

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_Checketts 18-15 PAD

Checketts 21-15

Checketts 21-15

Plan: Checketts 21-15 (wp01)

Standard Planning Report

02 August, 2011



Project: COLORADO NORTHERN ZONE - 83
Site: WELD_Checketts 18-15 PAD
Well: Checketts 21-15
Wellbore: Checketts 21-15
Section:
SHL:
Design: Checketts 21-15 (wp01)
Latitude: 40.312861
Longitude: -104.650983
GL: 4727.00
KB: 15' RKB + 4727' GL @ 4742.00ft

TVDPATH	MDPATH	FORMATION
4282.00	4464.27	PK Depth
4292.00	4474.71	SX Depth
6791.00	6987.13	NIO Depth
7088.00	7284.13	CD Depth
7172.00	7368.13	GH Depth
7572.00	7768.13	J Depth



Azimuths to True North
Magnetic North: 8.78°

Magnetic Field
Strength: 53084.9snT
Dip Angle: 66.99°
Date: 8/2/2011
Model: IGRF2010

WELL DETAILS: Checketts 21-15

+N/-S	+E/-W	Northing	Ground Level: Easting	4727.00 Latitude	Longitude	Slot
0.00	0.00	1357949.64	3236760.34	40.312861	-104.650983	

CASING DETAILS

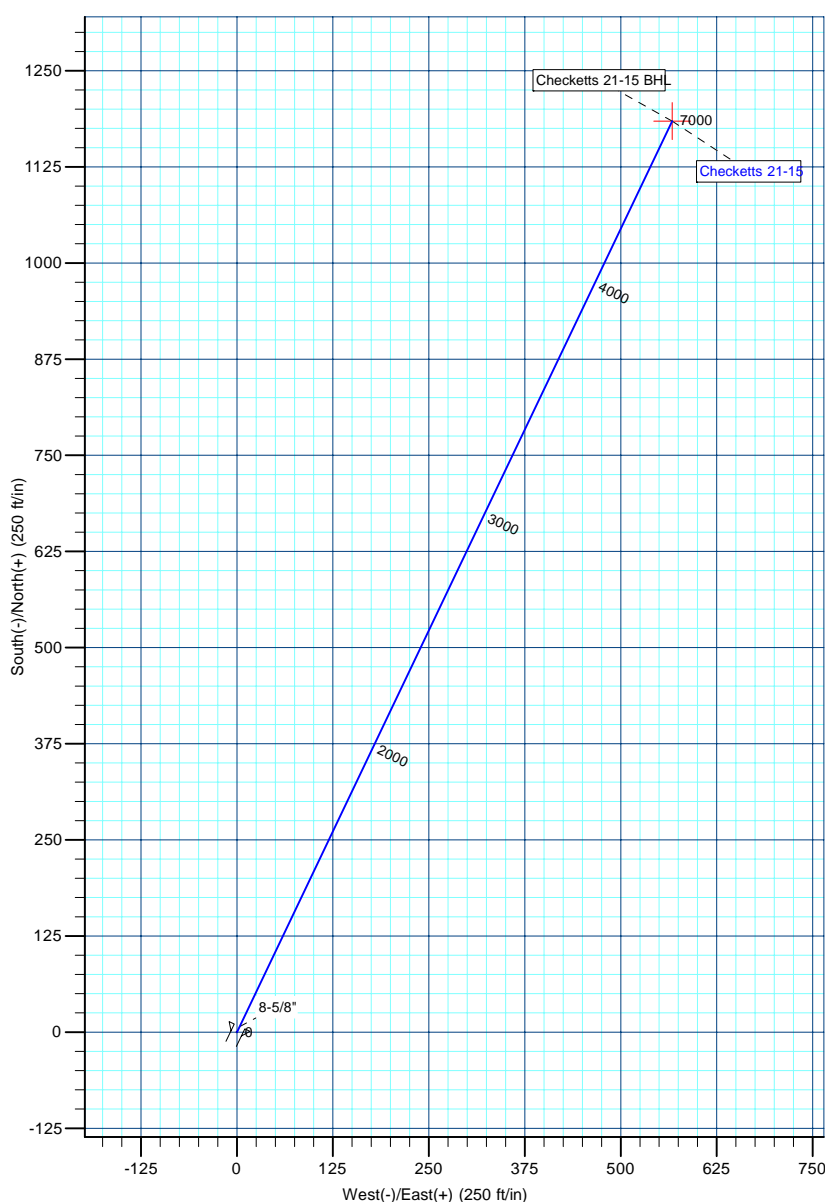
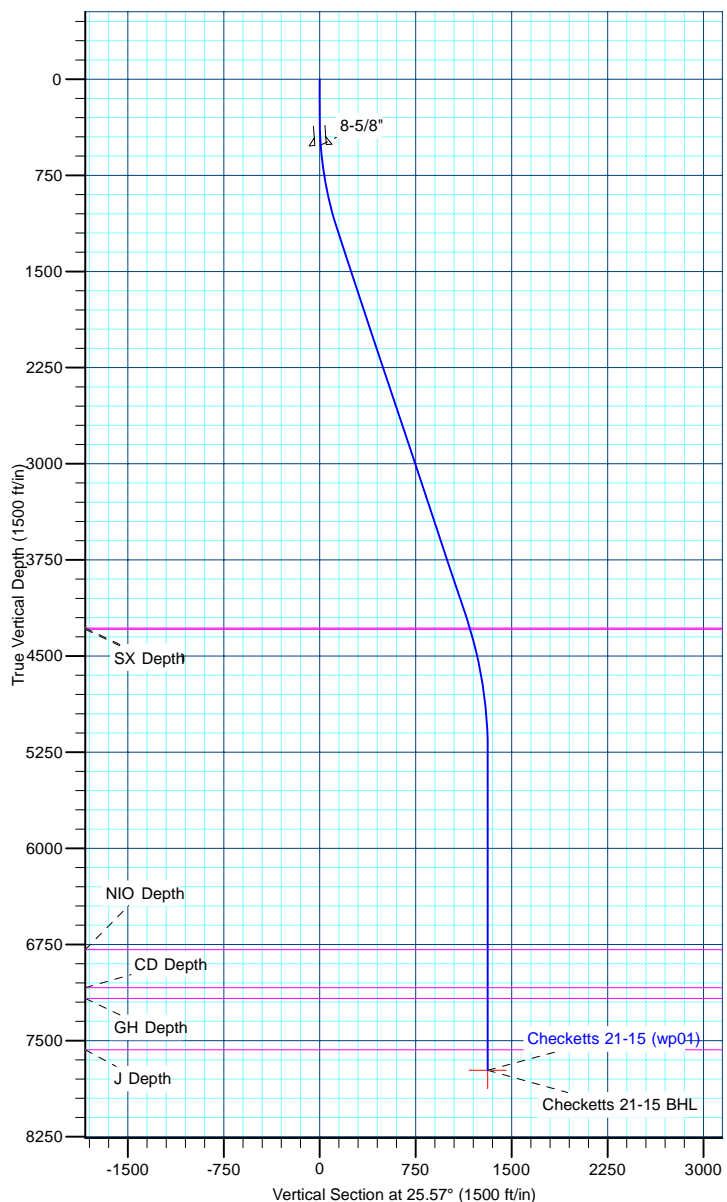
TVD	MD	Name	Size
515.00	515.20	8-5/8"	8-5/8

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape Point
Checketts 21-15 BHL	7732.00	1184.70	566.91	1359139.71	3237315.89	40.316113	-104.648950	

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
0.00	0.00	0.00	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
1222.97	18.46	25.57	1207.08	132.96	63.62	2.00	25.57	147.40
4373.31	18.46	25.57	4195.33	1032.74	494.20	0.00	0.00	1144.90
5428.13	0.00	0.00	5232.00	1184.70	566.91	1.75	180.00	1313.35
7928.13	0.00	0.00	7732.00	1184.70	566.91	0.00	0.00	1313.35



Database:	edm5000p	Local Co-ordinate Reference:	Well Checketts 21-15
Company:	US ROCKIES REGION PLANNING	TVD Reference:	15' RKB + 4727' GL @ 4742.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	15' RKB + 4727' GL @ 4742.00ft
Site:	WELD_Checketts 18-15 PAD	North Reference:	True
Well:	Checketts 21-15	Survey Calculation Method:	Minimum Curvature
Wellbore:	Checketts 21-15		
Design:	Checketts 21-15 (wp01)		

Project	COLORADO NORTHERN ZONE - 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		WELD_Checketts 18-15 PAD			
Site Position:		Northing:	1,357,949.50 ft	Latitude:	40.312861
From:	Lat/Long	Easting:	3,236,744.45 ft	Longitude:	-104.651040
Position Uncertainty:	0.00 ft	Slot Radius:	0 "	Grid Convergence:	0.55 °

Well	Checketts 21-15					
Well Position	+N/-S	-0.02 ft	Northing:	1,357,949.64 ft	Latitude:	40.312861
	+E/-W	15.90 ft	Easting:	3,236,760.35 ft	Longitude:	-104.650983
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,727.00 ft

Wellbore	Checketts 21-15				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/2/2011	8.78	66.99	53,085

Design	Checketts 21-15 (wp01)			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	25.57

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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,222.97	18.46	25.57	1,207.08	132.96	63.62	2.00	2.00	0.00	25.57	
4,373.31	18.46	25.57	4,195.33	1,032.74	494.20	0.00	0.00	0.00	0.00	
5,428.13	0.00	0.00	5,232.00	1,184.70	566.91	1.75	-1.75	0.00	180.00	
7,928.13	0.00	0.00	7,732.00	1,184.70	566.91	0.00	0.00	0.00	0.00	Checketts 21-15 BHL

Database:	edm5000p	Local Co-ordinate Reference:	Well Checketts 21-15
Company:	US ROCKIES REGION PLANNING	TVD Reference:	15' RKB + 4727' GL @ 4742.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	15' RKB + 4727' GL @ 4742.00ft
Site:	WELD_Checketts 18-15 PAD	North Reference:	True
Well:	Checketts 21-15	Survey Calculation Method:	Minimum Curvature
Wellbore:	Checketts 21-15		
Design:	Checketts 21-15 (wp01)		

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	2.00	25.57	399.98	1.57	0.75	1.75	2.00	2.00	0.00
500.00	4.00	25.57	499.84	6.29	3.01	6.98	2.00	2.00	0.00
515.20	4.30	25.57	515.00	7.29	3.49	8.08	2.00	2.00	0.00
8-5/8"									
600.00	6.00	25.57	599.45	14.16	6.77	15.69	2.00	2.00	0.00
700.00	8.00	25.57	698.70	25.15	12.03	27.88	2.00	2.00	0.00
800.00	10.00	25.57	797.47	39.26	18.79	43.52	2.00	2.00	0.00
900.00	12.00	25.57	895.62	56.47	27.02	62.60	2.00	2.00	0.00
1,000.00	14.00	25.57	993.06	76.76	36.73	85.10	2.00	2.00	0.00
1,100.00	16.00	25.57	1,089.64	100.11	47.90	110.98	2.00	2.00	0.00
1,200.00	18.00	25.57	1,185.27	126.48	60.52	140.21	2.00	2.00	0.00
1,222.97	18.46	25.57	1,207.08	132.96	63.62	147.40	2.00	2.00	0.00
1,300.00	18.46	25.57	1,280.15	154.96	74.15	171.79	0.00	0.00	0.00
1,400.00	18.46	25.57	1,375.01	183.52	87.82	203.45	0.00	0.00	0.00
1,500.00	18.46	25.57	1,469.86	212.08	101.49	235.12	0.00	0.00	0.00
1,600.00	18.46	25.57	1,564.72	240.64	115.16	266.78	0.00	0.00	0.00
1,700.00	18.46	25.57	1,659.57	269.21	128.82	298.44	0.00	0.00	0.00
1,800.00	18.46	25.57	1,754.43	297.77	142.49	330.10	0.00	0.00	0.00
1,900.00	18.46	25.57	1,849.28	326.33	156.16	361.77	0.00	0.00	0.00
2,000.00	18.46	25.57	1,944.14	354.89	169.83	393.43	0.00	0.00	0.00
2,100.00	18.46	25.57	2,038.99	383.45	183.49	425.09	0.00	0.00	0.00
2,200.00	18.46	25.57	2,133.85	412.01	197.16	456.76	0.00	0.00	0.00
2,300.00	18.46	25.57	2,228.70	440.58	210.83	488.42	0.00	0.00	0.00
2,400.00	18.46	25.57	2,323.56	469.14	224.50	520.08	0.00	0.00	0.00
2,500.00	18.46	25.57	2,418.41	497.70	238.16	551.75	0.00	0.00	0.00
2,600.00	18.46	25.57	2,513.27	526.26	251.83	583.41	0.00	0.00	0.00
2,700.00	18.46	25.57	2,608.12	554.82	265.50	615.07	0.00	0.00	0.00
2,800.00	18.46	25.57	2,702.97	583.38	279.17	646.74	0.00	0.00	0.00
2,900.00	18.46	25.57	2,797.83	611.94	292.83	678.40	0.00	0.00	0.00
3,000.00	18.46	25.57	2,892.68	640.51	306.50	710.06	0.00	0.00	0.00
3,100.00	18.46	25.57	2,987.54	669.07	320.17	741.73	0.00	0.00	0.00
3,200.00	18.46	25.57	3,082.39	697.63	333.84	773.39	0.00	0.00	0.00
3,300.00	18.46	25.57	3,177.25	726.19	347.50	805.05	0.00	0.00	0.00
3,400.00	18.46	25.57	3,272.10	754.75	361.17	836.72	0.00	0.00	0.00
3,500.00	18.46	25.57	3,366.96	783.31	374.84	868.38	0.00	0.00	0.00
3,600.00	18.46	25.57	3,461.81	811.87	388.51	900.04	0.00	0.00	0.00
3,700.00	18.46	25.57	3,556.67	840.44	402.17	931.71	0.00	0.00	0.00
3,800.00	18.46	25.57	3,651.52	869.00	415.84	963.37	0.00	0.00	0.00
3,900.00	18.46	25.57	3,746.38	897.56	429.51	995.03	0.00	0.00	0.00
4,000.00	18.46	25.57	3,841.23	926.12	443.18	1,026.70	0.00	0.00	0.00
4,100.00	18.46	25.57	3,936.09	954.68	456.84	1,058.36	0.00	0.00	0.00
4,200.00	18.46	25.57	4,030.94	983.24	470.51	1,090.02	0.00	0.00	0.00
4,300.00	18.46	25.57	4,125.80	1,011.81	484.18	1,121.69	0.00	0.00	0.00
4,373.31	18.46	25.57	4,195.33	1,032.74	494.20	1,144.90	0.00	0.00	0.00
4,400.00	17.99	25.57	4,220.69	1,040.27	497.80	1,153.25	1.75	-1.75	0.00
4,464.27	16.87	25.57	4,282.00	1,057.64	506.11	1,172.50	1.75	-1.75	0.00
PK Depth									
4,474.71	16.68	25.57	4,292.00	1,060.36	507.41	1,175.51	1.75	-1.75	0.00
SX Depth									

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Site:	WELD_Checketts 18-15 PAD	North Reference:	True
Well:	Checketts 21-15	Survey Calculation Method:	Minimum Curvature
Wellbore:	Checketts 21-15		
Design:	Checketts 21-15 (wp01)		

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)
4,500.00	16.24	25.57	4,316.25	1,066.82	510.51	1,182.68	1.75	-1.75	0.00
4,600.00	14.49	25.57	4,412.67	1,090.73	521.94	1,209.18	1.75	-1.75	0.00
4,700.00	12.74	25.57	4,509.86	1,111.96	532.11	1,232.72	1.75	-1.75	0.00
4,800.00	10.99	25.57	4,607.72	1,130.51	540.98	1,253.28	1.75	-1.75	0.00
4,900.00	9.24	25.57	4,706.16	1,146.36	548.57	1,270.85	1.75	-1.75	0.00
5,000.00	7.49	25.57	4,805.09	1,159.48	554.85	1,285.40	1.75	-1.75	0.00
5,100.00	5.74	25.57	4,904.42	1,169.88	559.82	1,296.92	1.75	-1.75	0.00
5,200.00	3.99	25.57	5,004.06	1,177.53	563.48	1,305.41	1.75	-1.75	0.00
5,300.00	2.24	25.57	5,103.90	1,182.43	565.83	1,310.85	1.75	-1.75	0.00
5,400.00	0.49	25.57	5,203.87	1,184.59	566.86	1,313.23	1.75	-1.75	0.00
5,428.13	0.00	0.00	5,232.00	1,184.70	566.91	1,313.35	1.75	-1.75	0.00
5,500.00	0.00	0.00	5,303.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
5,600.00	0.00	0.00	5,403.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
5,700.00	0.00	0.00	5,503.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
5,800.00	0.00	0.00	5,603.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
5,900.00	0.00	0.00	5,703.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
6,000.00	0.00	0.00	5,803.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
6,100.00	0.00	0.00	5,903.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
6,200.00	0.00	0.00	6,003.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
6,300.00	0.00	0.00	6,103.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
6,400.00	0.00	0.00	6,203.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
6,500.00	0.00	0.00	6,303.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
6,600.00	0.00	0.00	6,403.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
6,700.00	0.00	0.00	6,503.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
6,800.00	0.00	0.00	6,603.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
6,900.00	0.00	0.00	6,703.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
6,987.13	0.00	0.00	6,791.00	1,184.70	566.91	1,313.35	0.00	0.00	0.00
NIO Depth									
7,000.00	0.00	0.00	6,803.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
7,100.00	0.00	0.00	6,903.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
7,200.00	0.00	0.00	7,003.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
7,284.13	0.00	0.00	7,088.00	1,184.70	566.91	1,313.35	0.00	0.00	0.00
CD Depth									
7,300.00	0.00	0.00	7,103.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
7,368.13	0.00	0.00	7,172.00	1,184.70	566.91	1,313.35	0.00	0.00	0.00
GH Depth									
7,400.00	0.00	0.00	7,203.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
7,500.00	0.00	0.00	7,303.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
7,600.00	0.00	0.00	7,403.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
7,700.00	0.00	0.00	7,503.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
7,768.13	0.00	0.00	7,572.00	1,184.70	566.91	1,313.35	0.00	0.00	0.00
J Depth									
7,800.00	0.00	0.00	7,603.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
7,900.00	0.00	0.00	7,703.87	1,184.70	566.91	1,313.35	0.00	0.00	0.00
7,928.13	0.00	0.00	7,732.00	1,184.70	566.91	1,313.35	0.00	0.00	0.00
Checketts 21-15 BHL									

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Well:	Checketts 21-15	Survey Calculation Method:	Minimum Curvature
Wellbore:	Checketts 21-15		
Design:	Checketts 21-15 (wp01)		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
Checketts 21-15 BHL	0.00	0.00	7,732.00	1,184.70	566.91	1,359,139.71	3,237,315.89	40.316113	-104.648950
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
515.20	515.00	8-5/8"		8-5/8	11

Formations						
Measured Depth	Vertical Depth	Name		Lithology	Dip	Dip Direction
(ft)	(ft)				(°)	(°)
4,464.27	4,282.00	PK Depth				
4,474.71	4,292.00	SX Depth				
6,987.13	6,791.00	NIO Depth				
7,284.13	7,088.00	CD Depth				
7,368.13	7,172.00	GH Depth				
7,768.13	7,572.00	J Depth				