



Tipperary

PETROLEUM COMPANY

P. O. Box 3179

Midland, Texas 79702-3179

~~W/2~~ 1/4

W/2 SW/4

Phone (915) 684-7151
TWX 910 8955335

December 4, 1987

Mr. William J. Lemay, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Commission
P. O. Box 2088
Santa Fe, NM 87504-2088

Dear Mr. Lemay:

Re: Exception to Rule 111-B
Tipperary SW/4-29 Unit No. 1
660' FWL & 1980' FSL
Sec. 29, T16S, R37E
Northeast Lovington Penn Pool
Lea County, New Mexico

The above referenced well was spudded on October 29, 1987, and during the course of drilling, crooked hole and sloughing formation problems were encountered at 8865'. Not understanding the sloughing problem completely, we decided the most definitive way to alleviate the problem was to deviate the well in a southwest direction or approximately 180° away from the direction of the sloughing problem. The well was kicked off at 8494' and directionally drilled to 8745' with a maximum deviation of 2-3/4°. At 8745', the directional tools were pulled out of the hole and the well was conventionally drilled to total depth of 11,400'.

The NMOCC in Hobbs was contacted on October 14, 1987, to advise them of our intent to sidetrack and straighten the hole, but we failed to communicate our plans "to deviate in a determinate direction". As mentioned earlier, this action was taken to straighten the hole in a direction away from the hole problems which we were encountering.

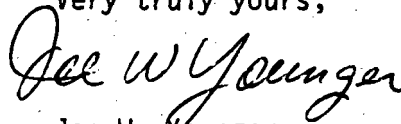
I have attached a copy of the directional survey run from the base of the 8-5/8" casing (4230') to 11,370', which shows the displacement of the hole over this interval to be 11.10' south and 93.53' east. Attached is a copy

Mr. William J. Lemay, Director
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of the deviation tests run by the drilling contractor which indicates a maximum displacement of 76.48' over the interval from surface to 4244'. Also attached is a plat which shows the ownership surrounding the subject well and shows the eastwardly bottomhole location isn't crowding adjacent leases and is well within tolerances for a standard location.

Based on the above information, it is requested that an exception to Rule 111-B be granted administratively.

Very truly yours,



Joe W. Younger
Operations Manager

JWY:gh

cc: Amerind Oil Company
500 Wilco Building
Midland, TX 79701

Moncrief Oil Interests
Moncrief Building
9th at Commerce
Fort Worth, TX 76102

Texaco Producing Inc.
P. O. Box 3109
Midland, TX 79702

Yates Petroleum Corp.
1669 South Voss, Suite 355
Houston, TX 77057

WELL NAME AND NUMBER Wig#8 Tipperary S.W/4-29 Unit #1

LOCATION Section 29, T16S, R37E, Lea County
(Give Unit, Section, Township and Range)

OPERATOR Tipperary Petroleum

DRILLING CONTRACTOR McVay Drilling Company

The undersigned hereby certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

<u>Degrees @ Depth</u>	<u>Degrees @ Depth</u>	<u>Degrees @ Depth</u>
<u>1/4 199</u>	<u>1 4.840</u>	<u>2-3/4S 49 W 8.627</u>
<u>1 371</u>	<u>3/4 5.338</u>	<u>2 1/2 S 45W 8.720</u>
<u>3/4 694</u>	<u>3/4 5.838</u>	<u>1 1/2 8.837</u>
<u>1/2 1.199</u>	<u>0 6.341</u>	<u>2 8.898</u>
<u>1 1.670</u>	<u>3/4 6.654</u>	<u>5 8.891</u>
<u>1/4 2.137</u>	<u>3/4 6.957</u>	<u>5 1/2 9.034</u>
<u>1/2 2.640</u>	<u>1/2 7.456</u>	<u>5 1/2 9.089</u>
<u>2 3.140</u>	<u>1/4 7.957</u>	<u>4 1/2 9.152</u>
<u>2 3.213</u>	<u>0 8.456</u>	<u>4 9.214</u>
<u>2 3.339</u>	<u>0 8.660</u>	<u>5 1/2 9.277</u>
<u>1-3/4 3.589</u>	<u>3/4 8.670</u>	<u>4 1/2 9.340</u>
<u>1-3/4 3.745</u>	<u>1 8.770</u>	<u>4 1/2 9.397</u>
<u>1-3/4 3.934</u>	<u>3 1/2 8.840</u>	<u>4 1/2 9.459</u>
<u>1-1/4 4.244</u>	<u>5 1/2 8.870</u>	<u>4 9.553</u>
<u>1 4.548</u>	<u>1-3/4 545 W 8.579</u>	<u>4 9.646</u>

Drilling Contractor McVay Drilling Company

By: James McVay

Subscribed and sworn to before me this 2nd day of December, 19 87

Phyllis Jean Carey
Notary Public

My Commission Expires: December 27, 1987

Lea County New Mexico

WELL NAME AND NUMBER Rig #8 Tipperary S.W/4-29 Unit #1

LOCATION Section 29, T16S, R37E, Lea County
(Give Unit, Section, Township and Range)

OPERATOR Tipperary Petroleum

DRILLING CONTRACTOR McVay Drilling Company

The undersigned hereby certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

<u>Degrees @ Depth</u>	<u>Degrees @ Depth</u>	<u>Degrees @ Depth</u>
4 9.742		
5 9.836		
4 9.899		
4 9.993		
4 10.087		
3 10.213		
3 10.339		
2-3/4 10.451		
2 10.609		
1 10.764		
1 10.883		
1 11.134		
1/2 11.210		
1 11.134		
1 11.390		

Drilling Contractor McVay Drilling Company

By: Joe McVay

Subscribed and sworn to before me this 2 day of December, 1987

Phyllis Jean Courtwright
Notary Public

My Commision Expires: December 27, 1987

Lea County New Mexico

INCLINE DIPMETER ANALYSIS - COMPUTED RESULTS LISTING

=====

CREATION DATE (DDMMYY) = 20:11:87
 CREATION TIME (HHMMSS) = 13:55:42

COMPANY : TIPPERARY PETROLEUM CO.
 FIELD : EAST LOVINGTON
 WELL : WISER 29 STATE COMM. NO. 1
 RUN NO. : 1
 COUNTY : LEA
 STATE : NEW MEXICO
 API WELL NO. :

LOCATION:

LATITUDE :

LONGITUDE :

ELEVATIONS:

PERMANENT DATUM : GROUND
 LOG MEASURED FROM : KB
 DRILLING FROM : KB

GL ELEVATION
 KDB ELEVATION

3808.0
 3827.0

PROCESSING AND GENERAL INFORMATION:

DATE LOGGED : 11/12/87
 DEPTH LOGGER : 11388.000
 DEPTH DRILLER : 11400.000
 CASING LOGGER : 4236.000
 CASING DRILLER : 4244.000
 BIT SIZE : 7.875
 LOGGING CONTRACTOR: GO

DATE PROCESSED : 16/11/87
 BOTTOM LOG INT. : 11386.000
 TOP LOG INT. : 10000.000
 BOTTOM PROCESSED : 11378.00
 TOP PROCESSED INT. : 4220.00
 CORRELATION LENGTH : 4.00
 REPEAT STEP : 2.00

SEARCH ANGLE AND REFERENCE DATUM:

SEARCH ANGLE : 2.00 WITH REFERENCE TO BOREHOLE
 MAXIMUM PERMITTED SEARCH WRT. BOREHOLE: 75.0

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
4230.00	4230.00	.50	86.00	.07	.06
4240.00	4240.00	.40	122.00	.08	.13
4250.00	4250.00	.50	90.00	.09	.21
4260.00	4260.00	.70	92.00	.10	.31
4270.00	4270.00	.70	92.00	.10	.44
4280.00	4280.00	.60	94.00	.11	.55
4290.00	4290.00	.60	91.00	.11	.65
4300.00	4300.00	.60	93.00	.11	.76
4310.00	4310.00	.50	91.00	.12	.86
4320.00	4320.00	.50	91.00	.12	.95
4330.00	4330.00	.50	90.00	.12	1.00
4340.00	4340.00	.50	91.00	.12	1.12
4350.00	4350.00	.50	90.00	.12	1.21
4360.00	4360.00	.50	92.00	.12	1.30
4370.00	4370.00	.50	93.00	.12	1.38
4380.00	4380.00	.40	89.00	.13	1.47
4390.00	4390.00	.50	90.00	.13	1.54
4400.00	4400.00	.40	93.00	.13	1.62
4410.00	4410.00	.40	101.00	.14	1.69
4420.00	4420.00	.40	96.00	.15	1.76
4430.00	4430.00	.40	92.00	.16	1.83
4440.00	4440.00	.40	95.00	.16	1.90
4450.00	4450.00	.40	96.00	.17	1.97
4460.00	4460.00	.40	93.00	.17	2.04
4470.00	4470.00	.40	90.00	.17	2.11
4480.00	4480.00	.40	100.00	.18	2.18
4490.00	4490.00	.40	95.00	.18	2.25
4500.00	4500.00	.40	97.00	.19	2.33
4510.00	4510.00	.50	92.00	.20	2.40
4520.00	4520.00	.40	106.00	.22	2.48
4530.00	4530.00	.40	105.00	.22	2.55
4540.00	4540.00	.60	104.00	.22	2.62
4550.00	4550.00	.60	108.00	.22	2.69
4560.00	4560.00	.60	117.00	.22	2.76
4570.00	4570.00	.60	121.00	.22	2.83
4580.00	4580.00	.60	127.00	.22	2.90
4590.00	4590.00	.60	129.00	.22	2.97
4600.00	4600.00	.60	132.00	.22	3.04
4610.00	4610.00	.60	132.00	.22	3.11
4620.00	4620.00	.50	129.00	.22	3.18
4630.00	4630.00	.50	134.00	.22	3.25
4640.00	4640.00	.50	128.00	.22	3.32
4650.00	4650.00	.60	134.00	.22	3.39
4660.00	4660.00	.60	129.00	.22	3.46

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
4670.00	4670.00	.60	137.00	-1.01	3.68
4680.00	4680.00	.60	139.00	-1.09	3.75
4690.00	4690.00	.60	138.00	-1.17	3.82
4700.00	4700.00	.40	132.00	-1.24	3.87
4710.00	4710.00	.40	153.00	-1.30	3.90
4720.00	4720.00	.40	154.00	-1.36	3.94
4730.00	4730.00	.30	138.00	-1.41	3.97
4740.00	4740.00	.30	122.00	-1.44	4.01
4750.00	4750.00	.30	133.00	-1.47	4.05
4760.00	4760.00	.30	169.00	-1.51	4.08
4770.00	4770.00	.30	150.00	-1.56	4.10
4780.00	4780.00	.50	135.00	-1.59	4.16
4790.00	4790.00	.50	138.00	-1.65	4.22
4800.00	4800.00	.50	147.00	-1.72	4.28
4810.00	4810.00	.60	155.00	-1.81	4.36
4820.00	4820.00	.60	161.00	-1.90	4.36
4830.00	4830.00	.50	175.00	-2.00	4.39
4840.00	4840.00	.40	169.00	-2.08	4.40
4850.00	4850.00	.30	145.00	-2.13	4.42
4860.00	4860.00	.60	151.00	-2.20	4.47
4870.00	4870.00	.60	158.00	-2.29	4.50
4880.00	4880.00	.60	162.00	-2.39	4.55
4890.00	4890.00	.50	174.00	-2.48	4.57
4900.00	4900.00	.40	158.00	-2.54	4.61
4910.00	4910.00	.60	152.00	-2.61	4.64
4920.00	4920.00	.70	158.00	-2.72	4.69
4930.00	4930.00	.70	181.00	-2.84	4.70
4940.00	4940.00	.50	171.00	-2.93	4.71
4950.00	4950.00	.50	159.00	-3.01	4.73
4960.00	4960.00	.60	157.00	-3.10	4.77
4970.00	4970.00	.60	158.00	-3.20	4.80
4980.00	4980.00	.60	180.00	-3.31	4.83
4990.00	4990.00	.60	182.00	-3.42	4.86
5000.00	5000.00	.50	176.00	-3.51	4.88
5010.00	5010.00	.50	141.00	-3.59	4.87
5020.00	5020.00	.60	159.00	-3.67	4.90
5030.00	5030.00	.60	157.00	-3.77	4.94
5040.00	5040.00	.60	166.00	-3.87	4.99
5050.00	5050.00	.70	170.00	-3.98	4.99
5060.00	5060.00	.60	185.00	-4.09	4.99
5070.00	5070.00	.40	179.00	-4.18	4.98
5080.00	5080.00	.50	152.00	-4.26	5.00
5090.00	5090.00	.60	161.00	-4.35	5.04
5100.00	5100.00	.70	166.00	-4.46	5.08

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
110.00	110.00	.50	179.00	1.4	1.0
120.00	120.00	.50	174.00	1.4	1.0
130.00	130.00	.50	151.00	1.4	1.3
140.00	140.00	.70	158.00	1.4	1.8
150.00	150.00	.70	164.00	1.4	2.2
160.00	160.00	.70	172.00	1.4	2.5
170.00	170.00	.60	171.00	1.1	2.7
180.00	180.00	.50	169.00	1.1	2.8
190.00	190.00	.50	137.00	1.1	2.8
200.00	200.00	.50	156.00	1.1	3.6
210.00	210.00	.70	156.00	1.1	4.0
220.00	220.00	.70	185.00	1.1	4.4
230.00	230.00	.60	179.00	1.1	4.4
240.00	240.00	.60	180.00	1.1	4.4
250.00	250.00	.50	177.00	1.1	4.4
260.00	260.00	.50	182.00	1.1	4.4
270.00	270.00	.50	185.00	1.1	4.4
280.00	280.00	.50	179.00	1.1	4.4
290.00	290.00	.50	146.00	1.1	4.4
300.00	300.00	.70	162.00	1.1	4.4
310.00	310.00	.70	169.00	1.1	4.4
320.00	320.00	.60	185.00	1.1	4.4
330.00	330.00	.60	186.00	1.1	4.4
340.00	340.00	.70	180.00	1.1	4.4
350.00	350.00	.60	184.00	1.1	4.4
360.00	360.00	.60	184.00	1.1	4.4
370.00	370.00	.60	180.00	1.1	4.4
380.00	380.00	.60	182.00	1.1	4.4
390.00	390.00	.60	181.00	1.1	4.4
400.00	400.00	.50	176.00	1.1	4.4
410.00	410.00	.40	162.00	1.1	4.4
420.00	420.00	.40	173.00	1.1	4.4
430.00	430.00	.40	141.00	1.1	4.4
440.00	440.00	.50	148.00	1.1	4.4
450.00	450.00	.60	145.00	1.1	4.4
460.00	460.00	.60	145.00	1.1	4.4
470.00	470.00	.60	146.00	1.1	4.4
480.00	480.00	.60	145.00	1.1	4.4
490.00	490.00	.60	150.00	1.1	4.4
500.00	500.00	.60	168.00	1.1	4.4
510.00	510.00	.50	170.00	1.1	4.4
520.00	520.00	.50	170.00	1.1	4.4
530.00	530.00	.50	170.00	1.1	4.4
540.00	540.00	.50	142.00	1.1	4.4

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
5550.00	5550.00	.30	170.00	-18.66	1.60
5560.00	5560.00	.40	161.00	-18.72	1.60
5570.00	5570.00	.50	149.00	-18.79	1.60
5580.00	5580.00	.60	160.00	-18.89	1.60
5590.00	5590.00	.70	168.00	-18.99	1.60
5600.00	5600.00	.80	181.00	-19.10	1.60
5610.00	5610.00	.90	180.00	-19.20	1.60
5620.00	5620.00	1.00	177.00	-19.27	1.60
5630.00	5630.00	1.10	167.00	-19.45	1.60
5640.00	5640.00	1.20	161.00	-19.54	1.60
5650.00	5650.00	1.30	167.00	-19.59	1.60
5660.00	5660.00	1.40	168.00	-19.63	1.60
5670.00	5670.00	1.50	172.00	-19.75	1.60
5680.00	5680.00	1.60	169.00	-19.87	1.60
5690.00	5690.00	1.70	171.00	-19.99	1.60
5700.00	5700.00	1.80	179.00	-10.11	1.60
5710.00	5710.00	1.90	175.00	-10.23	1.60
5720.00	5720.00	2.00	178.00	-10.33	1.60
5730.00	5730.00	2.10	177.00	-10.43	1.60
5740.00	5740.00	2.20	172.00	-10.54	1.60
5750.00	5750.00	2.30	181.00	-10.64	1.60
5760.00	5760.00	2.40	192.00	-10.75	1.60
5770.00	5770.00	2.50	187.00	-10.85	1.60
5780.00	5780.00	2.60	196.00	-10.93	1.60
5790.00	5790.00	2.70	171.00	-11.00	1.60
5800.00	5800.00	2.80	173.00	-11.08	1.60
5810.00	5810.00	2.90	169.00	-11.16	1.60
5820.00	5820.00	3.00	175.00	-11.25	1.60
5830.00	5830.00	3.10	179.00	-11.34	1.60
5840.00	5840.00	3.20	177.00	-11.42	1.60
5850.00	5850.00	3.30	180.00	-11.51	1.60
5860.00	5860.00	3.40	185.00	-11.60	1.60
5870.00	5870.00	3.50	178.00	-11.69	1.60
5880.00	5880.00	3.60	174.00	-11.77	1.60
5890.00	5890.00	3.70	184.00	-11.87	1.60
5900.00	5900.00	3.80	194.00	-11.96	1.60
5910.00	5910.00	3.90	193.00	-12.05	1.60
5920.00	5920.00	4.00	189.00	-12.15	1.60
5930.00	5930.00	4.10	192.00	-12.25	1.60
5940.00	5940.00	4.20	189.00	-12.34	1.60
5950.00	5950.00	4.30	201.00	-12.43	1.60
5960.00	5960.00	4.40	199.00	-12.50	1.60
5970.00	5970.00	4.50	210.00	-12.56	1.60
5980.00	5980.00	4.60	201.00	-12.62	1.60

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
5990.00	5990.00	.40	208.00	-12.67	6.18
6000.00	6000.00	.30	184.00	-12.73	6.18
6010.00	6010.00	.30	200.00	-12.78	6.15
6020.00	6020.00	.30	206.00	-12.81	6.13
6030.00	6030.00	.20	159.00	-12.85	6.11
6040.00	6040.00	.30	160.00	-12.89	6.13
6050.00	6050.00	.40	160.00	-12.95	6.15
6060.00	6060.00	.40	160.00	-13.01	6.18
6070.00	6070.00	.50	164.00	-13.09	6.20
6080.00	6080.00	.40	158.00	-13.16	6.20
6090.00	6090.00	.40	162.00	-13.23	6.20
6100.00	6100.00	.50	160.00	-13.31	6.18
6110.00	6110.00	.50	160.00	-13.39	6.16
6120.00	6120.00	.50	165.00	-13.47	6.16
6130.00	6130.00	.60	160.00	-13.56	6.14
6140.00	6140.00	.50	180.00	-13.65	6.10
6150.00	6150.00	.50	181.00	-13.74	6.08
6160.00	6160.00	.40	173.00	-13.82	6.09
6170.00	6170.00	.40	171.00	-13.89	6.40
6180.00	6180.00	.50	153.00	-13.97	6.43
6190.00	6190.00	.60	150.00	-14.05	6.40
6200.00	6200.00	.60	159.00	-14.14	6.35
6210.00	6210.00	.60	162.00	-14.24	6.35
6220.00	6220.00	.70	164.00	-14.34	6.30
6230.00	6230.00	.70	158.00	-14.46	6.27
6240.00	6240.00	.70	161.00	-14.57	6.27
6250.00	6250.00	.70	165.00	-14.69	6.27
6260.00	6260.00	.60	158.00	-14.79	6.27
6270.00	6270.00	.60	159.00	-14.89	6.27
6280.00	6280.00	.60	150.00	-14.98	6.27
6290.00	6290.00	.60	154.00	-15.08	6.27
6300.00	6300.00	.60	153.00	-15.17	6.27
6310.00	6310.00	.60	152.00	-15.26	6.26
6320.00	6320.00	.60	149.00	-15.35	6.26
6330.00	6330.00	.60	149.00	-15.44	6.26
6340.00	6340.00	.60	148.00	-15.53	6.26
6350.00	6350.00	.60	154.00	-15.62	6.26
6360.00	6360.00	.60	150.00	-15.71	6.26
6370.00	6370.00	.60	158.00	-15.81	6.26
6380.00	6380.00	.60	159.00	-15.91	6.26
6390.00	6390.00	.50	167.00	-16.00	6.44
6400.00	6400.00	.50	160.00	-16.08	6.44
6410.00	6410.00	.50	166.00	-16.17	6.44
6420.00	6420.00	.40	165.00	-16.24	6.44

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
6430.00	6430.00	.50	167.00	-16.31	7.42
6440.00	6440.00	.50	164.00	-16.39	7.44
6450.00	6450.00	.50	162.00	-16.48	7.47
6460.00	6460.00	.60	159.00	-16.56	7.50
6470.00	6470.00	.60	153.00	-16.66	7.54
6480.00	6480.00	.50	156.00	-16.74	7.59
6490.00	6490.00	.60	155.00	-16.83	7.63
6500.00	6500.00	.50	181.00	-16.92	7.66
6510.00	6510.00	.50	177.00	-17.00	7.66
6520.00	6520.00	.50	172.00	-17.09	7.67
6530.00	6530.00	.40	146.00	-17.16	7.70
6540.00	6540.00	.40	180.00	-17.23	7.71
6550.00	6550.00	.40	177.00	-17.30	7.71
6560.00	6560.00	.30	180.00	-17.36	7.71
6570.00	6570.00	.30	195.00	-17.41	7.76
6580.00	6580.00	.20	171.00	-17.46	7.69
6590.00	6590.00	.20	165.00	-17.49	7.70
6600.00	6600.00	.20	157.00	-17.52	7.71
6610.00	6610.00	.20	146.00	-17.55	7.73
6620.00	6620.00	.10	157.00	-17.59	7.73
6630.00	6630.00	.10	194.00	-17.59	7.74
6640.00	6640.00	.20	175.00	-17.62	7.74
6650.00	6650.00	.10	174.00	-17.64	7.74
6660.00	6660.00	.10	243.00	-17.65	7.73
6670.00	6670.00	.10	113.00	-17.66	7.72
6680.00	6680.00	.10	194.00	-17.67	7.73
6690.00	6690.00	.10	135.00	-17.69	7.74
6700.00	6700.00	.20	185.00	-17.71	7.73
6710.00	6710.00	.20	212.00	-17.74	7.72
6720.00	6720.00	.20	201.00	-17.77	7.71
6730.00	6730.00	.20	175.00	-17.80	7.71
6740.00	6740.00	.30	188.00	-17.84	7.69
6750.00	6750.00	.30	204.00	-17.89	7.68
6760.00	6760.00	.30	159.00	-17.94	7.68
6770.00	6770.00	.20	159.00	-17.98	7.69
6780.00	6780.00	.20	149.00	-17.99	7.72
6790.00	6790.00	.30	147.00	-18.02	7.75
6800.00	6800.00	.40	154.00	-18.08	7.78
6810.00	6810.00	.40	164.00	-18.14	7.80
6820.00	6820.00	.40	189.00	-18.23	7.81
6830.00	6830.00	.30	188.00	-18.29	7.80
6840.00	6840.00	.20	163.00	-18.33	7.80
6850.00	6850.00	.20	169.00	-18.37	7.81
6860.00	6860.00	.20	131.00	-18.40	7.81

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
6870.00	6870.00	30	159.00	-1.43	7.84
6880.00	6880.00	30	159.00	-1.48	7.88
6890.00	6890.00	30	159.00	-1.53	7.92
6900.00	6900.00	30	156.00	-1.56	7.96
6910.00	6910.00	30	156.00	-1.59	7.99
6920.00	6920.00	30	156.00	-1.63	8.03
6930.00	6930.00	30	159.00	-1.67	8.07
6940.00	6940.00	40	157.00	-1.73	8.11
6950.00	6950.00	40	159.00	-1.80	8.15
6960.00	6960.00	40	157.00	-1.86	8.19
6970.00	6970.00	30	154.00	-1.91	8.23
6980.00	6980.00	30	163.00	-1.96	8.27
6990.00	6990.00	30	158.00	-1.99	8.31
7000.00	7000.00	30	164.00	-1.99	8.35
7010.00	7010.00	30	168.00	-1.99	8.39
7020.00	7020.00	30	173.00	-1.99	8.43
7030.00	7030.00	30	175.00	-1.99	8.47
7040.00	7040.00	30	181.00	-1.99	8.51
7050.00	7050.00	40	179.00	-1.99	8.55
7060.00	7060.00	50	178.00	-1.99	8.59
7070.00	7070.00	60	168.00	-1.99	8.63
7080.00	7080.00	60	172.00	-1.99	8.67
7090.00	7090.00	60	167.00	-1.99	8.71
7100.00	7100.00	70	164.00	-1.99	8.75
7110.00	7110.00	60	170.00	-1.99	8.79
7120.00	7120.00	70	168.00	-1.99	8.83
7130.00	7130.00	70	167.00	-1.99	8.87
7140.00	7140.00	60	163.00	-1.99	8.91
7150.00	7150.00	60	174.00	-1.99	8.95
7160.00	7160.00	60	172.00	-1.99	8.99
7170.00	7170.00	60	170.00	-1.99	9.03
7180.00	7180.00	60	167.00	-1.99	9.07
7190.00	7190.00	60	169.00	-1.99	9.11
7200.00	7200.00	60	165.00	-1.99	9.15
7210.00	7210.00	60	168.00	-1.99	9.19
7220.00	7220.00	60	168.00	-1.99	9.23
7230.00	7230.00	60	168.00	-1.99	9.27
7240.00	7240.00	60	170.00	-1.99	9.31
7250.00	7250.00	60	171.00	-1.99	9.35
7260.00	7260.00	60	173.00	-1.99	9.39
7270.00	7270.00	60	175.00	-1.99	9.43
7280.00	7280.00	60	174.00	-1.99	9.47
7290.00	7290.00	60	170.00	-1.99	9.51
7300.00	7300.00	60	161.00	-1.99	9.55

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
7310.00	7310.00	.40	155.00	-21.95	.00
7320.00	7320.00	.40	158.00	-22.01	.64
7330.00	7330.00	.30	158.00	-22.06	.70
7340.00	7340.00	.20	158.00	-22.09	.72
7350.00	7350.00	.20	158.00	-22.13	.72
7360.00	7360.00	.20	157.00	-22.16	.75
7370.00	7370.00	.20	153.00	-22.19	.76
7380.00	7380.00	.10	174.00	-22.21	.76
7390.00	7390.00	.20	139.00	-22.23	.77
7400.00	7400.00	.20	155.00	-22.26	.79
7410.00	7410.00	.20	152.00	-22.29	.81
7420.00	7420.00	.10	181.00	-22.31	.82
7430.00	7430.00	.10	172.00	-22.33	.83
7440.00	7440.00	.10	162.00	-22.35	.83
7450.00	7450.00	.10	157.00	-22.37	.83
7460.00	7460.00	.10	147.00	-22.38	.84
7470.00	7470.00	.10	228.00	-22.40	.84
7480.00	7480.00	.10	170.00	-22.41	.84
7490.00	7490.00	.10	201.00	-22.43	.86
7500.00	7500.00	.10	165.00	-22.44	.86
7510.00	7510.00	.10	139.00	-22.46	.84
7520.00	7520.00	.20	186.00	-22.49	.86
7530.00	7530.00	.20	181.00	-22.52	.86
7540.00	7540.00	.30	170.00	-22.56	.84
7550.00	7550.00	.20	170.00	-22.60	.85
7560.00	7560.00	.30	171.00	-22.65	.85
7570.00	7570.00	.20	166.00	-22.69	.86
7580.00	7580.00	.20	138.00	-22.72	.86
7590.00	7590.00	.20	166.00	-22.75	.88
7600.00	7600.00	.20	180.00	-22.78	.88
7610.00	7610.00	.20	157.00	-22.82	.89
7620.00	7620.00	.20	192.00	-22.85	.90
7630.00	7630.00	.20	210.00	-22.88	.90
7640.00	7640.00	.20	227.00	-22.91	.90
7650.00	7650.00	.10	242.00	-22.92	.90
7660.00	7660.00	.10	234.00	-22.93	.90
7670.00	7670.00	.10	287.00	-22.93	.91
7680.00	7680.00	.10	294.00	-22.93	.90
7690.00	7690.00	.20	259.00	-22.93	.90
7700.00	7700.00	.10	331.00	-22.93	.90
7710.00	7710.00	.20	300.00	-22.91	.90
7720.00	7720.00	.20	259.00	-22.91	.90
7730.00	7730.00	.20	274.00	-22.91	.90
7740.00	7740.00	.30	253.00	-22.90	.90

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
7750.00	7750.00	.30	263.00	-22.91	.00
7760.00	7760.00	.30	250.00	-22.93	.00
7770.00	7770.00	.30	259.00	-22.94	.00
7780.00	7780.00	.30	269.00	-22.95	.00
7790.00	7790.00	.30	256.00	-22.95	.00
7800.00	7800.00	.20	256.00	-22.96	.00
7810.00	7810.00	.30	236.00	-22.98	.00
7820.00	7820.00	.30	260.00	-22.99	.00
7830.00	7830.00	.20	273.00	-23.00	.00
7840.00	7840.00	.30	266.00	-23.00	.00
7850.00	7850.00	.30	262.00	-23.00	.00
7860.00	7860.00	.20	244.00	-23.01	.00
7870.00	7870.00	.10	250.00	-23.02	.00
7880.00	7880.00	.10	264.00	-23.02	.00
7890.00	7890.00	.10	220.00	-23.03	.00
7900.00	7900.00	.10	176.00	-23.05	.00
7910.00	7910.00	.10	347.00	-23.06	.00
7920.00	7920.00	.10	264.00	-23.05	.00
7930.00	7930.00	.10	184.00	-23.06	.00
7940.00	7940.00	0.00	188.00	-23.06	.00
7950.00	7950.00	0.00	184.00	-23.06	.00
7960.00	7960.00	.10	86.00	-23.06	.00
7970.00	7970.00	0.00	72.00	-23.06	.00
7980.00	7980.00	.10	43.00	-23.06	.00
7990.00	7990.00	.10	124.00	-23.05	.00
8000.00	8000.00	0.00	138.00	-23.06	.00
8010.00	8010.00	0.00	102.00	-23.06	.00
8020.00	8020.00	.10	97.00	-23.06	.00
8030.00	8030.00	.10	134.00	-23.07	.00
8040.00	8040.00	.10	79.00	-23.07	.00
8050.00	8050.00	.10	178.00	-23.08	.00
8060.00	8060.00	.10	148.00	-23.09	.00
8070.00	8070.00	.10	89.00	-23.10	.00
8080.00	8080.00	.10	31.00	-23.09	.00
8090.00	8090.00	0.00	20.00	-23.09	.00
8100.00	8100.00	.10	138.00	-23.09	.00
8110.00	8110.00	.10	134.00	-23.10	.00
8120.00	8120.00	.10	125.00	-23.11	.00
8130.00	8130.00	.10	119.00	-23.12	.00
8140.00	8140.00	.10	165.00	-23.14	.00
8150.00	8150.00	.10	176.00	-23.15	.00
8160.00	8160.00	.20	170.00	-23.18	.00
8170.00	8170.00	.20	134.00	-23.21	.00
8180.00	8180.00	.20	179.00	-23.24	.00

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
00190.00	00190.00	.20	171.00	-23.28	.00
00200.00	00200.00	.20	178.00	-23.31	.00
00210.00	00210.00	.20	173.00	-23.35	.00
00220.00	00220.00	.20	142.00	-23.38	.00
00230.00	00230.00	.20	162.00	-23.41	.00
00240.00	00240.00	.20	170.00	-23.44	.00
00250.00	00250.00	.20	174.00	-23.48	.00
00260.00	00260.00	.20	181.00	-23.51	.00
00270.00	00270.00	.20	182.00	-23.55	.00
00280.00	00280.00	.30	177.00	-23.59	.00
00290.00	00290.00	.30	186.00	-23.64	.00
00300.00	00300.00	.20	178.00	-23.69	.00
00310.00	00310.00	.40	177.00	-23.73	.00
00320.00	00320.00	.20	179.00	-23.78	.00
00330.00	00330.00	.40	180.00	-23.82	.00
00340.00	00340.00	.40	177.00	-23.88	.00
00350.00	00350.00	.40	177.00	-23.93	.00
00360.00	00360.00	.20	175.00	-23.97	.00
00370.00	00370.00	.20	162.00	-24.01	.00
00380.00	00380.00	.20	176.00	-24.05	.00
00390.00	00390.00	.20	179.00	-24.09	.00
00400.00	00400.00	.20	190.00	-24.12	.00
00410.00	00410.00	.20	189.00	-24.16	.00
00420.00	00420.00	.20	209.00	-24.21	.00
00430.00	00430.00	.20	173.00	-24.24	.00
00440.00	00440.00	.20	191.00	-24.27	.00
00450.00	00450.00	.20	190.00	-24.31	.00
00460.00	00460.00	.20	155.00	-24.34	.00
00470.00	00470.00	.20	188.00	-24.37	.00
00480.00	00480.00	.20	195.00	-24.41	.00
00490.00	00490.00	.20	196.00	-24.44	.00
00500.00	00500.00	.10	173.00	-24.47	.00
00510.00	00510.00	.10	162.00	-24.49	.00
00520.00	00520.00	.20	233.00	-24.51	.00
00530.00	00530.00	.10	231.00	-24.53	.00
00540.00	00540.00	.10	204.00	-24.55	.00
00550.00	00550.00	.20	246.00	-24.57	.00
00560.00	00560.00	.60	243.00	-24.59	.00
00570.00	00570.00	.50	213.00	-24.64	.00
00580.00	00580.00	1.10	266.00	-24.73	.00
00590.00	00590.00	1.50	229.00	-24.79	.00
00600.00	00600.00	1.00	232.00	-24.97	.00
00610.00	00610.00	1.90	219.00	-25.07	.00
00620.00	00620.00	1.00	222.00	-25.43	.00

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
8630.00	8630.00	1.80	222.00	-25.67	6.85
8640.00	8640.00	1.90	222.00	-25.91	6.64
8650.00	8650.00	1.90	223.00	-26.15	6.41
8660.00	8660.00	1.80	224.00	-26.38	6.22
8670.00	8670.00	1.80	221.00	-26.61	6.01
8680.00	8680.00	1.80	222.00	-26.85	5.80
8690.00	8690.00	1.60	217.00	-27.08	5.62
8700.00	8700.00	1.80	222.00	-27.32	5.41
8710.00	8710.00	1.80	224.00	-27.56	5.20
8720.00	8720.00	1.80	215.00	-27.80	5.00
8730.00	8730.00	1.80	224.00	-28.03	4.79
8740.00	8740.00	1.90	220.00	-28.27	4.58
8750.00	8750.00	1.80	222.00	-28.52	4.37
8760.00	8760.00	1.80	225.00	-28.74	4.15
8770.00	8770.00	1.80	218.00	-28.98	3.95
8780.00	8780.00	1.70	220.00	-29.22	3.76
8790.00	8790.00	1.50	221.00	-29.43	3.58
8800.00	8800.00	1.50	227.00	-29.62	3.40
8810.00	8810.00	1.60	230.00	-29.80	3.19
8820.00	8820.00	1.40	228.00	-30.01	3.09
8830.00	8830.00	1.70	219.00	-30.19	2.91
8840.00	8840.00	1.20	269.00	-30.31	2.71
8850.00	8850.00	1.10	209.00	-30.43	2.58
8860.00	8860.00	.90	71.00	-30.52	2.49
8870.00	8870.00	1.10	321.00	-30.43	2.56
8880.00	8880.00	.90	167.00	-30.44	2.51
8890.00	8890.00	.80	111.00	-30.52	2.61
8900.00	8900.00	1.50	90.00	-30.55	2.80
8910.00	8910.00	2.20	107.00	-30.57	3.10
8920.00	8920.00	2.30	143.00	-30.78	3.40
8930.00	8930.00	2.50	89.00	-30.87	3.76
8940.00	8940.00	4.00	90.00	-30.58	4.05
8950.00	8949.96	3.90	81.00	-30.55	4.44
8960.00	8959.94	4.10	91.00	-30.50	4.83
8970.00	8969.92	4.20	83.00	-30.44	5.26
8980.00	8979.90	4.40	80.00	-30.39	5.63
8990.00	8989.87	4.40	80.00	-30.25	6.00
9000.00	8999.84	4.10	85.00	-30.16	6.30
9010.00	9009.82	4.10	79.00	-30.04	6.70
9020.00	9019.80	4.10	79.00	-29.89	7.11
9030.00	9029.78	4.10	76.00	-29.74	7.54
9040.00	9039.76	4.10	72.00	-29.54	8.00
9050.00	9049.74	4.20	77.00	-29.36	8.50
9060.00	9059.72	4.30	79.00	-29.19	9.00

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
9070.00	9069.70	4.10	78.00	-29.04	12.96
9080.00	9079.68	4.00	75.00	-28.88	13.64
9090.00	9089.66	4.10	75.00	-28.66	14.33
9100.00	9099.64	4.40	78.00	-28.52	15.01
9110.00	9109.61	4.10	76.00	-28.36	15.75
9120.00	9119.59	4.20	74.00	-28.17	16.45
9130.00	9129.57	4.00	78.00	-28.01	17.13
9140.00	9139.55	4.00	77.00	-27.85	17.83
9150.00	9149.53	4.10	76.00	-27.69	18.51
9160.00	9159.51	3.90	76.00	-27.52	19.19
9170.00	9169.49	3.90	75.00	-27.35	19.88
9180.00	9179.47	4.00	77.00	-27.20	20.54
9190.00	9189.46	4.00	77.00	-27.04	21.22
9200.00	9199.44	4.00	75.00	-26.87	21.90
9210.00	9209.42	4.10	77.00	-26.70	22.59
9220.00	9219.40	4.20	76.00	-26.53	23.27
9230.00	9229.38	4.00	75.00	-26.35	23.97
9240.00	9239.36	4.10	76.00	-26.17	24.65
9250.00	9249.34	4.00	77.00	-26.01	25.33
9260.00	9259.32	4.20	77.00	-25.84	26.01
9270.00	9269.30	4.00	77.00	-25.68	26.72
9280.00	9279.28	4.10	79.00	-25.53	27.41
9290.00	9289.26	3.90	78.00	-25.39	28.08
9300.00	9299.24	3.80	77.00	-25.25	28.75
9310.00	9309.22	3.80	78.00	-25.10	29.43
9320.00	9319.20	3.80	78.00	-24.97	30.04
9330.00	9329.18	3.70	78.00	-24.83	30.68
9340.00	9339.16	3.70	79.00	-24.71	31.11
9350.00	9349.14	3.60	78.00	-24.58	31.94
9360.00	9359.12	3.70	77.00	-24.44	32.56
9370.00	9369.10	3.70	78.00	-24.31	33.19
9380.00	9379.08	3.70	76.00	-24.18	33.81
9390.00	9389.06	3.80	78.00	-24.03	34.44
9400.00	9399.04	3.80	79.00	-23.90	35.09
9410.00	9409.03	3.80	78.00	-23.76	35.74
9420.00	9419.01	3.90	82.00	-23.62	36.40
9430.00	9428.99	3.70	78.00	-23.51	37.06
9440.00	9438.97	3.80	78.00	-23.38	37.70
9450.00	9448.95	3.80	78.00	-23.24	38.35
9460.00	9458.93	3.50	78.00	-23.10	39.07
9470.00	9468.91	3.60	77.00	-22.97	39.95
9480.00	9478.89	3.90	80.00	-22.84	40.17
9490.00	9488.87	3.90	79.00	-22.74	40.75
9500.00	9498.85	3.60	74.00	-22.60	41.33

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
9510.00	9508.83	3.60	74.00	-22.43	41.93
9520.00	9518.81	3.30	77.00	-22.28	42.52
9530.00	9528.79	3.30	76.00	-22.14	43.08
9540.00	9538.77	3.40	74.00	-21.99	43.65
9550.00	9548.75	3.30	76.00	-21.83	44.21
9560.00	9558.73	3.20	75.00	-21.66	44.76
9570.00	9568.71	3.30	72.00	-21.50	45.31
9580.00	9578.69	3.30	74.00	-21.36	45.86
9590.00	9588.67	3.30	73.00	-21.21	46.42
9600.00	9598.65	3.30	73.00	-21.05	46.97
9610.00	9608.63	3.40	73.00	-20.87	47.53
9620.00	9618.62	3.30	72.00	-20.70	48.08
9630.00	9628.60	3.30	74.00	-20.53	48.63
9640.00	9638.58	3.30	75.00	-20.38	49.18
9650.00	9648.56	3.30	73.00	-20.22	49.74
9660.00	9658.54	3.30	77.00	-20.05	50.29
9670.00	9668.52	3.40	77.00	-19.89	50.83
9680.00	9678.50	3.40	73.00	-19.73	51.46
9690.00	9688.48	3.40	72.00	-19.57	52.00
9700.00	9698.46	3.50	72.00	-19.40	52.55
9710.00	9708.44	3.40	69.00	-19.25	53.10
9720.00	9718.42	3.20	69.00	-19.09	53.66
9730.00	9728.40	3.20	72.00	-18.93	54.21
9740.00	9738.38	3.00	71.00	-18.76	54.77
9750.00	9748.36	3.90	84.00	-18.59	55.32
9760.00	9758.34	3.00	71.00	-18.43	55.87
9770.00	9768.32	3.90	72.00	-18.26	56.42
9780.00	9778.30	3.90	67.00	-18.09	56.97
9790.00	9788.28	3.00	74.00	-17.93	57.52
9800.00	9798.26	3.10	73.00	-17.76	58.07
9810.00	9808.24	3.00	73.00	-17.59	58.62
9820.00	9818.22	3.20	73.00	-17.43	59.17
9830.00	9828.20	3.10	69.00	-17.26	59.72
9840.00	9838.19	3.10	68.00	-17.09	60.27
9850.00	9848.17	3.20	69.00	-16.93	60.82
9860.00	9858.15	3.90	67.00	-16.76	61.37
9870.00	9868.13	3.00	66.00	-16.60	61.92
9880.00	9878.11	3.00	68.00	-16.43	62.47
9890.00	9888.09	3.00	71.00	-16.26	63.02
9900.00	9898.07	3.90	71.00	-16.09	63.57
9910.00	9908.05	3.00	83.00	-15.93	64.12
9920.00	9918.03	3.70	69.00	-15.76	64.67
9930.00	9928.01	3.60	72.00	-15.59	65.22
9940.00	9937.99	3.60	73.00	-15.43	65.77

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
9950.00	9947.97	2.60	73.00	-15.24	64.96
9960.00	9957.95	2.60	76.00	-15.12	65.40
9970.00	9967.95	2.50	73.00	-14.99	65.82
9980.00	9977.94	2.80	73.00	-14.90	66.22
9990.00	9987.92	2.60	71.00	-14.76	66.60
10000.00	9997.90	2.70	74.00	-14.62	67.12
10010.00	10007.88	2.60	73.00	-14.48	67.56
10020.00	10017.87	2.70	72.00	-14.36	68.01
10030.00	10027.85	2.70	71.00	-14.21	68.46
10040.00	10037.83	2.60	70.00	-14.06	68.89
10050.00	10047.81	2.70	73.00	-13.91	69.34
10060.00	10057.79	2.70	71.00	-13.77	69.78
10070.00	10067.77	2.60	71.00	-13.62	70.23
10080.00	10077.76	2.50	69.00	-13.47	70.64
10090.00	10087.74	2.60	69.00	-13.30	71.06
10100.00	10097.74	2.50	71.00	-13.15	71.46
10110.00	10107.74	2.40	71.00	-13.01	71.87
10120.00	10117.74	2.30	71.00	-12.88	72.25
10130.00	10127.74	2.50	72.00	-12.75	72.66
10140.00	10137.74	2.30	71.00	-12.61	73.05
10150.00	10147.74	2.30	71.00	-12.47	73.43
10160.00	10157.74	2.30	69.00	-12.34	73.81
10170.00	10167.74	2.20	71.00	-12.21	74.17
10180.00	10177.74	2.10	70.00	-12.08	74.53
10190.00	10187.74	2.10	73.00	-11.96	74.88
10200.00	10197.74	2.00	72.00	-11.85	75.22
10210.00	10207.74	1.80	77.00	-11.77	75.54
10220.00	10217.74	1.80	78.00	-11.75	75.85
10230.00	10227.74	1.80	78.00	-11.68	76.16
10240.00	10237.74	1.80	81.00	-11.63	76.46
10250.00	10247.74	1.90	82.00	-11.58	76.79
10260.00	10257.74	1.80	88.00	-11.52	77.13
10270.00	10267.74	1.90	87.00	-11.51	77.45
10280.00	10277.74	1.80	86.00	-11.49	77.77
10290.00	10287.74	1.90	87.00	-11.47	78.09
10300.00	10297.74	2.10	81.00	-11.46	78.41
10310.00	10307.74	2.10	83.00	-11.40	78.78
10320.00	10317.74	2.30	78.00	-11.34	79.15
10330.00	10327.74	2.30	78.00	-11.26	79.55
10340.00	10337.74	2.60	74.00	-11.14	79.95
10350.00	10347.73	2.40	72.00	-11.02	80.38
10360.00	10357.73	2.30	70.00	-10.88	80.76
10370.00	10367.73	2.10	67.00	-10.74	81.11
10380.00	10377.73	2.10	68.00	-10.60	81.45

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
10390.00	10387.73	2.20	68.00	-10.46	81.80
10400.00	10397.73	2.20	68.00	-10.32	82.15
10410.00	10407.73	2.30	67.00	-10.16	82.52
10420.00	10417.73	1.80	72.00	-10.01	82.86
10430.00	10427.73	1.80	74.00	-9.92	83.16
10440.00	10437.73	1.70	76.00	-9.84	83.46
10450.00	10447.73	1.60	73.00	-9.76	83.73
10460.00	10457.73	1.60	78.00	-9.70	84.01
10470.00	10467.73	1.50	79.00	-9.65	84.27
10480.00	10477.73	1.60	86.00	-9.61	84.54
10490.00	10487.73	1.50	79.00	-9.57	84.80
10500.00	10497.73	1.50	85.00	-9.54	85.05
10510.00	10507.73	1.60	82.00	-9.51	85.32
10520.00	10517.73	1.60	86.00	-9.48	85.59
10530.00	10527.73	1.70	86.00	-9.46	85.88
10540.00	10537.73	1.80	87.00	-9.46	86.20
10550.00	10547.73	1.70	81.00	-9.43	86.50
10560.00	10557.73	1.70	80.00	-9.38	86.80
10570.00	10567.73	1.60	77.00	-9.32	87.07
10580.00	10577.73	1.30	77.00	-9.26	87.31
10590.00	10587.73	1.20	81.00	-9.22	87.53
10600.00	10597.73	1.20	80.00	-9.18	87.74
10610.00	10607.73	1.20	90.00	-9.17	87.95
10620.00	10617.73	1.40	86.00	-9.17	88.17
10630.00	10627.73	1.40	78.00	-9.15	88.41
10640.00	10637.73	1.30	76.00	-9.09	88.64
10650.00	10647.73	1.10	74.00	-9.04	88.84
10660.00	10657.73	.90	79.00	-9.07	89.01
10670.00	10667.73	.90	83.00	-9.05	89.16
10680.00	10677.73	.80	83.00	-9.03	89.31
10690.00	10687.73	.90	87.00	-9.02	89.46
10700.00	10697.73	1.00	92.00	-9.02	89.63
10710.00	10707.73	1.10	82.00	-9.01	89.81
10720.00	10717.73	1.10	76.00	-8.98	90.00
10730.00	10727.73	1.00	71.00	-8.92	90.17
10740.00	10737.73	.80	68.00	-8.86	90.32
10750.00	10747.73	.70	75.00	-8.81	90.44
10760.00	10757.73	.80	80.00	-8.78	90.57
10770.00	10767.73	.90	94.00	-8.72	90.72
10780.00	10777.73	.90	81.00	-8.79	90.88
10790.00	10787.73	.90	68.00	-8.76	91.03
10800.00	10797.73	.80	66.00	-8.70	91.17
10810.00	10807.73	.70	68.00	-8.55	91.28
10820.00	10817.73	.70	53.00	-8.55	91.38

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
10830.00	10827.73	.50	77.00	-0.50	91.47
10840.00	10837.73	.60	69.00	-0.47	91.56
10850.00	10847.73	.50	70.00	-0.44	91.65
10860.00	10857.73	.70	87.00	-0.42	91.75
10870.00	10867.73	.70	80.00	-0.41	91.88
10880.00	10877.73	.70	73.00	-0.38	91.99
10890.00	10887.73	.70	72.00	-0.34	92.11
10900.00	10897.73	.60	69.00	-0.30	92.22
10910.00	10907.73	.70	71.00	-0.26	92.33
10920.00	10917.73	.70	72.00	-0.23	92.44
10930.00	10927.73	.50	93.00	-0.22	92.54
10940.00	10937.73	.40	71.00	-0.19	92.62
10950.00	10947.73	.30	91.00	-0.17	92.68
10960.00	10957.73	.40	120.00	-0.19	92.74
10970.00	10967.73	.30	95.00	-0.20	92.79
10980.00	10977.73	.50	115.00	-0.23	92.86
10990.00	10987.73	.50	105.00	-0.26	92.94
11000.00	10997.73	.40	93.00	-0.27	93.01
11010.00	11007.73	.40	94.00	-0.28	93.08
11020.00	11017.73	.20	161.00	-0.29	93.12
11030.00	11027.73	.40	155.00	-0.34	93.13
11040.00	11037.73	.50	139.00	-0.37	93.18
11050.00	11047.73	.50	137.00	-0.47	93.24
11060.00	11057.73	.50	133.00	-0.52	93.31
11070.00	11067.73	.40	133.00	-0.57	93.37
11080.00	11077.73	.30	171.00	-0.62	93.39
11090.00	11087.73	.30	163.00	-0.67	93.41
11100.00	11097.73	.50	167.00	-0.74	93.42
11110.00	11107.73	.40	176.00	-0.82	93.44
11120.00	11117.73	.50	163.00	-0.90	93.45
11130.00	11127.73	.50	166.00	-0.98	93.47
11140.00	11137.73	.60	171.00	-0.99	93.49
11150.00	11147.73	.60	170.00	-0.99	93.51
11160.00	11157.73	.60	161.00	-0.99	93.54
11170.00	11167.73	.60	156.00	-0.99	93.58
11180.00	11177.73	.60	148.00	-0.97	93.61
11190.00	11187.73	.50	152.00	-0.95	93.66
11200.00	11197.73	.50	100.00	-0.96	93.73
11210.00	11207.73	.70	212.00	-0.98	93.71
11220.00	11217.73	.40	164.00	-0.97	93.72
11230.00	11227.73	.50	178.00	-0.95	93.74
11240.00	11237.73	.60	169.00	-0.94	93.75
11250.00	11247.73	.60	175.00	-1.04	93.75
11260.00	11257.73	.50	185.00	-1.13	93.76

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
11270.00	11267.73	.40	213.00	-10.21	93.74
11280.00	11277.73	.40	171.00	-10.28	93.73
11290.00	11287.73	.40	197.00	-10.34	93.72
11300.00	11297.73	.40	157.00	-10.42	93.74
11310.00	11307.73	.40	172.00	-10.49	93.76
11320.00	11317.73	.50	179.00	-10.57	93.77
11330.00	11327.73	.40	216.00	-10.63	93.74
11340.00	11337.73	.60	210.00	-10.68	93.68
11350.00	11347.73	.70	207.00	-10.77	93.63
11360.00	11357.73	.70	201.00	-10.88	93.58
11370.00	11367.73	.70	194.00	-11.00	93.55
11378.00	11375.73	.70	190.00	-11.10	93.53

**NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT**

Form C-102
Superseded C-128
Effective 12-65

All distances must be from the outer boundaries of the Section

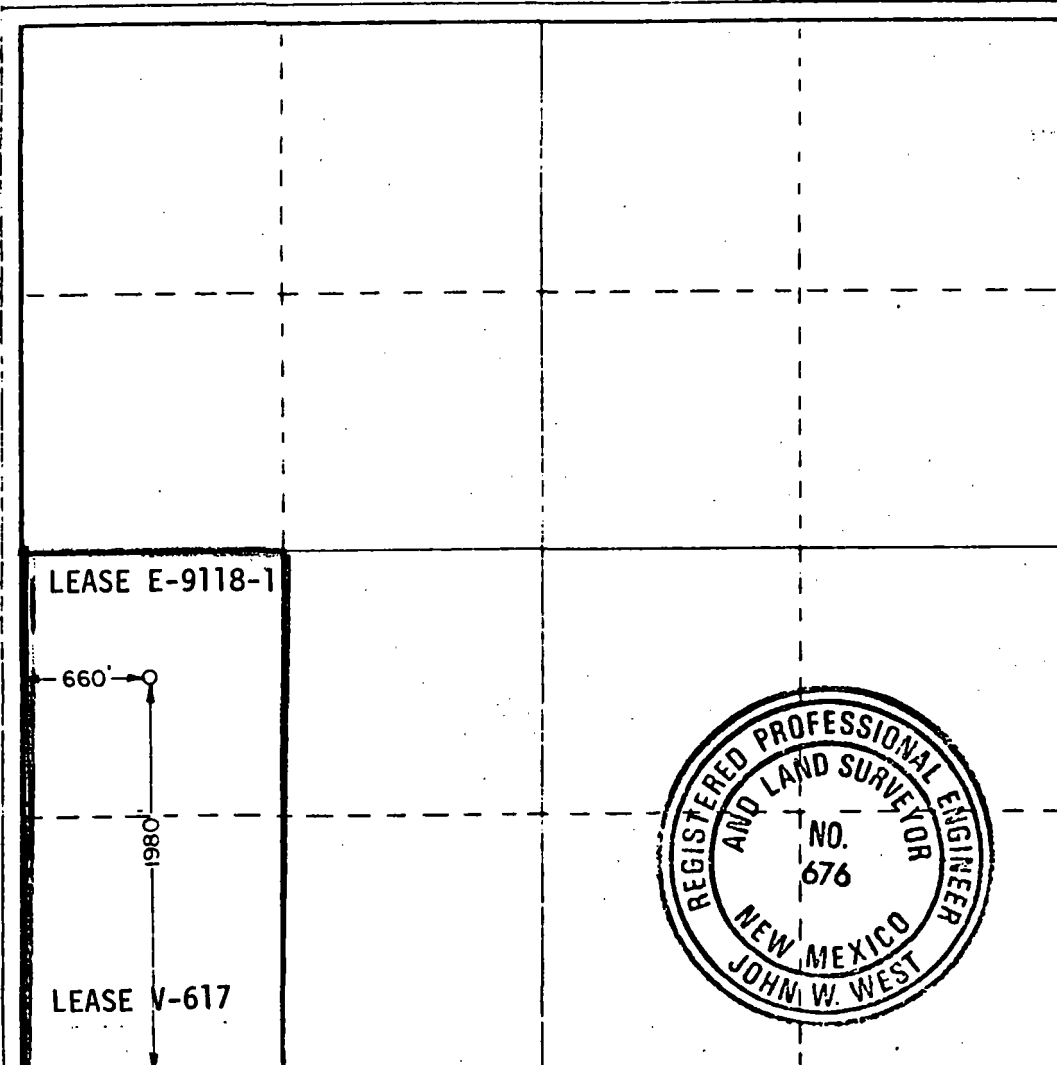
Operator Tipperary Petroleum Company			Lease TIPPERARY SW/4-29 UNIT		Well No. 1
Lot Letter L	Section 29	Township 16 SOUTH	Range 37 EAST	County LEA	
Actual Surface Location of Well: 1980 feet from the SOUTH line and 660 feet from the WEST line					
Surface Elev. 3808.3	Producing Formation <i>Strawn</i>		Pool <i>Northeast Lovington Lens</i>	Estimated Acreage 80	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty)
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☒ Yes ☐ No If answer is "yes" type of consolidation _____

If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

Joe W. Younger

Joe W. Younger

Operations Manager

Tipperary Petroleum Company

Date
9- 3-87

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
August 26, 1987

Registered Professional Engineer
and/or Land Surveyor

John W. West

Certificate No. **JOHN W. WEST, 676**
RONALD J. FINSON, 3239



STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

HOBBS DISTRICT OFFICE

DEC 11 1987

GARREY CARRUTHERS
GOVERNOR

OIL CONSERVATION DIVISION
SANTA FE

December 8, 1987

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

To: Mike Stogner

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

RE: Proposed:

MC _____
DHC _____
NSL _____
NSP _____
SWD _____
WFX _____
PMX _____

Exception to Rule 111-B

Gentlemen:

I have examined the application for the:

Tipperary ^{Ref} Co. Tipperary Sw/4-29 Unit #1-L 29-16-37
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

I see no problem with the attached request from Tipperary to deviate a well
closer toward the proposed bottom hole location.

Yours very truly,

Jerry Sexton
Jerry Sexton
Supervisor, District 1

/ed



Tipperary

PETROLEUM COMPANY

P. O. Box 3179

Midland, Texas 79702-3179

Phone (915) 684-7151
TWX 910 8955335

December 4, 1987

*Attention
Mr. Saylor*

Mr. William J. Lemay, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Commission
P. O. Box 2088
Santa Fe, NM 87504-2088

Dear Mr. Lemay:

Re: Exception to Rule 111-B
Tipperary SW/4-29 Unit No. 1
660' FWL & 1980' FSL
Sec. 29, T16S, R37E
Northeast Lovington Penn Pool
Lea County, New Mexico

The above referenced well was spudded on October 29, 1987, and during the course of drilling, crooked hole and sloughing formation problems were encountered at 8865'. Not understanding the sloughing problem completely, we decided the most definitive way to alleviate the problem was to deviate the well in a southwest direction or approximately 180° away from the direction of the sloughing problem. The well was kicked off at 8494' and directionally drilled to 8745' with a maximum deviation of 2-3/4°. At 8745', the directional tools were pulled out of the hole and the well was conventionally drilled to total depth of 11,400'.

The NMOCC in Hobbs was contacted on October 14, 1987, to advise them of our intent to sidetrack and straighten the hole, but we failed to communicate our plans "to deviate in a determinate direction". As mentioned earlier, this action was taken to straighten the hole in a direction away from the hole problems which we were encountering.

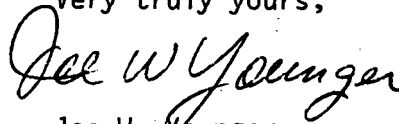
I have attached a copy of the directional survey run from the base of the 8-5/8" casing (4230') to 11,370', which shows the displacement of the hole over this interval to be 11.10' south and 93.53' east. Attached is a copy

Mr. William J. Lemay, Director
Page 2
December 4, 1987

of the deviation tests run by the drilling contractor which indicates a maximum displacement of 76.48' over the interval from surface to 4244'. Also attached is a plat which shows the ownership surrounding the subject well and shows the eastwardly bottomhole location isn't crowding adjacent leases and is well within tolerances for a standard location.

Based on the above information, it is requested that an exception to Rule 111-B be granted administratively.

Very truly yours,



Joe W. Younger
Operations Manager

JWY:gh

cc: Amerind Oil Company
500 Wilco Building
Midland, TX 79701

Moncrief Oil Interests
Moncrief Building
9th at Commerce
Fort Worth, TX 76102

Texaco Producing Inc.
P. O. Box 3109
Midland, TX 79702

Yates Petroleum Corp.
1669 South Voss, Suite 355
Houston, TX 77057



Tipperary

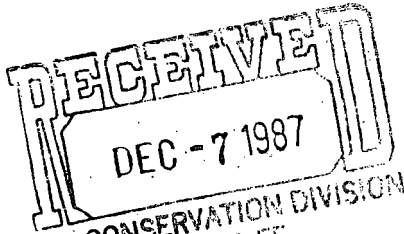
PETROLEUM COMPANY

P. O. Box 3179

Midland, Texas 79702-3179

N/2 SW/4

Phone (915) 684-7151
TWX 910 8955335



December 4, 1987

Mr. William U. Lemay, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Commission
P. O. Box 2088
Santa Fe, NM 87504-2088

Dear Mr. Lemay:

Re: Exception to Rule 111-B
Tipperary SW/4-29 Unit No. 1
660' FWL & 1980' FSL
Sec. 29, T16S, R37E
Northeast Lovington Penn Pool
Lea County, New Mexico

The above referenced well was spudded on October 29, 1987, and during the course of drilling, crooked hole and sloughing formation problems were encountered at 8865'. Not understanding the sloughing problem completely, we decided the most definitive way to alleviate the problem was to deviate the well in a southwest direction or approximately 180° away from the direction of the sloughing problem. The well was kicked off at 8494' and directionally drilled to 8745' with a maximum deviation of 2-3/4°. At 8745', the directional tools were pulled out of the hole and the well was conventionally drilled to total depth of 11,400'.

The NMOCC in Hobbs was contacted on October 14, 1987, to advise them of our intent to sidetrack and straighten the hole, but we failed to communicate our plans "to deviate in a determinate direction". As mentioned earlier, this action was taken to straighten the hole in a direction away from the hole problems which we were encountering.

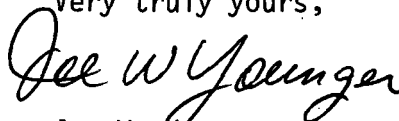
I have attached a copy of the directional survey run from the base of the 8-5/8" casing (4230') to 11,370', which shows the displacement of the hole over this interval to be 11.10' south and 93.53' east. Attached is a copy

Mr. William J. Lemay, Director
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of the deviation tests run by the drilling contractor which indicates a maximum displacement of 76.48' over the interval from surface to 4244'. Also attached is a plat which shows the ownership surrounding the subject well and shows the eastwardly bottomhole location isn't crowding adjacent leases and is well within tolerances for a standard location.

Based on the above information, it is requested that an exception to Rule 111-B be granted administratively.

Very truly yours,



Joe W. Younger
Operations Manager

JWY:gh

cc: Amerind Oil Company
500 Wilco Building
Midland, TX 79701

Moncrief Oil Interests
Moncrief Building
9th at Commerce
Fort Worth, TX 76102

Texaco Producing Inc.
P. O. Box 3109
Midland, TX 79702

Yates Petroleum Corp.
1669 South Voss, Suite 355
Houston, TX 77057

INCLINE DIPMETER ANALYSIS - COMPUTED RESULTS LISTING

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CREATION DATE (DDMMYY) = 20:11:87
 CREATION TIME (HHMMSS) = 13:55:42

COMPANY	:	TIPPERARY PETROLEUM CO.
FIELD	:	EAST LOVINGTON
WELL	:	WISER 29 STATE COMM NO. 1
RUN NO.	:	1
COUNTY	:	LEA
STATE	:	NEW MEXICO
API WELL NO.	:	

LOCATION:

LATITUDE

LONGITUDE

ELEVATIONS:

PERMANENT DATUM : GROUND
 LOG MEASURED FROM : KB
 DRILLING FROM : KB

GL ELEVATION
 KDB ELEVATION

3808.0
 3827.0

PROCESSING AND GENERAL INFORMATION:

DATE LOGGED : 11/12/87
 DEPTH LOGGER : 11388.000
 DEPTH DRILLER : 11400.000
 CASING LOGGER : 4236.000
 CASING DRILLER : 4244.000
 BIT SIZE : 7.875
 LOGGING CONTRACTOR: GD

DATE PROCESSED : 16/11/87
 BOTTOM LOG INT. : 11386.000
 TOP LOG INT. : 10000.000
 BOTTOM PROCESSED : 11378.00
 TOP PROCESSED INT. : 4220.00
 CORRELATION LENGTH: 4.00
 REPEAT STEP : 2.00

SEARCH ANGLE AND REFERENCE DATUM:

SEARCH ANGLE : 2.00 WITH REFERENCE TO BOREHOLE
 MAXIMUM PERMITTED SEARCH WRT. BOREHOLE: 75.0

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
4230.00	4230.00	.50	86.00	-.07	.06
4240.00	4240.00	.40	122.00	-.03	.13
4250.00	4250.00	.50	90.00	-.09	.21
4260.00	4260.00	.70	92.00	-.10	.31
4270.00	4270.00	.70	92.00	-.10	.44
4280.00	4280.00	.60	94.00	-.11	.55
4290.00	4290.00	.60	91.00	-.11	.65
4300.00	4300.00	.60	93.00	-.11	.75
4310.00	4310.00	.50	91.00	-.12	.86
4320.00	4320.00	.50	91.00	-.12	.96
4330.00	4330.00	.50	90.00	-.12	1.06
4340.00	4340.00	.50	91.00	-.12	1.16
4350.00	4350.00	.50	90.00	-.12	1.26
4360.00	4360.00	.50	92.00	-.12	1.36
4370.00	4370.00	.50	93.00	-.12	1.47
4380.00	4380.00	.40	89.00	-.12	1.54
4390.00	4390.00	.50	90.00	-.13	1.62
4400.00	4400.00	.40	93.00	-.13	1.76
4410.00	4410.00	.40	101.00	-.14	1.83
4420.00	4420.00	.40	96.00	-.15	1.90
4430.00	4430.00	.40	92.00	-.16	1.97
4440.00	4440.00	.40	95.00	-.16	2.04
4450.00	4450.00	.40	96.00	-.17	2.11
4460.00	4460.00	.40	93.00	-.17	2.18
4470.00	4470.00	.40	90.00	-.17	2.26
4480.00	4480.00	.40	100.00	-.18	2.33
4490.00	4490.00	.40	95.00	-.18	2.40
4500.00	4500.00	.40	97.00	-.19	2.48
4510.00	4510.00	.50	92.00	-.20	2.55
4520.00	4520.00	.50	106.00	-.21	2.63
4530.00	4530.00	.40	105.00	-.22	2.70
4540.00	4540.00	.60	104.00	-.22	2.78
4550.00	4550.00	.60	108.00	-.22	2.85
4560.00	4560.00	.60	117.00	-.23	2.93
4570.00	4570.00	.60	121.00	-.23	3.00
4580.00	4580.00	.60	127.00	-.23	3.08
4590.00	4590.00	.60	129.00	-.24	3.16
4600.00	4600.00	.60	132.00	-.25	3.24
4610.00	4610.00	.60	132.00	-.26	3.31
4620.00	4620.00	.50	129.00	-.27	3.39
4630.00	4630.00	.50	134.00	-.27	3.45
4640.00	4640.00	.60	128.00	-.28	3.53
4650.00	4650.00	.60	134.00	-.29	3.60
4660.00	4660.00	.60	129.00	-.29	3.68

MEASUREMENT

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
4670.00	4670.00	.60	137.00	-1.01	3.66
4680.00	4680.00	.60	139.00	-1.09	3.76
4690.00	4690.00	.60	138.00	-1.17	3.86
4700.00	4700.00	.40	139.00	-1.24	3.96
4710.00	4710.00	.40	153.00	-1.30	3.96
4720.00	4720.00	.40	154.00	-1.36	3.96
4730.00	4730.00	.30	138.00	-1.41	3.94
4740.00	4740.00	.30	122.00	-1.44	4.01
4750.00	4750.00	.30	133.00	-1.47	4.05
4760.00	4760.00	.30	169.00	-1.51	4.08
4770.00	4770.00	.30	150.00	-1.56	4.10
4780.00	4780.00	.50	135.00	-1.59	4.16
4790.00	4790.00	.50	138.00	-1.65	4.22
4800.00	4800.00	.50	147.00	-1.72	4.30
4810.00	4810.00	.60	155.00	-1.81	4.38
4820.00	4820.00	.60	161.00	-1.90	4.36
4830.00	4830.00	.50	175.00	-2.00	4.39
4840.00	4840.00	.40	169.00	-2.08	4.40
4850.00	4850.00	.60	145.00	-2.13	4.42
4860.00	4860.00	.60	151.00	-2.20	4.44
4870.00	4870.00	.60	158.00	-2.29	4.52
4880.00	4880.00	.60	162.00	-2.39	4.55
4890.00	4890.00	.50	174.00	-2.48	4.57
4900.00	4900.00	.40	158.00	-2.54	4.61
4910.00	4910.00	.60	152.00	-2.61	4.64
4920.00	4920.00	.70	158.00	-2.72	4.69
4930.00	4930.00	.50	181.00	-2.84	4.70
4940.00	4940.00	.50	171.00	-2.93	4.71
4950.00	4950.00	.50	159.00	-3.01	4.73
4960.00	4960.00	.60	157.00	-3.10	4.77
4970.00	4970.00	.60	158.00	-3.20	4.80
4980.00	4980.00	.60	180.00	-3.31	4.83
4990.00	4990.00	.60	182.00	-3.42	4.83
5000.00	5000.00	.50	176.00	-3.51	4.83
5010.00	5010.00	.50	141.00	-3.59	4.83
5020.00	5020.00	.60	159.00	-3.67	4.90
5030.00	5030.00	.60	157.00	-3.77	4.94
5040.00	5040.00	.60	166.00	-3.87	4.97
5050.00	5050.00	.70	170.00	-3.98	4.99
5060.00	5060.00	.60	185.00	-4.09	4.99
5070.00	5070.00	.40	179.00	-4.18	4.99
5080.00	5080.00	.50	152.00	-4.26	5.00
5090.00	5090.00	.60	161.00	-4.35	5.04
5100.00	5100.00	.70	166.00	-4.46	5.08

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
110.00	110.00	.60	179.00	-4.50	.10
120.00	120.00	.50	174.00	-4.60	.10
130.00	130.00	.30	151.00	-4.70	.10
140.00	140.00	.70	158.00	-4.80	.10
150.00	150.00	.00	164.00	-4.90	.10
160.00	160.00	.70	172.00	-5.00	.10
170.00	170.00	.60	171.00	-5.00	.10
180.00	180.00	.50	169.00	-5.00	.10
190.00	190.00	.50	167.00	-5.00	.10
200.00	200.00	.50	156.00	-5.00	.10
210.00	210.00	.70	156.00	-5.00	.10
220.00	220.00	.70	185.00	-5.00	.10
230.00	230.00	.60	179.00	-5.00	.10
240.00	240.00	.50	180.00	-5.00	.10
250.00	250.00	.50	177.00	-5.00	.10
260.00	260.00	.50	182.00	-5.00	.10
270.00	270.00	.60	185.00	-5.00	.10
280.00	280.00	.50	179.00	-5.00	.10
290.00	290.00	.50	148.00	-5.00	.10
300.00	300.00	.70	162.00	-5.00	.10
310.00	310.00	.70	169.00	-5.00	.10
320.00	320.00	.60	185.00	-5.00	.10
330.00	330.00	.60	186.00	-5.00	.10
340.00	340.00	.70	180.00	-5.00	.10
350.00	350.00	.60	184.00	-5.00	.10
360.00	360.00	.60	184.00	-5.00	.10
370.00	370.00	.60	180.00	-5.00	.10
380.00	380.00	.60	182.00	-5.00	.10
390.00	390.00	.60	181.00	-5.00	.10
400.00	400.00	.50	176.00	-5.00	.10
410.00	410.00	.40	162.00	-5.00	.10
420.00	420.00	.40	173.00	-5.00	.10
430.00	430.00	.40	141.00	-5.00	.10
440.00	440.00	.50	148.00	-5.00	.10
450.00	450.00	.60	140.00	-5.00	.10
460.00	460.00	.60	145.00	-5.00	.10
470.00	470.00	.60	146.00	-5.00	.10
480.00	480.00	.70	145.00	-5.00	.10
490.00	490.00	.60	156.00	-5.00	.10
500.00	500.00	.60	160.00	-5.00	.10
510.00	510.00	.50	170.00	-5.00	.10
520.00	520.00	.50	170.00	-5.00	.10
530.00	530.00	.50	170.00	-5.00	.10
540.00	540.00	.60	142.00	-5.00	.10

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
5550.00	5550.00	30	170.00	-0.66	6.07
5560.00	5560.00	40	161.00	-0.72	6.00
5570.00	5570.00	50	149.00	-0.79	1.22
5580.00	5580.00	60	160.00	-0.89	1.27
5590.00	5590.00	70	168.00	-0.99	2.00
5600.00	5600.00	80	181.00	-1.10	1.11
5610.00	5610.00	90	180.00	-1.20	1.11
5620.00	5620.00	100	177.00	-1.27	0.99
5630.00	5630.00	110	167.00	-1.35	0.99
5640.00	5640.00	120	161.00	-1.43	0.99
5650.00	5650.00	130	167.00	-1.51	0.99
5660.00	5660.00	140	168.00	-1.63	0.99
5670.00	5670.00	150	172.00	-1.75	0.99
5680.00	5680.00	160	169.00	-1.87	0.99
5690.00	5690.00	170	171.00	-1.99	0.99
5700.00	5700.00	180	179.00	-2.11	0.99
5710.00	5710.00	190	175.00	-2.23	0.99
5720.00	5720.00	200	178.00	-2.35	0.99
5730.00	5730.00	210	177.00	-2.43	0.99
5740.00	5740.00	220	172.00	-2.54	0.99
5750.00	5750.00	230	181.00	-2.64	0.99
5760.00	5760.00	240	192.00	-2.75	0.99
5770.00	5770.00	250	187.00	-2.87	0.99
5780.00	5780.00	260	196.00	-2.99	0.99
5790.00	5790.00	270	171.00	-3.11	0.99
5800.00	5800.00	280	173.00	-3.23	0.99
5810.00	5810.00	290	169.00	-3.35	0.99
5820.00	5820.00	300	175.00	-3.47	0.99
5830.00	5830.00	310	179.00	-3.59	0.99
5840.00	5840.00	320	177.00	-3.71	0.99
5850.00	5850.00	330	180.00	-3.83	0.99
5860.00	5860.00	340	185.00	-3.95	0.99
5870.00	5870.00	350	178.00	-4.07	0.99
5880.00	5880.00	360	174.00	-4.19	0.99
5890.00	5890.00	370	184.00	-4.31	0.99
5900.00	5900.00	380	194.00	-4.43	0.99
5910.00	5910.00	390	193.00	-4.55	0.99
5920.00	5920.00	400	189.00	-4.67	0.99
5930.00	5930.00	410	192.00	-4.79	0.99
5940.00	5940.00	420	189.00	-4.91	0.99
5950.00	5950.00	430	201.00	-5.03	0.99
5960.00	5960.00	440	199.00	-5.15	0.99
5970.00	5970.00	450	210.00	-5.27	0.99
5980.00	5980.00	460	201.00	-5.39	0.99

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
5990.00	5990.00	.40	208.00	-12.67	6.18
6000.00	6000.00	.30	184.00	-12.73	6.18
6010.00	6010.00	.30	200.00	-12.78	6.15
6020.00	6020.00	.30	206.00	-12.81	6.13
6030.00	6030.00	.20	159.00	-12.85	6.11
6040.00	6040.00	.30	160.00	-12.88	6.13
6050.00	6050.00	.40	160.00	-12.95	6.15
6060.00	6060.00	.40	160.00	-13.01	6.18
6070.00	6070.00	.50	164.00	-13.09	6.20
6080.00	6080.00	.40	158.00	-13.16	6.20
6090.00	6090.00	.40	162.00	-13.26	6.20
6100.00	6100.00	.50	160.00	-13.33	6.20
6110.00	6110.00	.50	160.00	-13.39	6.11
6120.00	6120.00	.50	165.00	-13.47	6.14
6130.00	6130.00	.60	160.00	-13.56	6.14
6140.00	6140.00	.50	180.00	-13.65	6.13
6150.00	6150.00	.50	181.00	-13.74	6.13
6160.00	6160.00	.40	173.00	-13.82	6.13
6170.00	6170.00	.40	171.00	-13.90	6.14
6180.00	6180.00	.50	153.00	-14.00	6.13
6190.00	6190.00	.60	150.00	-14.05	6.13
6200.00	6200.00	.60	159.00	-14.14	6.13
6210.00	6210.00	.60	162.00	-14.24	6.13
6220.00	6220.00	.70	164.00	-14.33	6.13
6230.00	6230.00	.70	158.00	-14.46	6.13
6240.00	6240.00	.70	161.00	-14.55	6.13
6250.00	6250.00	.70	165.00	-14.66	6.13
6260.00	6260.00	.60	158.00	-14.79	6.13
6270.00	6270.00	.60	159.00	-14.90	6.13
6280.00	6280.00	.60	150.00	-14.98	6.13
6290.00	6290.00	.60	154.00	-15.08	6.13
6300.00	6300.00	.60	153.00	-15.17	6.13
6310.00	6310.00	.60	152.00	-15.26	6.13
6320.00	6320.00	.60	149.00	-15.36	6.13
6330.00	6330.00	.60	149.00	-15.44	6.13
6340.00	6340.00	.60	148.00	-15.53	6.13
6350.00	6350.00	.60	154.00	-15.62	6.13
6360.00	6360.00	.60	150.00	-15.71	6.13
6370.00	6370.00	.60	158.00	-15.80	6.13
6380.00	6380.00	.60	159.00	-15.91	6.13
6390.00	6390.00	.50	167.00	-16.00	6.13
6400.00	6400.00	.50	160.00	-16.08	6.13
6410.00	6410.00	.50	166.00	-16.17	6.13
6420.00	6420.00	.40	165.00	-16.24	6.13

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
6430.00	6430.00	.50	167.00	-16.31	7.42
6440.00	6440.00	.50	164.00	-16.39	7.44
6450.00	6450.00	.50	162.00	-16.48	7.47
6460.00	6460.00	.60	159.00	-16.56	7.50
6470.00	6470.00	.60	153.00	-16.66	7.54
6480.00	6480.00	.50	156.00	-16.74	7.59
6490.00	6490.00	.60	155.00	-16.83	7.63
6500.00	6500.00	.50	131.00	-16.92	7.66
6510.00	6510.00	.50	177.00	-17.00	7.66
6520.00	6520.00	.50	172.00	-17.09	7.67
6530.00	6530.00	.40	146.00	-17.16	7.70
6540.00	6540.00	.40	130.00	-17.23	7.71
6550.00	6550.00	.40	177.00	-17.30	7.71
6560.00	6560.00	.30	130.00	-17.36	7.71
6570.00	6570.00	.30	195.00	-17.41	7.70
6580.00	6580.00	.20	171.00	-17.46	7.69
6590.00	6590.00	.20	165.00	-17.49	7.70
6600.00	6600.00	.20	157.00	-17.52	7.71
6610.00	6610.00	.20	146.00	-17.55	7.73
6620.00	6620.00	.10	157.00	-17.57	7.73
6630.00	6630.00	.10	194.00	-17.59	7.74
6640.00	6640.00	.20	175.00	-17.62	7.74
6650.00	6650.00	.10	174.00	-17.64	7.74
6660.00	6660.00	.10	243.00	-17.65	7.73
6670.00	6670.00	.10	113.00	-17.66	7.72
6680.00	6680.00	.10	194.00	-17.67	7.73
6690.00	6690.00	.10	135.00	-17.69	7.74
6700.00	6700.00	.20	135.00	-17.71	7.73
6710.00	6710.00	.20	212.00	-17.74	7.72
6720.00	6720.00	.20	201.00	-17.77	7.71
6730.00	6730.00	.20	175.00	-17.80	7.71
6740.00	6740.00	.30	133.00	-17.84	7.69
6750.00	6750.00	.30	204.00	-17.89	7.68
6760.00	6760.00	.30	159.00	-17.94	7.68
6770.00	6770.00	.20	159.00	-17.98	7.69
6780.00	6780.00	.20	149.00	-17.99	7.70
6790.00	6790.00	.30	147.00	-18.02	7.75
6800.00	6800.00	.40	154.00	-18.08	7.78
6810.00	6810.00	.40	164.00	-18.14	7.80
6820.00	6820.00	.40	139.00	-18.23	7.81
6830.00	6830.00	.30	138.00	-18.29	7.80
6840.00	6840.00	.20	163.00	-18.33	7.80
6850.00	6850.00	.20	169.00	-18.37	7.81
6860.00	6860.00	.20	131.00	-18.40	7.81

10-0-00

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
68870.00	68870.00	0.00	153.00	-1.44	0.00
68880.00	68880.00	0.00	153.00	-1.44	0.00
68890.00	68890.00	0.00	153.00	-1.44	0.00
68900.00	68900.00	0.00	156.00	-1.44	0.00
68910.00	68910.00	0.00	156.00	-1.44	0.00
68920.00	68920.00	0.00	156.00	-1.44	0.00
68930.00	68930.00	0.00	156.00	-1.44	0.00
68940.00	68940.00	0.00	157.00	-1.44	0.00
68950.00	68950.00	0.00	159.00	-1.44	0.00
68960.00	68960.00	0.00	157.00	-1.44	0.00
68970.00	68970.00	0.00	154.00	-1.44	0.00
68980.00	68980.00	0.00	153.00	-1.44	0.00
68990.00	68990.00	0.00	158.00	-1.44	0.00
70000.00	70000.00	0.00	154.00	-1.44	0.00
70010.00	70010.00	0.00	158.00	-1.44	0.00
70020.00	70020.00	0.00	173.00	-1.44	0.00
70030.00	70030.00	0.00	175.00	-1.44	0.00
70040.00	70040.00	0.00	181.00	-1.44	0.00
70050.00	70050.00	0.00	179.00	-1.44	0.00
70060.00	70060.00	0.00	173.00	-1.44	0.00
70070.00	70070.00	0.00	168.00	-1.44	0.00
70080.00	70080.00	0.00	172.00	-1.44	0.00
70090.00	70090.00	0.00	167.00	-1.44	0.00
70100.00	70100.00	0.00	164.00	-1.44	0.00
70110.00	70110.00	0.00	170.00	-1.44	0.00
70120.00	70120.00	0.00	168.00	-1.44	0.00
70130.00	70130.00	0.00	167.00	-1.44	0.00
70140.00	70140.00	0.00	163.00	-1.44	0.00
70150.00	70150.00	0.00	174.00	-1.44	0.00
70160.00	70160.00	0.00	172.00	-1.44	0.00
70170.00	70170.00	0.00	170.00	-1.44	0.00
70180.00	70180.00	0.00	167.00	-1.44	0.00
70190.00	70190.00	0.00	169.00	-1.44	0.00
70200.00	70200.00	0.00	165.00	-1.44	0.00
70210.00	70210.00	0.00	168.00	-1.44	0.00
70220.00	70220.00	0.00	168.00	-1.44	0.00
70230.00	70230.00	0.00	168.00	-1.44	0.00
70240.00	70240.00	0.00	170.00	-1.44	0.00
70250.00	70250.00	0.00	171.00	-1.44	0.00
70260.00	70260.00	0.00	173.00	-1.44	0.00
70270.00	70270.00	0.00	173.00	-1.44	0.00
70280.00	70280.00	0.00	174.00	-1.44	0.00
70290.00	70290.00	0.00	170.00	-1.44	0.00
70300.00	70300.00	0.00	161.00	-1.44	0.00

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
7310.00	7310.00	.40	155.00	-21.95	00.64
7320.00	7320.00	.40	158.00	-22.01	00.63
7330.00	7330.00	.30	150.00	-22.06	00.70
7340.00	7340.00	.20	158.00	-22.09	00.72
7350.00	7350.00	.20	150.00	-22.13	00.70
7360.00	7360.00	.20	157.00	-22.16	00.70
7370.00	7370.00	.20	153.00	-22.19	00.76
7380.00	7380.00	.10	174.00	-22.21	00.76
7390.00	7390.00	.20	139.00	-22.23	00.77
7400.00	7400.00	.20	155.00	-22.26	00.79
7410.00	7410.00	.20	152.00	-22.29	00.81
7420.00	7420.00	.10	181.00	-22.31	00.82
7430.00	7430.00	.10	172.00	-22.33	00.82
7440.00	7440.00	.10	162.00	-22.35	00.83
7450.00	7450.00	.10	157.00	-22.37	00.83
7460.00	7460.00	.10	147.00	-22.38	00.84
7470.00	7470.00	.10	228.00	-22.40	00.84
7480.00	7480.00	.10	170.00	-22.41	00.84
7490.00	7490.00	.10	201.00	-22.43	00.83
7500.00	7500.00	.10	165.00	-22.44	00.83
7510.00	7510.00	.10	199.00	-22.46	00.84
7520.00	7520.00	.20	186.00	-22.49	00.83
7530.00	7530.00	.20	181.00	-22.52	00.83
7540.00	7540.00	.20	170.00	-22.56	00.84
7550.00	7550.00	.20	170.00	-22.60	00.85
7560.00	7560.00	.20	171.00	-22.65	00.85
7570.00	7570.00	.20	166.00	-22.68	00.86
7580.00	7580.00	.20	138.00	-22.72	00.86
7590.00	7590.00	.20	166.00	-22.75	00.83
7600.00	7600.00	.20	180.00	-22.79	00.89
7610.00	7610.00	.20	157.00	-22.82	00.89
7620.00	7620.00	.20	192.00	-22.85	00.90
7630.00	7630.00	.20	210.00	-22.88	00.90
7640.00	7640.00	.20	227.00	-22.91	00.90
7650.00	7650.00	.10	242.00	-22.92	00.90
7660.00	7660.00	.10	234.00	-22.93	00.90
7670.00	7670.00	.10	287.00	-22.93	00.91
7680.00	7680.00	.10	294.00	-22.93	00.90
7690.00	7690.00	.20	309.00	-22.93	00.91
7700.00	7700.00	.10	311.00	-22.93	00.94
7710.00	7710.00	.20	300.00	-22.91	00.90
7720.00	7720.00	.20	259.00	-22.91	00.90
7730.00	7730.00	.20	274.00	-22.91	00.90
7740.00	7740.00	.30	253.00	-22.90	00.90

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
7750.00	7750.00	.30	263.00	-22.91	.00
7760.00	7760.00	.30	250.00	-22.93	.00
7770.00	7770.00	.30	259.00	-22.94	.00
7780.00	7780.00	.30	269.00	-22.95	.00
7790.00	7790.00	.30	266.00	-22.95	.00
7800.00	7800.00	.30	256.00	-22.96	.00
7810.00	7810.00	.30	236.00	-22.98	.00
7820.00	7820.00	.30	250.00	-22.99	.00
7830.00	7830.00	.30	232.00	-22.99	.00
7840.00	7840.00	.30	266.00	-22.99	.00
7850.00	7850.00	.30	262.00	-22.99	.00
7860.00	7860.00	.30	244.00	-22.99	.00
7870.00	7870.00	.10	250.00	-22.99	.00
7880.00	7880.00	.10	234.00	-22.99	.00
7890.00	7890.00	.10	220.00	-22.99	.00
7900.00	7900.00	.10	176.00	-22.99	.00
7910.00	7910.00	.10	247.00	-22.99	.00
7920.00	7920.00	.10	264.00	-22.99	.00
7930.00	7930.00	.10	184.00	-22.99	.00
7940.00	7940.00	0.00	188.00	-22.99	.00
7950.00	7950.00	0.00	184.00	-22.99	.00
7960.00	7960.00	.10	86.00	-22.99	.00
7970.00	7970.00	0.00	32.00	-22.99	.00
7980.00	7980.00	.10	43.00	-22.99	.00
7990.00	7990.00	.10	124.00	-22.99	.00
8000.00	8000.00	0.00	138.00	-22.99	.00
8010.00	8010.00	0.00	182.00	-22.99	.00
8020.00	8020.00	.10	97.00	-22.99	.00
8030.00	8030.00	.10	134.00	-22.99	.00
8040.00	8040.00	.10	79.00	-22.99	.00
8050.00	8050.00	.10	178.00	-22.99	.00
8060.00	8060.00	.10	148.00	-22.99	.00
8070.00	8070.00	.10	89.00	-22.99	.00
8080.00	8080.00	.10	31.00	-22.99	.00
8090.00	8090.00	0.00	20.00	-22.99	.00
8100.00	8100.00	.10	138.00	-22.99	.00
8110.00	8110.00	.10	134.00	-22.99	.00
8120.00	8120.00	.10	125.00	-22.99	.00
8130.00	8130.00	.10	119.00	-22.99	.00
8140.00	8140.00	.10	165.00	-22.99	.00
8150.00	8150.00	.10	178.00	-22.99	.00
8160.00	8160.00	.20	170.00	-22.99	.00
8170.00	8170.00	.20	134.00	-22.99	.00
8180.00	8180.00	.20	179.00	-22.99	.00

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
0630.00	0630.00	1.80	222.00	-25.67	6.85
0640.00	0640.00	1.90	222.00	-25.91	6.64
0650.00	0650.00	1.90	223.00	-26.15	6.41
0660.00	0660.00	1.80	224.00	-26.38	6.22
0670.00	0670.00	1.80	221.00	-26.61	6.01
0680.00	0680.00	1.80	222.00	-26.85	5.80
0690.00	0690.00	1.60	217.00	-27.08	5.62
0700.00	0700.00	1.80	222.00	-27.32	5.41
0710.00	0710.00	1.80	224.00	-27.56	5.20
0720.00	0720.00	1.80	215.00	-27.80	5.00
0730.00	0730.00	1.90	224.00	-28.03	4.79
0740.00	0740.00	1.90	220.00	-28.27	4.58
0750.00	0750.00	1.80	222.00	-28.52	4.37
0760.00	0760.00	1.80	225.00	-28.74	4.15
0770.00	0770.00	1.80	218.00	-29.00	3.93
0780.00	0780.00	1.70	220.00	-29.22	3.69
0790.00	0790.00	1.50	221.00	-29.43	3.48
0800.00	0800.00	1.50	227.00	-29.62	3.26
0810.00	0810.00	1.60	230.00	-29.80	3.04
0820.00	0820.00	1.40	228.00	-30.01	2.82
0830.00	0830.00	1.70	219.00	-30.19	2.60
0840.00	0840.00	1.20	269.00	-30.31	2.37
0850.00	0850.00	1.10	209.00	-30.53	2.14
0860.00	0860.00	1.90	71.00	-30.52	1.90
0870.00	0870.00	1.10	321.00	-30.43	1.66
0880.00	0880.00	1.90	167.00	-30.44	1.41
0890.00	0890.00	1.50	111.00	-30.52	1.11
0900.00	0900.00	1.50	90.00	-30.56	8.00
0910.00	0910.00	2.20	107.00	-30.73	4.10
0920.00	0920.00	2.20	143.00	-30.78	4.00
0930.00	0930.00	2.40	89.00	-30.80	3.80
0940.00	0940.00	3.90	81.00	-30.55	4.44
0950.00	0950.00	4.10	91.00	-30.00	4.11
0960.00	0960.00	4.40	83.00	-30.44	3.66
0970.00	0970.00	4.40	80.00	-30.39	3.00
0980.00	0980.00	4.40	80.00	-30.35	3.00
0990.00	0990.00	4.10	85.00	-30.16	2.82
1000.00	1000.00	4.10	79.00	-30.04	2.41
1010.00	1010.00	4.10	79.00	-30.04	2.41
1020.00	1020.00	4.10	76.00	-30.74	1.00
1030.00	1030.00	4.10	72.00	-30.54	1.00
1040.00	1040.00	4.10	77.00	-30.66	1.00
1050.00	1050.00	4.30	79.00	-30.19	2.00
1060.00	1060.00	4.30			2.00

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZINUTH	DRIFT NORTH	DRIFT EAST
9070.00	9069.70	4.10	78.00	-29.04	12.96
9080.00	9079.68	4.00	75.00	-28.88	13.12
9090.00	9089.66	4.10	75.00	-28.69	14.31
9100.00	9099.64	4.40	78.00	-28.52	15.48
9110.00	9109.61	4.10	76.00	-28.36	15.75
9120.00	9119.59	4.20	74.00	-28.17	16.45
9130.00	9129.57	4.00	78.00	-28.01	17.13
9140.00	9139.55	4.00	77.00	-27.85	17.15
9150.00	9149.53	4.10	76.00	-27.69	18.31
9160.00	9159.51	3.90	76.00	-27.52	19.19
9170.00	9169.49	3.90	75.00	-27.35	19.65
9180.00	9179.47	4.00	77.00	-27.20	20.80
9190.00	9189.46	4.00	77.00	-27.04	21.96
9200.00	9199.44	4.00	75.00	-26.87	21.13
9210.00	9209.42	4.10	77.00	-26.70	22.30
9220.00	9219.40	4.20	76.00	-26.53	23.47
9230.00	9229.38	4.00	75.00	-26.35	23.65
9240.00	9239.36	4.10	76.00	-26.17	24.83
9250.00	9249.34	4.00	77.00	-26.01	25.99
9260.00	9259.32	4.20	77.00	-25.84	26.16
9270.00	9269.30	4.00	77.00	-25.68	27.32
9280.00	9279.28	4.10	79.00	-25.50	28.50
9290.00	9289.26	3.90	78.00	-25.33	29.67
9300.00	9299.24	3.80	77.00	-25.25	30.75
9310.00	9309.22	3.80	78.00	-25.10	31.90
9320.00	9319.20	3.80	78.00	-24.97	33.03
9330.00	9329.18	3.70	78.00	-24.83	34.17
9340.00	9339.16	3.70	79.00	-24.71	35.29
9350.00	9349.14	3.60	78.00	-24.58	36.42
9360.00	9359.12	3.70	77.00	-24.44	37.56
9370.00	9369.10	3.70	78.00	-24.31	38.69
9380.00	9379.08	3.70	76.00	-24.18	39.81
9390.00	9389.06	3.80	78.00	-24.03	40.97
9400.00	9399.04	3.80	79.00	-23.90	42.10
9410.00	9409.03	3.80	78.00	-23.76	43.24
9420.00	9419.01	3.90	82.00	-23.62	44.38
9430.00	9429.99	3.70	78.00	-23.51	45.49
9440.00	9439.97	3.80	78.00	-23.38	46.62
9450.00	9449.95	3.80	78.00	-23.24	47.76
9460.00	9459.93	3.50	78.00	-23.10	48.90
9470.00	9469.91	3.60	77.00	-22.97	50.03
9480.00	9479.89	3.90	80.00	-22.84	51.17
9490.00	9489.87	3.90	79.00	-22.74	52.26
9500.00	9499.85	6.00	74.00	-22.60	53.40

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
99510.00	99500.00	99500.00	74.00	-22.43	41.93
99520.00	99510.00	99510.00	77.00	-22.28	42.55
99530.00	99520.00	99520.00	76.00	-22.14	43.00
99540.00	99530.00	99530.00	74.00	-21.99	43.55
99550.00	99540.00	99540.00	76.00	-21.83	44.21
99560.00	99550.00	99550.00	75.00	-21.69	44.56
99570.00	99560.00	99560.00	73.00	-21.52	45.31
99580.00	99570.00	99570.00	74.00	-21.36	45.66
99590.00	99580.00	99580.00	73.00	-21.21	46.46
99600.00	99590.00	99590.00	73.00	-21.05	46.99
99610.00	99600.00	99600.00	72.00	-20.90	47.53
99620.00	99610.00	99610.00	72.00	-20.75	48.00
99630.00	99620.00	99620.00	74.00	-20.60	48.63
99640.00	99630.00	99630.00	75.00	-20.45	49.10
99650.00	99640.00	99640.00	76.00	-20.30	49.74
99660.00	99650.00	99650.00	77.00	-20.15	50.00
99670.00	99660.00	99660.00	77.00	-19.99	50.66
99680.00	99670.00	99670.00	76.00	-19.83	51.46
99690.00	99680.00	99680.00	75.00	-19.69	52.00
99700.00	99690.00	99690.00	73.00	-19.52	52.66
99710.00	99700.00	99700.00	73.00	-19.36	53.31
99720.00	99710.00	99710.00	72.00	-19.21	54.00
99730.00	99720.00	99720.00	71.00	-19.05	54.55
99740.00	99730.00	99730.00	74.00	-18.90	55.00
99750.00	99740.00	99740.00	71.00	-18.75	55.63
99760.00	99750.00	99750.00	71.00	-18.60	56.00
99770.00	99760.00	99760.00	72.00	-18.45	56.66
99780.00	99770.00	99770.00	74.00	-18.30	57.10
99790.00	99780.00	99780.00	73.00	-18.15	57.66
99800.00	99790.00	99790.00	73.00	-17.99	58.00
99810.00	99800.00	99800.00	73.00	-17.83	58.66
99820.00	99810.00	99810.00	75.00	-17.69	59.31
99830.00	99820.00	99820.00	76.00	-17.52	59.99
99840.00	99830.00	99830.00	77.00	-17.36	60.66
99850.00	99840.00	99840.00	77.00	-17.21	61.00
99860.00	99850.00	99850.00	76.00	-17.05	61.55
99870.00	99860.00	99860.00	75.00	-16.90	62.00
99880.00	99870.00	99870.00	74.00	-16.75	62.66
99890.00	99880.00	99880.00	73.00	-16.60	63.31
99900.00	99890.00	99890.00	73.00	-16.45	63.66
99910.00	99900.00	99900.00	71.00	-16.30	64.00
99920.00	99910.00	99910.00	72.00	-16.15	64.66
99930.00	99920.00	99920.00	72.00	-16.00	65.00
99940.00	99930.00	99930.00	74.00	-15.83	65.66
			73.00	-15.69	66.00
			73.00	-15.52	66.66
			73.00	-15.36	67.31
			72.00	-15.21	67.99
			72.00	-15.05	68.66
			74.00	-14.90	69.00
			75.00	-14.75	69.66
			76.00	-14.60	70.00
			77.00	-14.45	70.66
			77.00	-14.30	71.10
			76.00	-14.15	71.66
			75.00	-14.00	72.00
			74.00	-13.83	72.66
			73.00	-13.69	73.31
			73.00	-13.52	73.99
			73.00	-13.36	74.66
			72.00	-13.21	75.00
			72.00	-13.05	75.66
			74.00	-12.90	76.00
			75.00	-12.75	76.66
			76.00	-12.60	77.10
			77.00	-12.45	77.66
			77.00	-12.30	78.00
			76.00	-12.15	78.66
			75.00	-12.00	79.00
			74.00	-11.83	79.66
			73.00	-11.69	80.31
			73.00	-11.52	80.99
			73.00	-11.36	81.66
			72.00	-11.21	82.00
			72.00	-11.05	82.66
			74.00	-10.90	83.00
			75.00	-10.75	83.66
			76.00	-10.60	84.00
			77.00	-10.45	84.66
			77.00	-10.30	85.00
			76.00	-10.15	85.66
			75.00	-10.00	86.00
			74.00	-9.83	86.66
			73.00	-9.69	87.31
			73.00	-9.52	87.99
			73.00	-9.36	88.66
			72.00	-9.21	89.00
			72.00	-9.05	89.66
			74.00	-8.90	90.00
			75.00	-8.75	90.66
			76.00	-8.60	91.00
			77.00	-8.45	91.66
			77.00	-8.30	92.00
			76.00	-8.15	92.66
			75.00	-8.00	93.00
			74.00	-7.83	93.66
			73.00	-7.69	94.31
			73.00	-7.52	94.99
			73.00	-7.36	95.66
			72.00	-7.21	96.00
			72.00	-7.05	96.66
			74.00	-6.90	97.00
			75.00	-6.75	97.66
			76.00	-6.60	98.00
			77.00	-6.45	98.66
			77.00	-6.30	99.00
			76.00	-6.15	99.66
			75.00	-6.00	100.00
			74.00	-5.83	100.66
			73.00	-5.69	101.31
			73.00	-5.52	101.99
			73.00	-5.36	102.66
			72.00	-5.21	103.00
			72.00	-5.05	103.66
			74.00	-4.90	104.00
			75.00	-4.75	104.66
			76.00	-4.60	105.00
			77.00	-4.45	105.66
			77.00	-4.30	106.00
			76.00	-4.15	106.66
			75.00	-4.00	107.00
			74.00	-3.83	107.66
			73.00	-3.69	108.31
			73.00	-3.52	108.99
			73.00	-3.36	109.66
			72.00	-3.21	110.00
			72.00	-3.05	110.66
			74.00	-2.90	111.00
			75.00	-2.75	111.66
			76.00	-2.60	112.00
			77.00	-2.45	112.66
			77.00	-2.30	113.00
			76.00	-2.15	113.66
			75.00	-2.00	114.00
			74.00	-1.83	114.66
			73.00	-1.69	115.31
			73.00	-1.52	115.99
			73.00	-1.36	116.66
			72.00	-1.21	117.00
			72.00	-1.05	117.66
			74.00	-0.90	118.00
			75.00	-0.75	118.66
			76.00	-0.60	119.00
			77.00	-0.45	119.66
			77.00	-0.30	120.00
			76.00	-0.15	120.66
			75.00	0.00	121.00
			74.00	0.15	121.66
			73.00	0.30	122.00
			73.00	0.45	122.66
			72.00	0.60	123.00
			72.00	0.75	123.66
			74.00	0.90	124.00
			75.00	1.05	124.66
			76.00	1.20	125.00
			77.00	1.35	125.66
			77.00	1.50	126.00
			76.00	1.65	126.66
			75.00	1.80	127.00
			74.00	1.95	127.66
			73.00	2.10	128.00
			73.00	2.25	128.66
			73.00	2.40	129.00
			72.00	2.55	129.66
			72.00	2.70	130.00
			74.00	2.85	130.66
			75.00	3.00	131.00
			76.00	3.15	131.66
			77.00	3.30	132.00
			77.00	3.45	132.66
			76.00	3.60	133.00
			75.00	3.75	133.66
			74.00	3.90	134.00
			73.00	4.05	134.66
			73.00	4.20	135.00
			73.00	4.35	135.66
			72.00	4.50	136.00
			72.00	4.65	136.66
			74.00	4.80	137.00
			75.00	4.95	137.66
			76.00	5.10	138.00
			77.00	5.25	138.66
			77.00	5.40	139.00
			76.00	5.55	139.66
			75.00	5.70	140.00
			74.00	5.85	140.66
			73.00	6.00	141.00
			73.00	6.15	141.66
			73.00	6.30	142.00
			72.00	6.45	142.66
			72.00	6.60	143.00
			74.00	6.75	143.66
			75.00	6.90	144.00
			76.00	7.05	144.66
			77.00	7.20	145.00
			77.00	7.35	145.66
			76.00	7.50	146.00
			75.00	7.65	146.66
			74.00	7.80	147.00
			73.00	7.95	147.66
			73.00	8.10	148.00
			73.00	8.25	148.66
			72.00	8.40	149.00
			72.00	8.55	149.66
			74.00	8.70	150.00
			75.00	8.85	150.66
			76.00	9.00	151.00
			77.00	9.15	151.66
			77.00	9.30	152.00
			76.00	9.45	152.66
			75.00	9.60	153.00
			74.00	9.75	153.66
			73.00	9.90	154.00
			73.00	10.05	154.66
			73.00	10.20	155.00
			72.00	10.35	155.66
			72.00	10.50	156.00
			74.00	10.65	156.66
			75.00	10.80	157.00
			76.00	10.95	157.66
			77.00	11.10	158.00
			77.00	11.25	158.66
			76.00	11.40	159.00
			75.00	11.55	159.66
			74.00	11.70	160.00
			73.00	11.85	160.66
			73.00	12.00	161.00
			73.00	12.15	161.66
			72.00	12.30	162.00
			72.00	12.45	162.66
			74.00	12.60	163.00
			75.00	12.75	163.66
			76.00	12.90	164.00
			77.00	13.05	164.66
			77.00	13.20	165.00</

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
9950.00	9947.97	2.60	73.00	-15.24	64.96
9960.00	9957.95	2.60	76.00	-15.12	65.40
9970.00	9967.95	2.50	73.00	-14.99	65.82
9980.00	9977.94	2.30	73.00	-14.90	66.22
9990.00	9987.92	2.60	71.00	-14.76	66.60
10000.00	9997.90	2.70	74.00	-14.62	67.12
10010.00	10007.88	2.60	73.00	-14.48	67.56
10020.00	10017.87	2.70	72.00	-14.36	68.01
10030.00	10027.85	2.70	71.00	-14.21	68.46
10040.00	10037.83	2.60	70.00	-14.06	68.89
10050.00	10047.81	2.70	73.00	-13.91	69.34
10060.00	10057.79	2.70	71.00	-13.77	69.78
10070.00	10067.77	2.60	71.00	-13.62	70.23
10080.00	10077.76	2.50	69.00	-13.47	70.64
10090.00	10087.74	2.60	69.00	-13.30	71.06
10100.00	10097.74	2.50	71.00	-13.15	71.46
10110.00	10107.74	2.40	71.00	-13.01	71.87
10120.00	10117.74	2.30	71.00	-12.88	72.25
10130.00	10127.74	2.50	72.00	-12.75	72.66
10140.00	10137.74	2.30	71.00	-12.61	73.05
10150.00	10147.74	2.30	71.00	-12.47	73.43
10160.00	10157.74	2.30	69.00	-12.34	73.81
10170.00	10167.74	2.20	71.00	-12.21	74.17
10180.00	10177.74	2.10	70.00	-12.08	74.55
10190.00	10187.74	2.10	73.00	-11.96	74.90
10200.00	10197.74	2.00	72.00	-11.85	75.22
10210.00	10207.74	1.80	77.00	-11.73	75.54
10220.00	10217.74	1.80	78.00	-11.75	75.85
10230.00	10227.74	1.80	78.00	-11.68	76.16
10240.00	10237.74	1.80	81.00	-11.63	76.46
10250.00	10247.74	1.90	82.00	-11.58	76.79
10260.00	10257.74	1.80	88.00	-11.52	77.13
10270.00	10267.74	1.90	87.00	-11.51	77.45
10280.00	10277.74	1.80	86.00	-11.49	77.77
10290.00	10287.74	1.90	87.00	-11.47	78.09
10300.00	10297.74	2.10	81.00	-11.46	78.41
10310.00	10307.74	2.10	83.00	-11.40	78.78
10320.00	10317.74	2.30	78.00	-11.34	79.15
10330.00	10327.74	2.30	78.00	-11.26	79.55
10340.00	10337.74	2.60	74.00	-11.14	79.95
10350.00	10347.73	2.40	72.00	-11.02	80.38
10360.00	10357.73	2.30	70.00	-10.88	80.76
10370.00	10367.73	2.10	67.00	-10.74	81.11
10380.00	10377.73	2.10	68.00	-10.60	81.45

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
10390.00	10387.73	2.20	68.00	-10.46	81.80
10400.00	10397.73	2.20	68.00	-10.32	82.15
10410.00	10407.73	2.20	67.00	-10.16	82.50
10420.00	10417.73	1.80	72.00	-10.01	82.86
10430.00	10427.73	1.80	74.00	-9.92	83.16
10440.00	10437.73	1.70	76.00	-9.84	83.46
10450.00	10447.73	1.60	73.00	-9.76	83.73
10460.00	10457.73	1.60	78.00	-9.70	84.01
10470.00	10467.73	1.50	79.00	-9.65	84.27
10480.00	10477.73	1.60	86.00	-9.61	84.54
10490.00	10487.73	1.50	79.00	-9.57	84.80
10500.00	10497.73	1.50	85.00	-9.54	85.05
10510.00	10507.73	1.60	82.00	-9.51	85.32
10520.00	10517.73	1.60	86.00	-9.48	85.59
10530.00	10527.73	1.70	86.00	-9.46	85.86
10540.00	10537.73	1.80	87.00	-9.46	86.20
10550.00	10547.73	1.70	81.00	-9.43	86.50
10560.00	10557.73	1.70	80.00	-9.38	86.80
10570.00	10567.73	1.60	77.00	-9.32	87.07
10580.00	10577.73	1.30	77.00	-9.26	87.31
10590.00	10587.73	1.20	81.00	-9.22	87.56
10600.00	10597.73	1.20	80.00	-9.18	87.74
10610.00	10607.73	1.20	90.00	-9.17	87.95
10620.00	10617.73	1.40	86.00	-9.17	88.17
10630.00	10627.73	1.40	78.00	-9.15	88.41
10640.00	10637.73	1.30	76.00	-9.09	88.64
10650.00	10647.73	1.10	74.00	-9.04	88.84
10660.00	10657.73	.90	79.00	-9.07	89.01
10670.00	10667.73	.90	83.00	-9.05	89.16
10680.00	10677.73	.80	83.00	-9.03	89.31
10690.00	10687.73	.90	87.00	-9.02	89.46
10700.00	10697.73	1.00	92.00	-9.02	89.63
10710.00	10707.73	1.10	82.00	-9.01	89.81
10720.00	10717.73	1.10	76.00	-8.98	89.80
10730.00	10727.73	1.00	71.00	-8.92	89.17
10740.00	10737.73	.80	68.00	-8.86	89.32
10750.00	10747.73	.70	75.00	-8.81	89.44
10760.00	10757.73	.80	80.00	-8.78	89.77
10770.00	10767.73	.90	94.00	-8.77	89.72
10780.00	10777.73	.90	81.00	-8.99	90.03
10790.00	10787.73	.90	68.00	-8.76	90.03
10800.00	10797.73	.80	66.00	-8.70	90.17
10810.00	10807.73	.70	68.00	-8.65	90.28
10820.00	10817.73	.70	53.00	-8.55	90.38

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
10830.00	10827.73	.50	77.00	-0.50	01.47
10840.00	10837.73	.60	69.00	-0.47	01.50
10850.00	10847.73	.50	70.00	-0.44	01.50
10860.00	10857.73	.70	87.00	-0.42	01.50
10870.00	10867.73	.70	80.00	-0.41	01.50
10880.00	10877.73	.70	73.00	-0.38	01.50
10890.00	10887.73	.70	72.00	-0.34	01.50
10900.00	10897.73	.60	69.00	-0.30	02.00
10910.00	10907.73	.70	71.00	-0.26	02.00
10920.00	10917.73	.70	72.00	-0.23	02.00
10930.00	10927.73	.50	93.00	-0.22	02.00
10940.00	10937.73	.40	71.00	-0.19	02.00
10950.00	10947.73	.30	91.00	-0.17	02.00
10960.00	10957.73	.40	120.00	-0.19	02.00
10970.00	10967.73	.30	95.00	-0.20	02.00
10980.00	10977.73	.50	115.00	-0.23	02.00
10990.00	10987.73	.50	105.00	-0.26	02.00
11000.00	10997.73	.40	93.00	-0.27	03.00
11010.00	11007.73	.40	94.00	-0.28	03.00
11020.00	11017.73	.20	161.00	-0.29	03.00
11030.00	11027.73	.40	155.00	-0.34	03.00
11040.00	11037.73	.50	139.00	-0.40	03.00
11050.00	11047.73	.50	137.00	-0.47	03.00
11060.00	11057.73	.50	133.00	-0.52	03.00
11070.00	11067.73	.40	133.00	-0.57	03.00
11080.00	11077.73	.30	171.00	-0.60	03.00
11090.00	11087.73	.50	163.00	-0.67	03.00
11100.00	11097.73	.50	167.00	-0.74	03.00
11110.00	11107.73	.40	176.00	-0.82	03.00
11120.00	11117.73	.50	163.00	-0.90	03.00
11130.00	11127.73	.50	166.00	-0.98	03.00
11140.00	11137.73	.60	171.00	-0.99	03.00
11150.00	11147.73	.60	170.00	-1.00	03.00
11160.00	11157.73	.60	161.00	-0.99	03.00
11170.00	11167.73	.60	156.00	-0.99	03.00
11180.00	11177.73	.60	148.00	-0.99	03.00
11190.00	11187.73	.50	152.00	-0.99	03.00
11200.00	11197.73	.50	100.00	-0.60	03.00
11210.00	11207.73	.70	212.00	-0.68	03.00
11220.00	11217.73	.40	164.00	-0.77	03.00
11230.00	11227.73	.50	178.00	-0.85	03.00
11240.00	11237.73	.60	169.00	-0.94	03.00
11250.00	11247.73	.60	175.00	-1.04	03.00
11260.00	11257.73	.50	185.00	-1.13	03.00

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZINUTH	DRIFT NORTH	DRIFT EAST
11270.00	11267.73	.40	213.00	-10.21	93.74
11280.00	11277.73	.40	171.00	-10.28	93.73
11290.00	11287.73	.40	197.00	-10.34	93.72
11300.00	11297.73	.40	157.00	-10.42	93.74
11310.00	11307.73	.40	172.00	-10.49	93.76
11320.00	11317.73	.50	179.00	-10.57	93.77
11330.00	11327.73	.40	216.00	-10.63	93.74
11340.00	11337.73	.60	210.00	-10.68	93.68
11350.00	11347.73	.70	207.00	-10.77	93.63
11360.00	11357.73	.70	201.00	-10.88	93.58
11370.00	11367.73	.70	194.00	-11.00	93.55
11378.00	11375.73	.70	190.00	-11.10	93.53

WELL NAME AND NUMBER Rig#8 Tipperary S.W/4-29 Unit #1

LOCATION Section 29, T16S, R37E, Lea County
(Give Unit, Section, Township and Range)

OPERATOR Tipperary Petroleum

DRILLING CONTRACTOR McVay Drilling Company

The undersigned hereby certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

Degrees @ Depth

1/4 199

1 371

3/4 694

1/2 1,199

1 1,670

1/4 2,137

1/2 2,640

2 3,140

2 3,213

2 3,339

1-3/4 3,589

1-3/4 3,745

1-3/4 3,934

1-1/4 4,244

1 4,548

Degrees @ Depth

1 4,840

3/4 5,338

3/4 5,838

0 6,341

3/4 6,654

3/4 6,957

1/2 7,456

1/4 7,957

0 8,456

0 8,660

3/4 8,670

1 8,770

3 8,840

5 8,870

1-3/4 545 W 8,579

Degrees @ Depth

2-3/4S 49 W 8,627

2 1/2 S 45W 8,720

1 1/2 8,837

2 8,898

5 8,891

5 1/2 9,034

5 1/2 9,089

4 1/2 9,152

4 9,214

5 1/2 9,277

4 1/2 9,340

4 1/2 9,397

4 1/2 9,459

4 9,553

4 9,646

Drilling Contractor McVay Drilling Company

By: Juan Hernandez

Subscribed and sworn to before me this 2nd day of December, 19 87

Phyllis Jean Courtright
Notary Public

My Commission Expires: December 27, 1987

Lea County New Mexico

WELL NAME AND NUMBER Rig #8 Tipperary S.W/4-29 Unit #1

LOCATION Section 29, T16S, R37E, Lea County
(Give Unit, Section, Township and Range)

OPERATOR Tipperary Petroleum

DRILLING CONTRACTOR McVay Drilling Company

The undersigned hereby certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

Degrees @ Depth

4 9.742

5 9.836

4 9.899

4 9.993

4 10.087

3½ 10.213

3 10.339

2-3/4 10.451

2½ 10.609

1 10.764

1 10.883

1½ 11.134

1/2 11.210

1½ 11.134

1½ 11.390

Degrees @ Depth

Degrees @ Depth

Drilling Contractor McVay Drilling Company

By:

Subscribed and sworn to before me this 2 day of December, 1987

Notary Public

My Commission Expires: December 27, 1987

Lea County New Mexico



Tipperary

PETROLEUM COMPANY
P. O. Box 3179

Midland, Texas 79702-3179

Phone (915) 684-7151
TWX 910 8955335

December 4, 1987

Mr. William J. Lemay, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Commission
P. O. Box 2088
Santa Fe, NM 87504-2088

W/2 SW/4

Dear Mr. Lemay:

Re: Exception to Rule 111-B
Tipperary SW/4-29 Unit No. 1
660' FWL & 1980' FSL
Sec. 29, T16S, R37E
Northeast Lovington Penn Pool
Lea County, New Mexico

The above referenced well was spudded on October 29, 1987, and during the course of drilling, crooked hole and sloughing formation problems were encountered at 8865'. Not understanding the sloughing problem completely, we decided the most definitive way to alleviate the problem was to deviate the well in a southwest direction or approximately 180° away from the direction of the sloughing problem. The well was kicked off at 8494' and directionally drilled to 8745' with a maximum deviation of 2-3/4°. At 8745', the directional tools were pulled out of the hole and the well was conventionally drilled to total depth of 11,400'.

The NMOCC in Hobbs was contacted on October 14, 1987, to advise them of our intent to sidetrack and straighten the hole, but we failed to communicate our plans "to deviate in a determinate direction". As mentioned earlier, this action was taken to straighten the hole in a direction away from the hole problems which we were encountering.

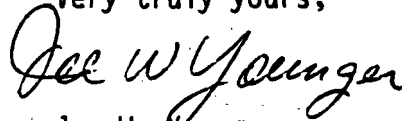
I have attached a copy of the directional survey run from the base of the 8-5/8" casing (4230') to 11,370', which shows the displacement of the hole over this interval to be 11.10' south and 93.53' east. Attached is a copy

Mr. William J. Lemay, Director
Page 2
December 4, 1987

of the deviation tests run by the drilling contractor which indicates a maximum displacement of 76.48' over the interval from surface to 4244'. Also attached is a plat which shows the ownership surrounding the subject well and shows the eastwardly bottomhole location isn't crowding adjacent leases and is well within tolerances for a standard location.

Based on the above information, it is requested that an exception to Rule 111-B be granted administratively.

Very truly yours,



Joe W. Younger
Operations Manager

JWY:gh

cc: Amerind Oil Company
500 Wilco Building
Midland, TX 79701

Moncrief Oil Interests
Moncrief Building
9th at Commerce
Fort Worth, TX 76102

Texaco Producing Inc.
P. O. Box 3109
Midland, TX 79702

Yates Petroleum Corp.
1669 South Voss, Suite 355
Houston, TX 77057

19-1 19-2 19-3 19-4 19-5 19-6 19-7 19-8 19-9 19-10 19-11 19-12 19-13 19-14 19-15 19-16 19-17 19-18 19-19 19-20 19-21 19-22 19-23 19-24 19-25 19-26 19-27 19-28 19-29 19-30 19-31 19-32 19-33 19-34 19-35 19-36 19-37 19-38 19-39 19-40 19-41 19-42 19-43 19-44 19-45 19-46 19-47 19-48 19-49 19-50 19-51 19-52 19-53 19-54 19-55 19-56 19-57 19-58 19-59 19-60 19-61 19-62 19-63 19-64 19-65 19-66 19-67 19-68 19-69 19-70 19-71 19-72 19-73 19-74 19-75 19-76 19-77 19-78 19-79 19-80 19-81 19-82 19-83 19-84 19-85 19-86 19-87 19-88 19-89 19-90 19-91 19-92 19-93 19-94 19-95 19-96 19-97 19-98 19-99 19-100	20-1 20-2 20-3 20-4 20-5 20-6 20-7 20-8 20-9 20-10 20-11 20-12 20-13 20-14 20-15 20-16 20-17 20-18 20-19 20-20 20-21 20-22 20-23 20-24 20-25 20-26 20-27 20-28 20-29 20-30 20-31 20-32 20-33 20-34 20-35 20-36 20-37 20-38 20-39 20-40 20-41 20-42 20-43 20-44 20-45 20-46 20-47 20-48 20-49 20-50 20-51 20-52 20-53 20-54 20-55 20-56 20-57 20-58 20-59 20-60 20-61 20-62 20-63 20-64 20-65 20-66 20-67 20-68 20-69 20-70 20-71 20-72 20-73 20-74 20-75 20-76 20-77 20-78 20-79 20-80 20-81 20-82 20-83 20-84 20-85 20-86 20-87 20-88 20-89 20-90 20-91 20-92 20-93 20-94 20-95 20-96 20-97 20-98 20-99 20-100	21-1 21-2 21-3 21-4 21-5 21-6 21-7 21-8 21-9 21-10 21-11 21-12 21-13 21-14 21-15 21-16 21-17 21-18 21-19 21-20 21-21 21-22 21-23 21-24 21-25 21-26 21-27 21-28 21-29 21-30 21-31 21-32 21-33 21-34 21-35 21-36 21-37 21-38 21-39 21-40 21-41 21-42 21-43 21-44 21-45 21-46 21-47 21-48 21-49 21-50 21-51 21-52 21-53 21-54 21-55 21-56 21-57 21-58 21-59 21-60 21-61 21-62 21-63 21-64 21-65 21-66 21-67 21-68 21-69 21-70 21-71 21-72 21-73 21-74 21-75 21-76 21-77 21-78 21-79 21-80 21-81 21-82 21-83 21-84 21-85 21-86 21-87 21-88 21-89 21-90 21-91 21-92 21-93 21-94 21-95 21-96 21-97 21-98 21-99 21-100	22-1 22-2 22-3 22-4 22-5 22-6 22-7 22-8 22-9 22-10 22-11 22-12 22-13 22-14 22-15 22-16 22-17 22-18 22-19 22-20 22-21 22-22 22-23 22-24 22-25 22-26 22-27 22-28 22-29 22-30 22-31 22-32 22-33 22-34 22-35 22-36 22-37 22-38 22-39 22-40 22-41 22-42 22-43 22-44 22-45 22-46 22-47 22-48 22-49 22-50 22-51 22-52 22-53 22-54 22-55 22-56 22-57 22-58 22-59 22-60 22-61 22-62 22-63 22-64 22-65 22-66 22-67 22-68 22-69 22-70 22-71 22-72 22-73 22-74 22-75 22-76 22-77 22-78 22-79 22-80 22-81 22-82 22-83 22-84 22-85 22-86 22-87 22-88 22-89 22-90 22-91 22-92 22-93 22-94 22-95 22-96 22-97 22-98 22-99 22-100	23-1 23-2 23-3 23-4 23-5 23-6 23-7 23-8 23-9 23-10 23-11 23-12 23-13 23-14 23-15 23-16 23-17 23-18 23-19 23-20 23-21 23-22 23-23 23-24 23-25 23-26 23-27 23-28 23-29 23-30 23-31 23-32 23-33 23-34 23-35 23-36 23-37 23-38 23-39 23-40 23-41 23-42 23-43 23-44 23-45 23-46 23-47 23-48 23-49 23-50 23-51 23-52 23-53 23-54 23-55 23-56 23-57 23-58 23-59 23-60 23-61 23-62 23-63 23-64 23-65 23-66 23-67 23-68 23-69 23-70 23-71 23-72 23-73 23-74 23-75 23-76 23-77 23-78 23-79 23-80 23-81 23-82 23-83 23-84 23-85 23-86 23-87 23-88 23-89 23-90 23-91 23-92 23-93 23-94 23-95 23-96 23-97 23-98 23-99 23-100	24-1 24-2 24-3 24-4 24-5 24-6 24-7 24-8 24-9 24-10 24-11 24-12 24-13 24-14 24-15 24-16 24-17 24-18 24-19 24-20 24-21 24-22 24-23 24-24 24-25 24-26 24-27 24-28 24-29 24-30 24-31 24-32 24-33 24-34 24-35 24-36 24-37 24-38 24-39 24-40 24-41 24-42 24-43 24-44 24-45 24-46 24-47 24-48 24-49 24-50 24-51 24-52 24-53 24-54 24-55 24-56 24-57 24-58 24-59 24-60 24-61 24-62 24-63 24-64 24-65 24-66 24-67 24-68 24-69 24-70 24-71 24-72 24-73 24-74 24-75 24-76 24-77 24-78 24-79 24-80 24-81 24-82 24
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WELL NAME AND NUMBER Fig#8 Tipperary S.W/4-29 Unit #1

LOCATION Section 29, T16S, R37E, Lea County
(Give Unit, Section, Township and Range)

OPERATOR Tipperary Petroleum

DRILLING CONTRACTOR McVay Drilling Company

The undersigned hereby certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

Degrees @ Depth

1/4 199

1 371

3/4 694

1/2 1,199

1 1,670

1/4 2,137

1/2 2,640

2 3,140

2 3,213

2 3,339

1-3/4 3,589

1-3/4 3,745

1-3/4 3,934

1-1/4 4,244

1 4,548

Degrees @ Depth

1 4,840

3/4 5,338

3/4 5,838

0 6,341

3/4 6,654

3/4 6,957

1/2 7,456

1/4 7,957

0 8,456

0 8,660

3/4 8,670

1 8,770

3/4 8,840

5/8 8,870

1-3/4 545 W 8,579

Degrees @ Depth

2-3/4S 49 W 8,627

2 1/2 S 45W 8,720

1 1/2 8,837

2 8,898

5 8,891

5 1/2 9,034

5 1/2 9,089

4 1/2 9,152

4 9,214

5 1/2 9,277

4 1/2 9,340

4 1/2 9,397

4 1/2 9,459

4 9,553

4 9,646

Drilling Contractor McVay Drilling Company

By: Joe McVay

Subscribed and sworn to before me this 2nd day of December, 19 87

Phyllis Jean Carey
Notary Public

My Commision Expires: December 27, 1987

Lea County New Mexico

WELL NAME AND NUMBER Rig #8 Tipperary S.W/4-29 Unit #1

LOCATION Section 29, T16S, R37E, Lea County
(Give Unit, Section, Township and Range)

OPERATOR Tipperary Petroleum

DRILLING CONTRACTOR McVay Drilling Company

The undersigned hereby certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

<u>Degrees @ Depth</u>	<u>Degrees @ Depth</u>	<u>Degrees @ Depth</u>
<u>4 9.742</u>	<u> </u>	<u> </u>
<u>5 9.836</u>	<u> </u>	<u> </u>
<u>4 9.899</u>	<u> </u>	<u> </u>
<u>4 9.993</u>	<u> </u>	<u> </u>
<u>4 10.087</u>	<u> </u>	<u> </u>
<u>3 10.213</u>	<u> </u>	<u> </u>
<u>3 10.339</u>	<u> </u>	<u> </u>
<u>2-3/4 10.451</u>	<u> </u>	<u> </u>
<u>2 10.609</u>	<u> </u>	<u> </u>
<u>1 10.764</u>	<u> </u>	<u> </u>
<u>1 10.883</u>	<u> </u>	<u> </u>
<u>1 11.134</u>	<u> </u>	<u> </u>
<u>1/2 11.210</u>	<u> </u>	<u> </u>
<u>1 11.134</u>	<u> </u>	<u> </u>
<u>1 11.390</u>	<u> </u>	<u> </u>

Drilling Contractor McVay Drilling Company

By: Joe McVay

Subscribed and sworn to before me this 2 day of December, 19 87

Phyllis Jean Courtright
Notary Public

My Commision Expires: December 27, 1987

Lea County New Mexico

INCLINE DIPMETER ANALYSIS - COMPUTED RESULTS LISTING

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CREATION DATE (DDMMYY) = 20/11/87
 CREATION TIME (HHMMSS) = 13:55:42

COMPANY : TIPPERARY PETROLEUM CO.
 FIELD : EAST LOVINGTON
 WELL : WISER 29 STATE COMM NO. 1
 RUN NO. : 1
 COUNTY : LEA
 STATE : NEW MEXICO
 API WELL NO. :

LOCATION:

LATITUDE :

LONGITUDE :

ELEVATIONS:

PERMANENT DATUM : GROUND
 LOG MEASURED FROM : KB
 DRILLING FROM : KB

GL ELEVATION
 KDB ELEVATION

3808.0
 3827.0

PROCESSING AND GENERAL INFORMATION:

DATE LOGGED : 11/12/87
 DEPTH LOGGER : 11388.000
 DEPTH DRILLER : 11400.000
 CASING LOGGER : 4236.000
 CASING DRILLER : 4244.000
 BIT SIZE : 7.875
 LOGGING CONTRACTOR: GO

DATE PROCESSED : 16/11/87
 BOTTOM LOG INT. : 11386.000
 TOP LOG INT. : 10000.000
 BOTTOM PROCESSED : 11378.00
 TOP PROCESSED INT. : 4220.00
 CORRELATION LENGTH: 4.00
 REPEAT STEP : 2.00

SEARCH ANGLE AND REFERENCE DATUM:

SEARCH ANGLE : 2.00 WITH REFERENCE TO BOREHOLE
 MAXIMUM PERMITTED SEARCH WRT. BOREHOLE: 75.0

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
4230.00	4230.00	.50	86.00	-.07	.06
4240.00	4240.00	.40	122.00	-.08	.13
4250.00	4250.00	.50	90.00	-.09	.21
4260.00	4260.00	.70	92.00	-.10	.31
4270.00	4270.00	.70	92.00	-.10	.44
4280.00	4280.00	.60	94.00	-.11	.55
4290.00	4290.00	.60	91.00	-.11	.65
4300.00	4300.00	.60	93.00	-.11	.76
4310.00	4310.00	.50	91.00	-.12	.86
4320.00	4320.00	.50	91.00	-.12	.95
4330.00	4330.00	.50	90.00	-.12	1.03
4340.00	4340.00	.50	91.00	-.12	1.12
4350.00	4350.00	.50	90.00	-.12	1.21
4360.00	4360.00	.50	92.00	-.12	1.30
4370.00	4370.00	.50	93.00	-.12	1.38
4380.00	4380.00	.40	89.00	-.12	1.47
4390.00	4390.00	.50	90.00	-.13	1.54
4400.00	4400.00	.40	93.00	-.13	1.62
4410.00	4410.00	.40	101.00	-.14	1.69
4420.00	4420.00	.40	96.00	-.15	1.76
4430.00	4430.00	.40	92.00	-.16	1.83
4440.00	4440.00	.40	95.00	-.16	1.90
4450.00	4450.00	.40	96.00	-.17	1.97
4460.00	4460.00	.40	93.00	-.17	2.04
4470.00	4470.00	.40	90.00	-.17	2.11
4480.00	4480.00	.40	100.00	-.18	2.18
4490.00	4490.00	.40	95.00	-.18	2.25
4500.00	4500.00	.40	97.00	-.19	2.32
4510.00	4510.00	.50	92.00	-.20	2.39
4520.00	4520.00	.50	106.00	-.21	2.48
4530.00	4530.00	.40	105.00	-.21	2.55
4540.00	4540.00	.60	104.00	-.21	2.62
4550.00	4550.00	.60	108.00	-.22	2.70
4560.00	4560.00	.60	117.00	-.23	2.78
4570.00	4570.00	.60	121.00	-.24	2.85
4580.00	4580.00	.60	127.00	-.25	2.93
4590.00	4590.00	.60	129.00	-.26	3.00
4600.00	4600.00	.60	132.00	-.27	3.08
4610.00	4610.00	.50	132.00	-.28	3.16
4620.00	4620.00	.50	129.00	-.29	3.24
4630.00	4630.00	.50	134.00	-.30	3.31
4640.00	4640.00	.60	128.00	-.30	3.39
4650.00	4650.00	.60	134.00	-.31	3.47
4660.00	4660.00	.60	129.00	-.34	3.52

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
4670.00	4670.00	.60	137.00	-1.01	3.68
4680.00	4680.00	.60	139.00	-1.03	3.75
4690.00	4690.00	.60	138.00	-1.17	3.82
4700.00	4700.00	.40	152.00	-1.24	3.87
4710.00	4710.00	.40	153.00	-1.30	3.90
4720.00	4720.00	.40	154.00	-1.36	3.94
4730.00	4730.00	.30	138.00	-1.41	3.97
4740.00	4740.00	.30	122.00	-1.44	4.01
4750.00	4750.00	.30	133.00	-1.47	4.05
4760.00	4760.00	.30	169.00	-1.51	4.08
4770.00	4770.00	.30	150.00	-1.55	4.10
4780.00	4780.00	.50	135.00	-1.59	4.16
4790.00	4790.00	.50	138.00	-1.65	4.22
4800.00	4800.00	.50	147.00	-1.72	4.28
4810.00	4810.00	.60	155.00	-1.81	4.32
4820.00	4820.00	.60	161.00	-1.90	4.36
4830.00	4830.00	.50	175.00	-2.00	4.39
4840.00	4840.00	.40	169.00	-2.08	4.40
4850.00	4850.00	.50	145.00	-2.13	4.42
4860.00	4860.00	.60	151.00	-2.20	4.47
4870.00	4870.00	.60	158.00	-2.29	4.52
4880.00	4880.00	.60	162.00	-2.39	4.55
4890.00	4890.00	.50	174.00	-2.48	4.57
4900.00	4900.00	.40	158.00	-2.54	4.61
4910.00	4910.00	.60	152.00	-2.61	4.64
4920.00	4920.00	.70	158.00	-2.72	4.69
4930.00	4930.00	.50	181.00	-2.84	4.70
4940.00	4940.00	.50	171.00	-2.93	4.71
4950.00	4950.00	.50	159.00	-3.01	4.73
4960.00	4960.00	.60	157.00	-3.10	4.77
4970.00	4970.00	.60	158.00	-3.20	4.80
4980.00	4980.00	.60	180.00	-3.31	4.83
4990.00	4990.00	.60	182.00	-3.42	4.86
5000.00	5000.00	.50	176.00	-3.51	4.88
5010.00	5010.00	.50	141.00	-3.59	4.87
5020.00	5020.00	.60	159.00	-3.67	4.90
5030.00	5030.00	.60	157.00	-3.77	4.94
5040.00	5040.00	.60	166.00	-3.87	4.97
5050.00	5050.00	.70	170.00	-3.98	4.99
5060.00	5060.00	.60	185.00	-4.09	4.99
5070.00	5070.00	.40	179.00	-4.18	4.98
5080.00	5080.00	.50	152.00	-4.26	5.00
5090.00	5090.00	.60	161.00	-4.35	5.04
5100.00	5100.00	.70	166.00	-4.46	5.08

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
1110.00	1110.00	.50	179.00	-4.53	5.10
1120.00	1120.00	.50	174.00	-4.67	5.10
1130.00	1130.00	.50	151.00	-4.75	5.13
1140.00	1140.00	.70	158.00	-4.85	5.18
1150.00	1150.00	.80	164.00	-4.97	5.23
1160.00	1160.00	.70	172.00	-5.09	5.29
1170.00	1170.00	.60	171.00	-5.20	5.37
1180.00	1180.00	.50	169.00	-5.29	5.46
1190.00	1190.00	.50	137.00	-5.37	5.51
1200.00	1200.00	.50	156.00	-5.44	5.56
1210.00	1210.00	.70	156.00	-5.54	5.60
1220.00	1220.00	.50	185.00	-5.66	5.64
1230.00	1230.00	.60	179.00	-5.78	5.64
1240.00	1240.00	.50	180.00	-5.87	5.64
1250.00	1250.00	.50	177.00	-5.96	5.64
1260.00	1260.00	.50	182.00	-6.05	5.64
1270.00	1270.00	.50	185.00	-6.14	5.64
1280.00	1280.00	.50	179.00	-6.23	5.64
1290.00	1290.00	.50	146.00	-6.31	5.64
1300.00	1300.00	.70	162.00	-6.39	5.64
1310.00	1310.00	.70	169.00	-6.51	5.64
1320.00	1320.00	.60	185.00	-6.62	5.64
1330.00	1330.00	.70	186.00	-6.73	5.64
1340.00	1340.00	.50	180.00	-6.85	5.64
1350.00	1350.00	.60	184.00	-6.97	5.64
1360.00	1360.00	.60	184.00	-7.07	5.64
1370.00	1370.00	.60	180.00	-7.17	5.64
1380.00	1380.00	.60	182.00	-7.28	5.64
1390.00	1390.00	.60	181.00	-7.38	5.64
1400.00	1400.00	.50	176.00	-7.48	5.64
1410.00	1410.00	.40	162.00	-7.58	5.64
1420.00	1420.00	.40	173.00	-7.68	5.64
1430.00	1430.00	.40	141.00	-7.78	5.64
1440.00	1440.00	.50	148.00	-7.88	5.64
1450.00	1450.00	.60	145.00	-7.98	5.64
1460.00	1460.00	.60	145.00	-8.09	5.64
1470.00	1470.00	.60	146.00	-8.19	5.64
1480.00	1480.00	.60	145.00	-8.29	5.64
1490.00	1490.00	.60	150.00	-8.39	5.64
1500.00	1500.00	.60	168.00	-8.49	5.64
1510.00	1510.00	.50	170.00	-8.59	5.64
1520.00	1520.00	.50	170.00	-8.69	5.64
1530.00	1530.00	.50	170.00	-8.79	5.64
1540.00	1540.00	.30	142.00	-8.89	5.64

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
5550.00	5550.00	.30	170.00	-1.88	6.60
5555.00	5555.00	.40	161.00	-1.88	6.60
5560.00	5560.00	.50	149.00	-1.88	6.60
5565.00	5565.00	.60	160.00	-1.88	6.60
5570.00	5570.00	.70	168.00	-1.88	6.60
5575.00	5575.00	.80	181.00	-1.99	6.60
5580.00	5580.00	.90	180.00	-1.99	6.60
5585.00	5585.00	1.00	177.00	-1.99	6.60
5590.00	5590.00	1.10	167.00	-1.99	6.60
5595.00	5595.00	1.20	161.00	-1.99	6.60
5600.00	5600.00	1.30	167.00	-1.99	6.60
5605.00	5605.00	1.40	168.00	-1.99	6.60
5610.00	5610.00	1.50	172.00	-1.99	6.60
5615.00	5615.00	1.60	169.00	-1.99	6.60
5620.00	5620.00	1.70	171.00	-1.99	6.60
5625.00	5625.00	1.80	179.00	-1.99	6.60
5630.00	5630.00	1.90	175.00	-1.99	6.60
5635.00	5635.00	2.00	178.00	-1.99	6.60
5640.00	5640.00	2.10	177.00	-1.99	6.60
5645.00	5645.00	2.20	172.00	-1.99	6.60
5650.00	5650.00	2.30	181.00	-1.99	6.60
5655.00	5655.00	2.40	192.00	-1.99	6.60
5660.00	5660.00	2.50	187.00	-1.99	6.60
5665.00	5665.00	2.60	196.00	-1.99	6.60
5670.00	5670.00	2.70	171.00	-1.99	6.60
5675.00	5675.00	2.80	173.00	-1.99	6.60
5680.00	5680.00	2.90	169.00	-1.99	6.60
5685.00	5685.00	3.00	175.00	-1.99	6.60
5690.00	5690.00	3.10	179.00	-1.99	6.60
5695.00	5695.00	3.20	177.00	-1.99	6.60
5700.00	5700.00	3.30	180.00	-1.99	6.60
5705.00	5705.00	3.40	185.00	-1.99	6.60
5710.00	5710.00	3.50	178.00	-1.99	6.60
5715.00	5715.00	3.60	174.00	-1.99	6.60
5720.00	5720.00	3.70	184.00	-1.99	6.60
5725.00	5725.00	3.80	194.00	-1.99	6.60
5730.00	5730.00	3.90	193.00	-1.99	6.60
5735.00	5735.00	4.00	189.00	-1.99	6.60
5740.00	5740.00	4.10	192.00	-1.99	6.60
5745.00	5745.00	4.20	189.00	-1.99	6.60
5750.00	5750.00	4.30	201.00	-1.99	6.60
5755.00	5755.00	4.40	199.00	-1.99	6.60
5760.00	5760.00	4.50	210.00	-1.99	6.60
5765.00	5765.00	4.60	201.00	-1.99	6.60

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
5990.00	5990.00	.40	208.00	-12.67	6.18
6000.00	6000.00	.30	184.00	-12.73	6.16
6010.00	6010.00	.30	200.00	-12.78	6.15
6020.00	6020.00	.30	206.00	-12.81	6.13
6030.00	6030.00	.20	159.00	-12.85	6.11
6040.00	6040.00	.30	160.00	-12.89	6.13
6050.00	6050.00	.40	160.00	-12.95	6.15
6060.00	6060.00	.40	160.00	-13.01	6.18
6070.00	6070.00	.50	164.00	-13.09	6.20
6080.00	6080.00	.40	158.00	-13.16	6.23
6090.00	6090.00	.40	162.00	-13.23	6.25
6100.00	6100.00	.50	160.00	-13.33	6.28
6110.00	6110.00	.50	160.00	-13.39	6.30
6120.00	6120.00	.50	165.00	-13.47	6.34
6130.00	6130.00	.60	160.00	-13.55	6.36
6140.00	6140.00	.50	180.00	-13.55	6.38
6150.00	6150.00	.50	181.00	-13.74	6.38
6160.00	6160.00	.40	173.00	-13.82	6.39
6170.00	6170.00	.40	171.00	-13.89	6.43
6180.00	6180.00	.50	153.00	-13.97	6.43
6190.00	6190.00	.60	150.00	-14.05	6.48
6200.00	6200.00	.60	159.00	-14.14	6.50
6210.00	6210.00	.60	162.00	-14.24	6.50
6220.00	6220.00	.70	164.00	-14.34	6.50
6230.00	6230.00	.70	156.00	-14.46	6.52
6240.00	6240.00	.70	161.00	-14.57	6.57
6250.00	6250.00	.70	155.00	-14.69	6.59
6260.00	6260.00	.60	158.00	-14.79	6.59
6270.00	6270.00	.60	159.00	-14.89	6.59
6280.00	6280.00	.60	150.00	-14.98	6.58
6290.00	6290.00	.60	154.00	-15.08	6.60
6300.00	6300.00	.60	153.00	-15.17	6.60
6310.00	6310.00	.60	152.00	-15.26	6.60
6320.00	6320.00	.60	149.00	-15.35	6.61
6330.00	6330.00	.60	149.00	-15.44	6.60
6340.00	6340.00	.60	148.00	-15.53	6.60
6350.00	6350.00	.60	154.00	-15.62	6.59
6360.00	6360.00	.60	150.00	-15.71	6.59
6370.00	6370.00	.60	158.00	-15.81	6.59
6380.00	6380.00	.60	159.00	-15.91	6.59
6390.00	6390.00	.50	167.00	-16.00	6.44
6400.00	6400.00	.50	160.00	-16.08	6.44
6410.00	6410.00	.40	166.00	-16.17	6.44
6420.00	6420.00	.40	165.00	-16.24	6.44

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
6430.00	6430.00	.50	167.00	-16.31	7.42
6440.00	6440.00	.50	164.00	-16.39	7.44
6450.00	6450.00	.50	162.00	-16.48	7.47
6460.00	6460.00	.60	159.00	-16.56	7.50
6470.00	6470.00	.60	153.00	-16.66	7.54
6480.00	6480.00	.50	156.00	-16.74	7.59
6490.00	6490.00	.60	155.00	-16.83	7.63
6500.00	6500.00	.50	181.00	-16.92	7.66
6510.00	6510.00	.50	177.00	-17.00	7.66
6520.00	6520.00	.50	172.00	-17.09	7.67
6530.00	6530.00	.40	146.00	-17.16	7.70
6540.00	6540.00	.40	180.00	-17.23	7.71
6550.00	6550.00	.40	177.00	-17.30	7.71
6560.00	6560.00	.30	180.00	-17.36	7.71
6570.00	6570.00	.30	195.00	-17.41	7.70
6580.00	6580.00	.20	171.00	-17.46	7.69
6590.00	6590.00	.20	165.00	-17.49	7.70
6600.00	6600.00	.20	157.00	-17.52	7.71
6610.00	6610.00	.20	146.00	-17.55	7.73
6620.00	6620.00	.10	157.00	-17.57	7.73
6630.00	6630.00	.10	194.00	-17.59	7.74
6640.00	6640.00	.20	175.00	-17.62	7.74
6650.00	6650.00	.10	174.00	-17.64	7.74
6660.00	6660.00	.10	243.00	-17.65	7.73
6670.00	6670.00	.10	113.00	-17.66	7.72
6680.00	6680.00	.10	194.00	-17.67	7.73
6690.00	6690.00	.10	135.00	-17.69	7.74
6700.00	6700.00	.20	185.00	-17.71	7.73
6710.00	6710.00	.20	212.00	-17.74	7.72
6720.00	6720.00	.20	201.00	-17.77	7.71
6730.00	6730.00	.30	175.00	-17.80	7.71
6740.00	6740.00	.30	188.00	-17.84	7.69
6750.00	6750.00	.30	204.00	-17.89	7.68
6760.00	6760.00	.30	159.00	-17.94	7.68
6770.00	6770.00	.20	159.00	-17.98	7.69
6780.00	6780.00	.20	149.00	-17.99	7.72
6790.00	6790.00	.30	147.00	-18.02	7.75
6800.00	6800.00	.40	154.00	-18.08	7.78
6810.00	6810.00	.40	164.00	-18.14	7.80
6820.00	6820.00	.40	189.00	-18.23	7.81
6830.00	6830.00	.30	188.00	-18.29	7.80
6840.00	6840.00	.20	163.00	-18.33	7.80
6850.00	6850.00	.20	169.00	-18.37	7.81
6860.00	6860.00	.20	131.00	-18.40	7.81

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
6870.00	68870.00	30	159.00	-18.43	7.84
6880.00	68880.00	30	153.00	-18.48	7.88
6890.00	68890.00	30	153.00	-18.53	7.88
6900.00	68900.00	30	156.00	-18.56	7.90
6910.00	68910.00	30	153.00	-18.59	7.91
6920.00	68920.00	30	156.00	-18.63	7.93
6930.00	68930.00	30	139.00	-18.67	7.96
6940.00	68940.00	40	157.00	-18.73	7.99
6950.00	68950.00	40	159.00	-18.80	8.02
6960.00	68960.00	40	157.00	-18.86	8.04
6970.00	68970.00	50	154.00	-18.91	8.07
6980.00	68980.00	50	163.00	-18.96	8.09
6990.00	68990.00	50	158.00	-19.01	8.11
7000.00	70000.00	50	164.00	-19.06	8.12
7010.00	70010.00	50	168.00	-19.11	8.14
7020.00	70020.00	50	173.00	-19.16	8.15
7030.00	70030.00	50	175.00	-19.22	8.15
7040.00	70040.00	50	181.00	-19.27	8.15
7050.00	70050.00	40	179.00	-19.33	8.16
7060.00	70060.00	50	178.00	-19.42	8.15
7070.00	70070.00	60	168.00	-19.51	8.16
7080.00	70080.00	60	172.00	-19.61	8.16
7090.00	70090.00	60	167.00	-19.71	8.20
7100.00	71000.00	70	164.00	-19.82	8.23
7110.00	71100.00	60	170.00	-19.93	8.26
7120.00	71120.00	70	168.00	-20.04	8.28
7130.00	71130.00	70	167.00	-20.16	8.29
7140.00	71140.00	60	163.00	-20.28	8.33
7150.00	71150.00	60	174.00	-20.38	8.33
7160.00	71160.00	60	172.00	-20.48	8.33
7170.00	71170.00	60	170.00	-20.59	8.38
7180.00	71180.00	60	167.00	-20.69	8.44
7190.00	71190.00	60	169.00	-20.79	8.44
7200.00	72000.00	60	165.00	-20.89	8.44
7210.00	72210.00	60	168.00	-21.00	8.44
7220.00	72220.00	60	168.00	-21.10	8.44
7230.00	72230.00	60	168.00	-21.20	8.51
7240.00	72240.00	60	170.00	-21.31	8.55
7250.00	72250.00	60	171.00	-21.41	8.55
7260.00	72260.00	60	173.00	-21.51	8.55
7270.00	72270.00	60	175.00	-21.61	8.55
7280.00	72280.00	60	174.00	-21.70	8.55
7290.00	72290.00	60	170.00	-21.78	8.55
7300.00	73000.00	60	161.00	-21.87	8.55

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
7310.00	7310.00	.40	155.00	-21.95	8.64
7320.00	7320.00	.40	158.00	-22.01	8.62
7330.00	7330.00	.30	150.00	-22.06	8.70
7340.00	7340.00	.20	158.00	-22.09	8.73
7350.00	7350.00	.20	150.00	-22.13	8.73
7360.00	7360.00	.20	157.00	-22.16	8.75
7370.00	7370.00	.20	153.00	-22.19	8.76
7380.00	7380.00	.10	174.00	-22.21	8.77
7390.00	7390.00	.20	139.00	-22.23	8.79
7400.00	7400.00	.20	155.00	-22.26	8.81
7410.00	7410.00	.20	152.00	-22.29	8.82
7420.00	7420.00	.10	181.00	-22.31	8.83
7430.00	7430.00	.10	172.00	-22.33	8.83
7440.00	7440.00	.10	162.00	-22.35	8.83
7450.00	7450.00	.10	157.00	-22.37	8.83
7460.00	7460.00	.10	147.00	-22.38	8.84
7470.00	7470.00	.10	228.00	-22.40	8.84
7480.00	7480.00	.10	170.00	-22.41	8.84
7490.00	7490.00	.10	201.00	-22.43	8.83
7500.00	7500.00	.10	165.00	-22.44	8.83
7510.00	7510.00	.10	199.00	-22.46	8.84
7520.00	7520.00	.20	186.00	-22.49	8.83
7530.00	7530.00	.20	181.00	-22.52	8.83
7540.00	7540.00	.30	170.00	-22.56	8.84
7550.00	7550.00	.20	170.00	-22.60	8.85
7560.00	7560.00	.30	171.00	-22.65	8.85
7570.00	7570.00	.20	166.00	-22.69	8.86
7580.00	7580.00	.20	138.00	-22.72	8.86
7590.00	7590.00	.20	166.00	-22.75	8.86
7600.00	7600.00	.20	180.00	-22.78	8.86
7610.00	7610.00	.20	157.00	-22.82	8.89
7620.00	7620.00	.20	192.00	-22.85	8.90
7630.00	7630.00	.20	210.00	-22.88	8.90
7640.00	7640.00	.20	227.00	-22.91	8.90
7650.00	7650.00	.10	242.00	-22.92	8.90
7660.00	7660.00	.10	234.00	-22.93	8.93
7670.00	7670.00	.10	287.00	-22.93	8.93
7680.00	7680.00	.10	294.00	-22.93	8.93
7690.00	7690.00	.20	259.00	-22.93	8.93
7700.00	7700.00	.10	311.00	-22.93	8.94
7710.00	7710.00	.20	300.00	-22.91	8.92
7720.00	7720.00	.20	259.00	-22.91	8.66
7730.00	7730.00	.30	274.00	-22.91	8.65
7740.00	7740.00	.30	253.00	-22.90	8.65

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
7750.00	7750.00	.30	263.00	-22.91	8.55
7760.00	7760.00	.30	250.00	-22.93	8.50
7770.00	7770.00	.30	259.00	-22.94	8.45
7780.00	7780.00	.30	269.00	-22.95	8.40
7790.00	7790.00	.30	256.00	-22.95	8.34
7800.00	7800.00	.20	256.00	-22.96	8.30
7810.00	7810.00	.30	236.00	-22.98	8.26
7820.00	7820.00	.30	260.00	-22.99	8.22
7830.00	7830.00	.20	273.00	-23.00	8.18
7840.00	7840.00	.30	266.00	-23.00	8.13
7850.00	7850.00	.30	262.00	-23.00	8.08
7860.00	7860.00	.20	244.00	-23.01	8.05
7870.00	7870.00	.10	250.00	-23.02	8.02
7880.00	7880.00	.10	284.00	-23.02	8.00
7890.00	7890.00	.10	220.00	-23.03	7.99
7900.00	7900.00	.10	176.00	-23.05	7.98
7910.00	7910.00	.10	347.00	-23.06	7.98
7920.00	7920.00	.10	264.00	-23.05	7.97
7930.00	7930.00	.10	184.00	-23.06	7.96
7940.00	7940.00	0.00	188.00	-23.06	7.96
7950.00	7950.00	0.00	184.00	-23.06	7.96
7960.00	7960.00	.10	86.00	-23.06	7.97
7970.00	7970.00	0.00	72.00	-23.06	7.98
7980.00	7980.00	.10	43.00	-23.06	7.98
7990.00	7990.00	.10	124.00	-23.05	7.99
8000.00	8000.00	0.00	138.00	-23.06	8.00
8010.00	8010.00	0.00	102.00	-23.06	8.00
8020.00	8020.00	.10	97.00	-23.06	8.00
8030.00	8030.00	.10	134.00	-23.07	8.01
8040.00	8040.00	.10	79.00	-23.07	8.03
8050.00	8050.00	.10	178.00	-23.08	8.04
8060.00	8060.00	.10	148.00	-23.09	8.05
8070.00	8070.00	.10	89.00	-23.10	8.06
8080.00	8080.00	.10	31.00	-23.09	8.08
8090.00	8090.00	0.00	20.00	-23.09	8.08
8100.00	8100.00	.10	138.00	-23.09	8.08
8110.00	8110.00	.10	134.00	-23.10	8.09
8120.00	8120.00	.10	125.00	-23.11	8.11
8130.00	8130.00	.10	119.00	-23.12	8.12
8140.00	8140.00	.10	165.00	-23.14	8.13
8150.00	8150.00	.10	176.00	-23.15	8.13
8160.00	8160.00	.20	170.00	-23.18	8.14
8170.00	8170.00	.20	134.00	-23.21	8.16
8180.00	8180.00	.20	179.00	-23.24	8.16

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZINUTH	DRIFT NORTH	DRIFT EAST
8190.00	8190.00	.200	171.00	-23.28	.15
8200.00	8200.00	.200	178.00	-23.31	.16
8210.00	8210.00	.200	173.00	-23.35	.17
8220.00	8220.00	.200	142.00	-23.38	.17
8230.00	8230.00	.200	162.00	-23.41	.17
8240.00	8240.00	.200	170.00	-23.44	.17
8250.00	8250.00	.200	174.00	-23.48	.17
8260.00	8260.00	.200	181.00	-23.51	.17
8270.00	8270.00	.200	182.00	-23.55	.17
8280.00	8280.00	.200	177.00	-23.59	.17
8290.00	8290.00	.200	186.00	-23.64	.17
8300.00	8300.00	.200	178.00	-23.69	.17
8310.00	8310.00	.200	177.00	-23.73	.17
8320.00	8320.00	.200	179.00	-23.78	.17
8330.00	8330.00	.200	180.00	-23.82	.17
8340.00	8340.00	.200	177.00	-23.88	.17
8350.00	8350.00	.200	177.00	-23.93	.17
8360.00	8360.00	.200	175.00	-23.97	.17
8370.00	8370.00	.200	162.00	-24.01	.17
8380.00	8380.00	.200	176.00	-24.05	.17
8390.00	8390.00	.200	179.00	-24.09	.17
8400.00	8400.00	.200	190.00	-24.12	.17
8410.00	8410.00	.200	189.00	-24.16	.17
8420.00	8420.00	.200	209.00	-24.21	.17
8430.00	8430.00	.200	173.00	-24.24	.17
8440.00	8440.00	.200	191.00	-24.27	.17
8450.00	8450.00	.200	190.00	-24.31	.17
8460.00	8460.00	.200	155.00	-24.34	.17
8470.00	8470.00	.200	188.00	-24.37	.17
8480.00	8480.00	.200	195.00	-24.41	.17
8490.00	8490.00	.200	196.00	-24.44	.17
8500.00	8500.00	.10	173.00	-24.47	.17
8510.00	8510.00	.10	162.00	-24.49	.17
8520.00	8520.00	.20	233.00	-24.51	.17
8530.00	8530.00	.10	231.00	-24.53	.17
8540.00	8540.00	.10	204.00	-24.55	.17
8550.00	8550.00	.20	246.00	-24.57	.17
8560.00	8560.00	.20	243.00	-24.59	.17
8570.00	8570.00	.50	213.00	-24.64	.17
8580.00	8580.00	1.10	266.00	-24.73	.17
8590.00	8590.00	1.50	229.00	-24.79	.17
8600.00	8600.00	1.00	232.00	-24.87	.17
8610.00	8610.00	1.90	221.00	-25.21	.17
8620.00	8620.00	1.00	222.00	-25.43	.17

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
8630.00	8630.00	1.80	222.00	-25.67	6.85
8640.00	8640.00	1.90	222.00	-25.91	6.64
8650.00	8650.00	1.90	223.00	-26.15	6.41
8660.00	8660.00	1.80	224.00	-26.38	6.22
8670.00	8670.00	1.80	221.00	-26.61	6.01
8680.00	8680.00	1.80	222.00	-26.85	5.80
8690.00	8690.00	1.60	217.00	-27.08	5.62
8700.00	8700.00	1.80	222.00	-27.32	5.41
8710.00	8710.00	1.80	224.00	-27.56	5.20
8720.00	8720.00	1.80	215.00	-27.80	5.00
8730.00	8730.00	1.80	224.00	-28.03	4.79
8740.00	8740.00	1.90	220.00	-28.27	4.58
8750.00	8750.00	1.80	222.00	-28.52	4.37
8760.00	8760.00	1.80	225.00	-28.74	4.15
8770.00	8770.00	1.80	218.00	-28.98	3.95
8780.00	8780.00	1.70	220.00	-29.22	3.76
8790.00	8790.00	1.50	221.00	-29.46	3.58
8800.00	8800.00	1.50	227.00	-29.62	3.40
8810.00	8810.00	1.60	230.00	-29.80	3.19
8820.00	8820.00	1.40	228.00	-30.01	2.99
8830.00	8830.00	1.70	219.00	-30.19	2.91
8840.00	8840.00	1.20	269.00	-30.31	2.71
8850.00	8850.00	1.10	209.00	-30.43	2.58
8860.00	8860.00	.90	71.00	-30.52	2.49
8870.00	8870.00	1.10	321.00	-30.43	2.56
8880.00	8880.00	.90	167.00	-30.44	2.51
8890.00	8890.00	.80	111.00	-30.52	2.61
8900.00	8900.00	1.50	90.00	-30.55	2.80
8910.00	8910.00	2.20	107.00	-30.57	3.10
8920.00	8920.00	2.20	143.00	-30.78	3.40
8930.00	8930.00	2.50	89.00	-30.87	3.78
8940.00	8940.00	2.80	90.00	-30.98	4.00
8950.00	8949.96	3.90	81.00	-30.55	4.44
8960.00	8949.94	4.10	91.00	-30.50	4.13
8970.00	8949.92	4.20	83.00	-30.33	3.86
8980.00	8949.90	4.40	80.00	-30.33	3.50
8990.00	8949.87	4.40	80.00	-30.25	3.20
9000.00	8949.84	4.10	85.00	-30.16	2.90
9010.00	9009.82	4.10	79.00	-30.04	2.73
9020.00	9019.80	4.10	79.00	-29.89	2.41
9030.00	9029.78	4.10	76.00	-29.74	2.11
9040.00	9039.76	4.10	72.00	-29.54	1.80
9050.00	9049.74	4.20	77.00	-29.36	1.50
9060.00	9059.72	4.30	79.00	-29.19	1.23

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
9070.00	9069.70	4.10	78.00	-29.04	12.96
9080.00	9079.68	4.00	75.00	-28.88	13.64
9090.00	9089.66	4.10	75.00	-28.69	14.33
9100.00	9099.64	4.40	78.00	-28.52	15.01
9110.00	9109.61	4.10	76.00	-28.36	15.75
9120.00	9119.59	4.20	74.00	-28.17	16.45
9130.00	9129.57	4.00	78.00	-28.01	17.13
9140.00	9139.55	4.00	77.00	-27.85	17.83
9150.00	9149.53	4.10	76.00	-27.69	18.51
9160.00	9159.51	3.90	76.00	-27.52	19.19
9170.00	9169.49	3.90	75.00	-27.35	19.85
9180.00	9179.47	4.00	77.00	-27.20	20.54
9190.00	9189.46	4.00	77.00	-27.04	21.22
9200.00	9199.44	4.00	75.00	-26.87	21.90
9210.00	9209.42	4.10	77.00	-26.70	22.59
9220.00	9219.40	4.20	76.00	-26.53	23.27
9230.00	9229.38	4.00	75.00	-26.35	23.97
9240.00	9239.36	4.10	76.00	-26.17	24.65
9250.00	9249.34	4.00	77.00	-26.01	25.33
9260.00	9259.32	4.20	77.00	-25.84	26.01
9270.00	9269.30	4.00	77.00	-25.68	26.72
9280.00	9279.28	4.10	79.00	-25.53	27.41
9290.00	9289.26	3.90	78.00	-25.39	28.08
9300.00	9299.24	3.80	77.00	-25.25	28.75
9310.00	9309.22	3.80	78.00	-25.10	29.39
9320.00	9319.20	3.80	78.00	-24.97	30.04
9330.00	9329.18	3.70	78.00	-24.83	30.68
9340.00	9339.16	3.70	79.00	-24.71	31.31
9350.00	9349.14	3.60	78.00	-24.58	31.94
9360.00	9359.12	3.70	77.00	-24.44	32.56
9370.00	9369.10	3.70	78.00	-24.31	33.19
9380.00	9379.08	3.70	76.00	-24.18	33.81
9390.00	9389.06	3.80	78.00	-24.03	34.44
9400.00	9399.04	3.80	79.00	-23.90	35.09
9410.00	9409.03	3.80	78.00	-23.76	35.74
9420.00	9419.01	3.90	82.00	-23.62	36.40
9430.00	9429.99	3.70	78.00	-23.51	37.06
9440.00	9439.97	3.80	78.00	-23.38	37.70
9450.00	9449.95	3.80	78.00	-23.24	38.35
9460.00	9459.93	3.50	78.00	-23.10	39.00
9470.00	9469.91	3.60	77.00	-22.97	39.57
9480.00	9479.89	3.50	80.00	-22.84	40.17
9490.00	9489.87	3.50	79.00	-22.74	40.75
9500.00	9499.85	3.00	74.00	-22.60	41.33



DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
9510.00	9508.83	0.17	74.00	1.22	41.93
9520.00	9518.81	0.19	77.00	1.22	42.52
9530.00	9528.79	0.21	76.00	1.22	43.08
9540.00	9538.77	0.22	74.00	1.21	43.65
9550.00	9548.75	0.23	76.00	1.21	44.21
9560.00	9558.73	0.24	75.00	1.21	44.76
9570.00	9568.71	0.29	72.00	1.21	45.31
9580.00	9578.69	0.31	74.00	1.21	45.86
9590.00	9588.67	0.32	73.00	1.21	46.42
9600.00	9598.65	0.34	73.00	1.21	46.97
9610.00	9608.63	0.35	73.00	1.20	47.53
9620.00	9618.62	0.36	72.00	1.20	48.08
9630.00	9628.60	0.38	74.00	1.20	48.64
9640.00	9638.58	0.40	75.00	1.20	49.18
9650.00	9648.56	0.42	73.00	1.20	49.74
9660.00	9658.54	0.44	77.00	1.20	50.30
9670.00	9668.52	0.48	77.00	1.19	50.86
9680.00	9678.50	0.50	73.00	1.19	51.42
9690.00	9688.48	0.52	72.00	1.19	51.97
9700.00	9698.46	0.54	72.00	1.19	52.53
9710.00	9708.44	0.56	69.00	1.19	53.08
9720.00	9718.42	0.58	69.00	1.18	53.64
9730.00	9728.40	0.60	72.00	1.18	54.19
9740.00	9738.38	0.62	71.00	1.18	54.75
9750.00	9748.36	0.64	84.00	1.18	55.30
9760.00	9758.34	0.66	71.00	1.18	55.86
9770.00	9768.32	0.68	72.00	1.18	56.41
9780.00	9778.30	0.70	67.00	1.18	56.97
9790.00	9788.28	0.72	74.00	1.17	57.52
9800.00	9798.26	0.74	73.00	1.17	58.08
9810.00	9808.24	0.76	73.00	1.17	58.64
9820.00	9818.22	0.78	73.00	1.17	59.19
9830.00	9828.21	0.81	69.00	1.17	59.75
9840.00	9838.19	0.83	68.00	1.17	60.30
9850.00	9848.17	0.85	69.00	1.16	60.86
9860.00	9858.15	0.87	67.00	1.16	61.41
9870.00	9868.13	0.89	66.00	1.16	61.97
9880.00	9878.11	0.91	68.00	1.16	62.52
9890.00	9888.09	0.93	71.00	1.16	63.08
9900.00	9898.07	0.95	71.00	1.15	63.64
9910.00	9908.05	0.97	83.00	1.15	64.19
9920.00	9918.03	0.99	69.00	1.15	64.75
9930.00	9928.01	0.99	73.00	1.15	65.30
9940.00	9937.99	0.99	73.00	1.15	65.86

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
9950.00	9947.97	2.60	73.00	-15.24	64.96
9960.00	9957.95	2.60	76.00	-15.12	65.40
9970.00	9967.95	2.60	73.00	-14.99	65.82
9980.00	9977.94	2.60	73.00	-14.90	66.22
9990.00	9987.92	2.60	71.00	-14.76	66.68
10000.00	9997.90	2.70	74.00	-14.62	67.12
10010.00	10007.88	2.60	73.00	-14.48	67.56
10020.00	10017.87	2.70	72.00	-14.36	68.01
10030.00	10027.85	2.70	71.00	-14.21	68.46
10040.00	10037.83	2.60	70.00	-14.06	68.89
10050.00	10047.81	2.70	73.00	-13.91	69.34
10060.00	10057.79	2.70	71.00	-13.77	69.78
10070.00	10067.77	2.60	71.00	-13.62	70.23
10080.00	10077.76	2.60	69.00	-13.47	70.64
10090.00	10087.74	2.60	69.00	-13.30	71.06
10100.00	10097.74	2.50	71.00	-13.15	71.46
10110.00	10107.74	2.40	71.00	-13.01	71.87
10120.00	10117.74	2.30	71.00	-12.88	72.25
10130.00	10127.74	2.50	72.00	-12.75	72.66
10140.00	10137.74	2.30	71.00	-12.61	73.05
10150.00	10147.74	2.30	71.00	-12.47	73.43
10160.00	10157.74	2.30	69.00	-12.34	73.81
10170.00	10167.74	2.20	71.00	-12.21	74.17
10180.00	10177.74	2.10	70.00	-12.08	74.55
10190.00	10187.74	2.10	73.00	-11.96	74.88
10200.00	10197.74	2.00	72.00	-11.85	75.22
10210.00	10207.74	1.80	77.00	-11.77	75.54
10220.00	10217.74	1.80	78.00	-11.75	75.85
10230.00	10227.74	1.80	78.00	-11.68	76.16
10240.00	10237.74	1.80	81.00	-11.63	76.46
10250.00	10247.74	1.90	82.00	-11.58	76.79
10260.00	10257.74	1.80	88.00	-11.52	77.13
10270.00	10267.74	1.90	87.00	-11.51	77.45
10280.00	10277.74	1.80	86.00	-11.49	77.77
10290.00	10287.74	1.90	87.00	-11.47	78.09
10300.00	10297.74	2.10	81.00	-11.46	78.41
10310.00	10307.74	2.10	83.00	-11.40	78.78
10320.00	10317.74	2.30	78.00	-11.34	79.15
10330.00	10327.74	2.30	78.00	-11.26	79.55
10340.00	10337.74	2.60	74.00	-11.14	79.95
10350.00	10347.73	2.40	72.00	-11.02	80.38
10360.00	10357.73	2.30	70.00	-10.88	80.76
10370.00	10367.73	2.10	67.00	-10.74	81.11
10380.00	10377.73	2.10	68.00	-10.60	81.45

DEVIATION SURVEY LISTING

NO.	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
1	0000	0000	0000	0000	0000
2	0000	0000	0000	0000	0000
3	0000	0000	0000	0000	0000
4	0000	0000	0000	0000	0000
5	0000	0000	0000	0000	0000
6	0000	0000	0000	0000	0000
7	0000	0000	0000	0000	0000
8	0000	0000	0000	0000	0000
9	0000	0000	0000	0000	0000
10	0000	0000	0000	0000	0000
11	0000	0000	0000	0000	0000
12	0000	0000	0000	0000	0000
13	0000	0000	0000	0000	0000
14	0000	0000	0000	0000	0000
15	0000	0000	0000	0000	0000
16	0000	0000	0000	0000	0000
17	0000	0000	0000	0000	0000
18	0000	0000	0000	0000	0000
19	0000	0000	0000	0000	0000
20	0000	0000	0000	0000	0000
21	0000	0000	0000	0000	0000
22	0000	0000	0000	0000	0000
23	0000	0000	0000	0000	0000
24	0000	0000	0000	0000	0000
25	0000	0000	0000	0000	0000
26	0000	0000	0000	0000	0000
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31	0000	0000	0000	0000	0000
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64	0000	0000	0000	0000	0000
65	0000	0000	0000	0000	0000
66	0000	0000	0000	0000	0000
67	0000	0000	0000	0000	0000
68	0000	0000	0000	0000	0000
69	0000	0000	0000	0000	0000
70	0000	0000	0000	0000	0000
71	0000	0000	0000	0000	0000
72	0000	0000	0000	0000	0000
73	0000	0000	0000	0000	0000
74	0000	0000	0000	0000	0000
75	0000	0000	0000	0000	0000
76	0000	0000	0000	0000	0000
77	0000	0000	0000	0000	0000
78	0000	0000	0000	0000	0000
79	0000	0000	0000	0000	0000
80	0000	0000	0000	0000	0000
81	0000	0000	0000	0000	0000
82	0000	0000	0000	0000	0000
83	0000	0000	0000	0000	0000
84	0000	0000	0000	0000	0000
85	0000	0000	0000	0000	0000
86	0000	0000	0000	0000	0000
87	0000	0000	0000	0000	0000
88	0000	0000	0000	0000	0000
89	0000	0000	0000	0000	0000
90	0000	0000	0000	0000	0000
91	0000	0000	0000	0000	0000
92	0000	0000	0000	0000	0000
93	0000	0000	0000	0000	0000
94	0000	0000	0000	0000	0000
95	0000	0000	0000	0000	0000
96	0000	0000	0000	0000	0000
97	0000	0000	0000	0000	0000
98	0000	0000	0000	0000	0000
99	0000	0000	0000	0000	0000
100	0000	0000	0000	0000	0000

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
10830.00	10827.73	.50	77.00	-0.50	99.47
10840.00	10837.73	.60	69.00	-0.47	99.56
10850.00	10847.73	.50	70.00	-0.44	99.55
10860.00	10857.73	.70	87.00	-0.42	99.55
10870.00	10867.73	.70	80.00	-0.41	99.55
10880.00	10877.73	.70	73.00	-0.38	99.55
10890.00	10887.73	.70	72.00	-0.34	99.55
10900.00	10897.73	.60	69.00	-0.30	99.55
10910.00	10907.73	.70	71.00	-0.26	99.55
10920.00	10917.73	.70	72.00	-0.23	99.55
10930.00	10927.73	.50	93.00	-0.23	99.55
10940.00	10937.73	.40	71.00	-0.19	99.55
10950.00	10947.73	.30	91.00	-0.17	99.55
10960.00	10957.73	.40	120.00	-0.19	99.55
10970.00	10967.73	.30	95.00	-0.20	99.55
10980.00	10977.73	.50	115.00	-0.23	99.55
10990.00	10987.73	.50	105.00	-0.26	99.55
11000.00	10997.73	.40	93.00	-0.27	99.55
11010.00	11007.73	.40	94.00	-0.29	99.55
11020.00	11017.73	.20	161.00	-0.29	99.55
11030.00	11027.73	.40	155.00	-0.34	99.55
11040.00	11037.73	.50	139.00	-0.40	99.55
11050.00	11047.73	.50	137.00	-0.44	99.55
11060.00	11057.73	.50	133.00	-0.52	99.55
11070.00	11067.73	.40	133.00	-0.57	99.55
11080.00	11077.73	.30	171.00	-0.62	99.55
11090.00	11087.73	.50	163.00	-0.74	99.55
11100.00	11097.73	.40	176.00	-0.82	99.55
11110.00	11107.73	.50	163.00	-0.90	99.55
11120.00	11117.73	.50	166.00	-0.98	99.55
11130.00	11127.73	.60	171.00	-1.09	99.55
11140.00	11137.73	.60	170.00	-1.09	99.55
11150.00	11147.73	.60	161.00	-1.09	99.55
11160.00	11157.73	.60	156.00	-1.09	99.55
11170.00	11167.73	.60	148.00	-1.09	99.55
11180.00	11177.73	.60	152.00	-1.09	99.55
11190.00	11187.73	.60	100.00	-1.09	99.55
11200.00	11197.73	.60	112.00	-1.09	99.55
11210.00	11207.73	.60	164.00	-1.09	99.55
11220.00	11217.73	.60	178.00	-1.09	99.55
11230.00	11227.73	.60	169.00	-1.09	99.55
11240.00	11237.73	.60	175.00	-1.09	99.55
11250.00	11247.73	.60	185.00	-1.09	99.55
11260.00	11257.73	.60		-1.09	99.55

DEVIATION SURVEY LISTING

MEASURED DEPTH	TRUE DEPTH	WELL DEVIATION	DEVIATION AZIMUTH	DRIFT NORTH	DRIFT EAST
11270.00	11267.73	.40	213.00	-10.21	93.74
11280.00	11277.73	.40	171.00	-10.28	93.73
11290.00	11287.73	.40	197.00	-10.34	93.72
11300.00	11297.73	.40	157.00	-10.42	93.74
11310.00	11307.73	.40	172.00	-10.49	93.76
11320.00	11317.73	.50	179.00	-10.57	93.73
11330.00	11327.73	.40	216.00	-10.63	93.74
11340.00	11337.73	.60	210.00	-10.68	93.68
11350.00	11347.73	.70	207.00	-10.77	93.64
11360.00	11357.73	.70	201.00	-10.88	93.58
11370.00	11367.73	.70	194.00	-11.00	93.55
11378.00	11375.73	.70	190.00	-11.10	93.53