

HOLE NO: X-10 SHEET 1 OF 2 DATE: 12/19/79 LOGGED BY: NHB COLLAR: 5495 TD: 89
 PROJECT: WHITE PINE SHALE OR
 999999 phyll

FTM	TO	IMM	AS. 45 10 20 30 40	GAL TON	DESCRIPTION
0	6				Overburden
6	10				Silty sandstone, light brown, wk-mud effec, fine black y
10	20				Further, lt brn, siltstone, lt brn to green, fine thin layers white ls
20	30				Ss, lt-brn; silty ss & siltstone, lt brown; minor sh, wkly effec
30	40				Ss & siltstone, lt-mud brown, wkly effec
40	50				Silty ss & shale, med gray to brown lt brn, moderately effec
50	60				Ss & silt, lt-mud, brn & gray, mod effec, pyrite sh
60	70				Sandstone, lt brn - lt gray, wk-mud effec, fine black flk
70	80				Sandstone, lt-mud gray, zone-wk effec, fine black flk
80	90				Ss & siltstone, lt gray - lt brn, some dk gray, wk-mud effec
90	100				Sandstone, lt-mud gray, minor lt-brn, some wk effec
100	110				Ss, lt gray, minor lt-brn, non-calc, ^{small} subhedral py
110	120				Siltstone, lt gray, minor lt gray ss, non-calc
120	130				Ss, lt gray, brn gr, non-calcareous
130	140				Ss, lt gray, minor lt-brn, non-calc, very fine gr
140	150				As above
150	160				Ss & siltstone, lt-mud gray, wk-mud calc, minor lt-brn
160	170				Ss, lt-mud gray, non-mud calc, fine grained
170	180				Siltstone, lt-mud gray, non-wk calcareous
180	190				Ss, med gray, v-fine gr, non-calc
190	200				Ss & siltstone, med gray, some wkly calc, ss v.f.
200	210				Ss, lt-mud gray, & siltstone, brn-gray, latter mod calc, ss v.f.
210	220				Ss, lt-mud gray, v.f. gr, some siltstone, gray-brn, minor wk calc
220	230				Ss, lt gray, med gray silt, non-wk calc, minor lt-brn, ss
230	240				Siltstone, lt gray, wkly calc
240	250				Siltstone, lt gray, non-wkly calcareous
250	260				As above, ss v.f. gr, few small spherical cavities
260	270				Siltstone, lt gray, non-wkly calc, lt brn spots
270	280				Ss, v.f. gr, & siltstone, lt-mud gray, minor lt brown, lt soft, fine
280	290				Ss & siltstone, ss v.f. gr, lt gray, pyrite, lt gray shale, non-calc
290	300				Ss, v.f. gr, med gray, mod calc
300	310				As above
310	320				As above, ^{1.5} at 3.15, very slight
320	330				Ss as above, non-calcareous
330	340				Sandstone, v-fine grained, med gray, non-calc
340	350				Ss, v.f. gr, gray-brown, non-wkly calc
350	360				As above
360	370				Silty ss, lt-brn-gray, non-calcareous
370	380				As above
380	390				Silty ss, lt-brn-gray, wkly calcareous
390	400				Ss, gray-brn-gray, v.f. gr, & lt-mud brn sh, calc ^{1.5}
400	410				Siltstone, lt brn, mod calc, minor ss as above
410	420				Shale, lt-mud brown, non-calcareous
420	430				Sh, lt-dk brn & lt gray-green gray, non-calc
430	440				Sh, lt-dk brn & lt gray siltstone, latter mod-strongly calc
440	450				As above
450	460				As above
460	470				Sh, lt-brn - lt gray-brn, non-calcareous
470	480				Shale, brown to gray-brown, non-calcareous

HOLE NO: X-10 SHEET 2 OF 2 DATE: 12/20/78 LOGGED BY: NHB COLLAR: 549 STD: 54
approx plugg

FROM	TO	±MM	ASST	10 20 30 40	GAL/TON	DESCRIPTION
480	490					Shale dk. brn, some lt. gray-green gray silt, strongly calc.
490	500					Sh. lt.-med. brn. & siltstone, green-gray, with small spheroids
500	510					Sh. lt.-dk. brn. & light gray, minor lt. gray silt, non-calc.
510	520					Sh. dk. brn. & lt. gray siltstone spheroids non-calc.
520	530					Sh. dk. brn, minor lt. gray siltstone, w/ky calcareous
530	540					As above.
540	550					Sh. dk. brn, siltstone, lt. gray, latter porous & calc. med.
550	560					Sh. dk.-lt. brn, minor siltstone, lt. gray, slightly calc.
560	570					Sh. dk. brn, lesser siltstone, lt. gray to gray gray, med.
570	580					Sh. lt.-dk. brn. & siltstone, lt. gray, strongly calc.
580	590					Sh. lt.-dk. brn, strongly calc. (crin. stone?)
590	600					Sh. mainly dk. brn, but variegated from white to lt. gm. & pink. Calc.
600	610					Sh. lt.-dk. brn, lesser siltstone, lt. gray, non-slightly calc.
610	620					Sh. lt.-dk. brn. & siltstone, & lt. brn, non calcareous.
620	630					As above.
630	640					As above.
640	650					Sh. brn.-blk, ss, & f. gr, light gray, non-calcareous
650	660					Sh. med.-dk. brn, w/ some siltstone, lt. gray, non-calc.
660	670					Sh. lt.-dk. brn, & siltstone, lt. gray, spheroidal concs, med.
670	680					Sh. as above, w/ minor siltstone, as above.
680	690					Sh. lt.-dk. brn, slightly calcareous
690	700					Sh. as above
700	710					Sh. dk. brn, mod. calc, some ss & silt, yellow-brn.
710	720					Sh. lt.-dk. brn, some gray-grn. & silt, yellow-brn, mod. calc.
720	730					Shale, as above
730	740					Shale, dk. brn. to brn.-gray, slightly calcareous
740	750					Shale, dk. brown, minor lt. brn, mod. - strongly calc.
750	760					Shale, as above.
760	770					Shale, as above.
770	780					Shale, as above, + minor ss, reddish-br to tan calc. to
780	790					Sh. lt.-dk. brn, & siltstone, green-gray, strongly calcareous
790	800					Sh. dk. brn, some green-gray siltstone, calcareous
800	810					Sh. dk. brn with lt. brown interbeds, very fine & minor lt. gray silt
810	820					Sh. as above, mod. to strongly calcareous
820	830					Sh. as above
830	840					Sh. as above, w/ky to mod. calc.

840

START CORING

HOLE NO: X-10 SHEET 1 OF 1 DATE: 12/29/74 LOGGED BY: NEWTON COLLAR: TD

START
CORE
EXPOSURE
W. MARKERS

COMMENTS: CORE IS BEING HANDLED WHEN BECOMING OUT OF CORE
BARREL EXTENSIVELY BROKEN DUE TO EXCESSIVE BOUNCING
ON THE BARREL WITH A SLUDGE HAYER.

DEPTH	±MM	FRX	PP	ASSAY	GAL	REC	LITH	DESCRIPTION
				10 20 30 40	HOW	ERQD		
840								OIL SHALE - DKK BE TO BLACK
841								MEDIUM TO HIGH GRADE WITH
842								ZONES OF LOW GRADE
843			37					
844			14.75					
845			10.18					
846	+130		18					HIGH GRADE SHALE ZONE
847			10					
848			21					
849			2					
850			25					
851		90°	26.40					
852								LOW TO MEDIUM GRADE
853			27.08					SHALE
854								
855			15					
856	+120		53					
857			30					HIGH GRADE SHALE ZONE
858			40.18					
859		I 90°	75					HIGH GRADE SHALE ZONE
860			25.45					
861			35					
862			20.40					LOW TO MEDIUM GRADE
863	max I 90°		20.46					
864								
865								
866	+110							866.65 - .83 SANDY LAYER OIL
867			.87					SATURATED
868								
869			33					
870								
871								BADLY BROKEN AREA MELT
872								MODERATE GRADE SHALE
873			40					
874			95					874-874.8 SANDY LAYER OIL SATU
875			73					
876	+100							876.8-877.25 SANDY LAYER OIL SATUR
877								
878								LOW GRADE SHALE
879								
880			10.44.70					880.00-880.18 SANDY LAYER OIL SATU
881								
882								LOW TO MEDIUM GRADE SHALE
883			107					
884			14					884-885 SANDY LAYER OIL SATUR
885			82					
886	+90							
887			61					LOW GRADE SHALE
888								
889								

HOLE NO: X-10 SHEET 3 OF DATE: 12/30/74 LOGGED BY: B. H. HOUTON COLLAR: TO:

DEPTH	±MM	FRX	PP	ASSAY				GAL/TON	REC. 8 RD	LITH	DESCRIPTION																						
				10	20	30	40																										
900											LOW TO MED GRADE SHALE																						
901											901.38 - .53 SANDY LAYER OIL SATUR.																						
902			.15						902.58																								
903																																	
904																																	
905											LOW GRADE, CREAM TO LIGHT																						
906	+70										BRN SHALE																						
907			.14																														
908																																	
909											909.14 - 909.15 SANDY LAYER OIL SATURATED																						
910			.50								910.15 - 912.90 'UPPER WAVEY RED'																						
911											MOTTLED SANDSTONE, CONTACTED BY																						
912											TAN RED BRN. w. LIMONITE STAIN; MOD UNCONS.																						
913											UPPER & LOWER CONTACTS																						
914			.30 .76								912.95 - 914 OIL SHALE, GR-DR GR, FIN LAM with																						
915											thin, hair-like streaks of darker material (pyr.)																						
916	+60																																
917																																	
918			.70																														
919			.21 .48								LOW TO MEDIUM GRADE SHALE																						
920											WITH THIN BANDS OF DARKER																						
921											MATERIAL																						
922			.06																														
923																																	
924																																	
925																																	
926	+50																																
927																																	
928																																	
929																																	
930																																	
931																																	
932																																	
933			.16								MEDIUM GRADE SHALE WITH AREAS																						
934			.29								OF HIGH GRADE - SOME NAHCOLITE																						
935											IN VEGS AND LAYERS.																						
936	+40																																
937																																	
938																																	
939			.58																														
940											LOW TO MEDIUM GRADE WITH AREAS																						
941											OF BEDS THAT ARE PITTED																						
942			.23								RANDED AREA																						
943																																	
944		X 45°																															
945		20°	.71																														
946	+30		.72								947 - 949 MARLSTONE, buff-light gray with a																						
947			.71 .93								thin, darker colored bands, very calcareous																						
948			.28								948.1, 948.2, 948.3, 948.4, 948.5, 948.6, 948.7, 948.8, 948.9, 949.0, 949.1, 949.2, 949.3, 949.4, 949.5, 949.6, 949.7, 949.8, 949.9, 950.0, 950.1, 950.2, 950.3, 950.4, 950.5, 950.6, 950.7, 950.8, 950.9, 951.0, 951.1, 951.2, 951.3, 951.4, 951.5, 951.6, 951.7, 951.8, 951.9, 952.0, 952.1, 952.2, 952.3, 952.4, 952.5, 952.6, 952.7, 952.8, 952.9, 953.0, 953.1, 953.2, 953.3, 953.4, 953.5, 953.6, 953.7, 953.8, 953.9, 954.0, 954.1, 954.2, 954.3, 954.4, 954.5, 954.6, 954.7, 954.8, 954.9, 955.0, 955.1, 955.2, 955.3, 955.4, 955.5, 955.6, 955.7, 955.8, 955.9, 956.0, 956.1, 956.2, 956.3, 956.4, 956.5, 956.6, 956.7, 956.8, 956.9, 957.0, 957.1, 957.2, 957.3, 957.4, 957.5, 957.6, 957.7, 957.8, 957.9, 958.0, 958.1, 958.2, 958.3, 958.4, 958.5, 958.6, 958.7, 958.8, 958.9, 959.0, 959.1, 959.2, 959.3, 959.4, 959.5, 959.6, 959.7, 959.8, 959.9, 960.0, 960.1, 960.2, 960.3, 960.4, 960.5, 960.6, 960.7, 960.8, 960.9, 961.0, 961.1, 961.2, 961.3, 961.4, 961.5, 961.6, 961.7, 961.8, 961.9, 962.0, 962.1, 962.2, 962.3, 962.4, 962.5, 962.6, 962.7, 962.8, 962.9, 963.0, 963.1, 963.2, 963.3, 963.4, 963.5, 963.6, 963.7, 963.8, 963.9, 964.0, 964.1, 964.2, 964.3, 964.4, 964.5, 964.6, 964.7, 964.8, 964.9, 965.0, 965.1, 965.2, 965.3, 965.4, 965.5, 965.6, 965.7, 965.8, 965.9, 966.0, 966.1, 966.2, 966.3, 966.4, 966.5, 966.6, 966.7, 966.8, 966.9, 967.0, 967.1, 967.2, 967.3, 967.4, 967.5, 967.6, 967.7, 967.8, 967.9, 968.0, 968.1, 968.2, 968.3, 968.4, 968.5, 968.6, 968.7, 968.8, 968.9, 969.0, 969.1, 969.2, 969.3, 969.4, 969.5, 969.6, 969.7, 969.8, 969.9, 970.0, 970.1, 970.2, 970.3, 970.4, 970.5, 970.6, 970.7, 970.8, 970.9, 971.0, 971.1, 971.2, 971.3, 971.4, 971.5, 971.6, 971.7, 971.8, 971.9, 972.0, 972.1, 972.2, 972.3, 972.4, 972.5, 972.6, 972.7, 972.8, 972.9, 973.0, 973.1, 973.2, 973.3, 973.4, 973.5, 973.6, 973.7, 973.8, 973.9, 974.0, 974.1, 974.2, 974.3, 974.4, 974.5, 974.6, 974.7, 974.8, 974.9, 975.0, 975.1, 975.2, 975.3, 975.4, 975.5, 975.6, 975.7, 975.8, 975.9, 976.0, 976.1, 976.2, 976.3, 976.4, 976.5, 976.6, 976.7, 976.8, 976.9, 977.0, 977.1, 977.2, 977.3, 977.4, 977.5, 977.6, 977.7, 977.8, 977.9, 978.0, 978.1, 978.2, 978.3, 978.4, 978.5, 978.6, 978.7, 978.8, 978.9, 979.0, 979.1, 979.2, 979.3, 979.4, 979.5, 979.6, 979.7, 979.8, 979.9, 980.0, 980.1, 980.2, 980.3, 980.4, 980.5, 980.6, 980.7, 980.8, 980.9, 981.0, 981.1, 981.2, 981.3, 981.4, 981.5, 981.6, 981.7, 981.8, 981.9, 982.0, 982.1, 982.2, 982.3, 982.4, 982.5, 982.6, 982.7, 982.8, 982.9, 983.0, 983.1, 983.2, 983.3, 983.4, 983.5, 983.6, 983.7, 983.8, 983.9, 984.0, 984.1, 984.2, 984.3, 984.4, 984.5, 984.6, 984.7, 984.8, 984.9, 985.0, 985.1, 985.2, 985.3, 985.4, 985.5, 985.6, 985.7, 985.8, 985.9, 986.0, 986.1, 986.2, 986.3, 986.4, 986.5, 986.6, 986.7, 986.8, 986.9, 987.0, 987.1, 987.2, 987.3, 987.4, 987.5, 987.6, 987.7, 987.8, 987.9, 988.0, 988.1, 988.2, 988.3, 988.4, 988.5, 988.6, 988.7, 988.8, 988.9, 989.0, 989.1, 989.2, 989.3, 989.4, 989.5, 989.6, 989.7, 989.8, 989.9, 990.0, 990.1, 990.2, 990.3, 990.4, 990.5, 990.6, 990.7, 990.8, 990.9, 991.0, 991.1, 991.2, 991.3, 991.4, 991.5, 991.6, 991.7, 991.8, 991.9, 992.0, 992.1, 992.2, 992.3, 992.4, 992.5, 992.6, 992.7, 992.8, 992.9, 993.0, 993.1, 993.2, 993.3, 993.4, 993.5, 993.6, 993.7, 993.8, 993.9, 994.0, 994.1, 994.2, 994.3, 994.4, 994.5, 994.6, 994.7, 994.8, 994.9, 995.0, 995.1, 995.2, 995.3, 995.4, 995.5, 995.6, 995.7, 995.8, 995.9, 996.0, 996.1, 996.2, 996.3, 996.4, 996.5, 996.6, 996.7, 996.8, 996.9, 997.0, 997.1, 997.2, 997.3, 997.4, 997.5, 997.6, 997.7, 997.8, 997.9, 998.0, 998.1, 998.2, 998.3, 998.4, 998.5, 998.6, 998.7, 998.8, 998.9, 999.0, 999.1, 999.2, 999.3, 999.4, 999.5, 999.6, 999.7, 999.8, 999.9											948.1, 948.2, 948.3, 948.4, 948.5, 948.6, 948.7, 948.8, 948.9, 949.0, 949.1, 949.2, 949.3, 949.4, 949.5, 949.6, 949.7, 949.8, 949.9, 950.0, 950.1, 950.2, 950.3, 950.4, 950.5, 950.6, 950.7, 950.8, 950.9, 951.0, 951.1, 951.2, 951.3, 951.4, 951.5, 951.6, 951.7, 951.8, 951.9, 952.0, 952.1, 952.2, 952.3, 952.4, 952.5, 952.6, 952.7, 952.8, 952.9, 953.0, 953.1, 953.2, 953.3, 953.4, 953.5, 953.6, 953.7, 953.8, 953.9, 954.0, 954.1, 954.2, 954.3, 954.4, 954.5, 954.6, 954.7, 954.8, 954.9, 955.0, 955.1, 955.2, 955.3, 955.4, 955.5, 955.6, 955.7, 955.8, 955.9, 956.0, 956.1, 956.2, 956.3, 956.4, 956.5, 956.6, 956.7, 956.8, 956.9, 957.0, 957.1, 957.2, 957.3, 957.4, 957.5, 957.6, 957.7, 957.8, 957.9, 958.0, 958.1, 958.2, 958.3, 958.4, 958.5, 958.6, 958.7, 958.8, 958.9, 959.0, 959.1, 959.2, 959.3, 959.4, 959.5, 959.6, 959.7, 959.8, 959.9, 960.0, 960.1, 960.2, 960.3, 960.4, 960.5, 960.6, 960.7, 960.8, 960.9, 961.0, 961.1, 961.2, 961.3, 961.4, 961.5, 961.6, 961.7, 961.8, 961.9, 962.0, 962.1, 962.2, 962.3, 962.4, 962.5, 962.6, 962.7, 962.8, 962.9, 963.0, 963.1, 963.2, 963.3, 963.4, 963.5, 963.6, 963.7, 963.8, 963.9, 964.0, 964.1, 964.2, 964.3, 964.4, 964.5, 964.6, 964.7, 964.8, 964.9, 965.0, 965.1, 965.2, 965.3, 965.4, 965.5, 965.6, 965.7, 965.8, 965.9, 966.0, 966.1, 966.2, 966.3, 966.4, 966.5, 966.6, 966.7, 966.8, 966.9, 967.0, 967.1, 967.2, 967.3, 967.4, 967.5, 967.6, 967.7, 967.8, 967.9, 968.0, 968.1, 968.2, 968.3, 968.4, 968.5, 968.6, 968.7, 968.8, 968.9, 969.0, 969.1, 969.2, 969.3, 969.4, 969.5, 969.6, 969.7, 969.8, 969.9, 970.0, 970.1, 970.2, 970.3, 970.4, 970.5, 970.6, 970.7, 970.8, 970.9, 971.0, 971.1, 971.2, 971.3, 971.4, 971.5, 971.6, 971.7, 971.8, 971.9, 972.0, 972.1, 972.2, 972.3, 972.4, 972.5, 972.6, 972.7, 972.8, 972.9, 973.0, 973.1, 973.2, 973.3, 973.4, 973.5, 973.6, 973.7, 973.8, 973.9, 974.0, 974.1, 974.2, 974.3, 974.4, 974.5, 974.6, 974.7, 974.8, 974.9, 975.0, 975.1, 975.2, 975.3, 975.4, 975.5, 975.6, 975.7, 975.8, 975.9, 976.0, 976.1, 976.2, 976.3, 976.4, 976.5, 976.6, 976.7, 976.8, 976.9, 977.0, 977.1, 977.2, 977.3, 977.4, 977.5, 977.6, 977.7, 977.8, 977.9, 978.0, 978.1, 978.2, 978.3, 978.4, 978.5, 978.6, 978.7, 978.8, 978.9, 979.0, 979.1, 979.2, 979.3, 979.4, 979.5, 979.6, 979.7, 979.8, 979.9, 980.0, 980.1, 980.2, 980.3, 980.4, 980.5, 980.6, 980.7, 980.8, 980.9, 981.0, 981.1, 981.2, 981.3, 981.4, 981.5, 981.6, 981.7, 981.8, 981.9, 982.0, 982.1, 982.2, 982.3, 982.4, 982.5, 982.6, 982.7, 982.8, 982.9, 983.0, 983.1, 983.2, 983.3, 983.4, 983.5, 983.6, 983.7, 983.8, 983.9, 984.0, 984.1, 984.2, 984.3, 984.4, 984.5, 984.6, 984.7, 984.8, 984.9, 985.0, 985.1, 985.2, 985.3, 985.4, 985.5, 985.6, 985.7, 985.8, 985.9, 986.0, 986.1, 986.2, 986.3, 986.4, 986.5, 986.6, 986.7, 986.8, 986.9, 987.0, 987.1, 987.2, 987.3, 987.4, 987.5, 987.6, 987.7, 987.8, 987.9, 988.0, 988.1, 988.2, 988.3, 988.4, 988.5, 988.6, 988.7, 988.8, 988.9, 989.0, 989.1, 989.2, 989.3, 989.4, 989.5, 989.6, 989.7, 989.8, 989.9, 990.0, 990.1, 990.2, 990.3, 990.4, 990.5, 990.6, 990.7, 990.8, 990.9, 991.0, 991.1, 991.2, 991.3, 991.4, 991.5, 991.6, 991.7, 991.8, 991.9, 992.0, 992.1, 992.2, 992.3, 992.4, 992.5, 992.6, 992.7, 992.8, 992.9, 993.0, 993.1, 993.2, 993.3, 993.4, 993.5, 993.6, 993.7, 993.8, 993.9, 994.0, 994.1, 994.2, 994.3, 994.4, 994.5, 994.6, 994.7, 994.8, 994.9, 995.0, 995.1, 995.2, 995.3, 995.4, 995.5, 995.6, 995.7, 995.8, 995.9, 996.0, 996.1, 996.2, 996.3, 996.4, 996.5, 996.6, 996.7, 996.8, 996.9, 997.0, 997.1, 997.2, 997.3, 997.4, 997.5, 997.6, 997.7, 997.8, 997.9, 998.0, 998.1, 998.2, 998.3, 998.4, 998.5, 998.6, 998.7, 998.8, 998.9, 999.0, 999.1, 999.2, 999.3, 999.4, 999.5, 999.6, 999.7, 999.8, 999.9											948.1, 948.2, 948.3, 948.4, 948.5, 948.6, 948.7, 948.8, 948.9, 949.0, 949.1, 949.2, 949.3, 949.4, 949.5, 949.6, 949.7, 949.8, 949.9, 950.0, 950.1, 950.2, 950.3, 950.4, 950.5, 950.6, 950.7, 950.8, 950.9, 951.0, 951.1, 951.2, 951.3, 951.4, 951.5, 951.6, 951.7, 951.8, 951.9, 952.0, 952.1, 952.2, 952.3, 952.4, 952.5, 952.6, 952.7, 952.8, 952.9, 953.0, 953.1, 953.2, 953.3, 953.4, 953.5, 953.6, 953.7, 953.8, 953.9, 954.0, 954.1, 954.2, 954.3, 954.4, 954.5, 954.6, 954.7, 954.8, 954.9, 955.0, 955.1, 955.2, 955.3, 955.4, 955.5, 955.6, 955.7, 955.8, 955.9, 956.0, 956.1, 956.2, 956.3, 956.4, 956.5, 956.6, 956.7, 956.8, 956.9, 957.0, 957.1, 957.2, 957.3, 957.4, 957.5, 957.6, 957.7, 957.8, 957.9, 958.0, 958.1, 958.2, 958.3, 958.4, 958.5, 958.6, 958.7, 958.8, 958.9, 959.0, 959.1, 959.2, 959.3, 959.4, 959.5, 959.6, 959.7, 959.8, 959.9, 960.0, 960.1, 960.2, 960.3, 960.4, 960.5, 960.6, 960.7, 960.8, 960.9, 961.0, 961.1, 961.2, 961.3, 961.4, 961.5, 961.6, 961.7, 961.8, 961.9, 962.0, 962.1, 962.2, 962.3, 962.4, 962.5, 962.6, 962.7, 962.8, 962.9, 963.0, 963.1, 963.2, 963.3, 963.4, 963.5, 963.6, 963.7, 963.8, 963.9, 964.0, 964.1, 964.2, 964.3, 964.4, 964.5, 964.6, 964.7, 964.8, 964.9, 965.0, 965.1, 965.2, 965.3, 965.4, 965.5, 965.6, 965.7, 965.8, 965.9, 966.0, 966.1, 966.2, 966.3, 966.4, 966.5, 966.6, 966.7, 966.8, 966.9, 967.0, 967.1, 967.2, 967.3, 967.4, 967.5, 967.6, 967.7, 967.8, 967.9, 968.0, 968.1, 968.2, 968.3, 968.4, 968.5, 968.6, 968.7, 968.8, 968.9, 969.0, 969.1, 969.2, 969.3, 969.4, 969.5, 969.6, 969.7, 969.8, 969.9, 970.0, 970.1, 970.2, 970.3, 970.4, 970.5, 970.6, 970.7, 970.8, 970.9, 971.0, 971.1, 971.2, 971.3, 971.4, 971.5, 971.6, 971.7, 971.8, 971.9, 972.0, 972.1, 972.2, 972.3, 972.4, 972.5, 972.6, 972.7, 972.8, 972.9, 973.0, 973.1, 973.2, 973.3, 973.4, 973.5, 973.6, 973.7, 973.8, 973.9, 97

COMMENTS:

HOLE NO: X-10 SHEET 4 OF DATE: 12/30/74 LOGGED BY: W. MOUTON COLLAR: TO:

DEPTH	±MM	FRK	PP	ASSAY 10 20 30 40	CAL TON	REC GARD	LITH	DESCRIPTION
950			29.83					GRADING INTO A SHALE RICHET
951			41					LOOKING SHALE TONE - MEDIUM
952								GRADE
953								
954								
955								
956	+20							
957			41					
958			86					
959								
960			17.58					
961			15					AT 961 SANDY LAYER OIL SATURATED
962			35					96.25 - 96.25 SANDY LAYER OIL SATURATED
963			30.73					AREA BARELY FRACTURED (MECH)
964								
965								
966	+10		33					OIL SHALE LOW TO MEDIUM GRADE
967								WITH BANDS OF HIGH GRADE
968								(FEAR) TO DARK BROWN WITH
969								BANDS OF BLACK COLORED SHALE
970			00					SOME NARROW SAND LAYERS AND
971								LENSES
972								LOW GRADE SHALE
973			19					
974								
975			44					975.9 - 976.4 MAHOGANY MARKER
976	0		53					SANDY OIL SATURATED LAYER
977			46					
978								
979								LOW GRADE SHALE
980			00					
981			27.47					
982			18.88	92.95				
983								983 - 986 MEDIUM TO HIGH GRADE
984								ZONE
985			MECH					
986	-10							986 - 990 MEDIUM GRADE
987								ZONE - SOME INNER
988								BEDDED HIGH GRADE
989								
990								
991								990 - 994 HIGH GRADE ZONE
992			19.29	50.77				MAHOGANY ZONE ?
993			01.59	16				DIL SHALE
994			27.40	52				MEDIUM TO HIGH GRADE SHALE
995			00					DARK BRN TO BLACK - SANDY
996	-20							LAYERS FOUND IN SOME AREAS
997								OIL SATURATED
998								
999								

COMMENTS:

HOLE NO: 30 SHEET 5 OF 5 DATE: 12/3/70 LOGGED BY: W. Moulton COLLAR: TD

DEPTH	±MM	FRX	PP	ASSAY 10 20 30 40	GAL/ TON	REC. GARD	LITH.	DESCRIPTION
1000			ALL PP					
1001			10.66.73					1001.6 - 1004 HIGH GRADE ZONE (BLACK)
1002			36.55.72					
1003			PP					1003.00 - 1003.52 SECTION OF ZONE TO CONJ. ON. BANNED HIGH GRADE
1004								LOW TO MEDIUM GRADE SHALE
1005								
1006	-30	45						
1007		40						
1008								
1009								1009 - 1012 MEDIUM TO HIGH GRADE SHALE
1010								
1011			.92					
1012								
1013								LOW GRADE SHALE
1014			.30					
1015								
1016	40							
1017								
1018								
1019								LOW TO MEDIUM GRADE SHALE W/SOME NAHCOLITE LAYERS TOWARDS THE BOTTOM.
1020			.44					
1021								
1022								
1023								
1024			.28					OIL SHALE LOW TO MEDIUM GRADE WITH LAYERS OF HIGH GRADE - CREAM TO DR. BRN SOME BLACK ZONES SAND OIL SATURATED LAYERS PRESENT ALONG WITH PITTED AREAS IN SHALE - LEACHED SULFIDES
1025								
1026	-50							
1027			.36					
1028								
1029								
1030			.78.85					
1031			15.36.91					
1032			16.99					
1033			.23.91					
1034			.78					1033-1034 HIGHER GRADE ZONE
1035			.77					
1036	-60		10.31					1035.25 - 60 SAND LAYER 2 OIL SATURATED 185 PP IRR. IN SAND LAYER
1037			.85					
1038			.112					
1039			.159					
1040								LOW GRADE SHALE
1041			.39					
1042			.13					
1043			.164					
1044			.40					LOW GRADE SHALE
1045			.02.60					
1046	-70							
1047			.17					
1048			.74					
1049								1048.40 - 1049.77 SAND LAYER CONTAINED SOME OIL

COMMENTS:

DEPTH	±MM	FRX	PP	ASSAY 10 20 30 40	GAL TON	REC. E AGO	LITH.	DESCRIPTION
1050			.73					
1051								LOW GRADE OIL SHALE
1052								
1053			.22					
1054			.41					
1055								LOW GRADE OIL SHALE WITH
1056	-80							OIL SATURATED SAND LAYERS
1057			.94					SOME HIGHER GRADE BANDS
1058								ARE VISIBLE
1059			.95					
1060								
1061								
1062								
1063			.71					
1064			.40					10632 - 54 SAND LAYER
1065								OIL SATURATED
1066	-90							SULEDES PRESENT
1067			.87					BANDS OF HIGH GRADE
1068			.00					1068-1072 OIL SATURATED AREA
1069			.62 .86					106962 - 46 SAND LAYER COOZING OIL
1070								
1071								
1072								
1073			.10					
1074								
1075		I 90°						107520 - 1080.00 OIL COOZING BANDS
1076	-100		.10 .52 .61 .72					FOUND IN THIS RUN
1077								VERY SATURATED
1078								
1079								
1080		.081.3	.90					
1081		I 90°						LOW GRADE SHALE
1082								
1083								
1084								
1085			.86					HIGHER GRADE ZONE
1086	-110							
1087								
1088			.40 .55 .82					
1089			.17 .48					LOW GRADE SHALE
1090			.83					
1091			.25					
1092								
1093								
1094								
1095			.15					
1096	-120		.60					
1097								BOTTOM OF HOLE (1097.60)
1098								
1099								

COMMENTS: