

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other in-
structions on
reverse side)Form approved.
Budget Bureau No. 42-R355.6.

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						7. UNIT AGREEMENT NAME					
Energy Reserves Group, Inc.						5. FARM OR LEASE NAME					
3. ADDRESS OF OPERATOR						O.H. Randel					
P.O. Box 3280 - Casper, Wyoming 82602						9. WELL NO.					
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*						6-E					
At surface 940' FSL & 790' FEL (SE/SE)						10. FIELD AND POOL, OR WILDCAT					
At top prod. interval reported below						Basin Dakota					
At total depth						11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA					
14. PERMIT NO.						12. COUNTY OR PARISH					
DATE ISSUED						San Juan					
13. STATE						New Mexico					
15. DATE SPUDDED		16. DATE T.D. REACHED		17. DATE COMPL. (Ready to prod.)		18. ELEVATIONS (DF, R&B, RT, GR, ETC.)*		19. ELEV. CASINGHEAD			
1-12-81		1-21-81		3-15-81		G.L. 6,383'; K.B. 6,395'		-----			
20. TOTAL DEPTH, MD & TVD		21. PLUG, BACK T.D., MD & TVD		22. IF MULTIPLE COMPL., HOW MANY*		23. INTERVALS DRILLED BY		ROTARY TOOLS			
6,347' K.B.		6,304' K.B.		NA		----->		CABLE TOOLS			
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*								25. WAS DIRECTIONAL SURVEY MADE			
Dakota 6,274'-6,284' K.B.								NO			
26. TYPE ELECTRIC AND OTHER LOGS RUN								27. WAS WELL CORED			
Dual Induction & CNL-FDC								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#/ft		840' KB		12-1/4"		600 sx Class "B" w/3%		-0-	
4-1/2"		10.50#/ft		6,346' KB		7-7/8"		CaCl ₂ & 1/4# Flocele/sx (See Back)		-0-	
29. LINER RECORD										30. TUBING RECORD	
SIZE		TOP (MD)		BOTTOM (MD)		SACKS CEMENT*		SCREEN (MD)		SIZE	
				None						6-3/8"	
										6,270' K.B.	
										None	
31. PERFORATION RECORD (Interval, size and number)										32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
6,274'-6,284'; 0.39" hole; 11 holes										AMOUNT AND KIND OF MATERIAL USED	
6,274'-84' K.B.										Breakdown: (See Back)	
6,274'-84' K.B.										Fracture: (See Back)	
33.*											
DATE FIRST PRODUCTION		PRODUCTION METHOD (Flooding, surf. lift, pumping—size and type of pump)						WELL STATUS (Producing or shut-in)			
								SI			
DATE OF TEST		HOURS TESTED		CHOKE SIZE		PROD. FOR TEST PERIOD		OIL—BBL.		GAS—MCF.	
3-15-81		24		1/2"		----->		6		311	
FLOW, TUBING PRESS.		CASING PRESSURE		CALCULATED 24-HOUR RATE		OIL—BBL.		GAS—MCF.		WATER—BBL.	
200		SI 330		----->		0		311		8 (load)	
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)										TEST WITNESSED BY	
VENTED DURING TEST										T.C. DURHAM	
35. LIST OF ATTACHMENTS										ACCEPTED FOR RECORD	
SAMPLE DESCRIPTIONS											
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records										APR 2 1981	
SIGNED Bobby Patrick										DATE 3-26-81	
TITLE Production Engr- RMD										ADMINISTRATION DISTRICT	

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

BY

RB

MOCC

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: "Sacks 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			38. GEOLOGIC MARKERS			
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	MEAS. DEPTH	TRUE VERT. DEPTH
			See Attached	LOG TOPS		
			Continued from other side	Nacimientos	surface	
			Cementing 5-1 1/2" - 1st stage: 250 sx 50-50	Ojo Alamo	675'	
			Pozmix w/2% Gel & 1/4# Flocele/sx,	Kirtland	785'	
			followed by 170 sx Class "B"	Fruitland	1,390'	
			w/10% Salt & 1/4# Flocele/sx.	Pictured Cliffs	1,742'	
			2nd Stage: 500 sx	Lewis	2,020'	
			"Light" w/6% Gel & 10# Gilsonite	Chacra	2,546'	
			/sx, followed by 550 sx 50-50	Cliffhouse	3,250'	
			Pozmix w2% Gel & 12.5# Gilsonite	Menefee	3,310'	
			/sx.	Point Lookout	4,162'	
			Breakdown - 1000 gals 7 1/2% "Spearhead" acid	Mancos	4,430'	
			w/additives plus 500 SCF N ₂ /bbl.	Gallup	5,236'	
			Fracture - 60,000 gals 70% Quality Foam w/	Sanostee	5,768'	
			additives plus 60,150# 20-40 sd.	Greenhorn	6,123'	
				Graneros	6,180'	
				Dakota "A"	6,230'	
				Dakota "B"	6,274'	
				T.D. Logger	6,338'	
				Driller	6,347'	

SAMPLE DESCRIPTION

- 750 - 60 20% Sh: brn-med gry, fg, blk, wll srted
80% Chert: wht-org-red, clear-opaque-transl, sbang-sbrnd, sme shly, sme clyey
Tr. Coal: blk, vit, sme shly
- 60 - 70 10% Sh: AA
90% Chert: wht-org-red, clear-transl-opaque, sbang-sbrnd, w/shly intrusions, some stable cly, hard, lse
- 70 - 80 20% Sh: AA, w/poor sort
80% Chert: AA, w/green
- 80 - 90 30% Sh: AA, w/sme unstable cly
70% Chert: AA
- 90 - 800 20% Sh: AA
10% Clystn: gry, vy sft
70% Chert: AA
- 800 - 20 40% Sh: brn-grn, fg, blk, mstly sft to vy sft
60% Chert: AA, w/sme red
- 20 - 30 50% Sh: AA
50% Chert: AA
- 30 - 50 No Samples
- 50 - 60 90% Sh: grn-brn, fg, blk, some cly, sme fldspr
10% Chert: wht-rddish org, clear to transl, sme shly, lse
- 60 - 70 90% Sh: AA
10% Chert: AA
- 70 - 80 100% Sh: AA
- 80 - 90 90% Sh: AA
10% Chert: wht-red, clear-transl, sbrnd, sme shly incl, lse
- 90 - 900 10% Ss: gry, vfn-g, sbang, cly fld, shly, swelling, sft, poor porosity
80% Sh: AA
10% Chert: AA
- 900 - 10 90% Sh: gry-grn, blk, sme cly fld, sme sft
10% Chert: wht-org, transp-transl, sbang, sme shly, lse
- 10 - 20 90% Sh: AA
10% Chert: AA
- 20 - 30 90% Sh: AA, w/poor sort
10% Chert: AA, w/fg-xln
- 30 - 50 80% Sh: AA
20% Chert: AA
- 950 - 1000 No Samples (lost circ. material)

1000 - 10 10% Sh: lt grn, blk, some carb incl.
90% Coal: blk, vit, ang, blk
1/2 tray LCM

10 - 20 100% Coal: AA
Tr. Sh: AA
1/2 tray LCM

20 - 30 Tray of LCM AA
50% Coal: AA
50% Sh: AA

30 - 50 70% Sh: AA
20% Coal: AA
10% Chert: AA

50 - 60 90% Sh: lt. -dk gry, some frm, sme sft, sl carb
10% Chert: yel, vy cg, sbang, lse, abundant LCM

60 - 70 VPS, much LCM, 1 chunk of Sh: AA, 2 chunks of Chert: wht, yel,
transl, AA

70 - 80 90% Sh: AA, but all lt gry
10% Chert: yel, cg, sbrnd, opaque, lse

80 - 90 80% Sh: AA, w/sme metallic incl.
20% Chert: AA
Tr. Ss: wht, mg, sbrnd, well srted, vy cly fld, frm, calc,
no porosity, N-S

1090 - 1100 80% Sh: AA, sme slty
20% Chert: AA

1100 - 10 100% Sh: lt gry-brn, AA, VPS, LCM

10 - 20 70% Sh: AA
10% Chert: clr, vy cg, sbrnd, transl, lse
20% Coal: blk, vit, sme shly, frm, LCM

20 - 30 100% Sh: lt gry-dk gry, brn, sme slty, vy frm, carb, sl calc

30 - 40 70% Sh: AA
20% Chert: clr, wht, AA
10% Coal: blk, laminated, shly

40 - 50 80% Sh: AA
20% Chert: AA
Tr. Coal: AA

50 - 60 90% Sh: wht, lt gry, lt brn, some vy slty, AA
10% Chert: AA
Tr. Coal: AA
Tr. Ss: wht, vfn-g, sbrnd, mod cly fld, calc, some carb incl.
sl arkosic, prob. tite, N-S

60 - 70 60% Sh: AA
30% Chert: clr, vy cg, sbang, transl, lse
10% Coal: blk, dull, hard

1170 - 80 20% Ss: wht, f-mg, sbrnd, wl srted, mod cly fld, sl calc, sl
 porous, some carb incl, N-S
 50% Sh: gry, lt brn, frm, sme slty, carb incl
 10% Clystn: lt gry, sft, sme swelling
 20% Chert: AA

80 - 90 10% Ss: AA, but fg, no carb incl
 90% Sh: AA
 VPS, LCM

90 - 1200 90% Sh: AA, sme sl calc
 10% Chert: clr, vy cg, sbrnd, transl, lse
 Tr. Ss: wht, vfn-g, sbang, vy cly fld, shly, sft, no porosity

1200 - 10 90% Sh: AA
 10% Coal: AA
 Tr. Chert: AA

10 - 20 30% Ss: wht, f-mg, sbrnd, wl srted, sl-mod cly fld, sl arkosic,
 some carb frags, friable, calc, sl porosity, N-S
 60% Sh: AA, sme vy slty, sme sl arkosic
 10% Clystn: gry, sft, sme swelling
 Tr. Chert: AA

20 - 30 40% Ss: wht, mg, sbrnd, fairly srted, mod cly fld, calc, sme
 sl arkosic, fri, sme carb frags, sl porous, sme fairly
 clean, N-S
 50% Sh: AA
 10% Chert: AA

30 - 40 30% Ss: wht, f-mg, sbrnd, poorly srted, cly fld, calc, sme
 mafic incl, no porosity, N-S
 70% Sh: AA, sme bentonitic

40 - 50 40% Ss: wht, mg, sbrnd, fairly well srted, vy cly fld, shly,
 some fri, vy calc, sl porosity, N-S
 50% Sh: AA
 10% Chert: clr, cg, transl, lse

50 - 60 40% Ss: AA, but fg, sme sft, sme frm
 60% Sh: lt gry-grysh grn, blk, sft, sme feld incl.

60 - 1300 20% Ss: AA
 80% Sh: AA

1300 - 10 100% Sh: AA, w/sme plty

10 - 20 20% Ss: wht, opaque, f-mg, well srted, vy cly fld, sme shly,
 sme sft, sme frm, no porosity, N-S
 80% Sh: gry-brn, blk, sme plty, sme sft, sme frm

20 - 30 100% Sh: gry grn-brn, w/AA

30 - 40 30% Ss: AA, w/slight calc
 70% Sh: lt gry-brn, blk, sme sft, sme cly, sme carb incl

1340 - 50 20% Ss: wht, fg, sbrnd, sme shly, sme cly, sme clean,
 non-calc, sme sft, sme frm, sl poros, N-S
 80% Sh: gry & brn, blk, sft, sme carb
 Tr. Calcite & Pyrite

50 - 60 100% Sh: AA

60 - 70 60% Ss: AA
 40% Sh: AA

70 - 80 40% Ss: wht, mg, sbrnd, sme shly, sme cly & vy sft, sme clean
 & vy calc, & frm, sl porous, N-S
 60% Sh: AA
 Tr. Calcite & Pyrite

80 - 90 30% Ss: AA
 70% Sh: AA

90 - 1400 40% Ss: AA
 60% Sh: AA
 Tr. Coal: blk, vit, blk

1400 - 10 30% Ss: wht, mg, sbrnd -sbang, sme cly fld, sme shly, frm,
 tite, sl por, N-S
 70% Sh: lt grn & lt gry & brn, sme blk, sme plty, sft,
 sme carb incl

10 - 20 30% Ss: AA, w/mostly clean, frm, non-calc, sl porous, N-S
 70% Sh: AA

20 - 30 30% Ss: wht & lt grn, mg, sbrnd, mostly clean, fri, sme shly,
 non calc, porous, N-S
 70% Sh: lt & dk gry , blk, sme plty, sme frm, sme sft, sme
 carb

30 - 40 20% Ss: wht, w/AA
 80% Sh: AA, w/sme vy carbonaceous

40 - 50 100% Sh: AA

50 - 60 20% Ss: wht, mg, sbrnd & sbang, sme cly fld, vy sft, non-calc
 no por, N-S
 80% Sh: lt gry-med brn, blk, sme frm, sme sft, sme carb

60 - 70 30% Ss: AA, w/fg
 70% Sh: AA
 Tr. Calcite

70 - 80 20% Ss: AA
 80% Sh: AA

80 - 1500 50% Ss: AA
 50% Sh: AA

1500 - 10 20% Ss: wht, mg, sbrnd, mod cly fld, sl arkosic, sme carb incl
 fri, porous, N-S
 80% Sh: lt gry-lt brn, blk, sme frm, sme sft, carb incl, sme slty
 Tr. Calcite: wht, vy cg, sbang, vy calc, transl

10 - 20 40% Ss: wht, fg, sbrnd, wl srted, cly fld, sl arkosic, sme carb incl, sme hard, sme sft, calc, sl porous, N-S
 60% Sh: AA, but also blk
 Tr. Pyrite

20 - 30 20% Ss: wht, f-mg, sbrnd, sl cly fld, sme mafic incl, hard, por, N-S
 70% Sh: blk, lt gry, blk, sme vy slty, sme carb incl
 10% Coal: blk, sme vit, sme vy shly, laminated, blk
 Tr. Chert: yel, vy cg, transl, lse

30 - 40 30% Ss: AA, but sl arkosic
 60% Sh: AA
 10% Coal: AA

40 - 50 20% Ss: wht, mg, sbrnd, wl srted, sl cly fld, arkosic, sme clean, carb incl, fri, sl calc, por, N-S
 70% Sh: AA
 10% Coal: AA
 Tr. Pyrite

50 - 60 30% Ss: AA
 50% Sh: AA
 20% Coal: AA

60 - 70 30% Ss: AA, but vy calc, hard
 40% Sh: AA
 30% Coal: AA

70 - 80 30% Ss: AA, but sme clean
 50% Sh: AA
 20% Coal: AA

80 - 90 20% Ss: wht, mg, sbrnd, poorly srted, mod cly fld, sl arkosic, sme carb incl, hard, sl por, N-S
 60% Sh: AA
 20% Coal: AA

90 - 1600 10% Ss: AA
 90% Sh: AA
 Tr. Coal: AA

1600 - 10 20% Ss: AA
 60% Sh: lt grn-med gry, sme plty, sme blk, sme vy carb
 20% Coal: blk, vit, sme carb

10 - 30 40% Ss: AA
 60% Sh: AA
 Tr. Coal: AA

1630 - 40	10% Ss: AA 90% Sh: AA	
40 - 50	20% Ss: AA 70% Sh: AA 10% Coal: AA	
50 - 60	50% Ss: AA 50% Sh: AA Tr. Coal: AA	
60 - 70	40% Ss: AA 60% Sh: AA	
70 - 80	60% Ss: AA, w/slt calc 40% Sh: AA Tr. Coal: AA	
80 - 90	40% Ss: AA, w/mstly sft 60% Sh: AA Tr. Coal: AA	
90 - 1700	40% Ss: AA 40% Sh: AA 20% Coal: AA	
1700 - 10	10% Ss: AA, w/vy calc 50% Sh: AA 40% Coal: AA, w/o sh	
10 - 20	20% Ss: AA 80% Sh: AA	
20 - 30	80% Ss: wht, m-fg, sbrnd, wl srted, vy cly arkosic, no por, <u>N-S</u> 20% Sh: AA	fld, vy sft,
30 - 40	20% Ss: AA 80% Sh: AA Tr. Chert: wht, transl, micro-xln	
40 - 50	30% Ss: AA 60% Sh: AA 10% Coal: AA	
50 - 60	20% Ss: AA, but clean, porous 60% Sh: AA 20% Clystn: wht, vfn-g, vy sft	
60 - 70	20% Ss: AA 60% Sh: AA 10% Clystn: AA 10% Coal: blk, vit, blk, sme sh	

1770 - 80 10% Ss: wht, mg, sbrnd, wl srted, cly fld, sme frm, sme sft,
sl arkosic, no por, N-S
50% Sh: med gry-brnsh gry, blk, sme carb intrusion
40% Clystn: wht, vfn-g, sft, sme shly incl, sme carb incl

80 - 90 30% Sh: AA
70% Clystn: AA

90 - 1800 100% Clystn: AA

1800 - 20 100% Sh: gry, blk, sme carb incl

20 - 30 80% Sh: lt gry, lt brn, blk, sme sft, sme hard, sme slty,
blk
20% Coal: blk, vit, blk, hard, laminated

30 - 40 100% Sh: AA
Tr. Ss: wht, fg, sbrnd, well srted, vy cly fld, shly, sft,
sl arkosic, no por, N-S

40 - 50 20% Ss: wht, AA, w/carb incl, calc, sl por, sft
80% Sh: AA, but sme wht, some bentonitic

50 - 60 10% Ss: AA
80% Sh: AA, sme vy slty, sme metallic incl
10% Coal: blk, dull, sbang, vy hard

60 - 70 40% Ss: wht, f-mg, sbrnd, fairly srted, mod cly fld, sl arkosic
carb incl, sme shly, calc, fri, sl por, N-S
50% Sh: AA
10% Coal: AA

70 - 80 50% Ss: AA
40% Sh: AA
10% Clystn: brn, sft, sme swelling
Tr. Chert: clr, vy cg, sbrnd, transl, lse

80 - 90 50% Ss: AA, but sme lt brn
50% Sh: AA

90 - 1900 60% Ss: AA
40% Sh: AA

1900 - 10 60% Ss: AA, but tite, N-S
40% Sh: lt gry, brn, grn, blk, sme blk, sme plty, sme bent.,
sme vy slty, carb incl
Tr. Coal: AA

10 - 20 40% Ss: AA
40% Sh: AA
20% Coal: AA

20 - 30 50% Ss: AA, w/metallic incl, hard, calc, sl por, N-S
20% Sh: AA
30% Coal: blk, vit, sme shly, sme laminated, hard

2080 - 2100 100% Sh: AA, but sme bentonitic

2100 - 2600 No Samples Analyzed

2600 - 10 10% Ss: wht, lt gry, vfn-g, sbrnd, well srted, vy cly fld,
carb incl, hard, calc, sl por, N-S
90% Sh: AA

10 - 20 40% Ss: AA, but sme mg, sl arkosic, no calc
60% Sh: AA

20 - 30 70% Ss: AA, but fri, porous, N-S, sme clean
30% Sh: AA
Tr. Marcasite

30 - 40 50% Ss: AA
50% Sh: AA

40 - 50 40% Ss: AA
60% Sh: AA
Tr. Clystn

50 - 60 100% Sh: lt gry-dk gry, sme blk, sme plty, sme vy slty,
sme hard, sme sft
Tr. Ss: AA, but vy cly fld, shly

60 - 70 40% Ss: wht, lt gry, f-mg, sbrnd, poorly srted, sl arkosic,
carb incl, hard, sl porous, N-S
60% Sh: AA

70 - 80 10% Ss: AA
90% Sh: AA, but sme bent.
Tr. Pyrite & Tr. Coal: blk, dull, hard

80 - 90 10% Ss: AA
80% Sh: AA, but also laminated
10% Coal: AA

90 - 2700 30% Ss: lt gry, mg, sbrnd, sl ark, carb, hard, sl por, N-S
60% Sh: AA, some calc
10% Coal: AA

2700 - 10 10% Ss: AA
90% Sh: lt gry-dk gry, brn, blk, sme sft-hrd, sme sl slty,
bent., carb, laminated

10 - 20 90% Sh: AA, sme blk
10% Clystn: lt gry, sft, swelling
Tr. Coal: AA

20 - 30 20% Ss: wht, mg, sbrnd, well srted, mod cly fld, carb, fri,
por, N-S
70% Sh: AA
10% Coal: AA, but sme vit, laminated

30 - 40 10% Ss: AA, but sme gry, sl ark, calc, shly, N-S
90% Sh: AA, but sme vy slty
Tr. Coal: AA

2740 - 50 20% Ss: AA
 70% Sh: AA
 10% Coal: AA

50 - 60 60% Ss: wht, gry, mg, sbrnd, sme vy cly fld, sme arkosic,
 carb, vy hard, fri, sl por, N-S
 30% Sh:AA
 10% Coal: AA

60 - 70 70% Ss: AA
 30% Sh: AA

70 - 80 80% Ss: AA, sl calc
 20% Sh: AA

80 - 90 AA, w/Tr. Coal: blk, vit, blk, hard

90 - 2800 80% Ss: lt gry, wht, f-mg, sl cly fld, sme clean, ark,
 carb, hard, sl por, N-S
 20% Sh: AA
 Tr. Clystn: dk gry, sft, sme swellg

2800 - 10 70% Ss: AA
 30% Sh: AA
 Tr. Clystn: wht, sft

10 - 20 80% Ss: AA
 20% Sh: med gry, dk grn, dk brn, sbang, sme plty, frm
 Tr. Clystn: AA

20 - 40 70% Ss: AA, N-S
 30% Sh: AA
 Tr. Clystn: AA

40 - 50 80% Ss: AA
 20% Sh: AA
 Tr. Clystn: AA

50 - 60 80% Ss: lt gry-wht, mg, sbrnd-sbang, sme sl cly fld, mstly
 clean, sl ark, w/carb incl, gd por, N-S
 20% Sh: med gry-brn, sbang, sme plty, frm, sme carb incl
 Tr. Coal: blk, vit, blk

60 - 70 70% Ss: AA, N-S
 30% Sh: AA

70 - 80 80% Ss: AA
 20% Sh: AA
 Tr. Coal: AA

80 - 90 70% Ss: AA
 30% Sh: AA
 Tr. Clystn: AA, w/grn

90 - 2900 70% Ss: AA
 20% Sh: AA
 10% Clystn: AA

2900 - 10 70% Ss: lt gry-med gry, f-mg, sme cly fld, mstly clean,
sl ark, w/carb incl, frm, fri, por, N-S
30% Sh: dk brn & gry grn, sme blk, sme plty, frm, some carb
Tr. Chert: wht-lt brn, transl, blk
Tr. Clystn: wht, vy sft, sme shly in cl

10 - 20 60% Ss: AA, N-S
30% Sh: AA, w/mstly plty
10% Clystn: AA

20 - 30 40% Ss: AA
60% Sh: med gry, brn, blk, sme blk, mstly plty, carb, poss
arsenopyrite assoc w/blk sh

30 - 40 30% Ss: AA
40% Sh: AA
30% Clystn: wht & lt grn, sbang, sft, w/sme ass amber

40 - 50 40% Ss: AA
50% Sh: AA
10% Clystn: AA
LCM

50 - 60 40% Ss: AA
40% Sh: AA
20% Clystn: AA

60 - 70 30% Ss: wht-med gry, f-mg, sbrnd, clean, ark, w/carb, fri,
por, N-S
40% Sh: gry, blk, sme plty, frm, w/carb incl
30% Clystn: lt grn, blk, sft, sme carb incl
Tr. Coal: blk, vit, blk

70 - 80 40% Ss: AA
40% Sh: AA
20% Clystn: AA

80 - 3000 30% Ss: AA
50% Sh: AA
20% Clystn: AA

3000 - 10 10% Ss: AA, but vy cly fld, sft, no por, N-S
60% Sh: buff, med gry, blk, frm, carb incl
30% Clystn: lt grn, blk, sft
Tr. Coal: AA

10 - 30 30% Ss: AA
50% Sh: AA
20% Clystn: AA
Tr. Coal: AA

30 - 40 10% Ss: gry-wht, med grn, sbrnd, sl ark, w/carb, sme cly fld,
mstly clean, frm, por, N-S
60% Sh: gry-med grn, sme plty, carb, frm
30% Clystn: lt grn & wht, vy sft

40 - 50 20% Ss: AA
50% Sh: AA
30% Clystn: AA

- 3050 - 60 10% Ss: AA, but mod cly fld
80% Sh: lt-dk gry, brn, sme blk, carb, sme sft, sme frm
10% Clystn: lt gry, wht, vy sft, mafic incl
Tr. Calcite
- 60 - 70 20% Ss: AA
60% Sh: AA
20% Clystn: AA
- 70 - 90 20% Ss: AA, but no ark, no por, N-S
70% Sh: AA, but some bent., sme slty
10% Clystn: AA
- 3090 - 3110 10% Ss: AA, but sft,shly, tite, N-S
70% Sh: AA
20% Clystn: wht, vy sft, mafic incl, blk
- 10 - 20 10% Ss: wht, mg, sbrnd, well srted, cly fld, sl ark, carb incl,
frm, sme sl calc, sl por, N-S
80% Sh: AA, but some calc
10% Clystn: wht, sbang, sft, sme swlg
- 20 - 30 10% Ss: gry-wht, f-mg, sbrnd, poor srted, cly fld, carb,
metallic incl, hard, sl por, N-S
90% Sh: lt-dk gry, brn, blk, sbang, sme blk-plty, sme lami-
nated, sme slty, sl calc
- 30 - 40 10% Ss: wht, mg, sbrnd, well srted, sme cly fld, sme cln,
ark, carb incl, hard, sl por, N-S
90% Sh: AA
- 40 - 50 10% Ss: AA
80% Sh: AA
10% Clystn: AA
- 50 - 60 80% Sh: AA, w/no calc, sme bentonit ic
20% Clystn: wht-lt blu, sbang, sme blk, sft, sme swlg
- 60 - 80 80% Sh: AA
20% Clystn: wht, mg, sbrnd, wl srted, cly fld, sme carb,
hard, sl por, N-S
- 80 - 3200 80% Sh: lt gry-brn-blk, blk, sme frm, sme sft, sme slty,
slty ones are calc
20% Clystn: AA
Tr. Coal: blk, vit, shly, laminated
Tr. Ss: lt gry, f-mg, sbrnd, wl srted, cly fld, sl ark, carb,
shly, sft, tite, N-S
- 3200 - 10 70% Sh: AA, w/carb incl
20% Clystn: wht, sbang, sme plty-blk, sft, swelg
10% Coal: blk, vit, shly, lam, sft-frm
Tr. Ss: AA
- 10 - 30 80% Sh: AA
10% Clystn: AA
10% Coal: AA
Tr. Calcite & Tr. Ss: AA, but hard, fri, calc, sl por, N-S

3230 - 50 90% Sh: gry, brn, sme blk-y-plty, sme slty, sl calc, carb,
sme bent.
10% Clystn: wht, lt blu, plty, mafic incl, sft, sme swelg
Tr. Ss: AA, but sbang, frm, no calc, N-S

50 - 60 80% Sh: AA
20% Clystn: AA
Tr. Ss: AA

60 - 80 90% Sh: AA, plty, sme bentonitic
10% Clystn: AA
Tr. Coal: blk, dull, brittle, shly incl

80 - 90 90% Sh: gry, plty, sl cly, w/carb ptngs
10% Clystn: wht, lt blu, plty, carb incl, sft, sme swlg

90 - 3300 80% Sh: AA, sme slty, sme calc
20% Clystn: AA
Tr. Ss: AA, but sbrnd, calc, N-S

3300 - 20 90% Sh: lt gry-dk gry, brn, plty-blky, sme vy slty, sl calc,
frm, sme bent.
10% Clystn: wht, sme blk-y, sme plty, sme carb incl
Tr. Chert: clr, vy cg, transl, lse
Tr. Ls: gry, blk-y, frm, vy calc

20 - 30 10% Ss: gry, wht, f-mg, sbrnd, vy cly fld, ark, carb incl,
shly, sft, tite, N-S
70% Sh: brn, gry, plty-blky, slty, carb, sndy, bent., frm
10% Clystn: AA
10% Coal: blk, vit, blk-y, sme shly, hard

30 - 50 80% Sh: AA
10% Clystn: AA
10% Coal: AA
Tr. Ss: AA

50 - 60 10% Ss: AA, but frm, no shly, sl porous, N-S
60% Sh: AA
10% Clystn: AA
20% Coal: AA

60 - 70 60% Sh: AA
20% Clystn: blu, wht, plty, sft, sme swelg
20% Coal: AA
Tr. Pyrite

70 - 80 50% Sh: AA
20% Clystn: AA
30% Coal: AA
Tr. Ss: AA, and Tr. Chert: clr, vy cg, transl, sbrnd, lse

80 - 3400 60% Sh: AA
20% Clystn: AA
20% Coal: AA

3400 - 20 80% Sh: AA
20% Clystn: AA
Tr. Ss: AA, but w/shly and vy sl arkosic

3420 - 30 10% Ss: wht, gry, f-mg, sbrnd, mod cly fld, metallic incl,
carb incl, sl ark, frm, sl por, N-S
80% Sh: AA, but w/some carb ptgs
10% Clystn: AA

30 - 40 90% Sh: AA
10% Clystn: AA
Tr. Coal: blk, vit, blk, laminated
Tr. Chert: clr, vy cg, sbrnd, transl, lse

40 - 50 80% Sh: AA, some bent.
20% Clystn: AA
Tr. Coal: AA

50 - 60 60% Sh: brn, lt gry-dk gry, blk, carb incl, sme metallic
incl, sme slty, frm
20% Clystn: lt gry-wht, plty, mafic incl, sft, sme swlg
20% Coal: blk, vit, blk, sme shly incl

60 - 70 70% Sh: AA
10% Clystn: AA
20% Coal: AA

70 - 80 50% Sh: AA
20% Clystn: AA
30% Coal: AA

80 - 90 70% Sh: AA
20% Clystn: AA
10% Coal: AA
Tr. Ss: wht, fg, sbrnd, wl srtd, vy cly fld, ark, carb
incl, hard, sl por, N-S

90 - 3500 40% Sh: lt gry-dk gry, brn, sme blk-plty, sme slty, clayey
incl, carb incl, frm
30% Clystn: AA
30% Coal: AA
Tr. Ss: AA and Tr. Chert: clr, vy cg, sbang, transl, lse

3500 - 20 60% Sh: AA
20% Clystn: AA
20% Coal: AA, but some laminated

20 - 30 50% Sh: lt gry-brn, most blk, sme plty, sme slty, sme sndy,
metallic incl, carb incl, sl calc, sme frm, sme sft
30% Clystn: wht, lt gry, plty, sft, sme swelg
20% Coal: AA
Tr. Ss: wht, lt gry, mg, sbrnd, vy cly fld, ark, carb incl,
sl sft, sl por, N-S

30 - 50 70% Sh: AA
20% Clystn: AA
10% Coal: AA

50 - 60 10% Ss: gry, f-mg, sbrnd, wl srtd, sl cly fld, sme clean,
sl ark, sme carb incl, frm, sl por, N-S
80% Sh: AA
10% Clystn: AA

3560 - 70 80% Sh: lt gry-dk gry, brn, blk, carb incl, sme slty, sme
frm, sme sft, sl calc
20% Clystn: AA
Tr. Ss: AA and Tr. Coal: blk, dull, shly, frm

70 - 80 60% Sh: AA
20% Clystn: AA, but some metallic incl
20% Coal: AA

80 - 90 80% Sh: AA, blk-plty, sme bentonitic, laminated
20% Clystn: wht, gry, plty, sft, sme swlg
Tr. Coal: AA

90 - 3610 70% Sh: AA
20% Clystn: AA
10% Coal: AA

10 - 20 10% Ss: gry, mg, sbrnd, sl ark, clean, fri, por, N-S
70% Sh: AA
10% Clystn: wht, lt grn, plty, sme sbrnd, sft
10% Coal: blk, vit, blk

20 - 40 10% Ss: AA
60% Sh: AA, w/sme bent.
30% Clystn: AA
Tr. Calcite: wht, transl, blk, vy calc

40 - 50 10% Ss: AA
50% Sh: AA
40% Clystn: AA

50 - 60 10% Ss: wht-gry, med-fg, sbrnd, sl ark, sme sl cly fld,
mstly clean, frm, porous, N-S
50% Sh: AA, w/o bent.
20% Clystn: AA
20% Coal: blk, vit, blk, sme silver metallic acc (arseno.)

60 - 70 30% Ss: AA, w/sme vy cly fld.
50% Sh: AA, w/sme vy carb
20% Clystn: AA

70 - 80 80% Sh: gry, sme blk-plty or splintery, sme carb, sme slty
20% Clystn: AA
Tr. Coal: AA

80 - 90 20% Ss: lt gry, fg, sbrnd, ark, sme carb, mstly clean, sme
cly fld, frm, por, N-S
60% Sh: gry, blk, sme carb incl
20% Clystn: AA

90 - 3700 20% Ss: wht & gry, fg, sbang-sbrnd, sme cly fld, sme sft,
fri, N-S
70% Sh: AA
10% Clystn: AA
Tr. Coal: AA

3700 - 10 10% Ss: AA
70% Sh: AA
10% Clystn: AA
10% Coal: AA

3710 - 20 10% Ss: AA
80% Sh: AA
10% Clystn: AA
Tr. Coal: AA

20 - 30 10% Ss: AA
80% Sh: AA
10% Coal: AA

30 - 40 90% Sh: lt brn, plty, sme carb incl
10% Clystn: lt grn, blk, frm
Tr. Ss: AA

40 - 60 80% Sh: lt-dk gry, brn, blk, blk, carb incl, sme frm, sme
sft, some bent., sme slty, sl calc
10% Clystn: wht-lt gry, blk-plty, carb incl, sft, sme swlg
10% Coal: blk, vit, shly prtngs, brittle
Tr. Ls Nodules: wht, clr, vy crs-xln, transl, lse

60 - 70 80% Sh: AA
10% Clystn: AA
10% Coal: AA
Tr. Ls Nods.: AA

70 - 80 60% Sh: AA, but sme vy slty
20% Clystn: AA
20% Coal: blk, sme dull, sme vit, sme shly, hard
Tr. Ls Nods: AA, and Tr. Chert: clr, sbrnd, vy cg, transl, lse

80 - 90 70% Sh: AA
20% Clystn: AA, w/sme metallic incl
10% Coal: AA
Tr. Ss: wht, fg, sbrnd, wl srt'd, cly fld, sl ark, carb incl,
hard, fri, sl calc, sl por, N-S

90 - 3820 80% Sh: lt-dk gry, blk, brn, blk-plty, carb, vy slty, sl calc
mstly frm
10% Clystn: AA
10% Coal: AA
Tr. Ls Nods: wht-clr, vy cg, sbang, transl, lse

20 - 30 70% Sh: AA
20% Clystn: AA
10% Coal: AA, brittle
Tr. Ls Nods: AA

30 - 50 60% Sh: AA, w/sme bent., sme slty
20% Clystn: AA, w/metallic incls (pyrite?)
20% Coal: AA, w/sme laminated, drusy pyrite on bedding plane
Tr. Ss: wht-gry, f-mg, sbrnd, wl srt'd, vy cly fld, sl ark,
sl carb incl, hard, tite, N-S

50 - 60 10% Ss: AA, but poorly srt'd, pyrite incl, some sl por, N-S
60% Sh: AA
20% Clystn: wht-lt gry, plty-blk, carb incl, metallic incl,
vy sft, sme swlg
10% Coal: AA, but no pyrite

3860 - 70 10% Ss: AA, but wl srted, fri, sl calc, N-S
50% Sh: AA
20% Clystn: AA
20% Coal: AA

70 - 90 60% Sh: AA
20% Clystn: AA
20% Coal: AA
Tr. Chert: clr, vy cg, sbrnd, transl, lse

90 - 3910 60% Sh: AA, but sme sft, sme metallic incl
20% Clystn: AA
20% Coal: blk, sme dull, sme vit, blk, sme shly, hard, britt
Tr. Ls Nods: AA

10 - 50 70% Sh: AA
20% Clystn: AA
10% Coal: AA
Tr. Ss: lt gry, med grn, sbrnd, wl srted, vy cly fld, sl ark, carb incl, sl hard, tite, N-S

50 - 60 80% Sh: AA, w/clayey incl, sme bent., sl calc, frm
20% Clystn: AA
Tr. Coal: AA

60 - 90 60% Sh: AA
30% Clystn: AA
10% Coal: AA

90 - 4020 70% Sh: AA
20% Clystn: AA
10% Coal: AA
Tr. Chert: clr, vy cg, sbrnd, transl, lse
Tr. Sltstn: gry, blk, many carb incl, shly, sl ark, sl frm

20 - 30 80% Sh: AA
10% Clystn: AA
10% Ss: AA, but vy hard, fri, sl por, N-S
Tr. Coal: AA

30 - 60 60% Sh: AA
20% Clystn: AA, sme w/metallic incl
20% Coal: blk, some vit, sme dull, blk, hard, sme vy shly
Tr. Ls Nods: clr, vy crs-xln, sbrnd, transl, vy calc
Tr. Sltstn: AA

60 - 70 10% Ss: AA
60% Sh: AA, mstly frm
20% Clystn: AA
10% Coal: AA
Tr. Ls Nods: AA

70 - 80 10% Sltstn: gry, fg, sbrnd, wl srted, vy cly fld, shly, carb incl, calc, fri
50% Sh: AA
20% Clystn: AA
20% Coal: blk, vit, blk, hard

80 - 4100 60% Sh: AA
20% Clystn: AA
20% Coal: AA
Tr. Ss: AA, but poorly srted, vy hard, sl por, N-S

- 4100 - 10 60% Sh: brn-lt gry-dk gry, blk, blk-plty, carb incl, sme vy slty, sme calc, sme frm, sme sft
20% Clystn: wht, blk, carb incl, vy sft, swlg
20% Coal: blk, vit, blk, laminated, sme shly incl, hard
Tr. Chert: clr, vy cg, sbang, transl, lse
- 10 - 20 50% Sh: AA
20% Clystn: AA
30% Coal: AA
Tr. Ss: gry, f-mg, sbrnd, poorly srted, cly fld, sl ark, carb incl, hard, fri, sl por, N-S
- 20 - 60 70% Sh: AA
10% Clystn: AA
20% Coal: AA
Tr. Chert: AA and Tr. Ls Nods: wht, vy crs-xln, sbang, transl, lse
- 60 - 80 80% Sh: AA, w/clay inclcs
10% Clystn: AA
10% Coal: blk, vit, blk, hard
Tr. Sltstn: brn, mg, sbrnd, vy cly fld, carb incl, sft, tite
- 80 - 90 60% Sh: AA, sme vy slty
20% Clystn: AA
20% Coal: AA
Tr. Chert: AA
- 90 - 4200 70% Sh: AA
30% Clystn: AA
Tr. Ss: clr, mg, sbrnd, sl cly fld, carb incl, hard, fri, sl por, N-S
- 4200 - 20 20% Ss: med gry, f-mg, sbang-sbrnd, sl ark, clean, por, N-S
50% Sh: med brn, gry, blk-plty, sme carb incl, frm
20% Clystn: lt grn & wht, sme blk-plty, sft, waxy
10% Coal: blk, vit, ang, sme splintery
Tr. Chert: wht, transp, blk
- 20 - 50 70% Sh: AA
20% Clystn: AA
10% Coal: AA
- 50 - 60 N.S.
- 60 - 90 80% Sh: AA, sme sm pyrite x-stals on face, sme carb, sme bent
20% Clystn: AA, w/all smooth, sft
Tr. Coal: AA
Tr. Calcite: wht, transp, xln, vy calc
- 90 - 4300 60% Sh: AA
20% Clystn: AA
20% Coal: AA
Tr. Calcite: AA and Tr. Pyrite
- 4300 - 30 10% Ss: gry, fg, sbang-sbrnd, sl ark, sme carb incl, sme pyrite incl, clean, por, N-S
60% Sh: AA
20% Clystn: lt grn-wht, waxy, sme blk-plty, all smooth, soft
10% Coal: AA

4330 - 40 70% Sh: AA
20% Clystn: AA
10% Coal: AA

40 - 50 70% Sh: med-dk brn, blk, carb incl, frm
20% Clystn: gry-wht, mstly plty, sft
10% Ss: gry, fg, sbang-sbrnd, sl ark, w/sme carb incl, clean, frm, vy sl por, N-S

50 - 90 60% Sh: AA
30% Clystn: AA
10% Coal: AA

90 - 4400 80% Sh: AA
20% Clystn: AA

4400 - 10 80% Sh: AA, w/sl calc, sme plty
10% Clystn: grn, cream, waxy, blk-plty, all smooth & sft
10% Coal: blk, vit, blk, hard
Tr. Calcite: wht, transp, hard, vy calc

10 - 30 80% Sh: AA, sme slty
20% Clystn: AA
Tr. Coal: AA

30 - 50 70% Sh: AA
30% Clystn: AA
Tr. Coal: AA, Tr. Ss: AA, sme porous, and Tr. Calcite: AA

50 - 60 60% Sh: gry-buff, blk-plty, sme carb
20% Clystn: AA
20% Coal: AA
Tr. Ss: AA, sme cly fld, frm
Tr. Calcite: AA

60 - 90 80% Sh: AA
10% Clystn: AA
10% Coal: AA
Tr. Calcite: wht, opaque-transl, blk, hard, vy calc, crs-xln

90 - 4500 90% Sh: lt gry & lt grn, plty, frm, sme carb incl, sme bent.
10% Clystn: AA

4500 - 5310 N.S.

5310 - 80 100% Sh: med gry, blk, sme carb incl, frm, sl calc

80 - 5400 100% Sh: AA
Tr. Clystn: lt grn, plty, smooth, sft
Tr. Coal: blk, sbang, shly, vit, ang

5400 - 10 30% Ss: wht, lt brn, f-mg, sbrnd, sl ark, clean, por, N-S
60% Sh: brn, lt gry, blk-plty, sme slty, frm, sme carb incl
10% Clystn: lt gry, lt grn, plty, smooth, sft

10 - 20 90% Sh: AA, w/sl calc
10% Clystn: AA

20 - 30 100% Sh: AA

5430 - 40 90% Sh: AA
10% Clystn: grn, blk, smooth, sft

40 - 50 90% Sh: AA
10% Ss: gry, fg, sbang, sl ark, sme carb incl, N-S

5450 - 5500 N.S.

5500 - 20 80% Sh: brn, lt-dk gry, blk, carb incl, sme vy slty, sme vy calc, frm
20% Sltstn: gry, brn, mg, sbrnd, vy cly fld, carb incl, shly, hard, vy calc, no por

20 - 30 100% Sh: AA, but some vy sndy

30 - 80 N.S.

80 - 90 90% Sh: AA
10% Clystn: wht, f-mg, sbrnd, wl srted, cly fld, carb incl, sl ark, sl hard, sl por, N-S

5590 - 5780 N.S.

5780 - 5810 10% Ss: wht, mg, sbrnd, wl srted, sme clean, sme cly fld, sl ark, carb incl, sme hard, sme vy sft, sme tite, sme sl por, N-S
80% Sh: brn-gry-blk, sme plty-blk, carb incl, vy slty, sme sndy, calc, frm
10% Clystn: gry, blk, vy sft, swlg
Tr. Ls Nods: wht, vy crs-xln, transl, lse, calc

10 - 40 90% Sh: AA
10% Clystn: AA, but also wht
Tr. Ss: gry, f-mg, sbrnd, cly fld, shly, carb incl, metallic incl, sl por, N-S

40 - 70 100% Sh: AA
Tr. Chert: clr, vy cg, sbrnd, transl, lse
LCM

5870 - 5900 10% Ss: wht, gry, mg, sbrnd, fairly srted, cly fld, sl ark, carb incl, pyrite incl, fri, sl por, N-S
80% Sh: gry-brn, blk, carb incl, sme slty, sndy, frm, calc
10% Clystn: AA

5900 - 30 100% Sh: AA
Tr. Ss: AA

30 - 60 10% Sltstn: gry, mg, sbrnd, wl srted, cly fld, shly, carb incl, frm, sl por, vy calc, N-S
90% Sh: AA

60 - 90 100% Sh: AA
Tr. Chert: AA
LCM

5990 - 6020 90% Sh: AA
10% Clystn: wht, blk, carb incl, vy sft, swlg

6020 - 6100 90% Sh: AA, w/sme swlg
10% Sltstn: AA

6100 - 20 100% Sh: AA, w/clay incl, sft

20 - 30 90% Sh: AA
10% Clystn: AA

30 - 70 N.S.

70 - 80 100% Sh: gry, brn, blk, blk-plty, carb, vyslty, vy sndy,
frm-sft

6180 - 6210 90% Sh: AA, w/sme vy calc
10% Clystn: AA

10 - 20 100% Sh: AA
LCM

20 - 30 80% Sh: AA
10% Clystn: AA
10% Ls Nods: clr, wht, vy crs-xln, sbang, transl, lse, vy calc

30 - 40 90% Sh: AA, mstly slty, frm
10% Ss: wht, mg, sbrnd, wl srted, cly fld, metallic incl, carb
incl, fri, calc, por, N-S
Tr. Clystn: gry, plty, sft, swlg

40 - 50 80% Sh: AA
20% Sltstn: gry, brn, f-mg, sbrnd, vy cly fld, metallic incl,
carb, sme hard, sl por, sl calc, N-S

50 - 60 80% Sh: AA, but sme sndy
20% Sltstn: AA, w/sl yel-grn fluor w/vy wk cut
Tr. Pyrite

60 - 70 70% Sh: AA
30% Sltstn: AA, w/fluor AA
Tr. Inoceramus frags.

70 - 80 70% Sh: AA
30% Ss: wht, cg, wl srted, sme cly fld, sme clean, sl ark,
carb, hard, fri, por, yel fluor w/strmg yel cut
Tr. Sltstn: AA

80 - 90 50% Sh: AA
50% Ss: AA, w/yel-grn fluor w/good cut

6290 - 6300 60% Ss: AA, less clean, more cly fld, vy sl grn fluor w/fair c
40% Sh: AA

6300 - 10 50% Ss: AA, m-cg, sl por, yel fluor w/vy wk cut
50% Sh: gry, blk, sl sndy, sl carb

6310 - 20 40% Ss: AA, w/less cly fll, show AA
60% Sh: AA

20 - 30 50% Ss: AA, w/show AA
50% Sh: AA, w/less sand

30 - 40 40% Ss: wht-gry, m-cg, wl srted, sbrnd, sl ark, sl cly fld,
carb incl, hard, sl por, w/no show
60% Sh: brn, sbang, sl slty, sme carb incl, frm, sl calc

40 - 47 40% Ss: AA, w/sme fg, tite, N-S
60% Sh: AA, sbang, sme sl slty, sme carb incl

1st circ. sample

@ 10A.M. 50% Ss: AA, vy ark, w/many carb stringers, vy cly fld, tite,
N-S
50% Sh: brn, sbang, sl slty, carb incl, frm, yellow fluor imme

2nd circ. sample

@ 10:30A.M. 40% Ss: AA, cly fld to sl cly fld, sl ark, carb incl,
fri, por, yel-grn. fluor w/wk cut
60% Sh: AA

3rd circ. sample

@ 11A.M. 30% Ss: wht, f-mg, sbrnd, fairly srted, cly fld, sl ark, carb,
fri, sl por, sl yel fluor w/wk cut
70% Sh: AA