

(4)

MERRION

OIL & GAS

SANTA FE H 20 No. 3

1/4 Section 20, T21N, R8W
San Juan County, New Mexico

30-045-22568

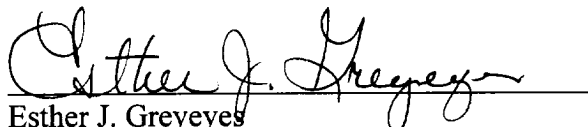
RECEIVED
SEP. 1 1 1996
OIL CON. DIV.
DIST. 3

I, Steven S. Dunn, being first duly sworn, depose and state that the attached and foregoing depth and hole deviation figures are true and correct to the best of my information and belief.


Steven S. Dunn

Subscribed and sworn before me this 10th day of September, 1996

State of New Mexico }
 } ss
County of San Juan }


Esther J. Greeyes
Notary Public

My Commission Expires: August 7, 1998

Surveys

DIRECTIONAL SURVEY DATA

WELL NAME: Santa Fe H 20 No. 3				LOCATION: San Juan				RIG:			
TARGET AZIMUTH (0-360 DEG):				244.90				New Mexico		ELEV: 6,586 RKB	
MEAS	HOLE	HOLE	TRUE	LAT	DEP		TRUE		+BUILD	WALK	
DEPTH	ANGLE	AZIMUTH	VERTICAL	+NORTH	+EAST		VERTICAL	DOGLEG	-DROP		
NO.	(FT.)	(DEG)	(0-360D)	DEPTH	-SOUTH	-WEST	CLOSURE	SECTION	SEVERITY	RATE	
			(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(°/100')	(°/100')	
										(°/100')	
1	-	-	-	0.00	0.00	0.00	0.00	0.00	N/A	N/A	
2	100	0.06	7.64	100.00	0.05	0.01	0.05	(0.02)	0.06	0.06	
3	200	0.16	305.25	200.00	0.18	(0.10)	0.21	0.01	0.14	0.10	
4	300	0.70	16.49	300.00	0.85	(0.04)	0.85	(0.32)	0.67	0.54	
5	400	0.72	17.64	399.98	2.04	0.32	2.06	(0.57)	0.02	0.02	
6	500	0.87	25.15	499.96	3.32	0.84	3.42	(0.65)	0.18	0.15	
7	600	1.05	37.11	599.93	4.74	1.71	5.04	(0.46)	0.27	0.18	
8	700	0.98	58.94	699.90	5.91	3.00	6.63	0.21	0.39	(0.07)	
9	800	1.05	80.47	799.87	6.50	4.63	7.98	1.44	0.39	0.07	
10	900	1.12	86.36	899.84	6.72	6.51	9.35	3.05	0.13	0.07	
11	1,000	1.16	85.72	999.81	6.85	8.50	10.92	4.79	0.04	0.04	
12	1,100	0.94	95.26	1,099.78	6.85	10.32	12.39	6.44	0.28	(0.22)	
13	1,200	1.09	112.74	1,199.76	6.41	12.02	13.62	8.16	0.34	0.15	
14	1,300	1.06	121.99	1,299.73	5.55	13.68	14.76	10.03	0.18	(0.03)	
15	1,400	1.30	145.10	1,399.71	4.13	15.11	15.67	11.93	0.53	0.24	
16	1,500	1.59	155.15	1,499.67	1.94	16.34	16.46	13.97	0.38	0.29	
17	1,600	1.70	154.73	1,599.62	(0.66)	17.56	17.57	16.18	0.11	0.11	
18	1,700	1.45	156.23	1,699.59	(3.15)	18.70	18.97	18.27	0.25	(0.25)	
19	1,800	1.45	155.61	1,799.55	(5.46)	19.73	20.48	20.19	0.02	0.00	
20	1,900	1.41	162.28	1,899.51	(7.79)	20.63	22.05	21.99	0.17	(0.04)	
21	2,000	1.02	144.65	1,999.49	(9.69)	21.52	23.60	23.60	0.54	(0.39)	
22	2,100	0.99	191.98	2,099.48	(11.26)	21.86	24.59	24.57	0.81	(0.03)	
23	2,200	0.70	171.54	2,199.46	(12.71)	21.77	25.20	25.10	0.41	(0.29)	
24	2,300	0.85	205.44	2,299.45	(13.98)	21.54	25.68	25.44	0.47	0.15	
25	2,400	0.63	212.64	2,399.43	(15.11)	20.92	25.81	25.36	0.24	(0.22)	
26	2,500	0.81	225.53	2,499.42	(16.07)	20.12	25.75	25.04	0.24	0.18	
27	2,600	0.78	217.42	2,599.41	(17.11)	19.20	25.72	24.65	0.12	(0.03)	
28	2,700	0.59	247.22	2,699.39	(17.85)	18.32	25.57	24.16	0.40	(0.19)	
29	2,800	0.74	260.41	2,799.36	(18.15)	17.20	25.01	23.28	0.21	0.15	
30	2,900	1.26	291.25	2,899.28	(17.86)	15.54	23.68	21.65	0.73	0.52	
31	3,000	1.84	310.38	2,999.15	(16.43)	13.30	21.14	19.01	0.77	0.58	
32	3,100	2.20	322.19	3,098.96	(13.87)	10.90	17.64	15.76	0.55	0.36	
33	3,200	2.59	330.33	3,199.36	(10.38)	8.60	13.47	12.19	0.51	0.39	
34	3,300	3.19	333.43	3,299.23	(5.92)	6.23	8.60	8.16	0.62	0.60	
35	3,400	3.86	337.77	3,399.04	(0.32)	3.72	3.73	3.50	0.72	0.67	
36	3,500	4.48	340.73	3,498.78	6.48	1.15	6.58	(1.71)	0.66	0.62	
37	3,600	4.79	344.05	3,598.45	14.18	(1.28)	14.24	(4.85)	0.41	0.31	
38	3,700	4.63	345.58	3,698.11	22.11	(3.44)	22.37	(6.27)	0.20	(0.16)	
39	3,800	4.21	349.26	3,797.81	29.62	(5.13)	30.06	(7.92)	0.51	(0.42)	
40	3,900	3.52	347.68	3,897.58	36.23	(6.46)	36.80	(9.51)	0.70	(0.69)	
41	4,000	2.51	343.39	3,997.45	41.33	(7.75)	42.04	(10.52)	1.03	(1.01)	
42	4,100	1.84	340.65	4,097.37	44.94	(8.90)	45.81	(11.00)	0.68	(0.67)	
43	4,200	1.28	350.09	4,197.34	47.55	(9.63)	48.52	(11.45)	0.61	(0.56)	

Surveys

DIRECTIONAL SURVEY DATA

WELL NAME: Santa Fe H 20 No. 3				LOCATION: San Juan				RIG:			
TARGET AZIMUTH (0-360 DEG):				244.90				New Mexico			
								ELEV: 6,586 RKB			
NO.	MEAS DEPTH (FT.)	HOLE ANGLE (DEG)	HOLE AZIMUTH (0-360D)	TRUE VERTICAL DEPTH (FT.)	LAT +NORTH -SOUTH (FT.)	DEP +EAST -WEST (FT.)	CLOSURE (FT.)	TRUE VERTICAL SECTION (FT.)	DOGLEG SEVERITY (°/100')	+BUILD -DROP RATE (°/100')	WALK RATE +R/-L (°/100')
44	4,300	1.01	350.60	4,297.32	49.52	(9.96)	50.52	(11.99)	0.27	(0.27)	0.51
45	4,400	0.78	322.40	4,397.30	50.93	(10.52)	52.01	(12.08)	0.49	(0.23)	(28.20)
46	4,500	0.54	340.21	4,497.30	51.91	(11.10)	53.09	(11.97)	0.31	(0.24)	17.81
47	4,600	0.68	338.68	4,597.29	52.91	(11.47)	54.14	(12.06)	0.14	0.14	(1.53)
48	4,700	0.29	328.94	4,697.29	53.68	(11.82)	54.97	(12.07)	0.40	(0.39)	(9.74)
49	4,800	0.47	298.15	4,797.29	54.09	(12.31)	55.47	(11.80)	0.27	0.18	(30.79)
50	4,900	0.55	263.88	4,897.28	54.23	(13.15)	55.80	(11.10)	0.31	0.08	(34.27)
51	5,000	0.76	254.65	4,997.28	54.01	(14.27)	55.86	(9.99)	0.23	0.21	(9.23)
52	5,100	1.03	239.81	5,097.26	53.38	(15.68)	55.63	(8.44)	0.35	0.27	(14.84)
53	5,200	0.90	230.70	5,197.25	52.43	(17.07)	55.14	(6.78)	0.20	(0.13)	(9.11)
54	5,267	1.50	255.50	5,264.23	51.88	(18.32)	55.02	(5.41)	1.16	0.90	37.01
55	5,283	3.10	269.70	5,280.22	51.82	(18.96)	55.18	(4.81)	10.54	10.00	88.75
56	5,298	5.40	276.00	5,295.18	51.89	(20.07)	55.64	(3.84)	15.62	15.33	42.00
57	5,311	7.30	276.50	5,308.10	52.05	(21.50)	56.31	(2.61)	14.62	14.62	3.85
58	5,329	9.10	267.80	5,325.91	52.13	(24.06)	57.41	(0.33)	12.12	10.00	(48.33)
59	5,343	10.20	254.40	5,339.72	51.75	(26.36)	58.07	1.91	17.81	7.86	(95.71)
60	5,359	12.00	249.40	5,355.42	50.78	(29.28)	58.62	4.97	12.75	11.25	(31.25)
61	5,371	13.70	246.30	5,367.12	49.77	(31.75)	59.04	7.64	15.28	14.17	(25.83)
62	5,403	18.60	244.20	5,397.85	46.03	(39.82)	60.86	16.53	15.42	15.31	(6.56)
63	5,434	23.70	245.40	5,426.75	41.28	(49.94)	64.79	27.71	16.51	16.45	3.87
64	5,465	28.80	245.30	5,454.54	35.56	(62.40)	71.82	41.42	16.45	16.45	(0.32)
65	5,496	33.80	244.50	5,481.02	28.72	(76.97)	82.16	57.52	16.18	16.13	(2.58)
66	5,510	36.10	243.20	5,492.50	25.19	(84.17)	87.86	65.54	17.27	16.43	(9.29)
67	5,528	39.40	240.60	5,506.73	19.99	(93.88)	95.99	76.54	20.35	18.33	(14.44)
68	5,544	42.90	240.00	5,518.77	14.77	(103.02)	104.08	87.03	22.01	21.88	(3.75)
69	5,558	46.60	239.60	5,528.71	9.82	(111.54)	111.97	96.84	26.50	26.43	(2.86)
70	5,586	54.70	238.60	5,546.45	(1.30)	(130.10)	130.11	118.37	29.06	28.93	(3.57)
71	5,617	62.00	235.40	5,562.71	(15.69)	(152.20)	153.00	144.48	25.13	23.55	(10.32)
72	5,629	64.40	235.70	5,568.12	(21.75)	(161.03)	162.49	155.05	20.12	20.00	2.50
73	5,647	67.60	238.00	5,575.44	(30.73)	(174.79)	177.48	171.33	21.27	17.78	12.78
74	5,659	69.50	239.60	5,579.83	(36.52)	(184.35)	187.93	182.43	20.12	15.83	13.33
75	5,678	72.30	241.40	5,586.05	(45.36)	(199.97)	205.05	200.33	17.24	14.74	9.47
76	5,694	75.20	241.90	5,590.53	(52.65)	(213.49)	219.89	215.66	18.37	18.13	3.13
77	5,727	79.60	237.70	5,597.73	(68.85)	(241.31)	250.93	247.72	18.22	13.33	(12.73)
78	5,739	81.10	239.00	5,599.74	(75.06)	(251.38)	262.34	259.48	16.44	12.50	10.83
79	5,759	83.00	239.30	5,602.50	(85.21)	(268.38)	281.58	279.18	9.62	9.50	1.50
80	5,790	87.00	239.80	5,605.20	(100.86)	(295.00)	311.76	309.92	13.00	12.90	1.61
81	5,821	90.10	241.80	5,605.99	(115.98)	(322.04)	342.29	340.83	11.90	10.00	6.45
82	5,853	90.20	245.30	5,605.91	(130.23)	(350.69)	374.09	372.82	10.94	0.31	10.94
83	5,884	90.40	248.90	5,605.74	(142.29)	(379.24)	405.06	403.79	11.63	0.65	11.61
84	5,914	89.40	251.00	5,605.80	(152.57)	(407.42)	435.05	433.67	7.75	(3.33)	7.00
85	5,946	86.14	250.50	5,607.04	(163.11)	(437.61)	467.02	465.47	10.31	(10.19)	(1.56)
86	5,976	85.80	248.70	5,609.15	(173.54)	(465.65)	496.94	495.30	6.09	(1.13)	(6.00)

Surveys

DIRECTIONAL SURVEY DATA

WELL NAME: Santa Fe H 20 No. 3					LOCATION: San Juan			RIG:					
TARGET AZIMUTH (0-360 DEG):					244.90			New Mexico			ELEV: 6,586 RKB		
NO.	MEAS DEPTH (FT.)	HOLE ANGLE (DEG)	HOLE AZIMUTH (0-360D)	TRUE VERTICAL DEPTH (FT.)	LAT +NORTH -SOUTH (FT.)	DEP +EAST -WEST (FT.)	CLOSURE (FT.)	TRUE VERTICAL SECTION (FT.)	DOGLE SEVERITY (°/100')	+BUILD -DROP RATE (°/100')	WALK RATE +R/-L (°/100')		
87	6,006	88.00	246.80	5,610.77	(184.89)	(493.38)	526.88	525.21	9.68	7.33	(6.33)		
88	6,035	89.90	246.70	5,611.30	(196.33)	(520.02)	555.84	554.19	6.56	6.55	(0.34)		
89	6,066	92.20	246.70	5,610.73	(208.59)	(548.48)	586.81	585.17	7.42	7.42	0.00		
90	6,098	91.60	246.50	5,609.67	(221.29)	(577.83)	618.76	617.14	1.98	(1.88)	(0.62)		
91	6,126	87.70	245.30	5,609.84	(232.72)	(603.39)	646.71	645.13	14.57	(13.93)	(4.29)		
92	6,151	84.22	244.23	5,611.61	(243.35)	(625.94)	671.58	670.06	14.56	(13.92)	(4.28)		

BRANCH SURVEYS

1	6,006	88.00	246.80	5,610.77	(184.89)	(493.38)	526.88	525.21	9.68	7.33	(6.33)
2	6,035	89.10	247.60	5,611.50	(196.12)	(520.10)	555.85	554.18	4.69	3.79	2.76
3	6,066	88.60	247.20	5,612.13	(208.03)	(548.71)	586.83	585.14	2.07	(1.61)	(1.29)
4	6,098	88.20	246.50	5,613.02	(220.61)	(578.13)	618.79	617.11	2.52	(1.25)	(2.19)
5	6,126	88.30	246.10	5,613.88	(231.85)	(603.75)	646.74	645.09	1.47	0.36	(1.43)
6	6,155	89.40	245.40	5,614.46	(243.76)	(630.19)	675.69	674.08	4.50	3.79	(2.41)
7	6,184	89.00	245.40	5,614.86	(255.83)	(656.55)	704.64	703.08	1.38	(1.38)	0.00
8	6,213	89.30	245.10	5,615.29	(267.97)	(682.89)	733.58	732.07	1.46	1.03	(1.03)
9	6,244	89.50	244.90	5,615.62	(281.07)	(710.98)	764.52	763.07	0.91	0.65	(0.65)
10	6,268	89.59	244.81	5,615.81	(291.27)	(732.71)	788.48	787.07	0.53	0.38	(0.38)