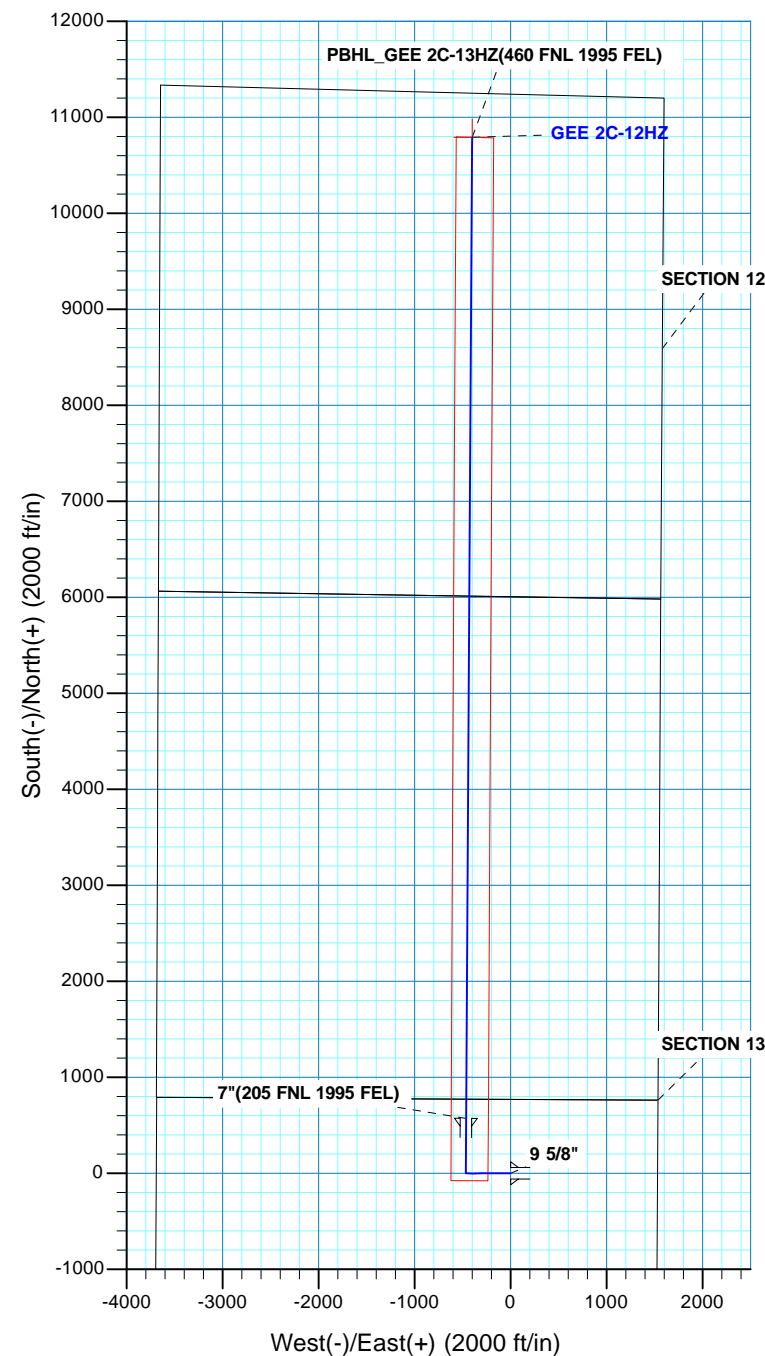
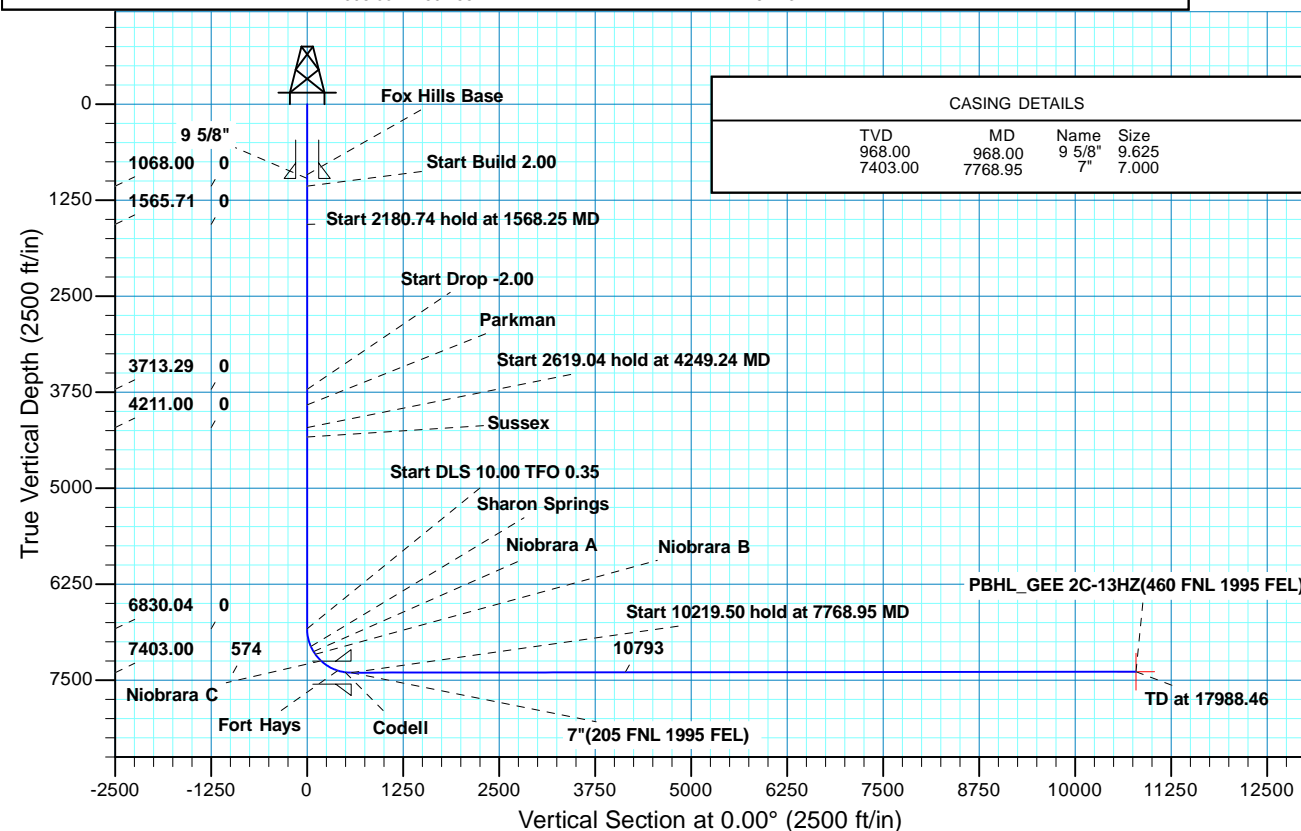




Project: COLORADO NORTHERN ZONE - 83
Site: GEE 17-24HZ PAD
Well: GEE 2C-12HZ
Wellbore: OH
Design: PLAN #1 PRELIMINARY



WELL DETAILS: GEE 2C-12HZ																	
GL 4859 & KB 17 @ 4876.00ft (ASSUMED)																	
+N/-S 0.00		+E/-W 0.00		Northing 1290390.62		Easting 3185834.15		Latitude 40.1286040		Longitude -104.8354110							
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	0.00								
1068.00	0.00	0.00	1068.00	0.00	0.00	0.00	0.00	0.00	0.00								
1568.25	10.00	270.00	1565.71	0.00	-43.57	2.00	270.00	0.00	0.00								
3748.99	10.00	270.00	3713.29	0.00	-422.43	0.00	0.00	0.00	0.00								
4249.24	0.00	0.00	4211.00	0.00	-466.00	2.00	180.00	0.00	0.00								
6868.28	0.00	0.00	6830.04	0.00	-466.00	0.00	0.00	0.00	0.00								
7768.95	90.07	0.35	7403.00	573.62	-462.48	10.00	0.35	573.62	0.00								
17988.46	90.07	0.35	7391.00	10792.92	-399.69	0.00	0.00	10792.92	PBHL_GEE 2C-13HZ(460 FNL 1995 FEL)								
DESIGN TARGET DETAILS																	
Name		TVD		+N/-S		+E/-W		Northing		Easting		Latitude		Longitude		Shape	
PBHL		7391.00		10792.92		-399.69		1301180.22		3185353.58		40.1582320		-104.8368410		Point	
- plan hits target center																	
FORMATION TOP DETAILS																	
				TVDPATH		MDPATH		Formation		DipDirInc							
				918.00		918.00		Fox Hills Base		0.00							
				3917.00		3954.72		Parkman		5.89							
				4334.00		4372.24		Sussex		0.00							
				7061.00		7106.00		Sharon Springs		23.77							
				7129.00		7182.80		Niobrara A		31.45							
				7163.00		7223.58		Niobrara B		35.53							
				7248.00		7336.71		Niobrara C		46.84							
				7376.00		7591.69		Fort Hays		72.34							
				7398.00		7692.55		Codell		82.43							





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

GEE 17-24HZ PAD

GEE 2C-12HZ

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

26 June, 2014

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GEE 2C-12HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4859 & KB 17 @ 4876.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4859 & KB 17 @ 4876.00ft (ASSUMED)
Site:	GEE 17-24HZ PAD	North Reference:	True
Well:	GEE 2C-12HZ	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	GEE 17-24HZ PAD, SECTION 24 T2N R67W			
Site Position:		Northing:	1,290,419.46 usft	Latitude: 40.1286830
From:	Lat/Long	Easting:	3,185,841.48 usft	Longitude: -104.8353840
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: 0.43 °

Well	GEE 2C-12HZ, 771 FNL 1533 FWL			
Well Position	+N/-S	-28.79 ft	Northing:	1,290,390.62 usft
	+E/-W	-7.55 ft	Easting:	3,185,834.15 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level: 4,859.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	06/11/14	8.52	66.70	52,580

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	0.00

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	
1,068.00	0.00	0.00	1,068.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,568.25	10.00	270.00	1,565.71	0.00	-43.57	2.00	2.00	0.00	270.00	
3,748.99	10.00	270.00	3,713.29	0.00	-422.43	0.00	0.00	0.00	0.00	
4,249.24	0.00	0.00	4,211.00	0.00	-466.00	2.00	-2.00	0.00	180.00	
6,868.28	0.00	0.00	6,830.04	0.00	-466.00	0.00	0.00	0.00	0.00	
7,768.95	90.07	0.35	7,403.00	573.62	-462.48	10.00	10.00	0.04	0.35	
17,988.46	90.07	0.35	7,391.00	10,792.92	-399.69	0.00	0.00	0.00	0.00	PBHL_GEE 2C-13HZ

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GEE 2C-12HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4859 & KB 17 @ 4876.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4859 & KB 17 @ 4876.00ft (ASSUMED)
Site:	GEE 17-24HZ PAD	North Reference:	True
Well:	GEE 2C-12HZ	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
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
918.00	0.00	0.00	918.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Base									
968.00	0.00	0.00	968.00	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
1,068.00	0.00	0.00	1,068.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,100.00	0.64	270.00	1,100.00	0.00	-0.18	0.00	2.00	2.00	0.00
1,200.00	2.64	270.00	1,199.95	0.00	-3.04	0.00	2.00	2.00	0.00
1,300.00	4.64	270.00	1,299.75	0.00	-9.39	0.00	2.00	2.00	0.00
1,400.00	6.64	270.00	1,399.26	0.00	-19.22	0.00	2.00	2.00	0.00
1,500.00	8.64	270.00	1,498.36	0.00	-32.51	0.00	2.00	2.00	0.00
1,568.25	10.00	270.00	1,565.71	0.00	-43.57	0.00	2.00	2.00	0.00
Start 2180.74 hold at 1568.25 MD									
1,600.00	10.00	270.00	1,596.98	0.00	-49.08	0.00	0.00	0.00	0.00
1,700.00	10.00	270.00	1,695.46	0.00	-66.46	0.00	0.00	0.00	0.00
1,800.00	10.00	270.00	1,793.94	0.00	-83.83	0.00	0.00	0.00	0.00
1,900.00	10.00	270.00	1,892.42	0.00	-101.20	0.00	0.00	0.00	0.00
2,000.00	10.00	270.00	1,990.90	0.00	-118.58	0.00	0.00	0.00	0.00
2,100.00	10.00	270.00	2,089.38	0.00	-135.95	0.00	0.00	0.00	0.00
2,200.00	10.00	270.00	2,187.85	0.00	-153.32	0.00	0.00	0.00	0.00
2,300.00	10.00	270.00	2,286.33	0.00	-170.70	0.00	0.00	0.00	0.00
2,400.00	10.00	270.00	2,384.81	0.00	-188.07	0.00	0.00	0.00	0.00
2,500.00	10.00	270.00	2,483.29	0.00	-205.44	0.00	0.00	0.00	0.00
2,600.00	10.00	270.00	2,581.77	0.00	-222.82	0.00	0.00	0.00	0.00
2,700.00	10.00	270.00	2,680.25	0.00	-240.19	0.00	0.00	0.00	0.00
2,800.00	10.00	270.00	2,778.73	0.00	-257.56	0.00	0.00	0.00	0.00
2,900.00	10.00	270.00	2,877.21	0.00	-274.94	0.00	0.00	0.00	0.00
3,000.00	10.00	270.00	2,975.69	0.00	-292.31	0.00	0.00	0.00	0.00
3,100.00	10.00	270.00	3,074.17	0.00	-309.68	0.00	0.00	0.00	0.00
3,200.00	10.00	270.00	3,172.65	0.00	-327.06	0.00	0.00	0.00	0.00
3,300.00	10.00	270.00	3,271.13	0.00	-344.43	0.00	0.00	0.00	0.00
3,400.00	10.00	270.00	3,369.61	0.00	-361.80	0.00	0.00	0.00	0.00
3,500.00	10.00	270.00	3,468.08	0.00	-379.18	0.00	0.00	0.00	0.00
3,600.00	10.00	270.00	3,566.56	0.00	-396.55	0.00	0.00	0.00	0.00
3,700.00	10.00	270.00	3,665.04	0.00	-413.92	0.00	0.00	0.00	0.00
3,748.99	10.00	270.00	3,713.29	0.00	-422.43	0.00	0.00	0.00	0.00
Start Drop -2.00									
3,800.00	8.98	270.00	3,763.60	0.00	-430.85	0.00	2.00	-2.00	0.00
3,900.00	6.98	270.00	3,862.62	0.00	-444.74	0.00	2.00	-2.00	0.00
3,954.72	5.89	270.00	3,917.00	0.00	-450.87	0.00	2.00	-2.00	0.00
Parkman									
4,000.00	4.98	270.00	3,962.07	0.00	-455.16	0.00	2.00	-2.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GEE 2C-12HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4859 & KB 17 @ 4876.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4859 & KB 17 @ 4876.00ft (ASSUMED)
Site:	GEE 17-24HZ PAD	North Reference:	True
Well:	GEE 2C-12HZ	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	2.98	270.00	4,061.83	0.00	-462.11	0.00	2.00	-2.00	0.00
4,200.00	0.98	270.00	4,161.76	0.00	-465.58	0.00	2.00	-2.00	0.00
4,249.24	0.00	0.00	4,211.00	0.00	-466.00	0.00	2.00	-2.00	0.00
Start 2619.04 hold at 4249.24 MD									
4,300.00	0.00	0.00	4,261.76	0.00	-466.00	0.00	0.00	0.00	0.00
4,372.24	0.00	0.00	4,334.00	0.00	-466.00	0.00	0.00	0.00	0.00
Sussex									
4,400.00	0.00	0.00	4,361.76	0.00	-466.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,461.76	0.00	-466.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,561.76	0.00	-466.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,661.76	0.00	-466.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,761.76	0.00	-466.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,861.76	0.00	-466.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	4,961.76	0.00	-466.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,061.76	0.00	-466.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,161.76	0.00	-466.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,261.76	0.00	-466.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,361.76	0.00	-466.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,461.76	0.00	-466.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,561.76	0.00	-466.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,661.76	0.00	-466.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,761.76	0.00	-466.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,861.76	0.00	-466.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,961.76	0.00	-466.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,061.76	0.00	-466.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,161.76	0.00	-466.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,261.76	0.00	-466.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,361.76	0.00	-466.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,461.76	0.00	-466.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,561.76	0.00	-466.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,661.76	0.00	-466.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,761.76	0.00	-466.00	0.00	0.00	0.00	0.00
6,868.28	0.00	0.00	6,830.04	0.00	-466.00	0.00	0.00	0.00	0.00
Start DLS 10.00 TFO 0.35									
6,900.00	3.17	0.35	6,861.74	0.88	-465.99	0.88	10.00	10.00	0.00
7,000.00	13.17	0.35	6,960.60	15.07	-465.91	15.07	10.00	10.00	0.00
7,100.00	23.17	0.35	7,055.49	46.22	-465.72	46.22	10.00	10.00	0.00
7,106.00	23.77	0.35	7,061.00	48.61	-465.70	48.61	10.00	10.00	0.00
Sharon Springs									
7,182.80	31.45	0.35	7,129.00	84.18	-465.48	84.18	10.00	10.00	0.00
Niobrara A									
7,200.00	33.17	0.35	7,143.54	93.37	-465.43	93.37	10.00	10.00	0.00
7,223.58	35.53	0.35	7,163.00	106.67	-465.34	106.67	10.00	10.00	0.00
Niobrara B									
7,300.00	43.17	0.35	7,222.05	155.09	-465.05	155.09	10.00	10.00	0.00
7,336.71	46.84	0.35	7,248.00	181.05	-464.89	181.05	10.00	10.00	0.00
Niobrara C									
7,400.00	53.17	0.35	7,288.66	229.51	-464.59	229.51	10.00	10.00	0.00
7,500.00	63.17	0.35	7,341.33	314.37	-464.07	314.37	10.00	10.00	0.00
7,591.69	72.34	0.35	7,376.00	399.14	-463.55	399.14	10.00	10.00	0.00
Fort Hays									
7,600.00	73.17	0.35	7,378.46	407.08	-463.50	407.08	10.00	10.00	0.00
7,692.55	82.43	0.35	7,398.00	497.44	-462.94	497.44	10.00	10.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GEE 2C-12HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4859 & KB 17 @ 4876.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4859 & KB 17 @ 4876.00ft (ASSUMED)
Site:	GEE 17-24HZ PAD	North Reference:	True
Well:	GEE 2C-12HZ	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)
Codell									
7,700.00	83.17	0.35	7,398.93	504.83	-462.90	504.83	10.00	10.00	0.00
7,768.95	90.07	0.35	7,403.00	573.62	-462.48	573.62	10.00	10.00	0.00
Start 10219.50 hold at 7768.95 MD - 7"(205 FNL 1995 FEL)									
7,800.00	90.07	0.35	7,402.96	604.67	-462.29	604.67	0.00	0.00	0.00
7,900.00	90.07	0.35	7,402.84	704.66	-461.67	704.66	0.00	0.00	0.00
8,000.00	90.07	0.35	7,402.73	804.66	-461.06	804.66	0.00	0.00	0.00
8,100.00	90.07	0.35	7,402.61	904.66	-460.44	904.66	0.00	0.00	0.00
8,200.00	90.07	0.35	7,402.49	1,004.66	-459.83	1,004.66	0.00	0.00	0.00
8,300.00	90.07	0.35	7,402.37	1,104.66	-459.21	1,104.66	0.00	0.00	0.00
8,400.00	90.07	0.35	7,402.26	1,204.65	-458.60	1,204.65	0.00	0.00	0.00
8,500.00	90.07	0.35	7,402.14	1,304.65	-457.98	1,304.65	0.00	0.00	0.00
8,600.00	90.07	0.35	7,402.02	1,404.65	-457.37	1,404.65	0.00	0.00	0.00
8,700.00	90.07	0.35	7,401.90	1,504.65	-456.76	1,504.65	0.00	0.00	0.00
8,800.00	90.07	0.35	7,401.79	1,604.65	-456.14	1,604.65	0.00	0.00	0.00
8,900.00	90.07	0.35	7,401.67	1,704.64	-455.53	1,704.64	0.00	0.00	0.00
9,000.00	90.07	0.35	7,401.55	1,804.64	-454.91	1,804.64	0.00	0.00	0.00
9,100.00	90.07	0.35	7,401.43	1,904.64	-454.30	1,904.64	0.00	0.00	0.00
9,200.00	90.07	0.35	7,401.32	2,004.64	-453.68	2,004.64	0.00	0.00	0.00
9,300.00	90.07	0.35	7,401.20	2,104.64	-453.07	2,104.64	0.00	0.00	0.00
9,400.00	90.07	0.35	7,401.08	2,204.63	-452.46	2,204.63	0.00	0.00	0.00
9,500.00	90.07	0.35	7,400.97	2,304.63	-451.84	2,304.63	0.00	0.00	0.00
9,600.00	90.07	0.35	7,400.85	2,404.63	-451.23	2,404.63	0.00	0.00	0.00
9,700.00	90.07	0.35	7,400.73	2,504.63	-450.61	2,504.63	0.00	0.00	0.00
9,800.00	90.07	0.35	7,400.61	2,604.63	-450.00	2,604.63	0.00	0.00	0.00
9,900.00	90.07	0.35	7,400.50	2,704.63	-449.38	2,704.63	0.00	0.00	0.00
10,000.00	90.07	0.35	7,400.38	2,804.62	-448.77	2,804.62	0.00	0.00	0.00
10,100.00	90.07	0.35	7,400.26	2,904.62	-448.15	2,904.62	0.00	0.00	0.00
10,200.00	90.07	0.35	7,400.14	3,004.62	-447.54	3,004.62	0.00	0.00	0.00
10,300.00	90.07	0.35	7,400.03	3,104.62	-446.93	3,104.62	0.00	0.00	0.00
10,400.00	90.07	0.35	7,399.91	3,204.62	-446.31	3,204.62	0.00	0.00	0.00
10,500.00	90.07	0.35	7,399.79	3,304.61	-445.70	3,304.61	0.00	0.00	0.00
10,600.00	90.07	0.35	7,399.67	3,404.61	-445.08	3,404.61	0.00	0.00	0.00
10,700.00	90.07	0.35	7,399.56	3,504.61	-444.47	3,504.61	0.00	0.00	0.00
10,800.00	90.07	0.35	7,399.44	3,604.61	-443.85	3,604.61	0.00	0.00	0.00
10,900.00	90.07	0.35	7,399.32	3,704.61	-443.24	3,704.61	0.00	0.00	0.00
11,000.00	90.07	0.35	7,399.20	3,804.60	-442.63	3,804.60	0.00	0.00	0.00
11,100.00	90.07	0.35	7,399.09	3,904.60	-442.01	3,904.60	0.00	0.00	0.00
11,200.00	90.07	0.35	7,398.97	4,004.60	-441.40	4,004.60	0.00	0.00	0.00
11,300.00	90.07	0.35	7,398.85	4,104.60	-440.78	4,104.60	0.00	0.00	0.00
11,400.00	90.07	0.35	7,398.73	4,204.60	-440.17	4,204.60	0.00	0.00	0.00
11,500.00	90.07	0.35	7,398.62	4,304.59	-439.55	4,304.59	0.00	0.00	0.00
11,600.00	90.07	0.35	7,398.50	4,404.59	-438.94	4,404.59	0.00	0.00	0.00
11,700.00	90.07	0.35	7,398.38	4,504.59	-438.32	4,504.59	0.00	0.00	0.00
11,800.00	90.07	0.35	7,398.27	4,604.59	-437.71	4,604.59	0.00	0.00	0.00
11,900.00	90.07	0.35	7,398.15	4,704.59	-437.10	4,704.59	0.00	0.00	0.00
12,000.00	90.07	0.35	7,398.03	4,804.58	-436.48	4,804.58	0.00	0.00	0.00
12,100.00	90.07	0.35	7,397.91	4,904.58	-435.87	4,904.58	0.00	0.00	0.00
12,200.00	90.07	0.35	7,397.80	5,004.58	-435.25	5,004.58	0.00	0.00	0.00
12,300.00	90.07	0.35	7,397.68	5,104.58	-434.64	5,104.58	0.00	0.00	0.00
12,400.00	90.07	0.35	7,397.56	5,204.58	-434.02	5,204.58	0.00	0.00	0.00
12,500.00	90.07	0.35	7,397.44	5,304.57	-433.41	5,304.57	0.00	0.00	0.00
12,600.00	90.07	0.35	7,397.33	5,404.57	-432.80	5,404.57	0.00	0.00	0.00
12,700.00	90.07	0.35	7,397.21	5,504.57	-432.18	5,504.57	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GEE 2C-12HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4859 & KB 17 @ 4876.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4859 & KB 17 @ 4876.00ft (ASSUMED)
Site:	GEE 17-24HZ PAD	North Reference:	True
Well:	GEE 2C-12HZ	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)
12,800.00	90.07	0.35	7,397.09	5,604.57	-431.57	5,604.57	0.00	0.00	0.00
12,900.00	90.07	0.35	7,396.97	5,704.57	-430.95	5,704.57	0.00	0.00	0.00
13,000.00	90.07	0.35	7,396.86	5,804.56	-430.34	5,804.56	0.00	0.00	0.00
13,100.00	90.07	0.35	7,396.74	5,904.56	-429.72	5,904.56	0.00	0.00	0.00
13,200.00	90.07	0.35	7,396.62	6,004.56	-429.11	6,004.56	0.00	0.00	0.00
13,300.00	90.07	0.35	7,396.50	6,104.56	-428.50	6,104.56	0.00	0.00	0.00
13,400.00	90.07	0.35	7,396.39	6,204.56	-427.88	6,204.56	0.00	0.00	0.00
13,500.00	90.07	0.35	7,396.27	6,304.55	-427.27	6,304.55	0.00	0.00	0.00
13,600.00	90.07	0.35	7,396.15	6,404.55	-426.65	6,404.55	0.00	0.00	0.00
13,700.00	90.07	0.35	7,396.03	6,504.55	-426.04	6,504.55	0.00	0.00	0.00
13,800.00	90.07	0.35	7,395.92	6,604.55	-425.42	6,604.55	0.00	0.00	0.00
13,900.00	90.07	0.35	7,395.80	6,704.55	-424.81	6,704.55	0.00	0.00	0.00
14,000.00	90.07	0.35	7,395.68	6,804.55	-424.19	6,804.55	0.00	0.00	0.00
14,100.00	90.07	0.35	7,395.57	6,904.54	-423.58	6,904.54	0.00	0.00	0.00
14,200.00	90.07	0.35	7,395.45	7,004.54	-422.97	7,004.54	0.00	0.00	0.00
14,300.00	90.07	0.35	7,395.33	7,104.54	-422.35	7,104.54	0.00	0.00	0.00
14,400.00	90.07	0.35	7,395.21	7,204.54	-421.74	7,204.54	0.00	0.00	0.00
14,500.00	90.07	0.35	7,395.10	7,304.54	-421.12	7,304.54	0.00	0.00	0.00
14,600.00	90.07	0.35	7,394.98	7,404.53	-420.51	7,404.53	0.00	0.00	0.00
14,700.00	90.07	0.35	7,394.86	7,504.53	-419.89	7,504.53	0.00	0.00	0.00
14,800.00	90.07	0.35	7,394.74	7,604.53	-419.28	7,604.53	0.00	0.00	0.00
14,900.00	90.07	0.35	7,394.63	7,704.53	-418.67	7,704.53	0.00	0.00	0.00
15,000.00	90.07	0.35	7,394.51	7,804.53	-418.05	7,804.53	0.00	0.00	0.00
15,100.00	90.07	0.35	7,394.39	7,904.52	-417.44	7,904.52	0.00	0.00	0.00
15,200.00	90.07	0.35	7,394.27	8,004.52	-416.82	8,004.52	0.00	0.00	0.00
15,300.00	90.07	0.35	7,394.16	8,104.52	-416.21	8,104.52	0.00	0.00	0.00
15,400.00	90.07	0.35	7,394.04	8,204.52	-415.59	8,204.52	0.00	0.00	0.00
15,500.00	90.07	0.35	7,393.92	8,304.52	-414.98	8,304.52	0.00	0.00	0.00
15,600.00	90.07	0.35	7,393.80	8,404.51	-414.36	8,404.51	0.00	0.00	0.00
15,700.00	90.07	0.35	7,393.69	8,504.51	-413.75	8,504.51	0.00	0.00	0.00
15,800.00	90.07	0.35	7,393.57	8,604.51	-413.14	8,604.51	0.00	0.00	0.00
15,900.00	90.07	0.35	7,393.45	8,704.51	-412.52	8,704.51	0.00	0.00	0.00
16,000.00	90.07	0.35	7,393.33	8,804.51	-411.91	8,804.51	0.00	0.00	0.00
16,100.00	90.07	0.35	7,393.22	8,904.50	-411.29	8,904.50	0.00	0.00	0.00
16,200.00	90.07	0.35	7,393.10	9,004.50	-410.68	9,004.50	0.00	0.00	0.00
16,300.00	90.07	0.35	7,392.98	9,104.50	-410.06	9,104.50	0.00	0.00	0.00
16,400.00	90.07	0.35	7,392.86	9,204.50	-409.45	9,204.50	0.00	0.00	0.00
16,500.00	90.07	0.35	7,392.75	9,304.50	-408.84	9,304.50	0.00	0.00	0.00
16,600.00	90.07	0.35	7,392.63	9,404.49	-408.22	9,404.49	0.00	0.00	0.00
16,700.00	90.07	0.35	7,392.51	9,504.49	-407.61	9,504.49	0.00	0.00	0.00
16,800.00	90.07	0.35	7,392.40	9,604.49	-406.99	9,604.49	0.00	0.00	0.00
16,900.00	90.07	0.35	7,392.28	9,704.49	-406.38	9,704.49	0.00	0.00	0.00
17,000.00	90.07	0.35	7,392.16	9,804.49	-405.76	9,804.49	0.00	0.00	0.00
17,100.00	90.07	0.35	7,392.04	9,904.48	-405.15	9,904.48	0.00	0.00	0.00
17,200.00	90.07	0.35	7,391.93	10,004.48	-404.53	10,004.48	0.00	0.00	0.00
17,300.00	90.07	0.35	7,391.81	10,104.48	-403.92	10,104.48	0.00	0.00	0.00
17,400.00	90.07	0.35	7,391.69	10,204.48	-403.31	10,204.48	0.00	0.00	0.00
17,500.00	90.07	0.35	7,391.57	10,304.48	-402.69	10,304.48	0.00	0.00	0.00
17,600.00	90.07	0.35	7,391.46	10,404.47	-402.08	10,404.47	0.00	0.00	0.00
17,700.00	90.07	0.35	7,391.34	10,504.47	-401.46	10,504.47	0.00	0.00	0.00
17,800.00	90.07	0.35	7,391.22	10,604.47	-400.85	10,604.47	0.00	0.00	0.00
17,900.00	90.07	0.35	7,391.10	10,704.47	-400.23	10,704.47	0.00	0.00	0.00
17,988.46	90.07	0.35	7,391.00	10,792.92	-399.69	10,792.92	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GEE 2C-12HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4859 & KB 17 @ 4876.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4859 & KB 17 @ 4876.00ft (ASSUMED)
Site:	GEE 17-24HZ PAD	North Reference:	True
Well:	GEE 2C-12HZ	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)
TD at 17988.46 - PBHL_GEE 2C-13HZ(460 FNL 1995 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									
PBHL_GEE 2C-13HZ(460 FNL 1995 FEL)	0.00	0.00	7,391.00	10,792.92	-399.69	1,301,180.22	3,185,353.58	40.1582320	-104.8368410
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
968.00	968.00	9 5/8"	9.625	13.500	
7,768.95	7,403.00	7"(205 FNL 1995 FEL)	7.000	8.750	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
918.00	918.00	Fox Hills Base				
3,954.72	3,917.00	Parkman				
4,372.24	4,334.00	Sussex				
7,106.00	7,061.00	Sharon Springs				
7,182.80	7,129.00	Niobrara A				
7,223.58	7,163.00	Niobrara B				
7,336.71	7,248.00	Niobrara C				
7,591.69	7,376.00	Fort Hays				
7,692.55	7,398.00	Codell				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,068.00	1,068.00	0.00	0.00	Start Build 2.00	
1,568.25	1,565.71	0.00	-43.57	Start 2180.74 hold at 1568.25 MD	
3,748.99	3,713.29	0.00	-422.43	Start Drop -2.00	
4,249.24	4,211.00	0.00	-466.00	Start 2619.04 hold at 4249.24 MD	
6,868.28	6,830.04	0.00	-466.00	Start DLS 10.00 TFO 0.35	
7,768.95	7,403.00	573.62	-462.48	Start 10219.50 hold at 7768.95 MD	
17,988.46	7,391.00	10,792.92	-399.69	TD at 17988.46	