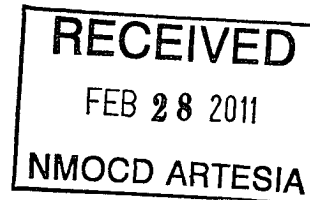




Scientific Drilling
Directional Drilling Operations

Project: Undesignated Yeso
Eddy County, NM
Well: Pine Box "21" CN Federal Com #1H
Wellbore: VH - Job #32K1210975
Design: VH - Job #32K1210975

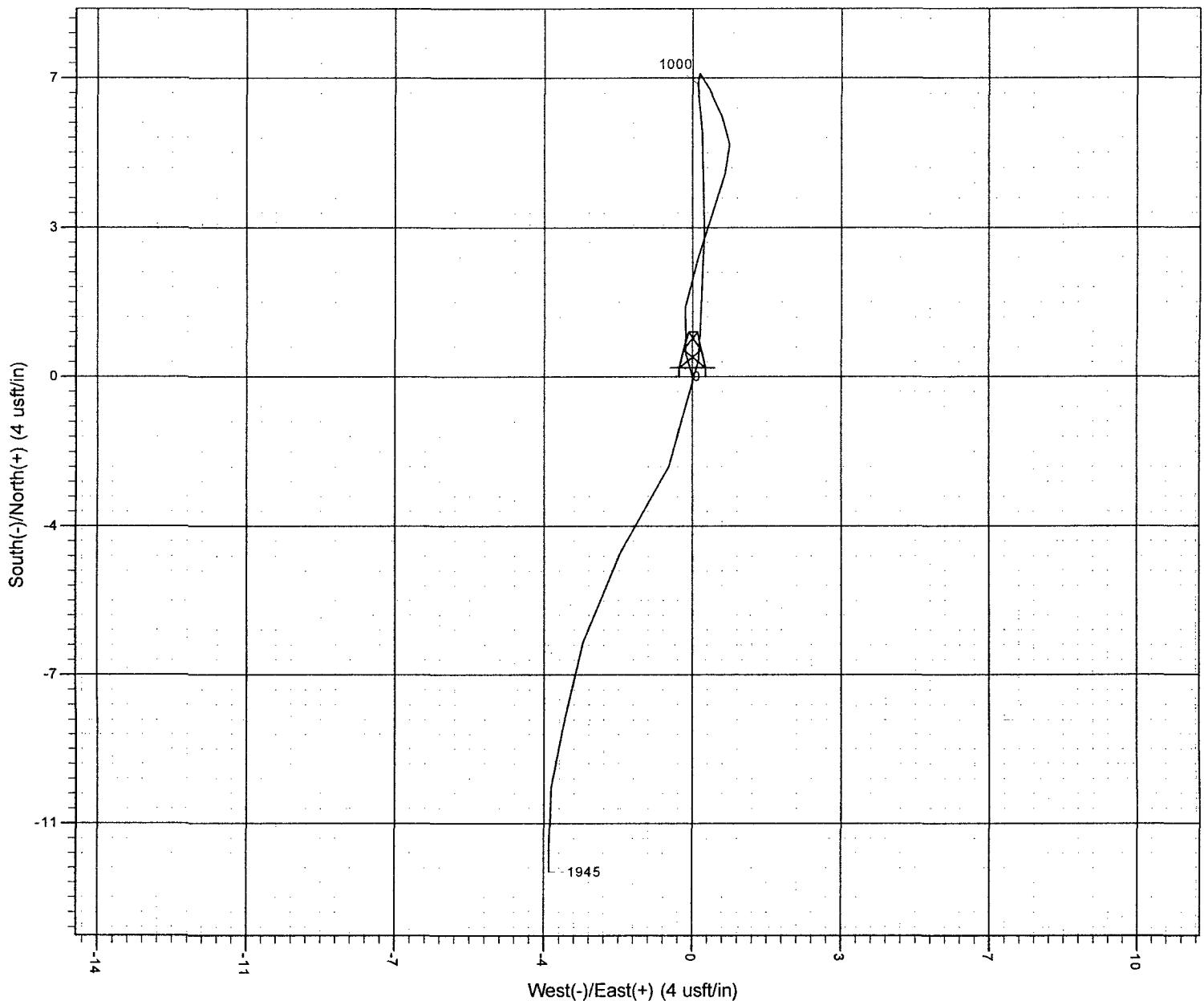


Azimuths to Grid North
True North: 0.09°
Magnetic North: 8.24°
Magnetic Field
Strength: 48821.3snT
Dip Angle: 60.36°
Date: 12/11/2010
Model: BGGM2010

WELL DETAILS: Pine Box "21" CN Federal Com #1H
WELL @ 0.0usft (Original Well Elev)
Ground Level: 0.0

30-019-38301

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	569534.13	451611.42	32° 33' 56.370 N	104° 29' 25.440 W	



PROJECT DETAILS: Undesignated Yeso
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: Eddy County, NM
Site Centre Latitude: 32° 38' 45.600 N
Longitude: 104° 26' 56.400 W
Positional Uncertainty: 0.0
Convergence: -0.06
Local North: Grid



Scientific Drilling

Gyroscopic Survey Report
for
MEWBOURNE

Well Location	EDDY COUNTY,NEW MEXICO
Well Name	PINE BOX 21 CN FEDERAL COM #1H
Rig Name	PATTERSON 101
Survey Date	12/11/2010
Latitude	32.56 deg
North Reference	Grid North
Grid Correction	0.16 deg
Depth Reference	19' K.B.
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 180.00Azim (deg)
Definitive Survey	FINAL GYRO SURVEY
Operator	J.SUTHERLAND

Comments



Survey Report

Well Name: PINE BOX 21 CN FEDERAL COM #1H

Survey: FINAL GYRO SURVEY

Survey Date: 12/11/2010

MD	Inc	Azim	TVD	VS	Northing	Easting	DLS	Closure Distance	Closure Angle
ft	deg	deg	ft	ft	ft	ft	deg/100ft	ft	deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid	0.00	0.00
100.00	0.64	343.73	100.00	-0.54	0.54	-0.16	0.64	0.56	343.73
200.00	0.64	13.18	199.99	-1.62	1.62	-0.18	0.33	1.63	353.50
300.00	0.79	16.91	299.98	-2.82	2.82	0.14	0.15	2.83	2.91
400.00	0.57	19.41	399.98	-3.95	3.95	0.51	0.22	3.98	7.34
500.00	0.41	14.78	499.97	-4.76	4.76	0.77	0.17	4.83	9.13
600.00	0.38	2.39	599.97	-5.44	5.44	0.87	0.09	5.51	9.09
700.00	0.42	329.97	699.97	-6.08	6.08	0.70	0.22	6.13	6.58
800.00	0.38	340.92	799.97	-6.71	6.71	0.41	0.08	6.73	3.51
900.00	0.18	298.39	899.97	-7.10	7.10	0.17	0.28	7.10	1.36
1000.00	0.39	163.78	999.96	-6.85	6.85	0.13	0.52	6.85	1.06
1100.00	0.92	178.64	1099.96	-5.72	5.72	0.24	0.56	5.73	2.40
1200.00	1.73	178.95	1199.93	-3.41	3.41	0.29	0.81	3.42	4.81
1300.00	1.75	186.10	1299.88	-0.39	0.39	0.15	0.22	0.42	21.30
1400.00	1.27	209.50	1399.85	2.08	-2.08	-0.55	0.77	2.16	194.87
1500.00	1.41	209.51	1499.82	4.11	-4.11	-1.70	0.14	4.45	202.48
1600.00	1.23	194.18	1599.80	6.23	-6.23	-2.57	0.39	6.74	202.44
1700.00	0.86	192.76	1699.78	8.00	-8.00	-3.00	0.37	8.54	200.55
1800.00	1.04	189.95	1799.77	9.63	-9.63	-3.32	0.18	10.18	199.04
1900.00	0.69	169.31	1899.75	11.11	-11.11	-3.37	0.46	11.61	196.86
1945.18	0.63	189.72	1944.93	11.62	-11.62	-3.36	0.53	12.10	196.12