



3D-DD5-2D811

March 28, 1994

Mr. Jim Johnson
Petroleum Development
P.O. Box 2366-183
Roswell, New Mexico 88201

RE: WATTAM FEDERAL WELL NO. 2
CHAVES COUNTY, NEW MEXICO
DIRECTIONAL DRILLING REPORT

L-8-8-31

Dear Mr. Johnson:

Enclosed is a report of the final surveys and well plots of the directional drilling operations for the above referenced well. This operation employed BecField Drilling Services from March 9, 1994 through March 17, 1994 to drill a medium radius curve and horizontal section in the Abo Formation.

Should additional information be required, a BecField representative will be available to discuss this operation in detail at your convenience.

Sincerely,

A handwritten signature in cursive script that reads "David B. Gaudin".

David B. Gaudin
District Drilling Engineer

DBG/ams

enclosures

BHL per PK

385D/S & 159/w

F-8-8-31

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BECFIELD SURVEY CALCULATION PROGRAM

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OPERATOR: PETROLEUM DEVELOPMENT START: 03/09/94
 WELL: WATTAM FEDERAL WELL NO.2 FINISH: 03/17/94
 LOCATION: CHAVES COUNTY, NEW MEXICO BECFIELD DIR.COORDINATOR
 D. DAIGLE/R. KEENE

SURVEY NUMBER 0 IS A TIE IN TO A
 GYRO RUN BY SCIENTIFIC DRILLING INT'L
 03/01/94.

9.40 DEG. APPLIED TO TRUE

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MINIMUM CURVATURE CALCULATIONS(SPE-3362)

PROPOSED DIR.

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26.47

SUR NUM	MD	INC	TRUE AZM	TVD	N-S	E-W	SECT	DLS/ 100
0	3500	0.0	215.6	3499.3	27.7	16.0	32.0	0.0
1	3522	0.1	27.0	3521.3	27.7	16.0	32.0	0.5
2	3534	6.1	20.0	3533.3	28.4	16.2	32.6	50.0
3	3566	16.9	16.1	3564.6	34.4	18.1	38.9	33.8
4	3597	25.1	27.7	3593.5	44.6	22.4	49.9	29.5
5	3628	33.5	32.4	3620.5	57.7	30.0	65.0	28.1
6	3661	42.7	22.4	3646.5	75.8	39.2	85.3	33.5
7	3692	51.0	19.1	3667.7	96.9	47.2	107.8	27.9
8	3724	59.8	27.5	3685.9	121.0	57.7	134.0	34.9
9	3757	69.4	28.8	3700.0	147.3	71.7	163.8	29.3
10	3789	76.8	21.3	3709.3	175.0	84.6	194.3	32.2
11	3814	82.8	16.9	3713.7	198.2	92.7	218.7	29.6
12	3846	87.0	19.9	3716.6	228.4	102.7	250.3	16.1
13	3878	87.3	19.5	3718.2	258.5	113.5	282.0	1.6
14	3910	87.1	18.3	3719.7	288.8	123.9	313.7	3.8
15	3974	90.4	21.8	3721.1	348.9	145.8	377.3	7.5
16	4006	91.6	22.4	3720.6	378.5	157.8	409.2	4.2
17	4070	90.3	21.8	3719.5	437.8	181.9	473.0	2.2
18	4105	88.4	21.9	3719.9	470.3	194.9	507.9	5.4
19	4137	88.4	21.2	3720.8	500.0	206.7	539.7	2.2
20	4201	88.5	22.6	3722.5	559.4	230.5	603.5	2.2
21	4234	88.9	22.3	3723.3	589.9	243.1	636.4	1.5
22	4297	87.3	22.9	3725.4	648.0	267.3	699.2	2.7
23	4328	87.4	22.8	3726.8	676.5	279.4	730.1	0.5
24	4391	87.4	21.7	3729.7	734.8	303.2	792.9	1.7
25	4456	88.3	24.7	3732.1	794.5	328.8	857.7	4.8
26	4487	88.1	27.7	3733.1	822.3	342.5	888.7	9.7
27	4553	89.4	28.1	3734.5	880.6	373.3	954.7	2.1
28	4618	88.7	28.3	3735.6	937.9	404.0	1019.6	1.1

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MINIMUM CURVATURE CALCULATIONS(SPE-3362)

PROPOSED DIR.

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26.47

SUR NUM	MD	INC	TRUE AZM	TVD	N-S	E-W	SECT	DLS/ 100
29	4681	88.9	27.5	3736.9	993.5	433.5	1082.6	1.3
30	4747	88.7	28.6	3738.3	1051.8	464.5	1148.6	1.7
31	4813	90.6	29.8	3738.7	1109.4	496.7	1214.5	3.4
32	4846	89.5	28.9	3738.7	1138.1	512.9	1247.4	4.3
33	4878	88.7	29.0	3739.2	1166.1	528.4	1279.4	2.5
34	4943	88.8	29.2	3740.6	1222.9	560.0	1344.3	0.3
35	5010	88.9	29.7	3741.9	1281.2	592.9	1411.2	0.8
36	5074	89.5	29.7	3742.8	1336.8	624.6	1475.1	0.9
37	5106	89.6	29.4	3743.1	1364.7	640.4	1507.1	1.0
38	5174	89.3	29.4	3743.7	1423.9	673.8	1575.0	0.4
39	5233	89.7	28.6	3744.3	1475.5	702.4	1633.9	1.5
40	5330	89.0	30.4	3745.4	1559.9	750.2	1730.8	2.0
41	5394	90.8	31.0	3745.5	1614.9	782.8	1794.6	3.0
42	5491	90.4	30.8	3744.4	1698.2	832.7	1891.3	0.5
43	5555	89.7	29.6	3744.4	1753.5	864.8	1955.2	2.2
44	5618	89.8	29.9	3744.7	1808.2	896.1	2018.0	0.5
45	5655	90.1	29.6	3744.7	1840.3	914.5	2055.0	1.1
46	5689	90.4	29.3	3744.6	1869.9	931.2	0.0	1.2

Survey No.'s 1 thru 44 BecField Steering Tool System.

Survey No. 45 is a Projection to Bit Depth.

Bottom Hole Location from Surface Location.

Horizontal Displacement = 2089 Feet

Displacement Bearing = North 26.5 East (TRUE)

BECHFIELD

DRILLING SERVICES

PETROLEUM DEVELOPMENT
WATTEM FEDERAL NO. 2
CHAVES COUNTY, NEW MEXICO

10908 McPherson Dr. (713) 973-1700
Houston, TX 77043 Fax (713) 952-2396

P.O. Box 2344-183 Dr. (505) 622-4456
Roswell, NM 88201 Fax (505) 623-1236

Date: 3/4/94

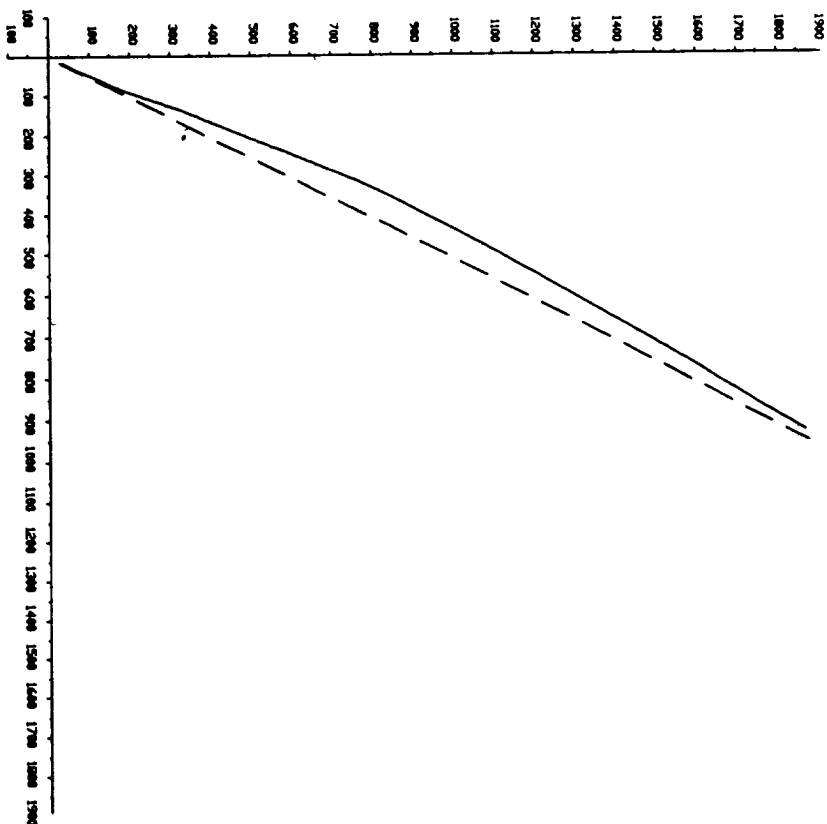
Drawn By: DBG

HORIZONTAL PROJECTION

The Surface Location
is the same as the
Location of the Wellbore
by the coordinates of
the Surface Location.



Magnetic Decl: 8.4° E



Actual Surface Well Location
The Surface Location of the Wellbore
is the same as the Location of the Wellbore
by the coordinates of the Surface
Location. The Vertical Depth is 1000 feet
and the Horizontal Depth is 1000 feet.

Proposed Surface Well Location
The Surface Location of the Wellbore
is the same as the Location of the Wellbore
by the coordinates of the Surface
Location. The Vertical Depth is 1000 feet
and the Horizontal Depth is 1000 feet.

