

**BEREXCO, LLC.  
COOLEY B # 21  
NWNWNE SECTION 17 9S-21W  
GRAHAM COUNTY, KANSAS**

**GEOLOGIST  
WILLIAM B. BYNOG**

COOLEY B # 21 SAMPLE DESCRIPTIONS  
BEREDCO DRILLING RIG 10 DRILLING 7 7/8 HOLE

ANHYDRITE 1760(+512) S  
1760(+512) L

BASE 1795(+477) S  
1795(+477) L

SAMPLE DESCRIPTIONS

3100-3200 SHALE gray,firm,silty

3200-30 LIMESTONE gray buff,hard,fossils, dirty,silty,poor porosity,no shows

TOPEKA

3231-56 LIMESTONE buff,gray,firm,fossils, slightly chalky,poor to fair porosity,no shows

35' TOPEKA

3256-80 LIMESTONE buff,hard,dirty,poor porosity,no shows with thin SHALE as above

3280-90 LIMESTONE buff,firm,very fossils,slightly chalky,fair intergranular porosity,no shows

## COOLEY B # 21 SAMPLE DESCRIPTIONS

3290-10 SHALE gray,red,green,some black,fissile

3310-36 LIMESTONE buff,hard,fossils,dirty, poor porosity,no shows

3336-50 SHALE as above

3350-72 LIMESTONE buff,hard,micxln,no shows

PLATTSMOUTH

3372-3406 LIMESTONE buff,firm,very fossils,good intergranular porosity,no shows with very thin  
LIMESTONE brown,very hard,dense

3390-3406 LIMESTONE as above very fossils,fair porosity,no shows

3406-18 SHALE black,green,red,firm,fissile

3418-26 LIMESTONE light brown,very hard,dense

HEEBNER

3426-30 SHALE black,firm,fissile,carbonaceous

3430-36 LIMESTONE light brown,buff,very hard, dense

## COOLEY B # 21 SAMPLE DESCRIPTIONS

3436-50 SHALE gray,green,firm,argillaceous

TORONTO

3450-60 LIMESTONE buff,very hard,dense,no shows

3460-70 SHALE red,very soft,very argillaceous

LANSING A

3470-75 LIMESTONE white,firm,chalky,poor porosity,no shows,abundant Chert white

3475-94 LIMESTONE white,buff,very hard, dense,no shows

3494-3500 LIMESTONE white,firm,fossils, slightly chalky,poor intg porosity,very spotty faint brown stain,poor cut

3500-08 SHALE red,green,soft,argillaceous

B ZONE

3508-13 LIMESTONE buff,firm,very oolitic,fair to good intg and moldic porosity,spotty to even live brown stain,good cut and odor,no free oil

3513-20 LIMESTONE buff,very hard,dense,

## COOLEY B # 21 SAMPLE DESCRIPTIONS

3520-32 SHALE red,very soft,argillaceous

C ZONE

3532-40 LIMESTONE buff,very hard,dense,

E ZONE

3540-50 LIMESTONE white,buff,hard,slightly oolitic,poor vuggy porosity,very spotty black asphalt oil,good cut

3550-64 LIMESTONE buff,very hard,dense, with very thin SHALE as above

G ZONE

3564-70 LIMESTONE white,firm,very chalky, slightly sandy,poor visible porosity,no shows

3570-80 LIMESTONE buff,very hard,dense,as above

3580-3602 LIMESTONE gray,very hard,very dense, abundant Chert gray thin SHALE as above

H ZONE

3602-16 LIMESTONE buff,very hard,dense,poor porosity,trace black dead stain,poor cut

3616-24 SHALE green,firm,waxy

## COOLEY B # 21 SAMPLE DESCRIPTIONS

### I ZONE

3624-30 LIMESTONE buff,firm,oolitic, poor to fair intg and crystalline porosity,spotty live brown stain,good cut and odor,fair show free oil

3634-38 LIMESTONE very dense,as above and SHALE as above

### J ZONE

3638-56 LIMESTONE buff,very hard,dense,no shows, abundant Chert white,orange with thin SHALE as above

### K ZONE

3656-60 LIMESTONE white,firm,oolitic,slightly chalky,poor to fair intg porosity,spotty live brown stain,good cut and odor,fair show free oil

3660-70 LIMESTONE buff,very hard,dense,no shows

3670-3710 SHALE gray,green,red,soft,argillaceous

### MARMATON

3710-24 LIMESTONE white,firm,chalky, sandy,poor porosity,spotty dead black stain

3724-34 SHALE as above

COOLEY B # 21 SAMPLE DESCRIPTIONS

3734-40 LIMESTONE buff,very hard,dense,no shows

3740-50 SHALE maroon,green,ble,firm,fissile

3750-69 LIMESTONE white,firm,sandy,very chalky,poor porosity,no shows

ARBUCKLE

3769-73 DOLOMITE buff,slightly hard,micsuc texture,gd crystalline and vuggy porosity,even brown live stain,very good cut and odor,very good show free oil

3773-78 DOLOMITE buff,firm,micsuc texture, good intxln and vuggy porosity,even stain,very good cut and odor,gsfo

3778-87 DOLOMITE buff,hard,micxln,poor to fair porosity,spotty to even brown stain,good cut and odor,abundant Chert white,translucent

3778-90 DOLOMITE buff,soft,micsuc texture, crse crystalline,good intxln and vuggy porosity, even brown stain,very good cut and odor,very good show free oil

3790-3806 DOLOMITE as above slightly hard,micsuc,fair to good porosity,spotty stain,good cut and odor,fair show free oil

3806-56 DOLOMITE buff,very hard,dense,no shows, abundant Chert white,translucent

3856-67 DOLOMITE buff,firm,micsuc, sandy in part,good porosity,no shows

COOLEY B # 21 SAMPLE DESCRIPTIONS

RTD 3867'

LTD 3870'