6,686.37	6,671.06	-200.00	-40.88	Start DLS 10.00 TFO 180.00
7,581.56	7,244.00	-768.14	-40.88	Start 9524.08 hold at 7581.56 MD
17,105.64	7,324.00	-10,291.89	-40.88	TD at 17105.64