

DORADO E&P PARTNERS

RENO COUNTY, KANSAS (NAD 27)

SE 1/4 SECTION 29 T24S R9W

FESLER 24-9-29 1H

JOB # 2009-159

24 April, 2013

Survey: FINAL SURVEYS

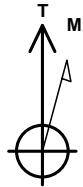




Project: RENO COUNTY, KANSAS (NAD 27)
 Site: SE 1/4 SECTION 29 T24S R9W
 Well: FESLER 24-9-29 1H
 Wellbore: JOB # 2009-159
 Design: FINAL SURVEYS

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Dep	Annotation
250.0	250.0	0.33	50.10	0.5	0.5	0.5	0.9	SURFACE CASING
3349.6	3355.0	1.91	11.68	-108.4	1.0	-108.4	118.4	KOP
3813.8	3958.0	66.08	3.13	226.6	6.3	226.6	453.7	BEGIN TANGENT
3825.5	3988.0	67.66	0.19	254.2	7.3	254.2	481.3	END TANGENT
3869.5	4215.0	90.35	359.34	475.1	9.9	475.1	702.2	HZ LANDING POINT
3883.0	8496.0	89.43	357.05	4754.7	-50.4	4754.7	4982.9	EXTRAPOLATION TO TD

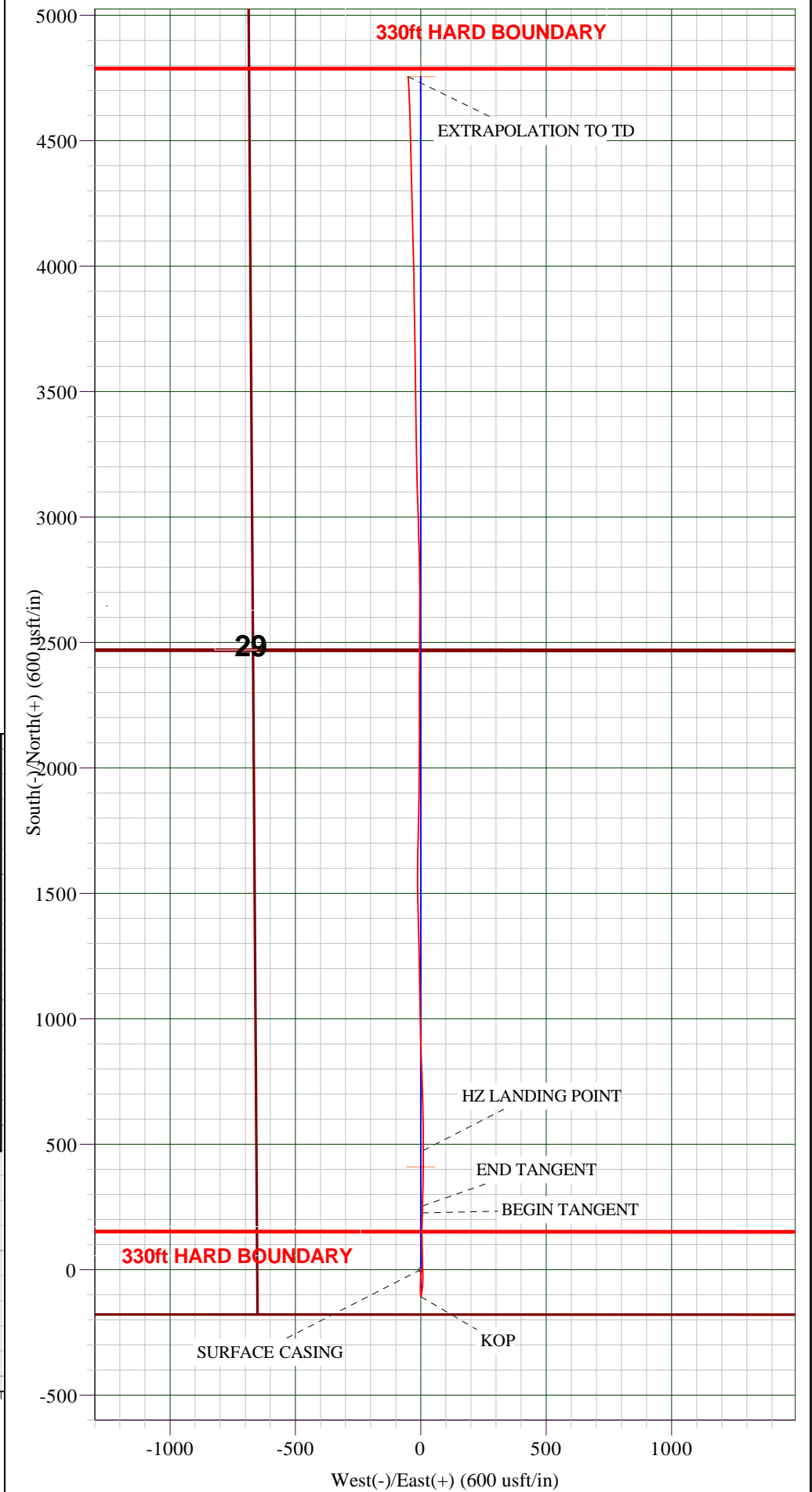
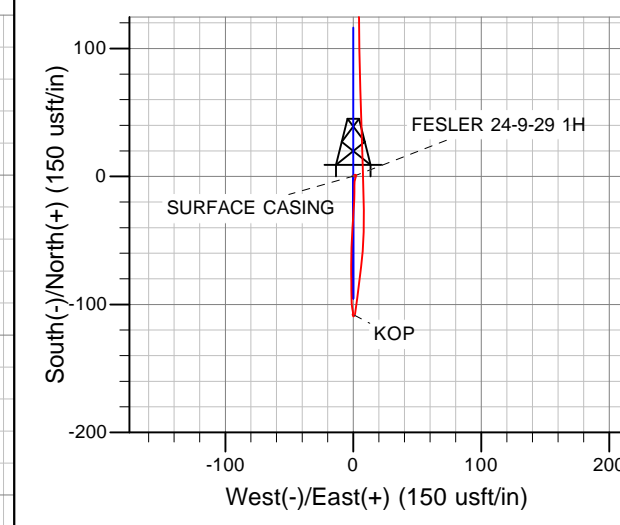
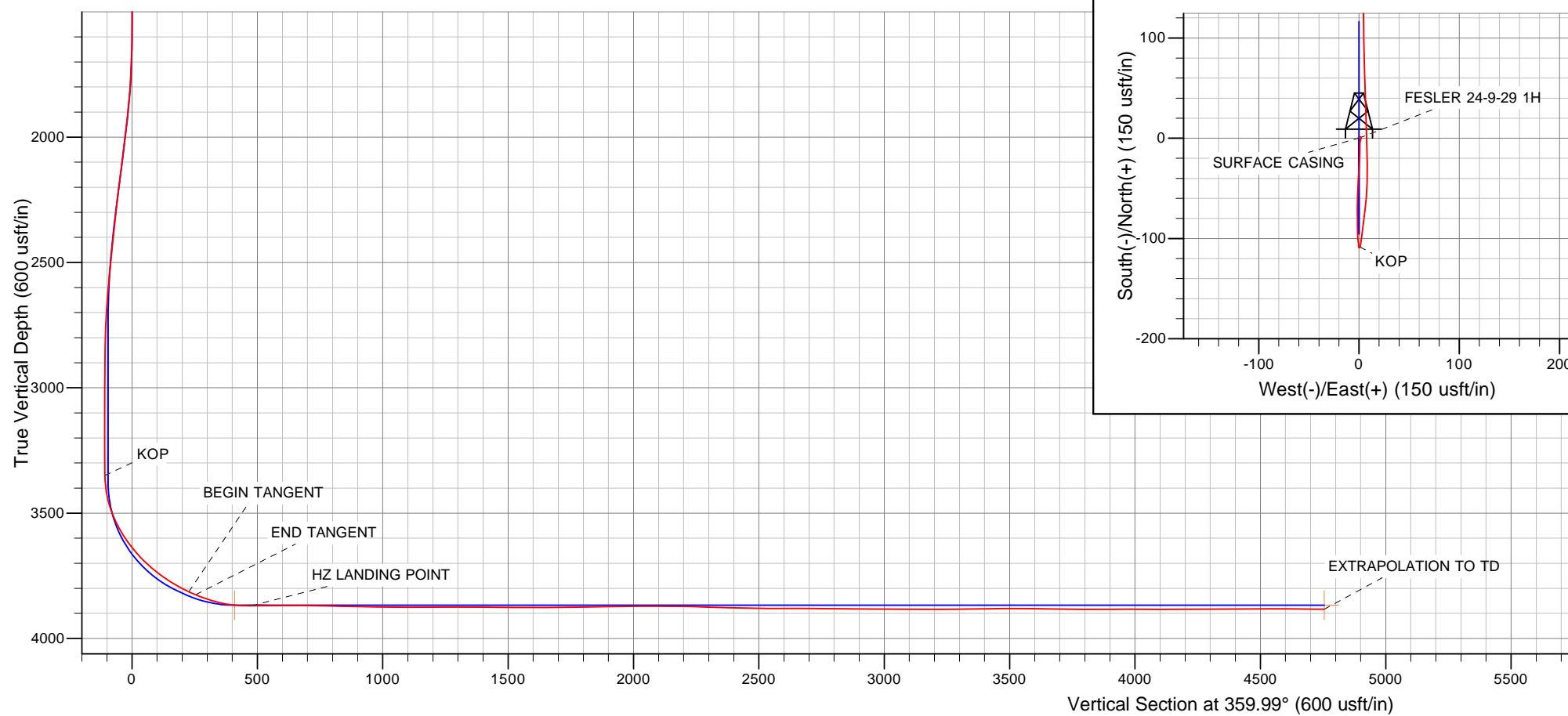


Azimuths to True North
 Magnetic North: 4.70°

Magnetic Field
 Strength: 52211.0snT
 Dip Angle: 65.87°
 Date: 07/02/2013
 Model: IGRF2010

PROPOSED LOCAL COORDINATES:
 SURF (SEC.29) 180' FSL 1980' FEL
 HZ LANDING PNT (SEC 29) 589.2' FSL 1980' FEL
 BHL (SEC 29) 360' FNL 1980' FEL

HARD BOUNDARIES:
 BHL FALLS 30ft S of the 330ft HARD BOUNDARY



Survey Report



Company:	DORADO E&P PARTNERS	Local Co-ordinate Reference:	Well FESLER 24-9-29 1H
Project:	RENO COUNTY, KANSAS (NAD 27)	TVD Reference:	KB @ 1717.0usft (DUKE #20)
Site:	SE 1/4 SECTION 29 T24S R9W	MD Reference:	KB @ 1717.0usft (DUKE #20)
Well:	FESLER 24-9-29 1H	North Reference:	True
Wellbore:	JOB # 2009-159	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	EDM 5000.1 Single User Db

Project	RENO COUNTY, KANSAS (NAD 27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Kansas South 1502		Using geodetic scale factor

Site	SE 1/4 SECTION 29 T24S R9W				
Site Position:		Northing:	458,800.98 usft	Latitude:	37° 55' 35.737 N
From:	Lat/Long	Easting:	2,048,425.26 usft	Longitude:	98° 19' 55.606 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.10 °

Well	FESLER 24-9-29 1H					
Well Position	+N/-S	0.0 usft	Northing:	458,800.98 usft	Latitude:	37° 55' 35.737 N
	+E/-W	0.0 usft	Easting:	2,048,425.26 usft	Longitude:	98° 19' 55.606 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	1,705.0 usft

Wellbore	JOB # 2009-159				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	07/02/2013	4.70	65.87	52,211

Design	FINAL SURVEYS				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		0.0	0.0	0.0	359.99

Survey Program	Date	24/04/2013			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
306.0	8,496.0	FINAL SURVEYS (JOB # 2009-159)	MWD	MWD - Standard	

Survey											
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (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	1,717.0	0.0	0.0	0.0	0.00	0.00	0.00	
SURFACE CASING											
250.0	0.33	50.10	250.0	1,467.0	0.5	0.5	0.5	0.13	0.13	0.00	
306.0	0.40	50.10	306.0	1,411.0	0.7	0.8	0.7	0.13	0.13	0.00	
462.0	0.10	299.50	462.0	1,255.0	1.1	1.1	1.1	0.29	-0.19	-70.90	
649.0	0.10	25.35	649.0	1,068.0	1.3	1.0	1.3	0.07	0.00	45.91	
836.0	0.18	137.85	836.0	881.0	1.3	1.3	1.3	0.13	0.04	60.16	
1,022.0	0.22	305.11	1,022.0	695.0	1.2	1.2	1.2	0.21	0.02	89.92	
1,208.0	0.48	94.70	1,208.0	509.0	1.4	1.7	1.4	0.37	0.14	80.42	
1,394.0	0.22	221.50	1,394.0	323.0	1.1	2.2	1.1	0.34	-0.14	68.17	
1,610.0	0.44	184.79	1,610.0	107.0	-0.1	1.9	-0.1	0.14	0.10	-17.00	
1,672.0	2.07	194.37	1,672.0	45.0	-1.4	1.6	-1.4	2.64	2.63	15.45	
1,734.0	2.59	190.32	1,733.9	-16.9	-3.9	1.1	-3.9	0.88	0.84	-6.53	

Survey Report



Company:	DORADO E&P PARTNERS	Local Co-ordinate Reference:	Well FESLER 24-9-29 1H
Project:	RENO COUNTY, KANSAS (NAD 27)	TDV Reference:	KB @ 1717.0usft (DUKE #20)
Site:	SE 1/4 SECTION 29 T24S R9W	MD Reference:	KB @ 1717.0usft (DUKE #20)
Well:	FESLER 24-9-29 1H	North Reference:	True
Wellbore:	JOB # 2009-159	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	EDM 5000.1 Single User Db

Survey											
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
1,796.0	3.56	180.39	1,795.8	-78.8	-7.2	0.8	-7.2	1.78	1.56	-16.02	
1,858.0	5.49	178.99	1,857.6	-140.6	-12.1	0.8	-12.1	3.12	3.11	-2.26	
1,920.0	6.55	182.59	1,919.3	-202.3	-18.6	0.7	-18.6	1.81	1.71	5.81	
1,982.0	6.99	185.05	1,980.9	-263.9	-25.8	0.2	-25.8	0.85	0.71	3.97	
2,043.0	6.28	182.85	2,041.5	-324.5	-32.9	-0.2	-32.9	1.24	-1.16	-3.61	
2,105.0	7.16	183.29	2,103.0	-386.0	-40.1	-0.6	-40.1	1.42	1.42	0.71	
2,167.0	7.25	183.82	2,164.5	-447.5	-47.9	-1.1	-47.9	0.18	0.15	0.85	
2,229.0	6.90	180.39	2,226.1	-509.1	-55.5	-1.4	-55.5	0.88	-0.56	-5.53	
2,290.0	6.68	180.74	2,286.6	-569.6	-62.7	-1.5	-62.7	0.37	-0.36	0.57	
2,352.0	6.15	181.71	2,348.2	-631.2	-69.6	-1.6	-69.6	0.87	-0.85	1.56	
2,414.0	6.20	178.99	2,409.9	-692.9	-76.3	-1.7	-76.3	0.48	0.08	-4.39	
2,476.0	5.41	178.81	2,471.6	-754.6	-82.6	-1.5	-82.6	1.27	-1.27	-0.29	
2,538.0	5.58	179.95	2,533.3	-816.3	-88.5	-1.5	-88.5	0.33	0.27	1.84	
2,600.0	5.23	178.46	2,595.0	-878.0	-94.4	-1.4	-94.4	0.61	-0.56	-2.40	
2,661.0	4.13	176.00	2,655.8	-938.8	-99.3	-1.2	-99.3	1.83	-1.80	-4.03	
2,723.0	3.25	171.08	2,717.7	-1,000.7	-103.3	-0.7	-103.3	1.51	-1.42	-7.94	
2,785.0	1.54	171.34	2,779.6	-1,062.6	-105.9	-0.3	-105.9	2.76	-2.76	0.42	
2,847.0	1.05	191.91	2,841.6	-1,124.6	-107.2	-0.3	-107.2	1.08	-0.79	33.18	
2,909.0	0.40	165.89	2,903.6	-1,186.6	-108.0	-0.4	-108.0	1.15	-1.05	-41.97	
2,971.0	0.62	168.53	2,965.6	-1,248.6	-108.5	-0.3	-108.5	0.36	0.35	4.26	
3,032.0	0.66	154.20	3,026.6	-1,309.6	-109.2	-0.1	-109.2	0.27	0.07	-23.49	
3,094.0	0.26	10.32	3,088.6	-1,371.6	-109.4	0.1	-109.4	1.42	-0.65	-232.06	
3,156.0	0.18	41.44	3,150.6	-1,433.6	-109.1	0.2	-109.1	0.23	-0.13	50.19	
3,218.0	0.31	52.95	3,212.6	-1,495.6	-109.0	0.4	-109.0	0.22	0.21	18.56	
3,280.0	0.22	94.70	3,274.6	-1,557.6	-108.9	0.7	-108.9	0.33	-0.15	67.34	
3,311.0	0.48	73.87	3,305.6	-1,588.6	-108.9	0.8	-108.9	0.92	0.84	-67.19	
3,344.0	0.62	3.82	3,338.6	-1,621.6	-108.6	1.0	-108.6	1.94	0.42	-212.27	
KOP											
3,355.0	1.91	11.68	3,349.6	-1,632.6	-108.4	1.0	-108.4	11.78	11.70	71.42	
3,375.0	4.26	13.75	3,369.6	-1,652.6	-107.3	1.3	-107.3	11.78	11.77	10.37	
3,406.0	7.21	8.74	3,400.4	-1,683.4	-104.3	1.8	-104.3	9.64	9.52	-16.16	
3,437.0	11.25	7.78	3,431.0	-1,714.0	-99.4	2.5	-99.4	13.04	13.03	-3.10	
3,468.0	15.82	6.19	3,461.1	-1,744.1	-92.2	3.4	-92.2	14.79	14.74	-5.13	
3,499.0	19.95	7.51	3,490.6	-1,773.6	-82.7	4.6	-82.7	13.39	13.32	4.26	
3,530.0	23.20	7.34	3,519.4	-1,802.4	-71.4	6.0	-71.4	10.49	10.48	-0.55	
3,561.0	27.29	4.35	3,547.5	-1,830.5	-58.3	7.4	-58.3	13.82	13.19	-9.65	
3,592.0	30.37	1.89	3,574.6	-1,857.6	-43.4	8.1	-43.4	10.65	9.94	-7.94	
3,624.0	34.19	358.64	3,601.7	-1,884.7	-26.3	8.2	-26.3	13.11	11.94	-10.16	
3,655.0	38.94	358.28	3,626.6	-1,909.6	-7.8	7.7	-7.8	15.34	15.32	-1.16	
3,685.0	39.46	358.64	3,649.8	-1,932.8	11.1	7.2	11.1	1.89	1.73	1.20	
3,716.0	42.28	358.46	3,673.3	-1,956.3	31.4	6.7	31.4	9.10	9.10	-0.58	
3,746.0	47.64	357.76	3,694.5	-1,977.5	52.6	6.0	52.6	17.94	17.87	-2.33	
3,777.0	48.65	358.64	3,715.2	-1,998.2	75.7	5.2	75.7	3.88	3.26	2.84	
3,808.0	51.02	358.72	3,735.2	-2,018.2	99.3	4.7	99.3	7.65	7.65	0.26	
3,839.0	54.32	359.87	3,754.0	-2,037.0	124.0	4.4	124.0	11.05	10.65	3.71	
3,870.0	57.39	359.87	3,771.4	-2,054.4	149.6	4.3	149.6	9.90	9.90	0.00	
3,901.0	59.28	1.18	3,787.6	-2,070.6	176.0	4.6	176.0	7.08	6.10	4.23	
3,932.0	62.80	1.80	3,802.6	-2,085.6	203.1	5.3	203.1	11.49	11.35	2.00	
BEGIN TANGENT											
3,958.0	66.08	3.13	3,813.8	-2,096.8	226.6	6.3	226.6	13.43	12.61	5.12	
3,963.0	66.71	3.38	3,815.9	-2,098.9	231.1	6.6	231.1	13.43	12.64	4.96	
END TANGENT											
3,988.0	67.66	0.19	3,825.5	-2,108.5	254.2	7.3	254.2	12.37	3.81	-12.76	

Survey Report



Company:	DORADO E&P PARTNERS	Local Co-ordinate Reference:	Well FESLER 24-9-29 1H
Project:	RENO COUNTY, KANSAS (NAD 27)	TDV Reference:	KB @ 1717.0usft (DUKE #20)
Site:	SE 1/4 SECTION 29 T24S R9W	MD Reference:	KB @ 1717.0usft (DUKE #20)
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Survey											
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
3,994.0	67.90	359.43	3,827.8	-2,110.8	259.7	7.3	259.7	12.37	3.96	-12.65	
4,025.0	71.02	1.27	3,838.7	-2,121.7	288.7	7.5	288.7	11.50	10.06	5.94	
4,056.0	73.08	0.83	3,848.2	-2,131.2	318.2	8.0	318.2	6.78	6.65	-1.42	
4,087.0	75.89	1.71	3,856.5	-2,139.5	348.1	8.7	348.1	9.47	9.06	2.84	
4,118.0	80.38	1.18	3,862.9	-2,145.9	378.4	9.4	378.4	14.58	14.48	-1.71	
4,148.0	84.99	0.66	3,866.7	-2,149.7	408.1	9.9	408.1	15.46	15.37	-1.73	
HZ LANDING POINT											
4,215.0	90.35	359.34	3,869.5	-2,152.5	475.1	9.9	475.1	8.24	8.00	-1.97	
4,246.0	90.57	0.40	3,869.2	-2,152.2	506.1	9.8	506.1	3.49	0.71	3.42	
4,277.0	90.62	359.51	3,868.9	-2,151.9	537.1	9.8	537.1	2.88	0.16	-2.87	
4,339.0	89.91	359.16	3,868.6	-2,151.6	599.1	9.1	599.1	1.28	-1.15	-0.56	
4,401.0	90.40	358.72	3,868.4	-2,151.4	661.0	7.9	661.0	1.06	0.79	-0.71	
4,463.0	88.51	358.02	3,869.0	-2,152.0	723.0	6.2	723.0	3.25	-3.05	-1.13	
4,525.0	88.73	358.37	3,870.5	-2,153.5	785.0	4.2	785.0	0.67	0.35	0.56	
4,587.0	88.90	358.02	3,871.8	-2,154.8	846.9	2.3	846.9	0.63	0.27	-0.56	
4,649.0	89.03	357.93	3,872.9	-2,155.9	908.9	0.1	908.9	0.26	0.21	-0.15	
4,711.0	88.81	358.28	3,874.1	-2,157.1	970.8	-2.0	970.8	0.67	-0.35	0.56	
4,773.0	89.25	0.04	3,875.1	-2,158.1	1,032.8	-2.9	1,032.8	2.93	0.71	2.84	
4,835.0	90.48	358.72	3,875.3	-2,158.3	1,094.8	-3.6	1,094.8	2.91	1.98	-2.13	
4,896.0	90.62	359.25	3,874.7	-2,157.7	1,155.8	-4.6	1,155.8	0.90	0.23	0.87	
4,958.0	90.00	358.72	3,874.4	-2,157.4	1,217.8	-5.7	1,217.8	1.32	-1.00	-0.85	
5,020.0	89.96	358.72	3,874.4	-2,157.4	1,279.8	-7.1	1,279.8	0.06	-0.06	0.00	
5,082.0	89.74	358.55	3,874.5	-2,157.5	1,341.7	-8.6	1,341.7	0.45	-0.35	-0.27	
5,144.0	89.65	358.64	3,874.9	-2,157.9	1,403.7	-10.1	1,403.7	0.21	-0.15	0.15	
5,205.0	89.17	358.37	3,875.5	-2,158.5	1,464.7	-11.7	1,464.7	0.90	-0.79	-0.44	
5,271.0	89.30	359.51	3,876.4	-2,159.4	1,530.7	-12.9	1,530.7	1.74	0.20	1.73	
5,333.0	90.62	0.74	3,876.4	-2,159.4	1,592.7	-12.8	1,592.7	2.91	2.13	1.98	
5,395.0	90.26	0.92	3,875.9	-2,158.9	1,654.7	-11.9	1,654.7	0.65	-0.58	0.29	
5,457.0	89.87	1.36	3,875.9	-2,158.9	1,716.7	-10.7	1,716.7	0.95	-0.63	0.71	
5,519.0	91.23	1.18	3,875.3	-2,158.3	1,778.6	-9.3	1,778.6	2.21	2.19	-0.29	
5,581.0	91.41	1.01	3,873.9	-2,156.9	1,840.6	-8.1	1,840.6	0.40	0.29	-0.27	
5,644.0	91.19	1.01	3,872.4	-2,155.4	1,903.6	-7.0	1,903.6	0.35	-0.35	0.00	
5,707.0	90.66	1.10	3,871.4	-2,154.4	1,966.6	-5.8	1,966.6	0.85	-0.84	0.14	
5,769.0	90.31	359.69	3,870.9	-2,153.9	2,028.6	-5.4	2,028.6	2.34	-0.56	-2.27	
5,830.0	89.52	359.95	3,871.0	-2,154.0	2,089.6	-5.6	2,089.6	1.36	-1.30	0.43	
5,892.0	89.74	0.13	3,871.4	-2,154.4	2,151.6	-5.6	2,151.6	0.46	0.35	0.29	
5,953.0	88.68	0.13	3,872.2	-2,155.2	2,212.6	-5.4	2,212.6	1.74	-1.74	0.00	
5,984.0	88.51	359.95	3,873.0	-2,156.0	2,243.5	-5.4	2,243.5	0.80	-0.55	-0.58	
6,015.0	88.29	0.13	3,873.8	-2,156.8	2,274.5	-5.4	2,274.5	0.92	-0.71	0.58	
6,046.0	87.89	359.95	3,874.9	-2,157.9	2,305.5	-5.3	2,305.5	1.41	-1.29	-0.58	
6,076.0	87.67	359.78	3,876.0	-2,159.0	2,335.5	-5.4	2,335.5	0.93	-0.73	-0.57	
6,107.0	88.46	0.22	3,877.1	-2,160.1	2,366.5	-5.4	2,366.5	2.92	2.55	1.42	
6,138.0	89.17	0.66	3,877.7	-2,160.7	2,397.5	-5.2	2,397.5	2.69	2.29	1.42	
6,169.0	89.03	0.31	3,878.2	-2,161.2	2,428.5	-4.9	2,428.5	1.22	-0.45	-1.13	
6,230.0	88.46	0.22	3,879.5	-2,162.5	2,489.4	-4.6	2,489.4	0.95	-0.93	-0.15	
6,292.0	90.22	0.66	3,880.3	-2,163.3	2,551.4	-4.2	2,551.4	2.93	2.84	0.71	
6,353.0	90.00	0.39	3,880.1	-2,163.1	2,612.4	-3.6	2,612.4	0.57	-0.36	-0.44	
6,415.0	89.96	359.60	3,880.2	-2,163.2	2,674.4	-3.6	2,674.4	1.28	-0.06	-1.27	
6,476.0	89.60	359.43	3,880.4	-2,163.4	2,735.4	-4.1	2,735.4	0.65	-0.59	-0.28	
6,537.0	89.47	358.72	3,880.9	-2,163.9	2,796.4	-5.1	2,796.4	1.18	-0.21	-1.16	
6,599.0	89.30	358.55	3,881.6	-2,164.6	2,858.4	-6.6	2,858.4	0.39	-0.27	-0.27	
6,661.0	89.17	358.46	3,882.4	-2,165.4	2,920.4	-8.2	2,920.4	0.26	-0.21	-0.15	
6,722.0	90.26	358.64	3,882.7	-2,165.7	2,981.4	-9.7	2,981.4	1.81	1.79	0.30	

Survey Report



Company:	DORADO E&P PARTNERS	Local Co-ordinate Reference:	Well FESLER 24-9-29 1H
Project:	RENO COUNTY, KANSAS (NAD 27)	TVD Reference:	KB @ 1717.0usft (DUKE #20)
Site:	SE 1/4 SECTION 29 T24S R9W	MD Reference:	KB @ 1717.0usft (DUKE #20)
Well:	FESLER 24-9-29 1H	North Reference:	True
Wellbore:	JOB # 2009-159	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,784.0	90.04	358.11	3,882.5	-2,165.5	3,043.3	-11.5	3,043.3	0.93	-0.35	-0.85
6,846.0	89.38	357.93	3,882.8	-2,165.8	3,105.3	-13.6	3,105.3	1.10	-1.06	-0.29
6,908.0	89.65	358.81	3,883.4	-2,166.4	3,167.3	-15.4	3,167.3	1.48	0.44	1.42
6,970.0	90.48	359.34	3,883.3	-2,166.3	3,229.3	-16.4	3,229.3	1.59	1.34	0.85
7,032.0	90.22	358.72	3,882.9	-2,165.9	3,291.2	-17.5	3,291.2	1.08	-0.42	-1.00
7,094.0	90.66	359.16	3,882.4	-2,165.4	3,353.2	-18.6	3,353.2	1.00	0.71	0.71
7,156.0	90.83	358.72	3,881.6	-2,164.6	3,415.2	-19.8	3,415.2	0.76	0.27	-0.71
7,217.0	91.27	358.72	3,880.5	-2,163.5	3,476.2	-21.1	3,476.2	0.72	0.72	0.00
7,279.0	89.17	359.69	3,880.3	-2,163.3	3,538.2	-22.0	3,538.2	3.73	-3.39	1.56
7,341.0	89.30	359.69	3,881.1	-2,164.1	3,600.2	-22.3	3,600.2	0.21	0.21	0.00
7,403.0	89.17	359.60	3,881.9	-2,164.9	3,662.2	-22.7	3,662.2	0.26	-0.21	-0.15
7,465.0	88.73	358.72	3,883.1	-2,166.1	3,724.1	-23.6	3,724.1	1.59	-0.71	-1.42
7,527.0	90.00	358.99	3,883.8	-2,166.8	3,786.1	-24.8	3,786.1	2.09	2.05	0.44
7,589.0	90.09	358.64	3,883.7	-2,166.7	3,848.1	-26.1	3,848.1	0.58	0.15	-0.56
7,650.0	90.53	359.60	3,883.4	-2,166.4	3,909.1	-27.1	3,909.1	1.73	0.72	1.57
7,712.0	89.87	358.72	3,883.2	-2,166.2	3,971.1	-28.0	3,971.1	1.77	-1.06	-1.42
7,774.0	89.60	358.11	3,883.4	-2,166.4	4,033.1	-29.7	4,033.1	1.08	-0.44	-0.98
7,836.0	89.96	358.90	3,883.7	-2,166.7	4,095.1	-31.3	4,095.1	1.40	0.58	1.27
7,898.0	89.87	358.64	3,883.8	-2,166.8	4,157.0	-32.6	4,157.0	0.44	-0.15	-0.42
7,960.0	90.66	358.99	3,883.5	-2,166.5	4,219.0	-33.9	4,219.0	1.39	1.27	0.56
8,021.0	90.48	358.46	3,882.9	-2,165.9	4,280.0	-35.3	4,280.0	0.92	-0.30	-0.87
8,083.0	90.26	358.37	3,882.5	-2,165.5	4,342.0	-37.0	4,342.0	0.38	-0.35	-0.15
8,145.0	89.38	358.02	3,882.7	-2,165.7	4,403.9	-38.9	4,404.0	1.53	-1.42	-0.56
8,207.0	90.83	359.16	3,882.6	-2,165.6	4,465.9	-40.5	4,465.9	2.97	2.34	1.84
8,269.0	90.22	358.72	3,882.0	-2,165.0	4,527.9	-41.6	4,527.9	1.21	-0.98	-0.71
8,331.0	89.96	358.55	3,881.9	-2,164.9	4,589.9	-43.1	4,589.9	0.50	-0.42	-0.27
8,392.0	89.65	357.40	3,882.1	-2,165.1	4,650.9	-45.2	4,650.9	1.95	-0.51	-1.89
8,454.0	89.43	357.05	3,882.6	-2,165.6	4,712.8	-48.2	4,712.8	0.67	-0.35	-0.56
EXTRAPOLATION TO TD										
8,496.0	89.43	357.05	3,883.0	-2,166.0	4,754.7	-50.4	4,754.7	0.00	0.00	0.00

Survey Report



Company:	DORADO E&P PARTNERS	Local Co-ordinate Reference:	Well FESLER 24-9-29 1H
Project:	RENO COUNTY, KANSAS (NAD 27)	TVD Reference:	KB @ 1717.0usft (DUKE #20)
Site:	SE 1/4 SECTION 29 T24S R9W	MD Reference:	KB @ 1717.0usft (DUKE #20)
Well:	FESLER 24-9-29 1H	North Reference:	True
Wellbore:	JOB # 2009-159	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	EDM 5000.1 Single User Db

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
HZ LANDING POINT (P - survey misses target center by 8.2usft at 4418.8usft MD (3868.4 TVD, 678.8 N, 7.5 E) - Point	0.00	0.00	3,867.0	678.6	-0.6	459,479.52	2,048,423.42	37° 55' 42.446 N	98° 19' 55.614 W
HZ LANDING POINT (P. - survey misses target center by 10.0usft at 4149.1usft MD (3866.8 TVD, 409.3 N, 9.9 E) - Point	0.00	0.00	3,867.0	409.3	-0.1	459,210.20	2,048,424.45	37° 55' 39.783 N	98° 19' 55.607 W
HZ LANDING POINT (P. - survey misses target center by 10.0usft at 4149.1usft MD (3866.8 TVD, 409.3 N, 9.9 E) - Point	0.00	0.00	3,867.0	409.3	-0.1	459,210.20	2,048,424.45	37° 55' 39.783 N	98° 19' 55.607 W
HZ LANDING POINT (P. - survey misses target center by 10.8usft at 4118.9usft MD (3863.1 TVD, 379.3 N, 9.4 E) - Point	0.00	0.00	3,867.0	379.0	-0.6	459,179.94	2,048,423.96	37° 55' 39.484 N	98° 19' 55.614 W
BHL - FESLER 24-9-29 - survey misses target center by 52.2usft at 8493.2usft MD (3883.0 TVD, 4752.0 N, -50.3 E) - Point	0.00	0.00	3,867.0	4,754.7	-0.6	463,555.36	2,048,416.08	37° 56' 22.742 N	98° 19' 55.614 W
HZ LANDING POINT (P. - survey misses target center by 10.0usft at 4149.1usft MD (3866.8 TVD, 409.3 N, 9.9 E) - Point	0.00	0.00	3,867.0	409.3	-0.1	459,210.20	2,048,424.45	37° 55' 39.783 N	98° 19' 55.607 W

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
250.0	250.0	0.5	0.5	SURFACE CASING
3,355.0	3,349.6	-108.4	1.0	KOP
3,958.0	3,813.8	226.6	6.3	BEGIN TANGENT
3,988.0	3,825.5	254.2	7.3	END TANGENT
4,215.0	3,869.5	475.1	9.9	HZ LANDING POINT
8,496.0	3,883.0	4,754.7	-50.4	EXTRAPOLATION TO TD

Checked By: _____ Approved By: _____ Date: _____