

Results of Directional Survey

API number:	30-025-40230		
OGRID:		Operator:	MANZANO, LLC
		Property:	QUEENIE 15 FEDERAL # 1H

surface	ULSTR:	M	14	T 20S	R 32E
				200 FSL	795 FWL

BH Loc	ULSTR:	A	15	T 20S	R 32E
9112	MD	5031.9	TVD	589 FNL	988 FEL
				4691 FSL	

Top Perf/OH	ULSTR:	I	15	T 20S	R 32E
7042	MD	5036.8	TVD	2632 FSL	851 FEL

Bot Perf/OH	ULSTR:	H	15	T 20S	R 32E
7548	MD	5056.5	TVD	2150 FNL	930 FEL
				3130 FSL	

	MD	N/S	E/W	VD
	7016	2406.61	-1641.75	5033.77
TOP PERFS/OH	7042	2431.86	-1646.33	5036.81
	7048	2437.69	-1647.39	5037.51
	7524	2906.60	-1722.29	5056.58
BOT PERFS/OH	7548	2930.41	-1725.36	5056.48
	7555	2937.35	-1726.26	5056.45

NEXT TO LAST	9050	4428.75	-1782.56	5033.74
LAST READING	9112	4490.72	-1783.33	5031.93
TD	9112	4490.72	-1783.33	5031.93

Surface Location	200	FS	795	FW
Projected BHL	4691	FS	988	FE
Location of				
Top Perfs/OH	2632	FS	851	FE
Bottom Perfs/OH	3130	FS	930	FE

SUMMARY of Subsurface Locations

Surface Location	M-14-20S-32E	200	FS	795	FW	Vert. Depth
Top Perfs/OH	I-15-20S-32E	2632	FS	851	FE	5036.81
Bottom Perfs/OH	H-15-20S-32E	3130	FS	930	FE	5056.48
Projected TD	A-15-20S-32E	4691	FS	988	FE	5031.93

APR 18 2012

**McVAY DRILLING COMPANY**

P.O. Box 2450
Hobbs, New Mexico 88241
(575) 397-3311
FAX: 39-DRILL

RECEIVED

FEB 15 2012

NMOCD ARTESIA

Well Name and Num: Queenie Fed. #1H
Location: Sec. 14, T20S, R32E
Operator: Manzano
Drilling Contractor: McVay Drilling Company

The undersigned certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

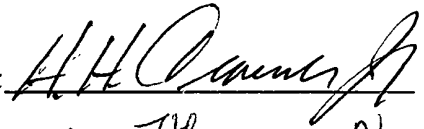
<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>
0.34	202	29.07	3841	55.03	5812
0.84	412	40.19	4028	77.11	6033
0.35	873	47.29	4153	76.45	6128
0.37	967	52.35	4245	80.46	6287
0.25	1183	60.57	4348	80.01	6414
0.60	1245	63.42	4431	78.95	6509
1.23	1838	64.11	4525	84.45	6826
2.44	2303	64.88	4646	82.30	7080
1.29	2581	63.75	4773	87.28	7207
2.06	2771	64.29	4960	90.00	7556
1.67	2865	63.45	5148	91.36	7746
2.46	2959	63.44	5242	90.00	8222
3.34	3056	63.98	5428	90.35	8507
3.68	3180	64.59	5522	92.72	8602
3.16	3280	64.13	5633	91.97	8697
3.30	3373	54.76	5728	90.43	8982
4.96	3495	53.82	5777	91.67	9050

HOBBS OCD

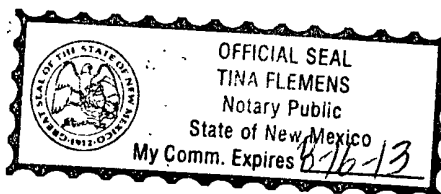
FEB 27 2012

RECEIVED

SUR: M-14-20S-32E, 200/S & 795/W
BHL: A-15-20S-32E, 4691/S & 988/E
API # 30-025-40230

By: Subscribed and sworn to before me this 7th day of November, 2011

Notary Public, Lea County, New Mexico



SUR: M-14-20s-32e, 200/S & 795/W
BHL: A-15-20s-32e, 4691/S & 988/E
API # 30-025-40230

MANZANO OIL CORP.

Salt Lake

Lea County, NM

Queenie "15" Federal #1H

VH - Job #32K1011964

HOBBS OCD

MAR 27 2012

RECEIVED

Survey: Actual

SDI Standard Survey Report

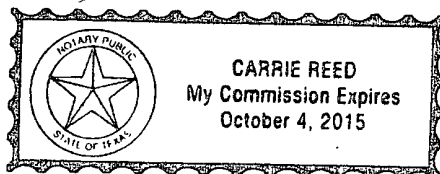
This survey is correct to the best of my knowledge and is supported by actual field data.

[Signature]

Notarized this date 15th of November, 2011.

[Signature]

Notary Signature
County of Midland
State of Texas



Scientific Drilling
Directional Drilling Operations

[Signature]

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company: MANZANO OIL CORP
Project: Salt Lake
Site: Lea County, NM
Well: Queenie "15" Federal #1H
Wellbore: VH - Job #32K1011964
Design: VH - Job #32K1011964

Local Co-ordinate Reference: Well Queenie "15" Federal #1H
TVD Reference: WELL @ 0.0usft (Original Well Elev)
MD Reference: WELL @ 0.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM-Regulatory

Project	Salt Lake		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Lea County, NM				
Site Position:		Northing:	570,303.08 usft	Latitude:	32° 33' 59.340 N
From:	Lat/Long	Easting:	681,902.63 usft	Longitude:	103° 44' 34.390 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.32 °

Well	Queenie "15" Federal #1H, Directional (Weatherford)					
Well Position	+N/-S	0 0 usft	Northing:	570,303 08 usft	Latitude:	32° 33' 59 340 N
	+E/-W	0 0 usft	Easting:	681,902 63 usft	Longitude:	103° 44' 34.390 W
Position Uncertainty		0 0 usft	Wellhead Elevation:	usft	Ground Level:	0 0 usft

Wellbore	VH - Job #32K1011964				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/7/2011	7 65	60 47	48,799

Design	VH - Job #32K1011964				
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	338.79	

Survey Program		Date	11/15/2011		
From (usft)	To (usft)	Survey (Wellbore)		Tool Name	Description
100.0	1,124.0	Actual (VH - Job #32K1011964)		Keeper	Keeper Gyro

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0
100.0	0.12	210.84	100.0	-0.1	-0.1	210.84	0.1
200.0	0.15	206.53	200.0	-0.3	-0.2	209.18	0.3
300.0	0.39	237.18	300.0	-0.6	-0.5	220.45	0.8
400.0	0.62	236.11	400.0	-1.1	-1.2	228.95	1.7
500.0	0.48	234.39	500.0	-1.6	-2.0	231.30	2.6
600.0	0.26	228.95	600.0	-2.0	-2.5	231.54	3.3
700.0	0.23	205.40	700.0	-2.4	-2.8	229.99	3.7
800.0	0.20	240.59	800.0	-2.6	-3.0	229.26	4.0
900.0	0.30	301.37	900.0	-2.6	-3.4	233.06	4.3
1,000.0	0.44	302.01	1,000.0	-2.2	-4.0	240.66	4.6
1,100.0	0.49	279.46	1,100.0	-2.0	-4.7	247.46	5.1

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company: MANZANO OIL CORP.
Project: Salt Lake
Site: Lea County, NM
Well: Queenie "15" Federal #1H
Wellbore: VH - Job #32K1011964
Design: VH - Job #32K1011964

Local Co-ordinate Reference: Well Queenie "15" Federal #1H
TVD Reference: WELL @ 0 0usft (Original Well Elev)
MD Reference: WELL @ 0 0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM-Regulatory

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,124.0	0 85	271 49	1,124 0	-1 9	-5 0	248 82	5 4



Scientific Drilling
Directional Drilling Operations

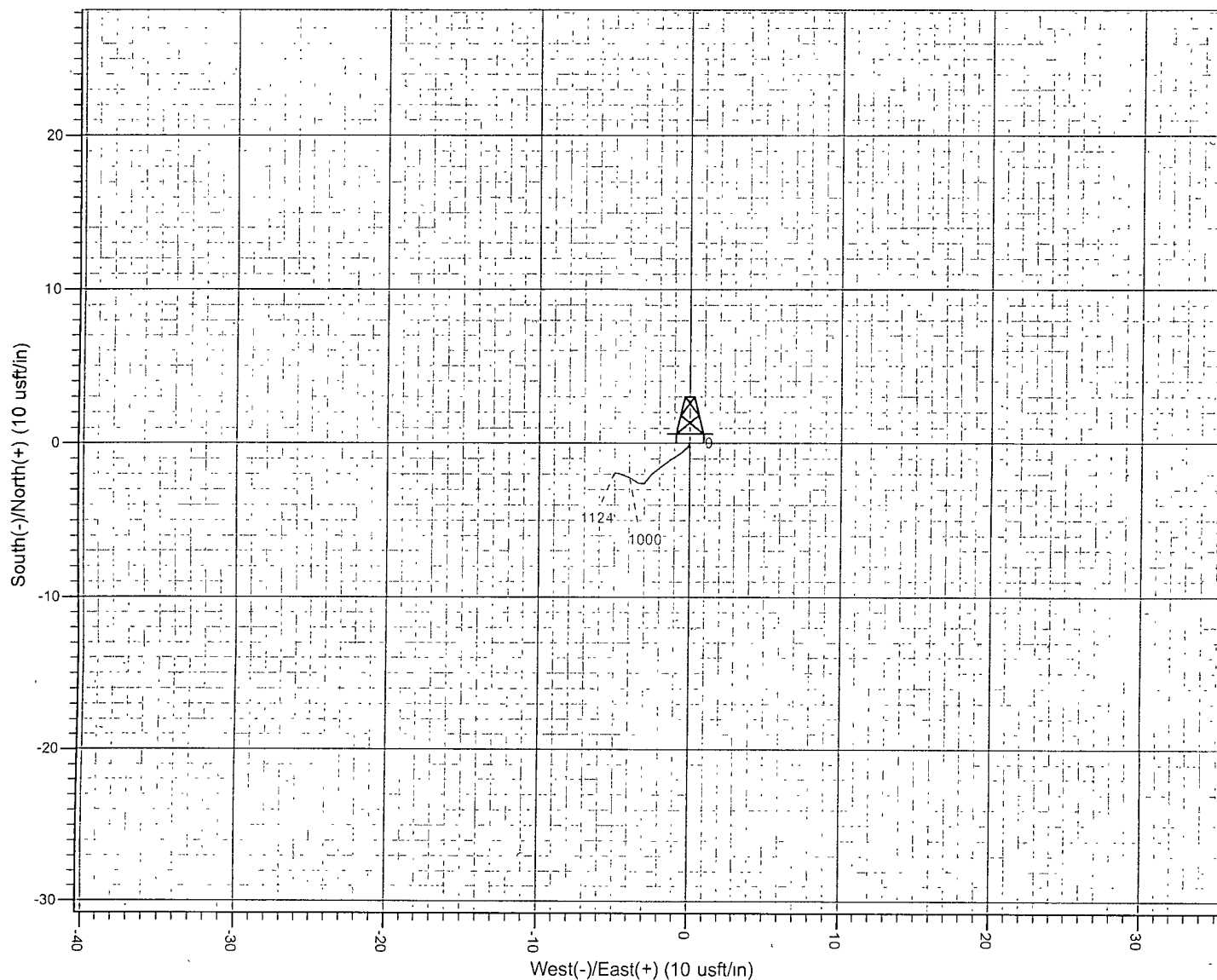
Location: Salt Lake
Lea County, NM
Well: Queenie "15" Federal #1H
Wellbore: VH - Job #32K1011964
Design: VH - Job #32K1011964



Azimuths to Grid North
True North -9.32°
Magnetic North 7.34°
Magnetic Field
Strength 48793.8 nT
Dip Angle 60.47°
Date 10/7/2011
Model IGRF2010

WELL DETAILS: Queenie "15" Federal #1H
WELL @ 0.0usft (Original Well Elev)
Ground Level 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	570303.08	681902.63	32° 33' 59.340 N	103° 44' 34.390 W	



PROJECT DETAILS: Salt Lake
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System-Datum: Mean Sea Level

SITE DETAILS: Lea County, NM
Site Centre Latitude: 32° 33' 59.340 N
Longitude: 103° 44' 34.390 W
Positional Uncertainty: 0.0
Convergence: 0.32
Local North: Grid



Weatherford

Evaluation, Drilling & Intervention
10000 West County Rd. 116
P.O. Box 61028
Midland, TX USA 79711
Tel. (432) 561-8892 Fax (432) 561-8895

Manzano LLC
121 W. 3rd St.
Roswell, NM 88201

Date: December 5, 2011

Attention: Craig Hanagan

Re: Manzano LLC
Well: Queenie 15 #1H
Lea Co, NM

SUR: M-14-20S-32E, 200/S & 795/W
BHL: A-15-20S-32E, 4691/S & 988/E
API # 30-025-40230

Enclosed, please find the original survey performed on the referenced well by Precision Energy Services, Inc. (P-5 No. 676004), a Weatherford company. Other information required by your office is as follows:

<u>Name & Title Of Surveyor</u>	<u>Well Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Gustavo Rodriquez	1H	1245' MD	10/5/2011	Measurement
MWD Supervisor		9050' MD	10/28/2011	While Drilling

A notarized plan vs. actual is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Jesse Aguilar
MWD Manager

On this, the 5th day of December, 2011, before me a notary public, the undersigned officer, personally appeared Jesse Aguilar, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument; and acknowledged that he executed the same for the purposes therein contained.

In witness hereof, I hereunto set my hand and official seal.

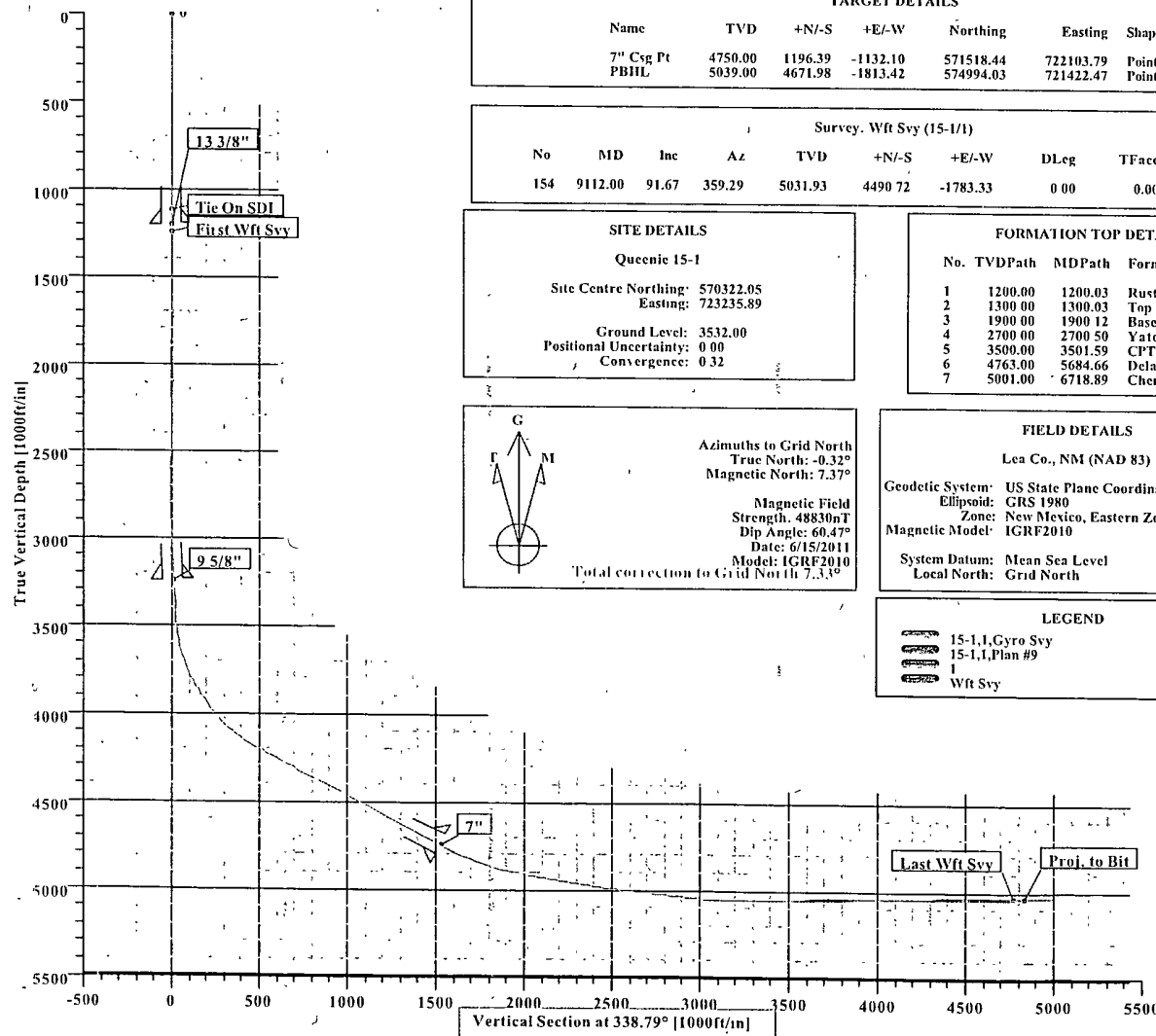
Notary Public

Manzano, LLC
Queenie 15-1
Lea County, New Mexico



Weatherford

KB ELEV: 3350.05
 GL ELEV: 3532



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	7682.00	90.80	354.32	5056.21	3063.61	-1739.94	0.00	0.00	3485.60	
2	7787.80	90.61	357.49	5054.91	3169.12	-1747.50	3.00	93.48	3586.70	
3	9292.19	90.61	357.49	5039.00	4671.98	-1813.42	0.00	0.00	5011.58	PBHL

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
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15-1	0.00	0.00	570322.05	723235.89	32°33'59.331N	103°44'34.410W	N/A
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TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
7" Csg Pt	4750.00	1196.39	-1132.10	571518.44	722103.79	Point
PBHL	5039.00	4671.98	-1813.42	574994.03	721422.47	Point

Survey: Wft Svy (15-1/1)

No	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
154	9112.00	91.67	359.29	5031.93	4490.72	-1783.33	0.00	0.00	4831.71

SITE DETAILS

Queenie 15-1
 Site Centre Northing: 570322.05
 Easting: 723235.89
 Ground Level: 3532.00
 Positional Uncertainty: 0.00
 Convergence: 0.32

FORMATION TOP DETAILS

No.	TVDPath	MDPath	Formation
1	1200.00	1200.03	Rustler
2	1300.00	1300.03	Top of Salt
3	1900.00	1900.12	Base of Salt
4	2700.00	2700.50	Yates
5	3500.00	3501.59	CPTN
6	4763.00	5684.66	Delaware
7	5001.00	6718.89	Cherry Canyon

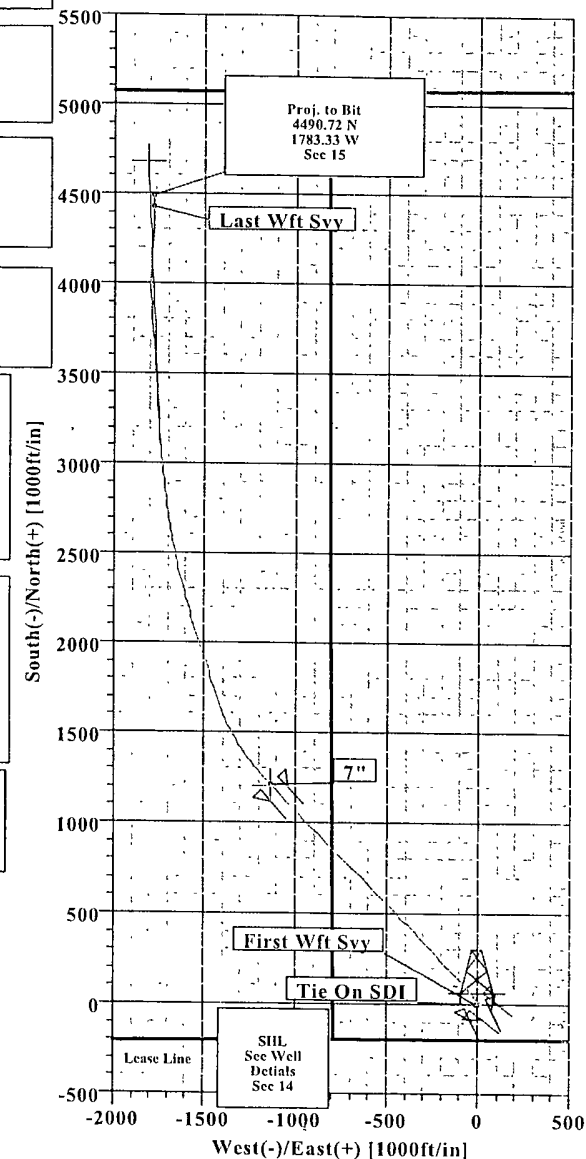
FIELD DETAILS

Lea Co., NM (NAD 83)

Geodetic System: US State Plane Coordinate System 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico, Eastern Zone
 Magnetic Model: IGRF2010
 System Datum: Mean Sea Level
 Local North: Grid North

LEGEND

- 15-1, I, Gyro Svy
- 15-1, I, Plan #9
- 1
- Wft Svy



Survey: Wft Svy (15-1/1)

Created By: Patrick Rudolph

Date: 10/31/2011

Weatherford International Ltd.

WFT Survey Report X & Y's



Weatherford

Company: Manzano LLC Field: Lea Co., NM (NAD 83) Site: Queenie 15-1 Well: 15-1 Wellpath: 1	Date: 10/31/2011 Co-ordinate(NE) Reference: Site: Queenie 15-1, Grid North Vertical (TVD) Reference: SITE 3350.0 Section (VS) Reference: Well (0.00N,0.00E,338.79Azi) Survey Calculation Method: Minimum Curvature	Time: 07:32.43 Page: 1 Db: Sybase
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Survey: Wft Svy Company: Weatherford International Ltd. Tool: MWD,MWD - Standard	Start Date: 10/10/2011 Engineer: Patrick Rudolph Tied-to: User Defined
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Field: Lea Co , NM (NAD 83)

Map System: US State Plane Coordinate System 1983 Geo Datum: GRS 1980 Sys Datum: Mean Sea Level	Map Zone: New Mexico, Eastern Zone Coordinate System: Site Centre Geomagnetic Model: IGRF2010
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Site: Queenie 15-1

Site Position: From: Map Position Uncertainty: 0.00 ft Ground Level: 3532.00 ft	Northing: 570322.05 ft Easting: 723235.89 ft	Latitude: 32 33 59.331 N Longitude: 103 44 34.410 W North Reference: Grid Grid Convergence: 0.32 deg
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Well: 15-1 Well Position: +N/-S 0.00 ft Northing: 570322.05 ft +E/-W 0.00 ft Easting : 723235.89 ft Position Uncertainty: -0.00 ft	Slot Name: Latitude: 32 33 59.331 N Longitude: 103 44 34.410 W
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Wellpath: 1 Current Datum: SITE Magnetic Data: 6/15/2011 Field Strength: 48830 nT Vertical Section: Depth From (TVD)	Height 3350.00 ft +N/-S ft	Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 7.69 deg Mag Dip Angle: 60.47 deg +E/-W ft Direction deg
0.00	0.00	0.00 338.79

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
1124.00	0.85	271.49	1123.98	-1.94	-5.00	0.00	0.00	570320.11	723230.89	Tie On SDI First Wft Svy
1245.00	0.60	23.80	1244.97	-1.34	-5.64	1.00	0.79	570320.72	723230.25	
1370.00	0.94	29.44	1369.96	0.15	-4.87	0.28	1.91	570322.21	723231.02	
1465.00	1.00	36.40	1464.95	1.50	-4.00	0.14	2.85	570323.55	723231.89	
1558.00	0.89	17.36	1557.94	2.84	-3.30	0.36	3.85	570324.90	723232.59	
1651.00	0.96	21.25	1650.92	4.26	-2.80	0.10	4.98	570326.31	723233.09	
1745.00	0.98	17.71	1744.91	5.76	-2.27	0.07	6.19	570327.81	723233.62	
1838.00	1.23	23.80	1837.89	7.43	-1.63	0.30	7.52	570329.48	723234.26	
1931.00	0.84	79.53	1930.88	8.47	-0.56	1.10	8.09	570330.52	723235.33	
2024.00	0.94	100.25	2023.87	8.45	0.87	0.36	7.57	570330.51	723236.76	
2117.00	1.20	92.43	2116.85	8.28	2.59	0.32	6.78	570330.33	723238.48	
2210.00	1.92	121.16	2209.82	7.43	4.90	1.12	5.16	570329.48	723240.79	
2303.00	2.44	118.80	2302.75	5.67	7.96	0.57	2.40	570327.72	723243.85	
2397.00	2.42	131.23	2396.67	3.40	11.21	0.56	-0.89	570325.45	723247.10	
2491.00	2.82	179.73	2490.58	-0.22	12.71	2.32	-4.81	570321.83	723248.60	
2584.00	1.29	191.14	2583.52	-3.54	12.52	1.69	-7.83	570318.52	723248.41	
2677.00	1.15	44.77	2676.51	-3.90	12.98	2.51	-8.33	570318.15	723248.87	
2771.00	2.06	43.15	2770.47	-2.00	14.80	0.97	-7.22	570320.05	723250.69	
2865.00	1.67	16.99	2864.42	0.54	16.35	0.98	-5.41	570322.60	723252.24	
2959.00	2.46	315.73	2958.37	3.30	15.34	2.35	-2.48	570325.35	723251.23	
3052.00	3.34	309.44	3051.25	6.45	11.86	1.00	1.72	570328.50	723247.75	
3145.00	3.57	305.69	3144.08	9.86	7.41	0.35	6.51	570331.91	723243.30	
3180.00	3.68	305.48	3179.01	11.15	5.61	0.32	8.36	570333.20	723241.50	
3280.00	3.16	310.76	3278.83	14.81	0.91	0.61	13.47	570336.86	723236.80	

Weatherford International Ltd.

WFT Survey Report X & Y's



Weatherford

Company: Manzano LLC
Field: Lea Co., NM (NAD 83)
Site: Queenie 15-1
Well: 15-1
Wellpath: 1

Date: 10/31/2011 Time: 07:32.43 Page: 2
Co-ordinate(NE) Reference: Site: Queenie 15-1, Grid North
Vertical (TVD) Reference: SITE 3350.0
Section (VS) Reference: Well (0.00N,0.00E,338.79Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
3373.00	3.33	308.07	3371.69	18.15	-3.15	0.25	18.06	570340.20	723232.74	
3436.00	3.49	312.32	3434.57	20.57	-6.01	0.47	21.35	570342.62	723229.88	
3467.00	3.67	309.97	3465.51	21.84	-7.47	0.75	23.06	570343.89	723228.42	
3498.00	4.96	321.70	3496.43	23.53	-9.06	5.02	25.21	570345.58	723226.83	
3529.00	7.89	323.34	3527.23	26.29	-11.16	9.47	28.55	570348.34	723224.73	
3561.00	10.40	323.84	3558.82	30.38	-14.18	7.85	33.45	570352.44	723221.71	
3592.00	12.38	323.24	3589.21	35.30	-17.82	6.40	39.36	570357.36	723218.07	
3623.00	14.56	324.48	3619.35	41.14	-22.07	7.09	46.34	570363.19	723213.82	
3654.00	16.59	322.94	3649.21	47.84	-27.00	6.68	54.37	570369.90	723208.89	
3685.00	18.85	320.42	3678.74	55.23	-32.86	7.70	63.38	570377.29	723203.03	
3716.00	21.06	318.07	3707.88	63.24	-39.78	7.58	73.35	570385.29	723196.11	
3747.00	23.30	316.78	3736.58	71.85	-47.70	7.39	84.24	570393.91	723188.19	
3778.00	25.23	317.29	3764.84	81.18	-56.38	6.26	96.08	570403.23	723179.51	
3810.00	26.82	318.79	3793.60	91.62	-65.76	5.38	109.21	570413.67	723170.13	
3841.00	29.07	318.82	3820.98	102.55	-75.33	7.26	122.86	570424.60	723160.56	
3872.00	31.32	317.37	3847.77	114.15	-85.75	7.63	137.44	570436.20	723150.14	
3903.00	33.61	316.83	3873.93	126.33	-97.07	7.45	152.90	570448.39	723138.82	
3934.00	35.44	316.74	3899.46	139.14	-109.10	5.91	169.19	570461.19	723126.79	
3966.00	37.23	316.00	3925.24	152.86	-122.19	5.76	186.71	570474.91	723113.70	
3997.00	38.92	316.36	3949.64	166.65	-135.42	5.50	204.36	570488.71	723100.47	
4028.00	40.19	316.76	3973.55	180.99	-149.00	4.18	222.64	570503.04	723086.89	
4059.00	42.17	316.85	3996.88	195.87	-162.97	6.39	241.56	570517.92	723072.92	
4091.00	44.38	317.34	4020.17	211.94	-177.90	6.99	261.95	570533.99	723057.99	
4122.00	45.64	317.60	4042.09	228.09	-192.72	4.11	282.37	570550.15	723043.17	
4153.00	47.29	317.76	4063.44	244.71	-207.85	5.34	303.34	570566.76	723028.04	
4184.00	50.28	317.49	4083.86	261.93	-223.56	9.67	325.08	570583.99	723012.33	
4214.00	51.21	317.43	4102.85	279.05	-239.27	3.10	346.72	570601.10	722996.62	
4245.00	52.35	317.15	4122.03	296.94	-255.79	3.75	369.38	570619.00	722980.10	
4276.00	54.81	316.51	4140.43	315.13	-272.86	8.11	392.51	570637.19	722963.03	
4307.00	58.07	316.09	4157.56	333.81	-290.70	10.58	416.38	570655.86	722945.19	
4338.00	60.57	315.58	4173.38	352.93	-309.28	8.19	440.92	570674.98	722926.61	
4369.00	61.69	315.51	4188.35	372.31	-328.29	3.62	465.87	570694.36	722907.60	
4401.00	63.03	315.64	4203.19	392.55	-348.13	4.20	491.92	570714.60	722887.76	
4431.00	63.42	316.26	4216.71	411.80	-366.75	2.26	516.60	570733.85	722869.14	
4463.00	63.74	316.25	4230.95	432.50	-386.57	1.00	543.07	570754.56	722849.32	
4494.00	63.86	316.11	4244.63	452.57	-405.83	0.56	568.75	570774.63	722830.06	
4525.00	64.11	316.13	4258.23	472.65	-425.14	0.81	594.46	570794.71	722810.75	
4585.00	64.51	316.13	4284.24	511.63	-462.61	0.67	644.36	570833.69	722773.28	
4617.00	64.80	316.05	4297.94	532.47	-482.67	0.93	671.04	570854.52	722753.22	
4646.00	64.88	316.02	4310.27	551.36	-500.89	0.29	695.24	570873.41	722735.00	
4679.00	64.91	316.06	4324.27	572.87	-521.63	0.14	722.80	570894.92	722714.26	
4773.00	63.75	315.32	4364.99	633.50	-580.81	1.42	800.73	570955.55	722655.08	
4867.00	65.14	314.97	4405.54	693.61	-640.62	1.52	878.42	571015.66	722595.27	
4960.00	64.29	315.11	4445.26	753.11	-700.04	0.92	955.39	571075.17	722535.85	
5054.00	64.88	314.73	4485.60	813.06	-760.16	0.73	1033.03	571135.12	722475.73	
5148.00	63.45	315.43	4526.56	872.97	-819.90	1.66	1110.49	571195.02	722415.99	
5242.00	63.44	317.12	4568.59	933.73	-878.02	1.61	1188.16	571255.78	722357.87	
5334.00	63.31	316.99	4609.82	993.93	-934.05	0.19	1264.56	571315.98	722301.84	
5428.00	63.98	316.98	4651.55	1055.52	-991.51	0.71	1342.77	571377.57	722244.38	
5522.00	64.59	316.76	4692.33	1117.32	-1049.41	0.68	1421.34	571439.38	722186.48	
5615.00	63.99	317.15	4732.68	1178.56	-1106.61	0.75	1499.12	571500.61	722129.28	
5633.00	64.13	317.04	4740.55	1190.42	-1117.62	0.95	1514.16	571512.47	722118.27	

Weatherford International Ltd.

WFT Survey Report X & Y's



Weatherford

Company: Manzano LLC
Field: Lea Co., NM (NAD 83)
Site: Queenie 15-1
Well: 15-1
Wellpath: 1

Date: 10/31/2011 Time: 07:32.43 Page: 3
Co-ordinate(NE) Reference: Site Queenie 15-1, Grid North
Vertical (TVD) Reference: SITE 3350.0
Section (VS) Reference: Well (0.00N,0.00E,338.79Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
5728.00	64.56	318.99	4781.69	1254.07	-1174.90	1.90	1594.22	571576.12	722060.99	
5777.00	63.82	318.50	4803.02	1287.23	-1203.99	1.76	1635.66	571609.28	722031.90	
5812.00	65.03	319.57	4818.13	1311.07	-1224.69	4.42	1665.38	571633.12	722011.20	
5844.00	67.10	321.82	4831.11	1333.70	-1243.21	9.12	1693.18	571655.76	721992.68	
5875.00	69.63	323.89	4842.54	1356.67	-1260.60	10.25	1720.88	571678.72	721975.29	
5906.00	72.36	325.93	4852.64	1380.65	-1277.44	10.78	1749.33	571702.71	721958.45	
5938.00	73.93	327.02	4861.92	1406.18	-1294.36	5.89	1779.25	571728.24	721941.53	
5970.00	75.20	328.06	4870.43	1432.21	-1310.91	5.06	1809.51	571754.26	721924.98	
6002.00	75.92	329.73	4878.41	1458.74	-1326.92	5.53	1840.03	571780.80	721908.97	
6033.00	77.11	331.69	4885.64	1485.03	-1341.66	7.25	1869.88	571807.09	721894.23	
6065.00	78.12	332.80	4892.51	1512.69	-1356.22	4.63	1900.93	571834.74	721879.67	
6097.00	78.56	333.04	4898.97	1540.59	-1370.49	1.56	1932.11	571862.65	721865.40	
6128.00	78.45	335.60	4905.15	1567.97	-1383.65	8.10	1962.39	571890.02	721852.24	
6160.00	79.01	337.84	4911.41	1596.80	-1396.05	7.08	1993.75	571918.85	721839.84	
6192.00	79.32	340.26	4917.42	1626.14	-1407.29	7.49	2025.18	571948.20	721828.60	
6223.00	79.27	341.51	4923.18	1654.93	-1417.26	3.97	2055.61	571976.98	721818.63	
6255.00	79.44	342.85	4929.09	1684.86	-1426.89	4.15	2087.01	572006.92	721809.00	
6287.00	80.46	343.56	4934.68	1715.03	-1435.99	3.86	2118.42	572037.08	721799.90	
6319.00	81.58	342.49	4939.67	1745.26	-1445.22	4.81	2149.94	572067.31	721790.67	
6350.00	81.82	342.19	4944.15	1774.49	-1454.52	1.23	2180.56	572096.54	721781.37	
6382.00	80.89	342.26	4948.96	1804.61	-1464.18	2.91	2212.14	572126.67	721771.71	
6414.00	80.01	342.14	4954.27	1834.66	-1473.83	2.77	2243.64	572156.71	721762.06	
6445.00	79.32	341.42	4959.83	1863.63	-1483.36	3.19	2274.09	572185.68	721752.53	
6477.00	79.26	340.93	4965.77	1893.39	-1493.51	1.52	2305.51	572215.44	721742.38	
6509.00	78.95	340.61	4971.82	1923.06	-1503.86	1.38	2336.91	572245.11	721732.03	
6541.00	79.83	341.65	4977.71	1952.82	-1514.03	4.22	2368.34	572274.87	721721.86	
6572.00	80.20	341.37	4983.09	1981.77	-1523.71	1.49	2398.83	572303.83	721712.18	
6604.00	80.95	341.47	4988.33	2011.70	-1533.77	2.36	2430.37	572333.75	721702.12	
6636.00	84.18	343.66	4992.47	2041.96	-1543.27	12.16	2462.02	572364.02	721692.62	
6667.00	84.62	344.30	4995.50	2071.62	-1551.79	2.50	2492.75	572393.67	721684.10	
6699.00	83.69	344.55	4998.75	2102.28	-1560.34	3.01	2524.43	572424.34	721675.55	
6731.00	83.13	344.69	5002.43	2132.93	-1568.77	1.80	2556.05	572454.99	721667.12	
6763.00	84.06	345.10	5006.00	2163.63	-1577.05	3.17	2587.67	572485.69	721658.84	
6794.00	84.45	345.65	5009.10	2193.48	-1584.84	2.17	2618.31	572515.53	721651.05	
6826.00	84.45	345.29	5012.19	2224.31	-1592.83	1.12	2649.95	572546.36	721643.06	
6858.00	84.00	344.83	5015.41	2255.07	-1601.04	2.01	2681.59	572577.13	721634.85	
6889.00	83.51	344.41	5018.79	2284.78	-1609.21	2.08	2712.25	572606.84	721626.68	
6921.00	83.20	344.20	5022.49	2315.38	-1617.81	1.17	2743.89	572637.44	721618.08	
6953.00	83.08	344.46	5026.31	2345.97	-1626.39	0.89	2775.51	572668.03	721609.50	
6984.00	83.20	345.69	5030.01	2375.71	-1634.32	3.96	2806.10	572697.77	721601.57	
7016.00	83.31	347.27	5033.77	2406.61	-1641.75	4.92	2837.59	572728.66	721594.14	
7048.00	83.26	348.61	5037.51	2437.69	-1648.39	4.16	2868.97	572759.74	721587.50	
7080.00	82.83	348.32	5041.39	2468.81	-1654.74	1.62	2900.28	572790.86	721581.15	
7112.00	83.07	347.87	5045.32	2499.89	-1661.29	1.58	2931.62	572821.94	721574.60	
7143.00	84.18	347.76	5048.76	2530.00	-1667.79	3.60	2962.05	572852.05	721568.10	
7175.00	86.23	348.82	5051.43	2561.22	-1674.27	7.21	2993.49	572883.28	721561.62	
7207.00	87.28	349.78	5053.25	2592.61	-1680.20	4.44	3024.91	572914.67	721555.69	
7238.00	87.84	350.09	5054.57	2623.11	-1685.61	2.06	3055.29	572945.16	721550.28	
7270.00	87.96	350.55	5055.74	2654.63	-1690.99	1.48	3086.63	572976.69	721544.90	
7302.00	87.96	351.43	5056.88	2686.22	-1695.99	2.75	3117.88	573008.27	721539.90	
7334.00	88.58	352.32	5057.84	2717.88	-1700.52	3.39	3149.04	573039.93	721535.37	
7365.00	89.57	353.37	5058.34	2748.63	-1704.38	4.65	3179.10	573070.69	721531.51	
7397.00	90.06	353.48	5058.45	2780.42	-1708.04	1.57	3210.06	573102.48	721527.85	

Weatherford International Ltd.

WFT Survey Report X & Y's



Weatherford

Company: Manzano LLC

Field: Lea Co., NM (NAD 83)

Site: Queenie 15-1

Well: 15-1

Wellpath: 1

Date: 10/31/2011

Time: 07:32:43

Page: 4

Co-ordinate(NE) Reference:

Site: Queenie 15-1, Grid North

Vertical (TVD) Reference:

SITE 3350.0

Section (VS) Reference:

Well (0.00N,0.00E,338.79Az)

Survey Calculation Method:

Minimum Curvature

Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
7429.00	90.37	353.69	5058.33	2812.22	-1711.62	1.17	3241.00	573134.28	721524.27	
7460.00	91.30	354.04	5057.88	2843.04	-1714.93	3.21	3270.93	573165.10	721520.96	
7492.00	91.42	353.54	5057.12	2874.85	-1718.39	1.61	3301.83	573196.90	721517.50	
7524.00	90.49	352.44	5056.58	2906.60	-1722.29	4.50	3332.85	573228.65	721513.60	
7555.00	90.00	352.87	5056.45	2937.35	-1726.26	2.10	3362.94	573259.40	721509.63	
7619.00	89.82	353.87	5056.55	3000.92	-1733.65	1.59	3424.88	573322.97	721502.24	
7651.00	90.00	353.79	5056.60	3032.73	-1737.08	0.62	3455.78	573354.79	721498.81	
7682.00	90.80	354.32	5056.38	3063.56	-1740.30	3.10	3485.69	573385.62	721495.59	
7714.00	91.48	354.99	5055.75	3095.42	-1743.28	2.98	3516.46	573417.47	721492.61	
7746.00	91.36	354.03	5054.95	3127.26	-1746.34	3.02	3547.26	573449.32	721489.55	
7841.00	92.72	358.23	5051.57	3221.96	-1752.74	4.64	3637.86	573544.01	721483.15	
7936.00	92.82	357.46	5046.98	3316.78	-1756.31	0.82	3727.54	573638.84	721479.58	
8031.00	89.82	356.40	5044.79	3411.61	-1761.40	3.35	3817.79	573733.66	721474.49	
8126.00	91.85	357.99	5043.41	3506.48	-1766.05	2.71	3907.91	573828.53	721469.84	
8222.00	90.00	356.05	5041.86	3602.33	-1771.04	2.79	3999.07	573924.38	721464.85	
8317.00	89.51	354.07	5042.26	3696.97	-1779.22	2.15	4090.25	574019.02	721456.67	
8412.00	89.44	355.07	5043.13	3791.53	-1788.21	1.06	4181.67	574113.59	721447.68	
8507.00	90.35	356.40	5043.31	3886.27	-1795.27	1.70	4272.54	574208.32	721440.62	
8602.00	92.72	0.99	5040.76	3981.18	-1797.44	5.44	4361.80	574303.23	721438.45	
8697.00	91.97	3.06	5036.87	4076.03	-1794.08	2.32	4449.01	574398.09	721441.81	
8792.00	89.57	2.58	5035.60	4170.90	-1789.41	2.58	4535.76	574492.96	721446.48	
8887.00	90.37	2.52	5035.65	4265.81	-1785.18	0.84	4622.71	574587.86	721450.71	
8982.00	90.43	0.67	5034.98	4360.76	-1782.54	1.95	4710.27	574682.82	721453.35	
9050.00	91.67	359.29	5033.74	4428.75	-1782.56	2.73	4773.66	574750.80	721453.33	Last Wft Svy
9112.00	91.67	359.29	5031.93	4490.72	-1783.33	0.00	4831.71	574812.77	721452.56	Proj. to Bit

Annotation

MD ft	TVD ft	
1124.00	1123.98	Tie On SDI
1245.00	1244.97	First Wft Svy
9050.00	5033.74	Last Wft Svy
9112.00	5031.93	Proj. to Bit