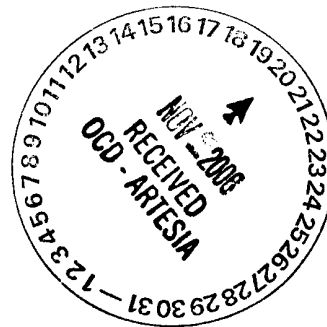




30-015-28384

Marathon Oil Company
North Indian Basin Unit #20

slot #1
Indian Basin
EDDY COUNTY, NM.

S U R V E Y L I S T I N G

by
Baker Hughes INTEQ

Your ref : MWD
Our ref : svy2738
License :

Date printed : 9-Nov-2006
Date created : 25-Jan-2005
Last revised : 28-Jan-2005

Field is centred on n32 30 0.000,w104 30 0
Structure is centred on 425897.000,547433.000,999.00000,N

Slot location is n32 30 17.186,w104 34 25.339
Slot Grid coordinates are N 547433.000, E 425897.000
Slot local coordinates are 0.00 N 0.00 E

Projection type: mercator - New Mexico East (3001), Spheroid: Clarke - 1866

Reference North is Grid North

Marathon Oil Company
North Indian Basin Unit #20, slot #1
Indian Basin, Eddy County, NM.

SURVEY LISTING
Page 1
Your ref : MMD
Last revised : 28-Jan-2005

Measured	Inclin	Azimuth	True Vert	Depth	C O R D I N A T E S	Deg/100ft	Sect	G R I D C O O R D S
0.00	0.00	0.00	0.00	0.00	0.00N	0.00E	0.00	547433.00
100.00	0.26	106.18	100.00	0.06S	0.06S	0.22E	-0.22	547432.94
200.00	0.62	107.71	200.00	0.29S	0.29S	0.95E	-0.97	547432.71
300.00	0.62	122.62	299.99	0.75S	0.75S	1.92E	-1.96	547432.25
400.00	0.60	127.10	399.99	1.35S	1.35S	2.80E	-2.87	547431.65
500.00	0.62	122.48	499.98	1.96S	1.96S	3.67E	-3.77	547431.04
600.00	0.47	124.53	599.97	2.48S	2.48S	4.46E	-4.59	547430.52
700.00	0.68	211.43	699.97	3.22S	3.22S	4.49E	-4.66	547429.78
800.00	1.65	205.74	799.95	5.03S	5.03S	3.56E	-3.83	547427.97
900.00	1.33	212.89	899.92	7.30S	7.30S	2.30E	-2.70	547425.70
1000.00	1.47	210.80	999.89	9.37S	9.37S	1.02E	-1.53	547423.63
1100.00	0.92	211.58	1099.86	11.16S	11.16S	0.06W	-0.55	547421.84
1200.00	1.04	207.03	1199.85	12.65S	12.65S	0.89W	0.14	547420.35
1300.00	1.04	215.59	1299.83	14.20S	14.20S	1.84W	1.05	547418.80
1400.00	1.10	229.41	1399.82	15.56S	15.56S	3.09W	2.24	547417.44
1500.00	1.13	227.71	1499.80	16.85S	16.85S	4.55W	3.62	547416.15
1600.00	1.03	234.68	1599.78	18.03S	18.03S	6.01W	5.02	547414.97
1700.00	1.14	231.82	1699.76	19.17S	19.17S	7.53W	6.47	547413.83
1800.00	1.11	227.10	1799.74	20.44S	20.44S	9.02W	7.89	547412.56
1900.00	1.09	243.14	1899.72	21.53S	21.53S	10.58W	9.38	547411.47
2000.00	1.11	240.92	1999.70	22.43S	22.43S	12.27W	11.03	547410.57
2100.00	1.22	228.73	2099.68	23.60S	23.60S	13.92W	12.61	547409.40
2200.00	1.13	240.27	2199.66	24.79S	24.79S	15.58W	14.20	547408.21
2300.00	1.12	232.72	2299.64	25.88S	25.88S	17.21W	15.77	547407.12
2400.00	0.85	278.67	2399.63	26.36S	26.36S	18.72W	17.25	547406.64
2500.00	0.87	235.48	2499.62	26.67S	26.67S	20.08W	18.59	547406.33
2600.00	1.47	206.10	2599.60	28.26S	28.26S	21.27W	19.69	547404.74
2700.00	0.95	225.02	2699.58	29.99S	29.99S	22.42W	20.74	547403.01
2800.00	0.90	245.25	2799.57	30.97S	30.97S	23.72W	21.99	547402.09
2900.00	1.11	229.15	2899.55	31.87S	31.87S	25.17W	23.38	547401.13
3000.00	1.05	220.59	2999.53	33.20S	33.20S	26.50W	24.64	547399.80
3100.00	1.02	227.48	3099.52	34.50S	34.50S	27.75W	25.82	547398.50
3200.00	1.15	228.37	3199.50	35.77S	35.77S	29.15W	27.15	547397.23
3300.00	1.38	227.68	3299.47	37.24S	37.24S	30.79W	28.71	547395.76
3400.00	1.43	231.10	3399.44	38.84S	38.84S	32.66W	30.48	547394.16
3500.00	1.40	234.30	3499.41	40.33S	40.33S	34.62W	32.36	547392.67
3600.00	1.21	236.63	3599.39	41.63S	41.63S	36.49W	34.16	547391.37
3700.00	1.31	224.79	3699.36	43.02S	43.02S	38.18W	35.77	547389.98
3800.00	1.07	231.86	3799.34	44.41S	44.41S	39.72W	37.23	547388.59
3900.00	1.11	224.58	3899.32	45.67S	45.67S	41.13W	38.57	547387.33
4000.00	0.97	237.93	3999.31	46.81S	46.81S	42.53W	39.90	547386.19
4100.00	0.97	235.67	4099.29	47.74S	47.74S	43.95W	41.27	547385.26
4200.00	1.11	242.30	4199.28	48.67S	48.67S	45.50W	42.77	547384.33
4300.00	0.97	256.78	4299.26	49.31S	49.31S	47.18W	44.41	547383.69
4400.00	1.04	273.44	4399.24	49.45S	49.45S	48.91W	46.13	547383.55
4500.00	0.99	278.88	4499.23	49.26S	49.26S	50.67W	47.90	547383.74
4600.00	1.28	310.43	4599.21	48.41S	48.41S	52.38W	49.65	547384.59
4700.00	1.46	308.61	4699.18	46.89S	46.89S	54.22W	51.57	547386.11
4800.00	1.60	311.23	4799.15	45.17S	45.17S	56.27W	53.71	547387.83
4900.00	1.86	322.01	4899.10	42.97S	42.97S	58.32W	55.88	547390.03

All data in feet unless otherwise stated. Calculation uses minimum curvature method.

Coordinates from structure and TVD from rotary table.

Bottom hole distance is 164.73 on azimuth 281.30 degrees from wellhead.

Vertical section is from S 0.00 E 0.00 on azimuth 273.14 degrees.

Grid is Mercator - New Mexico East (3001).

Grid coordinates in FEET and computed using the Clarke - 1866 spheroid

Presented by Baker Hughes INTEQ

Marathon Oil Company
North Indian Basin Unit #20, slot #1
Indian Basin, EDDY COUNTY, NM.

SURVEY LISTING Page 2
Your ref : MMD
Last revised : 28-Jan-2005

Measured Incl'n	Azimuth	True Vert	E C T A N G U L A R	Deg/100ft	Vert	G R I D C O O R D S	Depth	Degrees	Degrees	Depth	E C T A N G U L A R	Deg/100ft	Sect	East'ing	North'ing
5000.00	2.44	329.53	4999.03	39.865	60.40W	0.64	58.12	425836.60	547393.14	547396.78	425834.29	60.64	425834.29	547396.78	547400.45
5100.00	2.51	325.54	5098.94	36.225	62.71W	0.19	60.64	425834.29	547396.78	547400.45	425831.64	63.48	425831.64	547400.45	547404.23
5300.00	2.61	327.02	5298.73	28.775	68.01W	0.20	66.33	425828.99	547404.23	547408.07	425826.63	68.90	425826.63	547408.07	547408.07
5400.00	2.56	329.73	5398.63	24.935	70.37W	0.13	68.90	425826.63	547408.07	547411.67	425824.41	71.31	425824.41	547411.67	547411.67
5500.00	2.29	327.00	5498.54	21.335	72.59W	0.29	71.31	425824.41	547411.67	547414.91	425822.28	73.62	425822.28	547414.91	547414.91
5600.00	2.16	326.11	5598.46	18.095	74.72W	0.13	73.62	425822.28	547414.91	547418.08	425820.21	75.86	425820.21	547418.08	547418.08
5700.00	2.17	327.52	5698.39	14.925	76.79W	0.05	75.86	425818.62	547421.30	547424.47	425817.86	78.55	425817.86	547424.47	547424.47
5800.00	1.98	340.54	5798.32	11.705	78.38W	0.51	77.63	425818.62	547421.30	547424.47	425817.86	78.55	425817.86	547424.47	547424.47
5900.00	1.78	351.81	5998.22	5.455	79.54W	0.05	79.12	425817.46	547427.55	547430.37	425817.11	79.63	425817.11	547430.37	547430.37
6000.00	1.47	354.36	6098.18	2.635	79.89W	0.32	79.63	425817.11	547430.37	547433.54	425816.58	80.28	425816.58	547433.54	547433.54
6100.00	1.47	354.36	6098.18	2.635	79.89W	0.32	79.63	425817.11	547430.37	547433.54	425816.58	80.28	425816.58	547433.54	547433.54
6200.00	1.13	335.69	6198.16	0.465	80.42W	0.54	80.28	425816.58	547433.54	547436.81	425815.51	81.65	425815.51	547436.81	547436.81
6300.00	1.16	297.26	6298.14	0.90N	81.73W	0.75	81.65	425815.51	547436.81	547439.90	425814.97	81.35	425814.97	547439.90	547439.90
6400.00	1.55	270.82	6398.11	1.39N	83.98W	0.73	83.93	425813.02	547439.90	547443.19	425812.29	84.23	425812.29	547443.19	547443.19
6500.00	1.65	273.15	6498.07	1.49N	86.77W	0.12	86.72	425810.23	547443.19	547446.46	425809.97	87.16	425809.97	547446.46	547446.46
6600.00	0.94	252.24	6598.05	1.31N	88.99W	0.84	88.93	425808.01	547446.46	547449.70	425807.98	89.43	425807.98	547449.70	547449.70
6700.00	0.86	266.34	6698.03	1.02N	90.52W	0.23	90.44	425806.48	547449.70	547452.93	425805.99	91.93	425805.99	547452.93	547452.93
6800.00	0.86	275.33	6798.02	1.04N	92.01W	0.13	91.93	425804.99	547452.93	547456.16	425804.97	93.06	425804.97	547456.16	547456.16
6900.00	0.36	326.21	6898.02	1.37N	92.94W	0.69	92.87	425804.06	547456.16	547459.39	425803.88	93.06	425803.88	547459.39	547459.39
7000.00	0.13	182.13	6998.02	1.52N	93.12W	0.47	93.06	425803.88	547459.39	547462.62	425803.81	93.06	425803.81	547462.62	547462.62
7100.00	1.35	135.25	7098.01	0.57N	92.29W	1.26	92.18	425804.71	547462.62	547465.85	425804.71	92.18	425804.71	547465.85	547465.85
7200.00	3.56	128.13	7197.91	2.19S	89.02W	2.23	88.77	425807.98	547465.85	547469.09	425807.98	88.77	425807.98	547469.09	547469.09
7300.00	3.44	141.63	7297.72	6.46S	84.71W	0.83	84.23	425812.29	547469.09	547472.32	425812.29	84.23	425812.29	547472.32	547472.32
7400.00	1.83	148.93	7397.62	10.18S	82.03W	1.64	81.35	425814.97	547472.32	547475.55	425814.97	81.35	425814.97	547475.55	547475.55
7500.00	1.38	155.02	7497.58	12.64S	80.69W	0.48	79.88	425816.31	547475.55	547478.80	425816.31	79.88	425816.31	547478.80	547478.80
7600.00	1.28	150.24	7597.55	14.70S	79.63W	0.15	78.71	425817.37	547478.80	547481.93	425817.37	78.71	425817.37	547481.93	547481.93
7700.00	1.47	152.84	7697.52	16.81S	78.49W	0.20	77.45	425818.51	547481.93	547485.16	425818.51	77.45	425818.51	547485.16	547485.16
7800.00	1.02	151.71	7797.50	18.73S	77.48W	0.45	76.34	425819.52	547485.16	547488.40	425819.52	76.34	425819.52	547488.40	547488.40
7870.00	1.12	153.63	7867.48	19.89S	76.88W	0.15	75.68	425820.12	547488.40	547491.63	425820.12	75.68	425820.12	547491.63	547491.63
8092.00	0.80	264.30	8089.47	21.65S	77.49W	0.55	76.19	425819.51	547491.63	547494.88	425819.51	76.19	425819.51	547494.88	547494.88
8123.00	1.00	295.20	8120.47	21.56S	77.95W	1.67	76.65	425819.05	547494.88	547498.13	425819.05	76.65	425819.05	547498.13	547498.13
8154.00	1.40	309.80	8151.46	21.20S	78.49W	1.61	77.21	425818.51	547498.13	547501.40	425818.51	77.21	425818.51	547501.40	547501.40
8188.00	2.10	318.80	8185.44	20.47S	79.22W	2.21	77.98	425817.78	547501.40	547504.63	425817.78	77.98	425817.78	547504.63	547504.63
8218.00	3.00	318.40	8215.41	19.47S	80.10W	3.00	78.91	425816.90	547504.63	547507.87	425816.90	78.91	425816.90	547507.87	547507.87
8250.00	3.60	317.70	8247.36	18.10S	81.33W	1.88	80.22	425815.67	547507.87	547511.00	425815.67	80.22	425815.67	547511.00	547511.00
8282.00	4.00	317.30	8279.29	16.54S	82.76W	1.25	81.73	425814.24	547511.00	547514.27	425814.24	81.73	425814.24	547514.27	547514.27
8313.00	4.20	318.00	8310.21	14.90S	84.26W	0.67	83.31	425812.74	547514.27	547517.50	425812.74	83.31	425812.74	547517.50	547517.50
8345.00	5.00	318.70	8342.11	12.98S	85.96W	2.51	85.12	425811.04	547517.50	547520.73	425811.04	85.12	425811.04	547520.73	547520.73
8376.00	5.70	318.00	8372.97	10.82S	87.88W	2.27	87.16	425809.12	547520.73	547523.96	425809.12	87.16	425809.12	547523.96	547523.96
8407.00	6.20	318.10	8403.80	8.43S	90.03W	1.61	89.43	425808.97	547523.96	547527.19	425808.97	89.43	425808.97	547527.19	547527.19
8438.00	6.90	317.40	8434.60	5.81S	92.41W	2.27	91.95	425804.99	547527.19	547530.42	425804.99	91.95	425804.99	547530.42	547530.42
8470.00	7.10	315.20	8466.36	3.00S	95.10W	1.05	94.80	425801.90	547530.42	547533.65	425801.90	94.80	425801.90	547533.65	547533.65
8502.00	7.70	313.80	8498.10	0.11S	98.05W	1.96	97.89	425798.95	547533.65	547536.88	425798.95	97.89	425798.95	547536.88	547536.88
8533.00	8.70	312.10	8528.78	2.90N	101.28W	3.32	101.29	425795.72	547536.88	547540.11	425795.72	101.29	425795.72	547540.11	547540.11
8565.00	9.30	311.00	8560.38	6.22N	105.03W	1.95	105.21	425791.97	547540.11	547543.34	425791.97	105.21	425791.97	547543.34	547543.34
8596.00	10.20	310.00	8590.94	9.63N	109.02W	2.95	109.39	425787.98	547543.34	547546.57	425787.98	109.39	425787.98	547546.57	547546.57
8628.00	10.90	306.80	8622.40	13.26N	113.62W	2.85	114.17	425783.38	547546.57	547549.80	425783.38	114.17	425783.38	547549.80	547549.80

All data in feet unless otherwise stated. Calculation uses minimum curvature method.

Coordinates from structure and TVD from rotary table.
Bottom hole distance is 164.73 on azimuth 281.30 degrees from wellhead.
Vertical section is from S 0.00 E 0.00 on azimuth 273.14 degrees.
Grid is Mercator - New Mexico East (3001).

Grid coordinates in feet and computed using the Clarke - 1866 spheroid
Presented by Baker Hughes INTEQ

Marathon Oil Company
 North Indian Basin Unit #20, slot #1
 Indian Basin, EDDY COUNTY, NM.

SURVEY LISTING
 Your ref : MWD
 Last revised : 28-Jan-2005

Measured Incln	Azimuth	True Vert	R E C T A N G U L A R	Dogleg	Vert	G R I D	C O O R D S	Depth	Degrees	Incln	Degrees	Depth	Degrees	C O O R D S	Eastling	Nothing																																											
8692.00	13.00	299.10	8685.00	20.48N	124.75W	4.22	125.68	425772.25	547453.48	13.90	295.20	8715.15	23.76N	131.16W	4.12	132.27	425765.84	547456.76	8723.00	13.90	290.90	8746.17	26.83N	138.41W	3.96	139.67	425758.59	547459.83	8755.00	14.60	285.70	8776.17	29.29N	145.82W	4.23	147.21	425751.18	547462.29	8786.00	14.60	279.80	8807.14	31.06N	153.68W	4.65	155.15	425743.32	547464.06	8818.00	14.20	277.90	8838.13	32.29N	161.54W	1.93	163.07	425735.46	547465.29	8850.00

All data in feet unless otherwise stated. Calculation uses minimum curvature method.
 Coordinates from structure and TVD from rotary table.
 Bottom hole distance is 164.73 on azimuth 281.30 degrees from wellhead.
 Vertical section is from S 0.00 E 0.00 on azimuth 273.14 degrees.
 Grid is mercator - New Mexico East (3001).
 Grid coordinates in FEET and computed using the Clarke - 1866 spheroid
 Presented by Baker Hughes INTEQ



Company: MARATHON OIL CO.
Field: INDIAN BASIN
Cty/Blk/Par: EDDY
Well Name: NIBU#20
Rig: KEY#115

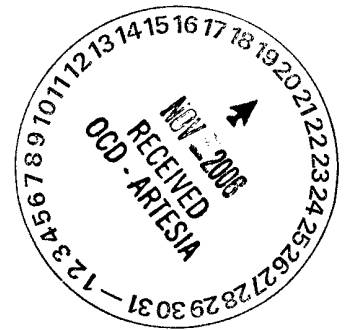
Job Number: 832933
Magnetic Decl.: 8.91
Grid Corr.: 0.13
Total Survey Corr.: 9.04
Target Info:

Calculation Method Minimum Curvature
Proposed Azimuth 273.14
Depth Reference
Tie Info:

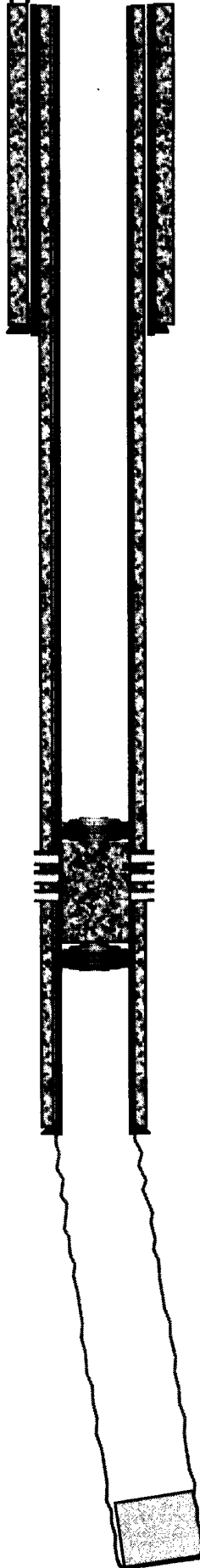
No.	Tool Type	Survey Depth (ft)	Incl (°)	Azimuth (°)	Course Lgth (ft)	TVD (ft)	VS (ft)	N/S (ft)	Coordinates E/W (ft)	Closure Dist (ft)	DLS (°/100')	Bld Rate (°/100')	Wlk Rate (°/100')
0	TIE IN	7870	1.12	153.63		7867.48	75.68	-19.89	-76.88				
1	MWD	8059	0.62	266.00	189	8056.47	75.78	21.62 S	77.08 W	80.05	254.33	0.78	-0.3
2	MWD	8092	0.80	264.30	33	8089.46	76.18	21.65 S	77.49 W	80.46	254.39	0.55	0.5
3	MWD	8123	1.00	295.20	31	8120.46	76.65	21.56 S	77.95 W	80.87	254.54	1.67	0.6
4	MWD	8154	1.40	309.80	31	8151.45	77.20	21.20 S	78.48 W	81.30	254.88	1.61	1.3
5	MWD	8188	2.10	318.80	34	8185.44	77.97	20.47 S	79.21 W	81.81	255.51	2.21	2.1
6	MWD	8218	3.00	318.40	30	8215.41	78.91	19.47 S	80.10 W	82.43	256.34	3.00	3.0
7	MWD	8250	3.60	317.70	32	8247.35	80.21	18.10 S	81.33 W	83.32	257.46	1.88	1.9
8	MWD	8282	4.00	317.30	32	8279.28	81.73	16.53 S	82.76 W	84.40	258.70	1.25	1.3
9	MWD	8313	4.20	318.00	31	8310.20	83.31	14.89 S	84.25 W	85.56	259.97	0.67	0.6
10	MWD	8345	5.00	318.70	32	8342.10	85.12	12.98 S	85.96 W	86.93	261.42	2.51	2.5
11	MWD	8376	5.70	318.00	31	8372.97	87.16	10.82 S	87.88 W	88.54	262.98	2.27	2.3
12	MWD	8407	6.20	318.10	31	8403.80	89.43	8.43 S	90.03 W	90.42	264.65	1.61	1.6
13	MWD	8438	6.90	317.40	31	8434.60	91.95	5.81 S	92.41 W	92.59	266.40	2.27	2.3
14	MWD	8470	7.10	315.20	32	8466.36	94.79	2.99 S	95.10 W	95.15	268.20	1.05	0.6
15	MWD	8502	7.70	313.80	32	8498.09	97.89	0.10 S	98.04 W	98.04	269.94	1.96	1.9
16	MWD	8533	8.70	312.10	31	8528.77	101.29	2.90 N	101.28 W	101.32	271.64	3.32	3.2
17	MWD	8565	9.30	311.00	32	8560.38	105.21	6.22 N	105.03 W	105.21	273.39	1.95	1.9
18	MWD	8596	10.20	310.30	31	8590.93	109.38	9.64 N	109.01 W	109.44	275.05	2.93	2.9
19	MWD	8628	10.90	306.80	32	8622.39	114.15	13.29 N	113.59 W	114.37	276.67	2.96	2.2
20	MWD	8660	12.00	303.30	32	8653.75	119.55	16.93 N	118.80 W	120.00	278.11	4.06	3.4
21	MWD	8692	13.00	299.10	32	8685.00	125.66	20.50 N	124.72 W	126.40	279.34	4.22	3.1
22	MWD	8723	13.90	295.20	31	8715.15	132.25	23.78 N	131.14 W	133.28	280.28	4.12	2.9
23	MWD	8755	14.60	290.90	32	8746.16	139.65	26.86 N	138.39 W	140.97	280.98	3.96	2.2
24	MWD	8786	14.60	285.70	31	8776.16	147.18	29.31 N	145.80 W	148.71	281.37	4.23	0.0
25	MWD	8818	14.60	279.80	32	8807.13	155.13	31.09 N	153.65 W	156.77	281.44	4.65	0.0
26	MWD	8850	14.20	277.90	32	8838.13	163.04	32.31 N	161.52 W	164.72	281.31	1.93	-1.3



North Indian Basin Unit No. 20
Squeezed Upper Penn Perforations



Marathon Oil Company
North Indian Basin Unit No. 20
11-Nov-06



Surface Casing
9 5/8" 36# J-55 set @ 1285' Cmtd w/ 1055 sks
Circulated 728 sks to pit.

Estimated Formation Tops
(Based on information f/ existing wells)

Strawn	8205 TVD	8208 MD
Atoka Clastics	8780 TVD	8790 MD
Total Depth	8905 TVD	8919 MD
Morrow	9060 TVD	estimated not penetrated in this well

Cement Retainer @ ~ 7450'
Squeezed Upper Penn Perforations
7488' - 7786'

CIBP set @ 7942' W/ 25' cement

Production Casing 7" 23 & 26 # K-55 Set @ 8042'
Cemented in 2 stages
1 st stage 450 sx circ 110 sx off DV tool
2 nd stage 825 sx circ. 88 sx to pit.

6 1/8" open hole

6 1/8" open hole

Hole has colapse / fill to 8797'

Open Hole Directional Drill
TD - MD 8919' TVD 8905'

Well Name & Number:	North Indian Basin Unit No. 20		Lease	E -9706 / North Indian Basin Unit	
County or Parish:	Eddy	State/Prov.	New Mexico	Country:	USA
Perforations: (MD)	7488' - 7786'		(TVD)	8905	
Date Completed:				RKB:	
Prepared By:	Charles Kendrix		Last Revision Date:	11/11/06	