

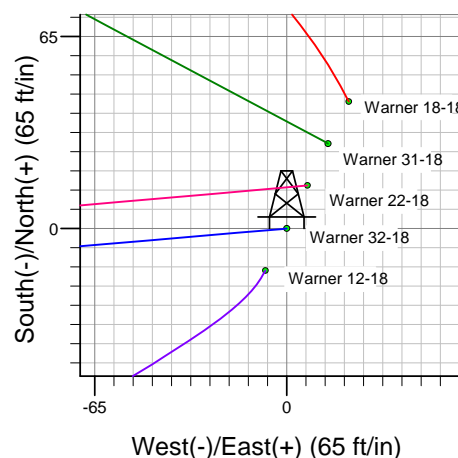
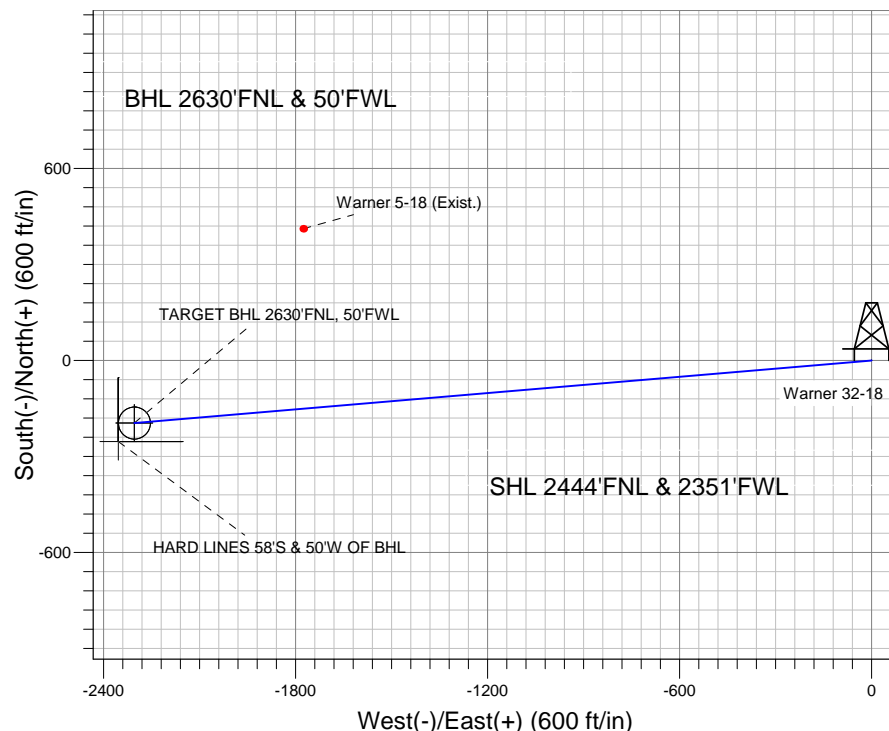
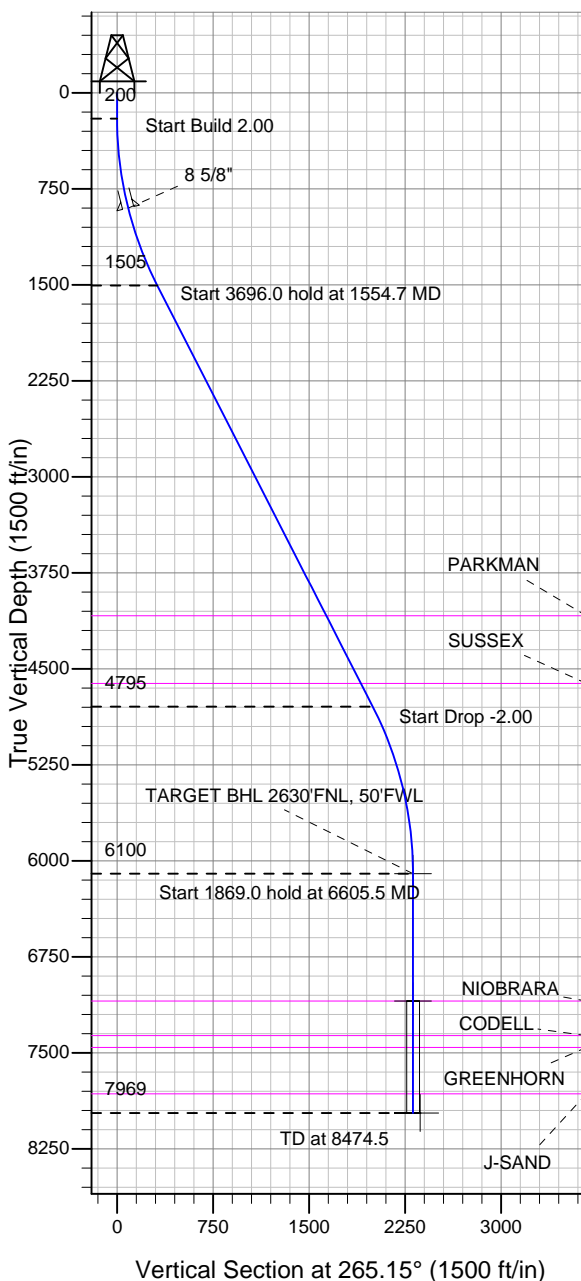
ENSIGN

Directional

Well Name: Warner 32-18

Surface Location: Warner 25-18 Pad Sec.18-T2N-R65W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4984.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1294551.12 3221563.29 40.139219 -104.707508
 Original Well Elev WELL @ 4998.0ft (Original Well Elev)

Anadarko, Weld County CO



FORMATION TOP DETAILS

TVDPATH	MDPATH	FORMATION
4084.0	4451.9	PARKMAN
4614.0	5047.2	SUSSEX
7094.0	7599.5	NIOBRARA
7364.0	7869.5	CODELL
7457.0	7962.5	GREENHORN
7819.0	8324.5	J-SAND



Azimuths to True North
 Magnetic North: 8.84°

Magnetic Field
 Strength: 53025.1snT
 Dip Angle: 66.86°
 Date: 3/17/2011
 Model: IGRF2010

Well Name: Warner 32-18 Lat/Long: 40.139219 -104.707508

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 2630'FNL, 50'FWL	6100.0	-195.5	-2303.9	40.138682	-104.715748	Point
TARGET CIRCLE 2630'FNL & 50'FWL	7094.0	-195.5	-2303.9	40.138682	-104.715748	Circle (Radius: 50.0)
HARD LINES 58'S & 50'W OF BHL	7969.0	-253.5	-2353.9	40.138523	-104.715927	Polygon

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	1554.7	27.09	265.15	1504.8	-26.6	-313.3	2.00	265.15	314.4	
4	5250.8	27.09	265.15	4795.2	-168.9	-1990.6	0.00	0.00	1997.8	
5	6605.5	0.00	0.00	6100.0	-195.5	-2303.9	2.00	180.00	2312.2	TARGET BHL 2630'FNL, 50'FWL
6	8474.5	0.00	0.00	7969.0	-195.5	-2303.9	0.00	0.00	2312.2	

CASING DETAILS

TVD	MD	Name	Size
900.0	907.2	8 5/8"	8-5/8

Warner 25-18 Pad Sec.18-T2N-R65W
 Warner 32-18
 Plan #1 (3-07-11)
 14:54, March 17 2011



Directional

Anadarko, Weld County CO

SEC.18-T2N-R65W

Warner 25-18 Pad Sec.18-T2N-R65W

Warner 32-18

Wellbore #1

Plan: Plan #1 (3-07-11)

Standard Planning Report

17 March, 2011

Database:	Landmark	Local Co-ordinate Reference:	Well Warner 32-18
Company:	Anadarko, Weld County CO	TVD Reference:	WELL @ 4998.0ft (Original Well Elev)
Project:	SEC.18-T2N-R65W	MD Reference:	WELL @ 4998.0ft (Original Well Elev)
Site:	Warner 25-18 Pad Sec.18-T2N-R65W	North Reference:	True
Well:	Warner 32-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (3-07-11)		

Project	SEC.18-T2N-R65W, Weld County, Colorado		
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						Warner 25-18 Pad Sec.18-T2N-R65W											
Site Position:						Northing:			1,294,594.31 ft			Latitude:			40.139337		
From:			Lat/Long			Easting:			3,221,583.88 ft			Longitude:			-104.707433		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.51 °		

Well	Warner 32-18					
Well Position	+N/-S	-43.0 ft	Northing:	1,294,551.12 ft	Latitude:	40.139219
	+E/-W	-21.0 ft	Easting:	3,221,563.29 ft	Longitude:	-104.707508
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,984.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/17/2011	8.84	66.86	53,025

Design	Plan #1 (3-07-11)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	265.15

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,554.7	27.09	265.15	1,504.8	-26.6	-313.3	2.00	2.00	0.00	265.15	
5,250.8	27.09	265.15	4,795.2	-168.9	-1,990.6	0.00	0.00	0.00	0.00	
6,605.5	0.00	0.00	6,100.0	-195.5	-2,303.9	2.00	-2.00	0.00	180.00	TARGET BHL 263C
8,474.5	0.00	0.00	7,969.0	-195.5	-2,303.9	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Warner 32-18
Company:	Anadarko, Weld County CO	TVD Reference:	WELL @ 4998.0ft (Original Well Elev)
Project:	SEC.18-T2N-R65W	MD Reference:	WELL @ 4998.0ft (Original Well Elev)
Site:	Warner 25-18 Pad Sec.18-T2N-R65W	North Reference:	True
Well:	Warner 32-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (3-07-11)		

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
240.0	0.80	265.15	240.0	0.0	-0.3	0.3	2.00	2.00	0.00
280.0	1.60	265.15	280.0	-0.1	-1.1	1.1	2.00	2.00	0.00
320.0	2.40	265.15	320.0	-0.2	-2.5	2.5	2.00	2.00	0.00
360.0	3.20	265.15	359.9	-0.4	-4.5	4.5	2.00	2.00	0.00
400.0	4.00	265.15	399.8	-0.6	-7.0	7.0	2.00	2.00	0.00
440.0	4.80	265.15	439.7	-0.8	-10.0	10.0	2.00	2.00	0.00
480.0	5.60	265.15	479.6	-1.2	-13.6	13.7	2.00	2.00	0.00
520.0	6.40	265.15	519.3	-1.5	-17.8	17.9	2.00	2.00	0.00
560.0	7.20	265.15	559.1	-1.9	-22.5	22.6	2.00	2.00	0.00
600.0	8.00	265.15	598.7	-2.4	-27.8	27.9	2.00	2.00	0.00
640.0	8.80	265.15	638.3	-2.9	-33.6	33.7	2.00	2.00	0.00
680.0	9.60	265.15	677.8	-3.4	-40.0	40.1	2.00	2.00	0.00
720.0	10.40	265.15	717.1	-4.0	-46.9	47.1	2.00	2.00	0.00
760.0	11.20	265.15	756.4	-4.6	-54.4	54.6	2.00	2.00	0.00
800.0	12.00	265.15	795.6	-5.3	-62.4	62.6	2.00	2.00	0.00
840.0	12.80	265.15	834.7	-6.0	-70.9	71.2	2.00	2.00	0.00
880.0	13.60	265.15	873.6	-6.8	-80.0	80.3	2.00	2.00	0.00
907.2	14.14	265.15	900.0	-7.3	-86.5	86.8	2.00	2.00	0.00
8 5/8"									
920.0	14.40	265.15	912.4	-7.6	-89.7	90.0	2.00	2.00	0.00
960.0	15.20	265.15	951.1	-8.5	-99.9	100.2	2.00	2.00	0.00
1,000.0	16.00	265.15	989.6	-9.4	-110.6	111.0	2.00	2.00	0.00
1,040.0	16.80	265.15	1,028.0	-10.3	-121.8	122.3	2.00	2.00	0.00
1,080.0	17.60	265.15	1,066.2	-11.3	-133.6	134.1	2.00	2.00	0.00
1,120.0	18.40	265.15	1,104.3	-12.4	-145.9	146.5	2.00	2.00	0.00
1,160.0	19.20	265.15	1,142.1	-13.5	-158.8	159.3	2.00	2.00	0.00
1,200.0	20.00	265.15	1,179.8	-14.6	-172.1	172.8	2.00	2.00	0.00
1,240.0	20.80	265.15	1,217.3	-15.8	-186.0	186.7	2.00	2.00	0.00
1,280.0	21.60	265.15	1,254.6	-17.0	-200.5	201.2	2.00	2.00	0.00
1,320.0	22.40	265.15	1,291.7	-18.3	-215.4	216.2	2.00	2.00	0.00
1,360.0	23.20	265.15	1,328.6	-19.6	-230.8	231.7	2.00	2.00	0.00
1,400.0	24.00	265.15	1,365.2	-20.9	-246.8	247.7	2.00	2.00	0.00
1,440.0	24.80	265.15	1,401.6	-22.3	-263.3	264.2	2.00	2.00	0.00
1,480.0	25.60	265.15	1,437.8	-23.8	-280.2	281.2	2.00	2.00	0.00
1,520.0	26.40	265.15	1,473.8	-25.3	-297.7	298.8	2.00	2.00	0.00
1,554.7	27.09	265.15	1,504.8	-26.6	-313.3	314.4	2.00	2.00	0.00
1,560.0	27.09	265.15	1,509.5	-26.8	-315.7	316.8	0.00	0.00	0.00
1,600.0	27.09	265.15	1,545.1	-28.3	-333.8	335.0	0.00	0.00	0.00
1,640.0	27.09	265.15	1,580.7	-29.9	-352.0	353.2	0.00	0.00	0.00
1,680.0	27.09	265.15	1,616.3	-31.4	-370.1	371.4	0.00	0.00	0.00
1,720.0	27.09	265.15	1,651.9	-32.9	-388.3	389.7	0.00	0.00	0.00
1,760.0	27.09	265.15	1,687.5	-34.5	-406.4	407.9	0.00	0.00	0.00
1,800.0	27.09	265.15	1,723.2	-36.0	-424.6	426.1	0.00	0.00	0.00
1,840.0	27.09	265.15	1,758.8	-37.6	-442.7	444.3	0.00	0.00	0.00
1,880.0	27.09	265.15	1,794.4	-39.1	-460.9	462.5	0.00	0.00	0.00
1,920.0	27.09	265.15	1,830.0	-40.7	-479.0	480.8	0.00	0.00	0.00
1,960.0	27.09	265.15	1,865.6	-42.2	-497.2	499.0	0.00	0.00	0.00
2,000.0	27.09	265.15	1,901.2	-43.7	-515.3	517.2	0.00	0.00	0.00

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Company:	Anadarko, Weld County CO	TVD Reference:	WELL @ 4998.0ft (Original Well Elev)
Project:	SEC.18-T2N-R65W	MD Reference:	WELL @ 4998.0ft (Original Well Elev)
Site:	Warner 25-18 Pad Sec.18-T2N-R65W	North Reference:	True
Well:	Warner 32-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (3-07-11)		

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)
2,040.0	27.09	265.15	1,936.8	-45.3	-533.5	535.4	0.00	0.00	0.00
2,080.0	27.09	265.15	1,972.4	-46.8	-551.6	553.6	0.00	0.00	0.00
2,120.0	27.09	265.15	2,008.0	-48.4	-569.8	571.8	0.00	0.00	0.00
2,160.0	27.09	265.15	2,043.6	-49.9	-588.0	590.1	0.00	0.00	0.00
2,200.0	27.09	265.15	2,079.3	-51.4	-606.1	608.3	0.00	0.00	0.00
2,240.0	27.09	265.15	2,114.9	-53.0	-624.3	626.5	0.00	0.00	0.00
2,280.0	27.09	265.15	2,150.5	-54.5	-642.4	644.7	0.00	0.00	0.00
2,320.0	27.09	265.15	2,186.1	-56.1	-660.6	662.9	0.00	0.00	0.00
2,360.0	27.09	265.15	2,221.7	-57.6	-678.7	681.2	0.00	0.00	0.00
2,400.0	27.09	265.15	2,257.3	-59.1	-696.9	699.4	0.00	0.00	0.00
2,440.0	27.09	265.15	2,292.9	-60.7	-715.0	717.6	0.00	0.00	0.00
2,480.0	27.09	265.15	2,328.5	-62.2	-733.2	735.8	0.00	0.00	0.00
2,520.0	27.09	265.15	2,364.1	-63.8	-751.3	754.0	0.00	0.00	0.00
2,560.0	27.09	265.15	2,399.8	-65.3	-769.5	772.2	0.00	0.00	0.00
2,600.0	27.09	265.15	2,435.4	-66.8	-787.6	790.5	0.00	0.00	0.00
2,640.0	27.09	265.15	2,471.0	-68.4	-805.8	808.7	0.00	0.00	0.00
2,680.0	27.09	265.15	2,506.6	-69.9	-823.9	826.9	0.00	0.00	0.00
2,720.0	27.09	265.15	2,542.2	-71.5	-842.1	845.1	0.00	0.00	0.00
2,760.0	27.09	265.15	2,577.8	-73.0	-860.2	863.3	0.00	0.00	0.00
2,800.0	27.09	265.15	2,613.4	-74.5	-878.4	881.6	0.00	0.00	0.00
2,840.0	27.09	265.15	2,649.0	-76.1	-896.6	899.8	0.00	0.00	0.00
2,880.0	27.09	265.15	2,684.6	-77.6	-914.7	918.0	0.00	0.00	0.00
2,920.0	27.09	265.15	2,720.2	-79.2	-932.9	936.2	0.00	0.00	0.00
2,960.0	27.09	265.15	2,755.9	-80.7	-951.0	954.4	0.00	0.00	0.00
3,000.0	27.09	265.15	2,791.5	-82.2	-969.2	972.6	0.00	0.00	0.00
3,040.0	27.09	265.15	2,827.1	-83.8	-987.3	990.9	0.00	0.00	0.00
3,080.0	27.09	265.15	2,862.7	-85.3	-1,005.5	1,009.1	0.00	0.00	0.00
3,120.0	27.09	265.15	2,898.3	-86.9	-1,023.6	1,027.3	0.00	0.00	0.00
3,160.0	27.09	265.15	2,933.9	-88.4	-1,041.8	1,045.5	0.00	0.00	0.00
3,200.0	27.09	265.15	2,969.5	-89.9	-1,059.9	1,063.7	0.00	0.00	0.00
3,240.0	27.09	265.15	3,005.1	-91.5	-1,078.1	1,082.0	0.00	0.00	0.00
3,280.0	27.09	265.15	3,040.7	-93.0	-1,096.2	1,100.2	0.00	0.00	0.00
3,320.0	27.09	265.15	3,076.3	-94.6	-1,114.4	1,118.4	0.00	0.00	0.00
3,360.0	27.09	265.15	3,112.0	-96.1	-1,132.5	1,136.6	0.00	0.00	0.00
3,400.0	27.09	265.15	3,147.6	-97.6	-1,150.7	1,154.8	0.00	0.00	0.00
3,440.0	27.09	265.15	3,183.2	-99.2	-1,168.8	1,173.0	0.00	0.00	0.00
3,480.0	27.09	265.15	3,218.8	-100.7	-1,187.0	1,191.3	0.00	0.00	0.00
3,520.0	27.09	265.15	3,254.4	-102.3	-1,205.2	1,209.5	0.00	0.00	0.00
3,560.0	27.09	265.15	3,290.0	-103.8	-1,223.3	1,227.7	0.00	0.00	0.00
3,600.0	27.09	265.15	3,325.6	-105.4	-1,241.5	1,245.9	0.00	0.00	0.00
3,640.0	27.09	265.15	3,361.2	-106.9	-1,259.6	1,264.1	0.00	0.00	0.00
3,680.0	27.09	265.15	3,396.8	-108.4	-1,277.8	1,282.4	0.00	0.00	0.00
3,720.0	27.09	265.15	3,432.5	-110.0	-1,295.9	1,300.6	0.00	0.00	0.00
3,760.0	27.09	265.15	3,468.1	-111.5	-1,314.1	1,318.8	0.00	0.00	0.00
3,800.0	27.09	265.15	3,503.7	-113.1	-1,332.2	1,337.0	0.00	0.00	0.00
3,840.0	27.09	265.15	3,539.3	-114.6	-1,350.4	1,355.2	0.00	0.00	0.00
3,880.0	27.09	265.15	3,574.9	-116.1	-1,368.5	1,373.4	0.00	0.00	0.00
3,920.0	27.09	265.15	3,610.5	-117.7	-1,386.7	1,391.7	0.00	0.00	0.00
3,960.0	27.09	265.15	3,646.1	-119.2	-1,404.8	1,409.9	0.00	0.00	0.00
4,000.0	27.09	265.15	3,681.7	-120.8	-1,423.0	1,428.1	0.00	0.00	0.00
4,040.0	27.09	265.15	3,717.3	-122.3	-1,441.1	1,446.3	0.00	0.00	0.00
4,080.0	27.09	265.15	3,752.9	-123.8	-1,459.3	1,464.5	0.00	0.00	0.00
4,120.0	27.09	265.15	3,788.6	-125.4	-1,477.4	1,482.8	0.00	0.00	0.00
4,160.0	27.09	265.15	3,824.2	-126.9	-1,495.6	1,501.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Warner 32-18
Company:	Anadarko, Weld County CO	TVD Reference:	WELL @ 4998.0ft (Original Well Elev)
Project:	SEC.18-T2N-R65W	MD Reference:	WELL @ 4998.0ft (Original Well Elev)
Site:	Warner 25-18 Pad Sec.18-T2N-R65W	North Reference:	True
Well:	Warner 32-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (3-07-11)		

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)
4,200.0	27.09	265.15	3,859.8	-128.5	-1,513.8	1,519.2	0.00	0.00	0.00
4,240.0	27.09	265.15	3,895.4	-130.0	-1,531.9	1,537.4	0.00	0.00	0.00
4,280.0	27.09	265.15	3,931.0	-131.5	-1,550.1	1,555.6	0.00	0.00	0.00
4,320.0	27.09	265.15	3,966.6	-133.1	-1,568.2	1,573.9	0.00	0.00	0.00
4,360.0	27.09	265.15	4,002.2	-134.6	-1,586.4	1,592.1	0.00	0.00	0.00
4,400.0	27.09	265.15	4,037.8	-136.2	-1,604.5	1,610.3	0.00	0.00	0.00
4,440.0	27.09	265.15	4,073.4	-137.7	-1,622.7	1,628.5	0.00	0.00	0.00
4,451.9	27.09	265.15	4,084.0	-138.2	-1,628.1	1,633.9	0.00	0.00	0.00
PARKMAN									
4,480.0	27.09	265.15	4,109.0	-139.2	-1,640.8	1,646.7	0.00	0.00	0.00
4,520.0	27.09	265.15	4,144.7	-140.8	-1,659.0	1,664.9	0.00	0.00	0.00
4,560.0	27.09	265.15	4,180.3	-142.3	-1,677.1	1,683.2	0.00	0.00	0.00
4,600.0	27.09	265.15	4,215.9	-143.9	-1,695.3	1,701.4	0.00	0.00	0.00
4,640.0	27.09	265.15	4,251.5	-145.4	-1,713.4	1,719.6	0.00	0.00	0.00
4,680.0	27.09	265.15	4,287.1	-146.9	-1,731.6	1,737.8	0.00	0.00	0.00
4,720.0	27.09	265.15	4,322.7	-148.5	-1,749.7	1,756.0	0.00	0.00	0.00
4,760.0	27.09	265.15	4,358.3	-150.0	-1,767.9	1,774.3	0.00	0.00	0.00
4,800.0	27.09	265.15	4,393.9	-151.6	-1,786.0	1,792.5	0.00	0.00	0.00
4,840.0	27.09	265.15	4,429.5	-153.1	-1,804.2	1,810.7	0.00	0.00	0.00
4,880.0	27.09	265.15	4,465.2	-154.6	-1,822.4	1,828.9	0.00	0.00	0.00
4,920.0	27.09	265.15	4,500.8	-156.2	-1,840.5	1,847.1	0.00	0.00	0.00
4,960.0	27.09	265.15	4,536.4	-157.7	-1,858.7	1,865.3	0.00	0.00	0.00
5,000.0	27.09	265.15	4,572.0	-159.3	-1,876.8	1,883.6	0.00	0.00	0.00
5,040.0	27.09	265.15	4,607.6	-160.8	-1,895.0	1,901.8	0.00	0.00	0.00
5,047.2	27.09	265.15	4,614.0	-161.1	-1,898.2	1,905.1	0.00	0.00	0.00
SUSSEX									
5,080.0	27.09	265.15	4,643.2	-162.3	-1,913.1	1,920.0	0.00	0.00	0.00
5,120.0	27.09	265.15	4,678.8	-163.9	-1,931.3	1,938.2	0.00	0.00	0.00
5,160.0	27.09	265.15	4,714.4	-165.4	-1,949.4	1,956.4	0.00	0.00	0.00
5,200.0	27.09	265.15	4,750.0	-167.0	-1,967.6	1,974.7	0.00	0.00	0.00
5,240.0	27.09	265.15	4,785.6	-168.5	-1,985.7	1,992.9	0.00	0.00	0.00
5,250.8	27.09	265.15	4,795.2	-168.9	-1,990.6	1,997.8	0.00	0.00	0.00
5,280.0	26.51	265.15	4,821.3	-170.0	-2,003.8	2,011.0	2.00	-2.00	0.00
5,320.0	25.71	265.15	4,857.2	-171.5	-2,021.3	2,028.6	2.00	-2.00	0.00
5,360.0	24.91	265.15	4,893.4	-173.0	-2,038.3	2,045.7	2.00	-2.00	0.00
5,400.0	24.11	265.15	4,929.8	-174.4	-2,054.9	2,062.3	2.00	-2.00	0.00
5,440.0	23.31	265.15	4,966.4	-175.7	-2,070.9	2,078.3	2.00	-2.00	0.00
5,480.0	22.51	265.15	5,003.3	-177.1	-2,086.4	2,093.9	2.00	-2.00	0.00
5,520.0	21.71	265.15	5,040.3	-178.3	-2,101.4	2,109.0	2.00	-2.00	0.00
5,560.0	20.91	265.15	5,077.6	-179.6	-2,115.9	2,123.5	2.00	-2.00	0.00
5,600.0	20.11	265.15	5,115.1	-180.7	-2,129.9	2,137.5	2.00	-2.00	0.00
5,640.0	19.31	265.15	5,152.7	-181.9	-2,143.3	2,151.0	2.00	-2.00	0.00
5,680.0	18.51	265.15	5,190.5	-183.0	-2,156.2	2,164.0	2.00	-2.00	0.00
5,720.0	17.71	265.15	5,228.6	-184.0	-2,168.6	2,176.4	2.00	-2.00	0.00
5,760.0	16.91	265.15	5,266.8	-185.0	-2,180.5	2,188.3	2.00	-2.00	0.00
5,800.0	16.11	265.15	5,305.1	-186.0	-2,191.8	2,199.7	2.00	-2.00	0.00
5,840.0	15.31	265.15	5,343.6	-186.9	-2,202.6	2,210.5	2.00	-2.00	0.00
5,880.0	14.51	265.15	5,382.3	-187.8	-2,212.8	2,220.8	2.00	-2.00	0.00
5,920.0	13.71	265.15	5,421.1	-188.6	-2,222.5	2,230.5	2.00	-2.00	0.00
5,960.0	12.91	265.15	5,460.0	-189.4	-2,231.7	2,239.7	2.00	-2.00	0.00
6,000.0	12.11	265.15	5,499.0	-190.1	-2,240.4	2,248.4	2.00	-2.00	0.00
6,040.0	11.31	265.15	5,538.2	-190.8	-2,248.4	2,256.5	2.00	-2.00	0.00
6,080.0	10.51	265.15	5,577.5	-191.4	-2,256.0	2,264.1	2.00	-2.00	0.00
6,120.0	9.71	265.15	5,616.9	-192.0	-2,263.0	2,271.1	2.00	-2.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Warner 32-18
Company:	Anadarko, Weld County CO	TVD Reference:	WELL @ 4998.0ft (Original Well Elev)
Project:	SEC.18-T2N-R65W	MD Reference:	WELL @ 4998.0ft (Original Well Elev)
Site:	Warner 25-18 Pad Sec.18-T2N-R65W	North Reference:	True
Well:	Warner 32-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (3-07-11)		

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)
6,160.0	8.91	265.15	5,656.3	-192.6	-2,269.4	2,277.6	2.00	-2.00	0.00
6,200.0	8.11	265.15	5,695.9	-193.1	-2,275.3	2,283.5	2.00	-2.00	0.00
6,240.0	7.31	265.15	5,735.5	-193.5	-2,280.7	2,288.9	2.00	-2.00	0.00
6,280.0	6.51	265.15	5,775.2	-193.9	-2,285.5	2,293.7	2.00	-2.00	0.00
6,320.0	5.71	265.15	5,815.0	-194.3	-2,289.7	2,297.9	2.00	-2.00	0.00
6,360.0	4.91	265.15	5,854.8	-194.6	-2,293.4	2,301.6	2.00	-2.00	0.00
6,400.0	4.11	265.15	5,894.7	-194.9	-2,296.5	2,304.8	2.00	-2.00	0.00
6,440.0	3.31	265.15	5,934.6	-195.1	-2,299.1	2,307.4	2.00	-2.00	0.00
6,480.0	2.51	265.15	5,974.6	-195.3	-2,301.1	2,309.4	2.00	-2.00	0.00
6,520.0	1.71	265.15	6,014.5	-195.4	-2,302.6	2,310.9	2.00	-2.00	0.00
6,560.0	0.91	265.15	6,054.5	-195.5	-2,303.5	2,311.8	2.00	-2.00	0.00
6,600.0	0.11	265.15	6,094.5	-195.5	-2,303.9	2,312.1	2.00	-2.00	0.00
6,605.5	0.00	0.00	6,100.0	-195.5	-2,303.9	2,312.2	2.00	-2.00	1,735.76
TARGET BHL 2630'FNL, 50'FWL									
6,640.0	0.00	0.00	6,134.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
6,680.0	0.00	0.00	6,174.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
6,720.0	0.00	0.00	6,214.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
6,760.0	0.00	0.00	6,254.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,294.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
6,840.0	0.00	0.00	6,334.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
6,880.0	0.00	0.00	6,374.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
6,920.0	0.00	0.00	6,414.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
6,960.0	0.00	0.00	6,454.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,000.0	0.00	0.00	6,494.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,040.0	0.00	0.00	6,534.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,080.0	0.00	0.00	6,574.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,120.0	0.00	0.00	6,614.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,160.0	0.00	0.00	6,654.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,200.0	0.00	0.00	6,694.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,240.0	0.00	0.00	6,734.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,280.0	0.00	0.00	6,774.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,320.0	0.00	0.00	6,814.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,360.0	0.00	0.00	6,854.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,400.0	0.00	0.00	6,894.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,440.0	0.00	0.00	6,934.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,480.0	0.00	0.00	6,974.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,520.0	0.00	0.00	7,014.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,560.0	0.00	0.00	7,054.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,599.5	0.00	0.00	7,094.0	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
NIOBRARA - TARGET CIRCLE 2630'FNL & 50'FWL									
7,600.0	0.00	0.00	7,094.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,640.0	0.00	0.00	7,134.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,680.0	0.00	0.00	7,174.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,720.0	0.00	0.00	7,214.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,760.0	0.00	0.00	7,254.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,800.0	0.00	0.00	7,294.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,840.0	0.00	0.00	7,334.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,869.5	0.00	0.00	7,364.0	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
CODELL									
7,880.0	0.00	0.00	7,374.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,920.0	0.00	0.00	7,414.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,960.0	0.00	0.00	7,454.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
7,962.5	0.00	0.00	7,457.0	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Warner 32-18
Company:	Anadarko, Weld County CO	TVD Reference:	WELL @ 4998.0ft (Original Well Elev)
Project:	SEC.18-T2N-R65W	MD Reference:	WELL @ 4998.0ft (Original Well Elev)
Site:	Warner 25-18 Pad Sec.18-T2N-R65W	North Reference:	True
Well:	Warner 32-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (3-07-11)		

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)
GREENHORN									
8,000.0	0.00	0.00	7,494.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
8,040.0	0.00	0.00	7,534.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
8,080.0	0.00	0.00	7,574.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
8,120.0	0.00	0.00	7,614.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
8,160.0	0.00	0.00	7,654.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
8,200.0	0.00	0.00	7,694.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
8,240.0	0.00	0.00	7,734.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
8,280.0	0.00	0.00	7,774.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
8,320.0	0.00	0.00	7,814.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
8,324.5	0.00	0.00	7,819.0	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
J-SAND									
8,360.0	0.00	0.00	7,854.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
8,400.0	0.00	0.00	7,894.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
8,440.0	0.00	0.00	7,934.5	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
8,474.5	0.00	0.00	7,969.0	-195.5	-2,303.9	2,312.2	0.00	0.00	0.00
HARD LINES 58'S & 50'W OF BHL									

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									
HARD LINES 58'S & 50'W OF BHL	0.00	0.00	7,969.0	-253.5	-2,353.9	1,294,276.61	3,219,211.86	40.138523	-104.715927
- plan misses target center by 76.6ft at 8474.5ft MD (7969.0 TVD, -195.5 N, -2303.9 E)									
- Polygon									
Point 1			7,969.0	0.0	0.0	1,294,276.61	3,219,211.86		
Point 2			7,969.0	200.0	0.0	1,294,476.59	3,219,210.07		
Point 3			7,969.0	0.0	0.0	1,294,276.61	3,219,211.86		
Point 4			7,969.0	0.0	200.0	1,294,278.40	3,219,411.84		
TARGET BHL 2630'F	0.00	0.00	6,100.0	-195.5	-2,303.9	1,294,335.04	3,219,261.36	40.138682	-104.715748
- plan hits target center									
- Point									
TARGET CIRCLE 2630'F	0.00	0.00	7,094.0	-195.5	-2,303.9	1,294,335.04	3,219,261.36	40.138682	-104.715748
- plan hits target center									
- Circle (radius 50.0)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
907.2	900.0	8 5/8"	8-5/8	12-1/4	

Database:	Landmark	Local Co-ordinate Reference:	Well Warner 32-18
Company:	Anadarko, Weld County CO	TVD Reference:	WELL @ 4998.0ft (Original Well Elev)
Project:	SEC.18-T2N-R65W	MD Reference:	WELL @ 4998.0ft (Original Well Elev)
Site:	Warner 25-18 Pad Sec.18-T2N-R65W	North Reference:	True
Well:	Warner 32-18	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (3-07-11)		

Formations						
	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	4,451.9	4,084.0	PARKMAN		0.00	
	5,047.2	4,614.0	SUSSEX		0.00	
	7,599.5	7,094.0	NIOBRARA		0.00	
	7,869.5	7,364.0	CODELL		0.00	
	7,962.5	7,457.0	GREENHORN		0.00	
	8,324.5	7,819.0	J-SAND		0.00	



Directional

Anadarko, Weld County CO

SEC.18-T2N-R65W

Warner 25-18 Pad Sec.18-T2N-R65W

Warner 32-18

Wellbore #1

Plan #1 (3-07-11)

Anticollision Report

17 March, 2011



Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Warner 32-18
Project:	SEC.18-T2N-R65W	TVD Reference:	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Warner 25-18 Pad Sec.18-T2N-R65W	MD Reference:	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Warner 32-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (3-07-11)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (3-07-11)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 3/17/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	8,474.5	Plan #1 (3-07-11) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Warner 25-18 Pad Sec.18-T2N-R65W						
Warner 12-18 - Wellbore #1 - Plan #1 (3-07-11)	200.0	200.0	16.0	15.3	23.668	CC, ES
Warner 12-18 - Wellbore #1 - Plan #1 (3-07-11)	2,800.0	2,770.3	348.8	314.3	10.096	SF
Warner 22-18 - Wellbore #1 - Plan #1 (3-07-11)	200.0	200.0	16.2	15.5	23.968	CC, ES
Warner 22-18 - Wellbore #1 - Plan #1 (3-07-11)	400.0	399.8	20.6	19.0	13.185	SF
Warner 5-18 (Exist.) - Wellbore #1 - Design #1	4,673.3	4,307.1	560.8	513.0	11.734	CC
Warner 5-18 (Exist.) - Wellbore #1 - Design #1	4,700.0	4,330.9	560.9	512.8	11.662	ES
Warner 5-18 (Exist.) - Wellbore #1 - Design #1	4,900.0	4,509.0	570.2	520.2	11.408	SF

Offset Design Warner 25-18 Pad Sec.18-T2N-R65W - Warner 12-18 - Wellbore #1 - Plan #1 (3-07-11)													Offset Site Error:	0.0ft
Survey Program: 0-MWD													Offset Well Error:	0.0ft
Reference Measured Depth (ft)	Vertical Depth (ft)	Offset Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-152.90	-14.2	-7.3	16.0	16.0	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	-152.90	-14.2	-7.3	16.0	15.7	0.22	71.004		
200.0	200.0	200.0	200.0	0.3	0.3	-152.90	-14.2	-7.3	16.0	15.3	0.67	23.668	CC, ES	
300.0	300.0	299.4	299.4	0.6	0.5	-62.76	-15.7	-8.1	16.8	15.7	1.09	15.425		
400.0	399.8	398.8	398.7	0.8	0.8	-73.46	-20.0	-10.9	19.8	18.3	1.52	13.037		
500.0	499.5	498.3	497.8	1.0	1.0	-82.36	-25.7	-16.7	24.5	22.5	2.00	12.234		
600.0	598.7	597.7	596.6	1.3	1.3	-88.61	-32.8	-25.6	30.6	28.0	2.56	11.951		
700.0	697.5	697.1	694.9	1.7	1.6	-92.89	-41.1	-37.8	37.9	34.7	3.20	11.825		
800.0	795.6	796.4	792.5	2.0	2.0	-95.79	-50.6	-53.1	46.3	42.4	3.95	11.721		
900.0	893.1	895.7	889.4	2.5	2.4	-97.76	-61.3	-71.5	55.8	51.0	4.81	11.596		
1,000.0	989.6	994.8	985.5	3.0	2.9	-99.11	-73.3	-93.1	66.4	60.6	5.80	11.444		
1,100.0	1,085.3	1,093.9	1,080.5	3.6	3.4	-100.02	-86.4	-117.7	77.9	71.0	6.91	11.269		
1,200.0	1,179.8	1,192.9	1,174.5	4.2	4.1	-100.62	-100.7	-145.3	90.3	82.2	8.15	11.080		
1,300.0	1,273.2	1,291.7	1,267.2	5.0	4.7	-101.00	-116.1	-175.9	103.7	94.2	9.53	10.882		
1,400.0	1,365.2	1,390.4	1,358.6	5.8	5.5	-101.23	-132.7	-209.4	118.0	107.0	11.05	10.684		
1,500.0	1,455.8	1,489.2	1,449.5	6.6	6.3	-102.21	-149.7	-244.1	133.1	120.4	12.67	10.506		
1,554.7	1,504.8	1,543.2	1,499.2	7.2	6.7	-103.22	-159.0	-263.1	141.7	128.1	13.59	10.430		
1,600.0	1,545.1	1,587.8	1,540.2	7.6	7.1	-104.25	-166.7	-278.8	149.0	134.7	14.36	10.378		
1,700.0	1,634.1	1,686.4	1,630.9	8.6	7.9	-106.20	-183.7	-313.4	165.2	149.2	16.05	10.291		
1,800.0	1,723.2	1,784.9	1,721.5	9.5	8.7	-107.80	-200.7	-348.0	181.6	163.8	17.75	10.230		
1,900.0	1,812.2	1,883.4	1,812.2	10.5	9.5	-109.14	-217.7	-382.7	198.1	178.6	19.44	10.188		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Warner 32-18
Project:	SEC.18-T2N-R65W	TVD Reference:	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Warner 25-18 Pad Sec.18-T2N-R65W	MD Reference:	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Warner 32-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (3-07-11)	Offset TVD Reference:	Offset Datum

Offset Design Warner 25-18 Pad Sec.18-T2N-R65W - Warner 12-18 - Wellbore #1 - Plan #1 (3-07-11)												Offset Site Error:	0.0ft
Survey Program: 0-MWD												Offset Well Error:	0.0ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
2,000.0	1,901.2	1,982.0	1,902.9	11.5	10.3	-110.27	-234.7	-417.3	214.6	193.5	21.13	10.159	
2,100.0	1,990.2	2,080.5	1,993.6	12.5	11.1	-111.24	-251.6	-452.0	231.3	208.4	22.81	10.138	
2,200.0	2,079.3	2,179.0	2,084.2	13.5	11.9	-112.08	-268.6	-486.6	247.9	223.5	24.49	10.123	
2,300.0	2,168.3	2,277.6	2,174.9	14.5	12.7	-112.82	-285.6	-521.3	264.7	238.5	26.17	10.112	
2,400.0	2,257.3	2,376.1	2,265.6	15.5	13.5	-113.46	-302.6	-555.9	281.5	253.6	27.85	10.105	
2,500.0	2,346.3	2,474.7	2,356.2	16.5	14.3	-114.04	-319.6	-590.5	298.3	268.7	29.53	10.101	
2,600.0	2,435.4	2,573.2	2,446.9	17.5	15.2	-114.55	-336.6	-625.2	315.1	283.9	31.20	10.098	
2,700.0	2,524.4	2,671.7	2,537.6	18.5	16.0	-115.01	-353.6	-659.8	331.9	299.1	32.88	10.096	
2,800.0	2,613.4	2,770.3	2,628.2	19.5	16.8	-115.43	-370.6	-694.5	348.8	314.3	34.55	10.096 SF	
2,900.0	2,702.4	2,868.8	2,718.9	20.5	17.6	-115.81	-387.5	-729.1	365.7	329.5	36.22	10.096	
3,000.0	2,791.5	2,967.3	2,809.6	21.5	18.4	-116.15	-404.5	-763.8	382.6	344.7	37.89	10.097	
3,100.0	2,880.5	3,065.9	2,900.2	22.5	19.2	-116.47	-421.5	-798.4	399.5	360.0	39.57	10.098	
3,200.0	2,969.5	3,164.4	2,990.9	23.5	20.1	-116.76	-438.5	-833.0	416.4	375.2	41.24	10.099	
3,300.0	3,058.5	3,262.9	3,081.6	24.5	20.9	-117.02	-455.5	-867.7	433.4	390.5	42.90	10.101	
3,400.0	3,147.6	3,361.5	3,172.2	25.5	21.7	-117.27	-472.5	-902.3	450.3	405.7	44.57	10.103	
3,500.0	3,236.6	3,460.0	3,262.9	26.5	22.5	-117.50	-489.5	-937.0	467.3	421.0	46.24	10.105	
3,600.0	3,325.6	3,558.6	3,353.6	27.5	23.3	-117.71	-506.4	-971.6	484.2	436.3	47.91	10.107	
3,700.0	3,414.6	3,657.1	3,444.2	28.5	24.2	-117.91	-523.4	-1,006.3	501.2	451.6	49.58	10.109	
3,800.0	3,503.7	3,755.6	3,534.9	29.5	25.0	-118.10	-540.4	-1,040.9	518.2	466.9	51.25	10.111	
3,900.0	3,592.7	3,854.2	3,625.6	30.5	25.8	-118.27	-557.4	-1,075.5	535.1	482.2	52.91	10.114	
4,000.0	3,681.7	3,952.7	3,716.2	31.5	26.6	-118.43	-574.4	-1,110.2	552.1	497.5	54.58	10.116	
4,100.0	3,770.7	4,051.2	3,806.9	32.5	27.4	-118.59	-591.4	-1,144.8	569.1	512.9	56.25	10.118	
4,200.0	3,859.8	4,149.8	3,897.6	33.5	28.3	-118.73	-608.4	-1,179.5	586.1	528.2	57.91	10.120	
4,300.0	3,948.8	4,248.3	3,988.3	34.5	29.1	-118.87	-625.4	-1,214.1	603.1	543.5	59.58	10.122	
4,400.0	4,037.8	4,346.8	4,078.9	35.5	29.9	-119.00	-642.3	-1,248.8	620.1	558.8	61.24	10.125	
4,500.0	4,126.9	4,445.4	4,169.6	36.5	30.7	-119.12	-659.3	-1,283.4	637.1	574.2	62.91	10.127	
4,600.0	4,215.9	4,543.9	4,260.3	37.5	31.5	-119.23	-676.3	-1,318.0	654.1	589.5	64.57	10.129	
4,700.0	4,304.9	4,642.5	4,350.9	38.5	32.4	-119.34	-693.3	-1,352.7	671.1	604.8	66.24	10.131	
4,800.0	4,393.9	4,741.0	4,441.6	39.5	33.2	-119.45	-710.3	-1,387.3	688.1	620.2	67.91	10.133	
4,900.0	4,483.0	4,839.5	4,532.3	40.5	34.0	-119.55	-727.3	-1,422.0	705.1	635.5	69.57	10.135	
5,000.0	4,572.0	4,938.1	4,622.9	41.5	34.8	-119.64	-744.3	-1,456.6	722.1	650.8	71.24	10.136	
5,100.0	4,661.0	5,036.6	4,713.6	42.5	35.7	-119.73	-761.3	-1,491.2	739.1	666.2	72.90	10.138	
5,200.0	4,750.0	5,135.1	4,804.3	43.5	36.5	-119.82	-778.2	-1,525.9	756.1	681.5	74.57	10.140	
5,250.8	4,795.2	5,185.1	4,850.3	44.0	36.9	-119.86	-786.9	-1,543.5	764.7	689.3	75.41	10.141	
5,300.0	4,839.2	5,232.8	4,894.2	44.5	37.3	-120.02	-795.1	-1,560.2	772.9	696.7	76.16	10.148	
5,400.0	4,929.8	5,326.9	4,981.5	45.2	37.9	-120.31	-810.4	-1,591.5	788.6	711.2	77.44	10.184	
5,500.0	5,021.8	5,421.0	5,070.0	45.9	38.4	-120.60	-824.5	-1,620.2	803.2	724.6	78.55	10.226	
5,600.0	5,115.1	5,515.1	5,159.6	46.5	38.9	-120.87	-837.3	-1,646.4	816.6	737.1	79.55	10.265	
5,700.0	5,209.5	5,609.3	5,250.1	47.1	39.3	-121.14	-848.8	-1,669.8	828.8	748.4	80.44	10.304	
5,800.0	5,305.1	5,703.6	5,341.4	47.6	39.7	-121.39	-859.0	-1,690.7	839.9	758.7	81.22	10.340	
5,900.0	5,401.6	5,800.0	5,435.6	48.1	40.1	-121.65	-868.1	-1,709.1	849.8	767.9	81.91	10.375	
6,000.0	5,499.0	5,892.1	5,526.2	48.5	40.4	-121.89	-875.4	-1,724.1	858.4	776.0	82.46	10.410	
6,100.0	5,597.2	5,986.4	5,619.4	48.8	40.6	-122.12	-881.6	-1,736.7	865.9	783.0	82.92	10.442	
6,200.0	5,695.9	6,080.6	5,713.0	49.1	40.8	-122.35	-886.5	-1,746.6	872.1	788.9	83.28	10.473	
6,300.0	5,795.1	6,174.8	5,806.8	49.3	41.0	-122.57	-889.9	-1,753.7	877.2	793.6	83.53	10.502	
6,400.0	5,894.7	6,268.9	5,900.8	49.5	41.1	-122.79	-892.1	-1,758.0	881.0	797.3	83.68	10.528	
6,500.0	5,994.6	6,363.0	5,994.9	49.6	41.2	-123.00	-892.8	-1,759.5	883.5	799.8	83.74	10.551	
6,605.5	6,100.0	6,468.1	6,100.0	49.7	41.2	142.02	-892.8	-1,759.5	884.6	800.8	83.78	10.559	
6,700.0	6,194.5	6,562.7	6,194.5	49.7	41.3	142.02	-892.8	-1,759.5	884.6	800.7	83.90	10.544	
6,800.0	6,294.5	6,662.7	6,294.5	49.8	41.4	142.02	-892.8	-1,759.5	884.6	800.6	84.03	10.527	
6,900.0	6,394.5	6,762.7	6,394.5	49.8	41.4	142.02	-892.8	-1,759.5	884.6	800.4	84.16	10.511	
7,000.0	6,494.5	6,862.7	6,494.5	49.9	41.5	142.02	-892.8	-1,759.5	884.6	800.3	84.30	10.494	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Warner 32-18
Project:	SEC.18-T2N-R65W	TVD Reference:	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Warner 25-18 Pad Sec.18-T2N-R65W	MD Reference:	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Warner 32-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (3-07-11)	Offset TVD Reference:	Offset Datum

Offset Design Warner 25-18 Pad Sec.18-T2N-R65W - Warner 12-18 - Wellbore #1 - Plan #1 (3-07-11)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,100.0	6,594.5	6,962.7	6,594.5	50.0	41.6	142.02	-892.8	-1,759.5	884.6	800.2	84.43	10.477	
7,200.0	6,694.5	7,062.7	6,694.5	50.0	41.6	142.02	-892.8	-1,759.5	884.6	800.0	84.57	10.460	
7,300.0	6,794.5	7,162.7	6,794.5	50.1	41.7	142.02	-892.8	-1,759.5	884.6	799.9	84.71	10.443	
7,400.0	6,894.5	7,262.7	6,894.5	50.1	41.8	142.02	-892.8	-1,759.5	884.6	799.8	84.85	10.425	
7,500.0	6,994.5	7,362.7	6,994.5	50.2	41.8	142.02	-892.8	-1,759.5	884.6	799.6	85.00	10.407	
7,600.0	7,094.5	7,462.7	7,094.5	50.3	41.9	142.02	-892.8	-1,759.5	884.6	799.5	85.15	10.389	
7,700.0	7,194.5	7,562.7	7,194.5	50.3	42.0	142.02	-892.8	-1,759.5	884.6	799.3	85.30	10.371	
7,800.0	7,294.5	7,662.7	7,294.5	50.4	42.1	142.02	-892.8	-1,759.5	884.6	799.2	85.45	10.353	
7,900.0	7,394.5	7,762.7	7,394.5	50.5	42.2	142.02	-892.8	-1,759.5	884.6	799.0	85.60	10.334	
8,000.0	7,494.5	7,862.7	7,494.5	50.6	42.2	142.02	-892.8	-1,759.5	884.6	798.8	85.76	10.315	
8,100.0	7,594.5	7,962.7	7,594.5	50.6	42.3	142.02	-892.8	-1,759.5	884.6	798.7	85.91	10.296	
8,200.0	7,694.5	8,062.7	7,694.5	50.7	42.4	142.02	-892.8	-1,759.5	884.6	798.5	86.07	10.277	
8,300.0	7,794.5	8,162.7	7,794.5	50.8	42.5	142.02	-892.8	-1,759.5	884.6	798.4	86.24	10.258	
8,400.0	7,894.5	8,262.7	7,894.5	50.8	42.6	142.02	-892.8	-1,759.5	884.6	798.2	86.40	10.239	
8,474.5	7,969.0	8,337.1	7,969.0	50.9	42.6	142.02	-892.8	-1,759.5	884.6	798.1	86.52	10.224	

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Warner 32-18
Project:	SEC.18-T2N-R65W	TVD Reference:	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Warner 25-18 Pad Sec.18-T2N-R65W	MD Reference:	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Warner 32-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (3-07-11)	Offset TVD Reference:	Offset Datum

Offset Design Warner 25-18 Pad Sec.18-T2N-R65W - Warner 22-18 - Wellbore #1 - Plan #1 (3-07-11)												Offset Site Error:	0.0ft
Survey Program: 0-MWD												Offset Well Error:	0.0ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	25.63	14.6	7.0	16.2	16.2	0.00	N/A	
100.0	100.0	100.0	100.0	0.1	0.1	25.63	14.6	7.0	16.2	15.9	0.22	71.904	
200.0	200.0	200.0	200.0	0.3	0.3	25.63	14.6	7.0	16.2	15.5	0.67	23.968 CC, ES	
300.0	300.0	300.0	300.0	0.6	0.6	125.50	14.6	7.0	17.1	16.0	1.11	15.350	
400.0	399.8	399.8	399.8	0.8	0.8	137.38	14.6	7.0	20.6	19.0	1.56	13.185 SF	
500.0	499.5	499.5	499.5	1.0	1.0	149.62	14.6	7.0	27.7	25.6	2.02	13.680	
600.0	598.7	598.7	598.7	1.3	1.2	158.70	14.6	7.0	38.7	36.2	2.48	15.576	
700.0	697.5	697.5	697.5	1.7	1.5	164.71	14.6	7.0	53.6	50.6	2.94	18.194	
800.0	795.6	795.6	795.6	2.0	1.7	168.63	14.6	7.0	72.2	68.8	3.41	21.184	
900.0	893.1	893.1	893.1	2.5	1.9	171.25	14.6	7.0	94.3	90.5	3.87	24.373	
1,000.0	989.6	989.6	989.6	3.0	2.1	173.07	14.6	7.0	120.0	115.6	4.34	27.668	
1,100.0	1,085.3	1,089.9	1,089.9	3.6	2.3	174.37	14.4	5.6	147.7	142.9	4.79	30.813	
1,200.0	1,179.8	1,191.7	1,191.5	4.2	2.5	175.27	14.0	0.6	175.5	170.3	5.24	33.493	
1,300.0	1,273.2	1,294.5	1,294.0	5.0	2.8	175.92	13.3	-8.1	203.2	197.5	5.70	35.662	
1,400.0	1,365.2	1,398.4	1,397.2	5.8	3.0	176.42	12.2	-20.6	230.8	224.7	6.17	37.395	
1,500.0	1,455.8	1,503.5	1,501.0	6.6	3.3	176.81	10.7	-37.0	258.3	251.7	6.67	38.756	
1,554.7	1,504.8	1,561.5	1,558.0	7.2	3.5	177.00	9.8	-47.7	273.3	266.4	6.94	39.357	
1,600.0	1,545.1	1,609.9	1,605.3	7.6	3.6	177.14	8.9	-57.4	285.3	278.1	7.20	39.608	
1,700.0	1,634.1	1,718.3	1,710.8	8.6	4.0	177.40	6.7	-82.2	309.1	301.3	7.80	39.655	
1,800.0	1,723.2	1,822.0	1,810.9	9.5	4.5	177.59	4.4	-109.3	329.8	321.4	8.40	39.248	
1,900.0	1,812.2	1,919.9	1,905.3	10.5	4.9	177.74	2.1	-135.2	350.0	340.9	9.01	38.837	
2,000.0	1,901.2	2,017.9	1,999.7	11.5	5.4	177.87	-0.2	-161.2	370.1	360.5	9.63	38.433	
2,100.0	1,990.2	2,115.8	2,094.1	12.5	5.9	177.99	-2.5	-187.2	390.3	380.1	10.26	38.049	
2,200.0	2,079.3	2,213.8	2,188.5	13.5	6.4	178.10	-4.7	-213.2	410.5	399.6	10.89	37.691	
2,300.0	2,168.3	2,311.7	2,282.9	14.5	6.9	178.20	-7.0	-239.1	430.7	419.2	11.53	37.358	
2,400.0	2,257.3	2,409.6	2,377.3	15.5	7.5	178.29	-9.3	-265.1	450.9	438.7	12.17	37.047	
2,500.0	2,346.3	2,507.6	2,471.7	16.5	8.0	178.38	-11.6	-291.1	471.1	458.3	12.82	36.758	
2,600.0	2,435.4	2,605.5	2,566.1	17.5	8.5	178.45	-13.9	-317.1	491.3	477.8	13.46	36.488	
2,700.0	2,524.4	2,703.5	2,660.5	18.5	9.0	178.52	-16.1	-343.1	511.4	497.3	14.11	36.237	
2,800.0	2,613.4	2,801.4	2,754.9	19.5	9.6	178.58	-18.4	-369.0	531.6	516.9	14.77	36.002	
2,900.0	2,702.4	2,899.3	2,849.3	20.5	10.1	178.64	-20.7	-395.0	551.8	536.4	15.42	35.783	
3,000.0	2,791.5	2,997.3	2,943.7	21.5	10.7	178.70	-23.0	-421.0	572.0	555.9	16.08	35.578	
3,100.0	2,880.5	3,095.2	3,038.1	22.5	11.2	178.75	-25.2	-447.0	592.2	575.5	16.74	35.385	
3,200.0	2,969.5	3,193.1	3,132.5	23.5	11.8	178.80	-27.5	-472.9	612.4	595.0	17.40	35.204	
3,300.0	3,058.5	3,291.1	3,226.9	24.5	12.3	178.84	-29.8	-498.9	632.6	614.5	18.06	35.035	
3,400.0	3,147.6	3,389.0	3,321.3	25.5	12.9	178.89	-32.1	-524.9	652.8	634.1	18.72	34.875	
3,500.0	3,236.6	3,487.0	3,415.8	26.5	13.4	178.93	-34.4	-550.9	673.0	653.6	19.38	34.724	
3,600.0	3,325.6	3,584.9	3,510.2	27.5	14.0	178.96	-36.6	-576.8	693.2	673.1	20.04	34.581	
3,700.0	3,414.6	3,682.8	3,604.6	28.5	14.5	179.00	-38.9	-602.8	713.4	692.7	20.71	34.447	
3,800.0	3,503.7	3,780.8	3,699.0	29.5	15.1	179.03	-41.2	-628.8	733.6	712.2	21.37	34.319	
3,900.0	3,592.7	3,878.7	3,793.4	30.5	15.6	179.06	-43.5	-654.8	753.8	731.7	22.04	34.199	
4,000.0	3,681.7	3,976.7	3,887.8	31.5	16.2	179.09	-45.7	-680.7	774.0	751.3	22.71	34.084	
4,100.0	3,770.7	4,074.6	3,982.2	32.5	16.7	179.12	-48.0	-706.7	794.2	770.8	23.37	33.975	
4,200.0	3,859.8	4,172.5	4,076.6	33.5	17.3	179.15	-50.3	-732.7	814.4	790.3	24.04	33.871	
4,300.0	3,948.8	4,270.5	4,171.0	34.5	17.8	179.18	-52.6	-758.7	834.5	809.8	24.71	33.772	
4,400.0	4,037.8	4,368.4	4,265.4	35.5	18.4	179.20	-54.9	-784.6	854.7	829.4	25.38	33.678	
4,500.0	4,126.9	4,466.3	4,359.8	36.5	19.0	179.22	-57.1	-810.6	874.9	848.9	26.05	33.588	
4,600.0	4,215.9	4,564.3	4,454.2	37.5	19.5	179.25	-59.4	-836.6	895.1	868.4	26.72	33.503	
4,700.0	4,304.9	4,662.2	4,548.6	38.5	20.1	179.27	-61.7	-862.6	915.3	887.9	27.39	33.420	
4,800.0	4,393.9	4,760.2	4,643.0	39.5	20.6	179.29	-64.0	-888.5	935.5	907.5	28.06	33.342	
4,900.0	4,483.0	4,858.1	4,737.4	40.5	21.2	179.31	-66.3	-914.5	955.7	927.0	28.73	33.266	
5,000.0	4,572.0	4,956.0	4,831.8	41.5	21.7	179.33	-68.5	-940.5	975.9	946.5	29.40	33.194	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Warner 32-18
Project:	SEC.18-T2N-R65W	TVD Reference:	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Warner 25-18 Pad Sec.18-T2N-R65W	MD Reference:	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Warner 32-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (3-07-11)	Offset TVD Reference:	Offset Datum

Offset Design Warner 25-18 Pad Sec.18-T2N-R65W - Warner 22-18 - Wellbore #1 - Plan #1 (3-07-11)												Offset Site Error:	0.0ft
Survey Program: 0-MWD												Offset Well Error:	0.0ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,100.0	4,661.0	5,054.0	4,926.2	42.5	22.3	179.34	-70.8	-966.5	996.1	966.0	30.07	33.125	
5,200.0	4,750.0	5,129.3	4,999.0	43.5	22.7	179.36	-72.5	-985.8	1,017.3	986.6	30.66	33.181	
5,250.8	4,795.2	5,165.7	5,034.3	44.0	22.8	179.36	-73.3	-994.4	1,028.9	998.0	30.94	33.251	
5,300.0	4,839.2	5,200.0	5,067.8	44.5	22.9	179.37	-73.9	-1,002.2	1,040.5	1,009.2	31.27	33.274	
5,400.0	4,929.8	5,272.1	5,138.3	45.2	23.2	179.39	-75.2	-1,017.1	1,063.1	1,031.2	31.87	33.354	
5,500.0	5,021.8	5,343.1	5,208.0	45.9	23.4	179.41	-76.4	-1,030.1	1,084.8	1,052.3	32.42	33.462	
5,600.0	5,115.1	5,400.0	5,264.2	46.5	23.6	179.42	-77.2	-1,039.3	1,105.6	1,072.7	32.88	33.627	
5,700.0	5,209.5	5,484.4	5,347.8	47.1	23.8	179.43	-78.2	-1,050.9	1,125.1	1,091.8	33.33	33.755	
5,800.0	5,305.1	5,554.8	5,417.8	47.6	24.0	179.44	-78.9	-1,058.6	1,143.8	1,110.1	33.70	33.944	
5,900.0	5,401.6	5,625.0	5,487.7	48.1	24.1	179.45	-79.4	-1,064.7	1,161.4	1,127.4	34.00	34.159	
6,000.0	5,499.0	5,700.0	5,562.6	48.5	24.2	179.46	-79.8	-1,069.2	1,178.0	1,143.8	34.25	34.394	
6,100.0	5,597.2	5,764.9	5,627.4	48.8	24.3	179.47	-80.0	-1,071.6	1,193.6	1,159.2	34.42	34.678	
6,200.0	5,695.9	5,837.5	5,700.0	49.1	24.4	179.48	-80.1	-1,072.5	1,208.1	1,173.6	34.54	34.973	
6,300.0	5,795.1	5,932.6	5,795.1	49.3	24.5	179.49	-80.1	-1,072.5	1,220.5	1,185.8	34.66	35.218	
6,400.0	5,894.7	6,032.2	5,894.7	49.5	24.6	179.49	-80.1	-1,072.5	1,229.4	1,194.7	34.72	35.406	
6,500.0	5,994.6	6,132.1	5,994.6	49.6	24.7	179.50	-80.1	-1,072.5	1,234.8	1,200.1	34.74	35.547	
6,605.5	6,100.0	6,237.5	6,100.0	49.7	24.8	84.65	-80.1	-1,072.5	1,236.7	1,202.0	34.70	35.640	
6,700.0	6,194.5	6,332.0	6,194.5	49.7	24.9	84.65	-80.1	-1,072.5	1,236.7	1,201.8	34.99	35.347	
6,800.0	6,294.5	6,432.0	6,294.5	49.8	25.1	84.65	-80.1	-1,072.5	1,236.7	1,201.4	35.29	35.040	
6,900.0	6,394.5	6,532.0	6,394.5	49.8	25.2	84.65	-80.1	-1,072.5	1,236.7	1,201.1	35.60	34.736	
7,000.0	6,494.5	6,632.0	6,494.5	49.9	25.3	84.65	-80.1	-1,072.5	1,236.7	1,200.8	35.92	34.434	
7,100.0	6,594.5	6,732.0	6,594.5	50.0	25.4	84.65	-80.1	-1,072.5	1,236.7	1,200.5	36.23	34.135	
7,200.0	6,694.5	6,832.0	6,694.5	50.0	25.5	84.65	-80.1	-1,072.5	1,236.7	1,200.2	36.55	33.838	
7,300.0	6,794.5	6,932.0	6,794.5	50.1	25.7	84.65	-80.1	-1,072.5	1,236.7	1,199.9	36.87	33.545	
7,400.0	6,894.5	7,032.0	6,894.5	50.1	25.8	84.65	-80.1	-1,072.5	1,236.7	1,199.6	37.19	33.254	
7,500.0	6,994.5	7,132.0	6,994.5	50.2	25.9	84.65	-80.1	-1,072.5	1,236.7	1,199.2	37.52	32.966	
7,600.0	7,094.5	7,232.0	7,094.5	50.3	26.1	84.65	-80.1	-1,072.5	1,236.7	1,198.9	37.84	32.680	
7,700.0	7,194.5	7,332.0	7,194.5	50.3	26.2	84.65	-80.1	-1,072.5	1,236.7	1,198.6	38.17	32.398	
7,800.0	7,294.5	7,432.0	7,294.5	50.4	26.3	84.65	-80.1	-1,072.5	1,236.7	1,198.2	38.51	32.118	
7,900.0	7,394.5	7,532.0	7,394.5	50.5	26.4	84.65	-80.1	-1,072.5	1,236.7	1,197.9	38.84	31.842	
8,000.0	7,494.5	7,632.0	7,494.5	50.6	26.6	84.65	-80.1	-1,072.5	1,236.7	1,197.6	39.18	31.568	
8,100.0	7,594.5	7,732.0	7,594.5	50.6	26.7	84.65	-80.1	-1,072.5	1,236.7	1,197.2	39.52	31.298	
8,200.0	7,694.5	7,832.0	7,694.5	50.7	26.8	84.65	-80.1	-1,072.5	1,236.7	1,196.9	39.86	31.030	
8,300.0	7,794.5	7,932.0	7,794.5	50.8	27.0	84.65	-80.1	-1,072.5	1,236.7	1,196.5	40.20	30.766	
8,400.0	7,894.5	8,032.0	7,894.5	50.8	27.1	84.65	-80.1	-1,072.5	1,236.7	1,196.2	40.54	30.504	
8,474.5	7,969.0	8,106.5	7,969.0	50.9	27.2	84.65	-80.1	-1,072.5	1,236.7	1,195.9	40.80	30.311	

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Warner 32-18
Project:	SEC.18-T2N-R65W	TVD Reference:	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Warner 25-18 Pad Sec.18-T2N-R65W	MD Reference:	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Warner 32-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (3-07-11)	Offset TVD Reference:	Offset Datum

Offset Design Warner 25-18 Pad Sec.18-T2N-R65W - Warner 5-18 (Exist.) - Wellbore #1 - Design #1												Offset Site Error:	0.0ft
Survey Program: 0-MWD												Offset Well Error:	0.0ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.0	0.0	26.0	26.0	0.0	0.0	-76.94	412.1	-1,776.0	1,823.1	1,823.1	0.03	N/A	
100.0	100.0	126.0	126.0	0.1	0.2	-76.94	412.1	-1,776.0	1,823.1	1,822.8	0.28	6,437.499	
200.0	200.0	226.0	226.0	0.3	0.4	-76.94	412.1	-1,776.0	1,823.1	1,822.4	0.73	2,488.113	
300.0	300.0	326.0	326.0	0.6	0.6	17.94	412.1	-1,776.0	1,821.5	1,820.3	1.18	1,548.557	
400.0	399.8	425.8	425.8	0.8	0.8	18.02	412.1	-1,776.0	1,816.5	1,814.9	1.62	1,119.217	
500.0	499.5	525.5	525.5	1.0	1.1	18.16	412.1	-1,776.0	1,808.2	1,806.1	2.08	869.662	
600.0	598.7	624.7	624.7	1.3	1.3	18.35	412.1	-1,776.0	1,796.6	1,794.1	2.54	706.428	
700.0	697.5	723.5	723.5	1.7	1.5	18.61	412.1	-1,776.0	1,781.8	1,778.8	3.02	590.786	
800.0	795.6	821.6	821.6	2.0	1.7	18.92	412.1	-1,776.0	1,763.7	1,760.2	3.50	504.054	
900.0	893.1	919.1	919.1	2.5	2.0	19.31	412.1	-1,776.0	1,742.4	1,738.4	3.99	436.173	
1,000.0	989.6	1,015.6	1,015.6	3.0	2.2	19.76	412.1	-1,776.0	1,717.9	1,713.4	4.51	381.265	
1,100.0	1,085.3	1,111.3	1,111.3	3.6	2.4	20.29	412.1	-1,776.0	1,690.3	1,685.2	5.04	335.674	
1,200.0	1,179.8	1,205.8	1,205.8	4.2	2.6	20.91	412.1	-1,776.0	1,659.6	1,654.0	5.59	297.006	
1,300.0	1,273.2	1,299.2	1,299.2	5.0	2.8	21.62	412.1	-1,776.0	1,625.9	1,619.7	6.17	263.633	
1,400.0	1,365.2	1,391.2	1,391.2	5.8	3.0	22.43	412.1	-1,776.0	1,589.3	1,582.5	6.78	234.411	
1,500.0	1,455.8	1,481.8	1,481.8	6.6	3.2	23.36	412.1	-1,776.0	1,549.8	1,542.4	7.43	208.516	
1,554.7	1,504.8	1,530.8	1,530.8	7.2	3.3	23.92	412.1	-1,776.0	1,527.1	1,519.2	7.81	195.533	
1,600.0	1,545.1	1,571.1	1,571.1	7.6	3.4	24.23	412.1	-1,776.0	1,507.9	1,499.7	8.14	185.258	
1,700.0	1,634.1	1,660.1	1,660.1	8.6	3.6	24.95	412.1	-1,776.0	1,465.7	1,456.8	8.89	164.935	
1,800.0	1,723.2	1,749.2	1,749.2	9.5	3.8	25.70	412.1	-1,776.0	1,423.7	1,414.1	9.66	147.389	
1,900.0	1,812.2	1,838.2	1,838.2	10.5	4.0	26.51	412.1	-1,776.0	1,382.0	1,371.5	10.46	132.131	
2,000.0	1,901.2	1,927.2	1,927.2	11.5	4.2	27.35	412.1	-1,776.0	1,340.5	1,329.2	11.29	118.774	
2,100.0	1,990.2	2,016.2	2,016.2	12.5	4.4	28.26	412.1	-1,776.0	1,299.3	1,287.1	12.14	107.009	
2,200.0	2,079.3	2,105.3	2,105.3	13.5	4.6	29.21	412.1	-1,776.0	1,258.3	1,245.3	13.03	96.588	
2,300.0	2,168.3	2,194.3	2,194.3	14.5	4.8	30.23	412.1	-1,776.0	1,217.7	1,203.8	13.95	87.314	
2,400.0	2,257.3	2,283.3	2,283.3	15.5	5.0	31.32	412.1	-1,776.0	1,177.5	1,162.6	14.90	79.023	
2,500.0	2,346.3	2,372.3	2,372.3	16.5	5.2	32.47	412.1	-1,776.0	1,137.6	1,121.7	15.89	71.584	
2,600.0	2,435.4	2,461.4	2,461.4	17.5	5.4	33.71	412.1	-1,776.0	1,098.2	1,081.3	16.93	64.888	
2,700.0	2,524.4	2,550.4	2,550.4	18.5	5.6	35.03	412.1	-1,776.0	1,059.3	1,041.3	18.00	58.845	
2,800.0	2,613.4	2,639.4	2,639.4	19.5	5.8	36.44	412.1	-1,776.0	1,021.0	1,001.9	19.13	53.379	
2,900.0	2,702.4	2,728.4	2,728.4	20.5	6.0	37.95	412.1	-1,776.0	983.2	962.9	20.30	48.429	
3,000.0	2,791.5	2,817.5	2,817.5	21.5	6.2	39.58	412.1	-1,776.0	946.2	924.7	21.53	43.941	
3,100.0	2,880.5	2,906.5	2,906.5	22.5	6.4	41.32	412.1	-1,776.0	909.9	887.1	22.82	39.870	
3,200.0	2,969.5	2,995.5	2,995.5	23.5	6.6	43.19	412.1	-1,776.0	874.5	850.3	24.17	36.179	
3,300.0	3,058.5	3,084.5	3,084.5	24.5	6.8	45.20	412.1	-1,776.0	840.0	814.5	25.58	32.835	
3,400.0	3,147.6	3,173.6	3,173.6	25.5	7.0	47.37	412.1	-1,776.0	806.7	779.6	27.06	29.810	
3,500.0	3,236.6	3,262.6	3,262.6	26.5	7.2	49.69	412.1	-1,776.0	774.6	746.0	28.60	27.081	
3,600.0	3,325.6	3,351.6	3,351.6	27.5	7.4	52.19	412.1	-1,776.0	743.9	713.7	30.21	24.626	
3,700.0	3,414.6	3,440.6	3,440.6	28.5	7.6	54.87	412.1	-1,776.0	714.8	682.9	31.87	22.427	
3,800.0	3,503.7	3,529.7	3,529.7	29.5	7.8	57.73	412.1	-1,776.0	687.5	653.9	33.59	20.469	
3,900.0	3,592.7	3,618.7	3,618.7	30.5	8.0	60.79	412.1	-1,776.0	662.2	626.9	35.34	18.737	
4,000.0	3,681.7	3,707.7	3,707.7	31.5	8.2	64.04	412.1	-1,776.0	639.1	602.0	37.12	17.218	
4,100.0	3,770.7	3,796.7	3,796.7	32.5	8.4	67.49	412.1	-1,776.0	618.6	579.7	38.90	15.902	
4,200.0	3,859.8	3,885.8	3,885.8	33.5	8.6	71.11	412.1	-1,776.0	600.8	560.1	40.66	14.776	
4,300.0	3,948.8	3,974.8	3,974.8	34.5	8.8	74.90	412.1	-1,776.0	586.0	543.6	42.37	13.831	
4,400.0	4,037.8	4,063.8	4,063.8	35.5	9.0	78.82	412.1	-1,776.0	574.4	530.4	43.99	13.057	
4,500.0	4,126.9	4,152.9	4,152.9	36.5	9.2	82.86	412.1	-1,776.0	566.3	520.8	45.51	12.443	
4,600.0	4,215.9	4,241.9	4,241.9	37.5	9.4	86.97	412.1	-1,776.0	561.8	514.9	46.89	11.982	
4,673.3	4,281.1	4,307.1	4,307.1	38.2	9.6	90.00	412.1	-1,776.0	560.8	513.0	47.79	11.734 CC	
4,700.0	4,304.9	4,330.9	4,330.9	38.5	9.6	91.11	412.1	-1,776.0	560.9	512.8	48.10	11.662 ES	
4,800.0	4,393.9	4,419.9	4,419.9	39.5	9.8	95.24	412.1	-1,776.0	563.7	514.6	49.13	11.474	
4,900.0	4,483.0	4,509.0	4,509.0	40.5	10.0	99.31	412.1	-1,776.0	570.2	520.2	49.98	11.408 SF	

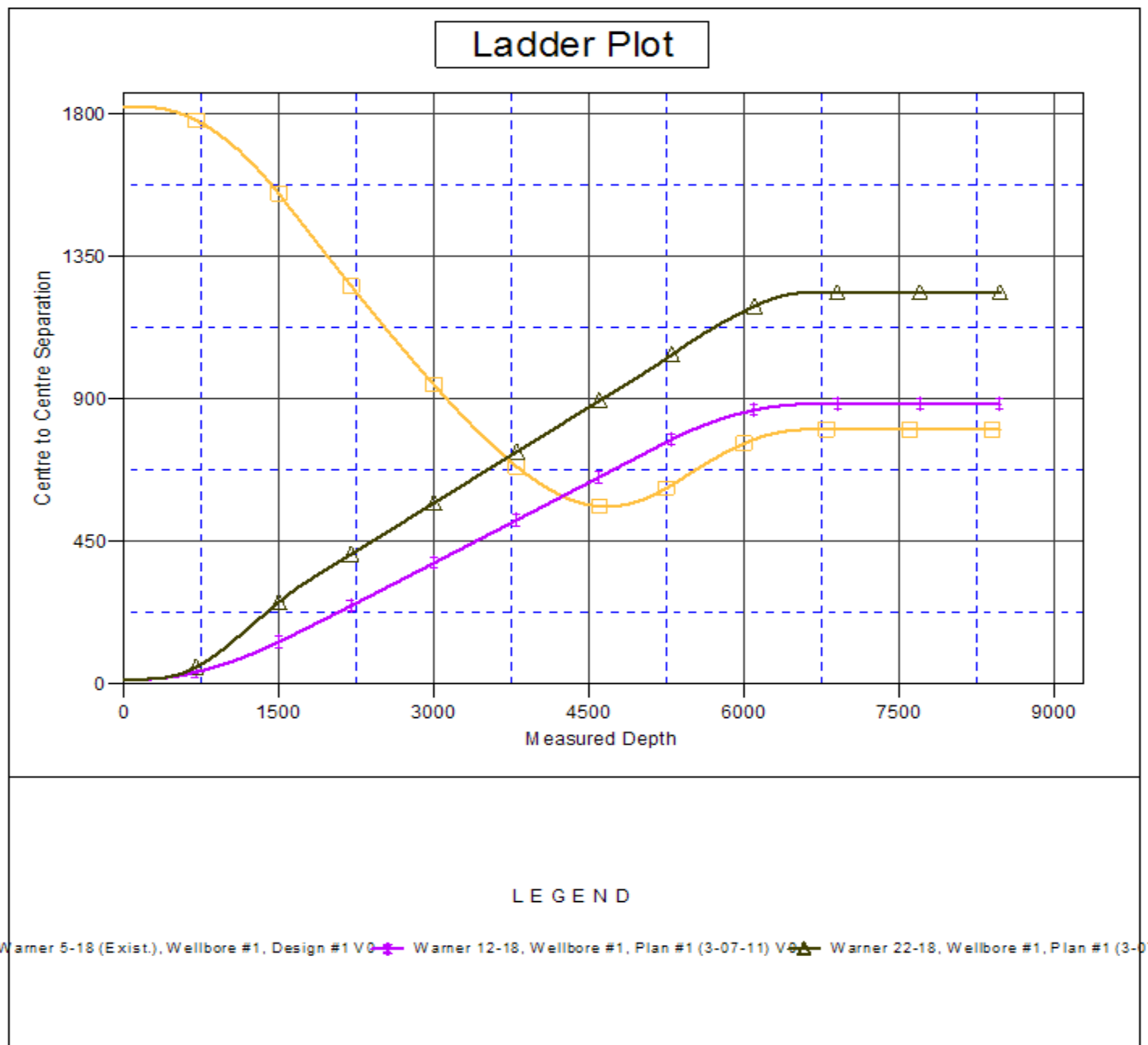
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Warner 32-18
Project:	SEC.18-T2N-R65W	TVD Reference:	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Warner 25-18 Pad Sec.18-T2N-R65W	MD Reference:	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Warner 32-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (3-07-11)	Offset TVD Reference:	Offset Datum

Offset Design Warner 25-18 Pad Sec.18-T2N-R65W - Warner 5-18 (Exist.) - Wellbore #1 - Design #1												Offset Site Error:	0.0ft
Survey Program: 0-MWD												Offset Well Error:	0.0ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,572.0	4,598.0	4,598.0	41.5	10.2	103.29	412.1	-1,776.0	580.2	529.5	50.65	11.454	
5,100.0	4,661.0	4,687.0	4,687.0	42.5	10.4	107.15	412.1	-1,776.0	593.5	542.4	51.15	11.603	
5,200.0	4,750.0	4,776.0	4,776.0	43.5	10.6	110.85	412.1	-1,776.0	609.9	558.4	51.50	11.844	
5,250.8	4,795.2	4,821.2	4,821.2	44.0	10.7	112.66	412.1	-1,776.0	619.4	567.8	51.62	11.999	
5,300.0	4,839.2	4,865.2	4,865.2	44.5	10.8	114.54	412.1	-1,776.0	629.1	577.4	51.63	12.184	
5,400.0	4,929.8	4,955.8	4,955.8	45.2	11.0	118.06	412.1	-1,776.0	649.4	597.9	51.50	12.610	
5,500.0	5,021.8	5,047.8	5,047.8	45.9	11.2	121.21	412.1	-1,776.0	670.1	618.8	51.31	13.059	
5,600.0	5,115.1	5,141.1	5,141.1	46.5	11.4	124.00	412.1	-1,776.0	690.4	639.3	51.09	13.513	
5,700.0	5,209.5	5,235.5	5,235.5	47.1	11.7	126.43	412.1	-1,776.0	710.0	659.1	50.88	13.954	
5,800.0	5,305.1	5,331.1	5,331.1	47.6	11.9	128.54	412.1	-1,776.0	728.4	677.7	50.70	14.369	
5,900.0	5,401.6	5,427.6	5,427.6	48.1	12.1	130.34	412.1	-1,776.0	745.3	694.8	50.54	14.746	
6,000.0	5,499.0	5,525.0	5,525.0	48.5	12.3	131.85	412.1	-1,776.0	760.5	710.0	50.44	15.078	
6,100.0	5,597.2	5,623.2	5,623.2	48.8	12.5	133.09	412.1	-1,776.0	773.6	723.2	50.37	15.358	
6,200.0	5,695.9	5,721.9	5,721.9	49.1	12.7	134.09	412.1	-1,776.0	784.6	734.2	50.36	15.580	
6,300.0	5,795.1	5,821.1	5,821.1	49.3	13.0	134.86	412.1	-1,776.0	793.3	742.9	50.40	15.742	
6,400.0	5,894.7	5,920.7	5,920.7	49.5	13.2	135.40	412.1	-1,776.0	799.6	749.2	50.48	15.840	
6,500.0	5,994.6	6,020.6	6,020.6	49.6	13.4	135.72	412.1	-1,776.0	803.5	752.9	50.62	15.874	
6,605.5	6,100.0	6,126.0	6,126.0	49.7	13.7	40.99	412.1	-1,776.0	804.9	754.1	50.82	15.838	
6,700.0	6,194.5	6,220.5	6,220.5	49.7	13.9	40.99	412.1	-1,776.0	804.9	753.8	51.10	15.752	
6,800.0	6,294.5	6,320.5	6,320.5	49.8	14.1	40.99	412.1	-1,776.0	804.9	753.5	51.40	15.661	
6,900.0	6,394.5	6,420.5	6,420.5	49.8	14.3	40.99	412.1	-1,776.0	804.9	753.2	51.70	15.570	
7,000.0	6,494.5	6,520.5	6,520.5	49.9	14.5	40.99	412.1	-1,776.0	804.9	752.9	52.00	15.479	
7,100.0	6,594.5	6,620.5	6,620.5	50.0	14.8	40.99	412.1	-1,776.0	804.9	752.6	52.30	15.390	
7,200.0	6,694.5	6,720.5	6,720.5	50.0	15.0	40.99	412.1	-1,776.0	804.9	752.3	52.61	15.301	
7,300.0	6,794.5	6,820.5	6,820.5	50.1	15.2	40.99	412.1	-1,776.0	804.9	752.0	52.91	15.213	
7,400.0	6,894.5	6,920.5	6,920.5	50.1	15.4	40.99	412.1	-1,776.0	804.9	751.7	53.22	15.125	
7,500.0	6,994.5	7,020.5	7,020.5	50.2	15.7	40.99	412.1	-1,776.0	804.9	751.4	53.52	15.038	
7,600.0	7,094.5	7,120.5	7,120.5	50.3	15.9	40.99	412.1	-1,776.0	804.9	751.1	53.83	14.952	
7,700.0	7,194.5	7,220.5	7,220.5	50.3	16.1	40.99	412.1	-1,776.0	804.9	750.8	54.14	14.866	
7,800.0	7,294.5	7,320.5	7,320.5	50.4	16.3	40.99	412.1	-1,776.0	804.9	750.5	54.45	14.782	
7,900.0	7,394.5	7,420.5	7,420.5	50.5	16.6	40.99	412.1	-1,776.0	804.9	750.1	54.77	14.697	
8,000.0	7,494.5	7,520.5	7,520.5	50.6	16.8	40.99	412.1	-1,776.0	804.9	749.8	55.08	14.614	
8,100.0	7,594.5	7,620.5	7,620.5	50.6	17.0	40.99	412.1	-1,776.0	804.9	749.5	55.39	14.531	
8,200.0	7,694.5	7,720.5	7,720.5	50.7	17.2	40.99	412.1	-1,776.0	804.9	749.2	55.71	14.449	
8,300.0	7,794.5	7,820.5	7,820.5	50.8	17.5	40.99	412.1	-1,776.0	804.9	748.9	56.02	14.367	
8,400.0	7,894.5	7,920.5	7,920.5	50.8	17.7	40.99	412.1	-1,776.0	804.9	748.6	56.34	14.286	
8,474.5	7,969.0	7,995.0	7,995.0	50.9	17.9	40.99	412.1	-1,776.0	804.9	748.3	56.58	14.226	

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Warner 32-18
Project:	SEC.18-T2N-R65W	TVD Reference:	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Warner 25-18 Pad Sec.18-T2N-R65W	MD Reference:	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Warner 32-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (3-07-11)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4998.0ft (Original Well Elev) Coordinates are relative to: Warner 32-18
Offset Depths are relative to Offset Datum
Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 °
Grid Convergence at Surface is: 0.51°



Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Warner 32-18
Project:	SEC.18-T2N-R65W	TVD Reference:	WELL @ 4998.0ft (Original Well Elev)
Reference Site:	Warner 25-18 Pad Sec.18-T2N-R65W	MD Reference:	WELL @ 4998.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Warner 32-18	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (3-07-11)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4998.0ft (Original Well Elev) Coordinates are relative to: Warner 32-18
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 ° Grid Convergence at Surface is: 0.51°

