

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 _____				5. LEASE DESIGNATION AND SERIAL NO. NM-03153	
b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other _____				6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR Energy Reserves Group, Inc.				7. UNIT AGREEMENT NAME	
3. ADDRESS OF OPERATOR P.O. Box 3280 - Casper, Wyoming 82602				8. FARM OR LEASE NAME O.H. Randel	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface 1,620' FSL & 790' FEL (NW/SE) At top prod. interval reported below At total depth				9. WELL NO. 1-E	
14. PERMIT NO.				DATE ISSUED	
15. DATE SPUNDED 3-25-80				16. DATE T.D. REACHED 4-4-80	
17. DATE COMPL. (Ready to prod.) 6-5-80				18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* KB 6,330' (GL + 14')	
19. ELEV. CASINGHEAD -----				12. COUNTY OR PARISH San Juan	
20. TOTAL DEPTH, MD & TVD 6,320'				13. STATE New Mexico	
21. PLUG, BACK T.D., MD & TVD 6,276'				11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA Sec. 9-T26N-R11W	
22. IF MULTIPLE COMPL., HOW MANY* NA				23. INTERVALS DRILLED BY O-TD	
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 6,236' - 6,256' - Dakota				25. WAS DIRECTIONAL SURVEY MADE NO	
26. TYPE ELECTRIC AND OTHER LOGS RUN Dual Induction; Density-Neutron - GammaRay, Gamma Ray Correlation Collar				27. WAS WELL CORED No	
28. CASING RECORD (Report all strings set in well)					
CASING SIZE		WEIGHT, LB./FT.		DEPTH SET (MD)	
8-5/8"		24#		807' KB	
4-1/2"		10.5#		6,316'	
HOLE SIZE		CEMENTING RECORD		AMOUNT PULLED	
12-1/4"		550 sx "B" + 3% CaCl ₂ + 1/4#/sx Celloflake		-0--	
7-7/8"		See Back of Page		-0--	
29. LINER RECORD					
SIZE		TOP (MD)		BOTTOM (MD)	
				None	
SACKS CEMENT*		SCREEN (MD)			
30. TUBING RECORD					
SIZE		DEPTH SET (MD)		PACKER SET (MD)	
2-3/8"		6,254'		None	
31. PERFORATION RECORD (Interval, size and number of holes) 6,236'-45'; 6,248'-50'; 6,254'-56' w/1 JSPF (13 holes)					
ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.		AMOUNT AND KIND OF MATERIAL USED			
2,900'-32'		Cement squeeze 50 sx "B" w/10% Sal + 2% CaCl ₂ + 1/4#/sx Flocele + 50 sx "B" w/10% Salt.			
6,236'-6,256'		See Back of Page			
33.* BY <u>Val</u> 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 6-5-80		HOURS TESTED 24	CHOKE SIZE 35/48"	PROD'N. FOR TEST PERIOD 5	OIL—BBL. 315
FLOW. TUBING PRESS. 40 psi		CASING PRESSURE 300 psi	CALCULATED 24-HOUR RATE 5	GAS—MCF. 315	WATER—BBL. 1(Load Wt)
DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) VENTED DURING TEST		GAS-OIL RATIO 63,000 SCF/STB			
35. LIST OF ATTACHMENTS SAMPLE DESCRIPTION					
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records					
SIGNED <u>Bobby Patrick</u>		TITLE <u>Production Engineer-RMD</u>			DATE <u>June 12, 1980</u>

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

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 33.

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			
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
			SEE ATTACHED *4-1/2" Cementing - 1st Stage - 226 sx 50-50 Pozmix w/2% Gel + 1/4#/sx Flocele, followed w/363 sx 'B' w/10% Salt + 1/4#/sx Flocele. Stage Collar @ 4,441'. 2nd Stage - 924 sx HOWCO Lite w/10#/sx Gilsonite, followed w/100 sx 50-50 Poz-mix w/2% Gel + 12-1/2#/sx Gilsonite. ** 6,236'-6,256' - Acid breakdown w/1000 gals 7 1/2% "Spearhead" acid w/10% Methanol + additives. - Frac 62,500 gals "Mini Max III" 30# gelled water w/10% Methanol + 400 SCF N₂/bb1 + 125,000# 20-40 sand.
38.			GEOLOGIC MARKERS
			NAME
			LOG TOPS
			MEAS. DEPTH
			TRUE VERT. DEPTH
			Fruitland 1,447' Pictured Cliffs 1,676' Lewis 1,950' Chacra 2,551' Cliff House 3,293' Menefee 3,387' Point Lookout 4,094' Mancos 4,387' Gallup 5,235' Greenhorn 6,077' Graneros 6,136' Dakota 6,196' TD Driller 6,320' Logger 6,316'

SAMPLE DESCRIPTION

1410-1440 50%ss: wht, f-mg, poorly sorted, sbang, clay fld, tite, occ gry sh incl.
30%sh: lt gry, sft, plty, clayey, w/occ carb incl
20%coal: blk, vit, ang.

1440-70 10%ss: AA
80%Sh: AA
10%coal: AA

1470-1500 10%SS: AA
90%Sh: AA

1500-30 40%SS: wht, mg, sbang, clay fld, tite, occ sh incl, tite, fri, occ fg.
50%Sh: AA, slty.
10%coal: blk, vit, ang.

1530-60 50%SS: AA
40%Sh: AA
10%coal: AA

1560-90 50%SS: AA, f-mg, poorly sorted
40%Sh: AA, less slty
10%coal: AA

1590-1620 30%SS: AA
60%Sh: AA, lt gry-lt brn
10%coal: AA

1620-50 40%SS: wht, mg. sbang, clay fld, tite, sl feld, w/occ carb incl, calc,
50% Sh: lt gry, sft, blkY-plty, clayey-slty, w/occ carb incl.
10%coal: AA

1650-60 30%SS: clr gry, fg, sbrnd, sl-mod clay fld, poss. sl porosity, sl feld, w/occ carb incl, calc
70%Sh: AA, some gry
Tr coal: blk, vit

1660-70 40%SS: AA, f-mg, poorly sorted
50%Sh: AA
10%coal: blk, vit

1670-1680 30%SS: AA
70%Sh: bl gry-lt gry, var col, soft, blkY, clayey-slty, some w/carb incl.

1680-90 30%SS: wht, f-m-g, sbrnd, mod clay fld, poss sl pcr, w/carb incl, sl feld, calc
60%Sh: AA
10%coal: blk, vit

1690-1700	20%SS: AA, fg, sbang 70%Sh: AA 10%coal: AA
1700-10	AA
1710-20	10%SS: AA 80%Sh: AA 10%coal: blk, vit
1720-30	30%SS: clr gry-wht, fg, sbang, sl clay fld 70%Sh: bl gry-lt brn, blk, sft, clayey, occ carb incl.
1730-40	50%SS: wht, mg, sbang, sl clay fld, sl porous, sl fld, calc, sl glauc, w/occ carb incl. 40%Sh: AA 10%coal: AA
1740-50	30%SS: AA, fg 70%Sh: AA
1750-60	30%SS: wht, fg, sbang, mod clay fld, tite, calc, sl glauc, S & P 70%Sh: gry, sft, blk, slty, w/occ carb incl.
1760-70	20%SS: AA 80%Sh: AA
1770-80	50%SS: wht, fg, sbang, clay fld, tite, S & P, calc 50%Sh: AA
1780-90	40%SS: AA 60%Sh: lt gry-brn, sft, blk, slty.
1790-1800	NS
1800-10	50%SS: AA 50%Sh: AA
1810-20	50%SS: AA, sl glauc. 50%Sh: gry, sft, blk, clayey, w/occ carb incl.
1820-30	AA
1830-50	NS
1850-70	50%SS: wht-gry, fg, sbang, calc, mod cly fld, sl sh, tite 50%Sh: bl gry-lt brn, sft, blk, plty-clayey, w/occ carb incl.
1870-80	AA
1880-90	30%SS: AA, some mg 70%Sh: AA

1390-1900	AA
1900-30	50%SS: AA 50%Sh: AA
1930-60	40%SS: wht-gry,vfn-f-g, sbang, clay fld, shly tite, S & P, calc 60%Sh: AA
1960-1990	20%SS: AA 80%Sh: AA
1990-2020	100%Sh: gry brn, sft, blk, slt-sndy, w/occ carb incl, sl calc
2020-50	AA
2050-80	100%Sh: AA, no sand
2080-2110	AA
2110-2040	AA
2140-70	100%Sh: gry, sft, blk, slt, w/occ carb incl
2170-2260	AA
2260-2290	100%Sh: gry, sft-fm, blk-plt, slt, w/carb incl
2290-2350	AA
2350-2410	NS
2410-40	100%Sh: bl gry-lt brn, sft, blk, clayey-slt
2440-70	100%Sh: AA, some dk brn & carb
2470-2500	10%SS: wht, vy-f-g, sbang, mod clay fld, poss sl por, calc, w/occ carb incl 90%Sh: AA
2500-2530	20%SS: AA, fg, sl clay fld, fair por 80%Sh: AA
2530-60	30%SS: wht, vy-f-g, sbang, clay fld, tite, w/occ carb incl, calc 70%Sh: AA
2560-90	30%SS: wht, fg, sbang, sl-mod clay fld, sl porous, calc w/carb incl 70%Sh: AA
2590-2620	20%SS: AA 80%Sh: AA

2620-2650	100%Sh: bl gry-lt brn-brn, frm, blk, slty-clayey, w/occ carb incl.
2650-2680	NS
2680-2710	10%SS: wht, clr wht, fg, sbang, sl clay fld, poss sl porosity, occ shaly incl 90%Sh: bl gry-brn-dk brn, frm, blk, slty, some clayey, occ carb incl, some carb
2710-40	100%Sh: AA
2740-70	AA
2770-2800	100%Sh: AA, mostly bl gry & clayey
2800-30	NS
2830-60	10%SS: wht, fg, sbang, clay fld, tite 90%Sh: bl gry-lt brn, frm-sft, blk-plty, clayey-slty, occ carb incl.
2860-90	100%Sh: AA
2890-2920	10% SS: clr wht, fg, sbang, clean, fair por, frm, 90%Sh: AA
2920-50	NS
2950-80	20%SS: AA, some lse, fri. 80%Sh: AA
2980-3010	10%SS: AA 90%Sh: AA
3010-40	100%Sh: bl gry-lt gry, sft, blk, clayey-sl slty, some dk brn & carb
3040-70	AA
3070-3100	10%SS: clr gry, fg, sbrnd, clean, hard, poss sl por, calc 90%Sh: AA
3100-20	NS
3120-30	100%Sh: bl gry-lt gry-brn, frm-sft, blk, clayey-sl slty, some dk brn & carb
3130-40	NS
3140-50	30%SS: wht-gry, vy-f-g, sbrnd, shly & tite, S & P, calc 70%Sh: AA

3150-60	100%Sh: bl gry-brn, sft-frm, blk Tr. coal: blk, shiny, shaly
3160-70	10%SS: wht, fg, sbrnd, clay fld, tite, occ carb incl. 90%Sh: AA
3170-80	100%Sh: bl gry-brn, frm, blk, slty, w/carb incl.
3180-90	AA
3190-3200	10%SS: wht, fg, sbang, clay fld, tite, calc 90%Sh: AA, bl gry-lt brn
3200-10	NS
3210-20	100%Sh: gry-brn, frm, blk, clayey-sl slty, w/carb incl.
3220-30	100%Sh: AA Tr. coal: blk, vit, ang.
3230-40	AA
3240-50	100%Sh: AA, some dk brn & carb
3250-60	100%Sh: bl gry-gry, frm-sft, blk, clayey, w/occ carb incl., some dk brn & carb
3260-70	AA
3270-90	NS
3290-3300	10%SS: wht, vy-fg, sbang, clay fld, sl shly, frm, tite, w/occ carb incl. 90%Sh: AA
3300-10	100%Sh: bl gry-brn, sft, blk, clayey, slty, some dk brn & carb
3310-30	AA
3330-40	10%SS: wht, f-mg, psrt, sbang, frm, clay fld, tite. 90%Sh: AA
3340-50	20%SS: AA 80%Sh: AA
3350-60	20%SS: wht, mg, sbang, clay fld, poss s/por, sl ^{glauc} , calc 80%Sh: AA, scat pyrite masses
3360-70	NS
3370-80	20%SS: AA, f-mg, psrt 80%Sh: AA
3380-90	100%Sh: AA

3390-3420	NS
3420-30	100%Sh: lt gry-bl gry-dk brn, sft, blk, some carb
3430-40	AA
3440-50	100%Sh: AA, scat pyrite masses
3450-60	90%Sh: AA 10%coal: blk, vit
3460-70	100%Sh: bl gry-lt gry-brn, frm, blk, clayey Tr. coal: AA
3470-80	NS
3480-90	100%Sh: AA Tr. coal: AA
3490-3520	NS
3520-30	100%Sh: bl gry-gry, sft, blk, clayey, w/occ carb incl. Tr. inoceramus prisms
3530-40	10%SS: wht, mg, sbang, clay fld, tite, sl feld, calc 90%Sh: AA
3540-50	AA
3550-60	AA
3560-70	100%Sh: bl gry-brn, frm, blk, clayey-sl slty, some dk brn & carb, scat pyrite masses
3570-80	AA
3580-90	AA
3590-3600	AA
3600-10	100%Sh: bl gry-brn, frm, blk, sl slty, w/occ carb incl
3610-20	100%Sh: AA
3620-30	100%Sh: AA, slty, some dk brn & carb
3630-40	AA
3640-50	AA
3650-60	100%Sh: bl gry-brn, frm, blk, occ carb incl, some dk brn & carb
3660-70	100%Sh: AA, scat pyrite masses Tr. SS: wht, mg, sbrnd, clay fld, frm, tite, calc, sl feld

3670-80	AA
3680-90	AA
3690-3700	NS
3700-10	100%Sh: AA, some slty
3710-20	100%Sh: bl gry-lt gry, frm-sft, blkly, some dk brn & carb
3720-30	100%Sh: AA, some sl slty
3730-40	AA
3740-50	AA
3750-60	10%SS: wht, mg, sbrnd, clay fld, frm, tite, sl feld, calc 90%Sh: bl gry-brn, frm, blkly, w/carb incl.
3760-70	100%Sh: gry-brn, frm, blkly-plty, slty, w/carb incl, some dk brn & carb
3770-80	100%Sh: AA, some bl gry & clayey
3780-90	100%Sh: AA Tr. coal: bl, vit
3790-3800	100%Sh: AA
3800-10	100%Sh: bl gry-lt gry-brn, sft, blkly-plty, some sl sndy, w/occ carb incl.
3810-20	10%SS: wht, fg, sbang, clay fld, frm, tite, occ carb incl 90%Sh: AA, scat pyrite masses
3820-30	20%SS: AA, S & P 80%Sh: AA
3830-40	10%SS: AA, some shly 90%Sh: AA
3840-50	100%Sh: bl gry-brn, frm, blkly, clayey-slty, w/carb incl
3850-60	20%SS: gry, fg, sbrnd, sl clay fld, hard, poss s/por, carb incl, calc 80%Sh: AA Tr. inoceramus prisms
3860-70	10%SS: AA, clay fld, shly, tite 90%Sh: AA

3870-80	100%Sh: bl gry-brn, frm, blk, clayey Tr. coal: blk vit, ang
3880-90	AA
3890-3900	100%Sh: AA
3900-10	10%SS: wht, fg, sbang, clay fld, tite, w/occ carb incl 90%Sh: AA
3910-20	100%Sh: AA Tr. coal: blk, vit, ang
3920-30	100%Sh: brn, frm, blk, slty, w/carb incl, some bl gry & clayey
3930-40	100%Sh: AA, less slty
3940-50	AA
3950-60	10%SS: wht, fg, sbang, clay fld, hard, tite, sl glauc, calc 90%Sh: AA
3960-70	100%Sh: bl gry-gry, sft, blk-plty, slty-clayey
3970-80	AA
3980-90	20%SS: wht-gry, f-mg, psrt, sbang, clay fld-sl shly, frm, tite, occ carb incl, feld 80%Sh: AA Tr. chert: translucent yel, vcg, sbrnd
3990-4000	90%Sh: lt gry-lt brn, sft, blk, crumbly, some dk brn & carb 10% chert: clr, vc-g, sbrnd
4000-10	NS
4010-20	70%Sh: AA, scat pyrite masses 30%coal: blk, vit ang
4020-30	50%Sh: AA 50%coal: AA
4030-40	10%SS: wht, mg, sbang, clay fld, tite, sl feld, calc 60%Sh: AA 30%coal: AA
4040-50	70%Sh: AA 30%coal: AA
4050-60	80%Sh: gry-brn, frm, blk, w/occ carb incl. 20%coal: blk, vit, ang

4060-70	10%SS: wht, mg, sbrnd, clay fld, tite, sl feld, calc 60%Sh: AA 30%coal: AA
4070-80	50%Sh: AA 50%coal: AA
4080-90	70%Sh: bl gry-lt gry-brn, frm, blk, w/occ carb incl. 30%coal: AA
4090-4100	90%Sh: AA 10%coal: AA
4100-10	50%Sh: gry-brn, frm, blk, slty, w/carb incl 50%coal: AA
4110-20	30%Sh: AA 70%coal: AA
4120-30	AA
4130-40	AA
4140-4200	NS
4200-10	20%SS: wht, mg, sbang, mod-clay fld, poss sl por, sl feld, calc 80%Sh: lt gry-gry-brn, frm, blk-plty, clayey-slty, w/carb incl
4210-20	10%SS: AA, f-mg, psrt 90%Sh: AA, some dk brn & carb
4220-30	90%Sh: AA 10%coal: blk, vit, ang, occ amber incl
4230-40	20%SS: wht, mg, sbang, clay fld, tite 80%Sh: AA Tr. coal: AA
4240-50	30%SS: wht, f-mg, sbrnd, sl clay fld, gd por, sl feld, calc 80%Sh: AA
4250-60	30%SS: AA, mod clay fld, fair por 70%Sh: AA
4260-70	10%SS: AA 60%Sh: bl gry-lt brn, frm, blk, clayey 30%coal: blk, vit, ang
4270-80	20%SS: wht, fg, sbrnd, clay fld, tite, sl feld, calc 80%Sh: AA

4280-90	10%SS: AA 90%Sh: AA
4290-4300	AA
4300-10	10%SS: AA 60%Sh: lt gry-gry, frm, plty-plty, sl micmica, w/occ carb incl, sl calc 30%coal: blk, vit
4310-20	20%SS: wht, f-mg, psrt, sbrnd, clay fld, tite, sl feld, calc 80%Sh: AA Tr. coal: AA
4320-30	100%Sh: AA
4330-40	10%SS: wht, fg, sbang, clay fld, tite, occ carb incl 90%Sh: lt-gry-gry-brn, frm, blk-plty, w/carb incl.
4340-50	100%Sh: AA
4350-60	100%Sh: AA, some bl gry & clayey
4360-70	NS
4370-80	100%Sh: gry-brn, frm, blk-plty, w/carb incl.
4380-90	100%Sh: AA
4390-4400	100%Sh: AA, some bl gry, clayey & blk
4400-30	100%Sh: gry, frm, blk-plty, some sl slty, w/carb incl
4430-60	100%Sh: AA, no slty
4460-90	100%Sh: gry, frm, plty, occ carb incl, some dk gry & carb
4490-4550	100%Sh: AA, sl slty
4550-4610	100%Sh: gry-dk gry, frm, plty-some blk, slty, w/carb incl
4610-40	100%Sh: AA, sl less slty
4640-4700	AA
4700-60	100%Sh: gry, frm, plty-blk, occ carb incl
4760-90	100%Sh: AA, gry-dk gry, sl slty
4790-4820	100%Sh: AA, slty

4820-4850	AA
4850-4910	100%Sh: gry, frm, plty-blky, sl slty, micmica, w/occ carb incl
4910-40	100%Sh: AA, no slt
4940-5000	100%Sh: AA, sl slty
5000-5280	NS
5280-5290	100%Sh: gry-dk gry, frm, blky, some slty, w/carb incl, some sl sndy
5290-5300	AA
5300-10	100%Sh: gry-brn, frm, blky, slty, w/carb incl
5310-20	10%SS: wht-gry, vy fg, sbrnd, mod clay fld, sl shly, tite, calc, w/occ carb incl, <u>vy dull yel fluor</u> <u>w/no cut</u> 90%Sh: AA
5320-30	10%SS: AA, mostly gry shly & tite, <u>vy faint dull</u> <u>yel fluor w/no cut</u> 90%Sh: AA
5330-40	100%Sh: AA Tr. SS: AA
5340-50	AA
5350-60	10%SS: wht, fg, sbrnd, clay fld, frm-hard, tite, occ carb incl, calc, <u>vy faint dull yel fluor</u> <u>w/no cut</u> 90%Sh: AA
5360-70	10%SS: AA, <u>vy faint & dull yel fluor w/no cut</u> 90%Sh: gry-dk brn, frm, blky, some slty, w/carb incl
5370-80	10%SS: AA, N-S 90%Sh: AA
5380-90	20%SS: wht-gry, vyf-f-g, sbrnd, mod clay fld, hard, tite, calc, <u>vy faint yel fluor w/no cut</u> 80%Sh: AA, scat pyrite masses
5390-5400	10%SS: AA, <u>vy faint yel fluor w/no cut</u> 90%Sh: AA
5400-10	20%SS: clr wht-wht, fg, sbang, sl-mod clay fld, frm, poss sl porosity, calc, N-S 80%Sh: AA Tr. inoceramus prisms
5410-20	20%SS: wht, fg, sbang, mod clay fld, frm, poss sl por, calc, N-S 80%Sh: AA

5420-30 10%SS: AA, some gry, shly & tite, N-S
90%Sh: gry-dk gry, frm, blk, slty, w/carb incl,
scat pyrite masses

5430-40 10%SS: wht, fg, sbang, clay fld, tite, calc, N-S
90%Sh: AA

5440-50 10%SS: AA, vy faint dull yel fluor w/no cut
90%Sh: AA
Tr. inoceramus prisms

5450-60 100%Sh: AA
Tr. SS: AA
Tr. inoceramus prisms

5460-70 AA

5470-80 AA

5480-90 10%SS: wht, fg, sbang, clay fld, tite, calc, S&P,
vy faint dull yel fluor w/no cut
90%Sh: AA

5490-5500 10%SS: wht, fg, sbrnd, mod clay fld, poss sl por.,
hard, S&P, vy faint dull yel fluor w/no cut
90%Sh: AA

5500-10 20%SS: buff, f-mg, sbrnd, clay fld, frm, sl shly, tite,
w/carb incl, faint yel fluor w/vy wk-no cut
80%Sh: AA

5510-20 20%SS: wht, fg, sbrnd, clay fld, frm, tite, calc,
vy faint yel fluor w/vy wk cut
80%Sh: AA

5520-30 10%SS: wht-buff, fg, sbrnd-sbang, clay fld, tite, calc,
N-S
90%Sh: AA, some bl gry & clayey, scat pyrite masses

5530-40 100%Sh: gry-dk gry, frm, blk, slty, w/carb incl
Tr. coal: blk, vit ang

5540-50 100%Sh: AA

5550-60 100%Sh: AA, some bl gry & clayey

5560-70 100%Sh: AA
Tr. coal: blk, vit, ang

5570-80 10%SS: wht, fg, sbang, clay fld, tite, calc, S&P, N-S
90%Sh: gry-dk gry, frm, blk-plty, w/carb incl

5580-90 10%SS: AA, vy faint dull yel fluor w/no cut
90%Sh: AA

5590-5600 100%Sh: AA
Tr. coal: blk, vit, ang

5600-10	NS
5610-20	20%SS: wht, fg, sbang, clay fld, hard, tite, calc, <u>faint yel fluor w/vy wk cut</u> 80%Sh: AA
5620-30	10%SS: AA, N-S 90%Sh: AA
5630-40	20%SS: AA, some mg, N-S 80%Sh: AA
5640-50	100%Sh: AA
5650-60	100%Sh: gry-dk gry, frm, blk, slty, w/carb incl, sl calc
5660-70	AA
5670-5810	NS
5810-20	100%Sh: dk gry, frm, blk, slty, sl calc, w/carb incl
5820-30	AA
5830-50	100%Sh: AA, some lt gry & sl clayey
5850-60	100%Sh: dk gry, frm, blk, sl slty, w/carb incl, sl carb
5860-70	AA
5870-80	AA
5880-90	100%Sh: dk gry, frm, blk, sl slty, sl carb, sl calc, w/carb incl
5890-5900	100%Sh: AA, some sl clayey
5900-10	100%Sh: AA Tr. SS: bl gry, fg, sbang, clay fld, glauc, sl feld, calc, N-S
5910-20	100%Sh: AA, scat pyrite masses
5920-40	AA
5940-50	10%SS: wht, fg, sbang, clay fld, hard, tite, w/occ carb incl, N-S 90%Sh: AA Tr. inoceramus prisms
5950-60	10%SS: AA, f-vy-f-g 90%Sh:
5960-70	10%SS: AA, occ shly incl 90%Sh: AA

5970-80	10%SS: gry-wht, f-m-g, sbrnd, mod-hvy clay fld, frm poss sl por, N-S 90%Sh: AA
5980-90	10%SS: wht, vy f-fg, sbrnd, clay fld, tite, sl glauc, N-S, w/occ carb incl 90%Sh: AA, mod calc
5990-6000	100%Sh: dk gry, frm, blkyl-plty, carb, mod calc
6000-40	NS
6040-50	100%Sh: dk gry, frm, blkyl, sl clayey-sl slty, calc
6050-60	100%Sh: AA
6060-70	10%SS: wht, fg, sbrnd, clay fld, frm-hard, tite, occ carb incl, N-S 90%Sh: AA, sl calc
6070-80	100%Sh: AA Tr. Inoceramus prisms
6080-90	100%Sh: AA, calc
6090-6100	100%Sh: AA, vy calc
6100-10	100%Sh: AA, limy, w/occ limestone incl
6110-20	100%Sh: dk gry, frm, blkyl, limy, sl clayey, occ limestone incl
6120-30	AA
6130-40	100%Sh: AA Tr. Inoceramus prisms
6140-50	AA
6150-60	100%Sh: AA, sl slty, limy
6160-70	10% SS: wht, fg, sbang, clay fld, hard, tite, sl glauc, w/occ carb incl. 90%Sh: AA
6170-80	10%SS: AA 90%Sh: AA, scat pyrite masses
6180-90	100%Sh: dk gry, frm, blkyl-plty, carb, sl slty, calc
6190-6200	100%Sh: AA, scat pyrite masses
6200-10	10%Sh: gry-wht, fg, sbang, clay fld, sl shly, tite, N-S, calc, w/occ carb incl. 90%Sh: AA

6210-20	100%Sh: Sl calc
6220-30	30%SS: wht, fg, sbrnd, frm, fair por, clean, calc, occ carb incl, <u>N-S</u> 70%Sh: AA, no snd
6230-40	NS
6240-50	100%Sh: dk gry, frm, blk, slty-sl sndy, carb incl, carb, sl calc
6250-60	AA
6260-70	40%SS: wht, fg, sbrnd, hard, clay fld, poss sl por, sl glauc, w/occ carb incl, calc 60%Sh: AA, less slty
6270-80	30%SS: AA, sl clay fld, sl porous 70%Sh: AA
6280-90	50%SS: AA, some sl shly & tite 50%Sh: AA
6290-6300	30%SS: AA 70%Sh: AA
6300-20	40%SS: wht, fg, sbrnd, clean, fair por, hard, sl glauc, w/occ carb incl. 60%Sh: AA