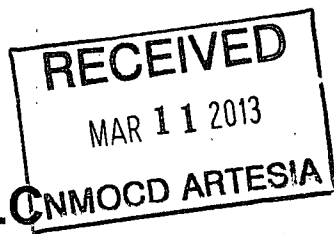


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JAN 03 2012



NADEL & GUSSMAN LLC

Glorieta Yeso
Eddy County, NM
Long Branch #2
VH - Job #32K11111081

Survey: Gyro

SDI Standard Survey Report

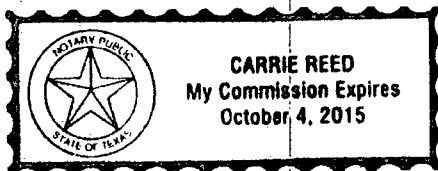
This survey is correct to the best of my knowledge and is supported by actual field data.

[Signature]

Notarized this date 12th of December, 2011.

[Signature]

Notary Signature
County of Midland
State of Texas



Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	NADEL & GUSSMAN LLC	Local Co-ordinate Reference:	Well Long Branch #2
Project:	Glorieta Yeso	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Long Branch #2	North Reference:	Grid
Wellbore:	VH - Job #32K11111081	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K11111081	Database:	EDM-Regulatory

Project:	Glorieta Yeso	System Datum:	Mean Sea Level
Map System:	US State Plane 1983		
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:	Eddy County, NM		
Site Position:		Northing:	611,673.51 usft
From:	Lat/Long	Easting:	514,004.31 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"
		Latitude:	32° 40' 53.412 N
		Longitude:	104° 25' 19.818 W
		Grid Convergence:	-0.05 °

Well	Long Branch #2, Directional (DDC)					
Well Position	+N/-S	0.0 usft	Northing:	611,673.51 usft	Latitude:	32° 40' 53.412 N
	+E/-W	0.0 usft	Easting:	514,004.31 usft	Longitude:	104° 25' 19.818 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	0.0 usft	

Wellbore	VH - Job #32K11111081				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/5/2011	7.96	60.45	48,782

Design:	VH - Job #32K11111081				
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	292.42	

Survey Program	Date	12/30/2011		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
80.2	2,998.9	Gyro (VH - Job #32K11111081)	Keeper	Keeper Gyro

Survey								
Measured Depth	Inclination	Azimuth	True Vertical	North/South	East/West	Closure Azimuth	Closure Distance	
(usft)	(°)	(°)	Depth	(usft)	(usft)	(°)	(usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0	
80.2	0.38	341.13	80.2	0.3	-0.1	341.13	0.3	
179.5	0.40	355.20	179.5	0.9	-0.2	346.30	0.9	
281.8	0.46	341.49	281.8	1.7	-0.4	347.00	1.7	
384.1	0.67	335.52	384.1	2.6	-0.8	343.63	2.7	
486.4	0.48	332.44	486.4	3.5	-1.2	341.05	3.7	
588.6	0.43	308.96	588.6	4.1	-1.7	337.61	4.5	
682.9	0.39	333.54	682.9	4.6	-2.1	335.45	5.1	
778.2	0.49	308.39	778.2	5.2	-2.6	333.51	5.8	
873.5	0.38	320.30	873.5	5.7	-3.1	331.34	6.5	
969.8	0.37	343.46	969.8	6.2	-3.4	331.37	7.1	
1,063.1	0.33	20.03	1,063.1	6.8	-3.4	333.38	7.6	

Scientific Drilling International, Inc.
SDI Standard Survey Report

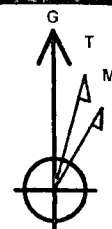


Company:	NADEL & GUSSMAN LLC	Local Co-ordinate Reference:	Well Long Branch #2
Project:	Glorieta Yeso	IVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Long Branch #2	North Reference:	Grid
Wellbore:	VH - Job #32K11111081	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K11111081	Database:	EDM-Regulatory

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,159.4	0.28	37.51	1,159.4	7.2	-3.2	336.39	7.9
1,254.7	0.25	45.38	1,254.7	7.5	-2.9	339.21	8.1
1,350.0	0.25	42.82	1,350.0	7.8	-2.6	341.83	8.3
1,445.2	0.04	102.16	1,445.2	8.0	-2.4	343.27	8.3
1,540.5	0.12	124.03	1,540.5	7.9	-2.3	343.91	8.2
1,635.8	0.15	167.96	1,635.8	7.7	-2.2	344.31	8.0
1,730.1	0.14	225.38	1,730.1	7.5	-2.2	343.51	7.9
1,825.4	0.14	239.74	1,825.4	7.4	-2.4	341.93	7.8
1,920.7	0.12	246.70	1,920.7	7.3	-2.6	340.35	7.8
2,016.0	0.01	62.45	2,016.0	7.3	-2.7	339.68	7.8
2,111.3	0.12	190.69	2,111.3	7.2	-2.7	339.36	7.7
2,206.6	0.34	190.90	2,206.6	6.8	-2.8	337.80	7.3
2,302.9	0.30	191.27	2,302.9	6.3	-2.9	335.35	6.9
2,399.2	0.39	212.64	2,399.2	5.8	-3.1	331.63	6.5
2,493.4	0.62	224.09	2,493.4	5.1	-3.6	324.61	6.3
2,587.7	0.81	244.47	2,587.6	4.5	-4.6	314.19	6.4
2,682.0	0.75	240.59	2,681.9	3.9	-5.7	304.05	6.9
2,777.3	0.79	265.68	2,777.2	3.5	-6.9	296.91	7.8
2,872.6	0.84	278.66	2,872.5	3.6	-8.3	293.35	9.0
2,967.9	0.71	293.28	2,967.8	3.9	-9.5	292.36	10.3
2,998.9	0.71	294.96	2,998.8	4.1	-9.9	292.42	10.7



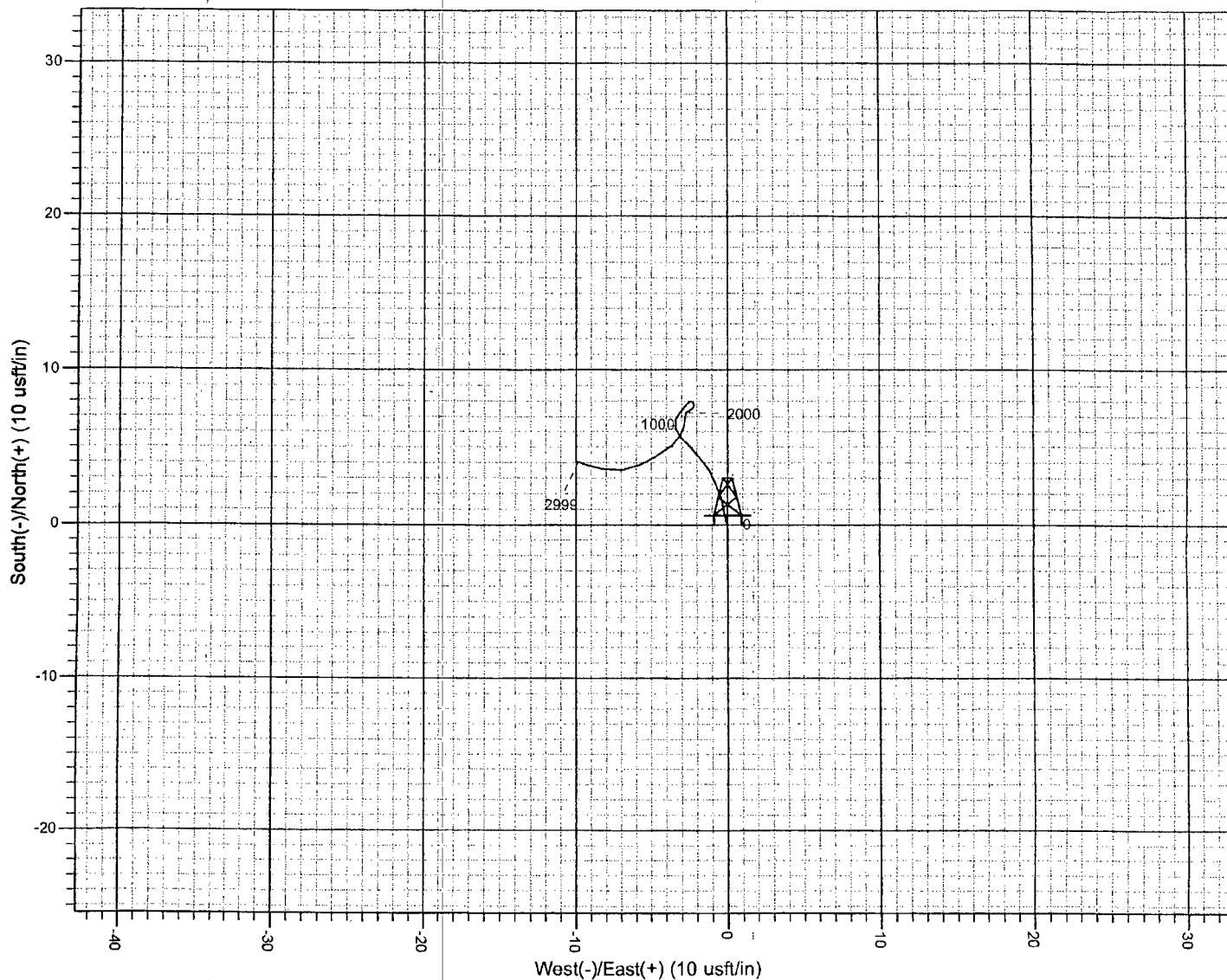
Project: Glorieta Yeso
 Eddy County, NM
 Well: Long Branch #2
 Wellbore: VH - Job #32K11111081
 Design: VH - Job #32K11111081



Azimuths to Grid North
 True North: 0.05°
 Magnetic North: 8.01°
 Magnetic Field
 Strength: 48782.3nT
 Dip Angle: 60.45°
 Date: 11/5/2011
 Model: IGRF2010

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	611673.51	514004.31	32° 40' 53.412 N	104° 25' 19.818 W	

WELL DETAILS: Long Branch #2
 WELL @ 0.0usft (Original Well Elev)
 Ground Level: 0.0



PROJECT DETAILS: Glorieta Yeso
 Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone
 System Datum: Mean Sea Level

SITE DETAILS: Eddy County, NM
 Site Centre Latitude: 32° 40' 53.412 N
 Longitude: 104° 25' 19.818 W
 Positional Uncertainty: 0.0
 Convergence: -0.05
 Local North: Grid

Nadel & Gussman Permian, LLC

Eddy County, NM (NAD-83)

Sec 7, T19S, R26E

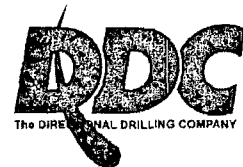
Long Branch #2H

Wellbore #1

Survey: MWD

DDC Survey Report

21 November, 2011



DDC Survey Report



Company: Nadel & Gussman Permian, LLC
Project: Eddy County, NM (NAD-83)
Site: Sec 7, T19S, R26E
Well: Long Branch #2H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Long Branch #2H
TVD Reference: WELL @ 3372.0usft (Patriot #1)
MD Reference: WELL @ 3372.0usft (Patriot #1)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Project	Eddy County, NM (NAD-83)	System Datum:	Mean Sea Level
Map System:	US State Plane 1983		
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Sec 7, T19S, R26E
Site Position:
From: Map
Position Uncertainty: 0.0 usft
Northing: 611,673.39 usft
Easting: 514,004.28 usft
Slot Radius: 13-3/16 "
Latitude: 32° 40' 53.411 N
Longitude: 104° 25' 19.818 W
Grid Convergence: -0.05 °

Well Long Branch #2H
Well Position +N/-S 0.0 usft
+E/-W 0.0 usft
Position Uncertainty 0.0 usft
Northing: 611,673.39 usft
Easting: 514,004.28 usft
Wellhead Elevation: usft
Latitude: 32° 40' 53.411 N
Longitude: 104° 25' 19.818 W
Ground Level: 3,372.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/20/2011	7.98	60.46	48,770

Design Wellbore #1
Audit Notes:
Version: 1.0
Phase: ACTUAL
Tie On Depth: 0.0
Vertical Section:
Depth From (TVD) (usft) 0.0
+N/-S (usft) 0.0
+E/-W (usft) 0.0
Direction (°) 179.87

Survey Program		Date	11/21/2011		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
80.2	2,016.0	GYRO (Wellbore #1)			
2,059.0	6,089.0	MWD (Wellbore #1)			

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 Into Gyro									
2,016.0	0.01	62.45	2,016.0	7.3	-2.7	-7.3	0.00	0.00	0.00
2,059.0	0.50	206.70	2,059.0	7.1	-2.8	-7.1	1.18	1.14	335.47
2,091.0	1.40	192.60	2,091.0	6.6	-2.9	-6.6	2.88	2.81	-44.06
2,123.0	4.00	181.10	2,122.9	5.1	-3.0	-5.1	8.26	8.13	-35.94
2,155.0	7.30	179.30	2,154.8	2.0	-3.0	-2.0	10.33	10.31	-5.63
Crossed Hard Line @ 2175' MD									
2,175.0	9.74	180.16	2,174.5	-1.0	-3.0	1.0	12.20	12.19	4.31
2,187.0	11.20	180.50	2,186.3	-3.2	-3.0	3.2	12.20	12.19	2.82

DDC Survey Report



Company: Nadel & Gussman Permian, LLC
Project: Eddy County, NM (NAD-83)
Site: Sec 7, T19S, R26E
Well: Long Branch #2H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Long Branch #2H
TVD Reference: WELL @ 3372.0usft (Patriot #1)
MD Reference: WELL @ 3372.0usft (Patriot #1)
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)
2,218.0	15.10	181.30	2,216.5	-10.2	-3.1	10.2	12.59	12.58	2.58
2,250.0	18.30	181.60	2,247.2	-19.4	-3.4	19.4	10.00	10.00	0.94
2,282.0	21.30	181.80	2,277.3	-30.3	-3.7	30.3	9.38	9.38	0.63
2,314.0	24.30	181.40	2,306.8	-42.7	-4.0	42.6	9.39	9.38	-1.25
2,346.0	27.00	180.20	2,335.6	-56.5	-4.2	56.5	8.59	8.44	-3.75
2,377.0	30.00	179.60	2,362.9	-71.3	-4.2	71.3	9.72	9.68	-1.94
2,409.0	32.80	179.80	2,390.2	-88.0	-4.1	88.0	8.76	8.75	0.63
2,441.0	35.60	180.20	2,416.6	-106.0	-4.1	105.9	8.78	8.75	1.25
2,472.0	38.50	180.40	2,441.4	-124.6	-4.2	124.6	9.36	9.35	0.65
2,504.0	41.20	180.70	2,465.9	-145.1	-4.4	145.1	8.46	8.44	0.94
2,536.0	43.70	180.60	2,489.5	-166.7	-4.7	166.7	7.82	7.81	-0.31
2,567.0	46.60	179.90	2,511.4	-188.7	-4.8	188.7	9.49	9.35	-2.26
2,599.0	50.20	178.30	2,532.6	-212.6	-4.4	212.6	11.85	11.25	-5.00
2,631.0	53.30	176.80	2,552.5	-237.7	-3.3	237.7	10.36	9.69	-4.69
2,663.0	56.20	176.30	2,570.9	-263.8	-1.7	263.8	9.15	9.06	-1.56
2,695.0	59.30	176.90	2,588.0	-290.8	-0.1	290.8	9.82	9.69	1.88
2,726.0	62.80	177.50	2,603.0	-317.9	1.2	317.9	11.42	11.29	1.94
2,758.0	66.60	178.30	2,616.7	-346.8	2.3	346.8	12.09	11.88	2.50
2,790.0	70.20	179.20	2,628.4	-376.6	2.9	376.6	11.55	11.25	2.81
2,822.0	73.40	179.90	2,638.4	-406.9	3.2	407.0	10.21	10.00	2.19
2,853.0	76.80	180.20	2,646.4	-436.9	3.1	436.9	11.01	10.97	0.97
2,950.0	86.20	180.90	2,660.7	-532.7	2.2	532.7	9.72	9.69	0.72
2,982.0	86.20	180.80	2,662.9	-564.6	1.7	564.7	0.31	0.00	-0.31
3,013.0	87.10	181.30	2,664.7	-595.6	1.2	595.6	3.32	2.90	1.61
3,045.0	89.20	181.50	2,665.7	-627.6	0.4	627.6	6.59	6.56	0.63
3,076.0	89.90	181.40	2,665.9	-658.6	-0.4	658.5	2.28	2.26	-0.32
3,108.0	90.20	181.60	2,665.9	-690.5	-1.2	690.5	1.13	0.94	0.63
3,140.0	90.30	182.10	2,665.8	-722.5	-2.3	722.5	1.59	0.31	1.56
3,172.0	90.10	180.40	2,665.7	-754.5	-3.0	754.5	5.35	-0.63	-5.31
3,203.0	90.10	179.20	2,665.6	-785.5	-2.9	785.5	3.87	0.00	-3.87
3,235.0	90.30	178.80	2,665.5	-817.5	-2.3	817.5	1.40	0.63	-1.25
3,266.0	90.30	179.10	2,665.3	-848.5	-1.7	848.5	0.97	0.00	0.97
3,298.0	90.40	179.00	2,665.1	-880.5	-1.2	880.5	0.44	0.31	-0.31
3,329.0	90.40	178.80	2,664.9	-911.5	-0.6	911.5	0.65	0.00	-0.65
3,360.0	90.60	178.50	2,664.7	-942.5	0.1	942.5	1.16	0.65	-0.97
3,392.0	90.40	178.30	2,664.4	-974.5	1.0	974.5	0.88	-0.63	-0.63
3,423.0	90.50	178.20	2,664.1	-1,005.5	2.0	1,005.5	0.46	0.32	-0.32
3,454.0	90.70	178.40	2,663.8	-1,036.4	2.9	1,036.4	0.91	0.65	0.65
3,486.0	90.70	179.40	2,663.4	-1,068.4	3.5	1,068.4	3.12	0.00	3.13
3,517.0	90.60	179.10	2,663.1	-1,099.4	3.9	1,099.4	1.02	-0.32	-0.97
3,549.0	89.90	179.00	2,662.9	-1,131.4	4.4	1,131.4	2.21	-2.19	-0.31
3,581.0	89.70	178.90	2,663.0	-1,163.4	5.0	1,163.4	0.70	-0.63	-0.31
3,612.0	90.20	179.70	2,663.1	-1,194.4	5.4	1,194.4	3.04	1.61	2.58

DDC Survey Report



Company: Nadel & Gussman Permian, LLC
Project: Eddy County, NM (NAD-83)
Site: Sec 7, T19S, R26E
Well: Long Branch #2H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Long Branch #2H
TVD Reference: WELL @ 3372.0usft (Patriot #1)
MD Reference: WELL @ 3372.0usft (Patriot #1)
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)
3,644.0	90.50	180.00	2,662.9	-1,226.4	5.5	1,226.4	1.33	0.94	0.94
3,675.0	90.70	180.00	2,662.5	-1,257.4	5.5	1,257.4	0.65	0.65	0.00
3,707.0	90.60	179.60	2,662.2	-1,289.4	5.6	1,289.4	1.29	-0.31	-1.25
3,739.0	90.20	179.90	2,662.0	-1,321.4	5.7	1,321.4	1.56	-1.25	0.94
3,770.0	90.10	179.80	2,661.9	-1,352.4	5.8	1,352.4	0.46	-0.32	-0.32
3,801.0	90.20	179.50	2,661.8	-1,383.4	6.0	1,383.4	1.02	0.32	-0.97
3,833.0	90.60	179.30	2,661.6	-1,415.4	6.3	1,415.4	1.40	1.25	-0.63
3,865.0	90.70	179.10	2,661.2	-1,447.4	6.8	1,447.4	0.70	0.31	-0.63
3,896.0	90.30	179.60	2,660.9	-1,478.4	7.1	1,478.4	2.07	-1.29	1.61
3,928.0	90.40	179.60	2,660.7	-1,510.4	7.4	1,510.4	0.31	0.31	0.00
3,960.0	90.40	179.40	2,660.5	-1,542.4	7.6	1,542.4	0.62	0.00	-0.63
3,991.0	90.20	179.00	2,660.4	-1,573.4	8.1	1,573.4	1.44	-0.65	-1.29
4,022.0	90.60	180.00	2,660.1	-1,604.4	8.3	1,604.4	3.47	1.29	3.23
4,054.0	91.60	180.80	2,659.5	-1,636.4	8.1	1,636.4	4.00	3.13	2.50
4,086.0	91.90	180.70	2,658.5	-1,668.4	7.7	1,668.4	0.99	0.94	-0.31
4,118.0	92.00	181.00	2,657.5	-1,700.3	7.2	1,700.3	0.99	0.31	0.94
4,149.0	91.70	180.60	2,656.5	-1,731.3	6.8	1,731.3	1.61	-0.97	-1.29
4,181.0	91.90	180.70	2,655.5	-1,763.3	6.4	1,763.3	0.70	0.63	0.31
4,212.0	91.80	180.40	2,654.5	-1,794.3	6.1	1,794.3	1.02	-0.32	-0.97
4,244.0	92.00	180.80	2,653.4	-1,826.3	5.8	1,826.3	1.40	0.63	1.25
4,275.0	91.90	180.60	2,652.3	-1,857.2	5.4	1,857.2	0.72	-0.32	-0.65
4,307.0	92.00	180.50	2,651.2	-1,889.2	5.1	1,889.2	0.44	0.31	-0.31
4,338.0	92.10	180.20	2,650.1	-1,920.2	4.9	1,920.2	1.02	0.32	-0.97
4,370.0	92.30	180.10	2,648.9	-1,952.2	4.8	1,952.2	0.70	0.63	-0.31
4,402.0	91.40	179.70	2,647.9	-1,984.2	4.9	1,984.2	3.08	-2.81	-1.25
4,433.0	91.20	179.80	2,647.2	-2,015.2	5.0	2,015.2	0.72	-0.65	0.32
4,465.0	91.20	179.40	2,646.5	-2,047.1	5.2	2,047.2	1.25	0.00	-1.25
4,496.0	91.30	179.40	2,645.8	-2,078.1	5.6	2,078.1	0.32	0.32	0.00
4,528.0	90.80	180.10	2,645.2	-2,110.1	5.7	2,110.1	2.69	-1.56	2.19
4,559.0	90.00	180.40	2,645.0	-2,141.1	5.6	2,141.1	2.76	-2.58	0.97
4,591.0	90.20	180.30	2,645.0	-2,173.1	5.4	2,173.1	0.70	0.63	-0.31
4,622.0	90.30	180.40	2,644.8	-2,204.1	5.2	2,204.1	0.46	0.32	0.32
4,654.0	90.30	180.30	2,644.7	-2,236.1	5.0	2,236.1	0.31	0.00	-0.31
4,685.0	90.50	180.30	2,644.4	-2,267.1	4.8	2,267.1	0.65	0.65	0.00
4,717.0	90.40	179.90	2,644.2	-2,299.1	4.8	2,299.1	1.29	-0.31	-1.25
4,748.0	90.60	180.00	2,643.9	-2,330.1	4.8	2,330.1	0.72	0.65	0.32
4,780.0	90.80	180.00	2,643.5	-2,362.1	4.8	2,362.1	0.63	0.63	0.00
4,811.0	89.70	179.80	2,643.4	-2,393.1	4.9	2,393.1	3.61	-3.55	-0.65
4,843.0	89.80	179.90	2,643.5	-2,425.1	4.9	2,425.1	0.44	0.31	0.31
4,875.0	89.80	179.40	2,643.7	-2,457.1	5.1	2,457.1	1.56	0.00	-1.56
4,906.0	90.10	179.30	2,643.7	-2,488.1	5.5	2,488.1	1.02	0.97	-0.32
4,938.0	90.20	179.20	2,643.6	-2,520.1	5.9	2,520.1	0.44	0.31	-0.31
4,969.0	90.20	178.80	2,643.5	-2,551.1	6.4	2,551.1	1.29	0.00	-1.29
5,001.0	90.30	178.60	2,643.3	-2,583.1	7.2	2,583.1	0.70	0.31	-0.63

DDC Survey Report



Company: Nadel & Gussman Permian, LLC
Project: Eddy County, NM (NAD-83)
Site: Sec 7, T19S, R26E
Well: Long Branch #2H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Long Branch #2H
TVD Reference: WELL @ 3372.0usft (Patriot #1)
MD Reference: WELL @ 3372.0usft (Patriot #1)
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)
5,032.0	90.40	179.10	2,643.2	-2,614.1	7.8	2,614.1	1.64	0.32	1.61
5,064.0	90.10	179.40	2,643.0	-2,646.1	8.2	2,646.1	1.33	-0.94	0.94
5,096.0	90.20	179.00	2,642.9	-2,678.1	8.7	2,678.1	1.29	0.31	-1.25
5,127.0	90.20	178.20	2,642.8	-2,709.1	9.4	2,709.1	2.58	0.00	-2.58
5,158.0	90.60	178.40	2,642.6	-2,740.1	10.3	2,740.1	1.44	1.29	0.65
5,190.0	90.70	179.10	2,642.2	-2,772.1	11.0	2,772.1	2.21	0.31	2.19
5,222.0	89.40	179.90	2,642.2	-2,804.0	11.3	2,804.1	4.77	-4.06	2.50
5,251.0	88.90	179.90	2,642.6	-2,833.0	11.4	2,833.1	1.72	-1.72	0.00
5,283.0	89.20	179.80	2,643.2	-2,865.0	11.4	2,865.1	0.99	0.94	-0.31
5,313.0	88.10	179.90	2,643.9	-2,895.0	11.5	2,895.1	3.68	-3.67	0.33
5,344.0	88.10	180.00	2,644.9	-2,926.0	11.6	2,926.0	0.32	0.00	0.32
5,376.0	88.30	180.60	2,645.9	-2,958.0	11.4	2,958.0	1.98	0.63	1.88
5,407.0	88.40	180.50	2,646.8	-2,989.0	11.1	2,989.0	0.46	0.32	-0.32
5,437.0	88.70	180.60	2,647.6	-3,019.0	10.8	3,019.0	1.05	1.00	0.33
5,469.0	89.00	180.60	2,648.2	-3,051.0	10.5	3,051.0	0.94	0.94	0.00
5,500.0	88.60	180.60	2,648.9	-3,082.0	10.1	3,082.0	1.29	-1.29	0.00
5,531.0	88.50	180.60	2,649.6	-3,112.9	9.8	3,113.0	0.32	-0.32	0.00
5,562.0	88.70	180.60	2,650.4	-3,143.9	9.5	3,143.9	0.65	0.65	0.00
5,593.0	89.10	180.80	2,651.0	-3,174.9	9.1	3,174.9	1.44	1.29	0.65
5,624.0	89.40	180.70	2,651.4	-3,205.9	8.7	3,205.9	1.02	0.97	-0.32
5,656.0	88.90	180.80	2,651.9	-3,237.9	8.3	3,237.9	1.59	-1.56	0.31
5,687.0	87.40	179.90	2,652.9	-3,268.9	8.1	3,268.9	5.64	-4.84	-2.90
5,717.0	87.30	179.60	2,654.3	-3,298.9	8.2	3,298.9	1.05	-0.33	-1.00
5,749.0	87.30	179.30	2,655.8	-3,330.8	8.5	3,330.8	0.94	0.00	-0.94
5,780.0	87.50	179.90	2,657.2	-3,361.8	8.8	3,361.8	2.04	0.65	1.94
5,811.0	87.80	180.10	2,658.5	-3,392.8	8.8	3,392.8	1.16	0.97	0.65
5,842.0	87.90	180.20	2,659.6	-3,423.7	8.7	3,423.8	0.46	0.32	0.32
5,873.0	87.70	179.80	2,660.8	-3,454.7	8.7	3,454.7	1.44	-0.65	-1.29
5,903.0	87.60	179.60	2,662.0	-3,484.7	8.8	3,484.7	0.74	-0.33	-0.67
5,935.0	89.00	180.20	2,663.0	-3,516.7	8.9	3,516.7	4.76	4.38	1.88
5,966.0	89.50	180.70	2,663.4	-3,547.7	8.6	3,547.7	2.28	1.61	1.61
5,996.0	89.40	180.80	2,663.7	-3,577.7	8.3	3,577.7	0.47	-0.33	0.33
6,028.0	89.90	180.80	2,663.9	-3,609.7	7.8	3,609.7	1.56	1.56	0.00
6,059.0	90.20	181.40	2,663.8	-3,640.7	7.2	3,640.7	2.16	0.97	1.94
Projection to Bit									
6,089.0	90.60	181.90	2,663.6	-3,670.7	6.3	3,670.7	2.13	1.33	1.67

DDC
Survey Report



Company: Nadel & Gussman Permian, LLC
Project: Eddy County, NM (NAD-83)
Site: Sec 7, T19S, R26E
Well: Long Branch #2H
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Design: Wellbore #1

Local Co-ordinate Reference: Well Long Branch #2H
TVD Reference: WELL @ 3372.0usft (Patriot #1)
MD Reference: WELL @ 3372.0usft (Patriot #1)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,016.0	2,016.0	7.3	-2.7	Tie into Gyro
2,175.0	2,174.5	-1.0	-3.0	Crossed Hard Line @ 2175' MD
6,089.0	2,663.6	-3,670.7	6.3	Projection to Bit

Checked By: _____ Approved By: _____ Date: _____