

30 015 40572

Mewbourne Oil Co

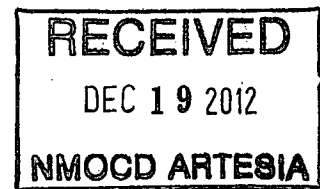
Eddy County, New Mexico

Sec 2-T19S-R29E

Zircon 2 EH State Com #1H

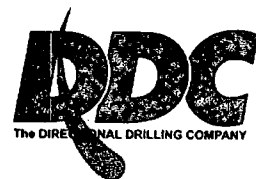
Wellbore #1

Survey: MWD



DDC Survey Report

01 November, 2012



DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Zircon 2 EH State Com #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3423.0usft (Patterson UTI #46)
Site:	Sec 2-T19S-R29E	MD Reference:	WELL @ 3423.0usft (Patterson UTI #46)
Well:	Zircon 2 EH State Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project:	Eddy County, New Mexico		
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:		Sec 2-T19S-R29E			
Site Position:		Northing:	615,349.41 usft	Latitude:	32° 41' 28.972 N
From:	Map	Easting:	586,232.29 usft	Longitude:	104° 3' 10.932 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.15 °

Well:	Zircon 2 EH State Com #1H
Well Position	+N/-S 0.0 usft Northing: 615,349.41 usft Latitude: 32° 41' 28.972 N
	+E/-W 0.0 usft Easting: 586,232.29 usft Longitude: 104° 3' 10.932 W
Position Uncertainty	0.0 usft Wellhead Elevation: usft Ground Level: 3,403.0 usft

Wellbore:	Wellbore #1
Magnetics	Model Name Sample Date Declination Dip Angle Field Strength
	IGRF2010 10/19/2012 (°) (°) (nT)
	7.68 60.50 48,710

Design:	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0

Vertical Section:	Depth From (TVD) +N/-S +E/-W Direction
	(usft) (usft) (usft) (°)
	0.0 0.0 0.0 0.00

Survey Program	Date 11/1/2012
From To	Survey (Wellbore) Tool Name Description
(usft) (usft)	
100.0 7,200.0	GYRO (Wellbore #1) Good_gyro Good Gyro
7,397.0 12,520.0	MWD (Wellbore #1) MWD default MWD - Standard

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
TIE IN @ 7200' MD / 7199' TVD									
7,200.0	1.30	72.00	7,198.8	69.7	-7.5	69.7	0.00	0.00	0.00
7,397.0	1.80	66.10	7,395.7	71.6	-2.5	71.6	0.27	0.25	-2.99
7,429.0	1.80	56.60	7,427.7	72.1	-1.6	72.1	0.93	0.00	-29.69
7,460.0	2.00	66.40	7,458.7	72.6	-0.7	72.6	1.23	0.65	31.61
7,492.0	3.00	74.60	7,490.6	73.1	0.6	73.1	3.31	3.13	25.63
7,524.0	8.00	83.10	7,522.5	73.5	3.6	73.5	15.79	15.63	26.56
7,556.0	12.80	83.40	7,553.9	74.2	9.4	74.2	15.00	15.00	0.94
7,587.0	16.60	84.10	7,583.9	75.1	17.2	75.1	12.27	12.26	2.26
7,619.0	20.10	86.30	7,614.3	75.9	27.2	75.9	11.15	10.94	6.88

DDC Survey Report



Company:	Mewbourne Oil Co.	Local Co-ordinate Reference:	Well Zircon 2 EH State Com #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3423.0usft (Patterson UTI #46)
Site:	Sec 2-T19S-R29E	MD Reference:	WELL @ 3423.0usft (Patterson UTI #46)
Well:	Zircon 2 EH State Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,651.0	23.90	88.40	7,644.0	76.4	39.2	76.4	12.12	11.88	6.56
7,682.0	27.00	89.60	7,671.9	76.7	52.5	76.7	10.14	10.00	3.87
7,714.0	30.00	90.10	7,700.1	76.7	67.8	76.7	9.40	9.38	1.56
7,746.0	33.50	89.90	7,727.3	76.7	84.6	76.7	10.94	10.94	-0.63
7,777.0	35.80	89.60	7,752.8	76.8	102.2	76.8	7.44	7.42	-0.97
7,809.0	40.00	88.70	7,778.0	77.1	121.9	77.1	13.24	13.13	-2.81
7,841.0	44.10	89.20	7,801.8	77.5	143.3	77.5	12.86	12.81	1.56
CROSSED HARD LINE @ 7859' MD / 7815' TVD									
7,859.3	46.58	89.56	7,814.6	77.6	156.3	77.6	13.62	13.55	1.99
7,872.0	48.30	89.80	7,823.2	77.7	165.7	77.7	13.62	13.55	1.86
7,904.0	51.70	90.80	7,843.8	77.5	190.2	77.5	10.89	10.63	3.13
7,936.0	55.40	92.70	7,862.8	76.7	215.9	76.7	12.51	11.56	5.94
7,967.0	58.50	93.20	7,879.7	75.4	241.8	75.4	10.09	10.00	1.61
7,999.0	61.40	92.90	7,895.7	73.9	269.5	73.9	9.10	9.06	-0.94
8,031.0	64.80	92.30	7,910.2	72.6	298.0	72.6	10.76	10.63	-1.88
8,062.0	68.10	91.70	7,922.6	71.6	326.4	71.6	10.79	10.65	-1.94
8,094.0	71.90	92.10	7,933.5	70.6	356.5	70.6	11.93	11.88	1.25
8,126.0	75.70	92.60	7,942.5	69.4	387.1	69.4	11.97	11.88	1.56
8,157.0	79.10	92.30	7,949.2	68.1	417.4	68.1	11.01	10.97	-0.97
8,184.0	82.30	92.30	7,953.6	67.0	444.0	67.0	11.85	11.85	0.00
8,259.0	87.80	91.70	7,960.0	64.4	518.6	64.4	7.38	7.33	-0.80
8,291.0	87.60	90.90	7,961.3	63.7	550.6	63.7	2.57	-0.63	-2.50
8,323.0	87.50	90.60	7,962.7	63.3	582.6	63.3	0.99	-0.31	-0.94
8,354.0	87.70	90.20	7,964.0	63.0	613.5	63.0	1.44	0.65	-1.29
8,386.0	87.60	89.90	7,965.3	63.0	645.5	63.0	0.99	-0.31	-0.94
8,417.0	87.70	89.70	7,966.6	63.1	676.5	63.1	0.72	0.32	-0.65
8,449.0	88.30	90.10	7,967.7	63.2	708.5	63.2	2.25	1.88	1.25
8,480.0	88.60	90.20	7,968.5	63.1	739.5	63.1	1.02	0.97	0.32
8,512.0	88.80	90.00	7,969.3	63.0	771.4	63.0	0.88	0.63	-0.63
8,544.0	88.90	89.70	7,969.9	63.1	803.4	63.1	0.99	0.31	-0.94
8,575.0	89.20	89.30	7,970.4	63.4	834.4	63.4	1.61	0.97	-1.29
8,606.0	88.80	90.50	7,971.0	63.4	865.4	63.4	4.08	-1.29	3.87
8,638.0	89.00	90.40	7,971.6	63.2	897.4	63.2	0.70	0.63	-0.31
8,670.0	88.50	90.90	7,972.3	62.8	929.4	62.8	2.21	-1.56	1.56
8,701.0	89.10	91.80	7,972.9	62.1	960.4	62.1	3.49	1.94	2.90
8,733.0	88.40	93.30	7,973.6	60.7	992.4	60.7	5.17	-2.19	4.69
8,764.0	88.10	93.30	7,974.6	58.9	1,023.3	58.9	0.97	-0.97	0.00
8,796.0	86.70	92.60	7,976.0	57.3	1,055.2	57.3	4.89	-4.38	-2.19
8,859.0	87.70	92.60	7,979.1	54.4	1,118.1	54.4	1.59	1.59	0.00
8,923.0	88.50	92.60	7,981.2	51.5	1,182.0	51.5	1.25	1.25	0.00
8,986.0	87.20	92.30	7,983.6	48.8	1,244.9	48.8	2.12	-2.06	-0.48
9,049.0	86.90	92.30	7,986.8	46.3	1,307.7	46.3	0.48	-0.48	0.00
9,112.0	87.20	92.00	7,990.1	43.9	1,370.6	43.9	0.67	0.48	-0.48

DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Zircon 2-EH State Com #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3423.0usft (Patterson UTI #46)
Site:	Sec 2-T19S-R29E	MD Reference:	WELL @ 3423.0usft (Patterson UTI #46)
Well:	Zircon 2-EH State Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
9,176.0	87.30	91.60	7,993.1	41.9	1,434.5	41.9	0.64	0.16	-0.63	
9,239.0	87.70	92.90	7,995.9	39.4	1,497.4	39.4	2.16	0.63	2.06	
9,302.0	87.80	91.90	7,998.4	36.8	1,560.3	36.8	1.59	0.16	-1.59	
9,365.0	87.70	91.80	8,000.8	34.8	1,623.2	34.8	0.22	-0.16	-0.16	
9,429.0	88.50	91.00	8,003.0	33.2	1,687.2	33.2	1.77	1.25	-1.25	
9,492.0	88.00	89.10	8,004.9	33.2	1,750.1	33.2	3.12	-0.79	-3.02	
9,555.0	89.40	88.70	8,006.3	34.4	1,813.1	34.4	2.31	2.22	-0.63	
9,617.0	89.30	88.30	8,007.0	36.0	1,875.1	36.0	0.66	-0.16	-0.65	
9,681.0	89.20	88.70	8,007.8	37.7	1,939.0	37.7	0.64	-0.16	0.63	
9,744.0	89.60	88.70	8,008.5	39.1	2,002.0	39.1	0.63	0.63	0.00	
9,807.0	89.40	88.00	8,009.1	40.9	2,065.0	40.9	1.16	-0.32	-1.11	
9,870.0	88.50	87.90	8,010.2	43.2	2,127.9	43.2	1.44	-1.43	-0.16	
9,933.0	88.00	88.60	8,012.1	45.1	2,190.9	45.1	1.37	-0.79	1.11	
9,996.0	86.70	89.80	8,015.0	46.0	2,253.8	46.0	2.81	-2.06	1.90	
10,059.0	86.50	90.50	8,018.8	45.8	2,316.7	45.8	1.15	-0.32	1.11	
10,122.0	87.50	90.80	8,022.1	45.1	2,379.6	45.1	1.66	1.59	0.48	
10,186.0	88.90	91.10	8,024.1	44.0	2,443.6	44.0	2.24	2.19	0.47	
10,249.0	89.30	91.20	8,025.1	42.8	2,506.5	42.8	0.65	0.63	0.16	
10,313.0	89.00	90.20	8,026.0	42.0	2,570.5	42.0	1.63	-0.47	-1.56	
10,376.0	89.80	90.90	8,026.7	41.4	2,633.5	41.4	1.69	1.27	1.11	
10,439.0	89.60	92.40	8,027.0	39.6	2,696.5	39.6	2.40	-0.32	2.38	
10,503.0	89.20	91.40	8,027.7	37.4	2,760.4	37.4	1.68	-0.63	-1.56	
10,566.0	89.10	90.00	8,028.6	36.7	2,823.4	36.7	2.23	-0.16	-2.22	
10,598.0	89.20	89.50	8,029.1	36.8	2,855.4	36.8	1.59	0.31	-1.56	
10,630.0	89.00	90.90	8,029.6	36.7	2,887.4	36.7	4.42	-0.63	4.38	
10,662.0	87.50	91.20	8,030.6	36.1	2,919.4	36.1	4.78	-4.69	0.94	
10,693.0	87.40	92.30	8,032.0	35.2	2,950.4	35.2	3.56	-0.32	3.55	
10,725.0	87.40	92.60	8,033.4	33.8	2,982.3	33.8	0.94	0.00	0.94	
10,756.0	88.10	93.20	8,034.6	32.2	3,013.2	32.2	2.97	2.26	1.94	
10,820.0	87.80	92.30	8,036.9	29.2	3,077.1	29.2	1.48	-0.47	-1.41	
10,883.0	88.00	93.10	8,039.2	26.2	3,140.0	26.2	1.31	0.32	1.27	
10,947.0	87.60	92.80	8,041.7	22.9	3,203.9	22.9	0.78	-0.63	-0.47	
11,010.0	87.90	91.80	8,044.2	20.4	3,266.8	20.4	1.66	0.48	-1.59	
11,074.0	88.10	92.20	8,046.4	18.1	3,330.7	18.1	0.70	0.31	0.63	
11,136.0	88.30	91.70	8,048.3	16.0	3,392.6	16.0	0.87	0.32	-0.81	
11,200.0	89.00	91.80	8,049.8	14.1	3,456.6	14.1	1.10	1.09	0.16	
11,264.0	90.20	90.90	8,050.3	12.6	3,520.6	12.6	2.34	1.88	-1.41	
11,327.0	90.50	90.70	8,049.9	11.7	3,583.6	11.7	0.57	0.48	-0.32	
11,390.0	90.20	90.80	8,049.5	10.9	3,646.5	10.9	0.50	-0.48	0.16	
11,453.0	89.90	91.60	8,049.5	9.6	3,709.5	9.6	1.36	-0.48	1.27	
11,517.0	88.50	92.60	8,050.4	7.2	3,773.5	7.2	2.69	-2.19	1.56	
11,580.0	88.30	92.30	8,052.1	4.5	3,836.4	4.5	0.57	-0.32	-0.48	
11,643.0	87.90	90.70	8,054.2	2.9	3,899.3	2.9	2.62	-0.63	-2.54	
11,706.0	88.50	90.40	8,056.2	2.3	3,962.3	2.3	1.06	0.95	-0.48	

DDC Survey Report



Company: Mewbourne Oil Co
Project: Eddy County, New Mexico
Site: Sec 2-T19S-R29E
Well: Zircon 2 EH State Com #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Zircon 2 EH State Com #1H
TVD Reference: WELL @ 3423.0usft (Patterson UTI #46)
MD Reference: WELL @ 3423.0usft (Patterson UTI #46)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,770.0	88.30	89.60	8,058.0	2.3	4,026.3	2.3	1.29	-0.31	-1.25
11,834.0	88.10	88.40	8,060.0	3.4	4,090.2	3.4	1.90	-0.31	-1.88
11,897.0	88.10	88.90	8,062.1	4.9	4,153.2	4.9	0.79	0.00	0.79
11,960.0	87.50	88.20	8,064.5	6.5	4,216.1	6.5	1.46	-0.95	-1.11
12,024.0	87.50	88.60	8,067.3	8.2	4,280.0	8.2	0.62	0.00	0.63
12,087.0	88.80	88.80	8,069.3	9.7	4,343.0	9.7	2.09	2.06	0.32
12,151.0	88.80	88.20	8,070.7	11.3	4,406.9	11.3	0.94	0.00	-0.94
12,214.0	88.90	87.30	8,071.9	13.8	4,469.9	13.8	1.44	0.16	-1.43
12,278.0	88.90	86.40	8,073.2	17.3	4,533.8	17.3	1.41	0.00	-1.41
12,341.0	88.40	85.50	8,074.6	21.8	4,596.6	21.8	1.63	-0.79	-1.43
12,405.0	88.30	85.10	8,076.5	27.0	4,660.4	27.0	0.64	-0.16	-0.63
12,468.0	88.60	84.60	8,078.2	32.7	4,723.1	32.7	0.93	0.48	-0.79
TD @ 12520' MD / 8080' TVD									
12,520.0	88.60	84.60	8,079.5	37.6	4,774.8	37.6	0.00	0.00	0.00

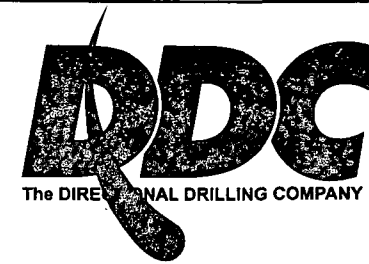
Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
7,200.0	7,198.8	69.7	-7.5	TIE IN @ 7200' MD / 7199' TVD
7,859.3	7,814.6	77.6	156.3	CROSSED HARD LINE @ 7859' MD / 7815' TVD
12,520.0	8,079.5	37.6	4,774.8	TD @ 12520' MD / 8080' TVD

Checked By: _____ Approved By: _____ Date: _____

Company Name: Mewbourne Oil Co
Zircon 2 EH State Com #1H
Eddy County, New Mexico
Rig: Patterson UTI #46
Created By: Dina Chance
Date: 11/2/2012

Zircon 2 EH State Com #1H
Eddy County, New Mexico
Q120598 & WT-12785
Design #2



Mewbourne Oil Company

PROJECT DETAILS: Eddy County, New Mexico

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

WELL DETAILS: Zircon 2 EH State Com #1H

Ground Level: 3403.0
Northing: 616348.41
Eastings: 666232.29
Latitude: 32° 41' 28.972 N
Longitude: 104° 3' 10.932 W

T G M Azimuths to Grid North
Magnetic North: 7.53°

Magnetic Field
Strength: 48710.0snT
Dip Angle: 60.50°
Date: 10/19/2012
Model: IGRF2010

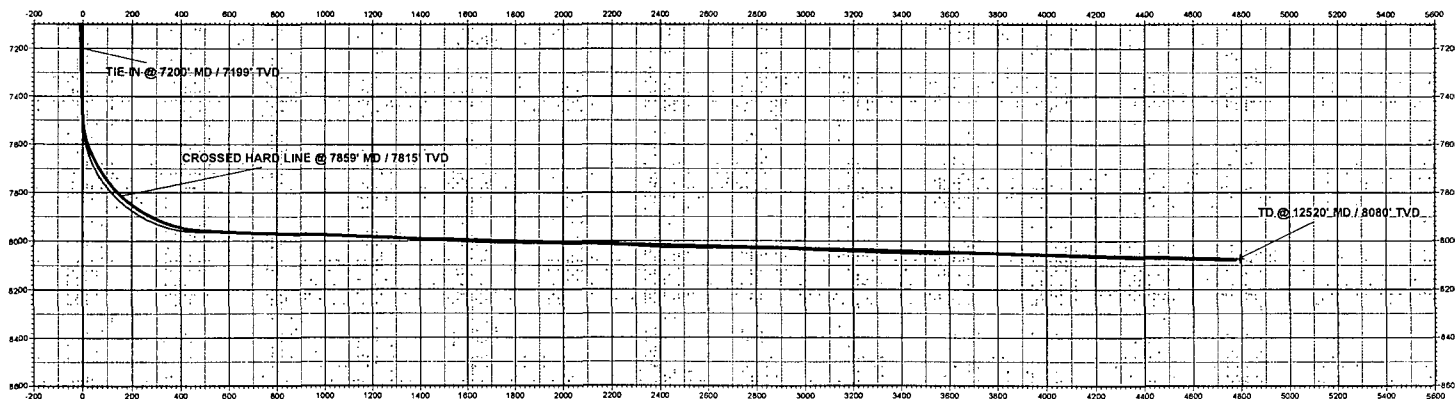
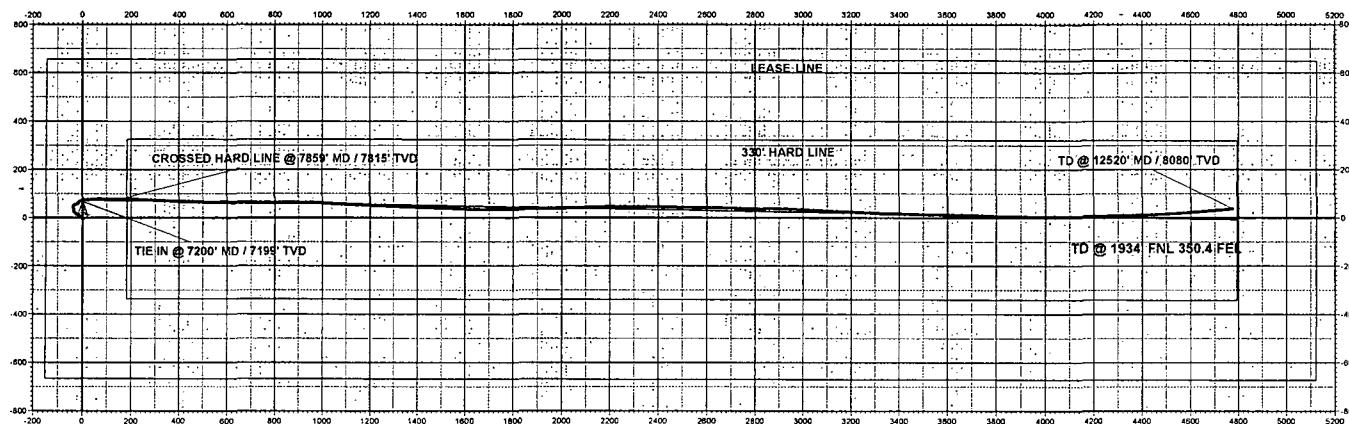
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Eastings	Latitude	Longitude
PBHL Zircon 2 EH State Com #1H	8073.0	-8.1	4794.1	615341.27	591026.39	32° 41' 28.763 N	104° 2' 14.834 W

- plan hits target center

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
7200.0	1.30	72.00	7198.8	69.7	-7.6	69.7	124.6	TIE IN @ 7200' MD / 7199' TVD
7859.3	46.68	89.56	7814.6	77.6	156.3	77.6	289.4	CROSSED HARD LINE @ 7859' MD / 7815' TVD
12520.0	88.60	84.60	8079.5	37.6	4774.8	37.6	4910.7	TD @ 12520' MD / 8080' TVD



Vertical Section at 90.10° (200 usf/in)