

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other in-
structions on
reverse side)Form approved.
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other _____

b. TYPE OF COMPLETION:

NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other _____

2. NAME OF OPERATOR

Energy Reserves Group, Inc.

3. ADDRESS OF OPERATOR

P.O. Box 2380 - Casper, Wyoming 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)

At surface 1,835' FSL & 1,120' FWL (NW/SW)

At top prod. interval reported below

At total depth

14. PERMIT NO.

DATE ISSUED

15. DATE SPUDDED

2-23-81

16. DATE T.D. REACHED

3-02-81

17. DATE COMPL. (Ready to prod.)

4-09-81

18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*

G.L. 5,540' K.B. 5,552'

19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD

6,165' K.B.

21. PLUG, BACK T.D., MD & TVD

6,121' K.B.

22. IF MULTIPLE COMPL.,
HOW MANY*

NA

23. INTERVALS

ROTARY TOOLS

CABLE TOOLS

10-6,165'

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

Dakota 5,939'-6,061' K.B.

25. WAS DIRECTIONAL
SURVEY MADE

NO

26. TYPE ELECTRIC AND OTHER LOGS RUN

Dual Induction Laterolog - Compensated Density Compensated Neutron Log

27. WAS WELL CORED

NO

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8-5/8"	24#	338' KB	12-1/4"	225 sx "B" + 2% CaCl ₂	-0-
				& 1/4# Flocele/sx	
4-1/2"	10.5#	6,163' KB	7-7/8"	See Back of Page	-0-

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2-3/8"	6,061' KB	None

30. TUBING RECORD

31. PERFORATION RECORD (Interval, size and number)

5,939'-40' 6,051'-53'
5,962'-64' 6,059'-61'
6,005'-10'
6,027'-31' (1 JSPF 27 perfs)
6,033'-37'

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5,939'-6,061'	Broke down w/1000 gal 7 1/2% "Spear-head acid + 40 ball sealers. Frac' 60,000 gal 70% Quality Foam w/ 49,000# 20-40 sand.

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
		SI

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
4-9-81	24	16/64"	→	10	1057	0	105,700
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
700	750	→	10	1057	0	54.7	

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

VENTED DURING TEST

TEST WITNESSED BY

T.C. DURHAM

35. LIST OF ATTACHMENTS

SAMPLE DESCRIPTION ATTACHED

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Samuel L. [Signature]

TITLE Production Engineer - RMD

DATE 4-16-81
FARMINGTON DISTRICTBY RE

*(See Instructions and Spaces for Additional Data on Reverse Side)

NMOCC

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sack's Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES:

SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	MEAS. DEPTH	TRUE VERT. DEPTH
			SAMPLE DESCRIPTION ATTACHED Continued from front: 4-1/2" casing cementing - 1st stage -350 sx "G" w/10% Salt. 2nd stage -475 sx 50-50 Pozmix w/2% Gel & 1/4# Celloflake/sx. 3rd stage -550 sx of 50-50 Pozmix w/2% Gel & 1/4# Celloflake/sx. Stage Collars @ 4,205' & 1,662'.	LOG TOPS <u>Kirtland</u> Fruitland Pictured Cliffs Lewis Cliffhouse Menefee Point Lookout Mancos Gallup Greenhorn Graneros Dakota TD Logger TD Driller	<u>Surface</u> 995' 1,331' 1,583' 2,900' 3,049' 3,862' 4,153' 5,072' 5,822' 5,890' 5,935' 6,137' 6,165'	

SAMPLE DESCRIPTION

1300-10 10% Ss: wht-lt gry, fn-g, sbang, clyflld, calc, firm,
 tite, N-S
 90% Sh: gry-blk, carb, plty, sl, calc, firm

10-20 30% Ss: lt gry-wht, fn-g, sbang, ark, mod clyfl1,
 calc, firm, sl porous, N-S
 70% Sh: AA

20-30 20% Ss: AA
 80% Sh: lt gry-brn, blk, soft, sl calc

30-40 10% Ss: AA
 90% Sh: AA

40-50 100% Sh: AA
 Trace Ss: AA

50-60 20% Ss: Wht, fn-vfn-g, sbrnd, vy clyflld, vy calc,
 firm, tite, N-S
 80% Sh: gry-drk gry, blk, sme carb, sme soft and
 clayey, sme firm

60-1450 90% Ss: wht, fn-g, sbang, arkosic, sl clyfl1, calc,
 firm, sme shale incl, sl porous, N-S
 10% Sh: AA

1450-1510 80% Ss: gry, vfn-g, sbrnd, sl shly, mod clyfl1, firm,
 calc, ark, probably tite, N-S
 20% Sh: gry-lt gry, clyey, soft

1510-50 10% Ss: AA
 90% Sh: AA

 Sample Break

2900-10 10% Ss: lt-md g, f-g, sbrnd, carb incl, firm, sl calc
 80% Sh: lt dk brn, blk, mod-vy slty, soft
 10% Clyst: wht, lt grn, blk-plty, vy sft

2910-20 10% Ss: AA
 90% Sh: AA
 Trace Clyst: wht, plty, vy soft

2920-30 30% Ss: lt gry, vf-g, sbrnd, carb incl, firm, vy calc
 70% Sh: AA



2930-40 10% Ss: AA
 10% Sh: AA
 20% Clyst: wht-cream, blk, vy sft w/calc. incl.

2940-50 80% Sh: lt brn, dk brwn, blk, mod-vy slty, sme carb
 incl, soft-firm
 20% Clyst: wht, blk, vy sft

2950-60 10% Ss: lt gry, vf-g, sbrnd, carb incl, sl clyfll,
 soft
 80% Sh: AA
 10% Clyst: AA

2960-70 100% Sh: AA w/grnsh gry, blk, f-g
 Tract Clyst: AA
 Trace Chert: pink, cs-xln, sbrnd, loose, hard

2970-80 90% Sh: AA w/sme brwn, plty, soft
 10% Clyst: AA

2980-90 80% Sh: AA w/lg carb frags
 10% Clyst: AA
 10% Coal: blk, vitr, soft, sl shly

2990-3000 80% Sh: AA
 10% Clyst: AA
 10% Coal: AA

3000-10 70% Sh: AA w/sme carb frags
 20% Clyst: AA
 10% Coal: blk, vitr, blk, soft

3010-20 80% Sh: AA
 20% Clyst: AA w/sme vy sm carb frags
 Trace Coal: AA

3020-30 10% Ss: wht, vy lt gry, f-g, sbrnd, vy clyfll, sme
 glauc, vy soft, mod calc
 70% Sh: AA
 10% Clyst: AA

3030-40 90% Sh: lt-dk brn, grn, blk-plty, sme sl. slty, sme
 carb frags, soft
 10% Clyst: AA

3040-50 100% Sh: AA
 Trace Clyst: AA

3050-60 10% Ss: lt gry, f-g, sbrnd, vy clyfll, soft
 60% Sh: AA
 10% Clyst: AA
 20% Coal: AA

3060-70 80% Sh: AA
 20% Coal: AA
 Trace Clyst: AA

3200-10	NS
3210-20	70% Sh: AA 20% Clyst: AA 10% Coal: AA
3220-30	10% Sh: AA w/mstly lt grn, 90% Coal: blk, vitr, blk, soft-firm Trace Clyst: AA
3230-40	50% Sh: grnsh gry, lt-dk brn, sme sm carb frags, soft 20% Clyst: AA 30% Coal: AA
3240-50	10% Ss: lt gry-wht, f-g, sbrnd, sl-vy clyflld, sme glauc, sme carb incl, vy soft, tite 30% Sh: AA 60% Coal: AA
3250-60	70% Sh: grnsh gry, md brn, plty-blky, carb frags, sl. slty, soft 10% Clyst: AA 20% Coal: AA
3260-70	NS
3270-80	70% Sh: AA 10% Clyst: AA 20% Coal: vy dk brn-blk, blk-sbang, soft, vy shly
3280-90	70% Sh: AA w/mstly grnsh gry 10% Clyst: AA 20% Coal: blk, vitr, blk, soft
3290-3300	80% Sh: grysh brn, grnsh gry, plty-blky, sme carb incl, sl-mod slty, soft 20% Coal: AA Trace Clyst: AA
3300-10	10% Ss: lt gry, vf-g, sbrnd, sl. clyflld, firm, vy calc 70% Sh: AA 20% Coal: AA
3310-20	10% Ss: AA 60% Sh: AA w/mstly grnsh gry 10% Clyst: AA 20% Coal: AA
3320-30	70% Sh: grnsh gry, rddsh brn, brn; blk-plty, sl slty, occ. carb frags, soft 10% Clyst: AA 20% Coal: AA

3330-40	60% Sh: AA 20% Clyst: AA 20% Coal: AA
3340-50	90% Sh: AA 10% Clyst: AA
3350-60	90% Sh: AA 10% Clyst: AA Trace Calcite: wht, transl, cs-xln, vy calc.
3360-70	Ns.
3370-80	80% Sh: gry, brn, rddsh brn, grn, blk-y-plty, carb incl, sme sl-mod slty, soft 10% Clyst: AA 10% Coal: AA
3380-90	70% Sh: AA 20% Clyst: AA 10% Coal: AA Trace Calcite: AA
3390-3400	70% Sh: AA 20% Clyst: AA 10% Coal: AA
3400-10	30% Ss: buff-vy lt. brwn, vf-g, sbrnd-sbang, sl. ark, sl. clyfll, soft, tite 60% Sh: AA 10% Clyst: AA
3410-20	100% Sh: vy lt. brn, grnsh gry, rddsh brn, brn, blk-y-plty, sl.-mod slty, soft Trace Clyst: AA
3420-30	10% Ss: wht, f-g, sbrnd, vy clyfllld, carb incl, soft, tite 70% Sh: AA w/mstly grnsh gry 20% Clyst: AA Trace Coal: AA Trace Calcite: wht, transl, cs-xln, hexagonal, vy calc
3430-40	90% Sh: AA 10% Clyst: AA Trace Calcite: wht, transl, cs-xln, vy calc
3440-50	70% Sh: grnsh gry, dk gry, blk-y-plty, sl. slty, sft 10% Clyst: AA 20% Coal: AA

3450-60 20% Ss: lt. gry, vf-g, sbrnd, carb incl, sl. clyflld, soft
 70% Sh: grnsh gry, lt brn-drk brn, sl-mod slty, sft
 10% Clyst: AA

3460-70 20% Ss: lt-md gry, f-g, sbrnd, sl. clyflld, sme mafics,
 firm
 70% Sh: AA
 10% Clyst: AA
 Trace Calcite: wht, transl, cs-xln, vy calc

3470-80 20% Ss: AA
 70% Sh: AA
 10% Clyst: AA

3480-90 10% Ss: AA
 80% Sh: AA
 10% Clyst: AA

3490-3500 10% Ss: AA
 80% Sh: AA
 10% Clyst: AA

3500-10 20% Ss: gry, vf-fg, sbrnd, mod clyfll, sme carb incl, soft
 70% Sh: AA
 10% Clyst: AA

(3510-20 30% Ss: AA
 50% Sh: lt brn, gry, blk, sl-mod slty, carb frags,
 firm
 20% Clyst: AA
 Trace Calcite: AA

3520-30 30% Ss: AA w/sme lt-md gry, vf-g
 60% Sh: AA
 10% Clyst: AA

3530-40 20% Ss: AA
 70% Sh: AA w/carb frags & stringers
 10% Clyst: AA
 Trace Calcite: AA

3540-50 10% Ss: wht-lt gry, f-g, sbrnd, vy clyflld, firm-brittle,
 tite
 60% Sh: AA
 10% Clyst: AA
 20% Coal: blk, vitr, blk, firm
 Trace Calcite: wht, transp, hexag, cs-xln, vy calc

3550-60 10% Ss: AA
 90% Sh: lt brn, dk brn, gry, grn, blk-plty, sl-mod slty,
 soft

3560-70 30% Ss: wht-vy lt gry, f-mg, sbrnd, sl. ark, vy clyflld,
 firm
 60% Sh: med-dk gry, blk-y-plty, mod slty, soft
 10% Clyst: AA

3570-80 40% Ss: AA w/mstly m-g
 50% Sh: AA
 10% Clyst: AA

3580-90 20% Ss: AA
 70% Sh: AA
 10% Clyst: AA
 10% Coal: blk, vit, blk-y, firm

3590-3600 20% Ss: AA
 70% Sh: AA
 10% Clyst: AA

3600-10 100% Sh: lt. grn-dk gry, blk-y-plty, sme carb incl,
 soft
 Trace Clyst: AA

3610-20 100% Sh: AA

3620-30 20% Ss: wht-lt gry, f-g, sbrnd, carb incl, mod-vy,
 clyflld, sft
 70% Sh: AA
 10% Clyst AA

3630-40 70% Sh: AA
 30% Coal: blk, vitr, blk-y, soft

3640-50 10% Ss: lt gry, m-g, sbrnd, carb incl, vy clyflld,
 soft
 60% Sh: AA
 30% Coal: AA

3650-60 50% Sh: lt gry, dk gry, plty-blky, carb incl, soft
 10% Clyst: wht, plty, vy soft
 30% Coal: AA

3660-70 70% Sh: AA
 30% Coal: AA
 Trace Clyst: AA

3670-80 80% Sh: AA w/sme sl-mod. carb
 10% Clyst: AA
 10% Coal: blk, vitr, blk-y, soft

3680-90	60% Sh: AA 10% Clyst: AA 30% Coal: AA
3690-3700	10% Ss: med gry, f-g, sbrnd, considerable mafics, clyfld, firm 70% Sh: AA 20% Coal: AA
3700-10	70% Sh: med grn, dk gry, plty-blky, soft 30% Coal: blk, vit, blky-ang, soft
3710-20	80% Sh: AA 20% Coal: AA
3720-30	90% Sh: AA w/sme sl. carb. 10% Coal: AA
3730-40	100% Sh: AA
3740-50	100% Sh: AA
3750-60	70% Sh: grn, gry, blky-plty, sme carb incl, soft 30% Coal: blk, vit, blky, soft
3760-70	30% Sh: AA 70% Coal: AA
3770-80	20% Sh: AA 80% Coal: AA Trace Clyst: wht, plty, vy soft w/carb incl
3780-90	20% Sh: AA 80% Coal: AA
3790-3800	10% Sh: AA 90% Coal: AA Trace Clyst: AA
3800-10	100% Sh: grn, gry, plty-blky, soft Trace Clyst: wht, waxy, plty amber incl, vy soft
3810-20	90% Sh: AA 10% Clyst: AA
3820-30	100% Sh: AA w/vy dk gry, sl. carb, soft
3830-40	100% Sh: AA
3840-50	100% Sh: AA

3850-60	100% Sh: AA
3860-70	80% Sh: AA 20% Clyst: wht, plty, amber incl, vy soft
3870-80	80% Sh: grnsh gry, gry, plty-blky, carb incl, soft 10% Clyst: AA 10% Coal: blk, vit, blky, soft
3880-90	80% Sh: AA w/mst grnsh gry 10% Clyst: AA 10% Coal: AA w/sme splintery w/pyrite fract. filling
3890-3900	80% Sh: AA 10% Clyst: AA 10% Coal: blk-dk. gry, dull, sbang, shly, soft Trace Chert: lt brwn, transp, sbrnd, loose, hard
3900-10	70% Sh: grnsh gry, med-dk brn, blky, vy sft 10% Clyst: AA 20% Coal: AA
3910-20	70% Sh: AA w/sme carb incl. 10% Clyst: wht, blky, smooth, dissem. carb grains, vy soft 20% Coal: AA
3920-30	80% Sh: AA 20% Coal: blk, vitr, blky, soft
3930-40	90% Sh: AA 10% Clyst: AA
3940-50	90% Sh: AA 10% Clyst: AA
3950-60	90% Sh: grn, gry, blky-plty, soft 10% Clyst: wht, plty, smooth, vy soft
3960-70	80% Sh: AA w/sme carb. frags 10% Clyst: AA 10% Coal: AA
3970-80	90% Sh: AA w/sme vy carb 10% Clyst: AA
3980-90	100% Sh: AA Trace Clyst: AA
3990-4000	100% Sh: AA Trace Clyst: AA

4000-10 100% Sh: grnsh gry, dk brn, blk-y-plty, vy soft

4010-20 90% Sh: AA
10% Clyst: wht, plty, vy soft
Trace Ss: lt grn, f-g sbrnd, sme glauc, vy calc.

4020-30 10% Ss: vy lt grnsh gry, f-g, sbrnd, amber incl, sl
clyflld, firm, vy calc.
60% Sh: AA
10% Clyst: AA
20% Coal: blk, vitr, blk-y, soft

4030-40 90% Sh: grnsh gry, vy dk brn, blk-y-plty, sme carb incl,
soft.
10% Clyst: AA

4040-50 100% Sh: AA
Trace Clyst: wht, plty, sft

4050-60 100% Sh: grnsh gry, vy dk brn, blk-y-plty, sme carb incl, soft
Trace Clyst: AA
Trace Ss: vy lt grnsh gry, f-g, sbrnd, vy calc.

4060-70 100% Sh: AA

4070-80 90% Sh: AA
10% Coal: blk, vitr, blk-y, soft
Trace Clyst: wht, cream, plty, vy soft
Trace Chert: lt. brn, cs-xln, sbrnd, hard, loose

4080-90 80% Sh: lt grn, lt-dk brwn, blk-y-plty, carb incl, soft
10% Clyst: AA
10% Coal: AA
Trace Chert: AA

4090-4100 80% Shale: AA
10% Clyst: AA
10% Coal: AA

4100-10 80% Sh: lt grn, vy dk brn, plty-blky, sme carb incl., soft
20% Coal: blk, vitr, blk-y-ang, soft

4110-20 90% Sh: AA w/sme vy sl. slty
10% Clyst: wht, plty, vy soft

4120-30 80% Sh: lt grn, vy dk, plty-blky, sme carb incl, sme
vy sl. slty, soft
10% Clyst: AA
10% Coal: AA

4130-40 80% Sh: AA
 10% Clyst: AA
 10% Coal: AA

4140-50 90% Sh: AA
 10% Coal: AA
 Trace Clyst: AA

4150-60 100% Sh: grnsh gry, lt-dk brn, blkyl-pty, carb frags and
 stringers, sme sl. slty, soft
 Trace Clyst: AA

4160-70 100% Sh: AA
 Trace Clyst: AA

4170-80 90% Sh: grnsh gry, grysh brn, dk brn, blkyl-pty, carb
 frags, soft
 10% Clyst: wht, pty, amb. inc, vy sft

4180-90 10% Ss: grnsh gry, vf-g, sbrnd-sbang, sl. ark, firm,
 vy sl. calc
 90% Sh: AA
 Trace Clyst: AA

4190-4200 90% Sh: AA
 10% Coal: blk, vitr, blkyl-ang, firm

5100-10 100% Sh: vy lt grn, brnsh gry, lt-vy dk brn, blkyl, sme
 carb incl and large frags, sme sl slty, dissem pyrite
 grains, firm-soft
 Trace Clyst: wht, blkyl, "cottony", vy soft

5110-20 90% Sh: AA w/sme pty
 10% Coal: blk, vitr, blkyl, soft
 Trace Clyst: AA w/sme pty

5120-30 10% Ss: lt gry, vf-fg, sbrnd, amber incl, sl clyfllng,
 firm, mod calc
 80% Sh: AA
 10% Clyst: wht, blkyl, vy soft
 Trace Inoceramus: cream, rods, vy calc, hard

5130-40 100% Sh: lt grn, lt-vy dk brn, pty-blkyl, sme mod slty,
 sm carb frags, soft
 Trace Clyst: AA

5140-50 100% Sh: AA w/sme incr. sltyness
 Trace Clyst: AA

5150-60 100% Sh: lt-dk brn, grnsh gry, blk, carb frags,
sm sl. slty, soft
Trace Clyst: wht, plty, vy sft.

5160-80 90% Sh: AA
10% Clyst: AA
Trace Coal: blk, vitr, blk, sft-firm

5180-90 100% Sh: AA w/sme plty

5190-5200 100% Sh: AA
Trace Inoceramus: AA

5200-10 90% Sh: lt-med gry, brn, plty-blk, sl. carb, sme slty,
vy few sl. sndy, soft
10% Clyst: brn, blk, v. soft, carb, swelling, sl. calc
Trace Coal: blk, vit, blk, cly ctngs, hard

10-20 70% Sh: AA
20% Clyst: wht, brn, blk-plty, sl. carb to vy carb, v. soft,
sme swelling
10% Coal: AA

20-30 70% Sh: AA w/a few pyrite ctngs
30% Clyst: AA

30-40 60% Sh: AA, sme wxy
30% Clyst: AA
10% Coal: blk, blk, most vit, sme earthy, hard

40-50 60% Sh: lt-med gry, lt-dk brn, blk-plty, sme vy. slty,
carb, sme fissile, soft
40% Clyst: AA, sme calc

50-60 80% Sh: AA, w/sme sl. sndy
10% Clyst: AA
10% Coal: AA

60-70 80% Sh: AA, all plty, sme laminated
10% Clyst: wht, plty, sl. carb, sme scatted qtz grns, v. soft,
sl swelling
10% Coal: AA

70-80 60% Sh: AA
10% Clyst: AA
20% LS: brn, buff, microxln, dense, hard, vy. calc
10% Coal: AA
Trace Inoceramus Frags

5280-90 70% Sh: brn, lt-med gry, plty, sme slty, carb, soft
10% Clyst: AA
20% LS: AA
Trace Coal: AA

90-5300 70% Sh: AA
20% Clyst: AA
10% LS: AA

5300-10 70% Sh: lt gry, med-dk brn, plty, many slty (& calc),
carb, sme wxy, soft-firm
20% Clyst: AA
10% LS: brn, microxln, blk, sme mottled, dense, firm-hard, cal
Trace Coal: AA

10-20 60% Sh: AA, sme sndy, sme rd-brn, sme sl. swllng, sme fissile
30% Clyst: AA
10% LS: AA
Trace Coal: AA
Trace Calcite: clr, v-crs-xln, sbang, transparent, loose

20-30 80% Sh: AA
20% Clyst: lt gry, blk, sl. carb, v. soft
Trace Ss: clr, vf-g, sbrnd, well srted, vy. sl. clyfll,
sl. ark, friable, fair por, N-S
Trace Coal: AA

5330-40 90% Sh: AA
10% Clyst: AA
Trace Ss: AA w/sme carb

40-50 10% Ss: wht, buff, vf-g, sbrnd, well srted, vy. sl. clyfll,
sl. clauc, carb, sl. ark, calc, soft-friable, fair
Por, N-S
70% Sh: brn, lt gry, sme plty, most blk, vy. carb, sme
calc, sme lam, many slty, soft-firm
20% LS: AA

5350-60 10% Ss: AA
50% Sh: AA w/sme cly incls
20% LS: AA
10% Clyst: AA
10% Coal: blk, earthy, blk, cly incls, hard

60-70 20% Ss: AA, sme lt brn
60% Sh: AA
10% Clyst: wht, plty, sl. carb, v. soft, swllng
10% LS: AA
Trace Coal: AA

70-80 80% Sh: AA w/sme pyrite incls.
10% LS: brn, mottled, microxln, dense, firm, calc
10% Clyst: AA, but plty
Trace SS: AA

5380-90 10% Ss: clr, wht, vf-g-f-g, sbrnd-sbang, vy sl. to mod
 clyfll, carb, calc, friable-soft, sme fair por, N-S
 50% Sh: brn, gry, plty, carb, slty, sme sndy, soft-firm
 30% LS: brn, wht, mottled, microxln to vf-xln, most dense,
 firm, calc
 10% Clyst: AA
 Trace Coal: blk, vit, blk, hard

90-5400 80% Sh: AA
 20% LS: AA
 Trace Ss: AA

5400-10 70% Sh: AA
 30% LS: AA
 Trace Ss: wht, AA, sme vy sl. glauc

10-20 10% Ss: clr, vf-g sbrnd, well srted, vy. sl. clyfll, carb,
 sl. ark, calc, friable, fair-gd por, N-S
 70% Sh: AA
 20% LS: AA
 Trace Coal: AA

20-30 10% Ss: AA
 70% Sh: AA
 10% LS: AA
 10% Clyst: AA
 Trace Coal: AA

30-40 80% Sh: brn, gry, plty, most slty, vy. carb, calc, sme
 w/cly incls, sme lam, vy few sl. sndy, firm-soft
 20% Clyst: wht, plty, sme wxy, sl. carb, vy soft
 Trace LS: AA
 Trace Ss: AA

5440-50 90% Sh: AA
 10% Clyst: AA
 Trace Ss: AA

50-60 AA

60-70 70% Sh: AA, many wxy, sme lam
 20% Clyst: AA
 10% Coal: blk, vit, blk, hard, sme cly incls.
 Trace Pyrite

70-80 AA (but no pyrite)

80-90 70% Sh: AA
 30% Clyst: wht, buff, brn, plty, v. soft
 Trace Ss: wht, vf-g, rnd, sl. clyfll, friable, fair por, N-S
 Trace Coal

90-5500 No Sample

SAMPLE BREAK

5800 - 10 10% Ss: wht - lt gry, mg, sbrnd, glauc, sl cly fld-cln, firm,
 vy calc
 90% Sh: dk brn, lt grnsh gry, plty-blky, most sl-mod slty
 carb incl, sft, vy calc
 Tr. Clystn: AA

5810-20 100% Sh: AA
 Trace Clyst: AA

5820-30 90% Sh: AA w/sme vy slty
 10% Clyst: AA
 Trace Pyrite: yellow, metallic, nodular, densy, hard
 Trace Inoceramus:

5830-40 100% Sh: dk brwn, lt grnsh gry, blky, mst mod slty,
 carb frags & incl., firm-soft, vy calc
 Trace Clyst: wht, plty, qtz xls, amber, vy sft

5840-50 90% Sh: AA
 10% Clyst: AA

5850-60 100% Sh: lt brn, vy dk brn, blky-plty, sl. slty, soft,
 vy calc
 Trace Clyst: AA

5860-70 100% Sh: AA w/grnsh gry, carb incl
 Trace Ss: grnsh gry, vf-g, sbang-plty, vy clyflld, sme glauc,
 firm-soft, non-calc.

5870-80 100% Sh: AA
 Trace Ss: lt gry, f-g, sbrnd, carb incl, sl. clyflld, firm-
 soft, sl. calc

5880-90 10% Ss: lt-med brn, f-g, sbrnd, shly, firm-brittle,
 vy calc.
 90% Sh: AA
 Trace Calcite: Wht, transl, cs-xln, loose, hard, vy calc.

5890-5900 10% Ss: AA
90% Sh: AA
Trace Clyst: wht, plty, vy sft.

5900-10 90% Sh: dk brn, few lt gry, plty, most vy slty, sme sndy,
sme calc, many cly incls, sme pyrite incls, firm-soft
10% Clyst: wht, plty, v. soft, sme wxy, sme sl. swelling,
Trace Ss: Lt brn, vf-g, sbrnd, well srted, sl. clyfll, carb,
calc. friable, gd por, N-S

10-20 80% Sh: AA
20% Clyst: AA

20-30 No Sample

30-40 80% Sh: AA, sme rd-brn, sme fissile
20% Clyst: AA
Trace Pyrite

40-50 80% Sh: dk gry, med-dk brn, buff, plty, sme fissile, calc,
vy carb, sme pyrite incls and ctngs, sme vy sndy,
sme slty, sme lam, soft
20% Clyst: AA

5950-60 80% Sh: AA
10% Clyst: AA, vy sl carb
10% Pyrite

60-70 40% Ss: clr, wht, vf-f-g, sbang-sbrnd, most clean, sme
vy sl. clyfll, well srted, vy sl. glauc, hard-friable,
gd por, lt. blue fluor w/strng cut
50% Sh: dk gry-dk brn, plty-blky, vy carb, most slty,
lam, cly incls, soft
10% Clyst: AA
Trace Pyrite

5970-80 40% Ss: wht, clr, lt. gry, vf-f-g, sbang-sbrnd, carb, sl.
ark, calc, friable, clean to mod clyfll, sme gd por,
lt. blue fluor w/wk cut

5980-90 70% Ss: buff, wht, vf-m-g, sbang, clean to v. sl. clyfll,
v. sl. glauc, sl. carb, calc, sl. ark, friable, gd
por, N-S
20% Sh: AA
10% Clyst: AA

90-6000 LCM

6000-10 LCM

6010-20 LCM

6020-30 80% Ss: AA, but lt. gld fluor w/vy wk cut
 20% Sh: dk brn, blky-plty, vy. carb, firm
 Trace Pyrite

30-40 70% Ss: wht, clr, buff, vf-m-g, sbang-sbrnd, sme vy clean,
 sme sl. to mod clyfll, vy sl. carb, sl pyrite incl's,
 vy sl. ark, calc, friable, gd por, lt. gld fluor
w/no cut
 30% Sh: AA

40-50 60% Ss: AA, bright gld fluor w/no cut
 30% Sh: AA
 10% Clyst: AA

6050-60 60% Ss: wht, buff, clr, brn, vf-m-g, sbrnd, clean to mod
 clyfll, vy. sl. ark, sl. carb, calc, hard, sme friable,
 sme gd por., lt. gld fluor w/wk cut
 40% Sh: brn, lt. gry, blky-plty, sme slty, sme vy sndy,
 carb, soft-firm

60-70 60% Ss: AA, lt gld fluor. w/wk cut
 20% Sh: AA
 20% Clyst: wht, plty, carb, v. soft

70-80 70% Ss: AA, lt. gld fluor w/wk cut
 20% Sh: AA
 10% Clyst: AA

80-90 50% Ss: brn, wht, clr, vf-f-g, sbang-sbrnd, well srtd,
 clean to mod clyfll, ark, sl. carb, calc, hard, fair
 por, lt gld fluor. w/ vy wk cut
 40% Sh: AA
 10% Clyst: AA

90-6110 60% Ss: AA, lt. gld fluor w/vy. wk cut
 20% Sh: brn, lt. gry, plty, sme fissile, sme lam, carb,
 sme pyrite incl's, sme sl slty, sme wxy, firm
 10% Clyst: AA
 10% Coal: blk, vit, blky, hard
 Trace Pyrite

10-20 50% Ss: AA, lt gld fluor w/vy wk cut
 40% Sh: AA
 10% Coal: AA
 Trace Clyst: AA

6120-30 50% Ss: wht, buff, clr, vf-m-g, sbrnd, carb, calc, clean to
 hvy clyfll, v. sl. ark, hard-friable, gd por, lt. gld
 fluor w/vy wk cut
 40% Sh: AA w/sme pyrite ctngs
 10% Coal: AA

30-40 AA, lt. gld fluor, w/v. wk cut
 Trace Calcite: clr, v-crs-xln, sbang, transparent, loose

40-50 40% Ss: AA, lt gld fluor. w/vy wk cut
 60% Sh: AA

6150-58 AA, VPS, none fine enough to test

TD 6158'