

30-025-39897

CHEVRON

Dollarhide
Andrews County, Texas
West Dollarhide Drinkard Unit #160
VH - Job #32K0211109

HOBBS OCD

APR 27 2011

RECEIVED

Survey: Actual

SDI Standard Survey Report

11 February, 2011

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

Richard

Notarized this date 21st of February, 2011.

Carrie Reed

Notary Signature
County of Midland
State of Texas



Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	CHEVRON	Local Co-ordinate Reference:	Well West Dollarhide Drinkard Unit #160
Project:	Dollarhide	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Andrews County, Texas	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	West Dollarhide Drinkard Unit #160	North Reference:	Grid
Wellbore:	VH - Job #32K0211109	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0211109	Database:	EDM-Regulatory

Project	Dollarhide		
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	Andrews County, Texas				
Site Position:		Northing:	434,348.76 usft	Latitude:	32° 11' 16.800 N
From:	Lat/Long	Easting:	885,579.58 usft	Longitude:	103° 5' 13.200 W
Position Uncertainty:	0.0 usft	Slot Radius:	0"	Grid Convergence:	0.66 °

Well	West Dollarhide Drinkard Unit #160, Vertical					
Well Position	+N/-S	0.0 usft	Northing:	434,348.76 usft	Latitude:	32° 11' 16.800 N
	+E/-W	0.0 usft	Easting:	885,579.58 usft	Longitude:	103° 5' 13.200 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	0.0 usft

Wellbore	VH - Job #32K0211109				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2010	2/5/2011	7.44	60.25	48,751

Design	VH - Job #32K0211109				
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	119.94	

Survey Program		Date	2/11/2011		
From (usft)	To (usft)	Survey (Wellbore)		Tool Name	Description
100.0	7,103.0	Actual (VH - Job #32K0211109)		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	0.18	13.29	100.0	0.2	0.0	13.29	0.2	
200.0	0.24	76.33	200.0	0.4	0.3	37.82	0.4	
300.0	0.19	87.27	300.0	0.4	0.6	57.39	0.8	
400.0	0.21	91.60	400.0	0.4	1.0	67.31	1.1	
500.0	0.15	177.59	500.0	0.3	1.2	76.70	1.2	
600.0	0.23	188.05	600.0	-0.1	1.2	92.47	1.2	
700.0	0.41	182.35	700.0	-0.6	1.1	118.49	1.3	
800.0	0.43	174.17	800.0	-1.3	1.1	139.54	1.8	
900.0	0.43	166.74	900.0	-2.1	1.3	148.65	2.4	
1,000.0	0.56	178.64	1,000.0	-2.9	1.4	155.06	3.2	
1,100.0	0.72	173.47	1,100.0	-4.0	1.4	160.32	4.3	

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Wellbore:	VH - Job #32K0211109	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0211109	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	0.69	175.82	1,200.0	-5.3	1.6	163.49	5.5
1,300.0	0.48	154.93	1,300.0	-6.2	1.8	164.08	6.5
1,400.0	0.49	137.29	1,400.0	-6.9	2.2	162.04	7.3
1,500.0	0.59	116.75	1,500.0	-7.5	3.0	158.17	8.1
1,600.0	0.54	124.55	1,600.0	-8.0	3.8	154.28	8.9
1,700.0	0.69	130.47	1,699.9	-8.6	4.7	151.50	9.8
1,800.0	0.66	111.07	1,799.9	-9.2	5.7	148.38	10.9
1,900.0	0.79	111.31	1,899.9	-9.7	6.9	144.69	11.9
2,000.0	0.93	91.16	1,999.9	-10.0	8.3	140.14	13.0
2,100.0	1.54	81.24	2,099.9	-9.8	10.5	133.06	14.3
2,200.0	1.91	80.29	2,199.9	-9.3	13.4	124.67	16.3
2,300.0	3.17	73.09	2,299.8	-8.2	17.7	114.85	19.5
2,400.0	3.75	73.27	2,399.6	-6.5	23.5	105.37	24.4
2,500.0	4.81	72.56	2,499.3	-4.3	30.6	97.92	30.9
2,600.0	4.89	72.68	2,598.9	-1.7	38.7	92.57	38.7
2,700.0	5.02	72.62	2,698.6	0.8	46.9	88.98	47.0
2,800.0	4.69	73.76	2,798.2	3.3	55.0	86.58	55.1
2,900.0	4.27	75.69	2,897.9	5.4	62.6	85.11	62.8
3,000.0	3.71	79.64	2,997.7	6.9	69.4	84.36	69.7
3,100.0	3.40	83.07	3,097.5	7.8	75.5	84.11	75.9
3,200.0	3.06	86.91	3,197.3	8.3	81.1	84.16	81.5
3,300.0	2.78	91.67	3,297.2	8.4	86.2	84.45	86.6
3,400.0	2.48	99.84	3,397.1	7.9	90.7	85.01	91.1
3,500.0	2.24	105.89	3,497.0	7.0	94.8	85.76	95.0
3,600.0	1.95	114.15	3,596.9	5.8	98.2	86.62	98.4
3,700.0	1.77	114.22	3,696.9	4.5	101.2	87.47	101.2
3,800.0	1.45	123.45	3,796.8	3.1	103.6	88.27	103.7
3,900.0	1.17	127.44	3,896.8	1.8	105.5	89.02	105.5
4,000.0	1.04	131.73	3,996.8	0.6	107.0	89.68	107.0
4,100.0	0.88	137.49	4,096.8	-0.6	108.2	90.31	108.2
4,200.0	0.73	136.13	4,196.8	-1.6	109.1	90.84	109.1
4,300.0	0.58	139.99	4,296.7	-2.5	109.9	91.28	109.9
4,400.0	0.58	151.31	4,396.7	-3.3	110.5	91.70	110.5
4,500.0	0.60	166.68	4,496.7	-4.2	110.8	92.19	110.9
4,600.0	0.71	179.23	4,596.7	-5.4	111.0	92.77	111.1
4,700.0	0.91	197.73	4,696.7	-6.7	110.7	93.49	110.9
4,800.0	1.09	197.53	4,796.7	-8.4	110.2	94.36	110.5
4,900.0	1.09	198.82	4,896.7	-10.2	109.6	95.32	110.1
5,000.0	1.06	203.07	4,996.7	-12.0	108.9	96.27	109.6
5,100.0	0.97	204.49	5,096.7	-13.6	108.2	97.16	109.1
5,200.0	0.93	209.38	5,196.6	-15.1	107.5	97.98	108.5
5,300.0	0.92	213.42	5,296.6	-16.4	106.6	98.77	107.9
5,400.0	0.97	212.79	5,396.6	-17.8	105.7	99.57	107.2
5,500.0	0.99	219.95	5,496.6	-19.2	104.7	100.39	106.5

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Wellbore:	VH - Job #32K0211109	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0211109	Database:	EDM-Regulatory

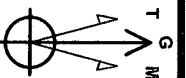
Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
5,600.0	1.17	213.18	5,596.6	-20.7	103.6	101.31	105.6
5,700.0	1.34	229.70	5,696.6	-22.3	102.1	102.33	104.6
5,800.0	1.37	227.65	5,796.5	-23.9	100.4	103.39	103.2
5,900.0	1.38	225.97	5,896.5	-25.5	98.6	104.51	101.9
6,000.0	1.40	221.13	5,996.5	-27.3	97.0	105.72	100.7
6,100.0	1.34	221.28	6,096.4	-29.1	95.4	106.96	99.7
6,200.0	1.23	217.60	6,196.4	-30.8	94.0	108.16	98.9
6,300.0	1.39	217.97	6,296.4	-32.6	92.6	109.42	98.1
6,400.0	1.53	211.32	6,396.4	-34.7	91.1	110.86	97.5
6,500.0	1.31	206.75	6,496.3	-36.9	89.9	112.30	97.2
6,600.0	1.15	197.62	6,596.3	-38.9	89.1	113.56	97.2
6,700.0	1.17	203.72	6,696.3	-40.7	88.4	114.75	97.3
6,800.0	1.16	199.97	6,796.3	-42.6	87.6	115.95	97.4
6,900.0	1.34	187.33	6,896.2	-44.7	87.1	117.18	97.9
7,000.0	1.39	193.52	6,996.2	-47.1	86.7	118.51	98.6
7,100.0	1.44	198.28	7,096.2	-49.5	86.0	119.90	99.2
7,103.0	1.37	184.73	7,099.2	-49.5	86.0	119.94	99.2



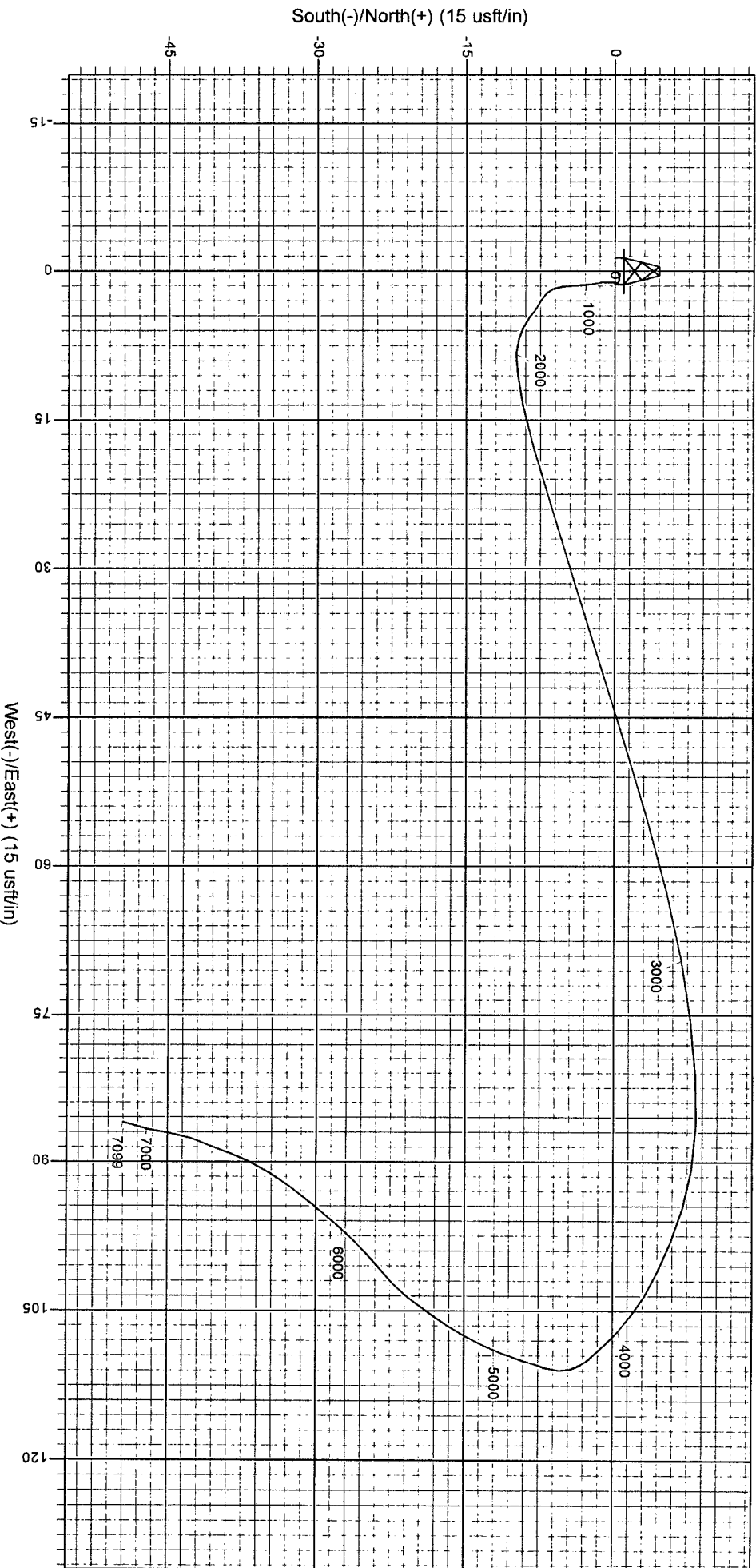
Scientific Drilling
Directional Drilling Operations

Project: Dollarhide
Andrews County, Texas
Well: West Dollarhide Drinkard Unit #160
Wellbore: VH - Job #32K021109
Design: VH - Job #32K021109



Azimuths to Grid North
True North: -0.66°
Magnetic North: 6.78°
Magnetic Field
Strength: 48751.3nT
Dip Angle: 60.25°
Date: 2/5/2011
Model: BCGM2010

WELL DETAILS: West Dollarhide Drinkard Unit #160
WELL @ 0.0usft (Original Well Elev)
Ground Level: 0.0
+N/-S 0.0 +E/-W 0.0
Northing 434348.76 Easting 885579.58
Latitude 32° 11' 16.800 N Longitude 103° 5' 13.200 W
Slot



PROJECT DETAILS: Dollarhide
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: Andrews County, Texas
Site Centre Latitude: 32° 11' 16.800 N
Longitude: 103° 5' 13.200 W
Positional Uncertainty: 0.0
Convergence: 0.66
Local North: Grid