

U056

ATTACHMENT B

12-105-24 E
Uintah County, UT

P-1 CORE LOG

COMPANY
CONFIDENTIAL

Depth	±MM	FRX	PP	0	Gal/ 50 Ton	Lith	Rock Description
495	+250				8.8		Oil Shale - low to medium grade,
496					15.0		buff to brown, thinly laminated,
497					15.0		hard
498					8.3		
499					8.3		
500					6.6		
501					6.6		
502					10.3		
503					10.3		
504					10.1		
505	+240				10.1		
506					11.8		
507					11.8		
508					7.6		
509					7.6		
510					11.2		
511					11.2		
512					14.8		
513					14.8		
514					6.1		
515	+230				6.1		
516					6.7		
517					6.7		
518					15.8		
519					15.8		
520					9.7		
521					9.7		
522					8.6		
523					8.6		
524					18.5		Oil Shale - low to medium grade,
525	+220				18.5		buff to brown, thinly laminated,
526					10.1		hard
527					10.1		
528					10.2		
529					10.2		
530					12.1		
531					12.1		
532					13.8		
533					13.8		
534					14.0		
535	+210				14.0		
536					13.0		
537					13.0		
538					13.4		
539					13.4		
540					11.7		
541					11.7		
542					9.0		
543					9.0		
544					11.9		

Depth	±MM	FRX	PP	0	Gal/ 50 Ton	Lith	Rock Description
545	+200				11.9		Oil Shale - low to medium grade,
546					13.6		buff to dark brown, hard
547					13.6		thinly laminated
548					12.7		
549					12.7		
550					12.8		550.50-551.25 Sandstone layer
551					12.8		oil saturated
552					12.6		
553					12.6		
554					15.1		Oil Shale - low to medium grade,
555	+190				14.8		brown to dark brown
556					14.8		
557					24.1		
558					24.1		
559					20.7		
560					20.7		
561					18.2		
562					18.2		
563					11.3		
564					11.3		
565	+180				10.8		
566					10.8		
567					9.1		
568					9.1		
569					7.9		
570					7.9		
571					20.6		571.00-571.16 Sandstone layer
572					20.6		oil saturated
573					9.6		
574					9.6		Oil Shale - low to medium grade,
575	+120				8.0		buff to brown
576					8.0		
577					11.7		
578					11.7		
579					6.1		
580					6.1		
581					7.6		
582					7.6		
583					5.9		
584					5.9		584.00-.50 Sandstone layer
585	+160				15.7		
586					15.7		Oil Shale - low to medium grade,
587					8.4		buff to brown
588					8.4		
589					8.2		
590					8.2		
591					6.4		
592					6.4		
593					16.8		
594					16.8		

Depth	±MM	FRX	PP	0	Gal/ 50 Ton	Lith	Rock Description
595	+150				8.4		Oil Shale - low to medium grade,
596					8.4		buff to dark brown,
597					6.1		thinly laminated
598					6.1		
599					16.1		
600					16.1		
601					12.4		
602					12.4		
603					8.8		
604					8.8		
605	+140				13.3		
606					13.3		
607					24.9		
608					24.9		
609					7.4		
610					7.4		
611					6.4		
612					6.4		
613					11.0		
614					11.0		
615	+130				14.0		Oil Shale - low to medium grade,
616					10.5		brown to dark brown,
617					9.1		thinly laminated
618					10.4		
619					11.4		
620					23.6		
621					22.9		Continuous unfractured zone
622					9.0		
623					8.7		
624					1.8	T T T	Marlstone - light grav, hard
625	+120				2.5	T T T	
626					8.7		
627					24.2		
628					12.9		
629					9.5		Oil Shale - low to medium grade
630					13.1		
631					10.5		
632					12.1		
633					17.5		
634					12.8		
635	+110				11.8		
636					14.9		
637					9.0		
638					9.2		
639					9.2		
640					11.3		Sandstone layer - oil saturated
641					14.4		
642					15.3		
643					11.2		
644					10.2		

Depth	±MM	FRX	PP	0	Gal/ 50 Ton	Lith	Rock Description
645	+100				12.2		
646					10.9		Oil Shale - low to medium grade
647					11.8		
648					12.0		
649					12.0		
650					12.6		
651					11.1		
652					12.4		
653					12.8		
654					10.0		
655	+90				12.4		
656					12.1		
657					9.1		
658					14.6		
659					15.2		
660					10.2		
661					10.0		
662					5.5		
663					5.7		
664					11.5		
665	+80				16.8		Oil Shale - low to medium grade,
666					11.9		brown to dark brown,
667					9.8		thinly laminated
668					9.8		
669					9.0		
670					16.7		
671					9.7		671.17-673.33 Upper Wavy Bed
672					9.8		Sandstone layer - light brown
673					8.5		to brown - contorted bedding
674					10.0		
675	+70				11.6		
676					11.6		
677					16.6		
678					15.0		
679					18.2		
680					15.7		Oil Shale - low to medium grade,
681					10.5		buff to brown, thinly laminated
682					10.4		
683					7.5		
684					8.4		
685	+60				12.1		
686					13.9		
687					8.2		
688					6.9		
689					8.9		
690					7.2		
691					5.1		
692					15.0		
693					14.2		
694					10.9		

Depth	±MM	FRX	PP	0	Gal/ 50 Ton	Lith	Rock Description
695	+50				8.3		
696					10.0		
697					14.5		
698					40.1		Oil Shale - high grade,
699					18.4		dark brown to black
700					10.7		
701					12.4		Oil Shale - low to medium grade,
702					14.0		light brown to dark brown,
703					13.9		(alternating bands)
704					13.6		
705	+40				23.8		
706					24.9		
707					14.3		
708					15.3		
709					32.5		Oil Shale - high grade, black
710					21.3		
711			.00		7.4		
712			.00.30.60		4.3		
713		90°	.30.90		3.5		
714			.30.70		5.8		
715	+30		.00.40.70		5.8		Oil Shale - low grade
716		90°	.20.70		4.0		
717					4.9		
718					3.5		
719					3.1		
720					2.3	T T T	Marlstone - light gray, hard
721					2.9	T T T	
722					4.9		Bottom 'A' Groove
723					14.4		
724					13.0		Oil Shale - medium to high grade,
725	+20				22.1		brown to black, thinly laminated
726					30.4		
727					16.0		
728			.60		15.3		
729					11.8		
730					16.5		
731					22.7		
732					28.9		Oil Shale - high grade,
733					42.7		dark brown to black
734					25.0		
735	+10		.50		26.1		
736					20.9		
737					27.5		
738					41.0		
739					19.4		Oil Shale - medium grade,
740					12.2		brown to dark brown layers
741					13.0		
742					22.7		
743					14.7		
744					12.5		

Depth ±MM	FRX	PP	0	Gal/ 50 Ton	Lith	Rock Description
745	0	.40.70		11.9	=====	745.40-.70 Mahogany Marker
746				11.4		Sandstone layer
747				10.6		Oil Shale - low to medium grade,
748		.80		9.6		buff to brown
749				12.5		
750				14.0		
751				34.3		Oil Shale - medium to high grade,
752				42.4		Mahogany Zone
753				21.4		
754				22.4		
755	-10	.90		21.8		
756				23.0		
757				29.2		Oil Shale - high grade,
758				39.4		black and dark brown,
759		.90		33.5		in alternating bands
760				43.2		
761				63.6		
762		.30.40.60		73.1		763.0-763.2, mostly shale, slightly
763	25°	.00.70		71.6	***	contorted, grading into nahcolite
764	25°	.70.90		20.0		763.2-763.8 vitreous, crystalline,
765	-20	.00.20.60		44.3		somewhat vuggy nahcolite - slight
766		.30		34.2		amount of shale on periphery of core
767				31.4		766.30-.50 Sandstone layer,
768		.20		18.8		oil saturated
769				40.8		
770				48.6		
771		.80		25.6		Oil Shale - medium to high grade,
772		.90		17.9		dark brown to black,
773		.60		20.0		thinly laminated
774		.20.25.50		47.1		
775	-30			37.3		
776		.00		38.5		
777				47.9		
778				22.4		
779				23.5		
780		.10.60		24.6		
781		.75		23.6		
782				26.2		Oil Shale - medium grade,
783		.50		19.5		dark brown
784				18.6		
785	-40	.10		31.7		Oil Shale - high grade; black
786				32.5		
787				15.1		
788		.00		9.8		
789				12.8		
790				13.4		
791				18.0		
792				34.6		Oil Shale - high grade,
793				35.4		dark brown to black
794				28.6		

WHITE RIVER SHALE PROJECT

HOLE: P-1

Depth	±MM	FRX	PP	0	Gal/ 50 Ton	Lith	Rock Description
795	-50				22.1		Oil Shale - medium grade, brown,
796			.40		23.0		thinly laminated
797					32.4		
798					30.4		
799					21.3		Oil Shale - medium grade, brown
800					20.0		
801			.40		13.6		
802			.00.30		10.6		
803			.60		12.6		
804					14.1		
805	-60				10.1		
806			.50		9.7		
807					28.2		Oil Shale - high grade, dark brown
808			.00.20		8.7		
809			.40		4.1		
810					6.9		
811					20.7		
812			.00.70		9.8		
813			.75		7.5		
814					16.6		
815	-70				33.7		
816					13.2		
817					18.5		
818					9.2		Oil Shale - low to medium grade, -
819					5.6		brown to dark brown,
820					46.5		thinly laminated
821					13.8		
822			.10.20		8.0		Top 'B' Groove
823			.40.90		4.1		
824			.00.20		3.4		Oil Shale - low to medium grade,
825	-80				4.2		buff to brown, thinly laminated,
826					8.4		silty with some thin oil
827					23.0		impregnated zones
828		20°			10.4		
829					13.1		
830					14.9		Oil Shale - low to medium grade,
831					12.2		buff to brown
832					8.3		
833			70		5.2		
834					6.0		
835	-90				5.7		
836			.80		6.6		
837			.50		4.3		
838			.00		6.3		
839					8.1		
840					5.2		
841					5.7		
842					7.6		
843					10.1		
844					6.5		

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Depth	±MM	FRX	PP	0	Gal/ 50 Ton	Lith	Rock Description
845	-100				8.1		Oil Shale - low to medium grade,
846			.20		11.4		buff to brown
847			.20		10.4		
848					11.7		
849					10.5		
850					9.5		
851					9.3		
852			.30		10.0		
853					9.4		
854					7.6		
855	-110		.40		5.4		
856					5.0		
857					7.5		
858			.40		8.0		
859			.60		7.4		
860		25°	.05		4.6		
861					2.1	T T T	Marlstone - light gray, hard
862			.45		5.3		
863					6.5		
864	-120		.80		7.8		
865			.40.75		5.5		
866			.60		2.2	T T T	Marlstone - light gray, hard
867					2.8	T T T	
868					3.2		
869			.00.25		2.7	T T T	Marlstone - light gray, hard
870			.20.30		2.7	T T T	
871					6.3		Oil Shale - low to medium,
872					6.3		buff to brown, thinly laminated,
873					7.3		hard
874			.05		7.3		
875	-130				10.2		
876					10.2		
877			.05		29.1		Oil Shale - high grade, dark brown
878					29.1		
879			.35		10.6		
880					10.6		Oil Shale - medium grade, brown
881			.95		16.8		
882			.00		16.8		
883			.30.65		27.1		Oil Shale - high grade, dark brown
884			.40		27.1		
885	-140		.00.50		9.2		
886			.55		9.2		Oil Shale - medium grade, brown
887			.70.75		11.6		
888			.55		11.6		
889					12.0		
890			.95		12.0		
891			.40		4.9		891.45-.60 Sandstone layer,
892			.40.80		4.9		oil saturated
893			.20.80		4.7		
894					4.7		Oil Shale - low to medium grade,

Depth	±MM	FRX	PP	0	Gal/ 50 Ton	Lith	Rock Description
895	-150				9.7		brown to dark brown,
896			.45		9.7		thinly laminated
897			.35		11.9		
898					11.9		
899					9.5		
900					9.5		
901					17.5		901.10-.40 Sandstone layer
902			.90.95		17.5		
903			.05.20		7.5		Oil Shale - low to medium grade,
904			.80		7.5		buff to brown
905	-160				14.4		
906			.60.95		14.4		
907			.35.45.55		8.6		907.00-.10 Sandstone layer
908			.15		8.6		
909			.10		10.2		
910			.60		10.2		Oil Shale - low to medium grade,
911			.20		10.8		buff to brown
912					10.8		
913					19.6		
914					19.6		
915	-170		.60		8.8		
916					8.8		
917					32.0		Oil Shale - high grade, dark brown
918					32.0		
919					21.5		
920			.30		21.5		
921					28.4		Oil Shale - high grade, dark brown
922					28.4		
923			.50.70		9.9		
924			.70		9.9		
925	-180				3.9		Oil Shale - low to medium grade,
926			.00.40.60		3.9		buff to dark brown,
927					14.1		thinly laminated
928					14.1		
929					22.1		
930					22.1		
931					22.5		
932			.10		22.5		
933					9.2		
934					9.2		
935	-190				19.2		935.00-.10 Sandstone layer
936			.10.60		19.2		
937					18.6		Oil Shale - low to medium grade,
938					18.6		buff to brown
939					6.1		
940			.40		6.1		
941					9.5		
942					9.5		
943			.00		29.0		Oil Shale - high grade, dark brown
944					29.0		

Depth ±MM	FRX	PP	0	Gal/ 50 Ton	Lith	Rock Description
945	-200			16.1		
946				16.1		Oil Shale - low to medium grade,
947				17.0		buff to brown
948				17.0		
949				4.3		
950				4.3		
951				0.5	T T T	Marlstone - light gray, hard
952				0.5	T T T	
953				1.2	T T T	
954				1.2	T T T	
955	-210			0.5	T T T	
956				0.5	T T T	
957				0.3	T T T	
958				0.3	T T T	
959				2.9	T T T	
960				2.9	T T T	
961						Lost Sample
962						
963		.83		11.8		Oil Shale - medium grade, brown
964				11.8		
965	-220			21.3		
966				21.3		
967				8.0		
968				8.0		
969				4.3		
970				4.3		
971		.50.83		12.6		
972				12.6	+	972.56-.75 Sandstone layer,
973				14.3		oil saturated
974				14.3		
975	-230			1.8	T T T	Marlstone - light gray, hard
976				1.8	T T T	
977				1.6	T T T	
978				1.6	T T T	
979				17.1		
980				17.1		
981				30.0		Oil Shale - high grade, dark brown
982		.75		30.0		
983				15.7		
984		.16		15.7		
985	-240			2.4	T T T	Marlstone - light gray, hard
986				2.4	T T T	
987				4.5		
988				4.5		
989				8.0	+	989.58-990 Sandstone layer
990		.92		8.0		oil saturated
991				7.4		
992		.58		7.4		
993				5.2		Oil Shale - low grade,
994				5.2		buff to brown

WHITE RIVER SHALE PROJECT

HOLE: P-1

Depth	±MM	FRX	PP	0	Gal/ 50 Ton	Lith	Rock Description
995	-250				6.2		Oil Shale - low grade, buff
996			.33		6.2		
997			.63.92		5.5		
998					5.5		
999					4.7		
1000					4.7		
1001					0.4	TIT	Marlstone - light gray, hard
1002					0.4	TIT	
1003					1.5	TIT	
1004					1.5	TIT	
1005	-260				2.7	TIT	
1006					2.7	TIT	
1007					3.6		
1008					3.6		Oil Shale - low grade,
1009					4.6		buff to brown
1010					4.6		
1011					3.7		
1012					3.7		
1013					2.5	TIT	Marlstone - light gray, hard
1014					2.5	TIT	
1015	-270				4.8		Oil Shale - low grade,
1016					4.8		buff to brown
1017					7.3		
1018					7.3		
1019					3.4		
1020					3.4		
1021					2.4	TIT	Marlstone - light gray, hard
1022					2.4	TIT	
1023					0.3	TIT	
1024					0.3	TIT	
1025	-280				14.9		
1026					14.9		Oil Shale - low to medium grade,
1027					11.3		buff to brown, thinly laminated
1028					11.3		
1029					10.9		
1030					10.9		
1031					8.5		
1032					8.5		
1033							
1034							
1035	-290						
1036							Lost Core Zone
1037							
1038							
1039							
1040					5.1		Oil Shale - low grade, buff
1041					4.7		
1042		90°			4.7		
1043					9.7		
1044					9.7		

WHITE RIVER SHALE PROJECT

HULT: P-1

Depth	±MM	FRX	PP	0	Gal/ 50 Ton	Lith	Rock Description
1045	-300				19.7		Oil Shale - medium grade,
1046					19.7		brown, thinly laminated
1047					14.6		
1048					14.6		
1049					15.5		
1050					15.5		
1051					12.0		
1052					12.0		
1053					21.0		
1054					21.1		
1055	-310				12.1		
1056					12.1		
1057					4.8		
1058					4.8		
1059			.50.64		0.7	T T T	Marlstone - light gray, hard
1060			.08		0.7	T T T	
1061					5.2		
1062					5.2		Oil Shale - low grade,
1063			.16.83		7.5		buff to brown
1064					7.5		
1065	-320				5.1		Oil Shale - low grade, buff
1066					5.1		
1067					2.5	T T T	Marlstone - light gray, hard
1068			.25.50		2.5	T T T	
1069			.25.65		8.3		
1070					8.3		Oil Shale - low grade,
1071					9.8		buff to brown, thinly laminated
1072					9.8		
1073					9.9		
1074					9.9		
1075	-330				5.4		
1076					5.4		
1077					2.6	T T T	Marlstone - light gray, hard
1078					2.6	T T T	
1079					8.4		Oil Shale - low grade, buff to brown
1080					8.4		
1081					5.7		
1082					5.7		
1083			.50		1.5	T T T	Marlstone - light gray, hard
1084			.50		1.5	T T T	
1085	-340				0.4	T T T	
1086					0.4	T T T	
1087					0.9	T T T	
1088					0.9	T T T	
1089					5.4		
1090					5.4		Oil Shale - low grade,
1091					7.5		buff to brown
1092					7.5		
1093					1.7	T T T	Marlstone - light gray, hard
1094					1.7	T T T	

Depth	±MM	FRX	PP	0	Gal/ 50 Ton	Lith	Rock Description
1095	-350				4.2		
1096					4.2		Oil Shale - low grade, buff
1097					4.7		
1098			.33		4.7		
1099			.42		0.3	TIT	Marlstone - light gray, hard
1100			.16		0.3	TIT	
1101					0.0	TIT	
1102			.42		0.0	TIT	
1103					0.4	TIT	
1104					0.4	TIT	
1105	-360				3.6		
1106					3.6		Oil Shale - low grade, buff to brown
1107					6.8		
1108					6.8		
1109					3.6		
1110					3.6		
1111			.25.50		0.9	TIT	Marlstone - light gray, hard
1112			.16		0.9	TIT	
1113			.42.58		1.2	TIT	
1114			.00.33		1.2	TIT	
1115	-370				4.3		
1116					4.3		Oil Shale - low grade, buff
1117					4.1		
1118					4.1		
1119					2.8	TIT	Marlstone - light gray, hard
1120					2.8	TIT	
1121					1.8	TIT	
1122					1.8	TIT	
1123					0.2	TIT	
1124					0.2	TIT	
1125	-380				0.9	TIT	
1126			.83		0.9	TIT	
1127					8.5		Oil Shale - low grade, brown
1128					8.5		
1129					2.6	TIT	Marlstone - light gray, hard
1130					2.6	TIT	
1131					6.3		Oil Shale - low grade, brown
1132					6.3		
1133					2.8	TIT	Marlstone - light gray, hard
1134					2.8	TIT	
1135	-390				3.3		Oil Shale - low grade, buff
1136					3.3		
1137					2.3	TIT	Marlstone - light gray, hard
1138					2.3	TIT	
1139					7.1		
1140					7.1		Oil Shale - low to medium grade,
1141					9.7		buff to brown, thinly laminated
1142					9.7		
1143					3.1		
1144					3.1		

Depth	±MM	FRX	PP	0	50 Ton	Lith	Rock Description
1145	400				21.9		Oil Shale - medium grade, brown,
1146					21.9		thinly laminated
1147					2.5	TIT	Marlstone - light gray, hard
1148					2.5	TIT	
1149					1.0	TIT	
1150					1.0	TIT	
1151		90°			4.6		
1152					4.6		Oil Shale - low to medium grade,
1153					20.3		buff to brown, thinly laminated
1154			.50		20.3		
1155	410				3.1		
1156					3.1		
1157		90°			5.4		
1158					5.4		
1159					21.3		1159.50-.60 Sandstone layer,
1160					21.3		oil saturated
1161					19.2		
1162					19.2		Oil Shale - low to medium grade,
1163					6.7		buff to brown
1164					6.7		
1165	420				5.8		Oil Shale - low to medium grade,
1166					5.8		buff to brown, thinly laminated
1167					5.7		
1168		70°.50			5.7		
1169					11.8		
1170					11.8		
1171					11.5		
1172					11.5		
1173					11.8		1173.50-1176 Sandstone layer,
1174					11.8		some oil present
1175	430				5.4		
1176		.08			5.4		
1177					5.1		
1178		.50.75			5.1		Oil Shale - low to medium grade,
1179					8.5		buff to dark brown,
1180					8.5		thinly laminated
1181					11.6		
1182					11.6		
1183					5.8		
1184		.00			5.8		
1185	440				16.9		
1186					16.9		
1187					24.5		
1188					24.5		
1189					8.2		
1190		.00			8.2		
1191					13.3		
1192		.33			13.3		
1193		.33			14.0		
1194					14.0		

