

RCVD SEP 25 '12

OIL CONS. DIV.

DIST. 3

EnerVest Operating LLC

Rio Arriba County, NM

Jicarilla

Jicarilla 155 16M

API # 30-039-29995

OH

Design: OH

Standard Survey Report

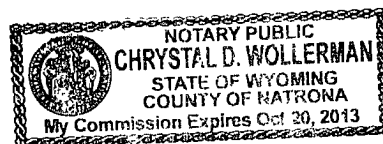
10 August, 2012

This survey is correct to the best of my knowledge and is supported by actual field data.

Notarized this date 10th of August, 2012.

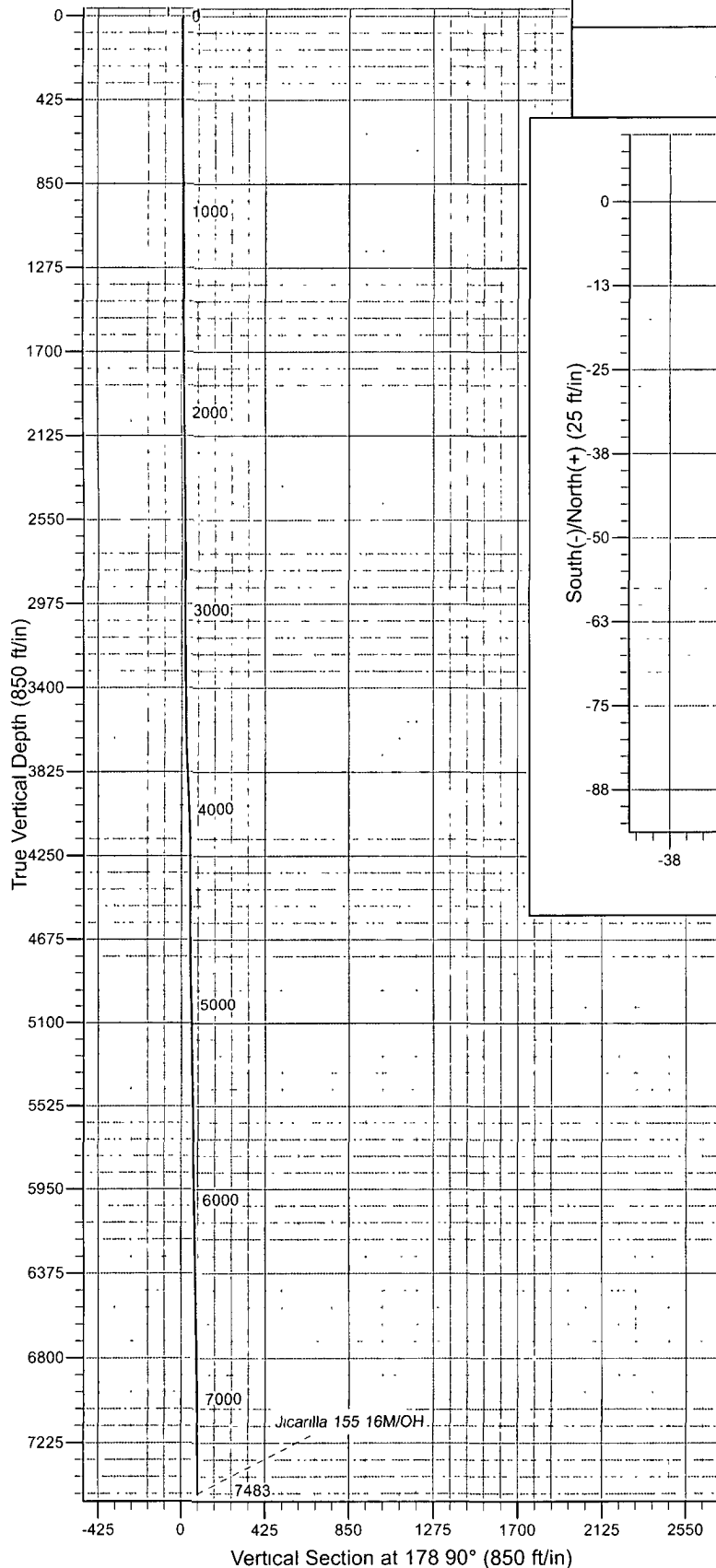
Chrystal D. Wollerman

Notary Signature
County of Natrona
State of Wyoming



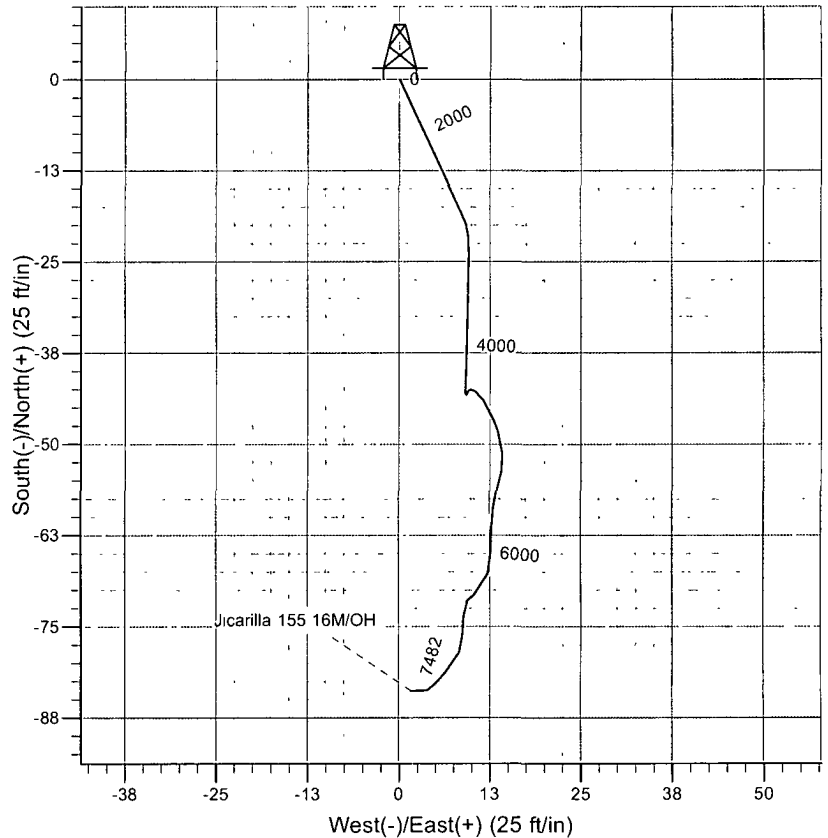
EnerVest Operating LLC

Project: Rio Arriba County, NM
Site: Jicarilla
Well: Jicarilla 155 16M
Wellbore: OH
Design: OH



WELL DETAILS Jicarilla 155 16M

Ground Level GL 6707' & KB 13' @ 6720 00ft (D&J 2)
 Northing 1988135 77 Easting 2850083 77 Latitude 36° 27' 46 944 N Longitude 107° 24' 5 256 W



REFERENCE INFORMATION

Co-ordinate (N/E) Reference Well Jicarilla 155 16M, True North
 Vertical (TVD) Reference GL 6707' & KB 13' @ 6720 00ft (D&J 2)
 Section (VS) Reference Slot - (0 00N, 0 00E)
 Measured Depth Reference GL 6707' & KB 13' @ 6720 00ft (D&J 2)
 Calculation Method Minimum Curvature
 Local North True
 Location

PROJECT DETAILS Rio Arriba County, NM

Geodetic System US State Plane 1983
 Datum North American Datum 1983
 Ellipsoid GRS 1980
 Zone New Mexico Western Zone

Design OH (Jicarilla 155 16M/OH)

Created By Julie Cruise Date 10 August 2012

Scientific Drilling

Survey Report



Company:	EnerVest Operating LLC	Local Co-ordinate Reference:	Well Jicarilla 155 16M
Project:	Rio Arriba County, NM	TVD Reference:	GL 6707' & KB 13' @ 6720.00ft (D&J 2)
Site:	Jicarilla	MD Reference:	GL 6707' & KB 13' @ 6720 00ft (D&J 2)
Well:	Jicarilla 155 16M	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Rockies Compass Server

Project	Rio Arriba County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site	Jicarilla		
Site Position:		Northing:	1,995,697.30 usft
From:	Lat/Long	Easting:	2,855,703 11 usft
Position Uncertainty:	0 00 ft	Slot Radius:	13 200 in
		Latitude:	36° 29' 1.464 N
		Longitude:	107° 22' 56.028 W
		Grid Convergence:	0.27 °

Well	Jicarilla 155 16M, 760' FNL 2570' FWL Sec 30 T26N R5W		
Well Position	+N/-S	0.00 ft	Northing: 1,988,135.78 usft
	+E/-W	0.00 ft	Easting: 2,850,083.77 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Latitude:	36° 27' 46.944 N
		Longitude:	107° 24' 5.256 W
		Ground Level:	6,707.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2012/08/01	9.57	63.26	50,510

Design	OH			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	178.90

Survey Program	Date	2012/08/10		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
3,343.00	7,483.00	Survey #1 (OH)	MWD SDI	MWD - Standard ver 1 0.1

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)
0.00	0.00	0 00	0.00	0.00	0.00	0 00	0.00	0.00	0 00
3,343 00	0.70	155 11	3,342.92	-18.52	8 59	18 69	0.02	0.02	0.00
First SDI MWD Survey									
3,465.00	0.69	159 18	3,464.91	-19.89	9 17	20.06	0.04	-0.01	3.34
3,588.00	0.80	177 63	3,587.90	-21.44	9 47	21.62	0.21	0.09	15.00
3,711.00	1 59	178.02	3,710.87	-24.00	9 56	24.18	0.64	0.64	0.32
4,066.00	3.43	183.03	4,065.51	-39.53	9 17	39.70	0.52	0 52	1.41
4,159.00	0 81	175 97	4,158.44	-42.96	9 07	43 13	2.83	-2.82	-7.59
4,279 00	0 50	11.74	4,278 44	-43.30	9 24	43 47	1.08	-0.26	-136.86
4,373 00	0 38	44.65	4,372.44	-42 67	9 54	42.85	0.29	-0.13	35.01
4,465 00	0 20	128.68	4,464 44	-42.56	9 88	42.74	0.45	-0.20	91 34

Scientific Drilling

Survey Report



Company:	EnerVest Operating LLC	Local Co-ordinate Reference:	Well Jicarilla 155 16M
Project:	Rio Arriba County, NM	TVD Reference:	GL 6707' & KB 13' @ 6720.00ft (D&J 2)
Site:	Jicarilla	MD Reference:	GL 6707' & KB 13' @ 6720.00ft (D&J 2)
Well:	Jicarilla 155 16M	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Rockies Compass Server

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)
4,588.00	0.40	107.53	4,587.43	-42.82	10.46	43.01	0.18	0.16	-17.20
4,742.00	0.84	149.43	4,741.43	-43.95	11.54	44.17	0.39	0.29	27.21
4,927.00	1.08	154.68	4,926.40	-46.70	12.98	46.94	0.14	0.13	2.84
5,020.00	0.84	164.54	5,019.39	-48.15	13.53	48.40	0.31	-0.26	10.60
5,233.00	0.93	171.21	5,232.36	-51.36	14.21	51.62	0.06	0.04	3.13
5,390.00	0.90	196.56	5,389.34	-53.80	14.06	54.06	0.26	-0.02	16.15
5,547.00	0.95	191.18	5,546.32	-56.26	13.45	56.51	0.06	0.03	-3.43
5,702.00	0.96	189.19	5,701.30	-58.80	13.00	59.04	0.02	0.01	-1.28
5,859.00	1.14	180.33	5,858.27	-61.66	12.78	61.90	0.15	0.11	-5.64
6,044.00	0.93	185.10	6,043.24	-65.00	12.63	65.23	0.12	-0.11	2.58
6,198.00	1.15	190.58	6,197.22	-67.76	12.24	67.98	0.16	0.14	3.56
6,416.00	0.89	243.94	6,415.19	-70.66	10.32	70.84	0.43	-0.12	24.48
6,509.00	0.71	209.04	6,508.18	-71.48	9.39	71.64	0.55	-0.19	-37.53
6,664.00	0.97	183.52	6,663.16	-73.63	8.84	73.78	0.29	0.17	-16.46
6,818.00	0.90	183.22	6,817.14	-76.14	8.69	76.29	0.05	-0.05	-0.19
6,972.00	0.91	196.77	6,971.12	-78.51	8.27	78.66	0.14	0.01	8.80
7,129.00	1.62	224.49	7,128.09	-81.29	6.36	81.40	0.58	0.45	17.66
7,223.00	0.96	216.68	7,222.06	-82.87	4.96	82.95	0.73	-0.70	-8.31
7,316.00	0.80	248.67	7,315.05	-83.73	3.89	83.79	0.55	-0.17	34.40
7,483.00	0.85	286.39	7,482.03	-83.81	1.61	83.82	0.32	0.03	22.59
Last SDI MWD Survey									

Checked By: _____ Approved By: _____ Date: _____