PIONEER OIL & GAS

ROCKY MOUNTAIN GEO-ENGINEERING CORP.

2450 Industrial Boulevard
Grand Junction, CO 81505 U.S.A.
(970) 243-3044

RECEIVED
NOV 27 1996
Div. of Minerals

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OPERATOR:	PIONEER	BEGIN DATE:	10/28/96
WELL:	MSU FEDERAL #27-44, ST#1	TD DATE:	11/14/96
LOCATION:	Sec 27, T23N, R58E	DATES LOGGED:	10/28/96 to 11/14/96
COUNTY:	WHITE PINE	DEPTHS LOGGED:	4806' - 9579'
STATE:	NEVADA	MUDLOGGERS:	PETER RECKS - KEVIN CAREY
SPOT:	330' FSL, 660' FEL	DRILLING FLUID:	GEL/POLYMER - WATER
ELEVATION:	6177' GL, 6193' KB	DRILLING RIG:	CARDINAL #40
FIELD:	MAVERICK SPRINGS UNIT		

LOG TYPE: MUD LOG

SCALE: 1:240 (5.0 INCH/100 FT)

REMARKS:
SIDETRACK #1 (COMMENCED SIDETRACK AT 2284')

LITHOLOGIES

COAL, SANDSTONE, SHALY SANDSTONE, SHALE, CARBONACEOUS SHALE, GRAY SHALE, SILTY SHALE, SILTSTONE, SHALY SILTSTONE, NO SAMPLE, UNABLE TO INTERPRET, DULL COAL, INTERMEDIATE COAL, NON COAL, CONGLOMERATE, DOLOMITE, ARGILLACEOUS DOLOMITE, CALCAREOUS DOLOMITE, CRYSTALLINE DOLOMITE, DOLOMITIC BOUNDSTONE, DOLOMITIC GRAINSTONE, DOLOMITIC MUDSTONE, DOLOMITIC PACKSTONE, DOLOMITIC WACKESTONE, GLACIAL TILL, GRANITE, GYPSUM, LIME BOUNDSTONE, LIME GRAINSTONE, LIME MUDSTONE, LIME PACKSTONE, LIME WACKESTONE, LIMESTONE, ARGILLACEOUS LIMESTONE, CRYSTALLINE LIMESTONE, DOLOMITIC LIMESTONE, MARL, DOLOMITIC MARL, METAMORPHIC, SALT, ANHYDRITE, BENTONITE, BRECCIA, BLACK SHALE, CHALK, COALY SHALE, COLORED SHALE, CHERT, DARK CHERT, CLAYSTONE, COLORED CLAYSTONE, TUFF, WELDED TUFF, VOLCANICS, BRIGHT COAL, GRAY CLAYSTONE, ALLUVIUM

MODIFIERS

ANHYDRITE STRINGERS, ALGAE LAMINATED, ALGAE NON-DESCRIPT, ALGAE OOIDS, ALGAE SKELETAL, AMPHIPORA, ANHYDRITIC, ARGILLACEOUS, ARGILLITE GRAIN, BELEMNITE, BENTONITE, BIOCLAST/FRAGMENTAL, BRACHIOPOD, BRECCIA, BRYOZOA, CALCAREOUS, CARBONACEOUS FLAKES, CEMENTING BITUMENOUS, CEPHALOPOD, CHERT, DARK, CHERT, LIGHT, CHERT TRIPOLITIC, COAL, CORAL, CRINOID, CRYSTALS, DOLOMITE STRINGERS, DOLOMITIC, ECHINOID, FELDSPAR, FERRUGINOUS, FERRUGINOUS GRAINS, FERRUGINOUS STRINGERS, FISH REMAINS, FORAMINIFERA, FOSSILS, FRACTURES, GASTROPOD, GLAUCONITE, GYPSIFEROUS, GYPSUM STRINGERS, HEAVY/DARK MINERALS, INTRACLASTS, KAOLIN, LIMESTONE STRINGERS, LIMONITE, MARLSTONE, CALCAREOUS, MARLSTONE, DOLOMITIC, MICACEOUS, NODULES, OOLITES, OSTRACOD, PEBBLES, PELECYPOD, PELLETS, PHOSPHATE PELLETS, PISOLITE, PLANT REMAINS, PYRITE, SALT CAST/INFILL, SAND GRAINS, SANDSTONE STRINGERS, SANDY, SCAPHOPOD, SHALE LAMINAE, SILICEOUS, SILTSTONE STRINGERS, SILTY, SLICKENSLIDE, SPORES, STROMATOPOROID, STYLOLITE, TUFFACEOUS

POROSITY/SORTING/ROUNDNESS SYMBOLS

INTERCRYSTALLINE INTERGRANULAR, VUGGY, FRACTURE, INTERCOLITIC, PINPOINT, ORGANIC, MOLDIC, EARTHY, FENESTRAL, ANGULAR, SUBANGULAR, ROUNDED, SUBROUNDED, WELL, MEDIUM, POOR

ENGINEERING SYMBOLS

BIT CHANGE, LOST CIRCULATION, CASING, CASING, SIDEWALL CORE, SIDEWALL CORE, WIRELINE TEST, WIRELINE TEST, GAS TO SURFACE, OIL TO SURFACE, WATER TO SURFACE, EVEN STAINING, SPOTTED STAINING, DEAD OIL, QUESTIONABLE, OIL SHOW, GAS SHOW, OIL AND GAS SHOW, CONNECTION GAS, TRIP GAS, MIDNIGHT DEPTH, MIDNIGHT DEPTH, CONNECTION, OFF BOTTOM, NORMAL FAULT, REVERSE FAULT, OVERTURNED STRATA

CORE RECOVERED, CORE LOST, DST INTERVAL, ROTATING, SLIDING, CANISTER

ABBREVIATIONS

CB - CORE BIT, CG - CONNECTION GAS, CO - CIRCULATE OUT, SPM - STROKES/MIN, DST - DRILL STEM TEST, DTG - DOWNTIME GAS, LAT - LOGGED AFTER TRIP, TG - TRIP GAS, NR - NO RETURNS, NS - NO SAMPLE, PP - PUMP PRESSURE, WOB - WEIGHT ON BIT, RPM - REVOLUTIONS/MIN, RR - RE-RUN, SLM - STEEL LINE MEASURE