

# **PDC ENERGY**

**WELD COUNTY, COLORADO**

**SW SW SEC. 29 T5N R63W 6th P.M.**

**R&R FARMS 29L-301 - CONTIGENCY PLAN**

**ORIGINAL WELLBORE**

**20 July, 2015**

**Plan: PROPOSAL #2**





Project: WELD COUNTY, COLORADO  
Site: SW SW SEC. 29 T5N R63W 6th P.M.  
Well: R&R FARMS 29L-301 - CONTINGENCY PLAN  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL #2

ANNOTATIONS

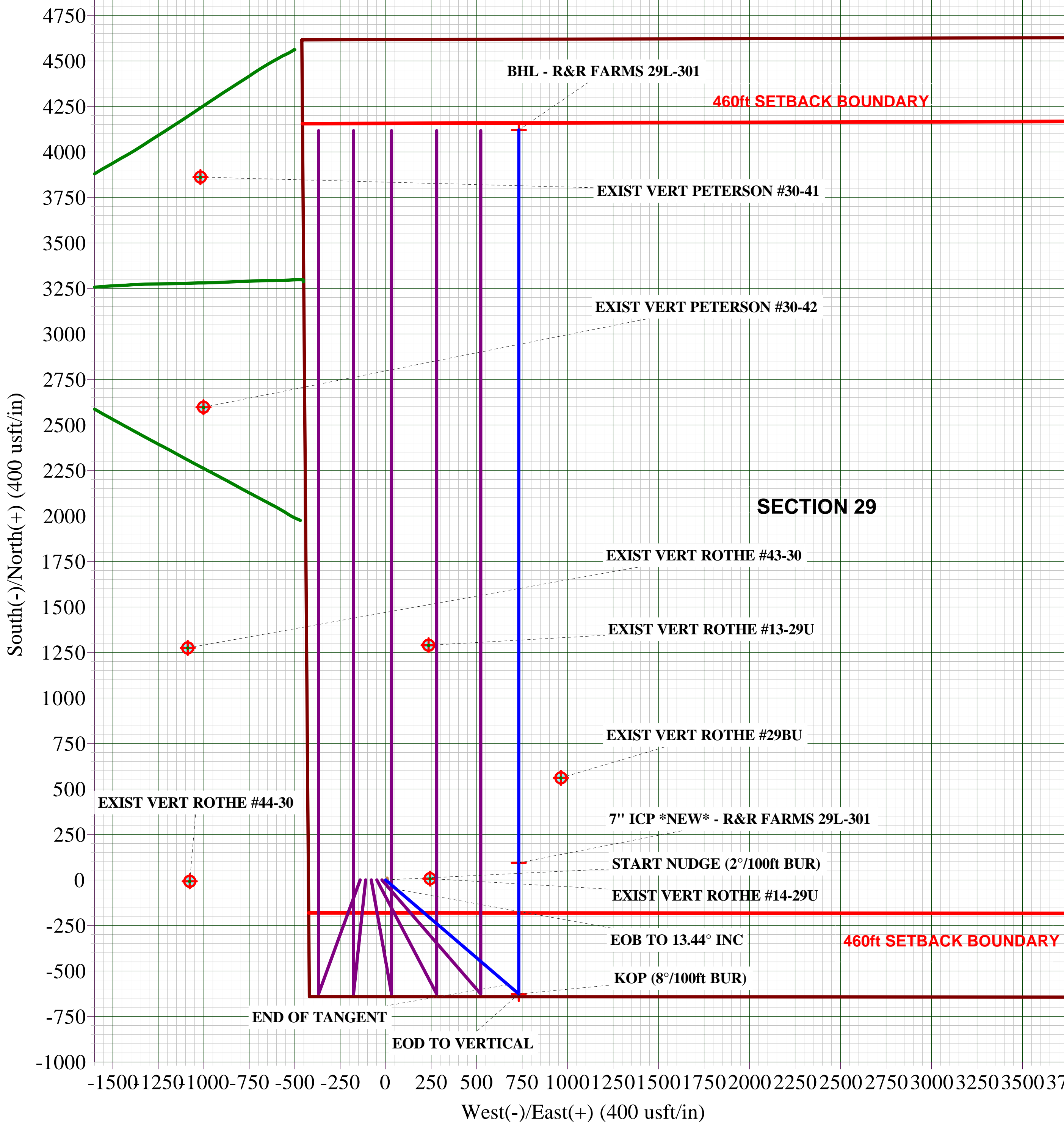
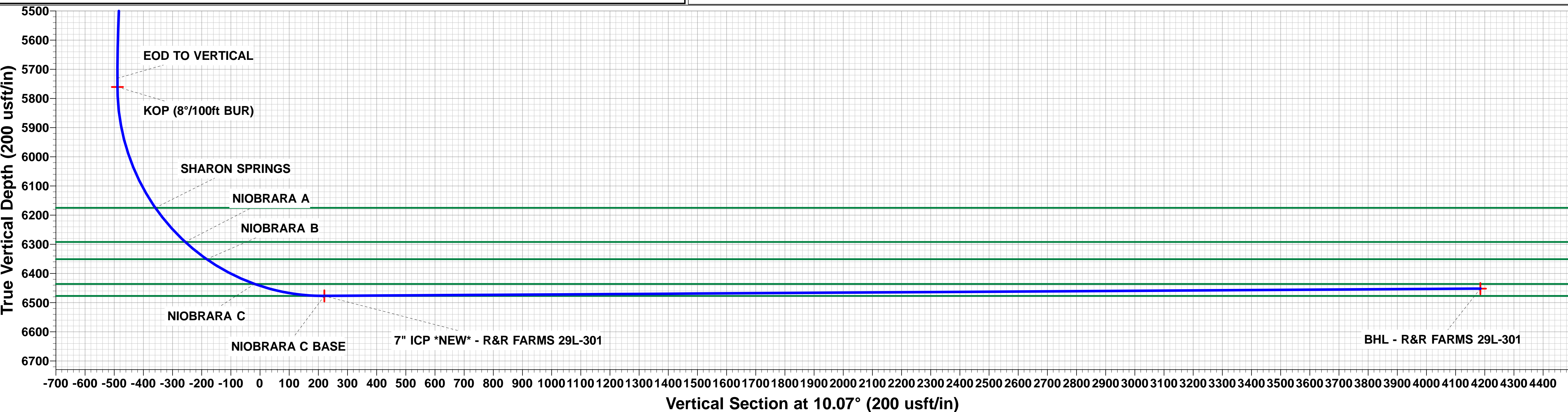
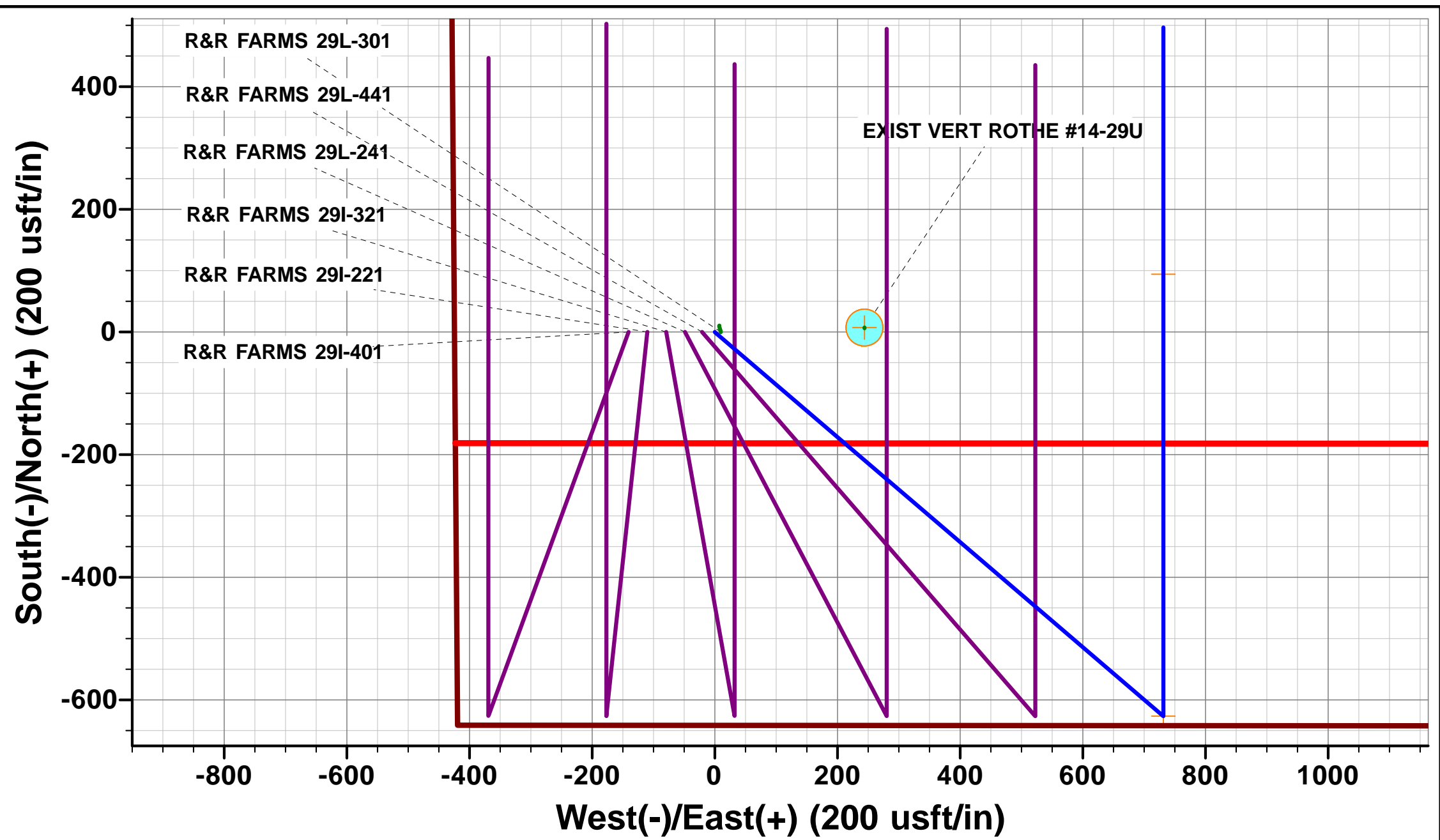
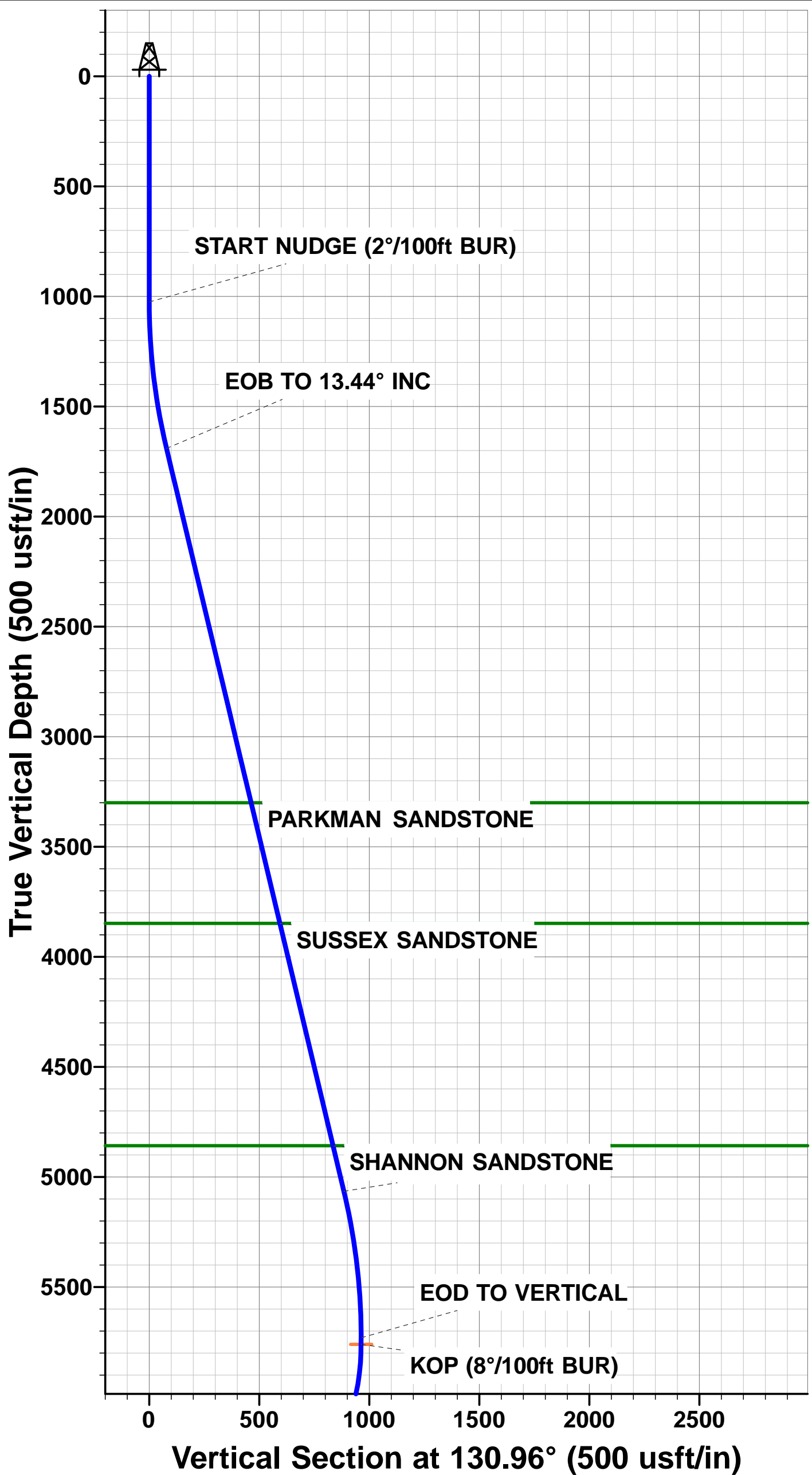
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Dep	Annotation
1025.0	1025.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1690.8	1696.9	13.44	130.57	-51.0	59.6	-39.8	78.4	EOB TO 13.44° INC
5065.0	5166.2	13.44	130.57	-575.4	672.0	-449.1	884.7	END OF TANGENT
5730.8	5838.1	0.00	0.00	-626.4	731.6	-488.9	963.1	EOD TO VERTICAL
5760.8	5868.1	0.00	0.00	-626.4	731.6	-488.9	963.1	KOP (8°/100ft BUR)
6477.0	6997.5	90.35	360.00	94.2	731.6	220.6	1683.7	7" ICP *NEW* - R&R FARMS 29L-301
6452.0	11023.7	90.36	0.00	4120.4	731.6	4184.8	5709.9	BHL - R&R FARMS 29L-301

PROPOSED LOCAL COORDINATES:

SHL: 641ft FSL & 444t FWL Sec 29  
BHL: 500ft FNL &1188ft FWL Sec 29

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - R&R FARMS 29L-301	5760.8	-626.4	731.6	40.363321	-104.465471
7" ICP *NEW* - R&R FARMS 29L-301	6477.0	94.2	731.6	40.365299	-104.465471
BHL - R&R FARMS 29L-301	6452.0	4120.4	731.6	40.376350	-104.465470



# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4587.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4587.0usft (Original Well Elev)
<b>Site:</b>	SW SW SEC. 29 T5N R63W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	R&R FARMS 29L-301 - CONTIGENCY PLAN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

<b>Project</b>	WELD COUNTY, COLORADO		
<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		Using geodetic scale factor

Site	SW SW SEC. 29 T5N R63W 6th P.M.				
Site Position:		Northing:	1,377,496.04 usft	Latitude:	40.365040
From:	Lat/Long	Easting:	3,287,397.23 usft	Longitude:	-104.468600
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000ft	Grid Convergence:	0.67 °

Well	R&R FARMS 29L-301 - CONTINGENCY PLAN					
Well Position	+N-S	0.0 usft	Northing:	1,377,497.66 usft	Latitude:	40.365040
	+E-W	140.5 usft	Easting:	3,287,537.72 usft	Longitude:	-104.468096
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	4,574.0 usft

<b>Wellbore</b>	ORIGINAL WELLBORE				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	20/07/2015	8.25	66.92	52,625

<b>Design</b>	PROPOSAL #2			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	6,452.0	0.0	0.0	10.07

<b>Plan Sections</b>											
MD (usft)	Inc (°)	Azi (°)	Vertical Depth	SS (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	-4,587.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,025.0	0.00	0.00	1,025.0	-3,562.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,696.9	13.44	130.57	1,690.8	-2,896.2	-51.0	59.6	2.00	2.00	0.00	130.57	
5,166.2	13.44	130.57	5,065.0	478.0	-575.4	672.0	0.00	0.00	0.00	0.00	
5,838.1	0.00	0.00	5,730.8	1,143.8	-626.4	731.6	2.00	-2.00	0.00	180.00	
5,868.1	0.00	0.00	5,760.8	1,173.8	-626.4	731.6	0.00	0.00	0.00	0.00	KOP - R&R FARMS
6,997.5	90.35	360.00	6,477.0	1,890.0	94.2	731.6	8.00	8.00	0.00	360.00	7" ICP *NEW* - R&
11,023.7	90.36	0.00	6,452.0	1,865.0	4,120.4	731.6	0.00	0.00	0.00	3.89	BHL - R&R FARMS

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4587.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4587.0usft (Original Well Elev)
<b>Site:</b>	SW SW SEC. 29 T5N R63W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	R&R FARMS 29L-301 - CONTIGENCY PLAN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	4,587.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,487.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,387.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,287.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,187.00	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,087.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	3,987.00	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	3,887.00	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	3,787.00	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	3,687.00	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	3,587.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
1,025.0	0.00	0.00	1,025.0	3,562.00	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	1.50	130.57	1,100.0	3,487.01	-0.6	0.7	-0.5	2.00	2.00	0.00
1,200.0	3.50	130.57	1,199.9	3,387.11	-3.5	4.1	-2.7	2.00	2.00	0.00
1,300.0	5.50	130.57	1,299.6	3,287.42	-8.6	10.0	-6.7	2.00	2.00	0.00
1,400.0	7.50	130.57	1,398.9	3,188.07	-15.9	18.6	-12.4	2.00	2.00	0.00
1,500.0	9.50	130.57	1,497.8	3,089.17	-25.6	29.8	-19.9	2.00	2.00	0.00
1,600.0	11.50	130.57	1,596.1	2,990.85	-37.4	43.7	-29.2	2.00	2.00	0.00
EOB TO 13.44° INC										
1,696.9	13.44	130.57	1,690.8	2,896.23	-51.0	59.6	-39.8	2.00	2.00	0.00
1,700.0	13.44	130.57	1,693.8	2,893.23	-51.5	60.1	-40.2	0.00	0.00	0.00
1,800.0	13.44	130.57	1,791.0	2,795.97	-66.6	77.8	-52.0	0.00	0.00	0.00
1,900.0	13.44	130.57	1,888.3	2,698.70	-81.7	95.4	-63.8	0.00	0.00	0.00
2,000.0	13.44	130.57	1,985.6	2,601.44	-96.8	113.1	-75.6	0.00	0.00	0.00
2,100.0	13.44	130.57	2,082.8	2,504.18	-111.9	130.7	-87.4	0.00	0.00	0.00
2,200.0	13.44	130.57	2,180.1	2,406.92	-127.1	148.4	-99.2	0.00	0.00	0.00
2,300.0	13.44	130.57	2,277.3	2,309.66	-142.2	166.0	-111.0	0.00	0.00	0.00
2,400.0	13.44	130.57	2,374.6	2,212.39	-157.3	183.7	-122.7	0.00	0.00	0.00
2,500.0	13.44	130.57	2,471.9	2,115.13	-172.4	201.3	-134.5	0.00	0.00	0.00
2,600.0	13.44	130.57	2,569.1	2,017.87	-187.5	219.0	-146.3	0.00	0.00	0.00
2,700.0	13.44	130.57	2,666.4	1,920.61	-202.6	236.7	-158.1	0.00	0.00	0.00
2,800.0	13.44	130.57	2,763.7	1,823.34	-217.7	254.3	-169.9	0.00	0.00	0.00
2,900.0	13.44	130.57	2,860.9	1,726.08	-232.9	272.0	-181.7	0.00	0.00	0.00
3,000.0	13.44	130.57	2,958.2	1,628.82	-248.0	289.6	-193.5	0.00	0.00	0.00
3,100.0	13.44	130.57	3,055.4	1,531.56	-263.1	307.3	-205.3	0.00	0.00	0.00
3,200.0	13.44	130.57	3,152.7	1,434.30	-278.2	324.9	-217.1	0.00	0.00	0.00
3,300.0	13.44	130.57	3,250.0	1,337.03	-293.3	342.6	-228.9	0.00	0.00	0.00
PARKMAN SANDSTONE										
3,351.4	13.44	130.57	3,300.0	1,287.00	-301.1	351.7	-235.0	0.00	0.00	0.00
3,400.0	13.44	130.57	3,347.2	1,239.77	-308.4	360.2	-240.7	0.00	0.00	0.00
3,500.0	13.44	130.57	3,444.5	1,142.51	-323.5	377.9	-252.5	0.00	0.00	0.00
3,600.0	13.44	130.57	3,541.8	1,045.25	-338.7	395.5	-264.3	0.00	0.00	0.00
3,700.0	13.44	130.57	3,639.0	947.99	-353.8	413.2	-276.1	0.00	0.00	0.00
3,800.0	13.44	130.57	3,736.3	850.72	-368.9	430.8	-287.9	0.00	0.00	0.00
3,900.0	13.44	130.57	3,833.5	753.46	-384.0	448.5	-299.7	0.00	0.00	0.00
SUSSEX SANDSTONE										
3,914.9	13.44	130.57	3,848.0	739.00	-386.3	451.1	-301.4	0.00	0.00	0.00
4,000.0	13.44	130.57	3,930.8	656.20	-399.1	466.1	-311.5	0.00	0.00	0.00
4,100.0	13.44	130.57	4,028.1	558.94	-414.2	483.8	-323.3	0.00	0.00	0.00
4,200.0	13.44	130.57	4,125.3	461.67	-429.3	501.4	-335.1	0.00	0.00	0.00
4,300.0	13.44	130.57	4,222.6	364.41	-444.5	519.1	-346.9	0.00	0.00	0.00
4,400.0	13.44	130.57	4,319.8	267.15	-459.6	536.8	-358.7	0.00	0.00	0.00

# Planning Report



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<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4587.0usft (Original Well Elev)
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<b>Well:</b>	R&R FARMS 29L-301 - CONTIGENCY PLAN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

## Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,500.0	13.44	130.57	4,417.1	169.89	-474.7	554.4	-370.5	0.00	0.00	0.00
4,600.0	13.44	130.57	4,514.4	72.63	-489.8	572.1	-382.3	0.00	0.00	0.00
4,700.0	13.44	130.57	4,611.6	-24.64	-504.9	589.7	-394.1	0.00	0.00	0.00
4,800.0	13.44	130.57	4,708.9	-121.90	-520.0	607.4	-405.8	0.00	0.00	0.00
4,900.0	13.44	130.57	4,806.2	-219.16	-535.2	625.0	-417.6	0.00	0.00	0.00
<b>SHANNON SANDSTONE</b>										
<b>4,953.3</b>	<b>13.44</b>	<b>130.57</b>	<b>4,858.0</b>	<b>-271.00</b>	<b>-543.2</b>	<b>634.4</b>	<b>-423.9</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
5,000.0	13.44	130.57	4,903.4	-316.42	-550.3	642.7	-429.4	0.00	0.00	0.00
5,100.0	13.44	130.57	5,000.7	-413.68	-565.4	660.3	-441.2	0.00	0.00	0.00
<b>END OF TANGENT</b>										
<b>5,166.2</b>	<b>13.44</b>	<b>130.57</b>	<b>5,065.0</b>	<b>-478.03</b>	<b>-575.4</b>	<b>672.0</b>	<b>-449.0</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
5,200.0	12.76	130.57	5,098.0	-510.99	-580.4	677.8	-452.9	2.00	-2.00	0.00
5,300.0	10.76	130.57	5,195.9	-608.89	-593.6	693.3	-463.3	2.00	-2.00	0.00
5,400.0	8.76	130.57	5,294.4	-707.43	-604.7	706.2	-471.9	2.00	-2.00	0.00
5,500.0	6.76	130.57	5,393.5	-806.51	-613.4	716.4	-478.7	2.00	-2.00	0.00
5,600.0	4.76	130.57	5,493.0	-906.00	-620.0	724.1	-483.8	2.00	-2.00	0.00
5,700.0	2.76	130.57	5,592.8	-1,005.78	-624.2	729.1	-487.2	2.00	-2.00	0.00
5,800.0	0.76	130.57	5,692.7	-1,105.73	-626.2	731.4	-488.7	2.00	-2.00	0.00
<b>EOD TO VERTICAL</b>										
<b>5,838.1</b>	<b>0.00</b>	<b>0.00</b>	<b>5,730.8</b>	<b>-1,143.80</b>	<b>-626.4</b>	<b>731.6</b>	<b>-488.9</b>	<b>2.00</b>	<b>-2.00</b>	<b>0.00</b>
<b>KOP (8°/100ft BUR)</b>										
<b>5,868.1</b>	<b>0.00</b>	<b>0.00</b>	<b>5,760.8</b>	<b>-1,173.80</b>	<b>-626.4</b>	<b>731.6</b>	<b>-488.9</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
5,900.0	2.55	360.00	5,792.7	-1,205.72	-625.7	731.6	-488.2	8.00	8.00	0.00
6,000.0	10.55	360.00	5,892.0	-1,304.98	-614.3	731.6	-476.9	8.00	8.00	0.00
6,100.0	18.55	360.00	5,988.7	-1,401.70	-589.2	731.6	-452.2	8.00	8.00	0.00
6,200.0	26.55	360.00	6,081.0	-1,493.97	-550.8	731.6	-414.5	8.00	8.00	0.00
6,300.0	34.55	360.00	6,167.0	-1,580.02	-500.1	731.6	-364.5	8.00	8.00	0.00
<b>SHARON SPRINGS</b>										
<b>6,309.7</b>	<b>35.33</b>	<b>360.00</b>	<b>6,175.0</b>	<b>-1,588.00</b>	<b>-494.5</b>	<b>731.6</b>	<b>-359.0</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
6,400.0	42.55	360.00	6,245.2	-1,658.16	-437.8	731.6	-303.1	8.00	8.00	0.00
<b>NIOBRARA A</b>										
<b>6,466.5</b>	<b>47.87</b>	<b>360.00</b>	<b>6,292.0</b>	<b>-1,705.00</b>	<b>-390.6</b>	<b>731.6</b>	<b>-256.7</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
6,500.0	50.55	360.00	6,313.9	-1,726.87	-365.2	731.6	-231.7	8.00	8.00	0.00
<b>NIOBRARA B</b>										
<b>6,561.7</b>	<b>55.49</b>	<b>360.00</b>	<b>6,351.0</b>	<b>-1,764.00</b>	<b>-315.9</b>	<b>731.6</b>	<b>-183.2</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
6,600.0	58.55	360.00	6,371.8	-1,784.82	-283.8	731.6	-151.6	8.00	8.00	0.00
6,700.0	66.55	360.00	6,417.9	-1,830.87	-195.2	731.6	-64.3	8.00	8.00	0.00
<b>NIOBRARA C</b>										
<b>6,749.5</b>	<b>70.52</b>	<b>360.00</b>	<b>6,436.0</b>	<b>-1,849.00</b>	<b>-149.1</b>	<b>731.6</b>	<b>-18.9</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
6,800.0	74.55	360.00	6,451.1	-1,864.14	-100.9	731.6	28.5	8.00	8.00	0.00
6,900.0	82.55	360.00	6,471.0	-1,883.97	-3.0	731.6	124.9	8.00	8.00	0.00
<b>7" ICP *NEW* - R&amp;R FARMS 29L-301 - NIOBRARA C BASE</b>										
<b>6,997.5</b>	<b>90.35</b>	<b>360.00</b>	<b>6,477.0</b>	<b>-1,890.00</b>	<b>94.2</b>	<b>731.6</b>	<b>220.7</b>	<b>8.00</b>	<b>8.00</b>	<b>0.00</b>
7,000.0	90.35	360.00	6,477.0	-1,889.98	96.7	731.6	223.1	0.00	0.00	0.00
7,100.0	90.35	360.00	6,476.4	-1,889.37	196.7	731.6	321.6	0.00	0.00	0.00
7,200.0	90.35	0.00	6,475.8	-1,888.76	296.7	731.6	420.0	0.00	0.00	0.00
7,300.0	90.35	0.00	6,475.1	-1,888.15	396.7	731.6	518.5	0.00	0.00	0.00
7,400.0	90.35	0.00	6,474.5	-1,887.53	496.7	731.6	617.0	0.00	0.00	0.00
7,500.0	90.35	0.00	6,473.9	-1,886.92	596.7	731.6	715.4	0.00	0.00	0.00
7,600.0	90.35	0.00	6,473.3	-1,886.30	696.7	731.6	813.9	0.00	0.00	0.00
7,700.0	90.35	0.00	6,472.7	-1,885.69	796.7	731.6	912.3	0.00	0.00	0.00
7,800.0	90.35	0.00	6,472.1	-1,885.07	896.7	731.6	1,010.8	0.00	0.00	0.00



# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4587.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4587.0usft (Original Well Elev)
<b>Site:</b>	SW SW SEC. 29 T5N R63W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	R&R FARMS 29L-301 - CONTIGENCY PLAN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

## Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,900.0	90.35	0.00	6,471.5	-1,884.46	996.7	731.6	1,109.3	0.00	0.00	0.00
8,000.0	90.35	0.00	6,470.8	-1,883.84	1,096.7	731.6	1,207.7	0.00	0.00	0.00
8,100.0	90.35	0.00	6,470.2	-1,883.22	1,196.7	731.6	1,306.2	0.00	0.00	0.00
8,200.0	90.35	0.00	6,469.6	-1,882.60	1,296.7	731.6	1,404.6	0.00	0.00	0.00
8,300.0	90.35	0.00	6,469.0	-1,881.99	1,396.7	731.6	1,503.1	0.00	0.00	0.00
8,400.0	90.35	0.00	6,468.4	-1,881.37	1,496.7	731.6	1,601.5	0.00	0.00	0.00
8,500.0	90.35	0.00	6,467.8	-1,880.75	1,596.7	731.6	1,700.0	0.00	0.00	0.00
8,600.0	90.35	0.00	6,467.1	-1,880.13	1,696.7	731.6	1,798.5	0.00	0.00	0.00
8,700.0	90.36	0.00	6,466.5	-1,879.51	1,796.7	731.6	1,896.9	0.00	0.00	0.00
8,800.0	90.36	0.00	6,465.9	-1,878.89	1,896.7	731.6	1,995.4	0.00	0.00	0.00
8,900.0	90.36	0.00	6,465.3	-1,878.27	1,996.7	731.6	2,093.8	0.00	0.00	0.00
9,000.0	90.36	0.00	6,464.7	-1,877.65	2,096.7	731.6	2,192.3	0.00	0.00	0.00
9,100.0	90.36	0.00	6,464.0	-1,877.03	2,196.7	731.6	2,290.8	0.00	0.00	0.00
9,200.0	90.36	0.00	6,463.4	-1,876.41	2,296.7	731.6	2,389.2	0.00	0.00	0.00
9,300.0	90.36	0.00	6,462.8	-1,875.79	2,396.7	731.6	2,487.7	0.00	0.00	0.00
9,400.0	90.36	0.00	6,462.2	-1,875.16	2,496.7	731.6	2,586.1	0.00	0.00	0.00
9,500.0	90.36	0.00	6,461.5	-1,874.54	2,596.7	731.6	2,684.6	0.00	0.00	0.00
9,600.0	90.36	0.00	6,460.9	-1,873.92	2,696.7	731.6	2,783.0	0.00	0.00	0.00
9,700.0	90.36	0.00	6,460.3	-1,873.29	2,796.7	731.6	2,881.5	0.00	0.00	0.00
9,800.0	90.36	0.00	6,459.7	-1,872.67	2,896.7	731.6	2,980.0	0.00	0.00	0.00
9,900.0	90.36	0.00	6,459.0	-1,872.05	2,996.7	731.6	3,078.4	0.00	0.00	0.00
10,000.0	90.36	0.00	6,458.4	-1,871.42	3,096.7	731.6	3,176.9	0.00	0.00	0.00
10,100.0	90.36	0.00	6,457.8	-1,870.80	3,196.7	731.6	3,275.3	0.00	0.00	0.00
10,200.0	90.36	0.00	6,457.2	-1,870.17	3,296.7	731.6	3,373.8	0.00	0.00	0.00
10,300.0	90.36	0.00	6,456.5	-1,869.54	3,396.7	731.6	3,472.2	0.00	0.00	0.00
10,400.0	90.36	0.00	6,455.9	-1,868.92	3,496.7	731.6	3,570.7	0.00	0.00	0.00
10,500.0	90.36	0.00	6,455.3	-1,868.29	3,596.7	731.6	3,669.2	0.00	0.00	0.00
10,600.0	90.36	0.00	6,454.7	-1,867.66	3,696.7	731.6	3,767.6	0.00	0.00	0.00
10,700.0	90.36	0.00	6,454.0	-1,867.04	3,796.7	731.6	3,866.1	0.00	0.00	0.00
10,800.0	90.36	0.00	6,453.4	-1,866.41	3,896.6	731.6	3,964.5	0.00	0.00	0.00
10,900.0	90.36	0.00	6,452.8	-1,865.78	3,996.6	731.6	4,063.0	0.00	0.00	0.00
11,000.0	90.36	0.00	6,452.1	-1,865.15	4,096.6	731.6	4,161.5	0.00	0.00	0.00
<b>BHL - R&amp;R FARMS 29L-301</b>										
<b>11,023.7</b>	<b>90.36</b>	<b>0.00</b>	<b>6,452.0</b>	<b>-1,865.00</b>	<b>4,120.4</b>	<b>731.6</b>	<b>4,184.8</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

## Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,351.4	3,300.0	PARKMAN SANDSTONE			
3,914.9	3,848.0	SUSSEX SANDSTONE			
4,953.3	4,858.0	SHANNON SANDSTONE			
6,309.7	6,175.0	SHARON SPRINGS			
6,466.5	6,292.0	NIOBRARA A			
6,561.7	6,351.0	NIOBRARA B			
6,749.5	6,436.0	NIOBRARA C			
6,997.5	6,477.0	NIOBRARA C BASE			

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
<b>Company:</b>	PDC ENERGY	<b>TVD Reference:</b>	KB-EST @ 4587.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO	<b>MD Reference:</b>	KB-EST @ 4587.0usft (Original Well Elev)
<b>Site:</b>	SW SW SEC. 29 T5N R63W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	R&R FARMS 29L-301 - CONTIGENCY PLAN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

## Plan Annotations

MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,025.0	1,025.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1,696.9	1,690.8	-51.0	59.6	EOB TO 13.44° INC
5,166.2	5,065.0	-575.4	672.0	END OF TANGENT
5,838.1	5,730.8	-626.4	731.6	EOD TO VERTICAL
5,868.1	5,760.8	-626.4	731.6	KOP (8°/100ft BUR)
6,997.5	6,477.0	94.2	731.6	7" ICP *NEW* - R&R FARMS 29L-301
11,023.7	6,452.0	4,120.4	731.6	BHL - R&R FARMS 29L-301