

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **LaSalle 25F-412**

Surface Location: LaSalle 25F-HZ Pad Sec.25-T5N-R65W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

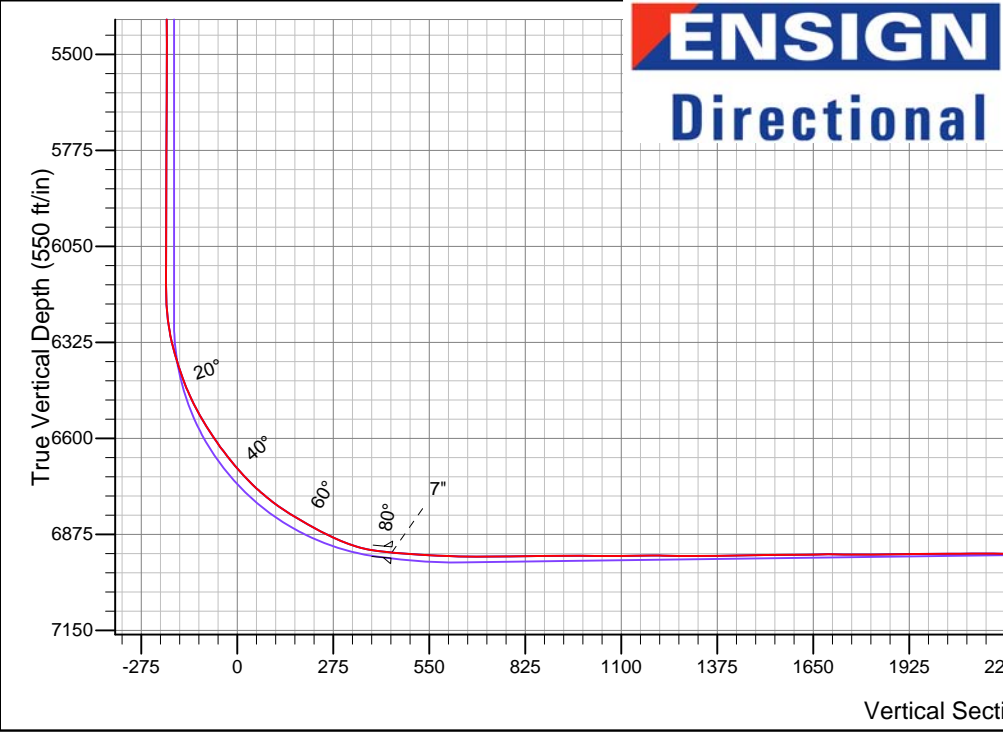
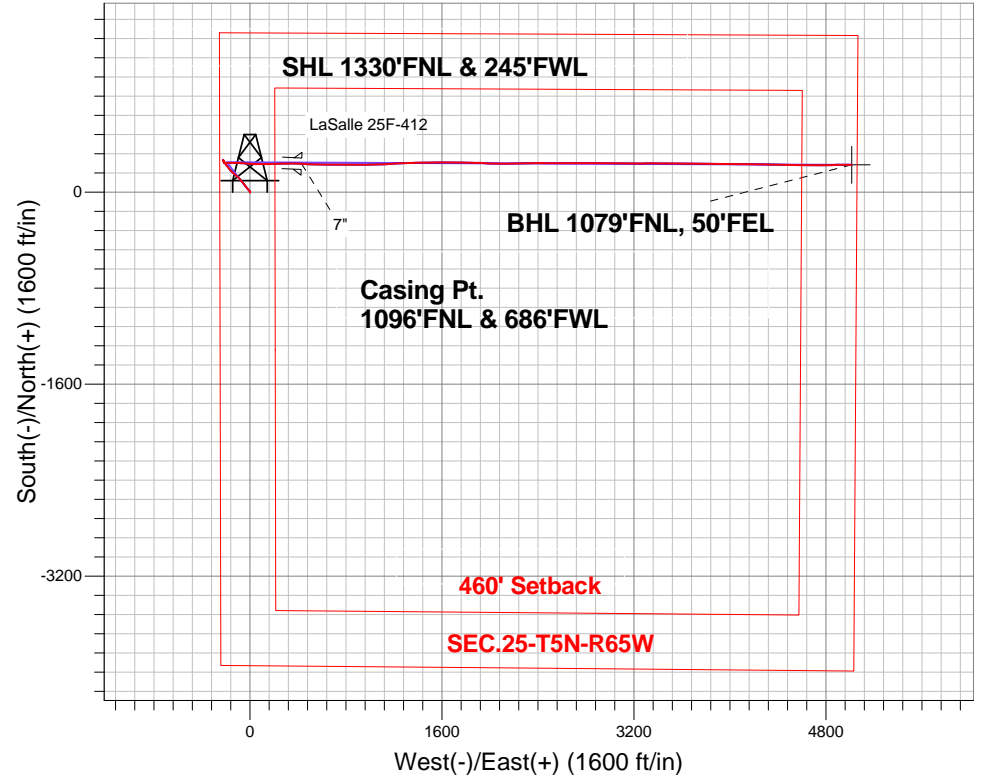
Ground Elevation: 4640.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1380231.95	3245132.45	40.373800	-104.620170	

RKB - 15' WELL @ 4655.0ft (RKB - 15')

FINAL SURVEY

Projected Bottom Hole Location
 11861'MD 6909'TVD 226'N & 5014'E of SHL
 90.7 degree Incl @ 90.2 degree AZM

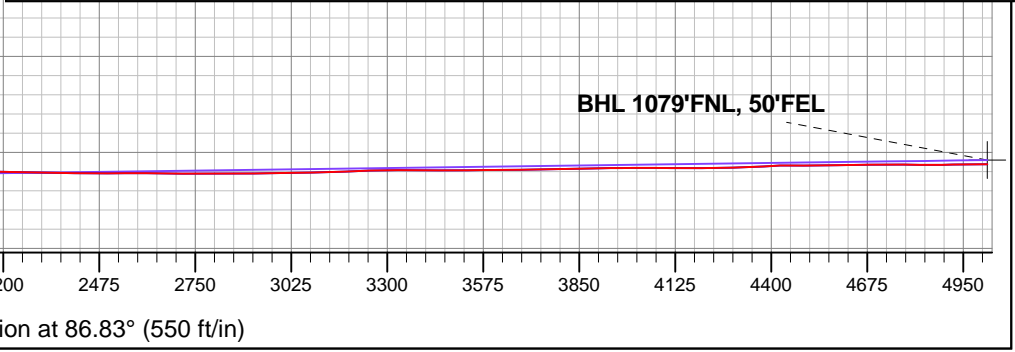


LaSalle 25F-HZ Pad Sec.25-T5N-R65W
 LaSalle 25F-412
 Wellbore #1
 10:28, December 04 2013

ANNOTATIONS
 No annotation data is available.

LEGEND

- ⊕ LaSalle 25F-412, Wellbore #1, Plan #3 (11-21-13)R V0
- ⊞ Wellbore #1
- Survey #1





PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.25-T5N-R65W

LaSalle 25F-HZ Pad Sec.25-T5N-R65W

LaSalle 25F-412

Wellbore #1

Survey: Survey #1

Standard Survey Report

04 December, 2013



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LaSalle 25F-412
Project:	SEC.25-T5N-R65W	TVD Reference:	WELL @ 4655.0ft (RKB - 15')
Site:	LaSalle 25F-HZ Pad Sec.25-T5N-R65W	MD Reference:	WELL @ 4655.0ft (RKB - 15')
Well:	LaSalle 25F-412	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.25-T5N-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	LaSalle 25F-HZ Pad Sec.25-T5N-R65W				
Site Position:		Northing:	1,380,231.95 ft	Latitude:	40.373800
From:	Lat/Long	Easting:	3,245,132.45 ft	Longitude:	-104.620170
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.57 °

Well	LaSalle 25F-412					
Well Position	+N/-S	0.0 ft	Northing:	1,380,231.95 ft	Latitude:	40.373800
	+E/-W	0.0 ft	Easting:	3,245,132.45 ft	Longitude:	-104.620170
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,640.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/28/2013	8.47	66.97	52,885

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	86.83	

Survey Program	Date	12/4/2013			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
123.0	11,861.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

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	
123.0	0.30	221.30	123.0	-0.2	-0.2	-0.2	0.24	0.24	0.00	
250.0	0.40	181.40	250.0	-0.9	-0.4	-0.5	0.20	0.08	-31.42	
377.0	0.20	202.70	377.0	-1.6	-0.5	-0.6	0.18	-0.16	16.77	
502.0	0.20	330.50	502.0	-1.6	-0.7	-0.8	0.29	0.00	102.24	
629.0	0.50	47.30	629.0	-1.0	-0.4	-0.5	0.39	0.24	60.47	
755.0	0.60	64.20	755.0	-0.4	0.6	0.5	0.15	0.08	13.41	
872.0	0.80	7.90	872.0	0.7	1.2	1.3	0.58	0.17	-48.12	
943.0	0.90	17.80	943.0	1.7	1.5	1.6	0.25	0.14	13.94	
974.0	0.50	338.40	974.0	2.1	1.5	1.6	1.95	-1.29	-127.10	
1,036.0	3.60	321.70	1,035.9	3.9	0.2	0.4	5.04	5.00	-26.94	
1,131.0	5.40	317.10	1,130.6	9.5	-4.7	-4.2	1.93	1.89	-4.84	

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Site:	LaSalle 25F-HZ Pad Sec.25-T5N-R65W	MD Reference:	WELL @ 4655.0ft (RKB - 15')
Well:	LaSalle 25F-412	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	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)
1,218.0	7.00	319.10	1,217.1	16.5	-11.0	-10.0	1.86	1.84	2.30
1,350.0	6.90	319.80	1,348.1	28.6	-21.3	-19.7	0.10	-0.08	0.53
1,502.0	6.40	322.20	1,499.1	42.3	-32.4	-30.0	0.38	-0.33	1.58
1,655.0	7.70	324.00	1,651.0	57.3	-43.7	-40.5	0.86	0.85	1.18
1,807.0	6.20	318.50	1,801.8	71.7	-55.1	-51.1	1.08	-0.99	-3.62
1,958.0	4.80	317.50	1,952.1	82.5	-64.8	-60.1	0.93	-0.93	-0.66
2,111.0	5.70	323.50	2,104.5	93.3	-73.6	-68.4	0.69	0.59	3.92
2,263.0	6.90	321.40	2,255.6	106.5	-83.8	-77.8	0.80	0.79	-1.38
2,416.0	7.80	313.80	2,407.3	120.9	-97.0	-90.2	0.86	0.59	-4.97
2,572.0	7.70	305.00	2,561.9	134.2	-113.2	-105.7	0.76	-0.06	-5.64
2,731.0	7.70	314.80	2,719.5	147.8	-129.5	-121.2	0.82	0.00	6.16
2,890.0	7.60	313.80	2,877.1	162.6	-144.7	-135.5	0.10	-0.06	-0.63
3,049.0	7.70	315.20	3,034.6	177.4	-159.8	-149.7	0.13	0.06	0.88
3,208.0	8.40	322.60	3,192.1	194.2	-174.3	-163.3	0.79	0.44	4.65
3,367.0	6.90	324.20	3,349.7	211.2	-187.0	-175.0	0.95	-0.94	1.01
3,557.0	6.90	319.80	3,538.3	229.2	-201.0	-188.1	0.28	0.00	-2.32
3,684.0	6.50	327.50	3,664.4	241.1	-209.8	-196.2	0.77	-0.31	6.06
3,842.0	5.60	335.10	3,821.5	255.6	-217.9	-203.4	0.76	-0.57	4.81
4,001.0	3.10	323.80	3,980.1	266.1	-223.7	-208.6	1.65	-1.57	-7.11
4,064.0	1.40	266.70	4,043.0	267.4	-225.4	-210.3	4.16	-2.70	-90.64
4,191.0	1.30	163.70	4,170.0	266.0	-226.6	-211.5	1.66	-0.08	-81.10
4,286.0	1.30	170.20	4,265.0	263.9	-226.1	-211.2	0.16	0.00	6.84
4,347.0	1.50	182.30	4,326.0	262.4	-226.0	-211.2	0.58	0.33	19.84
4,444.0	1.60	125.40	4,422.9	260.3	-225.0	-210.2	1.53	0.10	-58.66
4,540.0	1.40	142.90	4,518.9	258.6	-223.2	-208.5	0.52	-0.21	18.23
4,635.0	1.60	152.90	4,613.9	256.5	-221.8	-207.3	0.35	0.21	10.53
4,698.0	0.50	110.80	4,676.9	255.6	-221.2	-206.7	2.02	-1.75	-66.83
4,856.0	0.60	91.30	4,834.9	255.4	-219.7	-205.3	0.13	0.06	-12.34
5,015.0	0.40	115.20	4,993.9	255.1	-218.4	-204.0	0.18	-0.13	15.03
5,174.0	0.50	123.80	5,152.8	254.5	-217.3	-202.9	0.08	0.06	5.41
5,333.0	0.70	158.80	5,311.8	253.2	-216.4	-202.1	0.26	0.13	22.01
5,491.0	0.70	189.30	5,469.8	251.3	-216.2	-202.0	0.23	0.00	19.30
5,650.0	0.40	183.70	5,628.8	249.8	-216.4	-202.3	0.19	-0.19	-3.52
5,809.0	1.10	194.80	5,787.8	247.8	-216.8	-202.8	0.45	0.44	6.98
5,967.0	0.20	282.20	5,945.8	246.4	-217.5	-203.5	0.70	-0.57	55.32
6,126.0	0.90	176.50	6,104.8	245.2	-217.7	-203.8	0.61	0.44	-66.48
6,158.0	0.90	204.10	6,136.8	244.7	-217.7	-203.9	1.34	0.00	86.25
6,190.0	1.30	176.50	6,168.8	244.1	-217.8	-204.0	2.04	1.25	-86.25
6,221.0	2.10	122.70	6,199.8	243.5	-217.3	-203.5	5.47	2.58	-173.55
6,253.0	4.80	98.50	6,231.7	243.0	-215.5	-201.8	9.41	8.44	-75.63
6,284.0	7.50	89.00	6,262.5	242.8	-212.2	-198.5	9.28	8.71	-30.65
6,316.0	10.20	87.70	6,294.1	243.0	-207.3	-193.5	8.46	8.44	-4.06
6,347.0	12.90	88.60	6,324.5	243.2	-201.1	-187.3	8.73	8.71	2.90
6,379.0	15.30	89.50	6,355.5	243.3	-193.3	-179.6	7.53	7.50	2.81
6,411.0	17.50	90.50	6,386.2	243.3	-184.2	-170.5	6.93	6.88	3.13
6,442.0	19.70	90.00	6,415.6	243.2	-174.4	-160.7	7.12	7.10	-1.61
6,474.0	21.40	90.50	6,445.6	243.2	-163.1	-149.5	5.34	5.31	1.56
6,506.0	24.10	91.60	6,475.1	242.9	-150.8	-137.1	8.54	8.44	3.44
6,538.0	26.80	91.30	6,504.0	242.6	-137.0	-123.4	8.45	8.44	-0.94
6,569.0	29.50	90.70	6,531.3	242.3	-122.4	-108.8	8.76	8.71	-1.94
6,601.0	31.70	90.40	6,558.9	242.2	-106.1	-92.6	6.89	6.88	-0.94
6,633.0	33.40	91.30	6,585.8	241.9	-88.9	-75.4	5.52	5.31	2.81
6,664.0	35.60	93.40	6,611.4	241.2	-71.3	-57.9	8.07	7.10	6.77

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	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)
6,696.0	36.90	94.90	6,637.2	239.8	-52.5	-39.2	4.92	4.06	4.69
6,727.0	38.80	95.60	6,661.7	238.1	-33.5	-20.3	6.28	6.13	2.26
6,760.0	41.20	94.10	6,686.9	236.3	-12.4	0.7	7.84	7.27	-4.55
6,792.0	43.40	93.40	6,710.6	234.9	9.1	22.0	7.03	6.88	-2.19
6,824.0	46.20	92.50	6,733.3	233.7	31.6	44.5	8.97	8.75	-2.81
6,855.0	49.10	91.40	6,754.2	233.0	54.5	67.3	9.72	9.35	-3.55
6,887.0	51.70	90.50	6,774.6	232.6	79.1	91.9	8.41	8.13	-2.81
6,919.0	54.40	89.30	6,793.8	232.6	104.7	117.4	8.95	8.44	-3.75
6,950.0	57.10	88.60	6,811.3	233.1	130.3	143.0	8.91	8.71	-2.26
6,982.0	59.40	87.90	6,828.1	233.9	157.5	170.2	7.42	7.19	-2.19
7,013.0	60.70	87.70	6,843.6	234.9	184.4	197.1	4.23	4.19	-0.65
7,045.0	61.80	88.40	6,859.0	235.9	212.4	225.1	3.94	3.44	2.19
7,077.0	63.50	89.00	6,873.7	236.5	240.8	253.5	5.57	5.31	1.88
7,109.0	65.70	89.50	6,887.4	236.9	269.7	282.4	7.02	6.88	1.56
7,140.0	69.10	90.40	6,899.3	236.9	298.3	311.0	11.29	10.97	2.90
7,172.0	73.20	90.50	6,909.6	236.7	328.6	341.2	12.82	12.81	0.31
7,204.0	78.20	90.50	6,917.6	236.4	359.6	372.1	15.63	15.63	0.00
7,236.0	82.80	90.40	6,922.8	236.2	391.2	403.6	14.38	14.38	-0.31
7,256.0	84.40	91.80	6,925.1	235.8	411.0	423.4	10.60	8.00	7.00
7,275.0	84.91	92.69	6,926.8	235.1	429.9	442.3	5.36	2.66	4.67
7"									
7,286.0	85.20	93.20	6,927.8	234.5	440.9	453.2	5.36	2.67	4.66
7,317.0	85.20	92.80	6,930.4	232.9	471.7	483.9	1.29	0.00	-1.29
7,347.0	86.20	92.80	6,932.6	231.4	501.6	513.6	3.33	3.33	0.00
7,377.0	87.20	92.00	6,934.3	230.2	531.5	543.4	4.27	3.33	-2.67
7,407.0	87.30	91.30	6,935.8	229.3	561.5	573.3	2.35	0.33	-2.33
7,438.0	88.00	90.00	6,937.1	229.0	592.5	604.2	4.76	2.26	-4.19
7,468.0	88.90	90.00	6,937.9	229.0	622.4	634.1	3.00	3.00	0.00
7,498.0	89.30	89.70	6,938.3	229.0	652.4	664.1	1.67	1.33	-1.00
7,529.0	89.60	90.50	6,938.6	229.0	683.4	695.0	2.76	0.97	2.58
7,559.0	90.30	91.30	6,938.7	228.5	713.4	725.0	3.54	2.33	2.67
7,590.0	90.70	90.70	6,938.4	228.0	744.4	755.9	2.33	1.29	-1.94
7,621.0	90.80	90.50	6,938.0	227.6	775.4	786.8	0.72	0.32	-0.65
7,651.0	91.20	91.60	6,937.5	227.1	805.4	816.7	3.90	1.33	3.67
7,682.0	91.10	91.40	6,936.8	226.3	836.4	847.6	0.72	-0.32	-0.65
7,710.0	90.20	89.80	6,936.5	226.0	864.4	875.6	6.56	-3.21	-5.71
7,743.0	89.80	89.50	6,936.5	226.2	897.4	908.5	1.52	-1.21	-0.91
7,774.0	90.00	88.80	6,936.6	226.7	928.4	939.5	2.35	0.65	-2.26
7,804.0	89.80	88.40	6,936.6	227.4	958.4	969.5	1.49	-0.67	-1.33
7,835.0	89.50	88.30	6,936.8	228.3	989.4	1,000.5	1.02	-0.97	-0.32
7,866.0	89.80	88.10	6,937.0	229.3	1,020.4	1,031.5	1.16	0.97	-0.65
7,896.0	90.20	88.60	6,937.0	230.1	1,050.3	1,061.4	2.13	1.33	1.67
7,927.0	90.70	89.00	6,936.8	230.8	1,081.3	1,092.4	2.07	1.61	1.29
7,958.0	90.80	88.10	6,936.4	231.5	1,112.3	1,123.4	2.92	0.32	-2.90
7,990.0	90.70	87.60	6,935.9	232.7	1,144.3	1,155.4	1.59	-0.31	-1.56
8,022.0	90.60	87.90	6,935.6	234.0	1,176.3	1,187.4	0.99	-0.31	0.94
8,054.0	89.30	85.60	6,935.6	235.8	1,208.2	1,219.4	8.26	-4.06	-7.19
8,085.0	89.10	86.30	6,936.0	238.0	1,239.1	1,250.4	2.35	-0.65	2.26
8,117.0	89.40	86.90	6,936.5	239.9	1,271.1	1,282.4	2.10	0.94	1.88
8,149.0	89.40	86.90	6,936.8	241.6	1,303.0	1,314.4	0.00	0.00	0.00
8,181.0	90.00	87.40	6,937.0	243.2	1,335.0	1,346.4	2.44	1.88	1.56
8,212.0	90.90	89.00	6,936.7	244.2	1,366.0	1,377.4	5.92	2.90	5.16
8,244.0	91.10	89.30	6,936.2	244.7	1,398.0	1,409.3	1.13	0.63	0.94

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8,275.0	91.10	89.50	6,935.6	245.0	1,428.9	1,440.3	0.65	0.00	0.65
8,307.0	91.10	89.00	6,935.0	245.4	1,460.9	1,472.3	1.56	0.00	-1.56
8,338.0	91.10	88.60	6,934.4	246.1	1,491.9	1,503.2	1.29	0.00	-1.29
8,370.0	90.80	88.80	6,933.8	246.8	1,523.9	1,535.2	1.13	-0.94	0.63
8,402.0	90.40	89.70	6,933.5	247.2	1,555.9	1,567.2	3.08	-1.25	2.81
8,433.0	90.60	91.10	6,933.2	247.0	1,586.9	1,598.1	4.56	0.65	4.52
8,465.0	90.70	90.90	6,932.9	246.4	1,618.9	1,630.0	0.70	0.31	-0.63
8,496.0	90.50	89.80	6,932.5	246.2	1,649.9	1,661.0	3.61	-0.65	-3.55
8,528.0	90.50	90.00	6,932.3	246.3	1,681.9	1,692.9	0.62	0.00	0.63
8,559.0	89.80	90.90	6,932.2	246.1	1,712.9	1,723.9	3.68	-2.26	2.90
8,591.0	89.70	90.50	6,932.3	245.7	1,744.9	1,755.8	1.29	-0.31	-1.25
8,623.0	89.40	90.90	6,932.6	245.3	1,776.9	1,787.7	1.56	-0.94	1.25
8,655.0	89.70	90.90	6,932.8	244.8	1,808.9	1,819.6	0.94	0.94	0.00
8,686.0	90.70	91.40	6,932.7	244.2	1,839.9	1,850.6	3.61	3.23	1.61
8,718.0	90.70	91.40	6,932.3	243.4	1,871.9	1,882.4	0.00	0.00	0.00
8,750.0	91.20	91.60	6,931.8	242.5	1,903.8	1,914.3	1.68	1.56	0.63
8,782.0	91.60	92.70	6,931.0	241.3	1,935.8	1,946.2	3.66	1.25	3.44
8,813.0	90.70	91.60	6,930.4	240.2	1,966.8	1,977.0	4.58	-2.90	-3.55
8,845.0	89.60	91.10	6,930.3	239.4	1,998.8	2,008.9	3.78	-3.44	-1.56
8,877.0	90.20	91.30	6,930.4	238.7	2,030.8	2,040.9	1.98	1.88	0.63
8,908.0	90.70	92.00	6,930.1	237.9	2,061.8	2,071.7	2.77	1.61	2.26
8,940.0	90.50	91.40	6,929.8	236.9	2,093.7	2,103.6	1.98	-0.63	-1.88
8,971.0	90.30	91.10	6,929.6	236.2	2,124.7	2,134.5	1.16	-0.65	-0.97
9,003.0	89.50	90.20	6,929.6	235.9	2,156.7	2,166.5	3.76	-2.50	-2.81
9,035.0	88.60	89.30	6,930.1	236.0	2,188.7	2,198.4	3.98	-2.81	-2.81
9,067.0	88.90	88.30	6,930.8	236.7	2,220.7	2,230.4	3.26	0.94	-3.13
9,098.0	88.80	88.40	6,931.5	237.6	2,251.7	2,261.4	0.46	-0.32	0.32
9,130.0	88.20	87.40	6,932.3	238.7	2,283.7	2,293.4	3.64	-1.88	-3.13
9,162.0	88.10	87.20	6,933.3	240.2	2,315.6	2,325.3	0.70	-0.31	-0.63
9,194.0	88.50	88.40	6,934.3	241.5	2,347.6	2,357.3	3.95	1.25	3.75
9,225.0	89.70	89.30	6,934.8	242.1	2,378.6	2,388.3	4.84	3.87	2.90
9,257.0	90.00	90.50	6,934.9	242.2	2,410.6	2,420.2	3.87	0.94	3.75
9,289.0	90.00	90.50	6,934.9	241.9	2,442.6	2,452.2	0.00	0.00	0.00
9,321.0	90.00	90.50	6,934.9	241.6	2,474.6	2,484.1	0.00	0.00	0.00
9,352.0	90.00	90.00	6,934.9	241.5	2,505.6	2,515.1	1.61	0.00	-1.61
9,384.0	90.00	90.50	6,934.9	241.3	2,537.6	2,547.0	1.56	0.00	1.56
9,416.0	90.00	90.20	6,934.9	241.1	2,569.6	2,578.9	0.94	0.00	-0.94
9,447.0	89.80	90.20	6,934.9	241.0	2,600.6	2,609.9	0.65	-0.65	0.00
9,480.0	89.80	90.20	6,935.0	240.9	2,633.6	2,642.8	0.00	0.00	0.00
9,512.0	89.30	89.30	6,935.3	241.0	2,665.5	2,674.8	3.22	-1.56	-2.81
9,543.0	89.30	90.20	6,935.7	241.2	2,696.5	2,705.7	2.90	0.00	2.90
9,575.0	90.00	90.40	6,935.8	241.0	2,728.5	2,737.7	2.28	2.19	0.63
9,606.0	90.20	90.50	6,935.8	240.8	2,759.5	2,768.6	0.72	0.65	0.32
9,638.0	90.20	90.70	6,935.7	240.4	2,791.5	2,800.6	0.62	0.00	0.63
9,670.0	90.10	90.00	6,935.6	240.2	2,823.5	2,832.5	2.21	-0.31	-2.19
9,701.0	90.00	89.30	6,935.6	240.4	2,854.5	2,863.5	2.28	-0.32	-2.26
9,733.0	90.40	89.50	6,935.5	240.8	2,886.5	2,895.4	1.40	1.25	0.63
9,765.0	90.90	89.00	6,935.1	241.2	2,918.5	2,927.4	2.21	1.56	-1.56
9,796.0	90.50	89.70	6,934.7	241.5	2,949.5	2,958.4	2.60	-1.29	2.26
9,828.0	91.00	90.00	6,934.3	241.6	2,981.5	2,990.3	1.82	1.56	0.94
9,860.0	90.90	90.90	6,933.8	241.4	3,013.5	3,022.2	2.83	-0.31	2.81
9,892.0	90.80	91.40	6,933.3	240.7	3,045.5	3,054.2	1.59	-0.31	1.56
9,924.0	91.30	91.60	6,932.7	239.9	3,077.5	3,086.0	1.68	1.56	0.63

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LaSalle 25F-412
Project:	SEC.25-T5N-R65W	TVD Reference:	WELL @ 4655.0ft (RKB - 15')
Site:	LaSalle 25F-HZ Pad Sec.25-T5N-R65W	MD Reference:	WELL @ 4655.0ft (RKB - 15')
Well:	LaSalle 25F-412	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	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)
9,955.0	91.90	90.90	6,931.8	239.2	3,108.5	3,116.9	2.97	1.94	-2.26
9,987.0	92.10	91.30	6,930.7	238.6	3,140.4	3,148.8	1.40	0.63	1.25
10,019.0	91.90	90.70	6,929.6	238.0	3,172.4	3,180.7	1.98	-0.63	-1.88
10,051.0	91.40	89.70	6,928.7	237.9	3,204.4	3,212.7	3.49	-1.56	-3.13
10,082.0	91.70	89.70	6,927.8	238.1	3,235.4	3,243.6	0.97	0.97	0.00
10,114.0	92.10	89.30	6,926.8	238.4	3,267.4	3,275.6	1.77	1.25	-1.25
10,146.0	90.50	88.60	6,926.1	239.0	3,299.4	3,307.5	5.46	-5.00	-2.19
10,177.0	89.30	89.10	6,926.1	239.6	3,330.4	3,338.5	4.19	-3.87	1.61
10,209.0	89.70	90.50	6,926.4	239.7	3,362.4	3,370.5	4.55	1.25	4.38
10,241.0	90.00	90.90	6,926.5	239.3	3,394.4	3,402.4	1.56	0.94	1.25
10,272.0	90.00	91.10	6,926.5	238.8	3,425.3	3,433.3	0.65	0.00	0.65
10,304.0	89.70	90.70	6,926.6	238.3	3,457.3	3,465.2	1.56	-0.94	-1.25
10,336.0	89.60	90.00	6,926.8	238.1	3,489.3	3,497.2	2.21	-0.31	-2.19
10,368.0	90.70	90.70	6,926.7	237.9	3,521.3	3,529.1	4.07	3.44	2.19
10,399.0	91.30	90.70	6,926.1	237.5	3,552.3	3,560.0	1.94	1.94	0.00
10,431.0	91.40	90.90	6,925.4	237.0	3,584.3	3,591.9	0.70	0.31	0.63
10,463.0	90.20	90.70	6,924.9	236.6	3,616.3	3,623.9	3.80	-3.75	-0.63
10,494.0	90.40	90.40	6,924.8	236.3	3,647.3	3,654.8	1.16	0.65	-0.97
10,526.0	90.70	90.40	6,924.5	236.1	3,679.3	3,686.7	0.94	0.94	0.00
10,558.0	90.40	90.00	6,924.2	236.0	3,711.3	3,718.7	1.56	-0.94	-1.25
10,590.0	90.70	90.40	6,923.9	235.8	3,743.3	3,750.6	1.56	0.94	1.25
10,621.0	90.90	90.20	6,923.4	235.7	3,774.3	3,781.6	0.91	0.65	-0.65
10,653.0	91.30	90.40	6,922.8	235.5	3,806.3	3,813.5	1.40	1.25	0.63
10,685.0	91.60	90.70	6,922.0	235.2	3,838.3	3,845.4	1.33	0.94	0.94
10,716.0	91.90	90.70	6,921.0	234.8	3,869.3	3,876.3	0.97	0.97	0.00
10,748.0	90.60	90.70	6,920.3	234.4	3,901.3	3,908.2	4.06	-4.06	0.00
10,780.0	90.50	90.70	6,920.0	234.0	3,933.3	3,940.2	0.31	-0.31	0.00
10,812.0	90.60	90.50	6,919.7	233.7	3,965.2	3,972.1	0.70	0.31	-0.63
10,843.0	90.30	90.20	6,919.5	233.5	3,996.2	4,003.0	1.37	-0.97	-0.97
10,875.0	90.20	90.40	6,919.4	233.4	4,028.2	4,035.0	0.70	-0.31	0.63
10,907.0	90.00	90.20	6,919.3	233.2	4,060.2	4,066.9	0.88	-0.63	-0.63
10,938.0	89.40	89.70	6,919.5	233.2	4,091.2	4,097.9	2.52	-1.94	-1.61
10,970.0	89.70	89.80	6,919.7	233.4	4,123.2	4,129.8	0.99	0.94	0.31
11,001.0	89.60	89.50	6,919.9	233.5	4,154.2	4,160.8	1.02	-0.32	-0.97
11,033.0	89.80	90.40	6,920.1	233.6	4,186.2	4,192.8	2.88	0.63	2.81
11,065.0	90.40	90.70	6,920.0	233.3	4,218.2	4,224.7	2.10	1.88	0.94
11,097.0	91.40	92.30	6,919.5	232.4	4,250.2	4,256.6	5.90	3.13	5.00
11,129.0	91.70	92.50	6,918.6	231.1	4,282.2	4,288.4	1.13	0.94	0.63
11,161.0	92.10	92.30	6,917.6	229.7	4,314.1	4,320.2	1.40	1.25	-0.63
11,192.0	92.90	92.70	6,916.2	228.4	4,345.1	4,351.1	2.88	2.58	1.29
11,224.0	92.80	92.10	6,914.6	227.1	4,377.0	4,382.9	1.90	-0.31	-1.88
11,256.0	92.00	91.80	6,913.3	226.0	4,409.0	4,414.7	2.67	-2.50	-0.94
11,287.0	90.20	90.90	6,912.7	225.2	4,439.9	4,445.6	6.49	-5.81	-2.90
11,319.0	90.00	90.40	6,912.6	224.9	4,471.9	4,477.5	1.68	-0.63	-1.56
11,351.0	90.00	90.00	6,912.6	224.8	4,503.9	4,509.5	1.25	0.00	-1.25
11,382.0	90.20	89.70	6,912.6	224.8	4,534.9	4,540.4	1.16	0.65	-0.97
11,414.0	90.70	89.70	6,912.3	225.0	4,566.9	4,572.4	1.56	1.56	0.00
11,446.0	91.30	90.00	6,911.8	225.1	4,598.9	4,604.4	2.10	1.88	0.94
11,478.0	91.70	89.70	6,910.9	225.2	4,630.9	4,636.3	1.56	1.25	-0.94
11,509.0	91.30	89.80	6,910.1	225.3	4,661.9	4,667.2	1.33	-1.29	0.32
11,541.0	89.50	90.00	6,909.9	225.4	4,693.9	4,699.2	5.66	-5.63	0.63
11,572.0	89.50	90.00	6,910.2	225.4	4,724.9	4,730.2	0.00	0.00	0.00
11,604.0	89.80	90.00	6,910.4	225.4	4,756.9	4,762.1	0.94	0.94	0.00
11,636.0	89.90	90.20	6,910.5	225.3	4,788.9	4,794.0	0.70	0.31	0.63

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well LaSalle 25F-412
Project:	SEC.25-T5N-R65W	TVD Reference:	WELL @ 4655.0ft (RKB - 15')
Site:	LaSalle 25F-HZ Pad Sec.25-T5N-R65W	MD Reference:	WELL @ 4655.0ft (RKB - 15')
Well:	LaSalle 25F-412	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	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)
11,668.0	89.80	89.50	6,910.5	225.4	4,820.9	4,826.0	2.21	-0.31	-2.19
11,699.0	90.00	89.10	6,910.6	225.8	4,851.9	4,857.0	1.44	0.65	-1.29
11,731.0	90.30	89.50	6,910.5	226.2	4,883.9	4,888.9	1.56	0.94	1.25
11,762.0	90.70	90.20	6,910.2	226.3	4,914.9	4,919.9	2.60	1.29	2.26
11,808.0	90.70	90.20	6,909.7	226.1	4,960.9	4,965.8	0.00	0.00	0.00
11,861.0	90.70	90.20	6,909.0	225.9	5,013.9	5,018.7	0.00	0.00	0.00
BHL 1078'FNL, 50'FEL									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,275.0	6,926.8	7"	7	7-1/2

Checked By: _____ Approved By: _____ Date: _____