

District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
811 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

OIL CONSERVATION DIVISION
1220 South St. Francis Drive
Santa Fe, NM 87505

☒ AMENDED REPORT

RCVD FEB 18 '14
OIL CONS. DIV.
DIST. 3

"As Drilled"

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-34754		*Pool Code 32870	*Pool Name HORSESHOE GALLUP
*Property Code 309598	*Property Name NE HOGBACK UNIT		*Well Number 73H
*GRID No. 279508	*Operator Name CHUZA OIL COMPANY		*Elevation 5562'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	10	30N	16W		1215	NORTH	1960	EAST	SAN JUAN

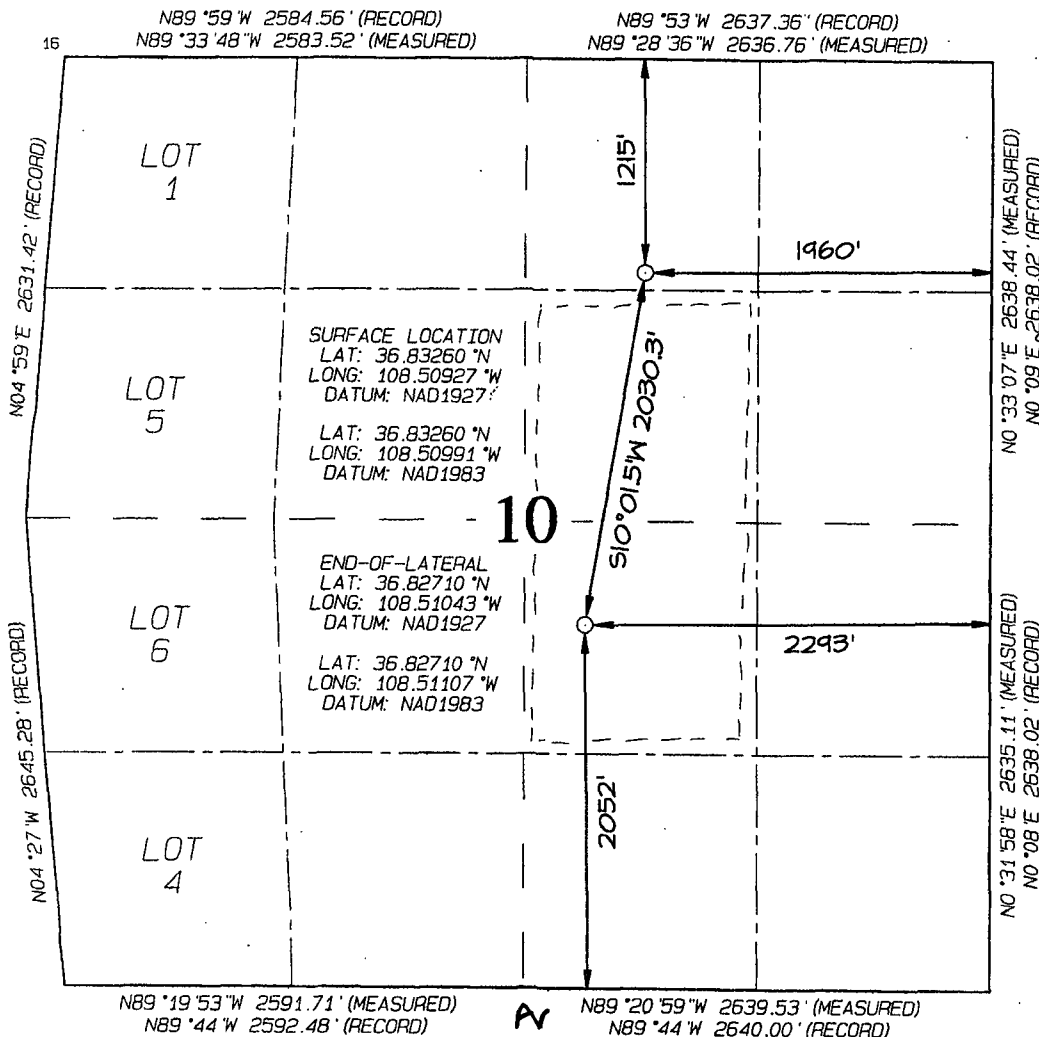
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	10	30N	16W		2052	SOUTH	2293	EAST	SAN JUAN

¹² Dedicated Acres 80: UNIT LETTERS G, J	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-13607
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

CONFIDENTIAL



¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature: PATRICK PADILLA Date: 2-16-14

Printed Name: PATRICK PADILLA

E-mail Address: PPADILLA@CHUZA.OIL.COM

¹⁸ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date Revised: FEBRUARY 17, 2014
Date Survey: OCTOBER 30, 2013

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
REGISTERED PROFESSIONAL SURVEYOR
15269

JASON C. EDWARDS
Certificate Number 15269

CONFIDENTIAL

SPERRY-SUN DRILLING SERVICES

CERTIFIED SURVEY WORK SHEET

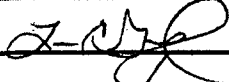
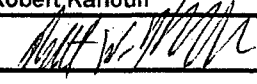
OPERATOR:	Chuza Oil Company
WELL:	NE Hogback Unit #73
FIELD:	Hogback
RIG:	Aztec #711
LEGALS:	Sec 10 -T30N-R16W
COUNTY:	San Juan
STATE:	New Mexico
CAL. METHOD:	Min Curvature
MAG. DECL. APPLIED:	9.95
VERTICAL SEC. DIR. :	189.620

SSDS Job Number :	900961952
Start Date of Job :	1/4/2014
End Date of Job :	1/12/2014
Lead Directional Driller:	Levi George
Other SSDS DD's :	Robert Kanouff
SSDS MWD Engineers :	Mike Rendon
	Greg Odonnell

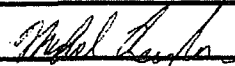
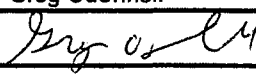
	Main Hole =====>	1st Side Track =====>	2nd Side Track =====>	3rd Side Track =====>	4th Side Track =====>
First Survey Depth	211.00	Tie On	947.00	Tie On	Tie On
Last Survey Depth	245.00				
KOP Depth/Sidetrack MD	KOP	963.00	KOP-ST1	KOP-ST2	KOP-ST3
First Survey Depth	MWD	1084.00	MWD	MWD	MWD
Last Survey Depth	1711.00	MWD	MWD	MWD	MWD
Bit Extrapolation to TD	1750.00	T.D.	3374.00	T.D.	T.D.

The following Sperry Sun Drilling Services personnel listed below, do certify the above survey information to be accurate :

Print Name : Levi George Print Name : Robert Kanouff Print Name :

Sign Name :  Sign Name :  Sign Name :

Print Name : Mike Rendon Print Name : Greg Odonnell Print Name :

Sign Name :  Sign Name :  Sign Name :

Examples of Survey Types:

TieOn Tie On to Surface Casing (Assumed Vertical), Tie On to existing MWD Survey (prior drilled hole)
 MWD Sperry Sun Drilling Services (SSDS) Measurement While Drilling (MWD) Survey's
 ESS Sperry Sun Drilling Services (SSDS) Electronic Survey System (ESS) Survey's
 Gyro Gyro Survey's ; Provided by third party vendor, or by Sperry Sun Drilling Services (SSDS)
 SS Single Shot (SS) Survey's ; Provided by Sperry Sun Drilling Services (SSDS) or third party vendor.

ROUND FEB 12 '14
OIL CONS. DIV.
DIST. 3

Chuza Oil Company

San Juan County, NM

Sec. 10-T30N-R16W

NE Hogback Unit #73

Plan C (Lateral)

Design: Sperry Final Surveys (Lateral)

Sperry Drilling Services Standard Report

27 January, 2014

Well Coordinates: 2,123,088.43 N, 2,525,092.03 E (36° 49' 57.35" N, 108° 30' 35.68" W)
Ground Level: 5,562.20 usft

Local Coordinate Origin:	Centered on Well NE Hogback Unit #73
Viewing Datum:	RKB 14.5' @ 5577.20usft (Aztec 711)
TVDs to System:	N
North Reference:	True
Unit System:	API - US Survey Feet - Custom

Geodetic Scale Factor Applied
Version: 5000.1 Build: 70

HALLIBURTON

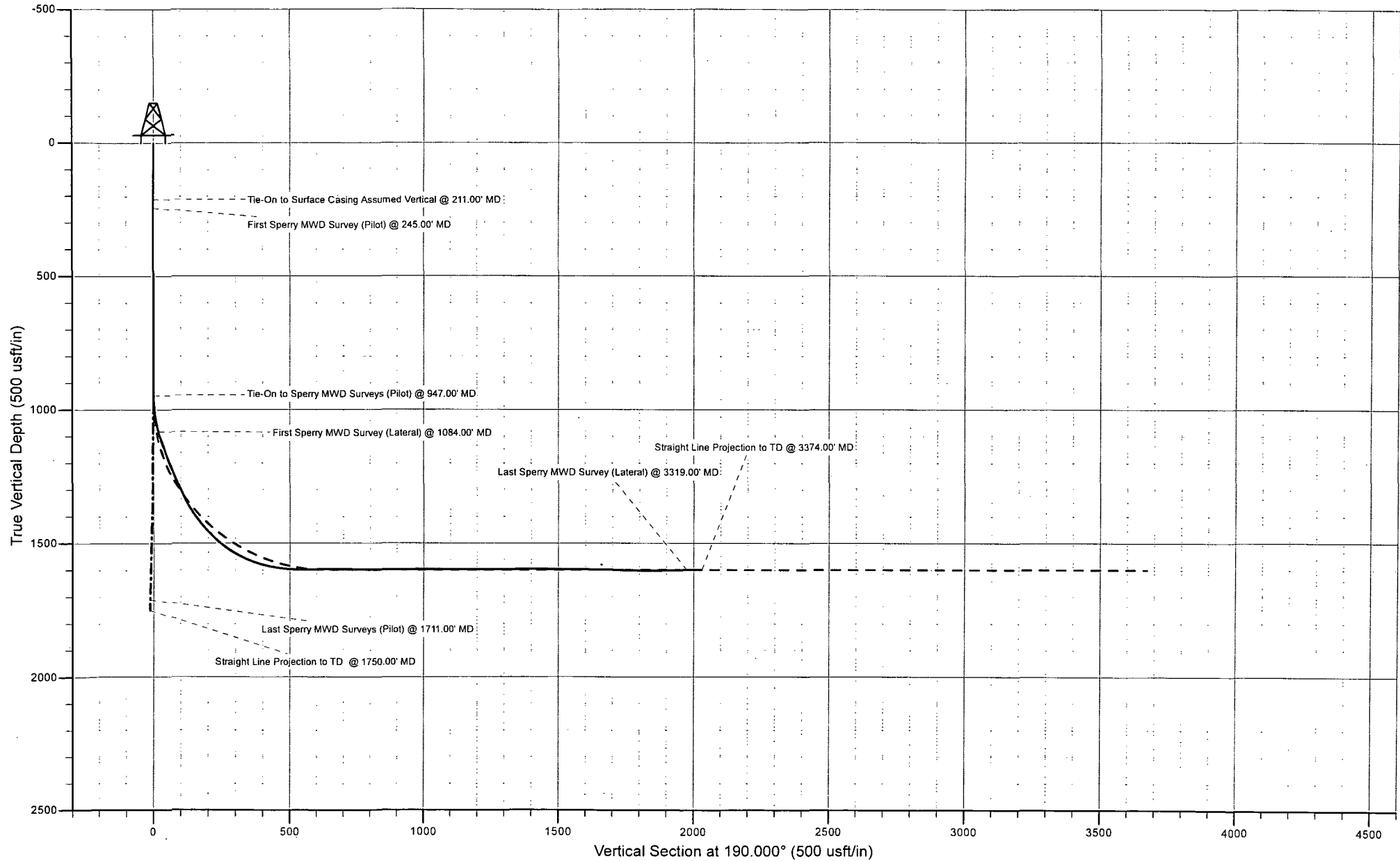
Project: San Juan County, NM
 Site: Sec. 10-T30N-R16W
 Well: NE Hogback Unit #73
 Wellbore: Plan C (Lateral)
 Design: Sperry Final Surveys (Lateral)

Chuzza Oil Company



HALLIBURTON

Sperry Drilling



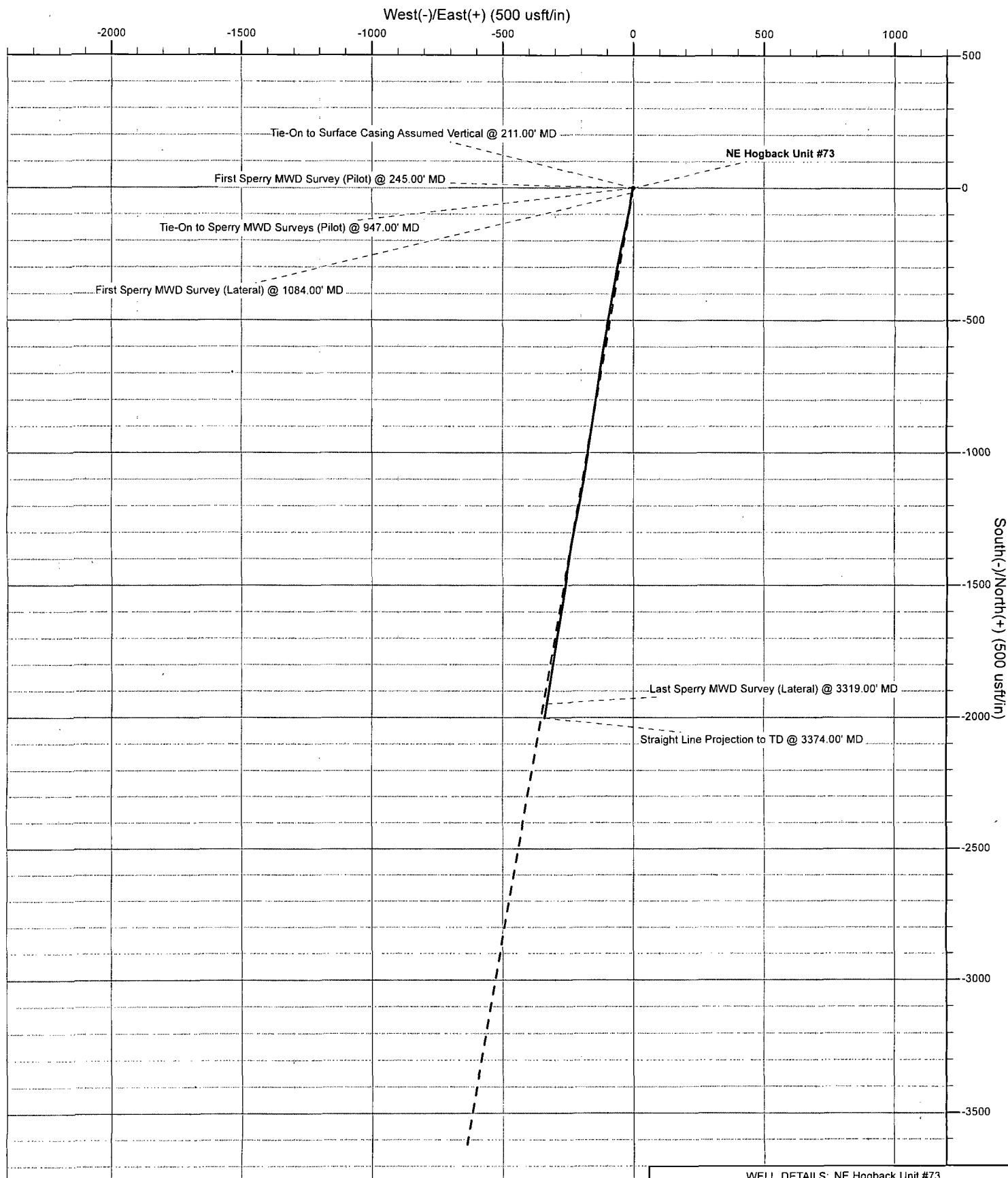
WELL DETAILS: NE Hogback Unit #73

Ground Level: 5562.20	
RKB 14.5' @ 5577.20usft (Aztec 711)	
Northing 2123088.43	Easting 2525092.03
Latitude 36° 49' 57.350 N	Longitude 108° 30' 35.678 W

Project: San Juan County, NM
 Site: Sec. 10-T30N-R16W
 Well: NE Hogback Unit #73
 Wellbore: Plan C (Lateral)
 Design: Sperry Final Surveys (Lateral)

Chuza Oil Company

HALL
 Sperry



WELL DETAILS: NE Hogback Unit #73

Ground Level:		5562.20	
RKB 14.5' @ 5577.20usft (Aztec 711)			
Northing	Easting	Latitude	Longitude
2123088.43	2525092.03	36° 49' 57.350 N	108° 30' 35.678 W

Design Report for NE Hogback Unit #73 - Sperry Final Surveys (Lateral)

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
14.50	0.00	0.000	14.50	0.00	0.00	0.00	0.00
211.00	0.00	0.000	211.00	0.00	0.00	0.00	0.00
Tie-On to Surface Casing Assumed Vertical @ 211.00' MD							
245.00	0.05	146.250	245.00	-0.01	0.01	0.01	0.15
First Sperry MWD Survey (Pilot) @ 245.00' MD							
275.00	0.21	210.460	275.00	-0.07	-0.01	0.07	0.65
306.00	0.39	278.970	306.00	-0.10	-0.15	0.13	1.19
336.00	0.20	249.950	336.00	-0.11	-0.30	0.15	0.79
398.00	0.29	278.630	398.00	-0.12	-0.55	0.21	0.24
458.00	0.62	271.800	458.00	-0.09	-1.03	0.26	0.56
489.00	0.52	288.350	489.00	-0.04	-1.33	0.27	0.62
519.00	0.53	285.170	518.99	0.04	-1.59	0.23	0.10
550.00	0.72	259.420	549.99	0.04	-1.92	0.29	1.08
580.00	0.64	235.290	579.99	-0.09	-2.24	0.47	0.98
610.00	0.60	214.810	609.99	-0.31	-2.47	0.73	0.75
641.00	0.44	196.900	640.99	-0.56	-2.60	1.00	0.73
672.00	0.63	215.430	671.99	-0.81	-2.73	1.27	0.82
703.00	0.14	225.220	702.98	-0.98	-2.86	1.46	1.59
733.00	0.14	72.730	732.98	-0.99	-2.85	1.47	0.91
763.00	0.42	77.970	762.98	-0.96	-2.71	1.41	0.94
794.00	0.24	45.320	793.98	-0.89	-2.55	1.32	0.82
824.00	0.51	44.260	823.98	-0.75	-2.41	1.15	0.90
855.00	0.44	69.200	854.98	-0.61	-2.20	0.98	0.70
886.00	0.34	15.240	885.98	-0.48	-2.07	0.83	1.18
916.00	0.33	51.180	915.98	-0.33	-1.98	0.67	0.69
947.00	0.39	0.610	946.98	-0.17	-1.91	0.50	1.01
Tie-On to Sperry MWD Surveys (Pilot) @ 947.00' MD							
1,084.00	15.48	189.050	1,082.36	-17.88	-4.80	18.44	11.58
First Sperry MWD Survey (Lateral) @ 1084.00' MD							
1,114.00	18.49	186.970	1,111.05	-26.55	-6.00	27.19	10.23
1,144.00	19.12	190.140	1,139.45	-36.11	-7.45	36.86	4.00
1,174.00	20.64	189.990	1,167.66	-46.16	-9.23	47.06	5.07
1,205.00	21.29	190.550	1,196.61	-57.07	-11.21	58.15	2.19
1,236.00	21.60	191.850	1,225.46	-68.19	-13.41	69.48	1.83
1,267.00	21.80	190.080	1,254.26	-79.44	-15.59	80.94	2.21
1,297.00	22.03	189.810	1,282.10	-90.47	-17.52	92.14	0.84
1,327.00	23.83	190.130	1,309.72	-101.98	-19.55	103.82	6.01
1,358.00	27.61	190.970	1,337.65	-115.20	-22.02	117.27	12.25
1,388.00	30.35	191.490	1,363.89	-129.46	-24.85	131.80	9.17
1,419.00	34.12	193.130	1,390.11	-145.60	-28.38	148.32	12.48
1,450.00	37.10	193.390	1,415.31	-163.17	-32.53	166.34	9.63
1,480.00	40.40	192.900	1,438.70	-181.45	-36.79	185.09	11.05
1,511.00	43.28	192.390	1,461.79	-201.63	-41.32	205.74	9.35
1,542.00	47.04	191.980	1,483.65	-223.11	-45.95	227.70	12.17
1,572.00	49.95	190.610	1,503.53	-245.14	-50.35	250.16	10.28
1,603.00	55.21	190.540	1,522.36	-269.34	-54.86	274.77	16.97
1,634.00	59.72	190.230	1,539.03	-295.04	-59.57	300.90	14.57
1,665.00	64.38	189.960	1,553.55	-321.99	-64.37	328.27	15.05
1,696.00	68.16	189.820	1,566.03	-349.94	-69.24	356.65	12.20

Design Report for NE Hogback Unit #73 - Sperry Final Surveys (Lateral)

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
1,726.00	72.67	189.780	1,576.08	-377.79	-74.05	384.91	15.03
1,756.00	76.69	189.620	1,584.00	-406.30	-78.92	413.83	13.41
1,787.00	80.61	190.330	1,590.10	-436.23	-84.19	444.22	12.84
1,817.00	83.03	190.290	1,594.37	-465.44	-89.50	473.91	8.07
1,848.00	86.26	189.750	1,597.26	-495.83	-94.87	504.77	10.56
1,882.00	90.17	190.000	1,598.32	-529.30	-100.70	538.75	11.52
1,913.00	90.70	190.040	1,598.09	-559.83	-106.09	569.75	1.71
1,944.00	90.87	190.210	1,597.66	-590.35	-111.54	600.75	0.78
1,974.00	90.44	188.780	1,597.32	-619.93	-116.49	630.74	4.98
2,005.00	90.30	188.420	1,597.12	-650.58	-121.13	661.73	1.25
2,036.00	89.09	188.090	1,597.28	-681.26	-125.58	692.72	4.05
2,067.00	89.23	188.080	1,597.74	-711.95	-129.94	723.70	0.45
2,128.00	89.63	188.730	1,598.35	-772.29	-138.85	784.67	1.25
2,189.00	89.97	188.880	1,598.56	-832.57	-148.19	845.65	0.61
2,250.00	90.20	188.430	1,598.47	-892.88	-157.37	906.64	0.83
2,311.00	91.18	188.670	1,597.73	-953.19	-166.44	967.61	1.65
2,372.00	90.37	188.860	1,596.91	-1,013.47	-175.73	1,028.59	1.36
2,433.00	89.29	188.950	1,597.09	-1,073.74	-185.17	1,089.58	1.78
2,495.00	89.36	190.550	1,597.82	-1,134.84	-195.67	1,151.57	2.58
2,558.00	90.20	190.960	1,598.06	-1,196.73	-207.43	1,214.57	1.48
2,621.00	90.84	191.040	1,597.49	-1,258.57	-219.45	1,277.55	1.02
2,684.00	90.81	190.180	1,596.58	-1,320.48	-231.05	1,340.54	1.37
2,747.00	90.40	189.190	1,595.92	-1,382.58	-241.65	1,403.54	1.70
2,808.00	89.36	188.280	1,596.05	-1,442.87	-250.91	1,464.52	2.27
2,871.00	89.09	188.260	1,596.90	-1,505.21	-259.97	1,527.49	0.43
2,934.00	89.66	189.470	1,597.59	-1,567.45	-269.68	1,590.47	2.12
2,961.00	89.60	189.730	1,597.76	-1,594.08	-274.18	1,617.47	0.99
3,012.00	88.76	189.530	1,598.49	-1,644.35	-282.71	1,668.46	1.69
3,074.00	87.95	188.910	1,600.27	-1,705.52	-292.64	1,730.43	1.64
3,135.00	88.99	189.050	1,601.90	-1,765.75	-302.16	1,791.40	1.72
3,197.00	90.54	188.510	1,602.15	-1,827.02	-311.62	1,853.38	2.65
3,258.00	91.28	189.170	1,601.18	-1,887.29	-321.00	1,914.36	1.63
3,319.00	90.97	189.040	1,599.99	-1,947.51	-330.65	1,975.34	0.55
Last Sperry MWD Survey (Lateral) @ 3319.00' MD							
3,374.00	90.97	189.040	1,599.05	-2,001.82	-339.29	2,030.32	0.00
Straight Line Projection to TD @ 3374.00' MD							

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
211.00	211.00	0.00	0.00	Tie-On to Surface Casing Assumed Vertical @ 211.00' MD
245.00	245.00	-0.01	0.01	First Sperry MWD Survey (Pilot) @ 245.00' MD
947.00	946.98	-0.17	-1.91	Tie-On to Sperry MWD Surveys (Pilot) @ 947.00' MD
1,084.00	1,082.36	-17.88	-4.80	First Sperry MWD Survey (Lateral) @ 1084.00' MD
3,319.00	1,599.99	-1,947.51	-330.65	Last Sperry MWD Survey (Lateral) @ 3319.00' MD
3,374.00	1,599.05	-2,001.82	-339.29	Straight Line Projection to TD @ 3374.00' MD

Design Report for NE Hogback Unit #73 - Sperry Final Surveys (Lateral)

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (usft)	Origin +E/-W (usft)	Start TVD (usft)
User	No Target (Freehand)	190.000	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
14.50	211.00	Surface Casing Assumed Vertical	Assumed Vertical (NO Surveys)
245.00	947.00	Sperry MWD Surveys (Pilot)	MWD
1,084.00	3,374.00	Sperry MWD Surveys (Lateral)	MWD

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude *	Longitude
NE Hogback Unit #73_	0.00	0.00	0.00	-4,063.23	1,949.39	2,119,011.66	2,527,012.54	36° 49' 17.173 N	108° 30' 11.703 W
- actual wellpath misses target center by 3470.51usft at 3374.00usft MD (1599.05 TVD, -2001.82 N, -339.29 E)									
- Polygon									
Point 1				2,312.37	-313.65	2,118,681.66	2,529,322.54		
Point 2				2,324.93	4,960.10	2,123,954.98	2,529,372.43		
Point 3				14.90	4,943.74	2,123,954.98	2,527,062.43		
Point 4				-2,291.95	4,951.48	2,123,979.05	2,524,755.78		
Point 5				-2,299.59	2,315.68	2,121,343.47	2,524,729.48		
Point 6				-4,887.31	2,324.20	2,121,370.30	2,522,141.99		
Point 7				-4,899.04	-304.51	2,118,741.85	2,522,111.65		
Point 8				-4,887.31	2,324.20	2,121,370.30	2,522,141.99		
Point 9				-2,299.59	2,315.68	2,121,343.47	2,524,729.48		
Point 10				-2,291.95	4,951.48	2,123,979.05	2,524,755.78		
Point 11				14.90	4,943.74	2,123,954.98	2,527,062.43		
Point 12				2,324.93	4,960.10	2,123,954.98	2,529,372.43		
Point 13				2,312.37	-313.65	2,118,681.66	2,529,322.54		
NE Hogback Unit #73_	0.00	0.00	14.20	0.00	0.00	2,123,088.43	2,525,092.03	36° 49' 57.350 N	108° 30' 35.678 W
- actual wellpath hits target center									
- Point									
NE Hogback Unit #73_	0.00	0.00	0.00	-4,063.23	1,949.39	2,119,011.66	2,527,012.54	36° 49' 17.173 N	108° 30' 11.703 W
- actual wellpath misses target center by 3470.51usft at 3374.00usft MD (1599.05 TVD, -2001.82 N, -339.29 E)									
- Polygon									
Point 1				2,640.04	18.69	2,119,011.66	2,529,652.54		
Point 2				2,652.60	5,292.44	2,124,284.98	2,529,702.43		
Point 3				12.56	5,273.75	2,124,284.98	2,527,062.43		
Point 4				-2,624.29	5,279.15	2,124,309.05	2,524,425.78		
Point 5				-2,631.94	2,643.35	2,121,673.47	2,524,399.48		
Point 6				-5,219.65	2,651.86	2,121,700.30	2,521,811.99		
Point 7				-5,231.38	23.16	2,119,071.85	2,521,781.65		
Point 8				-5,219.65	2,651.86	2,121,700.30	2,521,811.99		
Point 9				-2,631.94	2,643.35	2,121,673.47	2,524,399.48		
Point 10				-2,624.29	5,279.15	2,124,309.05	2,524,425.78		
Point 11				12.56	5,273.75	2,124,284.98	2,527,062.43		
Point 12				2,652.60	5,292.44	2,124,284.98	2,529,702.43		
Point 13				2,640.04	18.69	2,119,011.66	2,529,652.54		

North Reference Sheet for Sec. 10-T30N-R16W - NE Hogback Unit #73 - Plan C (Lateral)

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.

Vertical Depths are relative to RKB 14.5' @ 5577.20usft (Aztec 711). Northing and Easting are relative to NE Hogback Unit #73

Coordinate System is US State Plane 1983, New Mexico Western Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is 107° 50' 0.000 W°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:0° 0' 0.000 N°

False Easting: 2,723,091.67usft, False Northing: 0.00usft, Scale Reduction: 0.99996152

Grid Coordinates of Well: 2,123,088.43 usft N, 2,525,092.03 usft E

Geographical Coordinates of Well: 36° 49' 57.35" N, 108° 30' 35.68" W

Grid Convergence at Surface is: -0.41°

Based upon Minimum Curvature type calculations, at a Measured Depth of 3,374.00usft

the Bottom Hole Displacement is 2,030.37usft in the Direction of 189.62° (True).

Magnetic Convergence at surface is: -10.36° (2 January 2014, , BGGM2013)

