

SPOT LOG

DRILL HOLE: McGown #4
 PROP. OWNER: G. McGown
 DRILL CONTRACTOR: Carter Land & Cattle, Inc.
 DRILL OPERATOR: C. Kepley
 DATE STARTED: 6/21/79
 CASING LEFT IN HOLE: 43' of 7" surface casing, cemented in; no production casing

LOC: SE, SW, Sec. 3, T31S, R21E
 Labette County, Ks.

LOGGED BY: CR
 ELEV: 843' surveyed
 DATE COMPLETED: 6/22/79
 TOTAL DEPTH: 302'

BASE 47 - 57 - Limestone, calcareous, Medium dark to medium light
 FT. SCOTT 57 - 59 - Limestone, calcareous; trace shale; base of Ft. Scott Limestone @ 59'
 LS. 59 - 64 - Coal
 64 - 71 - Shale, gray, light to medium light
 71 - 77 - Shale, gray, light to medium light, very slightly silty
 77 - 144 - Shale, gray, dark color
 144 - 148 - Shale, gray; shale, black, calcareous
 148 - 162 - Shale, black, calcareous
 162 - 164 - Shale, gray, calcareous; trace limestone
 164 - top Verdigris Limestone
 164 - 167 - Limestone, calcareous, gray; shale, black, not calcareous
 167 - 172 - Limestone; shale, black, calcareous
 172 - 176 - Limestone; shale, black, calcareous
 176 - 180 - Shale, gray, not calcareous; limestone, calcareous
 180 - 183 - Shale, black 80%, not calcareous; shale, gray, not calcareous; trace limestone
 183 - 187 - Shale, gray and black, sandy
 187 - 194 - Shale, gray and black, sandy, slightly calcareous
 194 - 197 - Shale, gray and black, sandy, not calcareous
 197 - 203 - Shale, gray, sandy; shale, black 10%; very light oil odor
 203 - 207 - Shale, very sandy; no oil odor
 207 - 210 - Shale, gray and black, sandy; sand 60%; shale 40%; very slight odor
 210 - 213 - Shale, gray and black, sandy; sand 50%; shale 50%; very slight odor
 213 - 217 - Shale, sandy; sand 50%; shale, gray 50%; no oil odor
 217 - 223 - Shale, sandy; sand 50%; shale, gray 50%; very slight odor
 223 - 226 - Shale, gray, sandy 60%; sand 40%; very slight oil odor
 226 - 229 - Sandstone, slight oil odor
 229 - 233 - Sandstone, ash gray 20%; very slight oil odor
 233 - 252 - Sandstone, no oil odor
 252 - 255 - Shaley black sand, not calcareous; sand 80%; shale 20%
 255 - 258 - Shale, black, not calcareous; sand 10%
 258 - 262 - Shale, black; pyrite
 262 - 268 - Shale, gray 60%; shale, black 40%, not calcareous; clay
 268 - 272 - Shale, gray, not calcareous
 272 - 278 - Shale, gray and black, not calcareous
 278 - 281 - Shale, black 60%; shale gray 40%, not calcareous
 281 - 284 - Shale, gray and black
 284 - 287 - Shale, gray 80%, calcareous; shale, black 20%, not calcareous
 287 - 290 - Shale, gray, calcareous
 290 - 293 - Shale, gray, not calcareous
 293 - 299 - Shale, gray, not calcareous
 299 - 302 - Shale, black, not calcareous
 T.D. @ 302'