

MERITAGE KCM EXPLORATION, LLC
1600 Broadway, Suite 1360
Denver, CO 80202

Kueser 27-43 Core Report

Location: Sec.27-19S-19E; N/2 NE SE, 2300' FSL,
660' FEL, Anderson County, Kansas

Surface Casing: 21' of 8.625" casing on 11-29-02

Date Drilled: Dec 2-4, 2002

Drilling Contractor: Layne Christensen Canada, Ltd. Rig #219

Core Bit: 6 1/2 "

Reamed: 7 7/8" Bit

Core Size: 3"

Surface Elevation: 1000'

Kelly Bushing: 1003'

Cored Interval: 411'-1166'; 755' total

411'-664': 253'; Ls, med. - drk gray; shale, lt-med gray, silty in part, laminated lt and drk (tidal laminations?) in part; ss, lt gray, very fine grained
664'-666.4': 2.4' Coal
666.4'-840.2': Ls, med-drk gray, fossiliferous in part; shale, med gray, silty; shale, dark gray, pyretic; ss, vfg, calcareous
840.2'-841.4': 1.2' Coal
841.4'-852': 10.6' Shale, lt. gray
852'-853': 1' Ls, med. gray, fossiliferous, Verdigris Ls,
853'-854': 1' Ls dark gray, organic
854'-855.2': 1.2' Shale, black
855.2'-855.9': 0.7' Coal
855.9'-876.6': Shale, lt greenish gray; shale, drk gray, a few lt gray laminations
876.6'-877.5': 0.9' Coal
877.5'-879.7': 2.2' Shale and ss, med. gray, bioturbated
879.7'-880.5': 0.8' ss, v.f.g., med. gray,
880.5'-885.4': 4.9' Shale, black, pyrite
885.4'-886.3': 0.9' Coal
886.3'-886.8': 0.5' Shale, lt. gray, very fine coal stringers, pieces of plant material in shale
886.8'-894': 7.2' Shale, lt.-med. Gray
894'-896': 2' Shale, lt. and dark gray, laminated
896'-899.5': 3.5' Shale, black
899.5'-901': 1.5' Coal and lt. gray shale, fault zone with slickensides
901'-921.7': Shale, med gray - black; minor ls, med gray
921.7'-922.6': 0.9' Coal
922.6'-1001': Shale, lt - med gray; shale, drk gray to black
998.5'-1001': 2.5' ss, lt. gray to tan, v.f.g., massive
1001'-1018.5': 17.5' ss, v.f.g., massive, lt. gray
1018.5'-1018.8': 0.3' Coal
1018.8'-1022.3': 3.5' Shale, lt. gray
1022.3'-1025.8': 3.5' ss, v.f.g., lt. gray
1025.8'-1028.8': 2.8' Shale, lt. med. Gray
1028.6'-1029': 0.4' Coal, pyrite
1029'-1045.4': 14' Shale, med. and dark gray
1045.4'-1046.2': 0.8' Coal
1046.2'-1050.2': 4' Shale, lt. gray, with one 1 1/2" black shale rip up clast
1050.2'-1059.4': 9.2' ss, v.f.g., lt. gray,
1059.4'-1059.6': 0.2' Coal
1059.6'-1064': 4.6' Shale, laminated in part, some soft sediment deformation
1064'-1065.9': 1.9' Coal
1065.9'-1073': 1' Shale, gray
1073'-1074.5': 1.5' Coal

1074.5'-1075.8': 1.3' Shale, lt. gray
1075.8'-1085': 8' Shale, dark gray, fissile, "hockey pucks,"
1085'-1086.2': 1.2' Coal
1086.2'-1118.6: Shale, drk gray, occasional laminations of lt gray shale
1118.6'-1121.3': 2.7' Coal
1121.3'-1123.8': 2.5' Shale, lt. gray
1123.8'-1124.9': 1.1' Coal
1124.9'-1126': 1.3' Shale, black
1126'-1126.9': 0.9' Coal
1126.9'-1129.6': Shale, black,
1129.6'-1130.3': 0.7' Coal
1130.3'-1160': Shale, drk gray to black
1160'-1166': 6' Mississippi Chat, conglomerate chert fragments in clay? Matrix