



Nevis Energy Services, Inc.

12 August 2004

State of New Mexico
Oil Conservation Division
1000 Rio Brazos Road
Aztec, NM 87410

Re: Mallon Oil Company
Jicarilla 458-5#5
Rio Arriba Co., NM
Job #204-177
API No. 300-39-25947



To whom it May Concern:

Enclosed please find the Directional Survey data and Lease Plat for the above referenced well to be filed with your group.

Name & Title of Surveyor	Drainhole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Jeff Arenas	#4	3,850	6,737	18 May 04	28 May04	MWD

Thank you for the opportunity to be of service. Please contact me if you have any questions or require additional information.

Sincerely,

Matthew K. Brown
Operations Coordinator

Surface: 1640/N 790/E
Horiz Entry: 1672/N 762/E
Horiz Termination: 952/N 1818/W

DIRECTIONAL SURVEY CERTIFICATION



Nevis Energy Services, Inc.



RE: Mallon Oil Company (Operator)

Jicarilla 485-5 #5 (Well Name & No.)

Section 5 Twp. 30 N Range 03 W

Well File No. 300-39-25947

I, Matthew K. Brown, having personal knowledge of all the facts, hereby certify that the

attached directional surveys for the well run from measured depth of

3,850 feet to a measured depth of 6,737 feet,

respectively, are true and correct as determined from all available records.

Matthew K. Brown

Signature

Operations Coord.

Title

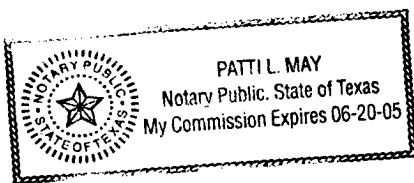
Nevis Energy Services, Inc
Company

State of Texas

County of Harris

On this 12 day of August, 2004, before me personally appeared

Matthew K. Brown to me known as the person described in and who executed the foregoing instrument and acknowledged that he executed the same as his free act and deed.



Patti May
Notary Public

6/20/05
My Commission Expires

NEVIS ENERGY SERVICES INC. SURVEY DATA CERTIFICATION



NEVIS JOB NUMBER

204-177

OPERATOR

BLACK HILLS E & P

WELL NAME

JICARILLA 458-5 # 5

COUNTY & STATE

RIO ARRIBA, NM

API WELL NUMBER

300-39-25947

VERT. SECT. DIRECTION

184.34

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
3,850 ft	3,849.4 ft	1.36	125.7	-32.3	27.7	GYRO-DATA

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
8-May-04	3,932 ft	15	328.5

SURVEY INSTRUMENT
TYPE

NEVIS EM/MWD

LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
28-May-04	6,737 ft	85.2	287

TO THE BEST OF MY KNOWLEDGE I
CERTIFY THIS SURVEY DATA TO BE
TRUE AND CORRECT.

PROJECTED TD SURVEY DATE	PROJECTED TD SURVEY DEPTH	INCLIN	AZIMUTH
28-May-04	6,737 ft	85.2	287

JEFF ARENAS

PRINT YOUR NAME ABOVE

Jeffrey H. Arenas

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR GRID CONVERGENCE

TOTAL CORRECTION USED

10.71

5/29/2004

TODAY'S DATE

MWD SUPERVISOR 1

CHRIS POPP

DIRECTIONAL DRILLER 1

RHETT HEBERT

MWD SUPERVISOR 2

JEFF ARENAS

DIRECTIONAL DRILLER 2

DERECK COLLINS

1724-B Townhurst Dr

Houston, Texas 77043

(713) 827-8302



1724-B Townhurst Dr, Houston, Tx 77043
(713) 827-8302
www.nevisenergy.com

Job Number: 204-177
Company: Black Hills E&P
Lease/Well: 458-5 # 5
Location: Rio Arriba Co., NM
Rig Name: Key Rig #44
RKB: ☐
G.L. or M.S.L.: API #300-39-25947

State/Country: New Mexico / U.S.A.
Declination: 10.71° East
Grid: ☐
File name: C:\TEMP1~1\BLACKH~1\458-5#5.SVY
Date/Time: 12-Aug-04 / 08:24
Curve Name: Final Survey

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane 284.35
Vertical Section Referenced to Wellhead
Rectangular Coordinates Referenced to Wellhead



Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	CLOSURE		Dogleg Severity Deg/100
Distance FT	Direction Deg								
Tie in to Gyrodata Survey									
3850.00	1.36	125.70	3849.40	-34.84	-32.30	27.70	42.55	139.38	.00
Gyro Survey @ Bottom of Whipstock									
3910.00	1.37	282.90	3909.39	-34.79	-32.56	27.58	42.67	139.73	4.46
First Nevis MWD Survey									
3932.00	15.00	328.50	3931.13	-32.47	-30.06	25.83	39.63	139.33	63.98
3963.00	37.10	310.70	3958.84	-21.06	-20.41	16.51	26.25	141.02	74.88
3995.00	50.80	299.90	3981.86	-.34	-7.86	-1.66	8.03	191.96	48.68
4000.00	52.50	298.80	3984.96	3.45	-5.93	-5.08	7.81	220.58	38.13
4005.00	54.40	297.80	3987.94	7.35	-4.03	-8.62	9.51	244.94	41.26
4026.00	63.50	290.50	3998.77	25.05	3.27	-25.02	25.23	277.43	52.54
4042.00	71.20	290.70	4004.92	39.72	8.46	-38.83	39.74	282.29	48.14
4052.00	76.70	288.50	4007.69	49.28	11.68	-47.88	49.29	283.71	58.92
4088.00	93.70	283.80	4010.69	85.00	21.60	-82.21	85.00	284.72	48.97
4119.00	98.90	279.30	4007.29	115.76	27.77	-112.38	115.76	283.88	22.12
4151.00	101.80	282.70	4001.54	147.17	33.77	-143.27	147.20	283.26	13.83
4182.00	102.20	285.30	3995.09	177.49	41.11	-172.69	177.52	283.39	8.30
4214.00	102.30	285.50	3988.30	208.76	49.41	-202.84	208.77	283.69	.69
4245.00	102.70	283.70	3981.59	239.02	57.04	-232.13	239.03	283.81	5.81
4277.00	102.00	282.50	3974.75	270.27	64.12	-262.57	270.29	283.72	4.27
4309.00	100.70	282.40	3968.45	301.63	70.89	-293.21	301.66	283.59	4.07
4371.00	98.40	282.30	3958.16	362.73	83.96	-352.93	362.78	283.38	3.71

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
4403.00	98.70	282.50	3953.41	394.36	90.76	-383.84	394.42	283.30	1.12
4466.00	90.20	283.20	3948.52	457.09	104.72	-445.02	457.17	283.24	13.54
4497.00	90.40	283.20	3948.36	488.08	111.79	-475.20	488.17	283.24	.65
4529.00	90.50	283.30	3948.11	520.07	119.13	-506.35	520.17	283.24	.44
4560.00	91.20	283.40	3947.65	551.06	126.29	-536.50	551.17	283.25	2.28
4592.00	91.60	283.20	3946.87	583.05	133.65	-567.64	583.16	283.25	1.40
4624.00	90.10	282.70	3946.39	615.04	140.82	-598.82	615.15	283.23	4.94
4655.00	90.60	282.60	3946.20	646.02	147.60	-629.06	646.15	283.21	1.64
4687.00	89.20	283.60	3946.26	678.01	154.86	-660.23	678.15	283.20	5.38
4718.00	89.30	283.10	3946.67	709.00	162.01	-690.39	709.15	283.21	1.64
4750.00	89.70	283.30	3946.94	741.00	169.32	-721.54	741.14	283.21	1.40
4781.00	90.10	282.80	3947.00	771.99	176.32	-751.74	772.14	283.20	2.07
4813.00	88.80	283.40	3947.31	803.98	183.57	-782.91	804.14	283.20	4.47
4844.00	88.20	284.10	3948.12	834.97	190.94	-813.01	835.13	283.22	2.97
4875.00	87.80	285.00	3949.20	865.95	198.72	-843.00	866.10	283.26	3.18
4908.00	88.10	284.40	3950.38	898.92	207.09	-874.90	899.07	283.32	2.03
4939.00	88.10	284.20	3951.41	929.91	214.74	-904.92	930.05	283.35	.64
4971.00	88.10	284.10	3952.47	961.89	222.56	-935.93	962.03	283.38	.31
5002.00	88.10	284.20	3953.50	992.87	230.14	-965.97	993.01	283.40	.32
5034.00	88.70	283.80	3954.39	1024.86	237.87	-997.01	1024.99	283.42	2.25
5065.00	88.60	283.90	3955.12	1055.85	245.29	-1027.10	1055.99	283.43	.46
5096.00	88.30	283.90	3955.96	1086.84	252.74	-1057.18	1086.97	283.45	.97
5128.00	87.60	283.10	3957.10	1118.81	260.20	-1088.28	1118.95	283.45	3.32
5159.00	87.10	282.80	3958.54	1149.77	267.14	-1118.46	1149.92	283.43	1.88
5191.00	86.90	282.60	3960.21	1181.71	274.17	-1149.63	1181.87	283.41	.88
5222.00	88.20	282.90	3961.54	1212.67	281.00	-1179.84	1212.84	283.40	4.30
5253.00	88.50	283.50	3962.43	1243.65	288.08	-1210.01	1243.83	283.39	2.16
5285.00	88.60	282.90	3963.24	1275.64	295.38	-1241.15	1275.82	283.39	1.90
5324.00	89.40	284.40	3963.92	1314.63	304.59	-1279.04	1314.81	283.39	4.36
5356.00	90.10	282.70	3964.06	1346.62	312.08	-1310.15	1346.81	283.40	5.75
5387.00	91.10	282.70	3963.73	1377.61	318.90	-1340.39	1377.80	283.38	3.23
5419.00	91.10	283.30	3963.12	1409.59	326.09	-1371.56	1409.80	283.37	1.87
5450.00	89.10	284.70	3963.07	1440.59	333.59	-1401.64	1440.79	283.39	7.88
5492.00	88.80	284.70	3963.84	1482.58	344.25	-1442.26	1482.77	283.42	.71
5540.00	89.00	284.90	3964.76	1530.57	356.51	-1488.66	1530.75	283.47	.59
5571.00	89.20	284.90	3965.24	1561.56	364.48	-1518.61	1561.74	283.50	.65
5602.00	89.60	285.30	3965.57	1592.56	372.55	-1548.54	1592.72	283.53	1.82
5634.00	89.90	285.30	3965.71	1624.56	381.00	-1579.40	1624.71	283.56	.94
5666.00	90.10	284.90	3965.71	1656.55	389.33	-1610.30	1656.70	283.59	1.40
5697.00	90.40	284.90	3965.57	1687.55	397.31	-1640.26	1687.69	283.62	.97
5729.00	90.80	284.60	3965.24	1719.55	405.45	-1671.20	1719.68	283.64	1.56
5760.00	91.30	284.20	3964.67	1750.54	413.16	-1701.22	1750.67	283.65	2.07
5792.00	91.50	284.20	3963.89	1782.53	421.01	-1732.23	1782.66	283.66	.63

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
5823.00	91.50	283.20	3963.08	1813.52	428.35	-1762.34	1813.65	283.66	3.22
5855.00	91.80	282.80	3962.16	1845.50	435.54	-1793.51	1845.64	283.65	1.56
5886.00	92.20	282.50	3961.07	1876.47	442.33	-1823.74	1876.61	283.63	1.61
5918.00	91.10	284.20	3960.15	1908.45	449.71	-1854.86	1908.60	283.63	6.33
5949.00	91.70	284.60	3959.39	1939.44	457.42	-1884.88	1939.58	283.64	2.33
5981.00	90.30	286.00	3958.84	1971.42	465.86	-1915.73	1971.56	283.67	6.19
6012.00	90.60	286.30	3958.59	2002.41	474.48	-1945.51	2002.54	283.71	1.37
6044.00	89.20	285.60	3958.65	2034.40	483.28	-1976.28	2034.51	283.74	4.89
6075.00	87.30	286.30	3959.59	2065.37	491.79	-2006.07	2065.47	283.77	6.53
6107.00	86.70	286.30	3961.27	2097.30	500.76	-2036.74	2097.40	283.81	1.87
6138.00	86.60	286.30	3963.08	2128.23	509.45	-2066.44	2128.31	283.85	.32
6170.00	86.00	286.70	3965.15	2160.14	518.52	-2097.06	2160.21	283.89	2.25
6201.00	85.70	286.70	3967.39	2191.04	527.40	-2126.68	2191.10	283.93	.97
6233.00	85.70	286.00	3969.79	2222.93	536.38	-2157.30	2222.98	283.96	2.18
6265.00	86.40	286.00	3971.99	2254.84	545.18	-2187.98	2254.88	283.99	2.19
6296.00	87.40	286.00	3973.67	2285.78	553.71	-2217.74	2285.82	284.02	3.23
6328.00	87.30	286.00	3975.15	2317.73	562.53	-2248.47	2317.76	284.05	.31
6359.00	87.80	286.30	3976.47	2348.69	571.14	-2278.21	2348.72	284.07	1.88
6390.00	88.00	286.70	3977.61	2379.65	579.94	-2307.92	2379.67	284.11	1.44
6424.00	88.00	286.70	3978.80	2413.60	589.70	-2340.46	2413.61	284.14	.00
6454.00	88.70	287.00	3979.66	2443.55	598.40	-2369.16	2443.57	284.18	2.54
6486.00	88.00	286.30	3980.58	2475.52	607.56	-2399.81	2475.52	284.21	3.09
6516.00	86.90	286.00	3981.92	2505.47	615.90	-2428.60	2505.48	284.23	3.80
6541.00	86.70	285.90	3983.31	2530.42	622.76	-2452.60	2530.43	284.25	.89
6642.00	86.40	287.00	3989.39	2631.17	651.30	-2549.28	2631.17	284.33	1.13

Last Nevis MWD Survey									
6737.00	85.20	287.00	3996.35	2725.81	679.01	-2639.89	2725.81	284.42	1.26
Survey Projected to bit									
6771.00	85.20	287.00	3999.19	2759.66	688.91	-2672.29	2759.66	284.46	.00