

WHITE RIVER SHALE PROJECT

HOLE: X-12

From	To	Rock Description
0	10	NO SAMPLE
10	20	NO SAMPLE
20	30	SANDSTONE, LIGHT GRAY, FINE GRAINED, CALCAREOUS
30	40	SANDSTONE, LIGHT GRAY, FINE GRAINED, CALCAREOUS
40	50	NO SAMPLE
50	60	SANDSTONE, LIGHT GRAY, FINE GRAINED, CALCAREOUS
60	70	SANDSTONE, LIGHT GRAY TO BROWN, FINE GRAINED, CALCAREOUS
70	80	SANDSTONE, LIGHT GRAY TO BROWN, FINE GRAINED, CALCAREOUS
80	90	SANDSTONE, LIGHT GRAY TO BROWN, FINE GRAINED, CALCAREOUS
90	100	SANDSTONE, LIGHT GRAY TO BROWN, FINE GRAINED, CALCAREOUS
100	110	NO SAMPLE
110	120	SANDSTONE, LIGHT GRAY, FINE GRAINED, CALCAREOUS
120	130	SANDSTONE, LIGHT GRAY, FINE GRAINED, CALCAREOUS
130	140	NO SAMPLE
140	150	NO SAMPLE
150	160	SANDSTONE, LIGHT GRAY, MEDIUM GRAINED, CALCAREOUS
160	170	SANDSTONE, LIGHT GRAY, MEDIUM GRAINED, CALCAREOUS
170	180	SANDSTONE, LIGHT GRAY, MEDIUM GRAINED, CALCAREOUS
180	190	SANDSTONE, LIGHT GRAY, MEDIUM GRAINED, CALCAREOUS
190	200	SANDSTONE, LIGHT GRAY, MEDIUM GRAINED, CALCAREOUS
200	210	SANDSTONE, LIGHT GRAY, MEDIUM GRAINED, CALCAREOUS
210	220	SANDSTONE, LIGHT GRAY, MEDIUM GRAINED, CALCAREOUS
220	230	SANDSTONE, LIGHT GRAY, MEDIUM GRAINED, CALCAREOUS
230	240	SANDSTONE, LIGHT GRAY, MEDIUM GRAINED, CALCAREOUS
240	250	SANDSTONE, LIGHT GRAY, MEDIUM GRAINED, CALCAREOUS
250	260	SANDSTONE, LIGHT GRAY, MEDIUM GRAINED, CALCAREOUS
260	270	NO SAMPLE
270	280	NO SAMPLE
280	290	SANDSTONE LIGHT GRAY AND SILT (OIL) LOW GRADE LIGHT BROWN
290	300	OIL SHALE, LOW GRADE, LIGHT BROWN, FISSILE
300	310	OIL SHALE, LOW GRADE, LIGHT BROWN, FISSILE
310	320	OIL SHALE, LOW GRADE, LIGHT BROWN, FISSILE
320	330	OIL SHALE, LOW GRADE, LIGHT BROWN, FISSILE
330	340	OIL SHALE, LOW GRADE, LIGHT BROWN, FISSILE
340	350	OIL SHALE LOW TO MEDIUM GRADE, LIGHT BROWN TO BROWN, FISSILE
350	360	OIL SHALE, LOW TO MEDIUM GRADE, LIGHT BROWN TO BROWN
360	370	OIL SHALE, LOW TO MEDIUM GRADE, LIGHT BROWN TO BROWN
370	380	OIL SHALE, LOW TO MEDIUM GRADE, LIGHT BROWN TO BROWN
380	390	OIL SHALE, LOW TO MEDIUM GRADE, LIGHT BROWN TO BROWN
390	400	OIL SHALE, LOW TO MEDIUM GRADE, LIGHT BROWN TO BROWN
400	410	OIL SHALE, LOW TO MEDIUM GRADE, LIGHT BROWN TO BROWN
410	420	OIL SHALE, LOW TO MEDIUM GRADE, LIGHT BROWN TO BROWN
420	430	OIL SHALE, MEDIUM GRADE, BROWN TO DARK BROWN
430	440	OIL SHALE, MEDIUM GRADE, BROWN TO DARK BROWN
440	450	OIL SHALE, MEDIUM GRADE, BROWN TO DARK BROWN
450	460	OIL SHALE, MEDIUM GRADE, BROWN TO DARK BROWN
460	470	OIL SHALE, MEDIUM GRADE, BROWN TO DARK BROWN
470	480	OIL SHALE, MEDIUM GRADE, BROWN TO DARK BROWN
480	490	OIL SHALE, MEDIUM GRADE, BROWN TO DARK BROWN
490	500	OIL SHALE, MEDIUM GRADE, BROWN TO DARK BROWN

WHITE RIVER SHALE PROJECT

HOLE: X-12

From	To	Rock Description
500	510	OIL SHALE, LOW TO MEDIUM GRADE, LIGHT BROWN TO BROWN
510	520	OIL SHALE, LOW TO MEDIUM GRADE, LIGHT BROWN TO BROWN
520	530	OIL SHALE, LOW TO MEDIUM GRADE, LIGHT BROWN TO BROWN
530	540	OIL SHALE, LOW TO MEDIUM GRADE, LIGHT BROWN TO BROWN
540	550	OIL SHALE, LOW TO MEDIUM GRADE, LIGHT BROWN TO BROWN
550	560	OIL SHALE, LOW TO MEDIUM GRADE, LIGHT BROWN TO BROWN
560	570	OIL SHALE, LOW TO MEDIUM GRADE, LIGHT BROWN TO BROWN
570	580	OIL SHALE, LOW TO MEDIUM GRADE, LIGHT BROWN TO BROWN
580	590	OIL SHALE, LOW TO MEDIUM GRADE, LIGHT BROWN TO BROWN
590	600	OIL SHALE, LOW TO MEDIUM GRADE, LIGHT BROWN TO BROWN
600	610	NO SAMPLE
610	832	NO SAMPLES - LARGE SPURTHIC FLOW DOES NOT DEPOSIT MATERIAL IN COLLECTION TOWNSHIP
		START CORIN

20-21

DEPTH	±MM	FRX	PP	ASSAY 10 20 30 40	GAL/TON	REC. GRQD	LITH.	DESCRIPTION
832	+85							832.00 - 848.5, OIL SHALE
833								PREDOMINATELY MEDIUM GRADE
834		VER						WITH SOME SMALL ZONES OF
835		FRX						INTERBEDDED HIGH AND LOW GR
836								BROWN TO DARK BROWN, FAIRLY
837								COMPONENT ROCK CALCA
838								HAS LONG VERTICAL FRX NO
839								PERMEABILITY (ROCK) (FRX COU
840								HAVE) LITTLE POROSITY
841	+80		55					841.55 - 848.5, OIL SHALE MOST
842								LOW GRADE WITH SOME SMALL
843								SECTIONS OF MEDIUM AND H
844			25					GRADE LIGHT TO MEDIUM GR
845								CALCAREOUS COMPONENT
846								NO PERMEABILITY AND LITTLE POROSITY
847								847.5 - 851.19 UPPER WAVY BED
848								CONTACTED SANDSTONE LAME
849								CALCAREOUS OIL SATURATED
850								AND BUBBLING GAS
851	F10	VER	73					851.19 - 861.73 OIL SHALE LO
852		FRX						TO MEDIUM GRADE LIGHT
853								MEDIUM BROWN, HARD
854			22					CALCAREOUS COMPONENT
855								ROCK NO PERMEABILITY AND
856								LITTLE POROSITY
857								
858								
859								
860			57					
861	+60		110.73					861.73 865.54 OIL SHALE LOW GRADE
862								LIGHT BROWN TO BROWN, HARD,
863								CALCAREOUS COMPONENT ROCK
864								
865								865.58 - 875.32 OIL SHALE LOW
866			26					GRADE (SOME IS VERY LOW GRADE
867			58					DALE BROWN TO DARK BROWN, HARD
868								CALCAREOUS COMPONENT
869								ROCK NO PERMEABILITY AND
870			83					LITTLE POROSITY
871	+50		20.92					
872								
873								
874								
875			32					875.32 - 885.41 OIL SHALE LOW
876								GRADE LIGHT TO PALE BROWN
877								CALCAREOUS, HARD, COMPACT
878			86					ROCK NO PERMEABILITY AND
879								LITTLE POROSITY
880			12.92					

HOLE NO: X-12 SHEET 2 OF 3 DATE: 7/22/76 LOGGED BY: W. M. MOULTON/COLLAR: 219 TD: 10

DEPTH	±MM	FRX	PP	ASSAY 10 20 30 40	GAL/TON	REC ERGD	LITH.	DESCRIPTION
882					3.0			8832-8834 OIL SHALE LOW
883			30		183			LIGHT TO PALE BROWN CALCAREOUS
884			119		14.6			HARD COMPACT ROCK NO
885			41		21.2	80-91		PERMEABILITY AND LITTLE PORES
886					17			88541-810.56 OIL SHALE LOW
887					8.5	80-91		GRADE / VERT. CHITTING INTO
888			37		11.0	80-91		A-CALCAREOUS PALE BROWN TO
889			51.94		5.6	80-91		CREAM SANDSTONE IS / MARL
890			40.44		3.9	80-91		WEAKLY - DUES AS FOLLOWS
891	+30		2.23		3.2	80-91		711.94 VAC-FILLED WITH NATURALITE
892			27.52		8.3	80-91		892.52 VAC-FILLED WITH NATURALITE
893			60.97		4.1	80-91		894.50 VAC-FILLED WITH NATURALITE
894			128.98		3.3	80-91		895.56-907.15 OIL SHALE LOW
895			32.056		1.5	80-91		CONSIDERABLE SANDSTONE
896			73		2.4	80-91		LIGHT BROWN SANDSTONE
897			41.5.2		1.5	80-91		1.5-17.70 MEDIUM BROWN
898			17.70		15.0	80-91		PROXIMATELY SECTION AS PRE
899			22.49		27.9	80-91		OF 11" - 1.5" LOST OUT OF THE
900					41.1	80-91		LIKE BARREL AND BEING
901	+20				40.8	80-91		ED ON THE NEXT RUN
902					14.9	80-91		
903					12.4	80-91		
904					21.3	80-91		
905					23.4	80-91		905.92 SANDSTONE LAYER
906					30.7	80-91		906.16-907.16, 907.23-33 AND 907.64-72
907			14		22.4	80-91		SANDSTONE LAYERS DUBLING GAS
908					30.5	80-91		
909			193		15.9	80-91		909.15-920.21 OIL SHALE MED
910					40.3	80-91		TO HIGH GRADE, LOW GRADE
911	+10				26.9	80-91		TOWARDS BOTTOM OF RUN
912					20.4	80-91		BROWN TO DARK BROWN, SO
913					15.7	80-91		CALCAREOUS COMPACT
914					10.4	80-91		NO PERMEABILITY AND LITTLE P
915			2		20.2	80-91		LOW GRADE SAND IS 13. LIG
916					16.2	80-91		BROWN HARD CALCAREOUS
917					10.8	80-91		COMPACT WITH NO
918			42.77		12.2	80-91		PERMEABILITY AND LITTLE
919					10.1	80-91		PORES
920			21		10.1	80-91		
921	0		3.73		3.8	80-91		921.3-921.73 MARKED BY MARK
922					11.8	80-91		SANDSTONE LAYER
923					19.5	80-91		920.21-926.00 OIL SHALE LOW
924			13.96		19.3	80-91		GRADE LIGHT BROWN HARD
925			35.46		25.8	80-91		CALCAREOUS COMPACT
926			11.34		23.9	80-91		926.00-932.00 OIL SHALE MED
927			27		17.3	80-91		TO HIGH GRADE BROWN TO PA
928			51		33.7	80-91		BROWN, SOFT, SUGARY CALCA
929			135		11.1	80-91		COMPACT SANDSTONE

DEPTH	±MM	FRX	PP	ASSAY 10 20 30 40	GAL TON	REC GRQD	LITH.	DESCRIPTION
932					49.9	2		932-9332 OIL GRADE, LIGHT BROWN
933			2		57.7	3		HIGH GRADE, BROWN TO BLACK
934					65.6	2		2.5% SULFUR, OIL GRADE
935					51.5	2		2.5% SULFUR, OIL GRADE
936					71.7	2		2.5% SULFUR, OIL GRADE
937					66.0	2		HIGH GRADE, OIL GRADE
938					42.2	2		2.5% SULFUR, OIL GRADE
939			74		42.2	2		2.5% SULFUR, OIL GRADE
940			15		49.7	8		939.78-949.82 OIL GRADE
941	-20		10		22.1	2		2.5% SULFUR, OIL GRADE
942					27.5	2		2.5% SULFUR, OIL GRADE
943			25		54.0	2		MEDIUM GRADE, BROWN
944					19.1	2		2.5% SULFUR, OIL GRADE
945			5.94		4.3	2		2.5% SULFUR, OIL GRADE
946			104.46		5.2	2		2.5% SULFUR, OIL GRADE
947			15.35		3.9	2		2.5% SULFUR, OIL GRADE
948					5.3	2		2.5% SULFUR, OIL GRADE
949			8.2		28.5	2		2.5% SULFUR, OIL GRADE
950			100		20.6	2		2.5% SULFUR, OIL GRADE
951	-30				35.4	2		2.5% SULFUR, OIL GRADE
952					35.5	2		2.5% SULFUR, OIL GRADE
953					20.1	2		2.5% SULFUR, OIL GRADE
954					15.4	2		2.5% SULFUR, OIL GRADE
955			34.43		20.5	2		2.5% SULFUR, OIL GRADE
956					54.4	2		2.5% SULFUR, OIL GRADE
957			15.52		35.5	2		2.5% SULFUR, OIL GRADE
958			93		14.7	2		2.5% SULFUR, OIL GRADE
959			92		10.2	2		2.5% SULFUR, OIL GRADE
960					13.4	2		2.5% SULFUR, OIL GRADE
961	-40				9.7	2		2.5% SULFUR, OIL GRADE
962			38		3.3	2		2.5% SULFUR, OIL GRADE
963					35.7	2		2.5% SULFUR, OIL GRADE
964			71		36.6	2		2.5% SULFUR, OIL GRADE
965					28.4	2		2.5% SULFUR, OIL GRADE
966					22.3	2		2.5% SULFUR, OIL GRADE
967					24.8	2		2.5% SULFUR, OIL GRADE
968					31.5	2		2.5% SULFUR, OIL GRADE
969			86		26.4	2		2.5% SULFUR, OIL GRADE
970					6.2	2		2.5% SULFUR, OIL GRADE
971	-50				15.7	2		2.5% SULFUR, OIL GRADE
972					14.2	2		2.5% SULFUR, OIL GRADE
973					8.4	2		2.5% SULFUR, OIL GRADE
974					17.0	2		2.5% SULFUR, OIL GRADE
975			14.43		23.5	2		2.5% SULFUR, OIL GRADE
976			91		13.9	2		2.5% SULFUR, OIL GRADE
977					12.0	2		2.5% SULFUR, OIL GRADE
978					13.9	2		2.5% SULFUR, OIL GRADE
979			95					
980								

TOTAL DEPTH 980