

# PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Coors Energy 14-25H**

Surface Location: Coors Energy 14-25H Pad Sec.25-T3N-R64W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4825.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1314575.94	3276875.64	40.192660	-104.508880	

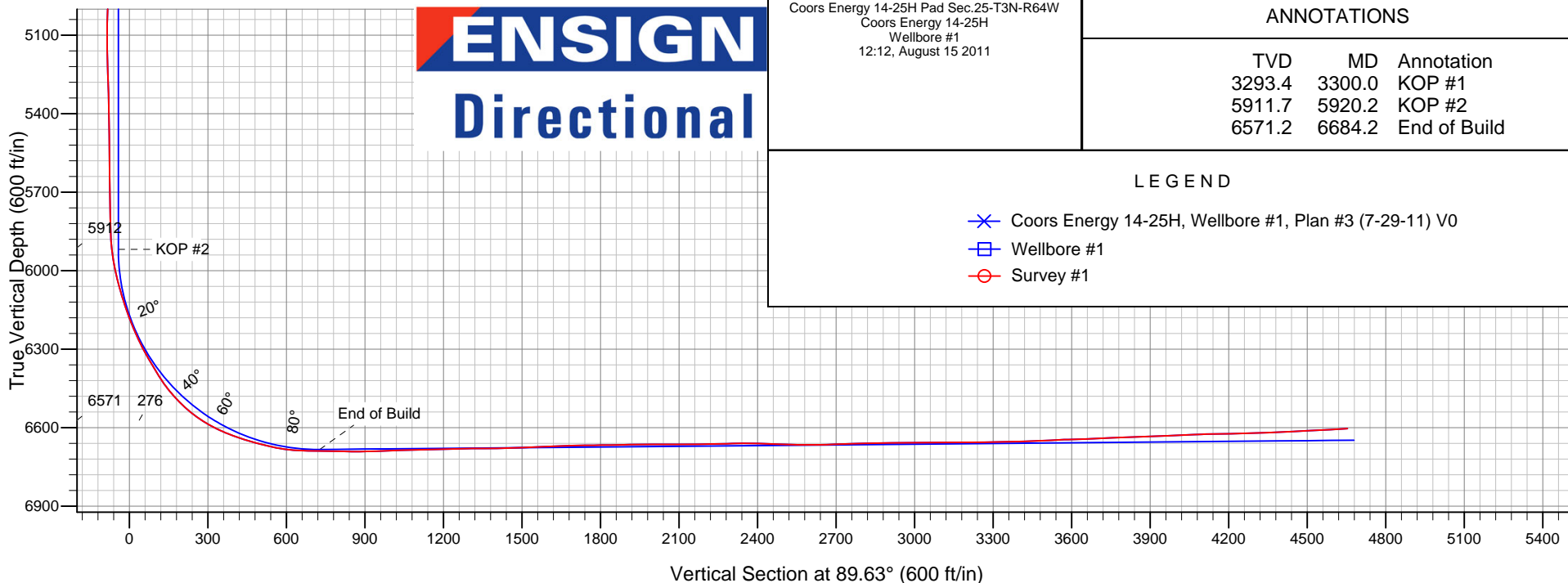
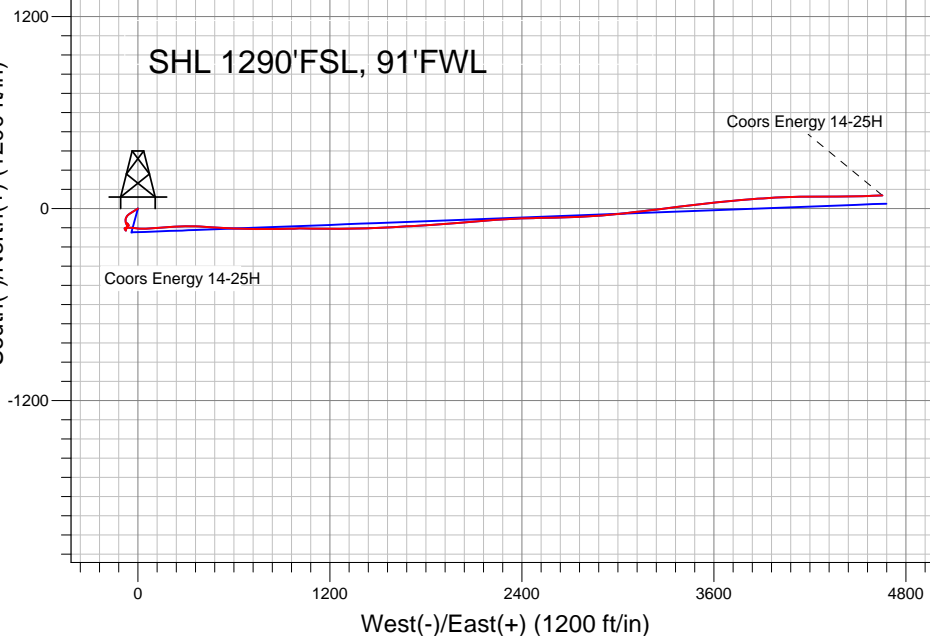
Original Well Elev WELL @ 4839.0ft (Original Well Elev)

## FINAL SURVEY

Projected Bottom Hole Location  
11093' MD 6603' TVD 81' N & 4653' E of  
SHL  
93.6 degree Incl @ 87.9 degree AZM

South(-)/North(+) (1200 ft/in)

SHL 1290'FSL, 91'FWL



**ENSIGN**  
**Directional**

Coors Energy 14-25H Pad Sec.25-T3N-R64W  
Coors Energy 14-25H  
Wellbore #1  
12:12, August 15 2011

### ANNOTATIONS

TVD	MD	Annotation
3293.4	3300.0	KOP #1
5911.7	5920.2	KOP #2
6571.2	6684.2	End of Build

### LEGEND

- ✕ Coors Energy 14-25H, Wellbore #1, Plan #3 (7-29-11) V0
- Wellbore #1
- Survey #1



## **Directional**

# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.25-T3N-R64W**

**Coors Energy 14-25H Pad Sec.25-T3N-R64W**

**Coors Energy 14-25H**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**15 August, 2011**

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Coors Energy 14-25H
<b>Project:</b>	SEC.25-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4839.0ft (Original Well Elev)
<b>Site:</b>	Coors Energy 14-25H Pad Sec.25-T3N-R64W	<b>MD Reference:</b>	WELL @ 4839.0ft (Original Well Elev)
<b>Well:</b>	Coors Energy 14-25H	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

<b>Project</b>	SEC.25-T3N-R64W, 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	Coors Energy 14-25H Pad Sec.25-T3N-R64W				
Site Position:		Northing:	1,314,575.96ft	Latitude:	40.192660
From:	Lat/Long	Easting:	3,276,875.64ft	Longitude:	-104.508880
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.64 °

Well	Coors Energy 14-25H					
Well Position	+N-S	0.0 ft	Northing:	1,314,575.94 ft	Latitude:	40.192660
	+E-W	0.0 ft	Easting:	3,276,875.64 ft	Longitude:	-104.508880
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,825.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	7/29/2011	8.69	66.92	53,037

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	89.63	

<b>Survey Program</b>	<b>Date</b> 8/15/2011				
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
974.0	11,093.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>									
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>HARDLINE BHL 460'FEL - HARDLINE SHL 460'FWL</b>									
974.0	7.10	237.00	971.5	-32.8	-50.5	-50.8	0.73	0.73	0.00
1,066.0	6.40	233.90	1,062.9	-38.9	-59.5	-59.7	0.86	-0.76	-3.37
1,158.0	6.30	219.10	1,154.3	-45.9	-66.8	-67.1	1.78	-0.11	-16.09
1,250.0	6.20	207.30	1,245.8	-54.2	-72.2	-72.6	1.40	-0.11	-12.83
1,343.0	5.90	198.50	1,338.3	-63.2	-76.1	-76.5	1.05	-0.32	-9.46
1,436.0	5.60	180.30	1,430.8	-72.3	-77.6	-78.1	1.98	-0.32	-19.57
1,529.0	4.40	174.30	1,523.4	-80.4	-77.3	-77.8	1.41	-1.29	-6.45
1,622.0	3.90	163.80	1,616.2	-87.0	-76.0	-76.6	0.98	-0.54	-11.29
1,716.0	3.70	165.90	1,710.0	-93.0	-74.4	-75.0	0.26	-0.21	2.23
1,809.0	2.20	147.90	1,802.9	-97.4	-72.7	-73.4	1.88	-1.61	-19.35

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<b>Site:</b>	Coors Energy 14-25H Pad Sec.25-T3N-R64W	<b>MD Reference:</b>	WELL @ 4839.0ft (Original Well Elev)
<b>Well:</b>	Coors Energy 14-25H	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

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)
1,901.0	2.20	144.90	1,894.8	-100.3	-70.8	-71.4	0.13	0.00	-3.26
1,994.0	2.20	131.80	1,987.7	-103.0	-68.4	-69.1	0.54	0.00	-14.09
2,087.0	1.60	128.00	2,080.7	-105.0	-66.1	-66.7	0.66	-0.65	-4.09
2,181.0	1.60	82.60	2,174.6	-105.6	-63.7	-64.4	1.31	0.00	-48.30
2,274.0	1.30	121.60	2,267.6	-106.0	-61.5	-62.2	1.08	-0.32	41.94
2,367.0	1.10	88.00	2,360.6	-106.5	-59.8	-60.4	0.77	-0.22	-36.13
2,460.0	0.60	60.30	2,453.6	-106.2	-58.4	-59.1	0.68	-0.54	-29.79
2,554.0	0.50	81.70	2,547.6	-105.9	-57.6	-58.3	0.24	-0.11	22.77
2,647.0	0.90	333.40	2,640.6	-105.2	-57.5	-58.2	1.25	0.43	-116.45
2,740.0	1.10	314.60	2,733.6	-104.0	-58.5	-59.2	0.41	0.22	-20.22
2,832.0	0.70	306.20	2,825.6	-103.0	-59.6	-60.2	0.46	-0.43	-9.13
2,925.0	0.90	321.10	2,918.5	-102.1	-60.5	-61.2	0.31	0.22	16.02
3,019.0	1.70	321.10	3,012.5	-100.4	-61.8	-62.5	0.85	0.85	0.00
3,113.0	1.90	311.80	3,106.5	-98.3	-63.9	-64.5	0.38	0.21	-9.89
3,206.0	1.80	310.20	3,199.4	-96.3	-66.1	-66.8	0.12	-0.11	-1.72
3,299.0	2.10	311.60	3,292.4	-94.3	-68.5	-69.1	0.33	0.32	1.51
3,300.0	2.08	311.90	3,293.4	-94.2	-68.6	-69.2	2.44	-2.19	29.60
<b>KOP #1</b>									
3,392.0	1.00	37.90	3,385.3	-92.5	-69.3	-69.9	2.44	-1.17	93.48
3,486.0	1.50	118.80	3,479.3	-92.4	-67.7	-68.3	1.77	0.53	86.06
3,579.0	1.80	149.00	3,572.3	-94.3	-65.9	-66.5	0.98	0.32	32.47
3,672.0	3.70	186.70	3,665.2	-98.5	-65.5	-66.1	2.72	2.04	40.54
3,765.0	3.00	188.40	3,758.0	-103.9	-66.2	-66.9	0.76	-0.75	1.83
3,858.0	1.90	184.00	3,850.9	-107.8	-66.7	-67.4	1.20	-1.18	-4.73
3,950.0	3.00	187.00	3,942.9	-111.8	-67.1	-67.8	1.20	1.20	3.26
4,044.0	2.30	210.60	4,036.8	-115.8	-68.3	-69.1	1.36	-0.74	25.11
4,137.0	2.40	193.50	4,129.7	-119.3	-69.7	-70.5	0.76	0.11	-18.39
4,229.0	2.60	200.80	4,221.6	-123.1	-70.9	-71.7	0.41	0.22	7.93
4,322.0	1.40	237.20	4,314.5	-125.7	-72.6	-73.4	1.82	-1.29	39.14
4,414.0	1.70	207.70	4,406.5	-127.5	-74.2	-75.0	0.91	0.33	-32.07
4,507.0	3.40	176.10	4,499.4	-131.5	-74.7	-75.5	2.31	1.83	-33.98
4,600.0	2.10	182.90	4,592.3	-136.0	-74.6	-75.4	1.44	-1.40	7.31
4,693.0	0.90	217.00	4,685.3	-138.3	-75.1	-76.0	1.55	-1.29	36.67
4,787.0	1.20	318.90	4,779.3	-138.1	-76.2	-77.1	1.75	0.32	108.40
4,880.0	2.60	325.00	4,872.2	-135.6	-78.0	-78.9	1.52	1.51	6.56
4,973.0	3.80	325.60	4,965.1	-131.4	-81.0	-81.8	1.29	1.29	0.65
5,066.0	2.90	340.10	5,057.9	-126.6	-83.5	-84.3	1.32	-0.97	15.59
5,159.0	1.40	42.10	5,150.8	-123.6	-83.6	-84.4	2.75	-1.61	66.67
5,252.0	2.00	101.50	5,243.8	-123.0	-81.2	-82.0	1.90	0.65	63.87
5,346.0	1.30	78.00	5,337.8	-123.2	-78.6	-79.3	1.02	-0.74	-25.00
5,439.0	1.00	75.40	5,430.8	-122.7	-76.7	-77.5	0.33	-0.32	-2.80
5,532.0	0.90	43.10	5,523.7	-122.0	-75.5	-76.2	0.58	-0.11	-34.73
5,625.0	0.70	60.20	5,616.7	-121.2	-74.5	-75.2	0.33	-0.22	18.39
5,718.0	1.20	48.00	5,709.7	-120.2	-73.2	-74.0	0.58	0.54	-13.12
5,752.0	1.30	65.80	5,743.7	-119.8	-72.6	-73.4	1.17	0.29	52.35
5,783.0	1.00	88.60	5,774.7	-119.7	-72.0	-72.8	1.75	-0.97	73.55
5,814.0	1.10	86.10	5,805.7	-119.7	-71.5	-72.2	0.35	0.32	-8.06
5,845.0	1.30	72.80	5,836.7	-119.5	-70.8	-71.6	1.10	0.65	-42.90
5,876.0	2.40	82.00	5,867.7	-119.3	-69.9	-70.6	3.66	3.55	29.68
5,907.0	5.10	90.50	5,898.6	-119.3	-67.8	-68.6	8.87	8.71	27.42
5,920.2	5.95	90.70	5,911.7	-119.3	-66.6	-67.3	6.45	6.45	1.54
<b>KOP #2</b>									
5,938.0	7.10	90.90	5,929.4	-119.3	-64.5	-65.3	6.45	6.45	1.11

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<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

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)
5,969.0	9.30	93.50	5,960.1	-119.5	-60.1	-60.9	7.20	7.10	8.39
6,001.0	11.20	92.30	5,991.6	-119.8	-54.4	-55.2	5.97	5.94	-3.75
6,032.0	13.30	93.10	6,021.9	-120.1	-47.9	-48.6	6.80	6.77	2.58
6,062.0	14.90	94.80	6,051.0	-120.6	-40.6	-41.4	5.51	5.33	5.67
6,093.0	16.40	95.30	6,080.8	-121.3	-32.2	-33.0	4.86	4.84	1.61
6,124.0	17.70	97.10	6,110.5	-122.3	-23.2	-24.0	4.53	4.19	5.81
6,155.0	18.80	97.10	6,139.9	-123.5	-13.6	-14.4	3.55	3.55	0.00
6,186.0	20.40	95.90	6,169.1	-124.7	-3.3	-4.1	5.32	5.16	-3.87
6,217.0	21.70	94.10	6,198.0	-125.7	7.8	7.0	4.68	4.19	-5.81
6,248.0	23.00	92.40	6,226.7	-126.3	19.6	18.8	4.68	4.19	-5.48
6,279.0	24.50	89.90	6,255.1	-126.6	32.1	31.3	5.83	4.84	-8.06
6,311.0	26.50	88.10	6,284.0	-126.3	45.9	45.0	6.70	6.25	-5.63
6,341.0	28.40	86.60	6,310.6	-125.7	59.7	58.9	6.74	6.33	-5.00
6,373.0	31.00	86.50	6,338.4	-124.7	75.5	74.7	8.13	8.13	-0.31
6,404.0	30.00	86.60	6,365.1	-123.8	91.2	90.4	3.23	-3.23	0.32
6,435.0	31.50	85.10	6,391.7	-122.6	107.0	106.2	5.43	4.84	-4.84
6,466.0	34.00	85.30	6,417.8	-121.2	123.7	122.9	8.07	8.06	0.65
6,497.0	36.90	85.50	6,443.1	-119.8	141.6	140.9	9.36	9.35	0.65
6,528.0	40.00	86.40	6,467.3	-118.4	160.9	160.1	10.16	10.00	2.90
6,559.0	43.10	86.40	6,490.5	-117.1	181.4	180.6	10.00	10.00	0.00
6,590.0	46.30	86.70	6,512.6	-115.8	203.1	202.4	10.34	10.32	0.97
6,621.0	49.50	86.80	6,533.3	-114.5	226.1	225.4	10.33	10.32	0.32
6,652.0	53.00	87.50	6,552.7	-113.3	250.3	249.5	11.43	11.29	2.26
6,683.0	56.80	87.90	6,570.6	-112.3	275.6	274.9	12.30	12.26	1.29
6,684.2	56.93	87.96	6,571.2	-112.3	276.6	275.9	11.45	10.59	5.18
End of Build									
6,715.0	60.20	89.50	6,587.3	-111.7	302.9	302.1	11.45	10.63	4.99
6,746.0	63.80	90.50	6,601.8	-111.7	330.2	329.5	11.96	11.61	3.23
6,777.0	66.40	91.70	6,614.9	-112.2	358.3	357.6	9.09	8.39	3.87
6,808.0	69.10	92.50	6,626.6	-113.3	387.0	386.3	9.03	8.71	2.58
6,838.0	70.90	92.60	6,636.9	-114.5	415.2	414.4	6.01	6.00	0.33
6,869.0	73.00	92.80	6,646.5	-115.9	444.6	443.9	6.80	6.77	0.65
6,900.0	74.40	94.20	6,655.2	-117.8	474.3	473.5	6.26	4.52	4.52
6,931.0	75.80	93.70	6,663.2	-119.8	504.2	503.4	4.78	4.52	-1.61
6,962.0	76.90	93.24	6,670.5	-121.6	534.3	533.5	3.83	3.55	-1.48
6,993.0	78.50	93.00	6,677.1	-123.3	564.5	563.7	5.22	5.16	-0.77
7,024.0	82.10	93.30	6,682.3	-125.0	595.0	594.2	11.65	11.61	0.97
7,055.0	86.00	92.80	6,685.5	-126.6	625.8	625.0	12.68	12.58	-1.61
7,086.0	87.60	91.20	6,687.3	-127.7	656.7	655.9	7.29	5.16	-5.16
7,117.0	88.60	90.80	6,688.3	-128.2	687.7	686.9	3.47	3.23	-1.29
7,151.0	89.00	89.70	6,689.0	-128.4	721.7	720.8	3.44	1.18	-3.24
7,183.0	88.90	89.70	6,689.6	-128.2	753.7	752.8	0.31	-0.31	0.00
7,215.0	89.40	89.70	6,690.1	-128.0	785.7	784.8	1.56	1.56	0.00
7,247.0	89.20	89.10	6,690.4	-127.7	817.7	816.8	1.98	-0.63	-1.88
7,279.0	89.40	89.50	6,690.8	-127.3	849.7	848.8	1.40	0.63	1.25
7,311.0	90.40	89.40	6,690.9	-127.0	881.7	880.8	3.14	3.13	-0.31
7,343.0	91.30	89.30	6,690.4	-126.6	913.7	912.8	2.83	2.81	-0.31
7,374.0	91.60	89.50	6,689.6	-126.3	944.7	943.8	1.16	0.97	0.65
7,406.0	91.90	89.30	6,688.7	-126.0	976.6	975.8	1.13	0.94	-0.63
7,438.0	92.70	88.60	6,687.4	-125.4	1,008.6	1,007.8	3.32	2.50	-2.19
7,470.0	92.40	89.50	6,685.9	-124.9	1,040.6	1,039.7	2.96	-0.94	2.81
7,501.0	91.20	90.50	6,685.0	-124.9	1,071.6	1,070.7	5.04	-3.87	3.23
7,533.0	90.80	91.00	6,684.4	-125.3	1,103.5	1,102.7	2.00	-1.25	1.56

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<b>Well:</b>	Coors Energy 14-25H	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

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)
7,565.0	91.00	91.20	6,683.9	-125.9	1,135.5	1,134.7	0.88	0.63	0.63
7,597.0	91.40	91.00	6,683.2	-126.5	1,167.5	1,166.7	1.40	1.25	-0.63
7,628.0	92.00	90.70	6,682.3	-127.0	1,198.5	1,197.7	2.16	1.94	-0.97
7,659.0	92.40	90.50	6,681.1	-127.3	1,229.5	1,228.6	1.44	1.29	-0.65
7,691.0	91.50	90.20	6,680.0	-127.5	1,261.5	1,260.6	2.96	-2.81	-0.94
7,724.0	90.90	89.70	6,679.4	-127.5	1,294.5	1,293.6	2.37	-1.82	-1.52
7,755.0	89.60	89.10	6,679.2	-127.1	1,325.4	1,324.6	4.62	-4.19	-1.94
7,788.0	90.10	88.50	6,679.3	-126.5	1,358.4	1,357.6	2.37	1.52	-1.82
7,820.0	90.80	88.30	6,679.1	-125.6	1,390.4	1,389.6	2.28	2.19	-0.63
7,852.0	91.30	88.00	6,678.5	-124.5	1,422.4	1,421.6	1.82	1.56	-0.94
7,884.0	91.40	88.20	6,677.7	-123.5	1,454.4	1,453.6	0.70	0.31	0.63
7,916.0	92.10	87.40	6,676.7	-122.2	1,486.3	1,485.5	3.32	2.19	-2.50
7,948.0	92.60	86.80	6,675.4	-120.6	1,518.3	1,517.5	2.44	1.56	-1.88
7,980.0	92.70	86.80	6,673.9	-118.8	1,550.2	1,549.4	0.31	0.31	0.00
8,012.0	92.00	86.70	6,672.6	-117.0	1,582.1	1,581.3	2.21	-2.19	-0.31
8,044.0	92.50	86.40	6,671.4	-115.1	1,614.0	1,613.2	1.82	1.56	-0.94
8,076.0	92.10	87.00	6,670.1	-113.3	1,645.9	1,645.2	2.25	-1.25	1.88
8,108.0	91.80	87.60	6,669.0	-111.8	1,677.9	1,677.1	2.10	-0.94	1.88
8,141.0	91.90	87.10	6,667.9	-110.2	1,710.8	1,710.1	1.54	0.30	-1.52
8,173.0	90.50	86.90	6,667.3	-108.6	1,742.8	1,742.1	4.42	-4.38	-0.63
8,205.0	90.60	87.00	6,667.0	-106.8	1,774.7	1,774.0	0.44	0.31	0.31
8,237.0	90.30	86.60	6,666.7	-105.1	1,806.7	1,806.0	1.56	-0.94	-1.25
8,269.0	90.30	85.40	6,666.5	-102.8	1,838.6	1,837.9	3.75	0.00	-3.75
8,300.0	91.00	85.40	6,666.2	-100.3	1,869.5	1,868.8	2.26	2.26	0.00
8,332.0	91.40	85.00	6,665.5	-97.7	1,901.4	1,900.7	1.77	1.25	-1.25
8,364.0	92.00	85.70	6,664.6	-95.1	1,933.3	1,932.6	2.88	1.88	2.19
8,395.0	91.60	85.90	6,663.6	-92.8	1,964.2	1,963.5	1.44	-1.29	0.65
8,427.0	89.70	86.00	6,663.2	-90.5	1,996.1	1,995.5	5.95	-5.94	0.31
8,460.0	88.80	85.70	6,663.7	-88.2	2,029.0	2,028.4	2.87	-2.73	-0.91
8,492.0	90.10	85.60	6,664.0	-85.7	2,060.9	2,060.3	4.07	4.06	-0.31
8,524.0	90.30	86.10	6,663.9	-83.4	2,092.8	2,092.2	1.68	0.63	1.56
8,556.0	90.20	84.90	6,663.7	-80.9	2,124.7	2,124.2	3.76	-0.31	-3.75
8,588.0	90.40	85.40	6,663.6	-78.2	2,156.6	2,156.1	1.68	0.63	1.56
8,620.0	91.00	85.40	6,663.2	-75.6	2,188.5	2,188.0	1.88	1.88	0.00
8,652.0	91.40	84.60	6,662.5	-72.8	2,220.4	2,219.9	2.79	1.25	-2.50
8,684.0	91.40	84.80	6,661.7	-69.9	2,252.2	2,251.7	0.62	0.00	0.63
8,716.0	90.90	86.30	6,661.1	-67.4	2,284.1	2,283.6	4.94	-1.56	4.69
8,748.0	91.50	86.80	6,660.4	-65.5	2,316.1	2,315.6	2.44	1.88	1.56
8,779.0	90.70	87.60	6,659.8	-64.0	2,347.0	2,346.6	3.65	-2.58	2.58
8,811.0	89.10	88.20	6,659.9	-62.8	2,379.0	2,378.5	5.34	-5.00	1.88
8,844.0	88.00	88.60	6,660.7	-61.9	2,412.0	2,411.5	3.55	-3.33	1.21
8,875.0	87.90	88.60	6,661.8	-61.1	2,442.9	2,442.5	0.32	-0.32	0.00
8,906.0	88.00	88.70	6,662.9	-60.4	2,473.9	2,473.5	0.46	0.32	0.32
8,938.0	88.50	88.20	6,663.9	-59.5	2,505.9	2,505.4	2.21	1.56	-1.56
8,970.0	88.90	88.60	6,664.6	-58.6	2,537.9	2,537.4	1.77	1.25	1.25
9,002.0	88.80	88.50	6,665.3	-57.8	2,569.8	2,569.4	0.44	-0.31	-0.31
9,033.0	90.20	88.70	6,665.5	-57.1	2,600.8	2,600.4	4.56	4.52	0.65
9,064.0	90.90	88.80	6,665.2	-56.4	2,631.8	2,631.4	2.28	2.26	0.32
9,097.0	91.50	88.30	6,664.5	-55.6	2,664.8	2,664.4	2.37	1.82	-1.52
9,128.0	92.10	88.50	6,663.6	-54.7	2,695.8	2,695.4	2.04	1.94	0.65
9,160.0	92.50	88.40	6,662.3	-53.8	2,727.7	2,727.3	1.29	1.25	-0.31
9,192.0	92.50	87.80	6,660.9	-52.8	2,759.7	2,759.3	1.87	0.00	-1.88
9,225.0	91.40	86.30	6,659.8	-51.1	2,792.6	2,792.2	5.63	-3.33	-4.55

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Coors Energy 14-25H
<b>Project:</b>	SEC.25-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4839.0ft (Original Well Elev)
<b>Site:</b>	Coors Energy 14-25H Pad Sec.25-T3N-R64W	<b>MD Reference:</b>	WELL @ 4839.0ft (Original Well Elev)
<b>Well:</b>	Coors Energy 14-25H	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

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)
9,257.0	91.60	86.50	6,658.9	-49.1	2,824.6	2,824.2	0.88	0.63	0.63
9,289.0	90.70	86.10	6,658.3	-47.0	2,856.5	2,856.1	3.08	-2.81	-1.25
9,322.0	90.90	86.10	6,657.8	-44.7	2,889.4	2,889.1	0.61	0.61	0.00
9,353.0	90.20	85.10	6,657.5	-42.4	2,920.3	2,920.0	3.94	-2.26	-3.23
9,385.0	90.70	84.00	6,657.3	-39.3	2,952.2	2,951.8	3.78	1.56	-3.44
9,417.0	89.50	84.00	6,657.2	-36.0	2,984.0	2,983.7	3.75	-3.75	0.00
9,449.0	90.00	84.50	6,657.4	-32.8	3,015.8	3,015.5	2.21	1.56	1.56
9,481.0	90.20	83.30	6,657.3	-29.4	3,047.6	3,047.4	3.80	0.63	-3.75
9,512.0	89.30	83.70	6,657.4	-25.9	3,078.4	3,078.2	3.18	-2.90	1.29
9,544.0	90.60	83.70	6,657.5	-22.4	3,110.2	3,110.0	4.06	4.06	0.00
9,577.0	91.30	83.30	6,656.9	-18.6	3,143.0	3,142.8	2.44	2.12	-1.21
9,609.0	91.90	83.40	6,656.0	-14.9	3,174.8	3,174.6	1.90	1.88	0.31
9,641.0	90.40	82.80	6,655.4	-11.1	3,206.6	3,206.4	5.05	-4.69	-1.88
9,673.0	89.80	83.20	6,655.3	-7.2	3,238.3	3,238.2	2.25	-1.88	1.25
9,705.0	90.00	82.80	6,655.4	-3.3	3,270.1	3,270.0	1.40	0.63	-1.25
9,737.0	90.50	82.50	6,655.2	0.8	3,301.8	3,301.8	1.82	1.56	-0.94
9,769.0	91.30	82.80	6,654.7	4.9	3,333.6	3,333.5	2.67	2.50	0.94
9,802.0	91.70	82.50	6,653.9	9.1	3,366.3	3,366.3	1.51	1.21	-0.91
9,833.0	92.00	82.80	6,652.9	13.1	3,397.0	3,397.0	1.37	0.97	0.97
9,865.0	92.40	83.30	6,651.6	17.0	3,428.7	3,428.8	2.00	1.25	1.56
9,897.0	92.00	83.40	6,650.4	20.7	3,460.5	3,460.6	1.29	-1.25	0.31
9,928.0	92.20	83.20	6,649.3	24.3	3,491.3	3,491.4	0.91	0.65	-0.65
9,961.0	92.80	83.30	6,647.8	28.2	3,524.0	3,524.1	1.84	1.82	0.30
9,993.0	92.50	84.50	6,646.4	31.6	3,555.8	3,555.9	3.86	-0.94	3.75
10,025.0	91.50	84.20	6,645.2	34.7	3,587.6	3,587.8	3.26	-3.13	-0.94
10,057.0	91.70	84.10	6,644.3	38.0	3,619.4	3,619.6	0.70	0.63	-0.31
10,090.0	92.40	83.90	6,643.2	41.4	3,652.2	3,652.4	2.21	2.12	-0.61
10,122.0	93.00	83.80	6,641.7	44.8	3,684.0	3,684.2	1.90	1.88	-0.31
10,154.0	92.20	84.90	6,640.2	48.0	3,715.8	3,716.1	4.25	-2.50	3.44
10,186.0	92.70	84.90	6,638.8	50.8	3,747.7	3,747.9	1.56	1.56	0.00
10,218.0	92.00	85.40	6,637.5	53.5	3,779.5	3,779.8	2.69	-2.19	1.56
10,250.0	92.50	85.30	6,636.3	56.1	3,811.4	3,811.7	1.59	1.56	-0.31
10,281.0	92.00	86.40	6,635.1	58.4	3,842.3	3,842.6	3.90	-1.61	3.55
10,313.0	92.40	86.20	6,633.8	60.4	3,874.2	3,874.5	1.40	1.25	-0.63
10,345.0	91.60	86.70	6,632.7	62.4	3,906.1	3,906.4	2.95	-2.50	1.56
10,377.0	92.00	86.80	6,631.7	64.2	3,938.1	3,938.4	1.29	1.25	0.31
10,409.0	92.60	87.10	6,630.4	65.9	3,970.0	3,970.3	2.10	1.88	0.94
10,441.0	92.10	86.80	6,629.1	67.6	4,001.9	4,002.3	1.82	-1.56	-0.94
10,473.0	92.40	86.80	6,627.9	69.4	4,033.8	4,034.2	0.94	0.94	0.00
10,505.0	92.80	86.30	6,626.4	71.3	4,065.8	4,066.1	2.00	1.25	-1.56
10,536.0	92.30	87.90	6,625.0	72.9	4,096.7	4,097.1	5.40	-1.61	5.16
10,568.0	91.30	88.90	6,624.0	73.8	4,128.7	4,129.0	4.42	-3.13	3.13
10,600.0	91.10	89.00	6,623.3	74.4	4,160.6	4,161.0	0.70	-0.63	0.31
10,632.0	90.60	90.00	6,622.9	74.7	4,192.6	4,193.0	3.49	-1.56	3.13
10,663.0	90.80	90.70	6,622.5	74.5	4,223.6	4,224.0	2.35	0.65	2.26
10,696.0	91.30	90.80	6,621.9	74.0	4,256.6	4,257.0	1.55	1.52	0.30
10,728.0	91.70	90.60	6,621.1	73.6	4,288.6	4,289.0	1.40	1.25	-0.63
10,760.0	92.30	90.10	6,619.9	73.4	4,320.6	4,321.0	2.44	1.88	-1.56
10,792.0	91.90	89.30	6,618.8	73.6	4,352.6	4,353.0	2.79	-1.25	-2.50
10,824.0	92.50	89.00	6,617.5	74.1	4,384.5	4,384.9	2.10	1.88	-0.94
10,856.0	93.00	88.90	6,616.0	74.7	4,416.5	4,416.9	1.59	1.56	-0.31
10,902.0	93.60	88.70	6,613.4	75.6	4,462.4	4,462.8	1.37	1.30	-0.43
10,934.0	92.50	88.90	6,611.6	76.3	4,494.4	4,494.8	3.49	-3.44	0.63



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Coors Energy 14-25H
<b>Project:</b>	SEC.25-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4839.0ft (Original Well Elev)
<b>Site:</b>	Coors Energy 14-25H Pad Sec.25-T3N-R64W	<b>MD Reference:</b>	WELL @ 4839.0ft (Original Well Elev)
<b>Well:</b>	Coors Energy 14-25H	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

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)
10,965.0	92.40	88.50	6,610.3	77.0	4,525.3	4,525.7	1.33	-0.32	-1.29
10,996.0	92.80	88.20	6,608.9	77.9	4,556.3	4,556.7	1.61	1.29	-0.97
11,029.0	93.30	88.30	6,607.2	78.9	4,589.2	4,589.6	1.55	1.52	0.30
11,061.0	93.60	87.90	6,605.2	80.0	4,621.1	4,621.6	1.56	0.94	-1.25
11,093.0	93.60	87.90	6,603.2	81.1	4,653.1	4,653.5	0.00	0.00	0.00
BHL 1320'FSL, 501'FEL									

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
3,300.0	3,293.4	-94.2	-68.6	KOP #1
5,920.2	5,911.7	-119.3	-66.6	KOP #2
6,684.2	6,571.2	-112.3	276.6	End of Build

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_