TOOKE ENGINEERING

103-20005

P.O. BOX 3200
CASPER, WYOMING

COMPANY LEAMAN LAND TRUST
WELL ~~McD...~~ McDonnald # 2
SEC. 32 T. 52 N R. 3 W
COUNTY PIKE STATE MISSOURI
SUPERVISOR JEFF CARTER & DAN SARKOZY
UNIT T-56 DATE 7/7/83

RECEIVED 2659' S & 1766' E
JUL 28 1983
MO. OIL & GAS COUNCIL

PERMIT NO. 20,005
SPUD DATE 7-7-83
GRD ELEV 720'

Abbreviations	Lithology legend	
Wt.	LAT—Logged After Trip	SAND / SALT
Vis.	CO—Circulated Out	LIME / DOLOMITE
WL	NO—No Returns	SHALE / SILTSTONE
FC	DST—Drill Stem Test	LIME (CHERTY) / ANHYDRITE
pH	NB—New Bit	
Cl		

CHROMATOGRAPH MUD GAS ANALYSIS

Gas	Percent	/ Div.
Butanes	0.09%	20 UNITS
Propane	0.06%	20 UNITS
Ethane	0.06%	20 UNITS
Methane	0.10%	20 UNITS
Helium	0	Total Gas 20U/DIV

Mud Data Etc.	DRILLING RATE Min. / Ft.	LITHOLOGY % In Samples 75 50 25	% Fluo	Porosity TFG	Depth & Core Record	CUTTINGS Gas Analysis Formation Description	LITHOLOGICAL DESCRIPTION and other Pertinent Data

DRILL BIT RECORD
BIT NO 1 SEC F3 RR CUT 72 FT IN 5 HRS
BIT NO 2 STC F3 RR

TOOKE ENGINEERING COMMENCED 7/7/83
SET SURFACE CASING AT 72'
DRILLING AT 100'

CHROMATOGRAPH CALIBRATION
C1=184 UNITS=1%
C2=328 UNITS=1%
C3=304 UNITS=1%
IC4=240 UNITS=1%
NC4=192 UNITS=1%

DENOTES CONNECTION

TC_4 = 432 UNITS = 2%

NO GEOLOGRAPH PENETRATION RATE KEPT BY DRILLER ON 5' INTERVALS

DRILL RATE IN MIN / FT
1 2 3 4

	TC_4	C_3	C_2	C_1	C_T
PERCENT	.09	.06	.06	.1	
PPM	925	657	609	1086	
UNITS	20	20	20	20 60 100 140	20 60 100 140

NSFOC= NO STN FLOR ODOR OR CUT

RIG HANDS CATCHING UNLAGGED SAMPLES AT 10' INTERVALS

FRESH WATER GEL

Log annotations (by depth)

- FORMATION ORCHARD CREEK (258')
- FORMATION THEBES (300')
- FORMATION MAQUOKETA (312')
- 7/9/83 BIT INFORMATION NOT AVAILABLE
- FORMATION KIMMSWICK (400')
- BIT #3 CUT 182' IN 16 HRS
- 7/10/83
- FORMATION ST. PETER (666')
- FORMATION POWELL (766')
- FORMATION COTTER (925')
- 7/11/83
- FORMATION JEFFERSON CITY (1252')
- FORMATION ROUBIDOUX (1348')
- 7/12/83
- FORMATION GASCONADE (1532')
- LOST CIRC MIX MUD 7/13/83
- TD 1712
- TRIP FOR E LOGS
- UNABLE TO MAINTAIN CIRC.
- BIT #4 CUT 1163' IN 81 1/2 HRS

Gas curve notes: TRAP TEST; CARBIDE LAG 7 MIN B.U.; TRAP TEST; TRAP TEST; TRAP TEST; CARBIDE LAG 13 MIN. B.U.; TRAP TEST; TRAP TEST

Lithological Description

LS-WH TN M BRN MICXL-MICSPAR SL ARG FOS BRAC CRIN NSFOC TR CHT

LS-WH CRM MICXL MICSPAR FRM N ARG FOS NSFOC

CHT-WH LT BRN DNS HD

LS-GY M BRN MIC SPAR N ARG IN PT DOL FOS W/ CHT WH FOS W/DOL & CALC FRAC

LS-WH LT GY MICXLN SUC GRAN MAS VTT VLO POR V CALC ABNT FOS TR CRIN TR BRAC N CHT NO STN OR CUT

LS-WH LT GY MICXLN-MESXLN SUC MAS GRAN V CALC VTT VLO POR ABNT FOS TR PYR NO STN OR CUT

LS-WH LT GY BRN IN PT MICLXN SUC GRAN MAS VCALC VTT VLO POR ABNT FOS TR CRIN TR BRAC N CHT NO STN OR CT

DOL-GY-DK GY BRN MICXLN SLT MAS GRAN TT MODPOR SLT MNRL FLOR NO STN OR CUT

DOL-DK GY-DK BRN MICXLN MAS SLTY GRAN TT LO POR ABNT CHT MNR FOS SLT MNRL FLOR NO STN OR CUT

SH-BL-BLK BLKY WXY V SFT

SH-BL-BLK DK GY IP BLKY RTHY SDY IP SCAT FOS ABNT ORNG TO CLR CHT CALC BCM LMY VSFT BCM FIRM

SH-DK GY TO GY-GN BLKY RTHY SDY H CALC VSFT W/LS-LT GY TO BRN WH IP HARG VSDY ABNT FOS TR PYR ORNG CHT TT NSFOC

LS-BF TO LT BRN VSDY GRDG TO SS SCAT FOS (GRAPTOLITES) PYR IP P INTPTCL Ø NSFOC

LS-TAN TO BF DK BRN IP MICXL VSDY IP TR FOS OCC WH CHKY SCAT QTZ NOD PINTPTCL Ø NSFOC

LS-BF TO MGY MICXL VSDY IP DOL TR WH CHKY TR FOS SCAT QTZ NOD PINTPTCL Ø NSFOC

DOL-MGY TO BRN MICXL VSDY ARG IP TR FOS VLMY GRDG TO LS PINTCL Ø NSFOC

LS-CLR WH LT GY MICXLN MESXLN GRAN MAS SUC VTT VLO POR TR FOS TR BRAC MNR CHT NFSOC

LS-CLR WH MLKY IN PT MICXLN GRAN MAS SUC-GRY VTT VHD LO POR TR FOS MNR CHT ABNT PYR NFSOC

LS-CLR WH CHKY MLKY IN PT LO POR TR FOS MNR YEL CHT N PYR DOL IN PT NFSOC

LS-CLR WH CHKY MLKY IN PT MICXL MESXLN GRAN MAS SUC VTT VLO POR TR DOL TR FOS TR BRAC NFSOC

LS-CLR WH LT GY CLHY MLKY MICXLN GRAN SFT FRIA TT ABNT FOS TR BRAC TR CRIN TR BENT PP MNRL FLOR NO STN OR CUT

LS-CLR WH CHKY MLKY MICXLN MESXLN SFT FRIA ARIG IN PT SLTY IN PT TT V CALC PR POR ABNT FOS MNR CHT MNRL FLOR NSOC

LS-CLR WH CHKY MLKY IN PT MICXL MESXL GRAN MAS ARIG IN PT ABNT FOS TT PR MNR CHT ABNT MNRL FLOR TR OIL FLOR SLT STN/CUT

LS-TAN TO MBR TRNSL LT TO MGY IP MICXL TO SUC SDY IP TR PYR SCAT FOS P INT PTCL Ø NSFOC

LS-TAN TO DK BRN SUC MICXL IP SDY IP SCAT FOS TT DNS NSFOC

LS-TAN TO MBRN MICXL VSDY IP ABNT CHT TT SCAT FOS DNS TR O STN NFOC

LS-TRNSL BRN TO TAN DK TO MGY MICXL HARG VSDY GRDG TO SS SCAT CHT SCAT FOS TR PYR TT DNS NSFOC

SS-BRN TRNSL QTZ V FGR SBRD MSRT V LMY GRDG TO LS H CALC HD TT NSFOC W/DK BRN TRNSL SUC DOL

LS-BRN TRNSL TO CHK TAN HARG VSDY MICXL TT DNS NSFOC W/DOL-LT TO M BRN TRNSL MICXL TT DNS NSFOC

SS-CLR TO WH QTZ M TO CGR WRD ABNT GR FROS WSRT VSL CALC HFRI EXCELLENT Ø NSFOC

SS-CLR QTZ F TO CGR WRD SCAT GR FROS WSRT VSLCALC H FRI EXCELLENT Ø NSFOC

SS-CLR QTZ F TO CGR WRD SCAT GR FROS WSRT VSLCALC H FRI EXCELLENT Ø NSFOC

SS-CLR QTZ F TO CGR WRD SCAT GR FROS WSRT SLCALC HFRI EXCELLENT Ø NSFOC

SS-CLR QTZ F TO CGR WRD SCAT GR FROS WSRT SLCALC HFRI EXCELLENT Ø NSFOC

LS-PAL GN TO TAN WH CHKY MICXL VSDY DOL IP TT DNS NFSOC W/ GN BLKY RTHY VSDY NCALC SFT

DOL-TAN TO WH MICXL VSDY IP TT DNS NFSOC W/SH DK TO PALE GN BLKY RTHY SDY NCALC SFT

DOL-CLR MLKY WH MICXLN GRAN MAS GRY TT DNS LO POR TR CHT MNR FOS MNRL FLOR SLT STN SLT OIL FLOR STRMG CUT

DOL-CLR MLKY WH DK MICXLN GRAN MAS GRY SLTY TT DNS LO POR TR CHT MNR FOS SLT STN SLT OIL FLOR STRMG CUT

DOL-CLR MLKY WH MICXLN MESXLN GRAN MAS SUC TT DNS MOD POR TR CHT ABNT FOS TR OOL MNRL FLOR SLT OIL FLOR/STN MLKY CUT

DOL-CLR MLKY WH MICXLN GRAN MAS SDY SLTY VTT DNS LO POR TR FOS SLT MNRL FLOR NO STN OR CUT

DOL-CLR MLKY WH MICXL MESXLN GRAN MAS SDY SUC MOD POR N FOS TR CHT TR PYR SLT OIL FLOR/STN SLT MLKY CUT

DOL-CLR WH LT GY BRN IP MICXLN GRAN MAS GRY LO POR N FOS TR PYR SLT MNRL FLOR NO STN OR CUT

DOL-WH LT GY MICXLN GRAN MAS GRY LO POR N FOS TR CHT SLT MNRL FLOR NO STN OR CUT

DOL-WH LT GY MICXLN GRAN MAS GRANY SFT FRIA TR CHT TT DNS LO POR SLT MNRL FLOR NO STN OR CUT

DOL-WH LT GY LT BRN MICXLN GRAN MAS GRY SFT FRIA IN PT ABNT CHT VTT VLO POR DNS SLTY IN PT NO FOS ABNT MNRL FLOR NO STN OR CUT

DOL-CLR MLKY WH MICXLN GRAN MAS GRY MNR CHT MNR PYR TT LO POR VSLTY IN PT GD MNRL FLOR NO STN OR CUT

DOL-WH TO LT TAN LT GY MICXL VCHTY W/ ABNT OOL TR GY-GN SCAT PYR TT DNS YEL MIN FLOR NSOC

SS-WH TO CLR WRD FGR SLCALC NSFOC

SH-GN TO MGY BLKY RTHY VSLTY GRDG TO SLST VSDY IP CALC FIRM W/DOL LT TAN TO PALE GN MICXL SCAT PYR TT DNS YEL MIN FLOR NSOC

DOL-LT TAN TO PALE GY BRN IP MICXL VSDY IP SCAT PYR TT DNS YEL MIN FLOR NSOC

CHT-CHK WH TO TRNSL GY CLR IP TR PYR

DOL-MBRN TO LT TAN MICXL TT DNS YEL MIN FLOR NSOC V SDY GRDG TO CLR QTZ SS

DOL-LT CRM TAN CHK WH IP MICXL ABNT CHT VSDY TR PYR TT DNS YEL MIN FLOR NSOC W/WH TO CLR SS ORNG TINT WRD VFGR NSFOC

SS-WH TO CLR QTZ WRD FGR SLCALC FIRM TT NSFOC

DOL-LT CRM TAN CHK WH IP MICXL SCAT CHT TT DNS YEL MIN FLOR NSOC

DOL-LT TAN TO GY CHK WH IP MICXL SCAT CHT VLMY TT DNS YEL MIN FLOR NSOC

SH-GY GN TO GN BLKY RTHY VSLTY GRDG TO SLST NCALC SFT

DOL-LT GY TO WH TR TAN MICXL ABNT CHT TR PYR TT DNS DULL YEL FLOR NSOC W/SH GY BLKY RTHY N CALC SFT

DOL-LT GY TO WH TR TAN MICXL TR CHT TR PYR VLMY TT DNS DULL YEL MIN FLOR NSOC

DOL-WH CLR MLKY MICXLN GRAN MAS GRY TR CHT TR OOL TR FOS HD TT DNS LO POR SLT MNRL FLOR NO STN OR CUT

DOL-WH LT GY MLKY MICXLN GRAN MAS GRANY SUC TR PYR TR OOL TR FOS HD TT DNS LO POR SLT MNRL FLOR NO STN OR CUT

DOL-CLR MLKY WH MICXLN GRAN MAS GRY SUC FRIA ARIG IN PT TR CHT TR PYR HD TT LO POR SLT MNRL FLOR NO STN OR CUT

DOL-LT BRN BRN MICXLN GRAN MAS GRY ARIG IN PT TT DNS TR CHT TR FOS LO POR V SLT MNRL FLOR NO STN OR CUT

DOL-LT BRN BRN MICXLN GRAN MAS GRY SUC ARIG IN PT VSDY GRY CRS TO MED GR FUSD VTT LO POR DNS COM MNRL FLOR NO STN OR CUT

DOL-CLR GY LT BRN MICXLN GRAN MAS GRY IN PT ARIG SLTY TR CHT TR OOL TT DNS LO POR HD MNR MNRL FLOR NO STN OR CUT

DOL-MBRN TO TAN GY TINT MICXL VSDY IP ABNT CHT SCAT PYR TT DNS DULL YEL MIN FLOR NSOC W/SS CLR QTZ WRD WSRT SLCALC FIRM TT NSFOC

DOL-LT TO TRNSL GY TAN IP MICXL VSDY ABNT CHT TR PYR TT DNS BRI YEL MIN FLOR NSOC W/CHT WH TO CLR SMK GY

SS-CLR TO TAN QTZ VF TO MGR WRD PSRT VSLTY CALC FRI TR Ø NSFOC W/DOL-CLR TO LT TAN MESXL VSDY ABNT OOL CHT TR PYR TR VUG Ø BRI YEL MIN FLOR NSOC

DOL-TAN TO WH MESXL SDY SCAT CHT TR PYR TR VUG Ø BRI YEL MIN FLOR NSOC

DOL-WH TO TRNSL TAN CLR IP MICXL VSDY GRDG TO SS TR OOL CHT OCC ABNT CHT TR PYR PINTXL Ø BRI YEL-WH FLOR NSOC

DOL-WH TO TRNSL TAN CHKY MICXL INCR SDY ABNT CHT VLMY IP TR PYR P INTXL Ø BRI YEL-WH MIN FLOR NSOC

DOL-WH TO TRNSL TAN CHKY MICXL VSDY ABNT CHT VLMY IP TR PYR PINTXL Ø BRI YEL-WH MIN FLOR NSOC

DOL-TAN TO TRNSL WH VCHKY MICXL SDY ABNT CRM WH TO SMK GY CHT TR PYR PINTXL Ø BRI YEL WH MIN FLOR NSOC

DOL-WH CLR MLKY MICXLN GRAN MAS SUC GRY VSLTY ARIG IN PT VTT HD DNS LO POR TR-ABNT CHT TR FOS SLT MNRL FLOR NO STN OR CUT

DOL-WH CLR MLKY MICXLN GRAN MAS SUC GRY VSLTY ARIG HD TT DNS LO POR ABNT CHT TR FOS SLT MNRL FLOR NO STN OR CUT

DOL-WH CLR LT GY MICXLN GRAN MAS GRY VSLTY ARIG VTT HD DNS LO POR TR CHT N FOS COM MNRL FLOR NO STN OR CUT

DOL-CLR WH LT BRN MICXLN MAS GRY GRAN VSLTY HD ARIG TT DNS LO POR TR N FOS POS SPIC COM MNRL FLOR NO STN-CUT

DOL-WH LT GY MLKY MICXLN GRAN MAS GRY ABNT CHT TR SPIC VSLTY IN PT VTT ARIG HD MNR MNRL FLOR NO STN OR CUT

DOL-WH LT GY MLKY MICXLN GRAN MAS GRY ABNT CHT TR FOS VSLTY IN PT VTT VHD DNS MNR MNRL FLOR NO STN OR CUT

DOL-WH CLR MLKY MICXLN GRAN MAS GRY NO CHT VSLTY VSDY VTT HD DNS LO POR MNRL FLOR NO STN OR CUT

DOL-CLR MLKY WH LT GY MICXLN GRAN MAS SUC-GRY NO CHT VSLTY-SDY VTT HD DNS VLO POR SLT YEL MNRL FLOR NO STN OR CUT

DOL-CLR WH LT GY CRMY MLKY MICXL GRAN MAS GRY MNR VSLTY TT HD DNS LO POR SLT MNRL FLOR NO STN OR CUT

DOL-WH TO CLR LT TAN MESXL ABNT CRM TO GY CHT W/CALC FRAC FL TR FOS ABNT DOL RHOMB PINTXL Ø YEL-WH MIN FLOR NSOC

DOL-WH TO CLR LT GY MESXL ABNT CRM TO LT GY CHT W/ CALC FRAC FL ABNT DOL RHOMB PINTXL Ø YEL-WH MIN FLOR NSOC

DOL-TRNSL GY TO LT TAN MESXL ABNT SMK GY CHT ABNT CALC FRAC FL ABNT DOL RHOMB PINTXL Ø YEL-WH MIN FLOR NSOC

DOL-TRNSL GY TO LT TAN CHTY ABNT PYR & CALC FRAC FL P INTXL Ø MIN F NSOC

Well summary

DRILLERS DEPTH 1712'
OPERATOR LEAMAN LAND TRUST
CONTRACTOR D.W. WHEELER
COMPANY MAN BUD HAROLD
TOOLPUSHER DON WHEELER
MUDLOGGING TOOKE ENGINEERING
WELL-SITE GEOLOGISTS JEFF CARTER & DAN SARKOZY
WELL NAME McDANIEL #2

UNIT RELEASED BEFORE ELECTRIC LOGS

THANK YOU!
IT HAS BEEN OUR PLEASURE SERVING YOU
JEFFERY R. CARTER
&
DANIEL SARKOZY