



ROCKY MOUNTAIN GEO-ENGINEERING CO.

WELL SITE GEOLOGY -- MUD LOGGING

2450 INDUSTRIAL BLVD

PHONE (303) 243-3044

GRAND JUNCTION, COLORADO 81505

COMPANY BLACKWOOD & NICHOLS CO.

LOCATION Sec 19 TWP 31N RNG 3W

WELL NEBU NO. 436

COUNTY SAN JUAN

FIELD N.E. BLANCO UNIT

STATE NEW MEXICO

ELEVATION 6338' UnG

DRILLING FLUID FRESH WATER

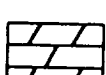
FROM TO
DEPTH LOGGED 2990' 3284'

DATE LOGGED 12/27/89 12/28/89

ENGINEERS
R.L. MOORE DON EALY



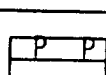
SHALE



DOLOMITE



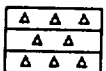
COAL



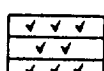
PYRITE



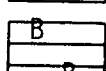
SANDSTONE



CHERT



ANHY-GYP



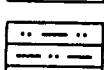
BENTONITE



LIMESTONE



SALT



SILTSTONE

DTG - DOWN TIME GAS
DST - DRILL STEM TEST
SLM - STEEL LINE MEAS.
LAT - LOGGED AFTER TRIP
WOB - WEIGHT ON BIT
RPM - REVOLUTIONS/MIN.
SPM - STROKES/MIN.
PP - PUMP PRESSURE
O - DEVIATION

TG - TRIP GAS
CG - CONNECTION GAS
NB - NEW BIT
NR - NO RETURNS
CO - CIRCULATE OUT
NS - NO SAMPLE
RR - RERUN
CB - CORE BIT
O - SHOW REPORT

DRILLING RATE IN
MIN/ 2'

LITHOLOGY

INTER-
PRETIVE

DEPTH

PERCENT
AGE

OIL
SHOW

T F G

CHROMATOGRAPH HYDROCARBONS IN PPM

M=1000 PPM

REMARKS

WT VIS WL CKE PH

2.5

5

7.5

10

100

600

1100

1600

6600

11600

5M

300

DRILLED OUT WITH BIT
6% SIC FDI

DRILL RATE PRIOR TO 2984
geolograph inoperative

WOB BN
PP 800
RPM 73
SPM

2.5 7.5 10

geolograph inoperative

2.5 5 7.5 10

W.D. 3284'

PLEASE NOTE DRLG FLOAT @ 2945'

CO2

5%

TRAP TEST

UNABLE TO OBTAIN GOOD GAS READING
ADVISED LOCATION ENGINEER OF
NEED OF ALTERNATE MEANS TO COLLECT
NO ALTERATIONS MADE

UNABLE TO OBTAIN SAMPLE FOR CAN
SAMPLE SMALLER THAN 100 MESH SCREEN

PLEASE NOTE MADE ALTERNATE MEANS
OF COLLECTING GAS SAMPLES

UNABLE TO MAINTAIN ALTERNATE
MEANS OF COLLECTING GAS SAMPLES
DUE TO FREEZING RETURNED TO
PRIOR MEANS OF COLLECTING GAS
SAMPLES

UNABLE TO OBTAIN CAN SAMPLE DUE TO
CONTINUAL C.O.

RECEIVED

JAN 2 1990

CON. D
DIST

PLEASE NOTE POSSIBLE SHOE @
2998'

PLEASE NOTE NO SAMPLE

COAL- blk brit blkly slty tx
to sooty

NO SAMPLE IN SAMPLE BOX

SS- lt bn to lt gy sft to v
fri vf to vvfg ang w to fr
srt w to fr cmt w/ sli calc
mas cly mtx gd v dull gld
min flor no cut

PLEASE NOTE NO SAMPLE IN
SAMPLE BOX

SS-a/a

SLT- dk bn gy bn sft to sli
fri mas to sbblky sli aren
sli calc carb

SH- blk to dk gy sft to sli
frm sbblky to plty carb ip
slty to v slty mica n to sli
calc occ sdy

PLEASE NOTE NO SAMPLE IN
SAMPLE BOX

PLEASE NOTE NO SAMPLE IN
SMPL BOX

COAL- blk brit plty slty to
slky tx occ vit abnt coal
dust in spls

SS- fros to occ clr pred un-
cons vf to fg sbang to sbdd
to rd w/ lse sh & coal part

SH- m to dk bn to gybn sft to
brit sbblky to plty slty tx
calc ip m to v carb

COAL- blk sft plty slky to
sooty ip occ vit mdo to varg
ip

SS- fros to clr pred uncons
fg ang to sbang to sbdd abnt
lse lt gn sh part glauc, chlo
& carb part

SS- a/a & bcmg cons ip fr to
wsrt wcmw w/ mas cly mtx calc
cmt tt nsofc

SS- a/a & sli to mod arg w/
occ lt gn sh incl occ glauc &
chlor incl tt nsofc

SS- m bn fri to sft vf to vvf
g ang to rdd lse gn to wsrt pr
to fr cmt mod to v arg to cly
mtx

COAL- blk sft to brit plty
to blkly slty to wxy tx v arg
grdg to v carb sh abnt dust
in spls

SS- fros to lt gy sft to lse
gn ang to sbang to rdd frmct
pr srt w/ sli to mod cly mtx
tt nsofc occ lt gn sh incl &
free carb part