



FILE NO: OH136033	COMPANY LARAMIE ENERGY LLC
API NO: 05077103940000	WELL NICHOLS 0994-24-18W
	FIELD VEGA
	COUNTY MESA STATE COLORADO

Ver. 4.10	LOCATION: SHL: 2302' FNL & 2792' FWL BHL: 1176' FSL & 1733' FEL SEC <u>24</u> TWP <u>9S</u> RGE <u>94W</u>	OTHER SERVICES NONE
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PERMANENT DATUM LOG MEASURED FROM DRILL. MEAS. FROM	GL ELEVATION 7212 FT KB 24 FT ABOVE P.D. KB GL 7212 FT	ELEVATIONS: KB 7236 FT DF GL 7212 FT
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DATE	27-Apr-2018
RUN	1
TRIP	1
SERVICE ORDER	US136033
DEPTH DRILLER	7898 FT
DEPTH LOGGER	2205 FT
BOTTOM LOGGED INTERVAL	2205 FT
TOP LOGGED INTERVAL	24 FT
CASING DRILLER	8.625 IN @ 1554 FT
CASING LOGGER	1544 FT
BIT SIZE	7.875 IN
TYPE OF FLUID IN HOLE	LSND
DENSITY	10.2 LB/G
VISCOSITY	65 CP
PH	8.7
FLUID LOSS	5.6 C3
SOURCE OF SAMPLE	WELL FLUID
RM AT MEAS. TEMP.	1.494 OHMM @ 78 DEGF
RMF AT MEAS. TEMP.	1.301 OHMM @ 78 DEGF
RMC AT MEAS. TEMP.	1.915 OHMM @ 78 DEGF
SOURCE OF RMF	RMC
CALCULATED	CALCULATED
RM AT BHT	1.29 OHMM @ 113 DEGF
TIME SINCE CIRCULATION	9.5 HOURS
MAX. RECORDED TEMP.	114 DEGF
EQUIP. NO.	ML-4291
LOCATION	GRAND JCT.
RECORDED BY	MANUEL BAUKA
WITNESSED BY	ROGER FOSTER

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE THE CUSTOMER THE BENEFIT OF THEIR BEST JUDGEMENT. BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS, WE CANNOT, AND WE DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGES, OR EXPENSES WHATSOEVER INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

REMARKS

RUN 1 TRIP 1: CVOL AND BVOL CALCULATED USING PROPOSED 4.5" 11.6# CASING

CVOL AND BVOL PRESENTED IN CUBIC FEET

RIG: H&P 290

CREW: B. SMITH, J. TOOKER, A. SHAHNOOSHI AND B. BRANSON

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TTRM	3981XA	10241179	FREE
1	1	COMM REMOTE	3514XB	Z153369	FREE
1	1	DGR	1329XB	10171235	FREE
1	1	WGI	4253XA	10435549	CENTRALIZED
1	1	ORIT	4401XB	10170546	CENTRALIZED
1	1	CENT	4341XA	Z121518	CENTRALIZED

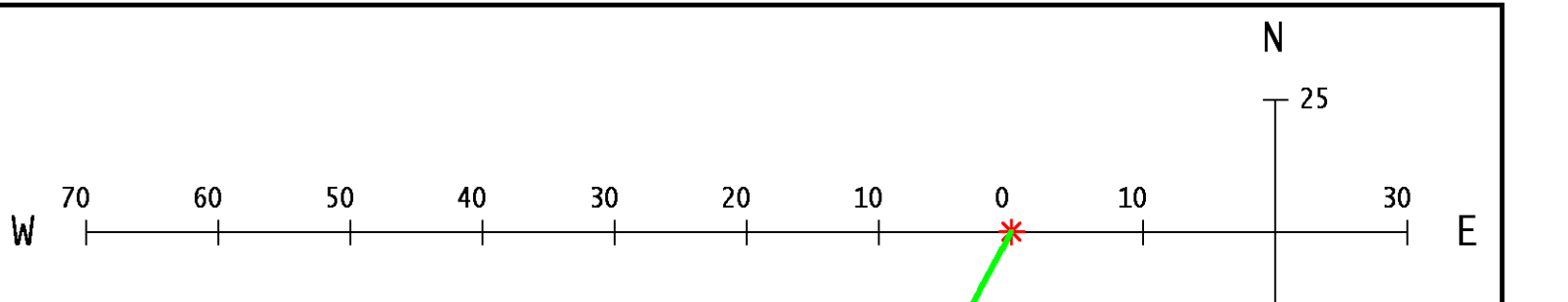
LARAMIE ENERGY
0994-24-18W

				DRIFT COORDINATES				DOGLEG SEVERITY
DEPTH	DEVIATION		T.V.D.	STATION		TOTAL		
	ANGLE	AZIMUTH		N-S	E-W	N-S	E-W	
1544.00	19.7	193.3	1544.00	0.00N	0.00E	0.00N	0.00E	0.00
1569.00	19.7	192.3	1567.53	8.27S	1.79W	8.27S	1.79W	1.34
1594.00	19.7	191.5	1591.07	8.24S	1.73W	16.50S	3.52W	0.99
1619.00	19.7	190.6	1614.61	8.24S	1.65W	24.74S	5.18W	1.31
1644.00	19.6	190.8	1638.16	8.23S	1.59W	32.98S	6.77W	0.54
1669.00	19.8	192.8	1661.72	8.21S	1.59W	41.19S	8.36W	2.86
1694.00	21.5	197.7	1685.12	8.49S	2.28W	49.68S	10.64W	9.58
1719.00	21.9	199.2	1708.34	8.76S	3.00W	58.44S	13.64W	2.81
1744.00	21.5	198.6	1731.54	8.80S	3.08W	67.25S	16.72W	1.74
1769.00	21.6	198.8	1754.78	8.70S	2.99W	75.95S	19.70W	0.51
1794.00	21.4	198.5	1778.05	8.67S	2.89W	84.62S	22.60W	0.97
1819.00	21.4	197.5	1801.33	8.66S	2.83W	93.28S	25.43W	1.53
1844.00	21.4	197.4	1824.62	8.67S	2.73W	101.95S	28.16W	0.11
1869.00	21.1	197.0	1847.93	8.64S	2.66W	110.58S	30.82W	1.02
1894.00	21.0	196.7	1871.27	8.59S	2.58W	119.17S	33.41W	0.65
1919.00	20.9	196.4	1894.61	8.61S	2.48W	127.78S	35.89W	0.65
1944.00	21.0	196.9	1917.93	8.64S	2.50W	136.43S	38.39W	0.87
1969.00	21.4	199.7	1941.21	8.66S	2.79W	145.09S	41.18W	4.34
1994.00	21.3	199.0	1964.48	8.64S	2.99W	153.73S	44.17W	1.14
2019.00	21.3	199.1	1987.75	8.65S	2.99W	162.38S	47.17W	0.22
2044.00	21.6	199.5	2011.03	8.58S	3.06W	170.96S	50.23W	1.10
2069.00	21.3	200.7	2034.31	8.55S	3.10W	179.51S	53.33W	2.09
2094.00	21.4	199.5	2057.61	8.51S	3.13W	188.02S	56.46W	1.92
2119.00	21.0	199.3	2080.92	8.52S	3.01W	196.54S	59.46W	1.50
2144.00	21.4	198.8	2104.24	8.49S	3.00W	205.03S	62.47W	1.48
2169.00	20.8	198.4	2127.55	8.56S	2.89W	213.59S	65.35W	2.29
2193.00	21.2	198.5	2149.96	8.16S	2.70W	221.75S	68.05W	1.54

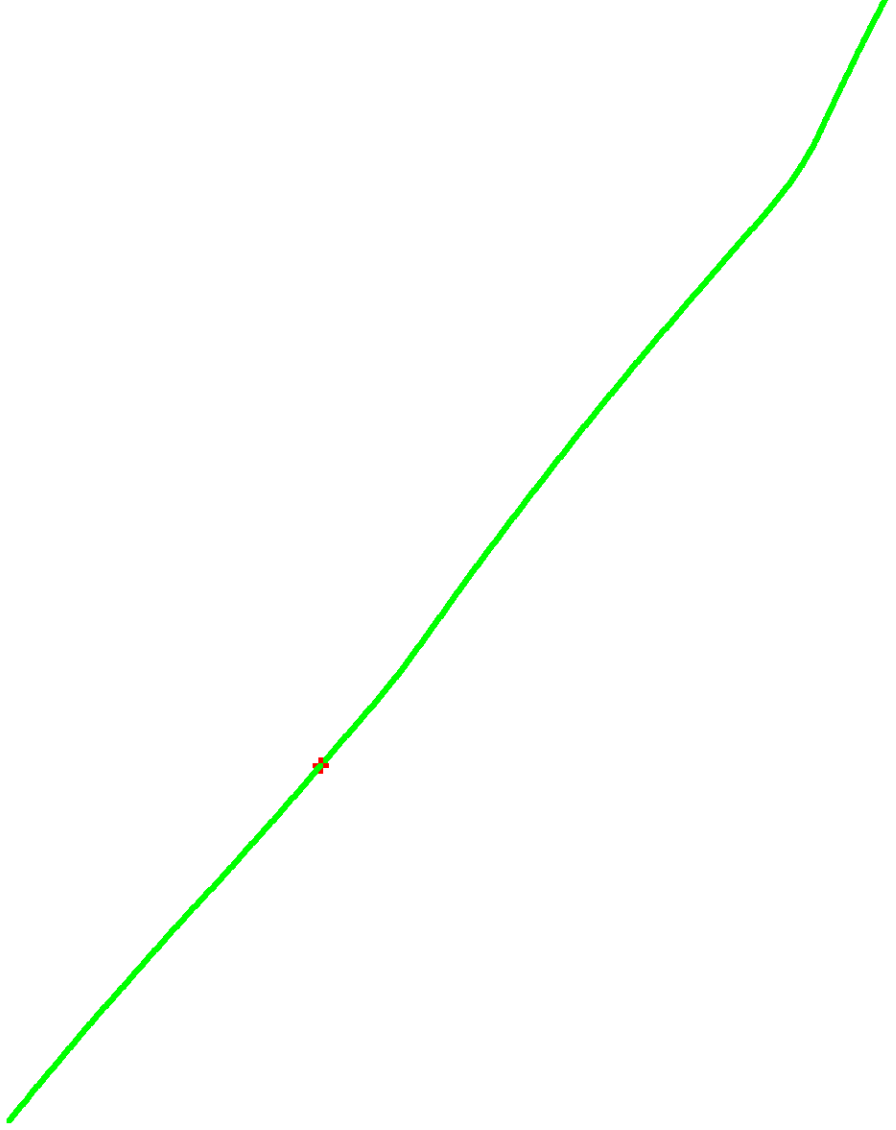
DOGLEG SEVERITY UNITS = DEGREES/100FT

THE FIRST POINT INFORMATION:
1544.00 19.7 193.3 1544.00 0.00N 0.00E 0.00N 0.00E
THE LAST POINT INFORMATION:
2193.00 21.2 198.5 2149.96 8.16S 2.70W 221.75S 68.05W

FINAL EAST-WEST DRIFT = 68.05 W
FINAL NORTH-SOUTH DRIFT = 221.75 S
FINAL DRIFT DISTANCE = 231.95 FT
FINAL DRIFT DIRECTION = S 17.06 W



25
50
75
100
125
150
175
200
225
S



PLAN VIEW

- ~: WELLBORE COURSE
- + : MEASURED DEPTH TIE-IN
- *: WELLHEAD POSITION

FINAL EAST-WEST DRIFT	68.05 FT WEST
FINAL NORTH-SOUTH DRIFT	221.75 FT SOUTH
FINAL DRIFT DISTANCE	231.95 FT
FINAL DRIFT DIRECTION	S 17.06 W
DRIFT UNITS	FEET
DEPTH UNITS	FEET

N 90 E
90

60

50

40

30

20

10

0

10

20

30

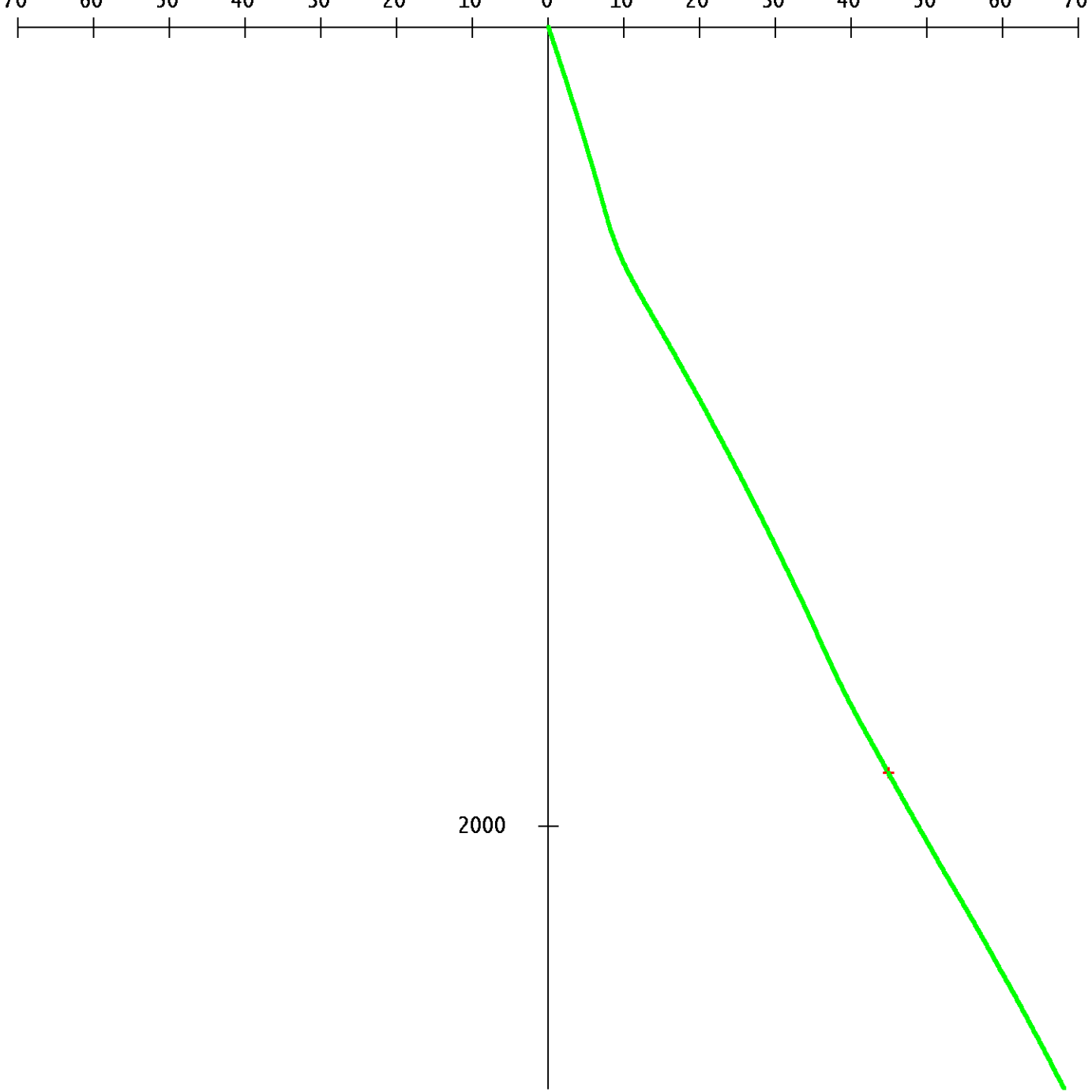
40

50




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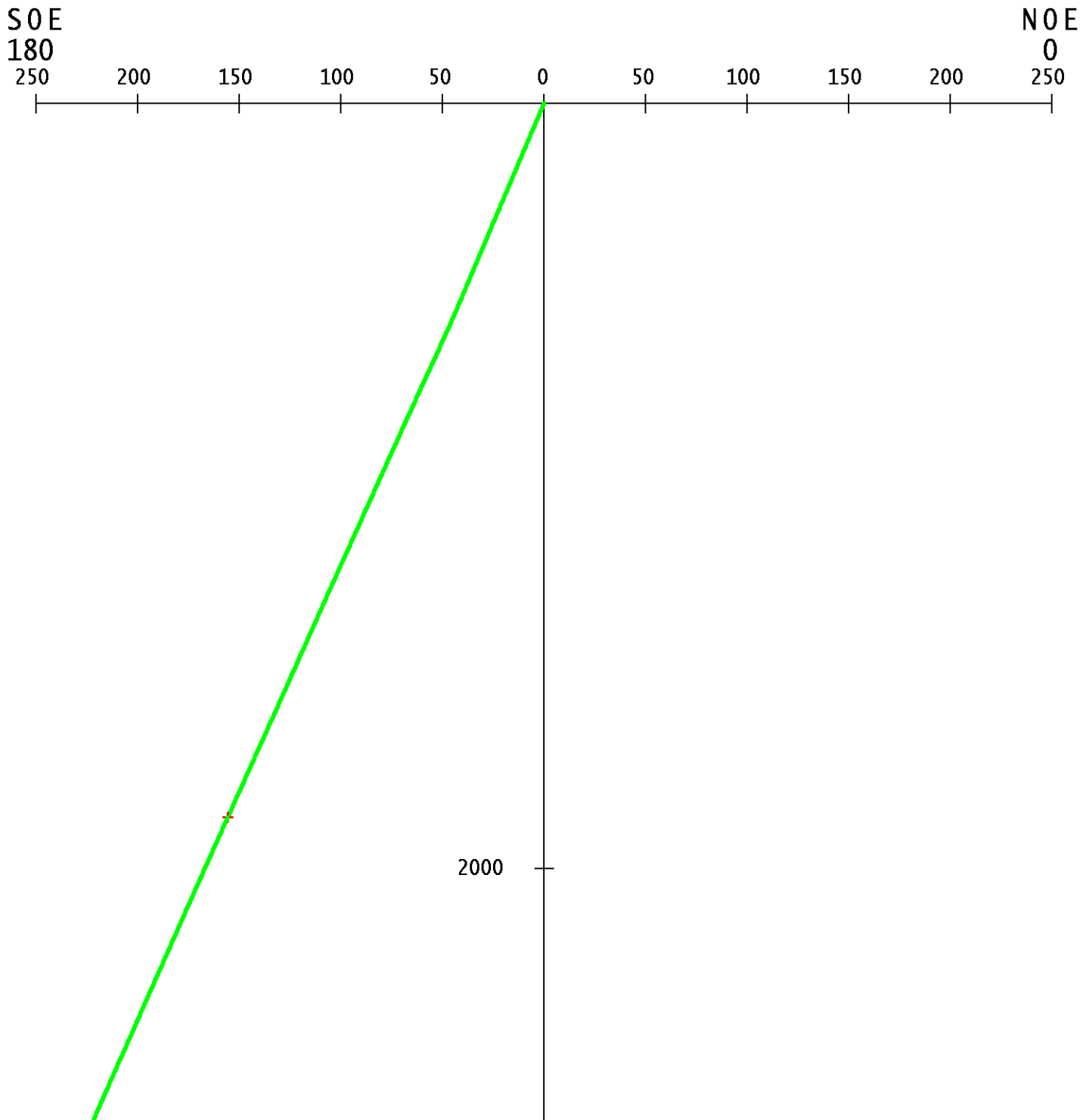
S 90 W
270

70






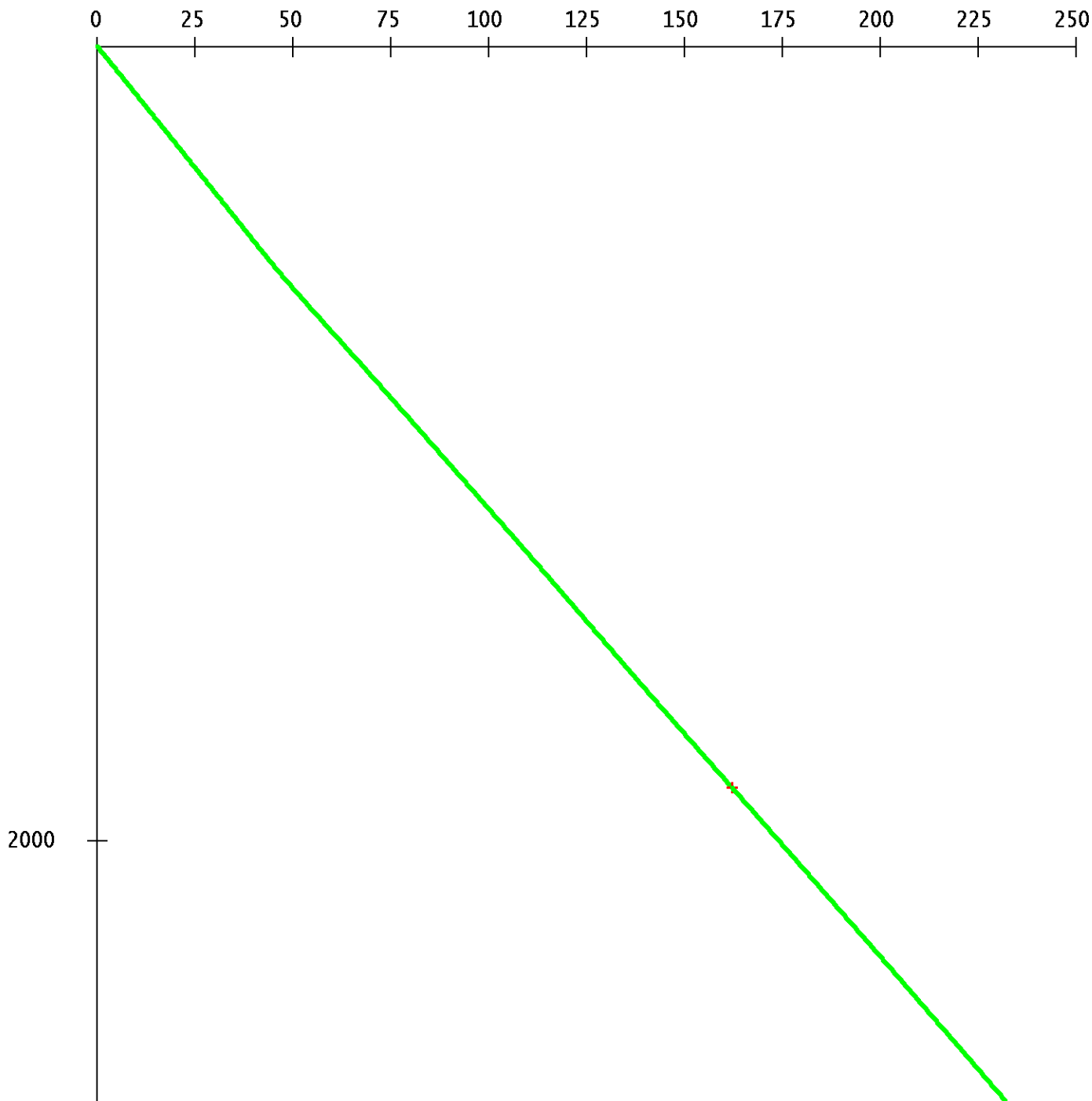
SIDE VIEW FROM AZIMUTH 0

 : WELLBORE COURSE	MAX. DRIFT	N 90 E	0.00 FT
 : MEASURED DEPTH TIE-IN	MAX. DRIFT	S 90 W	68.05 FT
 : WELLHEAD POSITION	BOTTOM TVD THIS INTERVAL		2149.96 FT
	DRIFT UNITS		FEET
	DEPTH UNITS		FEET






SIDE VIEW FROM AZIMUTH 90

 : WELLBORE COURSE	MAX. DRIFT	S 0 E	221.75	FT
 : MEASURED DEPTH TIE-IN	MAX. DRIFT	N 0 E	0.00	FT
 : WELLHEAD POSITION	BOTTOM TVD THIS INTERVAL		2149.96	FT
	DRIFT UNITS			FEET
	DEPTH UNITS			FEET



DEPTH VS. DRIFT

	: WELLBORE COURSE	MAX. DRIFT FROM WELLHEAD	231.95 FT
	: MEASURED DEPTH TIE-IN	BOTTOM TVD THIS INTERVAL	2149.96 FT
	: WELLHEAD POSITION	DRIFT UNITS	FEET
		DEPTH UNITS	FEET

DEPTH GRIPS

FEET

**BAKER
HUGHES**
a GE company



ECLIPS

COMPANYLARAMIE ENERGY LLC**WELL**NICHOLS 0994-24-18W**FIELD**VEGA**COUNTY**MESA**STATE**COLORADO**FILE NO:**OH136033**API NO:**05077103940000**LOCATION:**SHL: 2302' FNL & 2792' FWLBHL: 1176' FSL & 1733' FEL**ELEVATIONS:**KB 7236 FTDFGL 7212 FT**SEC** 24**TWP** 9S**RGE** 94W**DATE**27-Apr-2018