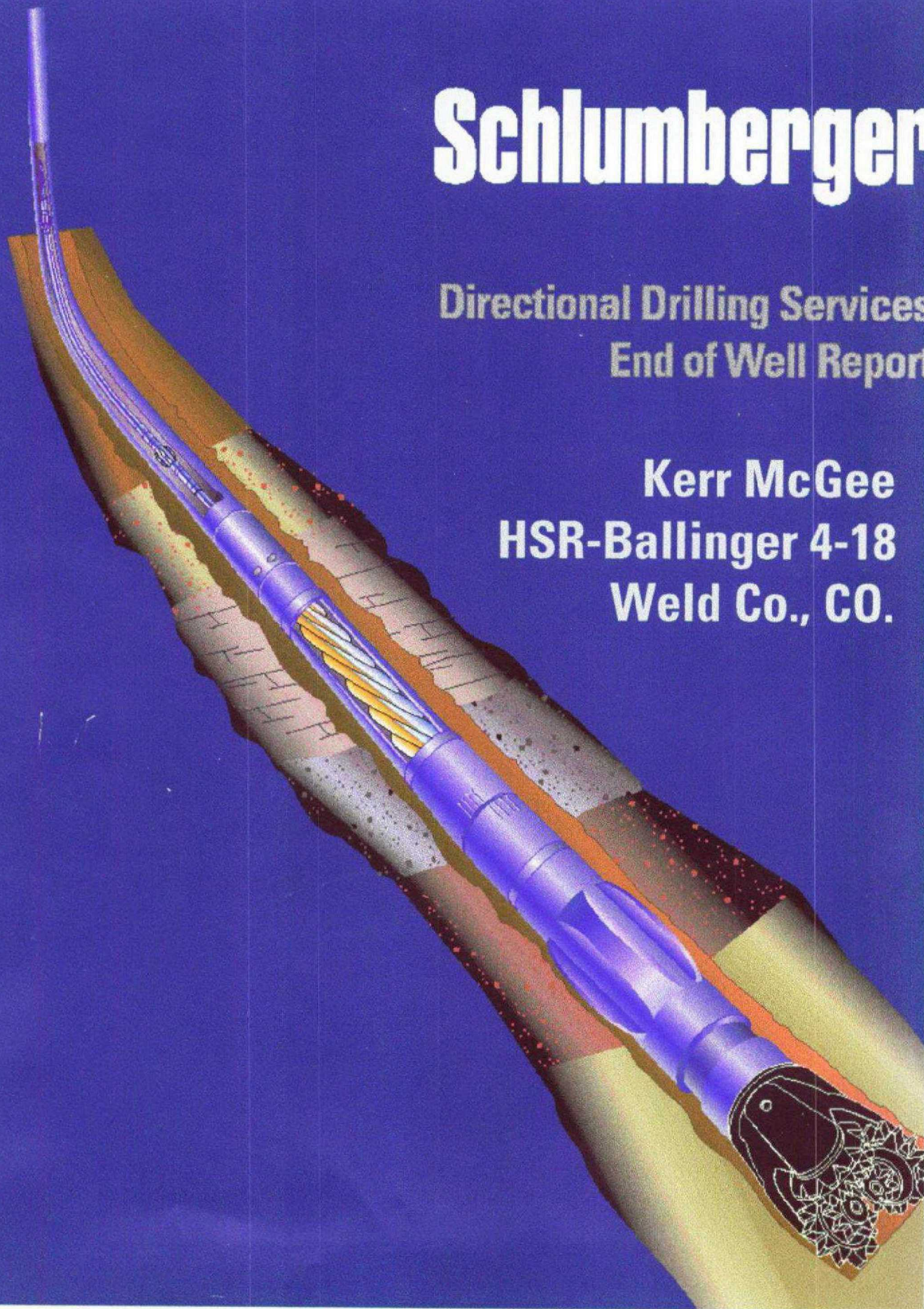


Schlumberger

Directional Drilling Services
End of Well Report

Kerr McGee
HSR-Ballinger 4-18
Weld Co., CO.



Daily Report

Report Date:	12/10/01				
Company	Kerr McGee	Job #	40006950	Ftg. Last 24 Hrs	438.0
Rig	Caza # 17	Report #	1	Last Csg. Set	8 5/8 @ 632
Well	HSR- Ballinger # 4-18	Midn't Depth	3882	Total PDM Hrs	6.50

BHA #	1	Bit	1	BHA#	1	BHA#	
PDM #	6251015	Size	7 7/8	Item	Length	Item	Length
Drl hrs	5.25	Make	H.T.C.	Bit	1.00		
Cir hrs.	1.25	Type	BD 535	Motor	25.84		
Cum. Drl. Hrs	5.25	Depth In	3444	Float Sub	3.37		
Cum. Cir. Hrs	1.25	Depth Out		U.B.H.O.	2.07		
Bent Sub	N/A	Hours		Non-Mag	28.86		
Bent Hous	1.83	Nozzles (TFA)	0.24	Non-Mag	30.18		
Depth In	3444	ROP		22-Jts HW	676.73		
Depth Out		T/B/G					
WOB Rotating		Mud Type	Water				
Pad/Stab OD	7 5/8	Weight	8.4				
GPM	400	Viscosity	28				
PSI off BTM	1050	PV/YP					
PSI on BTM	1150	PH					
Wk Load	80K	Water Loss					
WOB Weight	85K	Solid Content					
S/O Weight	75K	Sand Content					
Flowline Temp.	91.60	Chlorides		TOTAL =	768.05	TOTAL =	

Time Log			Operation details and comments	BHA Run Tally				
From	To	Hours		Rotate	Slide	Circulate	Total	
0000	1145	11.75	Finish drilling ahead and travel time	FT	403	35		438
1145	1330	1.75	Pickup BHA # 1	Hrs	4.00	1.25	1.25	6.50
1330	1730	4.00	R.I.H. and survey every 279.0'	Motor Inventory				
1730	1745	0.25	Rotate F / 3444-3448	Clean	6252279			
1745	1800	0.25	Connection and survey	Dirty	6251015			
1800	1815	0.25	Slide F / 3448-3458 @ 210 MTF	Directional Charges				
1815	1830	0.25	Rotate F / 3458-3478	OPERATING		\$5,700		
1830	1845	0.25	Connection and survey	STANDBY				
1845	1900	0.25	Slide F / 3478-3486 @ 210 MTF	Mileage (3 men RT 1.25)		\$1,860		
1900	1915	0.25	Rotate F / 3486-3509	Per. Sub (3 men 30.00)		\$90		
1915	2000	0.75	Drill F / 3509-3571 Slide as needed	Per. Acc (3 men 75.00)		\$225		
2000	2115	1.25	Drill F / 3571-3633 Slide as needed	Motor Insurance		\$250		
2115	2400	2.75	Drill F / 3633-3882 Slide as needed	M.W.D. Insurance		\$350		
2400				YESTERDAYS TOTAL				
				Daily Total		\$8,475		
				Cum Total		\$8,475		
				Anadrill Representatives				
				B. Clouser / M. Jeude				
				W. Brinda				
				Operator Representatives				
				Larry Webb				

Daily Report

Total Hours= 24.00	
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Report Date: 12/11/01	
Company Kerr McGee	Job # 40006950
Rig Caza # 17	Report # 2
Well HSR- Ballinger # 4-18	Midn't Depth 5465
Ftg. Last 24 Hrs 1583.0	Last Csg. Set 8 5/8 @ 632
Total PDM Hrs 28.75	

BHA #	1	Bit	1	BHA#	1	BHA#	1
PDM #	6251015	Size	7 7/8	Item	Length	Item	Length
Drl hrs	18.75	Make	H.T.C.	Bit	1.00		
Cir hrs.	3.50	Type	BD 535	Motor	25.84		
Cum. Drl. Hrs	24.00	Depth In	3444	Float Sub	3.37		
Cum. Cir. Hrs	4.75	Depth Out		U.B.H.O.	2.07		
Bent Sub	N/A	Hours		Non-Mag	28.86		
Bent Hous	1.83	Nozzles (TFA)	0.24	Non-Mag	30.18		
Depth In	3444	ROP		22-Jts HW	676.73		
Depth Out		T/B/G					
WOB Rotating	15K	Mud Type	Water				
Pad/Stab OD	7 5/8	Weight	8.4				
GPM	400	Viscosity	28				
PSI off BTM	1300	PV/YP					
PSI on BTM	1400	PH					
WOB Load	103K	Water Loss					
WOB Weight	108K	Solid Content					
S/O Weight	98K	Sand Content					
Flowline Temp.	121.0	Chlorides		TOTAL =	768.05	TOTAL =	

Time Log			Operation details and comments		BHA Run Tally			
From	To	Hours			Rotate	Slide	Circulate	Total
0000	45	0.75	Drill F / 3882-3944 Slide as needed	FT	1496	87		1583
45	100	0.25	Work tight hole	Hrs	13.00	5.75	3.50	22.25
100	230	1.50	Drill F / 3944-4042 Slide as needed		Motor Inventory			
230	315	0.75	Drill F / 4042-4103 Slide as needed		Clean	6252279		
315	645	3.50	Drill F / 4103-4414 Slide as needed		Dirty	6251015		
645	730	0.75	Drill F / 4414-4476 Slide as needed		Directional Charges			
730	830	1.00	Drill F / 4476-4537 Slide as needed		OPERATING		\$5,700	
830	945	1.25	Drill F / 4537-4630 Slide as needed		STANDBY			
945	1015	0.50	Drill F / 4630-4659 Slide as needed		Per. Sub (3 men 30.00)		\$90	
1015	1500	4.75	Drill F / 4659-4968 Slide as needed		Per. Acc (3 men 75.00)		\$225	
1500	1700	2.00	Drill F / 4968-5062 Slide as needed		Motor Insurance		\$250	
1700	2000	3.00	Drill F / 5062-5247 Slide as needed		M.W.D. Insurance		\$350	
2000	2130	1.50	Drill F / 5247-5310 Slide as needed					
2130	2400	2.50	Drill F / 5310-5465 Slide as needed		YESTERDAYS TOTAL		\$8,475	
2400					Daily Total		\$6,615	
					Cum Total		\$15,090	
					Anadrill Representatives			
					B. Clouser / M. Jeude			
					W. Brinda			
					Operator Representatives			
					Larry Webb			

Daily Report

Total Hours=	24.00	
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Report Date:	12/12/01				
Company	Kerr McGee	Job #	40006950	Ftg. Last 24 Hrs	1187.0
Rig	Caza # 17	Report #	3	Last Csg. Set	8 5/8 @ 632
Well	HSR- Ballinger # 4-18	Midn't Depth	6652	Total PDM Hrs	50.25

BHA #	1		Bit	1		BHA#	1	BHA#	
PDM #	6251015		Size	7 7/8		Item	Length	Item	Length
Drl hrs	17.25		Make	H.T.C.		Bit	1.00		
Cir hrs.	4.25		Type	BD 535		Motor	25.84		
Cum. Drl. Hrs	41.25		Depth In	3444		Float Sub	3.37		
Cum. Cir. Hrs	9.00		Depth Out			U.B.H.O.	2.07		
Bent Sub	N/A		Hours			Non-Mag	28.86		
Bent Hous	1.83		Nozzles (TFA)	0.24		Non-Mag	30.18		
Depth In	3444		ROP			22-Jts HW	676.73		
Depth Out			T/B/G						
WOB Rotating	10K / 15K		Mud Type	Water					
Pad/Stab OD	7 5/8		Weight	8.4					
GPM	400		Viscosity	28					
PSI off BTM	1400		PV/YP						
PSI on BTM	1650		PH						
WOB Load	120K		Water Loss						
WOB Weight	135K		Solid Content						
S/O Weight	110K		Sand Content						
Flowline Temp.	142.7		Chlorides			TOTAL =	768.05	TOTAL =	

Time Log			Operation details and comments		BHA Run Tally			
From	To	Hours			Rotate	Slide	Circulate	Total
0000	45	0.75	Drill F / 5465-5497 Slide as needed	FT	1092	95		1187
45	130	0.75	Drill F / 5497-5528 Slide as needed	Hrs	9.50	7.75	4.25	21.50
130	415	2.75	Drill F / 5528-5692 Slide as needed		Motor Inventory			
415	600	1.75	Drill F / 5692-5755 Slide as needed		Clean	6252279		
600	645	0.75	Drill F / 5755-5809 Slide as needed		Dirty	6251015		
645	700	0.25	Circulate to Re-start MWD system		Directional Charges			
700	945	2.75	Drill F / 5809-5907 Slide as needed		OPERATING		\$5,700	
945	1115	1.50	Drill F / 5907-5995 Slide as needed		STANDBY			
1115	1145	0.50	Rig service		Per. Sub (3 men 30.00)		\$90	
1145	1400	2.25	Drill F / 5995-6093 Slide as needed		Per. Acc (3 men 75.00)		\$225	
1400	1800	4.00	Drill F / 6093-6283 Slide as needed		Motor Insurance		\$250	
1800	1945	1.75	Drill F / 6283-6402 Slide as needed		M.W.D. Insurance		\$350	
1945	2400	4.25	Drill F / 6402-6652 Slide as needed					
2400					YESTERDAYS TOTAL		\$15,090	
					Daily Total		\$6,615	
					Cum Total		\$21,705	
					Anadrill Representatives			
					B. Clouser / M. Jeude			
					W. Brinda			
					Operator Representatives			
					Larry Webb			

Daily Report

al Hours= 24.00

Report Date: 12/13/01					
Company	Kerr McGee	Job #	40006950	Ftg. Last 24 Hrs	744.0
Rig	Caza # 17	Report #	4	Last Csg. Set	8 5/8 @ 632
Well	HSR- Ballinger # 4-18	Midn't Depth	7396	Total PDM Hrs	67.50

BHA #	1		Bit	1		BHA#	1	BHA#	
PDM #	6251015		Size	7 7/8		Item	Length	Item	Length
Drl hrs	15.25		Make	H.T.C.		Bit	1.00		
Cir hrs.	2.00		Type	BD 535		Motor	25.84		
Cum. Drl. Hrs	56.50		Depth In	3444		Float Sub	3.37		
Cum. Cir. Hrs	11.00		Depth Out	7396		U.B.H.O.	2.07		
Bent Sub	N/A		Hours	56.50		Non-Mag	28.86		
Bent Hous	1.83		Nozzles (TFA)	0.24		Non-Mag	30.18		
Depth In	3444		ROP	69.95		22-Jts HW	676.73		
Depth Out	7396		T/B/G						
WOB Rotating	10K / 15K		Mud Type	Gel / H2O					
Pad/Stab OD	7 5/8		Weight	9.0					
GPM	400		Viscosity	37					
PSI off BTTM	1400		PV/YP	14 / 8					
PSI on BTTM	1650		PH	9.0					
Hook Load	127K		Water Loss	7.2					
FW Weight	145K		Solid Content	5.0%					
S/O Weight	125K		Sand Content	TR					
Flowline Temp.	151.0		Chlorides	300ppm		TOTAL =	768.05	TOTAL =	

Time Log			Operation details and comments		BHA Run Tally			
From	To	Hours			Rotate	Slide	Circulate	Total
0000	230	2.50	Drill F / 6652-6777 Slide as needed	FT	736	8		744
230	800	5.50	Drill F / 6777-7028 Slide as needed	Hrs	14.25	1.00	2.00	17.25
800	1315	5.25	Drill F / 7028-7215 Slide as needed		Motor Inventory			
1315	1630	3.25	Drill F / 7215-7396 Slide as needed		Clean	6252279		
1630	1715	0.75	Short trip 6 stands		Dirty	6251015		
1715	1845	1.50	Circulate bottoms up		Directional Charges			
1845	2400	5.25	P.O.O.H. Lay down drill pipe (T.D.)		OPERATING		\$5,700	
2400					STANDBY			
					Per. Sub (3 men 30.00)		\$90	
					Per. Acc (3 men 75.00)		\$225	
					Motor Insurance		\$250	
					M.W.D. Insurance		\$350	
					YESTERDAYS TOTAL		\$21,705	
					Daily Total		\$6,615	
					Cum Total		\$28,320	
					Anadrill Representatives			
					B. Clouser / M. Jeude			
					W. Brinda			
					Operator Representatives			
					Larry Webb			

Daily Report

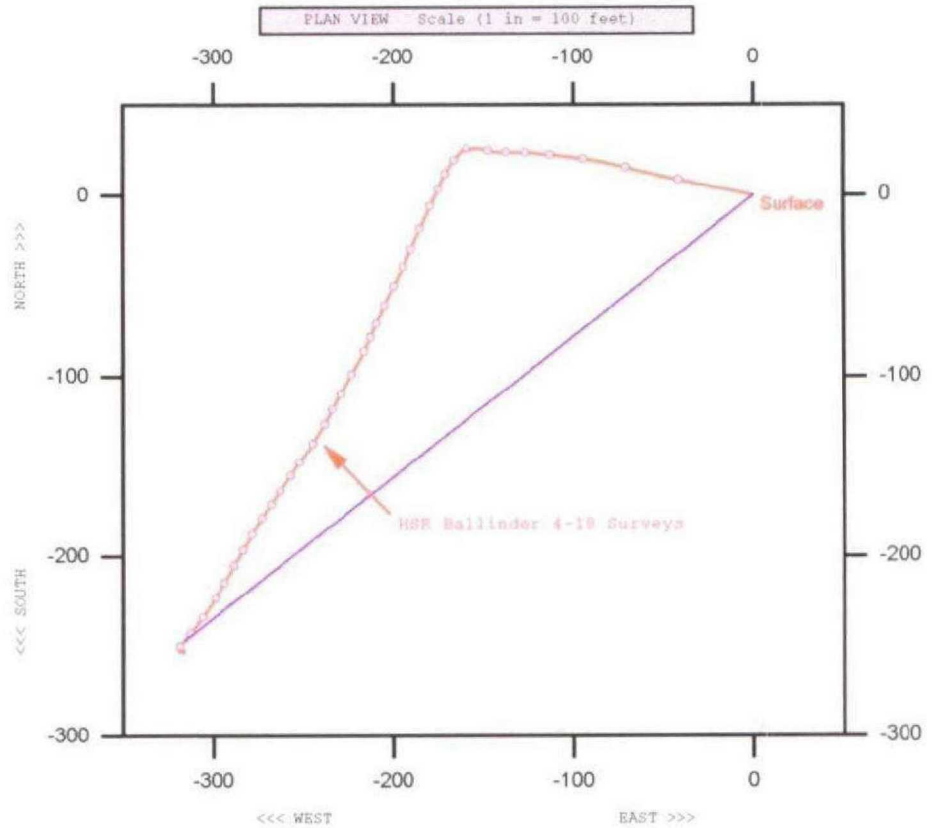
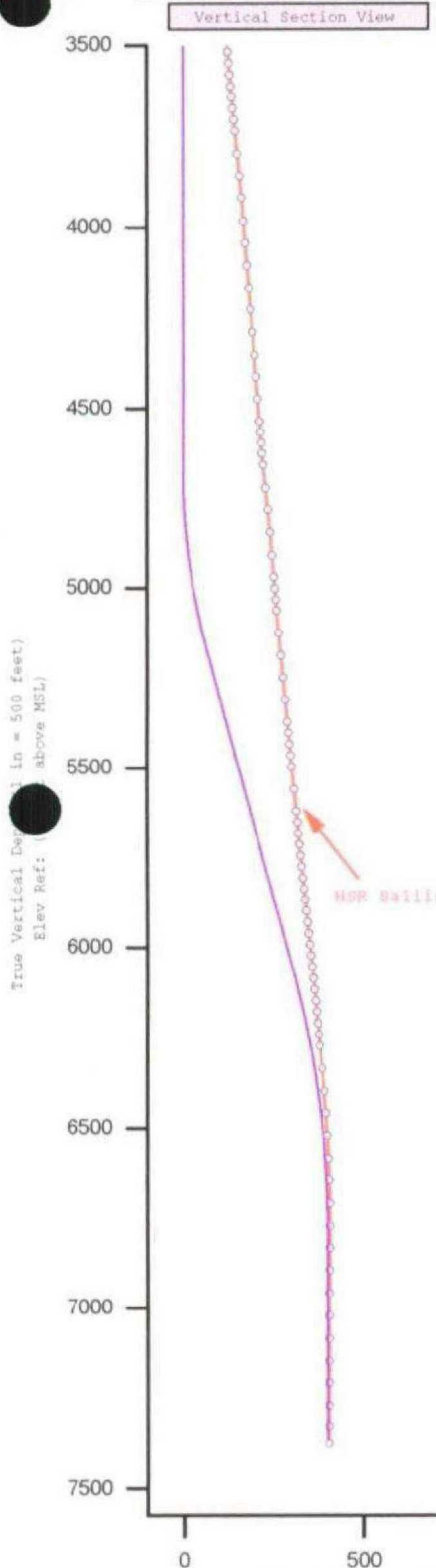
Total Hours= 24.00

Report Date: 12/14/01					
Company	Kerr McGee	Job #	40006950	Ftg. Last 24 Hrs	0.0
Rig	Caza # 17	Report #	5	Last Csg. Set	8 5/8 @ 632
Well	HSR- Ballinger # 4-18	Midn't Depth	7396	Total PDM Hrs	67.50

BHA #	1		Bit	1		BHA#	1	BHA#	
PDM #	6251015		Size	7 7/8		Item	Length	Item	Length
Drl hrs	15.25		Make	H.T.C.		Bit	1.00		
Cir hrs.	2.00		Type	BD 535		Motor	25.84		
Cum. Drl. Hrs	56.50		Depth In	3444		Float Sub	3.37		
Cum. Cir. Hrs	11.00		Depth Out	7396		U.B.H.O.	2.07		
Bent Sub	N/A		Hours	56.50		Non-Mag	28.86		
Bent Hous	1.83		Nozzles (TFA)	0.24		Non-Mag	30.18		
Depth In	3444		ROP	69.95		22-Jts HW	676.73		
Depth Out	7396		T/B/G						
WOB Rotating	10K / 15K		Mud Type	Gel / H2O					
Pad/Stab OD	7 5/8		Weight	9.0					
GPM	400		Viscosity	37					
PSI off BTTM	1400		PV/YP	14 / 8					
PSI on BTTM	1650		PH	9.0					
Hook Load	127K		Water Loss	7.2					
WOB Weight	145K		Solid Content	5.0%					
S/O Weight	125K		Sand Content	TR					
Flowline Temp.	151.0		Chlorides	300ppm		TOTAL =	768.05	TOTAL =	

[illegible]

WELL	HSR Ballinger 4-18	FIELD	CO, Weld County	STRUCTURE	Kerr McGee 18-T3N-R67W
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True North
 Tot Corr (E 10.08°)
 Mag Dec (E 10.08°)

— Proposal
 — Survey

Quality Control
 Date Drawn: 20-Dec-2001
 Drawn by: K Sullivan
 Checked by: _____
 Client OK: _____

Survey Report - Standard

Report Date: 20-Dec-2001	Survey / DLS Computation Method: Minimum Curvature / Lubinski
Client: Kerr McGee	Vertical Section Azimuth: 231.990°
Field: CO, Weld County	Vertical Section Origin: N 0.000 ft, E 0.000 ft
Structure / Slot: Kerr McGee 18-T3N-R67W / HSR Ballinger 4-18	TVD Reference Datum:
Well: HSR Ballinger 4-18	TVD Reference Elevation: 0.000 ft relative to MSL
Borehole: New Borehole	Sea Bed / Ground Level Elevation: 0.000 ft relative to MSL
UWI / API#:	Magnetic Declination: +10.072°
Survey Name / Date: HSR Ballinger 4-18 Surveys / December 20, 2001	Total Field Strength: 54219.279 nT
Tort / AHD / DDI / ERD ratio: 56.603° / 488.48 ft / 4.443 / 0.066	Magnetic Dip: 67.386°
Grid Coordinate System: NAD83 Colorado State Planes, Northern Zone, US Feet	Declination Date: December 20, 2001
Location Lat / Long: N 40 22 0.000, W 104 40 0.000	Magnetic Declination Model: BGGM 2000
Location Grid N/E Y/X: N 1377508.300 ftUS, E 3232202.700 ftUS	North Reference: True North
Grid Convergence Angle: +0.53844463°	Total Corr Mag North -> True North: +10.072°
Grid Scale Factor: 0.99995889	Local Coordinates Referenced To: Well Head

Station ID	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	VSec (ft)	N-S (ft)	E-W (ft)	Closure (ft)	at Azim (°)	DLS (°/100ft)	TF (°)
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		-78.5 M
	721.00	6.74	281.50	719.34	27.50	8.44	-41.51	42.36	281.50	0.93	164.8 G
	1000.00	5.65	284.53	996.71	46.49	15.15	-70.85	72.45	282.07	0.41	-160.8 G
	1279.00	4.23	277.67	1274.66	62.03	19.97	-94.34	96.43	281.95	0.55	-83.5 M
	1558.00	3.38	276.45	1553.05	75.09	22.27	-112.71	114.89	281.18	0.31	-87.0 M
	1837.00	2.33	273.01	1831.70	85.24	23.49	-126.55	128.71	280.52	0.38	-92.1 M
	2116.00	2.07	267.92	2110.49	93.60	23.61	-137.25	139.26	279.76	0.12	-76.2 M
	2395.00	2.10	283.82	2389.31	100.84	24.65	-147.25	149.29	279.50	0.21	-97.3 M
	2674.00	1.10	262.68	2668.20	106.30	25.53	-154.87	156.96	279.36	0.41	-73.1 M
	2953.00	0.66	286.90	2947.17	109.53	25.65	-159.06	161.12	279.16	0.20	-144.3 M
	3232.00	1.63	215.71	3226.12	114.26	22.90	-162.91	164.52	278.00	0.56	-133.5 M

3401.00	1.80	226.52	3395.04	119.21	19.12	-166.24	167.34	276.56	0.22	-146.9 M
3431.00	1.75	213.14	3425.03	120.11	18.41	-166.84	167.85	276.30	1.39	-146.7 M
3462.00	3.12	213.29	3456.00	121.36	17.31	-167.56	168.45	275.90	4.42	-150.3 M
3493.00	4.09	209.70	3486.94	123.18	15.64	-168.57	169.29	275.30	3.21	-145.6 M
3524.00	4.40	214.45	3517.85	125.34	13.70	-169.79	170.34	274.61	1.51	-153.2 M
3555.00	5.00	206.78	3548.75	127.69	11.52	-171.07	171.46	273.85	2.80	-36.8 G
3586.00	5.30	204.39	3579.62	130.19	9.01	-172.27	172.51	272.99	1.19	-22.2 G
3618.00	5.55	203.34	3611.48	132.85	6.24	-173.49	173.61	272.06	0.84	22.1 G
3648.00	6.42	206.46	3641.32	135.64	3.41	-174.82	174.85	271.12	3.10	-124.4 G
3679.00	6.36	205.66	3672.12	138.74	0.31	-176.33	176.33	270.10	0.35	25.7 G
3710.00	6.61	206.70	3702.93	141.90	-2.83	-177.88	177.90	269.09	0.89	-135.4 G
3741.00	6.27	203.54	3733.73	145.00	-5.98	-179.35	179.45	268.09	1.58	-45.8 G
3804.00	6.30	203.26	3796.35	151.05	-12.31	-182.09	182.51	266.13	0.07	122.3 G
3867.00	6.13	205.87	3858.98	157.10	-18.51	-184.93	185.85	264.28	0.52	-167.0 G
3927.00	5.69	204.84	3918.66	162.63	-24.09	-187.57	189.11	262.68	0.75	-159.0 G
3990.00	4.94	201.45	3981.39	167.74	-29.45	-189.88	192.15	261.18	1.29	-156.3 M
4051.00	5.02	203.73	4042.16	172.36	-34.34	-191.91	194.96	259.85	0.35	2.5 G
4114.00	5.72	204.04	4104.88	177.56	-39.73	-194.30	198.32	258.44	1.11	102.0 G
4175.00	5.66	207.34	4165.58	182.98	-45.18	-196.92	202.04	257.08	0.55	-176.5 G
4236.00	5.41	207.18	4226.30	188.32	-50.41	-199.61	205.88	255.83	0.41	-35.1 G
4298.00	5.51	206.45	4288.02	193.66	-55.67	-202.28	209.80	254.61	0.20	-165.2 G
4361.00	4.88	204.48	4350.76	198.76	-60.82	-204.73	213.58	253.45	1.04	-154.9 M
4423.00	4.88	205.11	4412.53	203.46	-65.61	-206.95	217.10	252.41	0.09	-156.8 M
4484.00	5.19	203.19	4473.30	208.19	-70.50	-209.13	220.69	251.37	0.58	37.6 G
4546.00	5.29	204.02	4535.04	213.17	-75.68	-211.40	224.54	250.30	0.20	-164.9 G
4577.00	5.09	203.41	4565.91	215.64	-78.25	-212.53	226.48	249.79	0.67	-176.0 G
4607.00	4.85	203.21	4595.80	217.92	-80.64	-213.56	228.27	249.31	0.80	-156.7 M
4637.00	5.48	203.31	4625.68	220.29	-83.12	-214.62	230.16	248.83	2.10	10.4 G
4669.00	6.30	204.68	4657.51	223.19	-86.12	-215.96	232.50	248.26	2.60	51.2 G
4732.00	6.84	210.02	4720.09	229.74	-92.51	-219.28	238.00	247.13	1.29	-175.2 G
4795.00	6.33	209.63	4782.68	236.43	-98.77	-222.88	243.78	246.10	0.81	-168.9 G
4858.00	5.71	208.40	4845.33	242.51	-104.55	-226.08	249.09	245.18	1.01	175.0 G

4921.00	4.83	209.32	4908.06	247.83	-109.62	-228.87	253.77	244.41	1.40	-148.7 M
4983.00	4.60	211.30	4969.85	252.57	-114.02	-231.44	258.00	243.77	0.45	-152.6 M
5015.00	4.53	207.44	5001.75	254.92	-116.24	-232.69	260.11	243.46	0.98	-154.1 M
5046.00	4.82	205.90	5032.65	257.20	-118.50	-233.82	262.14	243.13	1.02	-154.6 M
5077.00	5.67	205.43	5063.52	259.74	-121.05	-235.05	264.39	242.75	2.75	38.4 G
5139.00	6.28	209.72	5125.18	265.62	-126.76	-238.05	269.69	241.96	1.22	171.6 G
5200.00	5.75	210.50	5185.85	271.55	-132.29	-241.25	275.14	241.26	0.88	108.2 G
5263.00	5.72	211.44	5248.53	277.42	-137.69	-244.49	280.60	240.61	0.16	65.5 G
5325.00	6.05	217.59	5310.21	283.48	-142.91	-248.10	286.32	240.06	1.15	-175.4 G
5387.00	5.61	217.23	5371.88	289.58	-147.92	-251.92	292.14	239.58	0.71	-116.4 G
5418.00	5.50	214.82	5402.74	292.46	-150.34	-253.69	294.89	239.35	0.83	-157.9 G
5450.00	5.12	213.08	5434.60	295.28	-152.80	-255.34	297.57	239.10	1.29	-7.5 G
5481.00	5.58	212.46	5465.47	298.01	-155.23	-256.91	300.16	238.86	1.50	18.4 G
5512.00	6.45	215.02	5496.30	301.09	-157.93	-258.72	303.11	238.60	2.94	180.0 G
5575.00	6.20	215.02	5558.91	307.73	-163.61	-262.70	309.48	238.09	0.40	-162.6 G
5637.00	5.51	212.75	5620.59	313.74	-168.86	-266.23	315.26	237.62	1.17	148.7 G
5668.00	5.36	213.73	5651.45	316.52	-171.31	-267.84	317.94	237.40	0.57	-172.3 G
5700.00	5.04	213.24	5683.32	319.27	-173.73	-269.44	320.59	237.19	1.01	3.1 G
5731.00	5.62	213.56	5714.18	322.00	-176.13	-271.02	323.23	236.98	1.87	6.9 G
5762.00	6.40	214.40	5745.01	325.09	-178.82	-272.84	326.22	236.76	2.53	-43.9 G
5793.00	6.77	211.45	5775.81	328.45	-181.81	-274.77	329.47	236.51	1.62	180.0 G
5825.00	6.43	211.45	5807.60	331.89	-184.95	-276.69	332.81	236.24	1.06	-140.1 G
5855.00	6.10	208.80	5837.42	334.93	-187.78	-278.33	335.75	235.99	1.46	5.1 G
5885.00	6.16	208.85	5867.25	337.88	-190.58	-279.88	338.60	235.75	0.20	43.7 G
5916.00	6.37	210.63	5898.06	341.01	-193.52	-281.56	341.65	235.50	0.92	-131.3 G
5948.00	6.26	209.47	5929.87	344.27	-196.57	-283.32	344.83	235.25	0.53	40.4 G
5980.00	6.48	211.11	5961.67	347.57	-199.63	-285.11	348.05	235.00	0.89	-148.4 G
6011.00	6.26	209.86	5992.48	350.77	-202.59	-286.86	351.18	234.77	0.84	-138.7 G
6041.00	5.97	207.36	6022.31	353.71	-205.40	-288.39	354.06	234.54	1.31	6.3 G
6072.00	6.58	207.95	6053.12	356.79	-208.40	-289.96	357.08	234.29	1.98	50.4 G
6104.00	6.81	210.24	6084.90	360.23	-211.66	-291.78	360.46	234.04	1.10	151.8 G
6135.00	6.47	211.87	6115.69	363.58	-214.73	-293.62	363.76	233.82	1.25	-180.0 G

6167.00	6.01	211.85	6147.50	366.84	-217.68	-295.46	366.99	233.62	1.44	-113.3 G
6198.00	5.95	210.47	6178.34	369.86	-220.45	-297.13	369.98	233.43	0.50	171.5 G
6229.00	5.47	211.22	6209.18	372.74	-223.09	-298.71	372.83	233.25	1.57	-151.0 G
6261.00	5.32	210.32	6241.04	375.54	-225.68	-300.25	375.61	233.07	0.54	34.3 G
6292.00	6.05	214.92	6271.89	378.44	-228.26	-301.91	378.49	232.91	2.77	135.4 G
6355.00	5.96	215.78	6334.54	384.75	-233.64	-305.72	384.78	232.61	0.20	168.7 G
6417.00	5.06	217.82	6396.25	390.50	-238.41	-309.28	390.50	232.37	1.49	175.8 G
6480.00	4.37	218.48	6459.04	395.52	-242.48	-312.48	395.53	232.19	1.10	-140.7 M
6542.00	3.30	219.27	6520.90	399.56	-245.71	-315.08	399.56	232.05	1.73	-140.6 M
6605.00	2.53	219.41	6583.82	402.69	-248.19	-317.11	402.69	231.95	1.22	-150.2 M
6666.00	1.73	209.77	6644.78	404.85	-250.03	-318.42	404.85	231.86	1.43	-170.7 M
6730.00	1.34	189.34	6708.75	406.30	-251.61	-319.02	406.30	231.74	1.04	146.9 M
6793.00	0.57	146.87	6771.75	406.87	-252.60	-318.97	406.87	231.62	1.58	104.9 M
6856.00	0.56	104.91	6834.74	406.71	-252.94	-318.50	406.72	231.55	0.64	90.2 M
6918.00	1.00	90.21	6896.74	406.10	-253.02	-317.67	406.12	231.46	0.77	89.2 M
6981.00	0.89	89.16	6959.73	405.28	-253.01	-316.63	405.30	231.37	0.18	-120.1 M
7043.00	0.21	239.86	7021.73	405.01	-253.06	-316.25	405.03	231.33	1.74	-72.2 M
7106.00	0.10	287.75	7084.73	405.15	-253.10	-316.40	405.18	231.34	0.26	35.4 M
7168.00	0.25	35.40	7146.73	405.05	-252.98	-316.37	405.08	231.35	0.48	147.3 M
7230.00	0.11	147.26	7208.73	404.93	-252.92	-316.26	404.95	231.35	0.50	30.3 M
7293.00	0.34	30.29	7271.73	404.76	-252.81	-316.13	404.79	231.35	0.64	-7.2 M
7349.00	0.22	352.79	7327.73	404.55	-252.56	-316.06	404.57	231.37	0.38	-7.2 M
7396.00	0.22	352.79	7374.72	404.46	-252.38	-316.09	404.48	231.39	0.00	---

Survey Error Model: (No Error Model Selected)

Survey Report

Company Kerr McGeeWell HSR- Ballinger # 4-18

Field _____

Rig Caza # 17Anadrill D.D. B.Clouser / M. Jeude

Tgt. Inc. _____

Mag. Decl. 10.08

Target TVD _____

Target Az. 232

Tgt. Coord. _____

Date	No.	DEPTH	INC.	AZM	C.L.	T.V.D.	V.S.	N/S	E/W	DLS	B/D.	BRN
Tie - In	1											
MWD	2	721	6.74	281.50	721	719.34	27.47	8.44 N	41.46 W	0.93	0.93	0.93
MWD	3	1000	5.65	284.53	279	996.71	46.45	15.15 N	70.80 W	0.41	-0.39	0.57
MWD	4	1279	4.23	277.67	279	1274.66	61.99	19.97 N	94.29 W	0.55	-0.51	0.33
MWD	5	1558	3.38	276.45	279	1553.05	75.05	22.27 N	112.66 W	0.31	-0.30	0.22
MWD	6	1837	2.33	273.01	279	1831.70	85.20	23.49 N	126.50 W	0.38	-0.38	0.13
MWD	7	2116	2.07	267.92	279	2110.49	93.56	23.61 N	137.20 W	0.12	-0.09	0.10
MWD	8	2395	2.10	283.82	279	2389.31	100.80	24.65 N	147.20 W	0.21	0.01	0.09
MWD	9	2674	1.10	262.68	279	2668.20	106.26	25.53 N	154.82 W	0.41	-0.36	0.04
MWD	10	2953	0.66	286.90	279	2947.17	109.49	25.65 N	159.01 W	0.20	-0.16	0.02
MWD	11	3232	1.63	215.71	279	3226.12	114.22	22.90 N	162.86 W	0.56	0.35	0.05
MWD	12	3401	1.80	226.52	169	3395.04	119.17	19.12 N	166.19 W	0.22	0.10	0.05
MWD	13	3431	1.75	213.14	30	3425.03	120.07	18.41 N	166.79 W	1.39	-0.17	0.05
MWD	14	3462	3.12	213.29	31	3456.00	121.32	17.31 N	167.51 W	4.42	4.42	0.09
MWD	15	3493	4.09	209.70	31	3486.94	123.14	15.64 N	168.52 W	3.21	3.13	0.12
MWD	16	3524	4.40	214.45	31	3517.85	125.30	13.70 N	169.74 W	1.51	1.00	0.12
MWD	17	3555	5.00	206.78	31	3548.75	127.66	11.52 N	171.02 W	2.80	1.94	0.14
MWD	18	3586	5.30	204.39	31	3579.62	130.15	9.01 N	172.22 W	1.19	0.97	0.15
MWD	19	3618	5.55	203.34	32	3611.48	132.81	6.24 N	173.44 W	0.84	0.78	0.15
MWD	20	3648	6.42	206.46	30	3641.32	135.60	3.41 N	174.77 W	3.10	2.90	0.18
MWD	21	3679	6.36	205.66	31	3672.12	138.70	0.31 N	176.28 W	0.35	-0.19	0.17
MWD	22	3710	6.61	206.70	31	3702.93	141.86	2.83 S	177.83 W	0.89	0.81	0.18
MWD	23	3741	6.27	203.54	31	3733.73	144.96	5.98 S	179.30 W	1.58	-1.10	0.17
MWD	24	3804	6.30	203.26	63	3796.35	151.01	12.31 S	182.04 W	0.07	0.05	0.17
MWD	25	3867	6.13	205.87	63	3858.98	157.06	18.51 S	184.88 W	0.52	-0.27	0.16
MWD	26	3927	5.69	204.84	60	3918.66	162.59	24.09 S	187.52 W	0.75	-0.73	0.14
MWD	27	3990	4.94	201.45	63	3981.39	167.70	29.45 S	189.83 W	1.29	-1.19	0.12
MWD	28	4051	5.02	203.73	61	4042.16	172.32	34.34 S	191.86 W	0.35	0.13	0.12
MWD	29	4114	5.72	204.04	63	4104.88	177.52	39.73 S	194.25 W	1.11	1.11	0.14
MWD	30	4175	5.66	207.34	61	4165.58	182.94	45.18 S	196.87 W	0.55	-0.10	0.14
MWD	31	4236	5.41	207.18	61	4226.30	188.28	50.41 S	199.57 W	0.41	-0.41	0.13
MWD	32	4298	5.51	206.45	62	4288.02	193.62	55.67 S	202.23 W	0.20	0.16	0.13
MWD	33	4361	4.88	204.48	63	4350.76	198.72	60.82 S	204.68 W	1.04	-1.00	0.11
MWD	34	4423	4.88	205.11	62	4412.53	203.42	65.61 S	206.90 W	0.09		0.11
MWD	35	4484	5.19	203.19	61	4473.30	208.15	70.50 S	209.08 W	0.58	0.51	0.12
MWD	36	4546	5.29	204.02	62	4535.04	213.13	75.68 S	211.35 W	0.20	0.16	0.12
MWD	37	4577	5.09	203.41	31	4565.91	215.60	78.25 S	212.48 W	0.67	-0.65	0.11
MWD	38	4607	4.85	203.21	30	4595.80	217.88	80.64 S	213.51 W	0.80	-0.80	0.11
MWD	39	4637	5.48	203.31	30	4625.68	220.25	83.12 S	214.57 W	2.10	2.10	0.12
MWD	40	4669	6.30	204.68	32	4657.51	223.15	86.12 S	215.91 W	2.60	2.56	0.13
MWD	41	4732	6.84	210.02	63	4720.09	229.70	92.51 S	219.23 W	1.29	0.86	0.14
MWD	42	4795	6.33	209.63	63	4782.68	236.39	98.77 S	222.83 W	0.81	-0.81	0.13
MWD	43	4858	5.71	208.40	63	4845.33	242.47	104.55 S	226.03 W	1.01	-0.98	0.12
MWD	44	4921	4.83	209.32	63	4908.06	247.79	109.62 S	228.82 W	1.40	-1.40	0.10
MWD	45	4983	4.60	211.30	62	4969.85	252.53	114.02 S	231.39 W	0.45	-0.37	0.09
MWD	46	5015	4.53	207.44	32	5001.75	254.88	116.24 S	232.64 W	0.98	-0.22	0.09

Survey Report

Company **Kerr McGee**

Well **HSR- Ballinger # 4-18**

Field

Rig **Caza # 17**

Anadrill D.D. **B.Clouser / M. Jeude**

Tgt. Inc.

Mag. Decl. **10.08**

Target TVD

Target Az. **232**

Tgt. Coord.

Date	No.	DEPTH	INC.	AZM	C.L.	T.V.D.	V.S.	N/S	E/W	DLS	B/D.	BRN
MWD	47	5046	4.82	205.90	31	5032.65	257.16	118.50 S	233.77 W	1.02	0.94	0.10
MWD	48	5077	5.67	205.43	31	5063.52	259.70	121.05 S	235.00 W	2.75	2.74	0.11
MWD	49	5139	6.28	209.72	62	5125.18	265.58	126.76 S	238.00 W	1.22	0.98	0.12
MWD	50	5200	5.75	210.50	61	5185.85	271.51	132.29 S	241.20 W	0.88	-0.87	0.11
MWD	51	5263	5.72	211.44	63	5248.53	277.39	137.69 S	244.44 W	0.16	-0.05	0.11
MWD	52	5325	6.05	217.59	62	5310.21	283.44	142.91 S	248.05 W	1.15	0.53	0.11
MWD	53	5387	5.61	217.23	62	5371.88	289.54	147.92 S	251.87 W	0.71	-0.71	0.10
MWD	54	5418	5.50	214.82	31	5402.74	292.42	150.34 S	253.64 W	0.83	-0.35	0.10
MWD	55	5450	5.12	213.08	32	5434.60	295.24	152.80 S	255.29 W	1.29	-1.19	0.09
MWD	56	5481	5.58	212.46	31	5465.47	297.97	155.23 S	256.86 W	1.50	1.48	0.10
MWD	57	5512	6.45	215.02	31	5496.30	301.05	157.93 S	258.67 W	2.94	2.81	0.12
MWD	58	5575	6.20	215.02	63	5558.91	307.69	163.61 S	262.65 W	0.40	-0.40	0.11
MWD	59	5637	5.51	212.75	62	5620.59	313.71	168.86 S	266.18 W	1.17	-1.11	0.10
MWD	60	5668	5.36	213.73	31	5651.45	316.49	171.31 S	267.79 W	0.57	-0.48	0.09
MWD	61	5700	5.04	213.24	32	5683.32	319.24	173.73 S	269.39 W	1.01	-1.00	0.09
MWD	62	5731	5.62	213.56	31	5714.18	321.97	176.13 S	270.97 W	1.87	1.87	0.10
MWD	63	5762	6.40	214.40	31	5745.01	325.05	178.82 S	272.79 W	2.53	2.52	0.11
MWD	64	5793	6.77	211.45	31	5775.81	328.41	181.81 S	274.72 W	1.62	1.19	0.12
MWD	65	5825	6.43	211.45	32	5807.60	331.85	184.95 S	276.64 W	1.06	-1.06	0.11
MWD	66	5855	6.10	208.80	30	5837.42	334.89	187.78 S	278.28 W	1.46	-1.10	0.10
MWD	67	5885	6.16	208.85	30	5867.25	337.84	190.58 S	279.83 W	0.20	0.20	0.10
MWD	68	5916	6.37	210.63	31	5898.06	340.97	193.52 S	281.51 W	0.92	0.68	0.11
MWD	69	5948	6.26	209.47	32	5929.87	344.23	196.57 S	283.27 W	0.53	-0.34	0.11
MWD	70	5980	6.48	211.11	32	5961.67	347.53	199.63 S	285.06 W	0.89	0.69	0.11
MWD	71	6011	6.26	209.86	31	5992.48	350.73	202.59 S	286.81 W	0.84	-0.71	0.10
MWD	72	6041	5.97	207.36	30	6022.31	353.67	205.40 S	288.34 W	1.31	-0.97	0.10
MWD	73	6072	6.58	207.95	31	6053.12	356.75	208.40 S	289.91 W	1.98	1.97	0.11
MWD	74	6104	6.81	210.24	32	6084.90	360.19	211.66 S	291.73 W	1.10	0.72	0.11
MWD	75	6135	6.47	211.87	31	6115.69	363.54	214.73 S	293.57 W	1.25	-1.10	0.11
MWD	76	6167	6.01	211.85	32	6147.50	366.80	217.68 S	295.41 W	1.44	-1.44	0.10
MWD	77	6198	5.95	210.47	31	6178.34	369.82	220.45 S	297.08 W	0.50	-0.19	0.10
MWD	78	6229	5.47	211.22	31	6209.18	372.70	223.09 S	298.66 W	1.57	-1.55	0.09
MWD	79	6261	5.32	210.32	32	6241.04	375.50	225.68 S	300.20 W	0.54	-0.47	0.09
MWD	80	6292	6.05	214.92	31	6271.89	378.40	228.26 S	301.86 W	2.77	2.35	0.10
MWD	81	6355	5.96	215.78	63	6334.54	384.71	233.64 S	305.67 W	0.20	-0.14	0.09
MWD	82	6417	5.06	217.82	62	6396.25	390.46	238.41 S	309.23 W	1.49	-1.45	0.08
MWD	83	6480	4.37	218.48	63	6459.04	395.48	242.48 S	312.43 W	1.10	-1.10	0.07
MWD	84	6542	3.30	219.27	62	6520.90	399.52	245.71 S	315.03 W	1.73	-1.73	0.05
MWD	85	6605	2.53	219.41	63	6583.82	402.65	248.19 S	317.06 W	1.22	-1.22	0.04
MWD	86	6666	1.73	209.77	61	6644.78	404.81	250.03 S	318.37 W	1.43	-1.31	0.03
MWD	87	6730	1.34	189.34	64	6708.75	406.26	251.61 S	318.97 W	1.04	-0.61	0.02
MWD	88	6793	0.57	146.87	63	6771.75	406.83	252.60 S	318.92 W	1.58	-1.22	0.01
MWD	89	6856	0.56	104.91	63	6834.74	406.67	252.94 S	318.45 W	0.64	-0.02	0.01
MWD	90	6918	1.00	90.21	62	6896.74	406.06	253.02 S	317.62 W	0.77	0.71	0.01
MWD	91	6981	0.89	89.16	63	6959.73	405.24	253.01 S	316.58 W	0.18	-0.17	0.01
MWD	92	7043	0.21	239.86	62	7021.73	404.97	253.06 S	316.20 W	1.74	-1.10	0.00

Schlumberger

Survey Report

Company **Kerr McGee**

Well **HSR- Ballinger # 4-18**

Field

Rig **Caza # 17**

Anadrill D.D. **B.Clouser / M. Jeude**

Tgt. Inc. _____

Mag. Decl. **10.08**

Target TVD _____

Target Az. **232**

Tgt. Coord. _____

Date	No.	DEPTH	INC.	AZM	C.L.	T.V.D.	V.S.	N/S	E/W	DLS	B/D.	BRN
MWD	93	7106	0.10	287.75	63	7084.73	405.11	253.10 S	316.35 W	0.26	-0.17	0.00
MWD	94	7168	0.25	35.40	62	7146.73	405.01	252.98 S	316.32 W	0.48	0.24	0.00
MWD	95	7230	0.11	147.26	62	7208.73	404.89	252.92 S	316.21 W	0.50	-0.23	0.00
MWD	96	7293	0.34	30.29	63	7271.73	404.72	252.81 S	316.08 W	0.64	0.37	0.00
MWD	97	7349	0.22	352.79	56	7327.73	404.51	252.56 S	316.01 W	0.38	-0.21	0.00
T.D	98	7396	0.22	352.79	47	7374.72	404.42	252.38 S	316.04 W			0.00

Drilling Parameters

Company: Kerr McGee

Date: 10-Dec thru 11-Dec

Well Name: HSR- Ballinger # 4-18

Bit to Survey: 47 Ft.

Co. Rep. : Larry Webb

Page: 1 of 5

BHA #	Survey Depth	Incl. Degree	Azimuth Degree	Depth From	Depth To	Feet	Drill O/R	Tool Face or RPM	Drill Hrs.	WOB 1000#	PU,SO & ROT WT	Pump SPM	Flow Rate	Pressure OFF/ON	Comments
1	3401	1.80	226.52	3444	3448	4	R	55	0.25	8K	80/70/75	125	400	1050 / 1150	10-Dec
				3448	3458	10	O	230mtf	0.25	8K	80/70/75	125	400	1050 / 1150	
	3431	1.75	213.14	3458	3478	20	R	55	0.25	8K	80/70/75	125	400	1050 / 1150	
1				3478	3486	8	O	209mtf	0.25	8K	80/70/75	125	400	1050 / 1150	
	3462	3.12	213.19	3486	3509	23	R	55	0.25	8K	82/72/77	125	400	1050 / 1150	
	3493	4.09	209.70	3509	3540	31	R	55	0.50	10K	82/72/77	125	400	1050 / 1150	
1				3540	3547	7	O	170mtf	0.25	8K	82/72/77	125	400	1050 / 1150	
	3524	4.40	214.45	3547	3571	24	R	55	0.25	10K	82/72/77	125	400	1050 / 1150	
				3571	3576	5	O	180mtf	0.25	8K	82/72/77	125	400	1050 / 1150	
1	3555	5.00	206.78	3576	3602	26	R	55	0.25	10K	84/74/79	125	400	1050 / 1150	
	3586	5.30	204.39	3602	3633	31	R	55	0.50	10K	84/74/79	125	400	1050 / 1150	
				3633	3638	5	O	210mtf	0.25	8K	84/74/79	125	400	1050 / 1150	
1	3618	5.55	203.34	3638	3665	27	R	55	0.25	10K	84/74/79	125	400	1050 / 1150	
	3648	6.42	206.46	3665	3695	30	R	55	0.25	10K	84/74/79	125	400	1050 / 1150	
	3679	6.36	205.66	3695	3726	31	R	55	0.25	10K	85/75/80	125	400	1050 / 1150	
1	3710	5.61	206.7	3726	3757	31	R	55	0.25	10K	85/75/80	125	400	1050 / 1150	
	3741	6.27	203.54	3757	3788	31	R	55	0.25	10K	85/75/80	125	400	1050 / 1150	
	3804	6.30	203.26	3788	3851	63	R	55	0.25	10K	85/75/80	125	400	1050 / 1150	10-Dec
1				3851	3882	31	R	55	0.25	8K	85/75/80	125	400	1050 / 1150	Midnight
	3867	6.13	205.87	3882	3914	32	R	55	0.25	8K	85/75/80	125	400	1050 / 1150	11-Dec
				3914	3944	30	R	55	0.25	10K	85/75/80	125	400	1050 / 1150	
1	3927	5.69	204.84	3944	3974	30	R	55	0.25	10K	85/75/80	125	400	1050 / 1150	
				3974	4006	32	R	55	0.25	10K	85/75/80	125	400	1050 / 1150	
	3990	4.94	201.35	4006	4037	31	R	55	0.25	10K	85/75/80	125	400	1050 / 1150	
1				4037	4042	5	O	220mtf	0.25	12K	85/75/80	125	400	1050 / 1150	
				4042	4068	26	R	55	0.25	13K	85/75/80	125	400	1050 / 1150	
	4051	5.02	203.73	4068	4098	30	R	55	0.25	13K	85/75/80	125	400	1050 / 1150	
1				4098	4103	5	O	220mtf	0.25	13K	85/75/80	125	400	1050 / 1150	
				4103	4129	26	R	55	0.25	13K	85/75/80	125	400	1050 / 1150	
	4114	5.72	204.04	4129	4161	32	R	55	0.25	13K	85/75/80	125	400	1050 / 1150	
1				4161	4192	31	R	55	0.25	13K	85/75/80	125	400	1050 / 1150	
	4175	5.66	207.34	4192	4222	30	R	55	0.25	13K	85/75/80	125	400	1050 / 1150	
				4222	4253	31	R	55	0.25	13K	85/75/80	125	400	1050 / 1150	
1	4236	5.41	207.18	4253	4283	30	R	55	0.25	13K	85/75/80	125	400	1050 / 1150	11-Dec

Sliding Data :

Footage= 45 Hrs= 1.75 F/Hr= 25.71

Rating Data:

Footage= 794 Hrs= 7.25 F/Hr= 109.52

Drill Directional Sup.:

B. Clouser / M. Jeude

Drilling Parameters

Company: Kerr McGeeDate: 11-Dec thru 11-DecWell Name: HSR- Ballinger # 4-18Bit to Survey: 47 Ft.Co. Rep.: Larry WebbPage: 2 of 5

BHA #	Survey Depth	Incl. Degree	Azimuth Degree	Depth From	Depth To	Feet	Drill O/R	Tool Face or RPM	Drill Hrs.	WOB 1000#	PU,SO & ROT WT	Pump SPM	Flow Rate	Pressure OFF/ON	Comments
1				4283	4315	32	R	45	0.25	15K	85/75/80	125	400	1200 / 1300	11-Dec
	4298	5.51	206.45	4315	4345	30	R	45	0.25	15K	88/80/84	125	400	1200 / 1300	
				4345	4377	32	R	45	0.25	15K	88/80/84	125	400	1200 / 1300	
1	4361	4.88	204.48	4377	4408	31	R	45	0.25	15K	88/80/84	125	400	1200 / 1300	
				4408	4414	6	O	230mtf	0.25	15K	88/80/84	125	400	1200 / 1300	
				4414	4440	26	R	45	0.25	15K	88/80/84	125	400	1200 / 1300	
1	4423	4.88	205.11	4440	4470	30	R	45	0.25	15K	88/80/84	125	400	1200 / 1300	
				4470	4476	6	O	240mtf	0.50	15K	88/80/84	125	400	1200 / 1300	
				4476	4501	25	R	45	0.25	15K	88/80/84	125	400	1200 / 1300	
1	4484	5.19	203.19	4501	4531	30	R	45	0.25	15K	88/80/84	125	400	1200 / 1300	
				4531	4537	6	O	244mtf	0.50	15K	88/80/84	125	400	1200 / 1300	
				4537	4562	25	R	45	0.25	15K	88/80/84	125	400	1200 / 1300	
1	4546	5.29	204.02	4562	4593	31	R	45	0.25	15K	88/80/84	125	400	1200 / 1300	
	4577	5.09	203.41	4593	4624	31	R	50	0.25	15K	88/80/84	125	400	1200 / 1300	
				4624	4630	6	O	226mtf	0.50	15K	88/80/84	125	400	1200 / 1300	
1	4607	4.85	203.41	4630	4654	24	R	45	0.25	15K	88/80/84	125	400	1200 / 1300	
				4654	4659	5	O	226mtf	0.25	8K	88/80/84	125	400	1200 / 1300	
	4637	5.48	203.31	4659	4684	25	R	45	0.25	15K	88/80/84	125	400	1200 / 1300	
1				4684	4689	5	O	256mtf	0.50	8K	88/80/84	125	400	1350 / 1500	
	4669	6.30	204.68	4689	4716	27	R	45	0.25	15K	88/80/84	125	400	1350 / 1500	
				4716	4748	32	R	55	0.25	15K	88/80/84	125	400	1350 / 1500	
1	4732	6.84	210.02	4748	4779	31	R	55	0.25	15K	88/80/84	125	400	1350 / 1500	
				4779	4811	32	R	55	0.50	15K	88/80/84	125	400	1350 / 1500	
	4795	6.33	209.63	4811	4842	31	R	55	0.25	15K	88/80/84	125	400	1350 / 1500	
1				4842	4873	31	R	55	0.25	15K	88/80/84	125	400	1350 / 1500	
	4858	5.71	208.40	4873	4905	32	R	55	0.25	15K	90/84/88	125	400	1350 / 1500	
				4905	4936	31	R	45	0.25	15K	90/84/88	125	400	1350 / 1500	
1	4921	4.83	209.32	4936	4968	32	R	45	0.25	15K	90/84/88	125	400	1350 / 1500	
				4968	4975	7	O	260mtf	0.25	15K	90/84/88	125	400	1350 / 1500	
				4975	4999	24	R	45	0.25	15K	90/84/88	125	400	1350 / 1500	
1	4983	4.60	211.3	4999	5030	31	R	45	0.25	15K	90/84/88	125	400	1350 / 1500	
				5030	5037	7	O	220mtf	0.75	15K	90/84/88	125	400	1300 / 1400	
	5015	4.53	207.44	5037	5062	25	R	45	0.25	15K	90/84/88	125	400	1350 / 1500	
1				5062	5069	7	O	220mtf	0.25	15K	90/84/88	125	400	1350 / 1500	11-Dec

Sliding Data :

Footage= 55 Hrs= 3.75 F/Hr= 14.67

Rotating Data:

Footage= 731 Hrs= 6.50 F/Hr= 112.46

Drill Directional Sup.:

B. Clouser / M. Jude

Drilling Parameters

Company: Kerr McGee

Date: 11-Dec thru 12-Dec

Well Name: HSR- Ballinger # 4-18

Bit to Survey: 47 Ft.

Co. Rep. : Larry Webb

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BHA #	Survey Depth	Incl. Degree	Azimuth Degree	Depth From	Depth To	Feet	Drill O/R	Tool Face or RPM	Drill Hrs.	WOB 1000#	PU,SO & ROT WT	Pump SPM	Flow Rate	Pressure OFF/ON	Comments
1	5046	4.82	205.90	5069	5093	24	R	45	0.25	15K	90/84/88	125	400	1350 / 1500	11-Dec
				5093	5100	7	O	240mtf	0.50	8K	90/84/88	125	400	1350 / 1500	
	5077	5.67	205.43	5100	5124	24	R	45	0.25	15K	90/84/88	125	400	1350 / 1500	
1				5124	5154	30	R	45	0.25	15K	90/84/88	125	400	1350 / 1500	
	5139	6.28	209.72	5154	5186	32	R	45	0.25	15K	90/84/88	125	400	1350 / 1500	
				5186	5217	31	R	45	0.25	15K	90/84/88	125	400	1350 / 1500	
1	5200	5.75	210.45	5217	5247	30	R	45	0.25	15K	90/84/88	125	400	1350 / 1500	
				5247	5254	7	O	260mtf	0.50	13K	90/84/88	125	400	1300 / 1400	
				5254	5279	25	R	45	0.25	15K	90/84/88	125	400	1350 / 1500	
1	5263	5.72	211.44	5279	5310	31	R	45	0.25	15K	90/84/88	125	400	1350 / 1500	
				5310	5318	8	O	260mtf	0.50	15K	90/84/88	125	400	1300 / 1400	
				5318	5341	23	R	45	0.25	15K	94/88/92	125	400	1350 / 1500	
1	5325	6.05	217.59	5341	5372	31	R	45	0.25	15K	94/88/92	125	400	1350 / 1500	
				5372	5403	31	R	45	0.25	15K	94/88/92	125	400	1350 / 1500	
	5387	5.61	217.23	5403	5434	31	R	45	0.25	15K	94/88/92	125	400	1350 / 1500	
1	5418	5.50	214.82	5434	5465	31	R	45	0.25	15K	108/98/103	125	400	1350 / 1500	Midnight
				5465	5473	8	O	210mtf	0.50	12K	108/98/103	125	400	1350/1450	12-Dec
	5450	5.12	213.08	5473	5497	24	R	45	0.25	15K	108/98/103	125	400	1350/1500	
1				5497	5505	8	O	220mtf	0.50	10K	108/98/103	125	400	1350/1450	
	5481	5.58	212.46	5505	5528	23	R	45	0.25	15K	108/98/103	125	400	1350/1500	
	5512	6.45	215.02	5528	5559	31	R	45	0.25	15K	108/98/103	125	400	1350/1500	
1				5559	5591	32	R	45	0.25	15K	108/98/103	125	400	1350/1500	
	5575	6.25	216.3	5591	5622	31	R	45	0.25	15K	108/98/103	125	400	1350/1500	
				5622	5653	31	R	45	0.25	15K	108/98/103	125	400	1350/1500	
1	5637	5.51	212.75	5653	5684	31	R	45	0.25	15K	108/98/103	125	400	1350/1500	
				5684	5692	8	O	260mtf	0.50	8K	110/100/104	125	400	1350/1500	
	5668	5.36	213.73	5692	5715	23	R	45	0.25	15K	110/100/104	125	400	1350/1500	
1				5715	5723	8	O	220mtf	0.50	10K	110/100/104	125	400	1400/1500	
	5700	5.04	213.24	5723	5747	24	R	45	0.25	15K	110/100/104	125	400	1400/1650	
				5747	5755	8	O	210mtf	0.75	10K	115/100/105	125	400	1400/1500	
1	5731	5.62	213.56	5755	5778	23	R	45	0.25	15K	115/100/105	125	400	1400/1650	
				5778	5783	5	O	220mtf	0.25	8K	115/100/105	125	400	1400/1500	
	5762	6.40	214.4	5783	5809	26	R	45	0.25	15K	115/100/105	125	400	1400/1650	
1	5793	6.77	211.45	5809	5840	31	R	45	0.25	15K	115/100/105	125	400	1400/1650	12-Dec

Sliding Data :

Footage= 67 Hrs= 4.50 FI/Hrs= 14.89

Rotating Data:

Footage= 704 Hrs= 6.25 FI/Hrs= 112.64

Drill Directional Sup.:

B. Clouser / M. Jeude

Drilling Parameters

Company: Kerr McGee

Date: 12-Dec thru 12-Dec

Well Name: HSR- Ballinger # 4-18

Bit to Survey: 47 Ft.

Co. Rep. : Larry Webb

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BHA #	Survey Depth	Incl. Degree	Azimuth Degree	Depth From	Depth To	Feet	Drill O/R	Tool Face or RPM	Drill Hrs.	WOB 1000#	PU,SO & ROT WT	Pump SPM	Flow Rate	Pressure OFF/ON	Comments
1	5825	6.43	211.45	5840	5872	32	R	45	0.25	8K	115/100/105	125	400	1400/1650	12-Dec
				5872	5880	8	O	220mtf	1.00	15K	115/100/105	125	400	1400/1650	
	5855	6.10	208.80	5880	5902	22	R	45	0.25	15K	115/100/105	125	400	1400/1650	
1				5902	5907	5	O	220mtf	0.25	8K	115/100/105	125	400	1400/1650	
	5885	6.16	208.85	5907	5932	25	R	45	0.25	15K	115/100/105	125	400	1400/1650	
	5916	6.37	210.63	5932	5963	31	R	45	0.25	15K	115/100/105	125	400	1400/1650	
1				5963	5969	6	O	210mtf	0.50	8K	115/100/105	125	400	1400/1650	
	5948	6.26	209.47	5969	5995	26	R	45	0.25	15K	115/100/105	125	400	1400/1650	
	5980	6.48	211.11	5995	6027	32	R	45	0.25	15K	115/100/105	125	400	1400/1650	
1	6011	6.26	209.86	6027	6058	31	R	45	0.25	15K	115/100/105	125	400	1400/1650	
				6058	6064	6	O	220mtf	0.50	8K	115/100/105	125	400	1400/1650	
	6041	5.97	207.36	6064	6088	24	R	45	0.25	15K	115/100/105	125	400	1400/1650	
1				6088	6093	5	O	240mtf	0.50	8K	115/100/105	125	400	1400/1650	
	6072	6.58	207.95	6093	6119	26	R	45	0.25	15K	115/100/105	125	400	1400/1650	
	6104	6.81	210.24	6119	6151	32	R	45	0.25	15K	115/100/105	125	400	1400/1650	
1	6135	6.47	211.87	6151	6182	31	R	45	0.25	15K	115/100/105	125	400	1400/1650	
	6167	6.01	211.85	6182	6214	32	R	45	0.25	15K	115/100/105	125	400	1400/1650	
				6214	6220	6	O	260mtf	0.75	15K	115/100/105	125	400	1400/1650	
1	6198	5.95	210.47	6220	6245	25	R	45	0.25	15K	115/100/105	125	400	1400/1650	
	6229	5.47	211.22	6245	6276	31	R	45	0.25	15K	115/100/105	125	400	1400/1650	
				6276	6283	7	O	235mtf	0.75	15K	115/100/105	125	400	1400/1650	
1	6261	5.32	210.32	6283	6308	25	R	45	0.25	15K	115/100/105	125	400	1400/1650	
	6268			6308	6315	7	O	240mtf	0.50	15K	115/100/105	125	400	1400/1650	
	6292	6.05	214.92	6315	6339	24	R	45	0.25	15K	115/100/105	125	400	1400/1650	
1				6339	6371	32	R	45	0.25	15K	115/100/105	125	400	1400/1650	
	6355	5.96	215.78	6371	6402	31	R	45	0.25	15K	115/100/105	125	400	1400/1650	
				6402	6433	31	R	45	0.25	15K	115/100/105	125	400	1400/1650	
1	6417	5.06	217.82	6433	6464	31	R	45	0.25	15K	115/100/105	125	400	1400/1650	
				6464	6495	31	R	45	0.25	15K	115/100/105	125	400	1400/1650	
	6480	4.37	218.48	6495	6527	32	R	45	0.25	15K	115/100/105	125	400	1400/1650	
1				6527	6557	30	R	50	0.25	10K	115/100/105	125	400	1400/1650	
	6542	3.30	219.27	6557	6589	32	R	50	0.25	10K	135/110/120	125	400	1400/1650	
				6589	6621	32	R	50	0.25	10K	135/110/120	125	400	1400/1650	
1	6605	2.53	219.41	6621	6652	31	R	50	0.25	10K	135/110/120	125	400	1400/1650	12-Dec

Sliding Data :

Footage= 50 Hrs= 4.75 Ft/Hrs= 10.53

Rating Data:

Footage= 762 Hrs= 6.50 Ft/Hrs= 117.23

Drill Directional Sup.:

B. Clouser / M. Jeude

Drilling Parameters

Company: Kerr McGee

Date: 13-Dec thru 13-Dec

Well Name: HSR- Ballinger # 4-18

Bit to Survey: 47 Ft.

Co. Rep. : Larry Webb

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[illegible]

Sliding Data :

Footage= 8 Hrs= 1.00 FWHr= 8.00

Rotating Data:

Footage= 736 Hrs= 14.25 FVHr= 51.65

Drill Directional Sup.:

B. Clouser / M. Jeude

BHA Report

Job #	40006950	BHA #:	1	Hole Size :	7 7/8	Motor #:	6251015
Customer:	Kerr McGee	Date In:	12/10/01	Date Out:	12/13/01	Motor OD:	6 1/4
Well:	HSR- Ballinger # 4-18	Depth In:	3444	Depth Out:	7396	Tot.Ftge.:	3952
Well Loc.:		Slide.Hrs.:	15.75	Slide Ft.:	225	Slide.ROP:	14.29
County/St.:	Weld Co / Colorado	Rot.Hrs.:	40.75	Rot.Ft.:	3727	Rot.ROP:	91.46
Rig :	Caza # 17	Drig Hrs.:	56.50	Slide WOB:	5 / 13 K	Avg.ROP:	69.95
DD:	Brent Clouser	Circ.Hrs.:	11.00	Rot. WOB:	8 / 18K	Steering%:	5.69%
DD:	Mike Jeude	Tot D&C Hrs:	67.50	Avg. Tq.:	N/A	Rotate %:	94.31%
MWD:	Wade Brinda	R/S Config.:	7 / 8 XP	Avg RPM :	45 / 55	GPM:	400
MWD:		ABH Set:	1.83	Incl. In:	1.75	SPP On:	1600
Mud Type:	Gel / H2O	Mud PV:	14	Mud YP:	8	Incl.Out:	0.22
Mud Wt.:	9.0	Chloride:	300ppm	BHT F	150.8	Azimuth In :	213.14
Mud Vis.:	37	Sand %:	TR	Solid %:	5.0%	Azimuth Out :	352.79
						Avg.DLS:	1.15

Item	Description	Vendor	S/N	F/N	Stab. OD	OD	ID	Connection	Length	Cum. Length
1	Bit BD 535	H.T.C.	1904429			7 7/8		4 1/2 Reg P	1.00	1.00
2	Motor	ANA	6251015	.82 X 6 1/16	7 5/8	6 1/4		4 1/2 Reg B	25.84	26.84
3	Float Sub	ANA	650412			6 7/16	2 3/4	4 1/2 XH P	3.37	30.21
4	UBHO Sub	ANA	650104			6 1/4	2 13/16	4 1/2 XH B	2.07	32.28
5	Non-Mag	ANA	8996			6 3/16	2 7/8	4 1/2 XH P	28.86	61.14
6	Non- Mag	ANA	C980141			6	2 13/16	4 1/2 XH B	30.18	91.32
7	22-Jts HWDP	RIG	N/A			6	2 7/8	4 1/2 XH B	676.73	768.05

Total Revolutions: #VALUE! Mtr. Ratio: 1.85 Total BHA Length = 768.05

BHA Weights : Wt in Air = #VALUE! Wt in Mud = #VALUE!

BHA Expected Behavior 3 Deg per 100'

BHA Actual Behavior As expected (The well would drop on rotate but with the stab would not drop more then 1.76)

The well would drop on rotate but with the stab would not drop more then 1.76 per 100'

On the drop we had to make 2 slides down a 3' and 5' at 160 out tool face.

Comments / Reason for Trip T.D.

Failure? Y or N N

Bit Grade Inner/Outer/Dull Char./Location/Brng/Gage/Other/Reason Pulled

Motor Run Report

Job Number	40006950
PDM	POWERPAC
Motor O.D.	6 1/4"
Power Section	7 / 8 XP
Serial Number	6251015
Customer	Kerr McGee
Well Name	HSR- Ballinger # 4-18
Rig Name	Caza # 17
County / State	Weld Co / Colorado
Location	WYC
Date In	10-Dec
Date Out	13-Dec
Hole Size	7 7/8
Stabilizer Size	7 5/8
Adj. Bend Set	1.83
Depth In	3444
Depth Out	7396
Footage Drilled	3952
ROP	69.95
Drill Hours	56.5
Additional Circ Hrs	11
Total Run Hours	67.5
Rotating Feet	3727
Rotating Hours	40.75
Sliding Feet	225
Sliding Hours	15.75
Slide ROP	14.29
Rotate ROP	91.46

BHA # : 1

Failure - Y/N : N
Trip-Reason For : T.D.

Failure Type: _____

GPM	: 400
Mud Wt.	: 9
Mud Vis.	: 37
Mud Cl.	: 300ppm
Mud Type	: Gel / H2O

Delta P	: 150
Inclination	: 0.22
WOB	: 8 / 18K
BHT	: 150.8
RPM	: 45 / 55

Directional Hand #1: Brent Clouser

MWD Hand #1: Wade Brinda

Directional Hand #2: Mike Jeude

MWD Hand #2: _____

Comments: 3 Deg per 100'

The well would drop on rotate but with the stab would not drop more then 1.76 per 100'
On the drop we had to make 2 slides down a 3' and 5' at 160 out tool face.

Reason For Trip: T.D.

Bit Grade: _____