

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_CARTER 10 PAD**

**Carter 15-32SX**

**Carter 15-32SX**

**Plan: Carter 15-32SX (wp04)**

## **Standard Planning Report**

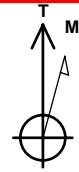
**23 February, 2011**



Project: COLORADO NORTHERN ZONE - 83  
Site: WELD\_CARTER 10 PAD  
Well: Carter 15-32SX  
Wellbore: Carter 15-32SX  
Section:  
SHL:  
Design: Carter 15-32SX (wp04)  
Latitude: 40.093728  
Longitude: -104.797271  
GL: 4912.00  
KB: WELL @ 4912.00ft (Original Well Elev)

## FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3980.00	4270.07	PK Depth
4482.00	4823.06	SX Depth
4620.00	4975.08	Producing Top SX
4712.00	5076.42	Producing Btm SX



Azimuths to True North  
Magnetic North: 8.93°

Magnetic Field  
Strength: 53022.0snT  
Dip Angle: 66.82°  
Date: 12/3/2010  
Model: IGRF2010

## WELL DETAILS: Carter 15-32SX

+N/-S	+E/-W	Northing	Ground Level: Easting	4912.00 Latitude	Longitude	Slot
0.00	0.00	1277768.62	3196599.42	40.093728	-104.797271	

## CASING DETAILS

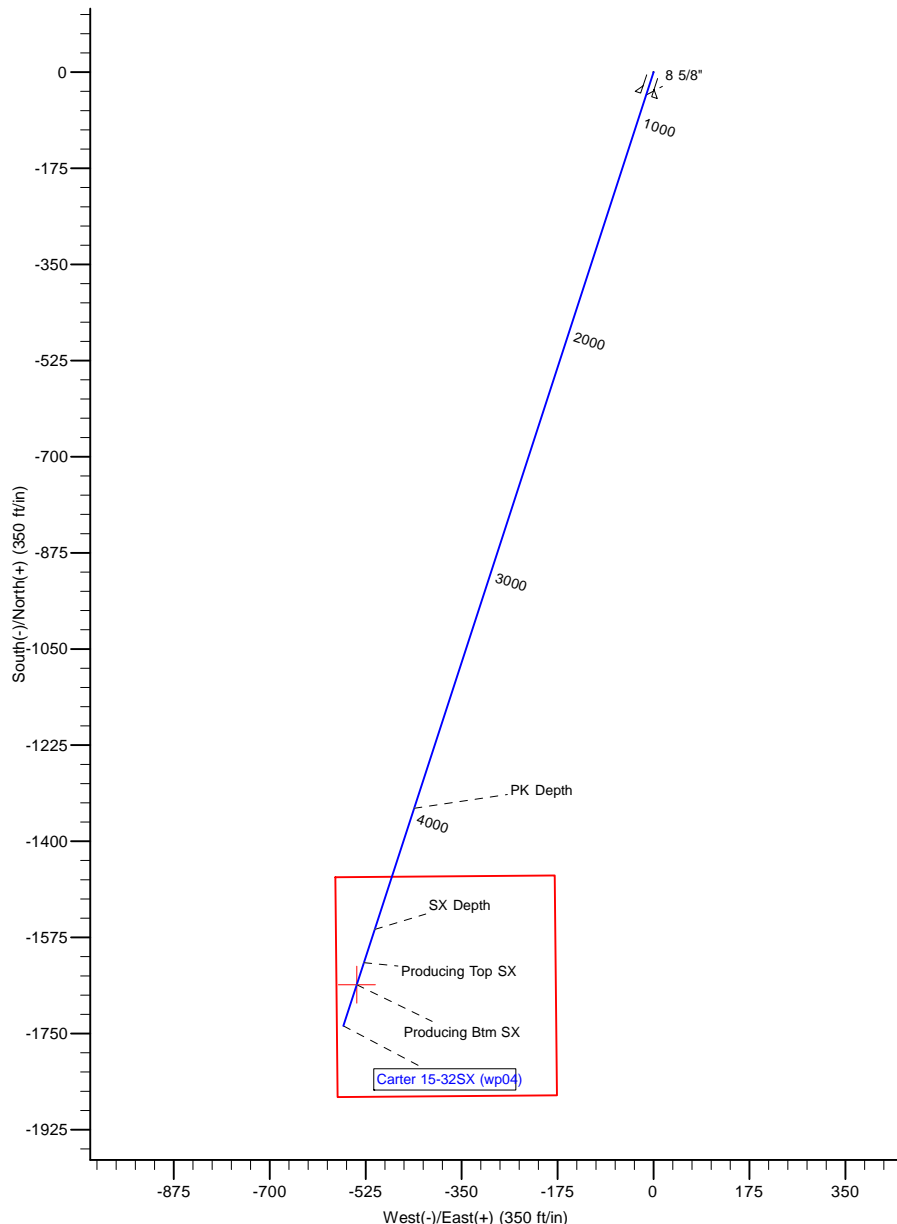
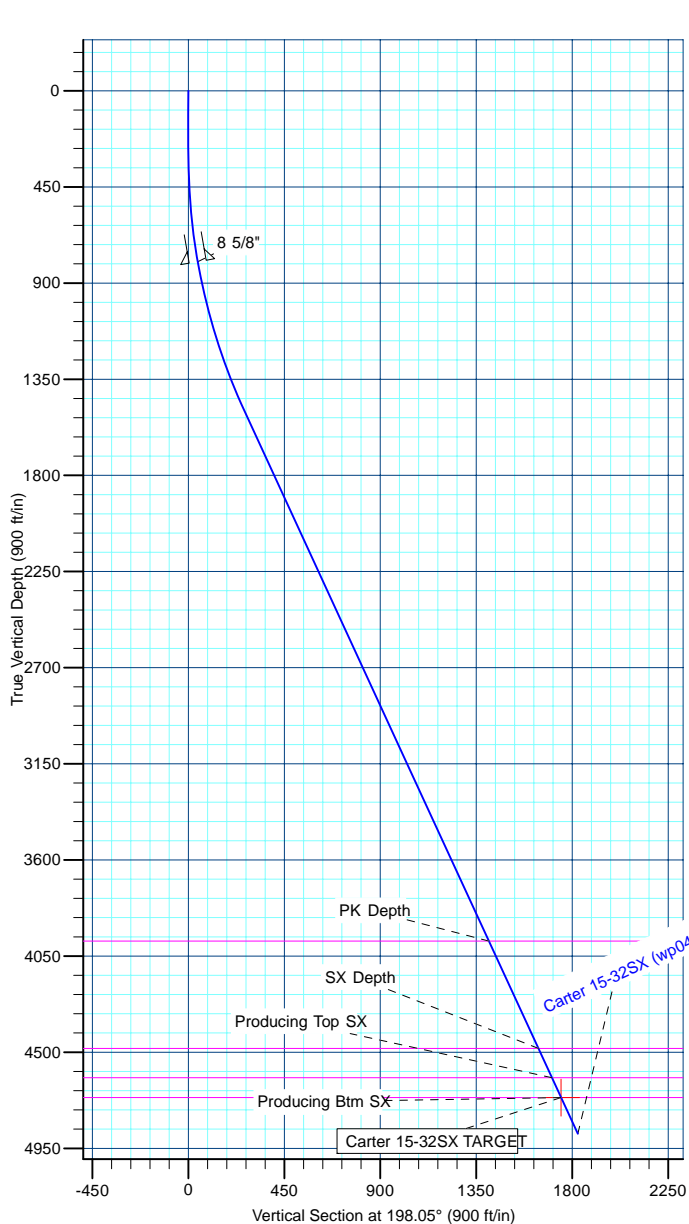
TVD	MD	Name	Size
800.00	802.57	8 5/8"	8-5/8

## DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Carter 15-32SX TARGET	4712.00	-1661.41	-541.39	1276102.97	3196071.22	40.089167	-104.799206	Point

## 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
1539.85	24.80	198.05	1501.51	-251.14	-81.84	2.00	198.05	264.14
5076.42	24.80	198.05	4712.00	-1661.41	-541.39	0.00	0.00	1747.39
5263.69	24.80	198.05	4882.00	-1736.09	-565.72	0.00	0.00	1825.93



<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Carter 15-32SX
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4912.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4912.00ft (Original Well Elev)
<b>Site:</b>	WELD_CARTER 10 PAD	<b>North Reference:</b>	True
<b>Well:</b>	Carter 15-32SX	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Carter 15-32SX		
<b>Design:</b>	Carter 15-32SX (wp04)		

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

Site		WELD_CARTER 10 PAD			
Site Position:		Northing:	1,277,768.43 ft	Latitude:	40.093728
From:	Lat/Long	Easting:	3,196,569.49 ft	Longitude:	-104.797378
Position Uncertainty:	0.00 ft	Slot Radius:	0 "	Grid Convergence:	0.45

Well	Carter 15-32SX					
Well Position	+N-S	-0.05 ft	Northing:	1,277,768.62 ft	Latitude:	40.093728
	+E-W	29.94 ft	Easting:	3,196,599.42 ft	Longitude:	-104.797271
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,912.00 ft

<b>Wellbore</b>	Carter 15-32SX				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	12/3/2010	8.93	66.82	53,022

<b>Design</b>	Carter 15-32SX (wp04)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	198.05

<b>Plan Sections</b>										
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	
1,539.85	24.80	198.05	1,501.51	-251.14	-81.84	2.00	2.00	0.00	198.05	
5,076.42	24.80	198.05	4,712.00	-1,661.41	-541.39	0.00	0.00	0.00	0.00	Carter 15-32SX TA
5,263.69	24.80	198.05	4,882.00	-1,736.09	-565.72	0.00	0.00	0.00	0.00	

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Carter 15-32SX
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4912.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4912.00ft (Original Well Elev)
<b>Site:</b>	WELD_CARTER 10 PAD	<b>North Reference:</b>	True
<b>Well:</b>	Carter 15-32SX	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Carter 15-32SX		
<b>Design:</b>	Carter 15-32SX (wp04)		

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	198.05	399.98	-1.66	-0.54	1.75	2.00	2.00	0.00
500.00	4.00	198.05	499.84	-6.64	-2.16	6.98	2.00	2.00	0.00
600.00	6.00	198.05	599.45	-14.92	-4.86	15.69	2.00	2.00	0.00
700.00	8.00	198.05	698.70	-26.51	-8.64	27.88	2.00	2.00	0.00
800.00	10.00	198.05	797.47	-41.38	-13.48	43.52	2.00	2.00	0.00
802.57	10.05	198.05	800.00	-41.81	-13.62	43.97	2.00	2.00	0.00
8 5/8"									
900.00	12.00	198.05	895.62	-59.52	-19.40	62.60	2.00	2.00	0.00
1,000.00	14.00	198.05	993.06	-80.91	-26.37	85.10	2.00	2.00	0.00
1,100.00	16.00	198.05	1,089.64	-105.52	-34.38	110.98	2.00	2.00	0.00
1,200.00	18.00	198.05	1,185.27	-133.31	-43.44	140.21	2.00	2.00	0.00
1,300.00	20.00	198.05	1,279.82	-164.27	-53.53	172.77	2.00	2.00	0.00
1,400.00	22.00	198.05	1,373.17	-198.34	-64.63	208.60	2.00	2.00	0.00
1,500.00	24.00	198.05	1,465.21	-235.49	-76.74	247.67	2.00	2.00	0.00
1,539.85	24.80	198.05	1,501.51	-251.14	-81.84	264.14	2.00	2.00	0.00
1,600.00	24.80	198.05	1,556.11	-275.12	-89.65	289.36	0.00	0.00	0.00
1,700.00	24.80	198.05	1,646.89	-315.00	-102.65	331.30	0.00	0.00	0.00
1,800.00	24.80	198.05	1,737.67	-354.88	-115.64	373.24	0.00	0.00	0.00
1,900.00	24.80	198.05	1,828.45	-394.75	-128.63	415.18	0.00	0.00	0.00
2,000.00	24.80	198.05	1,919.23	-434.63	-141.63	457.12	0.00	0.00	0.00
2,100.00	24.80	198.05	2,010.01	-474.51	-154.62	499.07	0.00	0.00	0.00
2,200.00	24.80	198.05	2,100.79	-514.38	-167.62	541.01	0.00	0.00	0.00
2,300.00	24.80	198.05	2,191.57	-554.26	-180.61	582.95	0.00	0.00	0.00
2,400.00	24.80	198.05	2,282.35	-594.14	-193.61	624.89	0.00	0.00	0.00
2,500.00	24.80	198.05	2,373.13	-634.02	-206.60	666.83	0.00	0.00	0.00
2,600.00	24.80	198.05	2,463.91	-673.89	-219.60	708.77	0.00	0.00	0.00
2,700.00	24.80	198.05	2,554.69	-713.77	-232.59	750.71	0.00	0.00	0.00
2,800.00	24.80	198.05	2,645.47	-753.65	-245.58	792.65	0.00	0.00	0.00
2,900.00	24.80	198.05	2,736.25	-793.52	-258.58	834.59	0.00	0.00	0.00
3,000.00	24.80	198.05	2,827.03	-833.40	-271.57	876.53	0.00	0.00	0.00
3,100.00	24.80	198.05	2,917.81	-873.28	-284.57	918.47	0.00	0.00	0.00
3,200.00	24.80	198.05	3,008.59	-913.15	-297.56	960.41	0.00	0.00	0.00
3,300.00	24.80	198.05	3,099.37	-953.03	-310.56	1,002.35	0.00	0.00	0.00
3,400.00	24.80	198.05	3,190.15	-992.91	-323.55	1,044.29	0.00	0.00	0.00
3,500.00	24.80	198.05	3,280.93	-1,032.78	-336.54	1,086.23	0.00	0.00	0.00
3,600.00	24.80	198.05	3,371.71	-1,072.66	-349.54	1,128.17	0.00	0.00	0.00
3,700.00	24.80	198.05	3,462.49	-1,112.54	-362.53	1,170.11	0.00	0.00	0.00
3,800.00	24.80	198.05	3,553.27	-1,152.41	-375.53	1,212.06	0.00	0.00	0.00
3,900.00	24.80	198.05	3,644.05	-1,192.29	-388.52	1,254.00	0.00	0.00	0.00
4,000.00	24.80	198.05	3,734.83	-1,232.17	-401.52	1,295.94	0.00	0.00	0.00
4,100.00	24.80	198.05	3,825.61	-1,272.04	-414.51	1,337.88	0.00	0.00	0.00
4,200.00	24.80	198.05	3,916.39	-1,311.92	-427.50	1,379.82	0.00	0.00	0.00
4,270.07	24.80	198.05	3,980.00	-1,339.86	-436.61	1,409.21	0.00	0.00	0.00
PK Depth									
4,300.00	24.80	198.05	4,007.17	-1,351.80	-440.50	1,421.76	0.00	0.00	0.00
4,400.00	24.80	198.05	4,097.95	-1,391.67	-453.49	1,463.70	0.00	0.00	0.00
4,500.00	24.80	198.05	4,188.73	-1,431.55	-466.49	1,505.64	0.00	0.00	0.00
4,600.00	24.80	198.05	4,279.51	-1,471.43	-479.48	1,547.58	0.00	0.00	0.00
4,700.00	24.80	198.05	4,370.29	-1,511.31	-492.48	1,589.52	0.00	0.00	0.00
4,800.00	24.80	198.05	4,461.07	-1,551.18	-505.47	1,631.46	0.00	0.00	0.00

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Carter 15-32SX
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4912.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4912.00ft (Original Well Elev)
<b>Site:</b>	WELD_CARTER 10 PAD	<b>North Reference:</b>	True
<b>Well:</b>	Carter 15-32SX	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Carter 15-32SX		
<b>Design:</b>	Carter 15-32SX (wp04)		

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)
4,823.06	24.80	198.05	4,482.00	-1,560.38	-508.47	1,641.13	0.00	0.00	0.00
<b>SX Depth</b>									
4,900.00	24.80	198.05	4,551.85	-1,591.06	-518.46	1,673.40	0.00	0.00	0.00
4,975.08	24.80	198.05	4,620.00	-1,621.00	-528.22	1,704.89	0.00	0.00	0.00
<b>Producing Top SX</b>									
5,000.00	24.80	198.05	4,642.63	-1,630.94	-531.46	1,715.34	0.00	0.00	0.00
5,076.42	24.80	198.05	4,712.00	-1,661.41	-541.39	1,747.39	0.00	0.00	0.00
<b>Producing Btm SX - Carter 15-32SX TARGET</b>									
5,100.00	24.80	198.05	4,733.41	-1,670.81	-544.45	1,757.28	0.00	0.00	0.00
5,200.00	24.80	198.05	4,824.19	-1,710.69	-557.45	1,799.22	0.00	0.00	0.00
<b>Carter 15-32SX BHL</b>									
5,263.69	24.80	198.05	4,882.00	-1,736.09	-565.72	1,825.93	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Carter 15-32SX TARGET	0.00	0.00	4,712.00	-1,661.41	-541.39	1,276,102.97	3,196,071.22	40.089167	-104.799206
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
802.57	800.00	8 5/8"	8-5/8	11	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,270.07	3,980.00	PK Depth			
4,823.06	4,482.00	SX Depth			
4,975.08	4,620.00	Producing Top SX		0.00	
5,076.42	4,712.00	Producing Btm SX		0.00	