



Devon Energy

Chaves Co, New Mexico (Nad-83)

Loving 7 Fee #1H

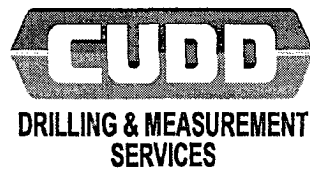
Loving 7 Fee #1H

Pilot Hole

Plan: Design #1

Standard Survey Report

06 August, 2010





CUDD Drilling & Measurement Services
Survey Report



Company: Devon Energy
Project: Chaves Co, New Mexico (Nad-83)
Site: Loving 7 Fee #1H
Well: Loving 7 Fee #1H
Wellbore: Pilot Hole
Design: Design #1

Local Co-ordinate Reference: Site Loving 7 Fee #1H
TVD Reference: WELL @ 3899.00ft (Original Well Elev)
MD Reference: WELL @ 3899.00ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.21 Single User Db

Project: Chaves Co, New Mexico (Nad-83)
Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site: Loving 7 Fee #1H, Sec 7, T-10S, R-29E

Site Position:	From:	Lat/Long	Northing:	874,061.55 ft	Latitude:	33° 24' 9.000 N
			Easting:	612,799.85 ft	Longitude:	104° 5' 57.000 W
Position Uncertainty:		0.00 ft	Slot Radius:	"	Grid Convergence:	0.13 °

Well: Loving 7 Fee #1H

Well Position	+N/-S	0.00 ft	Northing:	874,061.55 ft	Latitude:	33° 24' 9.000 N
	+E/-W	0.00 ft	Easting:	612,799.85 ft	Longitude:	104° 5' 57.000 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	3,899.00 ft	Ground Level:	3,880.00 ft

Wellbore: Pilot Hole

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	06/16/10	8.03	61.22	49,393

Design: Design #1

Audit Notes:

Version: Phase: PLAN Tie On Depth: 0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	90.00

Survey Tool Program: Date 08/06/10

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	5,400.00	Design #1 (Pilot Hole)	NS-GYRO-MS	North sensing gyrocompassing m/s
5,400.00	8,539.92	Design #1 (Pilot Hole)	CUDD MWD	MWD - Standard CUDD MWD

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,235.00	0.00	0.00	3,235.00	0.00	0.00	0.00	0.00	0.00	0.00
Glorieta Marker									
3,404.00	0.00	0.00	3,404.00	0.00	0.00	0.00	0.00	0.00	0.00
Glorieta									
3,490.00	0.00	0.00	3,490.00	0.00	0.00	0.00	0.00	0.00	0.00
Yeso									
4,950.00	0.00	0.00	4,950.00	0.00	0.00	0.00	0.00	0.00	0.00
Tubb									
5,090.00	0.00	0.00	5,090.00	0.00	0.00	0.00	0.00	0.00	0.00
Lower Clearfork									



CUDD Drilling & Measurement Services

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MD Reference: WELL @ 3899.00ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.21 Single User Db

Planned Survey:

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,478.00	0.00	0.00	5,478.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP Build 2°/100'									
5,478.23	0.00	0.00	5,478.23	0.00	0.00	0.00	0.00	0.00	0.00
5,728.23	5.00	90.00	5,727.91	0.00	10.90	10.90	2.00	2.00	0.00
EOC Hold 1:5.00° @ A:90.00°									
5,746.46	5.00	90.00	5,746.07	0.00	12.49	12.49	0.00	0.00	0.00
Abo									
6,236.99	5.00	90.00	6,234.74	0.00	55.24	55.24	0.00	0.00	0.00
Abo Dolomite									
6,429.16	5.00	90.00	6,426.17	0.00	71.99	71.99	0.00	0.00	0.00
Wolfcamp									
6,854.92	5.00	90.00	6,850.32	0.00	109.10	109.10	0.00	0.00	0.00
KOP - Drop 2°/100'									
7,104.92	0.00	0.00	7,100.00	0.00	120.00	120.00	2.00	-2.00	-36.00
EOC - Hold 1:0.00° @ A:0.00° - Target #1 Pilot Hole(L7F1H)									
7,190.21	0.00	0.00	7,185.29	0.00	120.00	120.00	0.00	0.00	0.00
Pennsylvanian									
7,725.21	0.00	0.00	7,720.29	0.00	120.00	120.00	0.00	0.00	0.00
Strawn Clastics									
7,835.21	0.00	0.00	7,830.29	0.00	120.00	120.00	0.00	0.00	0.00
Atoka Clastics									
8,040.21	0.00	0.00	8,035.29	0.00	120.00	120.00	0.00	0.00	0.00
Mississippian									
8,165.21	0.00	0.00	8,160.29	0.00	120.00	120.00	0.00	0.00	0.00
Mssp Lwr Osage									
8,500.21	0.00	0.00	8,495.29	0.00	120.00	120.00	0.00	0.00	0.00
Siluro-Devonian									
8,539.92	0.00	0.00	8,535.00	0.00	120.00	120.00	0.00	0.00	0.00
PBHL - TD Pilot Hole(L7F1H)									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Target #1 Pilot Hole(L7F	0.00	0.00	7,100.00	0.00	120.00	874,061.82	612,919.85	33° 24' 9.000 N	104° 5' 55.584 W
- plan hits target center									
- Point									
PBHL - TD Pilot Hole(L7	0.00	0.00	8,535.00	0.00	120.00	874,061.82	612,919.85	33° 24' 9.000 N	104° 5' 55.584 W
- plan hits target center									
- Point									



CUDD Drilling & Measurement Services

Survey Report



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Project: Chaves Co, New Mexico (Nad-83)
Site: Loving 7 Fee #1H
Well: Loving 7 Fee #1H
Wellbore: Pilot Hole
Design: Design #1

Local Co-ordinate Reference: Site Loving 7 Fee #1H
TVD Reference: WELL @ 3899.00ft (Original Well Elev)
MD Reference: WELL @ 3899.00ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.21 Single User Db

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,235.00	3,235.00	Glorieta Marker		4.90	90.00
3,404.00	3,404.00	Glorieta		4.90	90.00
3,490.00	3,490.00	Yeso		4.90	90.00
4,950.00	4,950.00	Tubb		4.90	90.00
5,090.00	5,090.00	Lower Clearfork		4.90	90.00
5,746.46	5,745.00	Abo		4.90	90.00
6,236.99	6,230.00	Abo Dolomite		4.90	90.00
6,429.16	6,420.00	Wolfcamp		4.90	90.00
7,190.21	7,175.00	Pennsylvanian		4.90	90.00
7,725.21	7,710.00	Strawn Clastics		4.90	90.00
7,835.21	7,820.00	Atoka Clastics		4.90	90.00
8,040.21	8,025.00	Mississippian		4.90	90.00
8,185.21	8,170.00	Mssp Lwr Osage		4.90	90.00
8,500.21	8,485.00	Siluro-Devonian		4.90	90.00

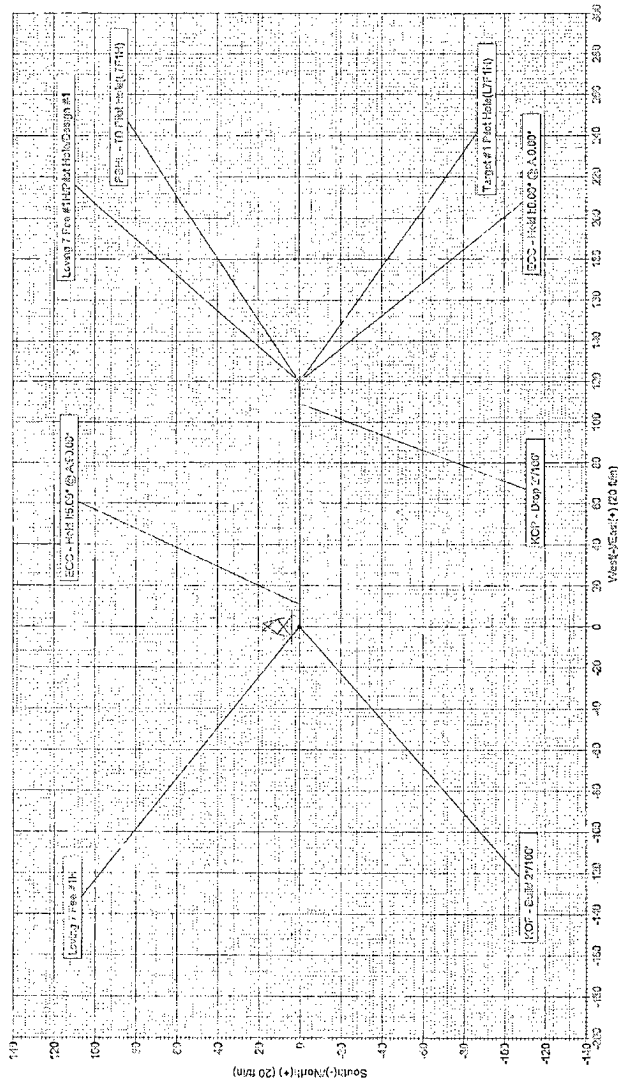
Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
5,478.00	5,478.00	0.00	0.00	KOP - Build 2"/100'
5,728.23	5,727.91	0.00	10.90	EOC - Hold 1:5.00* @ A:90.00*
6,854.92	6,850.32	0.00	109.10	KOP - Drop 2"/100'
7,104.92	7,100.00	0.00	120.00	EOC - Hold 1:0.00* @ A:0.00*

Checked By: _____ Approved By: _____ Date: _____



Project: Chavez Co. New Mexico (N4433)
Well: Leving 7 Fee #1H
Wellbore: Platform
Design: Design #1



SECTION DETAILS									
Sec	MD	Is	Asl	TWD	41-S	41-W	41-N	41-E	Target
1	5478.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target #1 Platform (L77H)
2	5478.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target #2 Platform (L77H)
3	5478.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target #1 Platform (L77H)
4	5478.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target #2 Platform (L77H)
5	5478.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target #1 Platform (L77H)
6	5478.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target #2 Platform (L77H)

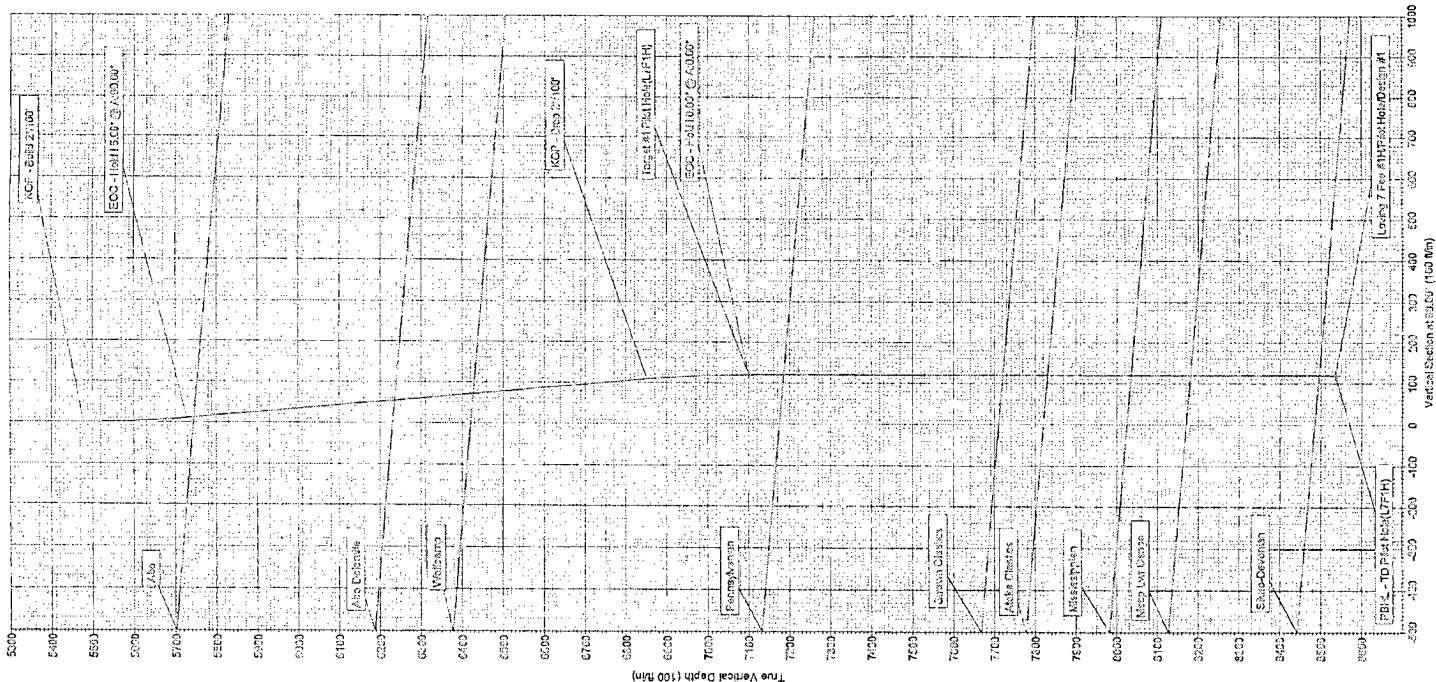
WELLCORE TARGET DETAILS (MAP COORDINATES AND LAT/LONG)									
Name	MD	Is	Asl	TWD	41-S	41-W	41-N	41-E	Target
Target #1 Platform (L77H)	5478.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target #1 Platform (L77H)
Target #2 Platform (L77H)	5478.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target #2 Platform (L77H)

ADDITIONAL DATA									
TWD	MD	Is	Asl	TWD	41-S	41-W	41-N	41-E	Target
5478.23	5478.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target #1 Platform (L77H)
5478.23	5478.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target #2 Platform (L77H)
5478.23	5478.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target #1 Platform (L77H)
5478.23	5478.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target #2 Platform (L77H)

WELL DETAILS - Leving 7 Fee #1H									
Well Name	MD	Is	Asl	TWD	41-S	41-W	41-N	41-E	Target
Leving 7 Fee #1H	5478.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target #1 Platform (L77H)
Wellbore	MD	Is	Asl	TWD	41-S	41-W	41-N	41-E	Target
Leving 7 Fee #1H	5478.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target #1 Platform (L77H)

PROJECT DETAILS - Chavez Co. New Mexico (N4433)									
Well Name	MD	Is	Asl	TWD	41-S	41-W	41-N	41-E	Target
Leving 7 Fee #1H	5478.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target #1 Platform (L77H)
Wellbore	MD	Is	Asl	TWD	41-S	41-W	41-N	41-E	Target
Leving 7 Fee #1H	5478.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target #1 Platform (L77H)

WELL DETAILS - Leving 7 Fee #1H									
Well Name	MD	Is	Asl	TWD	41-S	41-W	41-N	41-E	Target
Leving 7 Fee #1H	5478.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target #1 Platform (L77H)
Wellbore	MD	Is	Asl	TWD	41-S	41-W	41-N	41-E	Target
Leving 7 Fee #1H	5478.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target #1 Platform (L77H)



Loving 7 Fee #1H_Plan #1 Pilot Hole_Report_08-06-10.txt

Devon Energy
Loving 7 Fee #1H - Design #1

Chaves Co, New Mexico (Nad-83)
Loving 7 Fee #1H

Measured Dogleg Depth Rate (ft) (°/100ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)
0.00	0.00	0.00	0.00	0.00 N	0 00 E	0.00
0.00						
5478.23	0.00	0.00	5478.23	0.00 N	0.00 E	0.00
0.00						
5500.00	0.44	90.00	5500.00	0.00 S	0.08 E	0.08
2.00						
5600.00	2.44	90.00	5599.96	0.00 S	2 59 E	2.59
2.00						
5700.00	4.44	90.00	5699.78	0.00 S	8 58 E	8.58
2.00						
5728.23	5.00	90.00	5727.92	0.00 S	10.90 E	10.90
2.00						
5800.00	5 00	90 00	5799.41	0.00 S	17.16 E	17.16
0.00						
5900.00	5.00	90.00	5899.03	0.00 S	25.87 E	25.87
0.00						
6000.00	5.00	90.00	5998 65	0.00 S	34 59 E	34.59
0.00						
6100.00	5.00	90.00	6098.27	0.00 S	43.30 E	43.30
0.00						
6200.00	5.00	90.00	6197.89	0.00 S	52.02 E	52.02
0.00						
6300.00	5 00	90.00	6297.51	0 00 S	60.73 E	60.73
0.00						
6400.00	5.00	90.00	6397.13	0.00 S	69.45 E	69.45
0.00						
6500 00	5.00	90.00	6496.75	0.00 S	78.17 E	78.17
0.00						
6600.00	5.00	90.00	6596.37	0.00 S	86 88 E	86.88
0.00						
6700.00	5.00	90.00	6695.98	0.00 S	95.60 E	95.60
0.00						
6800 00	5.00	90.00	6795.60	0.00 S	104.31 E	104.31
0.00						
6854.92	5.00	90.00	6850.32	0.00 S	109.10 E	109.10
0.00						
6900.00	4.10	90.00	6895.25	0.00 S	112.67 E	112 67
2.00						
7000.00	2.10	90.00	6995.10	0.00 S	118.08 E	118.08
2.00						
7100.00	0.10	90.00	7095.08	0.00 S	120.00 E	120.00
2.00						
7104.92	0 00	0.00	7100.00	0.00 S	120.00 E	120.00
2.00						
8539.92	0.00	0.00	8535.00	0.00 S	120.00 E	120.00
0.00						

All data are in feet unless otherwise stated. Directions and coordinates are relative to True North.

Loving 7 Fee #1H_Plan #1 Pilot Hole_Report_08-06-10.txt

Vertical depths are relative to WELL. Northings and Eastings are relative to Site.

The Dogleg Severity is in Degrees per 100 feet.

Vertical Section is from slot and calculated along an Azimuth of 90.000° (True).

Coordinate System is North American Datum 1983 US State Plane 1983, New Mexico Eastern Zone.

Central meridian is -104.333°.

Grid Convergence at Surface is 0.129°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 8539.92ft., the Bottom Hole Displacement is 120 00ft., in the Direction of 90.000° (True).