



**Scientific
Drilling**

DIRECTIONAL SURVEY REPORT

Prepared For

VASTAR RESOURCES, INC.

CARRACAS 33 B 11 D-33-32N-4W

RIO ARRIBA COUNTY, NM

BHL: 2822 FNL
1107 FNL

Prepared By:
Judi Moore - Well Planner
Scientific Drilling International
Rocky Mountain District

OK on C-104 for
Dir. Survey
JH

Scientific Drilling International
7237 W. Barton Rd. - P.O. Box 1800
Mills, WY 82644
(307) 472-6621
judimoore-sdi@caspers.net

**Scientific
Drilling****Directional Survey Certification**

RE: Vastar Resources, Inc. Operator
Carracas 33 B 11 Well Name & No.
Sec. 33 T32N R4W Surface Hole Location
Rio Arriba County, NM Location
41D0900147 SDI Job No.

I, Judi Moore, having personal knowledge of all the facts, hereby
certify that the attached directional survey run from a measured depth of 425 feet to a
measured depth of 3444 feet is true and correct as determined from all available records.

Judi Moore Well Planner SDI
Signature Title Company

State of: Wyoming)
County of: Natrona) ss

On this 9th day of: November, 2000, before me personally appeared
Judi Moore to me known as the person described in and who executed the foregoing
instrument and acknowledged that (s)he executed the same as his/her free act and deed.

Seal

Summer J. Whitehouse
Notary Public

Aug 18, 2004
My Commission Expires





Scientific Drilling

CASPER, WY

Company: Vastar Resources, Inc.
Field: Rio Arriba County, NM
Site: CARRACAS 33
Well: WELL B 11
Wellpath: OH

Date: 11/9/2000 Time: 09:02:32 Page: 1
Co-ordinate(N/E) Reference: Well: WELL B 11, True North
Vertical (TVD) Reference: SITE 0.0
Section (V/S) Reference: Well (0.00E,0.00N,175.55Azi)
Survey Calculation Method: Minimum Curvature Dls: Sybase

Survey: Survey #1

Start Date: 9/28/2000

Company: Scientific Drilling
Tool: MWD,

Engineer: Sears
Tied to: User Defined

Field: Rio Arriba County, NM

Map System: US State Plane Coordinate System 1927
Geo Datum: Clarke 1866
Sys Datum: Mean Sea Level

Map Zone: New Mexico, Central Zone
Coordinate System: Well Centre
Geomagnetic Model: Igrf2000

Site: CARRACAS 33
SHL SEC.33,T32N,R4W 1165'FNL & 1055'FWL

Site Position: Northing: ft Latitude: ft
From: Lease Line Easting: ft Longitude: ft
Position Uncertainty: 0.00 ft North Reference: True
Ground Level: 0.00 ft Grid Convergence: -0.20 deg

Well: WELL B 11

Slot Name:

Well Position: +N/-S 0.00 ft Northing: 2153065.80 ft Latitude: 36 54 59.999 N
+E/-W 0.00 ft Easting: 402557.02 ft Longitude: 106 34 59.999 W
Position Uncertainty: 0.00 ft

Wellpath: OH

Drilled From: Surface
File on Depth: 0.00 ft
Above System Datum: Mean Sea Level
Declination: 10.73 deg
Mag Dip Angle: 64.13 deg
+N/-W Direction
ft deg
0.00 175.55

Current Datum: SITF Height 0.00 ft
Magnetic Data: 8/31/2000
Field Strength: 52190 nT
Vertical Section: Depth From (TVD) +N/-S
ft ft
4186.00 0.00

Annotation

MD TVD
ft ft
3444.00 2865.00 SURVEY IS A PROJECTION TO BIT

Survey

Meas Depth ft	Inclination deg	Azimuth deg	TVD ft	Vert Sect ft	N/S ft	E/W ft	DLS deg/100ft	Clen ft	Csld ft	Csla deg
425.00	0.00	0.00	425.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
509.00	0.18	71.40	509.00	-0.03	0.04	0.13	0.21	84.00	0.13	71.40
569.00	4.04	170.37	569.95	2.05		0.57	6.79	60.00	2.09	164.24
630.00	6.95	185.75	629.67	7.82		0.56	5.31	61.00	7.82	175.91
690.00	9.94	190.32	689.01	16.41	-16.51	-0.73	5.10	60.00	16.53	182.54
750.00	12.31	173.71	747.89	27.81	-27.97	-0.96	6.60	60.00	27.99	181.97
811.00	14.95	181.18	807.17	42.14	-42.30	-0.41	5.19	61.00	42.31	180.56
873.00	18.03	180.03	866.82	59.67	-59.80	-0.58	5.00	62.00	59.90	180.55
933.00	21.46	181.28	923.08	79.86	-80.16	-0.83	5.76	60.00	80.17	180.59
994.00	24.18	179.16	979.30	103.43	-103.82	-0.89	4.66	61.00	103.82	180.49
1054.00	25.66	177.57	1033.71	128.69	-129.09	-0.15	2.74	60.00	129.09	180.07
1114.00	30.69	175.55	1086.58	157.01	-157.37	1.59	6.50	60.00	157.37	179.42
1174.00	33.85	176.34	1137.31	189.04	-189.32	3.84	5.31	60.00	189.35	178.84
1235.00	37.02	177.04	1187.00	224.40	-224.62	5.88	5.24	61.00	224.70	178.50
1326.00	41.06	178.19	1257.67	281.86	-281.87	8.24	4.51	91.00	281.99	178.33
1425.00	40.89	179.15	1332.41	346.48	-346.77	9.74	0.66	99.00	346.91	178.39
1519.00	40.54	179.33	1403.66	407.67	-408.06	10.56	0.39	94.00	408.22	178.52
1613.00	40.19	178.98	1475.28	468.43	-468.95	11.45	0.44	94.00	469.09	178.60
1705.00	40.27	179.24	1546.52	527.73	-528.37	12.38	0.20	92.00	528.51	178.66



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 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

Meas Depth ft	Inclination deg	Azimuth deg	TVD ft	Vert Sect ft	N/S ft	E/W ft	DLS deg/100ft	C/Len ft	C/Id ft	C/LA deg
1797.00	40.10	179.42	1815.81	586.97	-587.73	13.07	0.22	92.00	587.87	178.73
1891.00	40.80	179.24	1687.34	647.82	-648.71	13.79	0.75	94.00	648.85	178.78
1981.00	40.98	176.34	1755.38	706.68	-707.58	16.06	2.12	90.00	707.75	178.70
2076.00	42.38	175.11	1826.33	769.85	-770.58	20.78	1.71	95.00	770.84	178.48
2170.00	42.47	176.25	1895.72	833.26	-833.79	25.55	0.82	94.00	834.18	178.24
2265.00	41.08	172.12	1966.59	896.49	-896.71	31.93	3.25	95.00	897.28	177.98
2360.00	41.84	173.09	2037.74	959.35	-959.14	40.03	1.15	95.00	959.97	177.81
2449.00	41.88	173.35	2104.08	1018.64	-1018.05	47.03	0.35	89.00	1019.14	177.35
2543.00	41.94	175.82	2174.15	1081.28	-1080.43	52.94	1.77	94.00	1081.73	177.19
2635.00	39.48	174.41	2243.88	1141.28	-1140.21	58.03	2.85	92.00	1141.89	177.09
2727.00	40.19	176.08	2314.53	1200.21	-1198.94	62.91	1.40	92.00	1200.59	177.00
2819.00	40.63	178.54	2384.59	1259.81	-1258.50	65.70	1.80	92.00	1260.22	177.01
2911.00	39.48	177.57	2455.01	1318.95	-1317.67	67.71	1.42	92.00	1319.41	177.08
3003.00	39.13	174.85	2526.20	1377.21	-1375.81	71.55	1.91	92.00	1377.67	177.02
3095.00	38.92	177.13	2597.17	1435.75	-1434.21	75.64	1.80	92.00	1436.20	176.98
3187.00	40.45	179.77	2667.46	1495.03	-1493.54	77.24	1.94	92.00	1495.53	177.04
3250.00	40.80	178.38	2715.27	1535.97	-1534.55	77.91	1.56	83.00	1536.53	177.09
3311.00	39.75	174.76	2761.82	1575.38	-1573.90	80.26	4.18	81.00	1575.94	177.08
3406.00	38.78	170.89	2835.38	1635.41	-1633.53	87.74	2.77	95.00	1635.89	176.93
3444.00	38.78	170.89	2865.00	1659.14	-1657.03	91.51	0.00	38.00	1659.56	176.84

1165
 +1657
 2822
 FNL

1015
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 1107
 FWL