

MESA WEST
DIRECTIONAL

July 14, 2014

Walsh Engineering
7415 E Main Street
Farmington, NM 87402

OIL CONS. DIV DIST. 3

JUL 16 2014

CONFIDENTIAL

Attention: John Thompson,

This letter is to certify that Mesa West Directional did run directional surveys on the following well:

Vision Energy Group LLC
Wellname: Hogback Deep 12 #34
Location: Sec 29, 29N, 17W
County: San Juan
State: New Mexico
API #: 30-045-35403

The survey document is also attached to this cover letter.

To the best of my knowledge, I swear this information to be true.

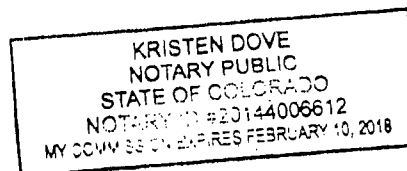
Regards,



Peter Leskosek

President
Mesa West Directional
361 S Camino Del Rio #301
Durango, CO 81303

Kristen Dove
Notary Public



D & J DRILLING, LLC
P. O. BOX 49
FARMINGTON, NM 87499

DATE: 07/14/14

CONFIDENTIAL

TO: VISION ENERGY GROUP LLC
39 OLD RIDGEBURY ROAD
DANBURY, CT 06810

ATTN: MR. ZACHERY NYKIEL

THIS LETTER IS TO CERTIFY THAT D & J DRILLING, DID RUN DEVIATION SURVEYS AT
THE LISTED DEPTH ON YOUR HOGBACK DEEP 12 #34, IN SEC12-T29N-R17W, IN SAN JUAN COUNTY,
NEW MEXICO. API WELL NUMBER - 30-045-35403

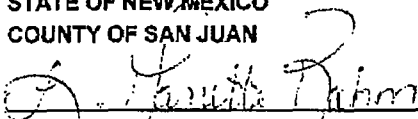
DEPTH	DEGREE DEVIATION
6847'	1 1/2
7100'	1 3/4
7400'	3

OIL CONS. DIV DIST. 3

JUL 16 2014

TO THE BEST OF MY KNOWLEDGE, I SWEAR THIS INFORMATION TO BE TRUE.

STATE OF NEW MEXICO
COUNTY OF SAN JUAN


NOTARY PUBLIC, L. NANETTE RAHM

SINCERELY,


OWNER- CLARENCE D. KEENOM



CONFIDENTIAL

Vision Energy Group Llc

San Juan County, NM

Sec 29, 29N, 17W

Hogback Deep 12 #34

Vertical

UWI:

WL:

OIL CONS. DIV DIST. 3

JUL 16 2014

Survey: Final

Standard Survey Report

04 November, 2013

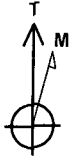

MESAWEST
DIRECTIONAL

Vision Energy Group Llc

Project: San Juan County, NM
Site: Sec 29, 29N, 17W
Well: Hogback Deep 12 #34
Wellbore: Vertical
Plan: Final

Reference Details - WELL CENTRE

Geodetic System: US State Plane 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Western Zone
 Northing: 2087882.39
 Easting: 2504173.44
 Latitude: 36° 44' 7.700 N
 Longitude: 108° 34' 49.606 W
 Grid Convergence: 0.45° East
 Ground Elevation: 5116.0
 KB Elevation: RKB @ 5129.0usft (D&J #2)

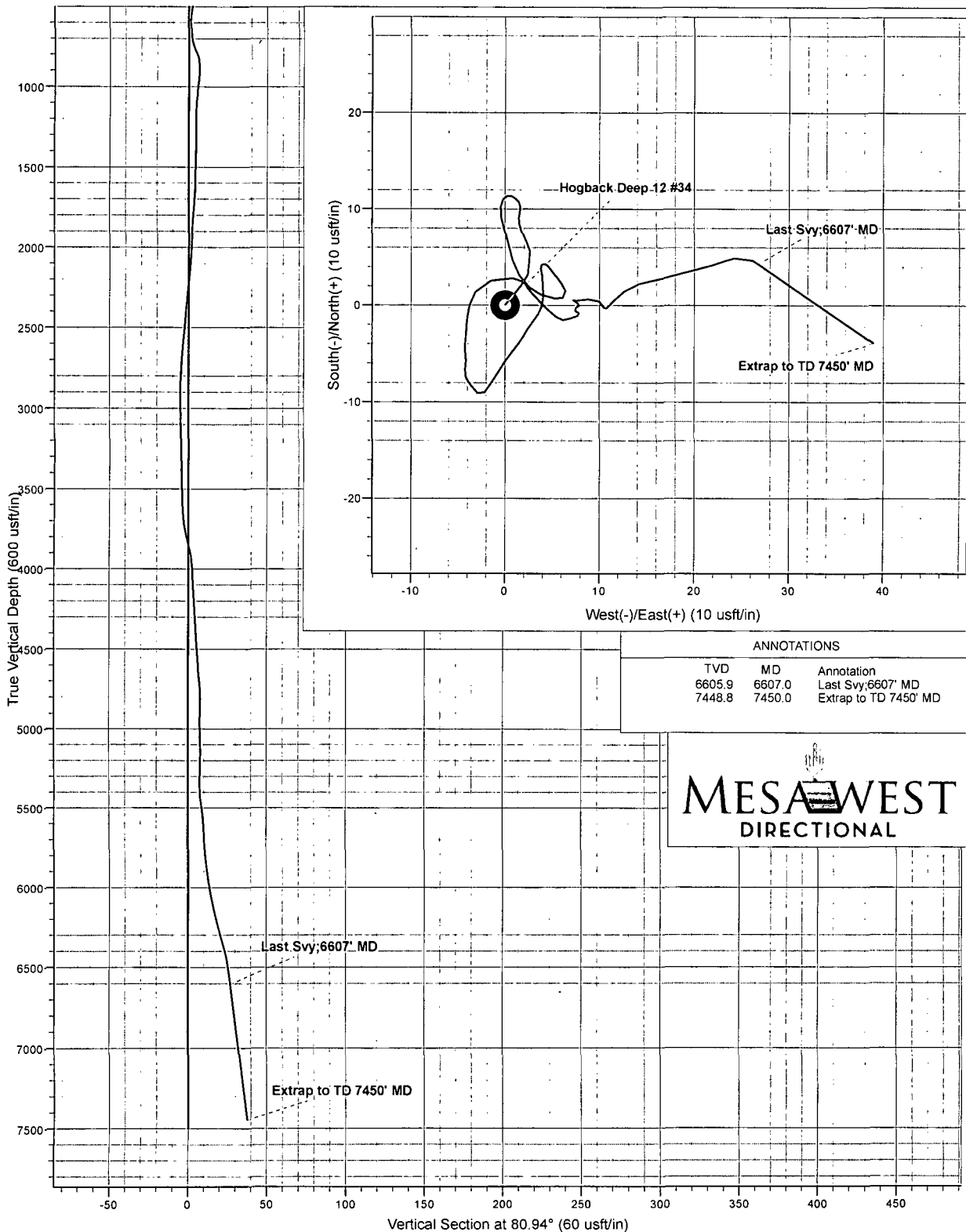


Azimuths to True North
 Magnetic North: 9.95°

Magnetic Field
 Strength: 50400.3snT
 Dip Angle: 63.25°
 Date: 10/16/2013
 Model: IGRF2010

PLAN DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSECT	Target
1	1.0	0.00	0.00	1.0	0.0	0.0	0.00	0.00	0.0	
2	7501.0	0.00	0.00	7501.0	0.0	0.0	0.00	0.00	0.0	



Mesa West Directional

Survey Report



Company:	Vision Energy Group LLC	Local Co-ordinate Reference:	Well Hogback Deep 12 #34
Project:	San Juan County, NM	TVD Reference:	RKB @ 5129.0usft (D&J #2)
Site:	Sec 29, 29N, 17W	MD Reference:	RKB @ 5129.0usft (D&J #2)
Well:	Hogback Deep 12 #34	North Reference:	True
Wellbore:	Vertical	Survey Calculation Method:	Minimum Curvature
Design:	Final	Database:	EDM 5000.1 Single User Db

Project	San Juan 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	Sec 29, 29N, 17W				
Site Position:		Northing:	2,087,882.39 usft	Latitude:	36° 44' 7.700 N
From:	Map	Easting:	2,504,173.43 usft	Longitude:	108° 34' 49.606 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.45 °

Well	Hogback Deep 12 #34					
Well Position	+N/-S	0.0 usft	Northing:	2,087,882.39 usft	Latitude:	36° 44' 7.700 N
	+E/-W	0.0 usft	Easting:	2,504,173.43 usft	Longitude:	108° 34' 49.606 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft	Ground Level:	5,116.0 usft

Wellbore	Vertical				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/16/2013	9.95	63.25	50,400

Design	Final				
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	80.94	

Survey Program	Date	11/4/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
104.0	7,450.0	Final (Vertical)	MWD	MWD - Standard

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea (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	-5,129.0	0.0	0.0	0.0	0.00	0.00	0.00
104.0	2.75	40.00	104.0	-5,025.0	1.9	1.6	1.9	2.64	2.64	0.00
204.0	2.20	343.60	203.9	-4,925.1	5.6	2.6	3.5	2.39	-0.55	-56.40
233.0	2.20	334.30	232.9	-4,896.1	6.6	2.2	3.2	1.23	0.00	-32.07
264.0	1.90	337.00	263.8	-4,865.2	7.6	1.7	2.9	1.02	-0.97	8.71
294.0	1.40	349.10	293.8	-4,835.2	8.5	1.5	2.8	2.02	-1.67	40.33
324.0	1.10	11.50	323.8	-4,805.2	9.1	1.5	2.9	1.89	-1.00	74.67
355.0	1.10	12.00	354.8	-4,774.2	9.7	1.6	3.1	0.03	0.00	1.61
385.0	0.90	351.00	384.8	-4,744.2	10.2	1.6	3.2	1.38	-0.67	-70.00
416.0	0.80	329.40	415.8	-4,713.2	10.6	1.5	3.1	1.08	-0.32	-69.68

Mesa West Directional

Survey Report



Company: Vision Energy Group LLC
Project: San Juan County, NM
Site: Sec 29, 29N, 17W
Well: Hogback Deep 12 #34
Wellbore: Vertical
Design: Final

Local Co-ordinate Reference: Well Hogback Deep 12 #34
TVD Reference: RKB @ 5129.0usft (D&J #2)
MD Reference: RKB @ 5129.0usft (D&J #2)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
446.0	1.10	312.70	445.8	-4,683.2	11.0	1.1	2.9	1.35	1.00	-55.67
476.0	1.00	291.20	475.8	-4,653.2	11.3	0.7	2.5	1.35	-0.33	-71.67
507.0	1.00	249.10	506.8	-4,622.2	11.3	0.2	2.0	2.32	0.00	-135.81
536.0	1.30	211.40	535.8	-4,593.2	10.9	-0.2	1.5	2.74	1.03	-130.00
567.0	1.70	187.60	566.8	-4,562.2	10.2	-0.5	1.1	2.36	1.29	-76.77
597.0	2.30	169.90	596.8	-4,532.2	9.1	-0.4	1.0	2.85	2.00	-59.00
627.0	2.70	162.40	626.7	-4,502.3	7.9	-0.1	1.1	1.72	1.33	-25.00
658.0	3.30	166.00	657.7	-4,471.3	6.3	0.3	1.3	2.03	1.94	11.61
687.0	3.50	163.90	686.6	-4,442.4	4.6	0.8	1.5	0.81	0.69	-7.24
717.0	3.20	146.40	716.6	-4,412.4	3.1	1.5	2.0	3.54	-1.00	-58.33
747.0	2.90	132.30	746.5	-4,382.5	1.9	2.5	2.8	2.68	-1.00	-47.00
777.0	3.00	110.80	776.5	-4,352.5	1.1	3.8	3.9	3.68	0.33	-71.67
808.0	2.30	97.30	807.5	-4,321.5	0.7	5.2	5.2	3.01	-2.26	-43.55
839.0	1.10	69.20	838.5	-4,290.5	0.7	6.1	6.1	4.60	-3.87	-90.65
901.0	1.10	335.30	900.4	-4,228.6	1.5	6.4	6.6	2.59	0.00	-151.45
932.0	1.50	330.30	931.4	-4,197.6	2.1	6.1	6.3	1.34	1.29	-16.13
964.0	1.30	316.80	963.4	-4,165.6	2.7	5.6	6.0	1.20	-0.63	-42.19
994.0	0.90	318.90	993.4	-4,135.6	3.2	5.2	5.7	1.34	-1.33	7.00
1,026.0	1.00	324.80	1,025.4	-4,103.6	3.6	4.9	5.4	0.44	0.31	18.44
1,057.0	1.10	318.70	1,056.4	-4,072.6	4.0	4.6	5.1	0.48	0.32	-19.68
1,094.0	0.40	255.70	1,093.4	-4,035.6	4.2	4.2	4.8	2.66	-1.89	-170.27
1,155.0	0.30	250.69	1,154.4	-3,974.6	4.1	3.8	4.4	0.17	-0.16	-8.21
1,247.0	0.40	147.80	1,246.4	-3,882.6	3.8	3.8	4.3	0.60	0.11	-111.84
1,373.0	0.50	187.10	1,372.4	-3,756.6	2.9	3.9	4.4	0.25	0.08	31.19
1,468.0	0.50	169.60	1,467.4	-3,661.6	2.1	4.0	4.2	0.16	0.00	-18.42
1,561.0	0.70	180.70	1,560.4	-3,568.6	1.1	4.0	4.2	0.25	0.22	11.94
1,655.0	0.70	191.30	1,654.4	-3,474.6	-0.1	3.9	3.9	0.14	0.00	11.28
1,748.0	0.60	220.10	1,747.4	-3,381.6	-1.0	3.5	3.3	0.36	-0.11	30.97
1,843.0	0.70	213.40	1,842.4	-3,286.6	-1.8	2.9	2.5	0.13	0.11	-7.05
1,936.0	0.50	216.10	1,935.4	-3,193.6	-2.6	2.3	1.9	0.22	-0.22	2.90
2,032.0	0.40	203.80	2,031.4	-3,097.6	-3.3	1.9	1.4	0.14	-0.10	-12.81
2,124.0	0.60	221.60	2,123.4	-3,005.6	-3.9	1.5	0.8	0.27	0.22	19.35
2,218.0	0.80	215.80	2,217.4	-2,911.6	-4.8	0.8	0.0	0.23	0.21	-6.17
2,314.0	0.80	216.50	2,313.3	-2,815.7	-5.9	0.0	-1.0	0.01	0.00	0.73
2,409.0	0.70	210.20	2,408.3	-2,720.7	-7.0	-0.7	-1.8	0.14	-0.11	-6.63
2,502.0	0.80	215.90	2,501.3	-2,627.7	-8.0	-1.4	-2.6	0.13	0.11	6.13
2,597.0	0.80	216.00	2,596.3	-2,532.7	-9.1	-2.2	-3.6	0.00	0.00	0.11
2,691.0	0.70	320.50	2,690.3	-2,438.7	-9.1	-2.9	-4.3	1.26	-0.11	111.17
2,784.0	0.70	319.10	2,783.3	-2,345.7	-8.3	-3.6	-4.9	0.02	0.00	-1.51
2,878.0	0.40	336.30	2,877.3	-2,251.7	-7.5	-4.2	-5.3	0.36	-0.32	18.30
2,973.0	0.60	6.70	2,972.3	-2,156.7	-6.7	-4.2	-5.2	0.34	0.21	32.00
3,066.0	0.60	1.40	3,065.3	-2,063.7	-5.8	-4.2	-5.0	0.06	0.00	-5.70
3,161.0	0.50	350.50	3,160.3	-1,968.7	-4.9	-4.2	-4.9	0.15	-0.11	-11.47
3,255.0	0.60	5.30	3,254.3	-1,874.7	-4.0	-4.2	-4.8	0.18	0.11	15.74

Mesa West Directional
Survey Report



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Project:	San Juan County, NM	TVD Reference:	RKB @ 5129.0usft (D&J #2)
Site:	Sec 29, 29N, 17W	MD Reference:	RKB @ 5129.0usft (D&J #2)
Well:	Hogback Deep 12 #34	North Reference:	True
Wellbore:	Vertical	Survey Calculation Method:	Minimum Curvature
Design:	Final	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,350.0	0.60	4.00	3,349.3	-1,779.7	-3.0	-4.2	-4.6	0.01	0.00	-1.37
3,443.0	0.50	3.60	3,442.3	-1,686.7	-2.1	-4.1	-4.4	0.11	-0.11	-0.43
3,537.0	0.60	7.00	3,536.3	-1,592.7	-1.2	-4.0	-4.2	0.11	0.11	3.62
3,631.0	0.80	14.20	3,630.3	-1,498.7	-0.1	-3.8	-3.8	0.23	0.21	7.66
3,725.0	1.10	29.60	3,724.3	-1,404.7	1.4	-3.2	-2.9	0.42	0.32	16.38
3,817.0	1.60	72.60	3,816.2	-1,312.8	2.5	-1.5	-1.1	1.19	0.54	46.74
3,911.0	1.30	97.30	3,910.2	-1,218.8	2.8	0.8	1.2	0.73	-0.32	26.28
4,004.0	0.40	145.70	4,003.2	-1,125.8	2.4	2.0	2.4	1.16	-0.97	52.04
4,098.0	0.50	150.00	4,097.2	-1,031.8	1.7	2.4	2.6	0.11	0.11	4.57
4,192.0	0.70	132.00	4,191.2	-937.8	1.0	3.0	3.2	0.29	0.21	-19.15
4,254.0	0.70	136.90	4,253.2	-875.8	0.5	3.6	3.6	0.10	0.00	7.90
4,348.0	0.60	137.10	4,347.2	-781.8	-0.3	4.3	4.2	0.11	-0.11	0.21
4,473.0	0.70	124.80	4,472.2	-656.8	-1.2	5.4	5.1	0.14	0.08	-9.84
4,567.0	0.30	88.10	4,566.2	-562.8	-1.5	6.1	5.8	0.52	-0.43	-39.04
4,662.0	0.60	76.80	4,661.2	-467.8	-1.4	6.8	6.5	0.33	0.32	-11.89
4,757.0	0.50	64.00	4,756.2	-372.8	-1.1	7.7	7.4	0.17	-0.11	-13.47
4,850.0	0.30	287.20	4,849.1	-279.9	-0.9	7.8	7.6	0.80	-0.22	-147.10
4,949.0	0.30	324.40	4,948.1	-180.9	-0.6	7.4	7.2	0.19	0.00	37.58
5,039.0	0.30	67.10	5,038.1	-90.9	-0.3	7.5	7.4	0.52	0.00	114.11
5,135.0	0.20	49.30	5,134.1	5.1	-0.1	7.9	7.7	0.13	-0.10	-18.54
5,230.0	0.50	303.60	5,229.1	100.1	0.2	7.6	7.6	0.62	0.32	-111.26
5,326.0	0.10	289.10	5,325.1	196.1	0.5	7.2	7.2	0.42	-0.42	-15.10
5,421.0	0.50	100.80	5,420.1	291.1	0.4	7.5	7.5	0.63	0.42	180.74
5,515.0	1.10	77.10	5,514.1	385.1	0.6	8.8	8.8	0.72	0.64	-25.21
5,610.0	0.60	147.20	5,609.1	480.1	0.4	10.0	9.9	1.11	-0.53	73.79
5,704.0	0.30	132.90	5,703.1	574.1	-0.2	10.4	10.3	0.34	-0.32	-15.21
5,735.0	0.30	129.00	5,734.1	605.1	-0.3	10.5	10.4	0.07	0.00	-12.58
5,766.0	0.30	81.60	5,765.1	636.1	-0.4	10.7	10.5	0.78	0.00	-152.90
5,797.0	0.70	44.30	5,796.1	667.1	-0.2	10.9	10.7	1.60	1.29	-120.32
5,859.0	0.90	41.00	5,858.1	729.1	0.4	11.5	11.4	0.33	0.32	-5.32
5,952.0	1.00	56.30	5,951.1	822.1	1.4	12.6	12.7	0.29	0.11	16.45
6,046.0	1.10	70.50	6,045.1	916.1	2.2	14.2	14.3	0.30	0.11	15.11
6,107.0	1.20	79.40	6,106.1	977.1	2.5	15.4	15.6	0.34	0.16	14.59
6,169.0	1.40	77.00	6,168.1	1,039.1	2.8	16.7	17.0	0.33	0.32	-3.87
6,263.0	1.60	74.50	6,262.0	1,133.0	3.4	19.1	19.4	0.22	0.21	-2.66
6,355.0	1.80	75.50	6,354.0	1,225.0	4.1	21.8	22.1	0.22	0.22	1.09
6,396.0	1.80	69.50	6,395.0	1,266.0	4.5	23.0	23.4	0.46	0.00	-14.63
6,447.0	1.10	78.90	6,445.9	1,316.9	4.8	24.2	24.7	1.45	-1.37	18.43
6,567.0	0.90	119.30	6,565.9	1,436.9	4.6	26.2	26.6	0.60	-0.17	33.67
Last Svy;6607' MD										
6,607.0	1.00	123.90	6,605.9	1,476.9	4.3	26.7	27.1	0.31	0.25	11.50
Extrap to TD 7450' MD										
7,450.0	1.00	123.90	7,448.8	2,319.8	-3.9	38.9	37.8	0.00	0.00	0.00

Mesa West Directional

Survey Report

MESA WEST
DIRECTIONAL

Company:	Vision Energy Group LLC	Local Co-ordinate Reference:	Well Hogback Deep 12 #34
Project:	San Juan County, NM	TVD Reference:	RKB @ 5129.0usft (D&J #2)
Site:	Sec 29, 29N, 17W	MD Reference:	RKB @ 5129.0usft (D&J #2)
Well:	Hogback Deep 12 #34	North Reference:	True
Wellbore:	Vertical	Survey Calculation Method:	Minimum Curvature
Design:	Final	Database:	EDM 5000.1 Single User Db

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,607.0	6,605.9	4.3	26.7	Last Svy: 6607' MD
7,450.0	7,448.8	-3.9	38.9	Extrap to TD 7450' MD

Checked By: Dion Parker Approved By: Peter Leskosek Date: 11-4-13

Kristen Dove
Notary Public

KRISTEN DOVE
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID #20144006612
MY COMMISSION EXPIRES FEBRUARY 10, 2018