



Devon Energy

Chaves Co, New Mexico (Nad-83)

Loving 7 Fee #1H

Loving 7 Fee #1H

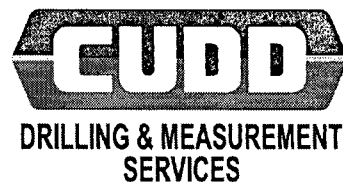
#14570

Lateral #1

Plan: Design #2

Standard Survey Report

06 August, 2010





CUDD Drilling & Measurement Services

Survey Report



Company:	Devon Energy	Local Co-ordinate Reference:	Site Loving 7 Fee #1H
Project:	Chaves Co, New Mexico (Nad-83)	TVD Reference:	WELL @ 3899.00ft (Original Well Elev)
Site:	Loving 7 Fee #1H	MD Reference:	WELL @ 3899.00ft (Original Well Elev)
Well:	Loving 7 Fee #1H	North Reference:	True
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #2	Database:	EDM 2003.21 Single User Db

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

Site	Loving 7 Fee #1H, Sec 7, T-10S, R-29E		
Site Position:		Northing:	874,061.55 ft
From:	Lat/Long	Easting:	612,799.85 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	33° 24' 9.000 N
		Longitude:	104° 5' 57.000 W
		Grid Convergence:	0.13 °

Well	Loving 7 Fee #1H		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	3,899.00 ft
		Latitude:	33° 24' 9.000 N
		Longitude:	104° 5' 57.000 W
		Ground Level:	3,880.00 ft

Wellbore	Lateral #1		
Magnetics	Model Name	Sample Date	Declination
	IGRF200510	06/16/10	8.03
			Dip Angle
			61.22
			Field Strength
			49,393

Design	Design #2		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			7,200.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction
			90.00

Survey Tool Program	Date: 08/06/10		
From	To	Survey (Wellbore)	Tool Name
(ft)	(ft)		
7,200.00	7,400.00	Design #2 (Lateral #1)	CUDD MWD
7,400.00	11,156.52	Design #2 (Lateral #1)	CUDD MWD
			Description
			MWD - Standard CUDD MWD
			MWD - Standard CUDD MWD

Planned Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Rate
(ft)			(ft)			(ft)	(°/100ft)	(°/100ft)	(°/100ft)
7,200.00	0.00	0.00	7,195.08	0.00	120.00	120.00	0.00	0.00	0.00
7,559.50	0.00	0.00	7,554.58	0.00	120.00	120.00	0.00	0.00	0.00
KOP - Build 10°/100'									
8,181.74	62.22	90.00	8,061.52	0.00	425.95	425.95	10.00	10.00	0.00
Mississippian									
8,410.50	85.10	90.00	8,125.44	0.00	644.02	644.02	10.00	10.00	0.00
EOC - Hold 1:85.1° @ A:90.00°									
11,156.52	85.10	90.00	8,360.00	0.00	3,380.00	3,380.00	0.00	0.00	0.00
PBHL - TD(L7F#1H)									

Company: Devon Energy
Project: Chaves Co, New Mexico (Nad-83)
Site: Loving 7 Fee #1H
Well: Loving 7 Fee #1H
Wellbore: Lateral #1
Design: Design #2

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

Design Targets

Target Name

- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
PBHL - TD(L7F#1H)	0.00	0.00	8,360.00	0.00	3,380.00	874,069.15	616,179.84	33° 24' 8.998 N	104° 5' 17.128 W
- plan hits target center									
- Point									

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	5,745.00	Abo		4.90	90.00
	6,230.00	Abo Dolomite		4.90	90.00
	6,420.00	Wolfcamp		4.90	90.00
	7,175.00	Pennsylvanian		4.90	90.00
8,181.74	8,025.00	Mississippian		4.90	90.00
	8,170.00	Mississippian Lower Osage		4.90	90.00
	8,485.00	Siluro-Devonian		4.90	90.00

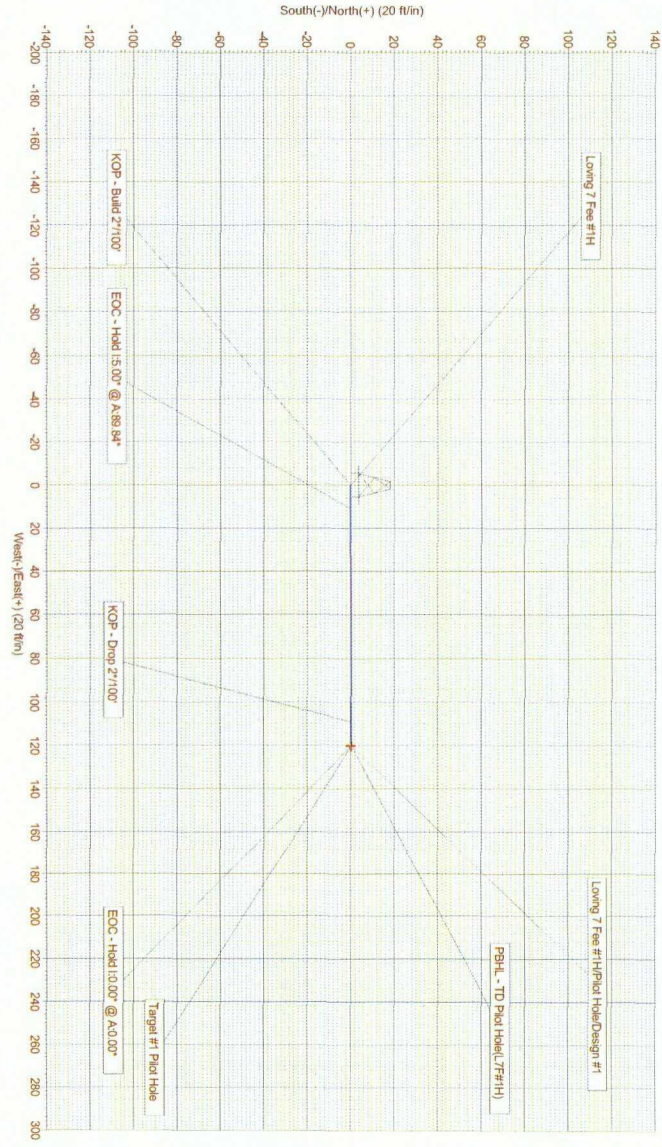
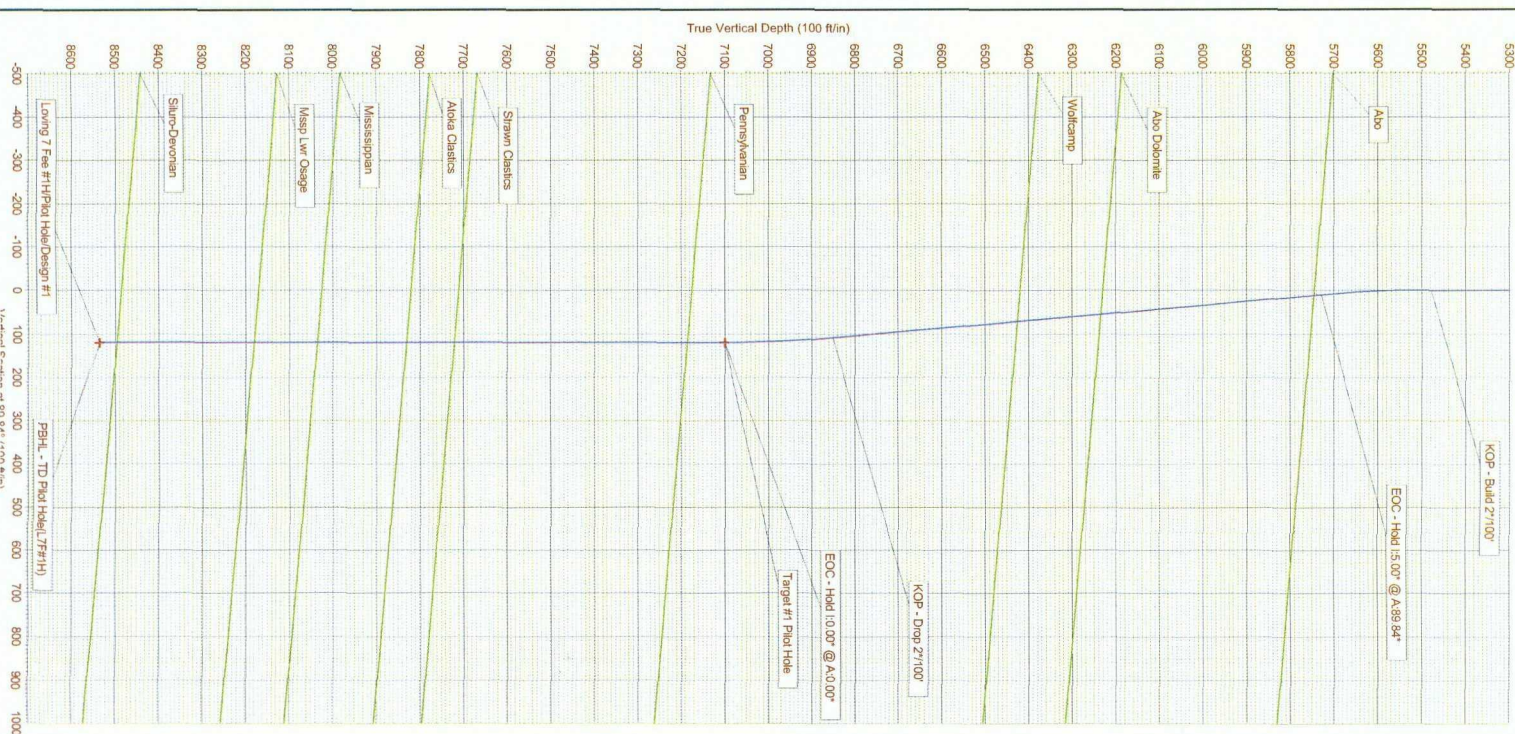
Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
7,559.50	7,554.58	0.00	120.00	KOP - Build 10°/100'
8,410.50	8,125.44	0.00	644.02	EOC - Hold 1:85.1° @ A:90.00°

Checked By: _____ Approved By: _____ Date: _____



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



SECTION DETAILS									
Sec	MD	Inc	As	TVD	+N-S	+E-W	Dlog	Trace	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5478.23	5.00	0.00	5478.23	0.00	0.00	0.00	0.00	0.00
3	5728.23	5.00	89.84	5728.23	0.03	10.90	2.00	89.84	10.90
4	5958.32	5.00	89.84	5958.32	0.30	120.00	2.00	89.84	120.00
5	6850.32	5.00	89.84	6850.32	0.34	120.00	2.00	89.84	120.00
6	8538.82	0.00	0.00	8538.82	0.34	120.00	0.00	0.00	120.00

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)									
Name	TD	+N-S	+E-W	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing
Target #1 Pilot Hole	7100.00	0.34	120.00	895440.85	639667.60	33° 27' 39.907" N	104° 11' 14.691" W	Point	Point

WELL DETAILS: Loving 7 Fee #1H									
ANNOTATIONS									
TVD	MD	Annotation							
5478.23	5478.23	KOP - Build 27'100'							
5728.23	5728.23	EOC - Hdd 15.00' @ A89.84'							
6850.32	6850.32	KOP - Drop 27'100'							
7100.00	7100.00	EOC - Hdd 10.00' @ A0.00'							

WELL DETAILS: Loving 7 Fee #1H									
Ground Level									
3890.00									
WELL @ 3899.00ft (Original Well Elev)									
+N-S	+E-W	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing
0.00	0.00	895440.85	639667.60	33° 27' 39.907" N	104° 11' 14.691" W	Point	Point	Point	Point

PROJECT DETAILS: Craves Co, New Mexico (Nad-83)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Zone: Zone 10N
System Datum: Mean Sea Level

Plan Design #1 (Loving 7 Fee #1H Pilot Hole)

Created By: Mike Stanley
Checked: _____
Reviewed: _____
Approved: _____

Date: 10/26/2010
Date: _____
Date: _____

Azimuths to Grid North
True North: 0.17°
Magnetic North: 7.80°

Magnetic Field
Strength: 48.416 Gauss
Date: 05/24/2010
Model: GRSF200510

Loving 7 Fee #1H_Plan #1 Pilot Hole_Report_08-24-10.txt

Devon Energy

Loving 7 Fee #1H - Design #1

Chaves Co, New Mexico (Nad-83)

Loving 7 Fee #1H

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
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	89.84	5500.00	0.00 N	0.08 E	0.08	2.00
5600.00	2.44	89.84	5599.96	0.01 N	2.59 E	2.59	2.00
5700.00	4.44	89.84	5699.78	0.02 N	8.58 E	8.58	2.00
5728.23	5.00	89.84	5727.92	0.03 N	10.90 E	10.90	2.00
5800.00	5.00	89.84	5799.41	0.05 N	17.16 E	17.16	0.00
5900.00	5.00	89.84	5899.03	0.07 N	25.87 E	25.87	0.00
6000.00	5.00	89.84	5998.65	0.10 N	34.59 E	34.59	0.00
6100.00	5.00	89.84	6098.27	0.12 N	43.30 E	43.30	0.00
6200.00	5.00	89.84	6197.89	0.15 N	52.02 E	52.02	0.00
6300.00	5.00	89.84	6297.51	0.17 N	60.73 E	60.73	0.00
6400.00	5.00	89.84	6397.13	0.19 N	69.45 E	69.45	0.00
6500.00	5.00	89.84	6496.75	0.22 N	78.16 E	78.17	0.00
6600.00	5.00	89.84	6596.37	0.24 N	86.88 E	86.88	0.00
6700.00	5.00	89.84	6695.98	0.27 N	95.60 E	95.60	0.00
6800.00	5.00	89.84	6795.60	0.29 N	104.31 E	104.31	0.00
6854.92	5.00	89.84	6850.32	0.30 N	109.10 E	109.10	0.00
6900.00	4.10	89.84	6895.25	0.31 N	112.67 E	112.67	2.00
7000.00	2.10	89.84	6995.10	0.33 N	118.08 E	118.08	2.00
7100.00	0.10	89.84	7095.08	0.34 N	120.00 E	120.00	2.00
7104.92	0.00	0.00	7100.00	0.34 N	120.00 E	120.00	2.00
8539.92	0.00	0.00	8535.00	0.34 N	120.00 E	120.00	0.00

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

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 89.840° (Grid).

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 0.172°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 8539.92ft., the Bottom Hole Displacement is 120.00ft., in the Direction of 89.840° (Grid).