

30-015-32967

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HOBBSOCD

CHEVRON

Fren
Eddy County, NM
Skelly Unit #948
VH - Job #32K1010788

Survey: Actual

SDI Standard Survey Report

14 November, 2010

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

Richard

Notorized this date 14th of November, 2010.

Carrre Reed

Notary Signature
County of Midland
State of Texas



Scientific Drilling International, Inc.
SDI Standard Survey Report

Company:	CHEVRON	Local Co-ordinate Reference:	Well Skelly Unit #948
Project:	Fren	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Skelly Unit #948	North Reference:	Grid
Wellbore:	VH - Job #32K1010788	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K1010788	Database:	EDM-Regulatory

Project	Fren		
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	Eddy County, NM				
Site Position:		Northing:	669,273.33 usft	Latitude:	32° 50' 20.400 N
From:	Lat/Long	Easting:	647,222.60 usft	Longitude:	103° 51' 14.400 W
Position Uncertainty:	0.0 usft	Slot Radius:	0"	Grid Convergence:	0.26 °

Well	Skelly Unit #948, Vertical					
Well Position	+N/-S	0.0 usft	Northing:	665,301.43 usft	Latitude:	32° 49' 41.240 N
	+E/-W	0.0 usft	Easting:	644,018.57 usft	Longitude:	103° 51' 52.160 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	0.0 usft

Wellbore	VH - Job #32K1010788				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2010	10/18/2010	7.91	60.72	49,078

Design	VH - Job #32K1010788			
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	190.24

Survey Program		Date	11/14/2010		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	6,575.0	Actual (VH - Job #32K1010788)	Keeper	Keeper Gyro	

Survey								
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	0.14	274.92	100.0	0.0	-0.1	274.92	0.1	
200.0	0.19	208.22	200.0	-0.1	-0.3	248.75	0.3	
300.0	0.59	217.69	300.0	-0.7	-0.7	226.49	1.0	
400.0	0.88	197.85	400.0	-1.8	-1.3	214.85	2.2	
500.0	0.93	184.51	500.0	-3.4	-1.6	204.99	3.7	
600.0	0.91	185.29	600.0	-5.0	-1.7	198.94	5.2	
700.0	0.58	173.95	700.0	-6.3	-1.7	195.40	6.5	
800.0	0.46	184.11	800.0	-7.2	-1.7	193.34	7.4	
900.0	0.42	215.33	899.9	-7.9	-1.9	193.86	8.1	
1,000.0	0.43	229.86	999.9	-8.4	-2.4	196.18	8.7	
1,100.0	0.32	264.25	1,099.9	-8.7	-3.0	199.10	9.2	

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Design:	VH - Job #32K1010788	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,200.0	0.34	335.95	1,199.9	-8.4	-3.4	201.98	9.1
1,300.0	0.74	12.57	1,299.9	-7.5	-3.4	204.20	8.2
1,400.0	1.10	17.26	1,399.9	-6.0	-3.0	206.32	6.7
1,500.0	1.30	18.92	1,499.9	-4.0	-2.3	210.02	4.6
1,600.0	1.15	25.76	1,599.9	-2.0	-1.5	216.74	2.5
1,700.0	1.08	34.24	1,699.9	-0.3	-0.5	238.64	0.6
1,800.0	0.92	45.11	1,799.8	1.0	0.6	29.04	1.2
1,900.0	0.76	71.53	1,899.8	1.8	1.8	44.47	2.5
2,000.0	0.78	95.64	1,999.8	1.9	3.1	57.70	3.6
2,100.0	0.60	118.00	2,099.8	1.6	4.2	68.85	4.5
2,200.0	0.88	137.14	2,199.8	0.8	5.2	81.03	5.3
2,300.0	0.81	139.04	2,299.8	-0.3	6.2	92.56	6.2
2,400.0	0.71	140.84	2,399.8	-1.3	7.0	100.40	7.2
2,500.0	0.57	137.55	2,499.8	-2.1	7.8	105.40	8.1
2,600.0	0.30	136.87	2,599.8	-2.7	8.3	108.04	8.7
2,700.0	0.27	147.57	2,699.8	-3.1	8.6	109.78	9.1
2,800.0	0.42	173.28	2,799.8	-3.6	8.8	112.63	9.5
2,900.0	0.49	185.18	2,899.8	-4.4	8.8	116.88	9.8
3,000.0	0.43	188.70	2,999.8	-5.2	8.7	121.15	10.1
3,100.0	0.45	186.51	3,099.8	-6.0	8.6	125.01	10.5
3,200.0	0.42	189.51	3,199.8	-6.7	8.5	128.60	10.8
3,300.0	0.45	192.65	3,299.8	-7.5	8.3	132.05	11.2
3,400.0	0.54	206.90	3,399.8	-8.3	8.0	136.01	11.5
3,500.0	0.76	220.45	3,499.8	-9.2	7.4	141.38	11.8
3,600.0	0.87	220.46	3,599.7	-10.3	6.4	147.98	12.2
3,700.0	1.20	214.99	3,699.7	-11.7	5.3	155.50	12.9
3,800.0	1.34	216.15	3,799.7	-13.5	4.1	163.31	14.1
3,900.0	1.60	223.28	3,899.7	-15.5	2.4	171.15	15.7
4,000.0	1.76	223.09	3,999.6	-17.6	0.4	178.68	17.6
4,100.0	1.81	221.08	4,099.6	-20.0	-1.7	184.81	20.0
4,200.0	1.94	213.46	4,199.5	-22.6	-3.7	189.20	22.8
4,300.0	1.95	208.21	4,299.5	-25.5	-5.4	191.95	26.0
4,400.0	1.86	204.98	4,399.4	-28.4	-6.9	193.60	29.3
4,500.0	1.91	200.95	4,499.4	-31.5	-8.2	194.54	32.5
4,600.0	1.90	194.83	4,599.3	-34.6	-9.2	194.85	35.8
4,700.0	1.85	189.92	4,699.2	-37.8	-9.9	194.65	39.1
4,800.0	2.01	188.56	4,799.2	-41.1	-10.4	194.22	42.4
4,900.0	2.15	188.75	4,899.1	-44.7	-11.0	193.78	46.1
5,000.0	2.26	189.17	4,999.1	-48.5	-11.6	193.41	49.9
5,100.0	2.57	191.77	5,099.0	-52.7	-12.3	193.19	54.1
5,200.0	2.72	187.54	5,198.9	-57.2	-13.1	192.90	58.7
5,300.0	2.69	188.09	5,298.7	-61.9	-13.7	192.52	63.4
5,400.0	2.54	176.35	5,398.6	-66.4	-13.9	191.85	67.9
5,500.0	2.36	181.34	5,498.6	-70.7	-13.8	191.08	72.0

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Wellbore:	VH - Job #32K1010788	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K1010788	Database:	EDM-Regulatory

Survey								
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)	
5,600.0	2.28	184.60	5,598.5	-74.7	-14.1	190.65	76.0	
5,700.0	2.07	186.18	5,698.4	-78.5	-14.4	190.40	79.8	
5,800.0	2.13	181.58	5,798.3	-82.2	-14.7	190.11	83.5	
5,900.0	2.11	184.16	5,898.3	-85.9	-14.8	189.80	87.1	
6,000.0	2.02	189.32	5,998.2	-89.4	-15.3	189.68	90.7	
6,100.0	2.10	190.41	6,098.1	-93.0	-15.9	189.69	94.3	
6,200.0	1.99	192.65	6,198.1	-96.5	-16.6	189.75	97.9	
6,300.0	1.99	187.92	6,298.0	-99.9	-17.2	189.77	101.4	
6,400.0	2.03	191.62	6,397.9	-103.3	-17.8	189.77	104.9	
6,500.0	2.01	202.54	6,497.9	-106.7	-18.8	190.01	108.3	
6,575.0	2.12	196.84	6,572.8	-109.2	-19.7	190.24	111.0	



Project: Fren
Eddy County, NM
Well: Skelly Unit #948
Wellbore: VH - Job #32K1010788
Design: VH - Job #32K1010788

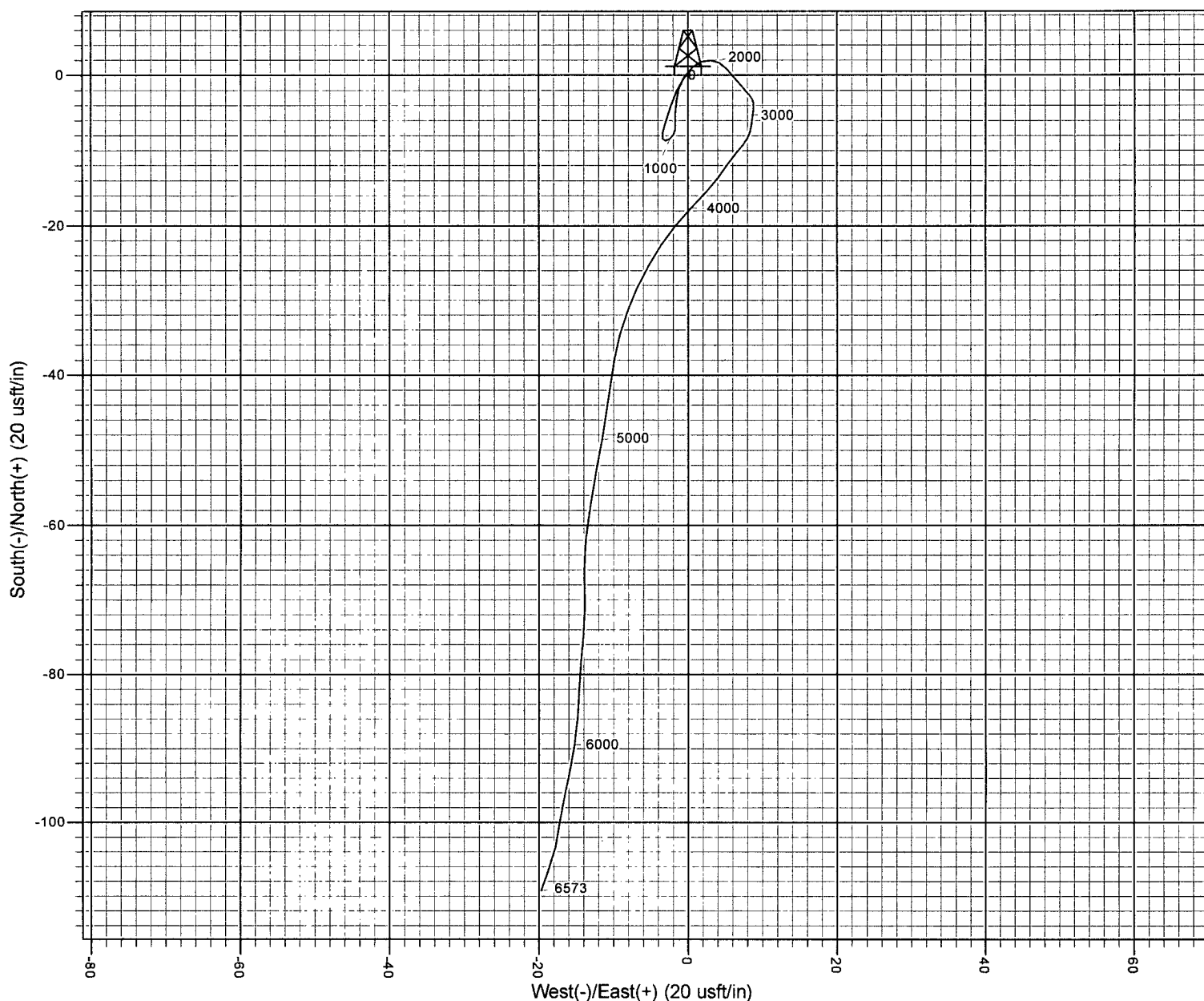


Azimuths to Grid North
True North: -0.25°
Magnetic North: 7.66°

Magnetic Field
Strength: 49078.1snT
Dip Angle: 60.72°
Date: 10/18/2010
Model: BGGM2010

WELL DETAILS: Skelly Unit #948
WELL @ 0.0usft (Original Well Elev)
Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	665301.43	644018.57	32° 49' 41.240 N	103° 51' 52.160 W	



PROJECT DETAILS: Fren
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: Eddy County, NM
 Site Centre Latitude: 32° 50' 20.400 N
 Longitude: 103° 51' 14.400 W
 Positional Uncertainty: 0.0
 Convergence: 0.26
 Local North: Grid