

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.

5. LEASE DESIGNATION AND SERIAL NO.

SF-078019

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

E. H. Pipkin

9. WELL NO.

15

10. FIELD AND POOL, OR WILDCAT

Fulcher Kutz PC/Kutz Fruitland

11. SEC., T., R., M., OR BLOCK AND SURVEY
OR AREA

Sec. 35-T28N-R11W

12. COUNTY OR
PARISH
San Juan13. STATE
New Mexico

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 3280 - Casper, Wyoming 82602

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

At surface 790' FNL & 790' FWL (NW/NW)

At top prod. interval reported below

At total depth

14. PERMIT NO.

DATE ISSUED

15. DATE SPUDDED 16. DATE T.D. REACHED 17. DATE COMPL. (Ready to prod.)

4-25-81

4-28-81

7-26-81

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

5,745' KB (GL + 2')

19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD

1,800' KB

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

1,747' KB

22. IF MULTIPLE COMPL.
HOW MANY*

NA

23. INTERVALS
DRILLED BY

ROTARY TOOLS

CABLE TOOLS

0-TD

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

1,649'-1,688' Pictured Cliffs

25. WAS DIRECTIONAL
SURVEY MADE

NO

26. TYPE ELECTRIC AND OTHER LOGS RUN

Induction; Comp. Neutron-Formation Density

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
7" OD	17#	123'	9-7/8"	65 sx 'B' w/2% CaCl ₂ and	-0-
4-1/2" OD	10.5#	1,787'	6-1/4"	1/4# Celloflake/sx See Rack of Page	-0-

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
		None			2-3/8"	1,691' KB	-----

31. PERFORATION RECORD (Interval, size and number)

1,649'-51', 1,665'-70', 1,680'-88'
w/1 JSPF (18 perfs)

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
1,649'-1,688'	BD w/1000 gal 7 1/2% HCl w/additives. Frac'd w/32,000 gal 70% Quality Foam w/55,000# 10-20 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
7-26-81	24	3/8"	→	NA	697	0	NA
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
205 psi	290 psi	→	NA	697	0	NA	

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

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

SIGNED

P. Wagner

TITLE

PRODUCTION ENGINEER-RMD

DATE

7-28-81
5 1981

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

FARMINGTON DISTRICT

BY

SMM

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: "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:				38. GEOLOGIC MARKERS	
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
			<u>Sample Description Attached</u> 4-1/2 casing - Cemented w/100 sx 50-50 Pozmix w/2% gel, 1/4# Flocele/sk & 0.5% CFR-2 followed by 300 sx 'B' w/10% salt & 2% CaCl₂.	LOG TOPS Nacimientio Ojo Alamo Kirtland Fruitland Pictured Cliffs Lewis T.D. Logger T.D. Driller	Surface 560' 655' 1,405' 1,644' 1,756' 1,792' 1,800'



SAMPLE DESCRIPTION

130-40 70% Ss: wht, lt gry, vf-fg, sbrnd, well sorted, glauc,
 vy clyflld, vy soft, tite, NS
 20% Sh: rddsh brn, blk, clyey, vy soft
 10% Chert: lt yellow, lt orange, cs-xln, sbang, loose

140-50 90% Ss: AA w/sme clear, cs-g, loose
 10% Sh: gry, blk, clayey, swelling, vy soft

150-60 90% Ss: wht, grn, vf-fg, sbrnd, well sorted; mst loose,
 sme vy clyflld, vy soft, tite, NS
 10% Chert: AA

160-70 80% Ss: AA
 20% Sh: gry, blk, clyey, swelling, soft

170-80 60% Ss: AA
 40% Sh: AA
 Trace Chert: AA

180-90 50% Ss: wht, grn, vf-csg, sbrnd, mod-vy clyflld, glauc,
 soft, most loose
 50% Sh: gry, blk, clyey, sl. swelling, carb stringers,
 soft

190-200 80% Ss: AA
 20% Sh: AA
 Trace Chert: lt brn, opaque, cs-xln, sbang, loose

200-10 80% Ss: clear, wht, cs-g, sbrnd, loose
 10% Sh: grnsh gry, gy, blk, clyey, sl. swelling, soft
 10% Chert: AA

210-20 80% Ss: wht, clear, lt grn, f-csg, sbrnd, glauc, mod
 clyflld, soft, tite, NS
 20% Sh: AAA w/sme silicified
 Trace Chert: AA

220-30 70% Ss: AA
 20% Sh: AA
 10% Chert: AA

230-40 80% Ss: wht, clear, lt grn, vf-csg, sbrnd, glauc, mod
 clyflld, soft, tite, NS
 20% Sh: grnsh gry, gry, blk, clyey w/sm silicified,
 soft-firm.

240-50 20% Ss: AA
 80% Sh: AA

250-60 20% Ss: AA
80% Sh: brn, grnsh gry, blk, slty, clyflld, soft
Trace Chert: AA

260-70 50% Ss: wht, clear, cs-g, sbrnd, loose
50% Sh: AA
Trace Chert: AA

270-80 40% Ss: AA w/sme med-g
60% Sh: AA w/ carb, soft

280-90 50% Ss: wht, m-csg, sbrnd, vy clyflld, soft, sme loose,
tite, NS
50% Sh: Grn, gry, brn, blk, clyey, soft

290-300 40% Ss: AA w/vy clyflld, vy soft
60% Sh: AA
Trace Chert: AA

300-10 80% Ss: wht, clear, m-cs g, sbrnd, loose, mod clyflld, soft,
tite, NS
20% Sh: grnsh gry, gry, blk, waxy, soft

310-20 80% Ss: wht, clear, cs-g, sbrnd, loose
20% Sh: AA w/sme silicified
Trace Chert: AA w/sme red

320-30 90% Ss: AA w/sme carb staining
10% Chert: lt brn, lt orange, sbang-sbrnd, loose

330-40 40% Ss: AA
60% Sh: gry, blk-plty, waxy, clyey, swelling, soft
Trace Chert: AA

340-50 80% Ss: AA
20% Chert: lt brn, grn, lt orange, sbrnd-sbang, loose
Trace Sh: AA

350-60 80% Ss: wht, clear, cs-g, sbrnd, mod clyflld, loose
20% Chert: AA w/sme red, gry

360-70 80% Ss: AA
20% Sh: grnsh gry, gry, blk-plty, clyey, sfot

370-80 70% Ss: AA
10% Sh: AA
20% Chert: lt brn, orange, red, grn, cs-xln, sbang, loose

380-90 80% Ss: wht, cs-g, sbrnd, loose
20% Sh: AA
Trace Chert: AA

390-400 70% Ss: AA
30% Sh: grnsh gry, gry, blk, soft
Trace Pyrite

400-10 90% Ss: wht, clear, m-csg, sbrnd, mod clyfll, soft,
fair poros, NS
10% Chert: orange, lt brn, gry, cs-xln, sbang, loose

410-20 90% Ss: AA
10% Chert: AA w/dk gry

420-30 80% Ss: AA
20% Chert: lt orange, grn, gry-dk gry, cs-xln, loose

430-40 90% Ss: wht, clear, cs-g, sbrnd, loose
10% Chert: AA
Trace Pyrite

440-50 80% Ss: AA
10% Sh: gry, blk, slty, soft
10% Chert: AA

450-60 80% Ss: wht, clear, m-csg, sbrnd, loose
10% Sh: AA
10% Chert: lt brn, lt orange, orange, cs-xln, sbang, loose
Trace Pyrite

460-70 80% Ss: AA
10% Sh: AA
10% Chert: AA

470-80 70% Ss: wht, clear, cs-g, sbrnd, loose w/carb staining
10% Sh: gry, blk-plty, slty, soft
20% Chert: AA w/red

480-90 80% Ss: AA w/med g
10% Sh: AA
10% Chert: AA

490-500 60% Ss: wht, clear, m-cs-g, sbrnd, mod clyfll, loose
20% Sh: gry, blk-plty, sme slty, soft
20% Chert: gry, red, orange, brn, cs-xln, ang-sbang,
loose

500-10 60% Ss: AA
40% Sh: AA w/clyey, swelling, vy soft

510-20 40% Ss: wht, clear, m-csg, sbrnd, loose
60% Sh: gry, grn, blk, slty, clyey, swelling, sfot
Trace Chert: AA

520-30 70% Ss: AA
30% Chert: lt orange, creme, red, gry, cs-xln, ang-sbang,
loose

530-40 80% Ss: wht, clear, cs-g, sbrnd, loose
 20% Chert: AA

540-50 80% Ss: AA
 20% Chert: creme, cs-xln, ang-sbang, loose

550-60 50% Ss:
 40% Sh: gry, blk, slty, clyey, soft
 10% Chert: AA

560-70 80% Ss: wht, clear, cs-g, sbrnd, loose, mod-clyfll
 20% Sh: AA
 Trace Pyrite:

570-80 90% Ss: AA
 10% Sh: gry, blk, waxy, vy soft
 Trace Pyrite:

580-90 10% Ss: AA
 80% Sh: AA
 10% Chert: orange, lt brn, red cs-xln, loose

590-600 80% Ss: wht, clear, cs-g, sbrnd, loose
 10% Sh: gry, blk, waxy, clyey, soft
 10% Chert: AA

600-10 30% Ss: AA
 70% Sh: gry, brn, blk-plty, clyey, sl. swelling, sm
 carb stringers, soft
 Trace Chert: AA

610-20 60% Ss: wht, clear, m-cs-g, sbrnd, loose
 20% Sh: AA
 20% Chert: lt brn-orange, cs-xln, ang-sbang, loose

620-30 50% Ss: AA
 30% Sh: gry, brn, blk, clyey, sl. swelling, soft
 20% Chert: AA w/ red

630-40 60% Ss: AA
 10% Sh: AA
 20% Coal: blk, blk, vitr w/pyrite fract fill, firm
 10% Chert: AA

640-50 60% Ss: wht, clear, m-cs-g, sbrnd, mod clyfll, soft-loose
 10% Sh: gry, brn, blk, sl. carb and clyey, soft
 30% Chert: AA w/grn
 Trace Pyrite

650-660 80% Ss: AA
20% Chert: lt brn, lt orange, red, cs-xln, ang, loose
Trace Sh: AA
Trace Pyrite

660-70 90% Ss: wht, clear, f-cs g, sbrnd, loose
10% Chert: AA
Trace Sh: AA w/ silicified
Trace Pyrite

670-80 30% Ss: AA
70% Sh: gry, brn, blk, sl carb and slty, soft
Trace Chert: AA
Trace Pyrite

680-90 10% Ss: wht, clear, m-cs g sbrnd, loose
90% Sh: AA
Trace Pyrite

690-700 100% Sh: brn, grnsh gry, blk, waxy, soft

700-10 100% Sh: gry, grnsh gry, blk, waxy, soft-firm

710-20 30% Ss: wht, f-g, sbrnd, well sorted, glauc and carb,
mod-clyflld, soft, vy sl. poros, NS
70% Sh: AA
Trace Pyrite

720-30 50% Ss: wht, lt grn, f-g, sbrnd, fair srted, glauc and carb,
sl. ark, mod clyflld, soft-firm, sl. poros, NS
50% Sh: gry, grnsh gry, blk, waxy, soft

730-40 30% Ss: AA w/vy calc
70% Sh: AA w/lt grnsh gry, carb stringers, soft-firm
Trace Pyrite

740-50 50% Ss: AA
50% Sh: AA

750-60 100% Sh: grnsh gry, brn, gry, blk-plty, sl. slty, firm-
soft
Trace Pyrite

760-70 20% Ss: wht, lt grn, f-g, sbrnd, glauc and sl. ark, mod
clyflld, firm, sl. poros, NS
80% Sh: AA
Trace Pyrite

770-80 10% Ss: AA
90% Sh: grnsh gry, gry, blk-plty, sl slty, firm-soft

780-90 40% Ss: wht, f-g, sbrnd, sl. ark w/carb and glauc, mod
 clyfll, firm, vy calc, tite, NS
 60% Sh: AA

790-800 20% Ss: AA
 80% Sh: AA w/sl carb
 Trace Coal: blk, vitr, blk, soft

800-10 20% Ss: wht, blue green, f-g, sbrnd, fairly srted, sl ark,
 w/carb incl, sl-mod clyfll, firm, sl. poros, NS
 80% Sh: grnsh gry, gry, blk-plty, waxy, soft

810-20 30% Ss: AA w/sme glauc incl.
 70% Sh: AA

820-30 100% Sh: grnsh gry, gry, brn, blk-plty, slty, sme waxy,
 clyey, soft

830-40 20% Ss: wht, lt grn, vf-fg, sbrnd, sl. clyflld, soft-
 friable, fair poros, NS
 80% Sh: AA w/thin carb laminations

840-50 10% Ss: AA
 90% Sh: grnsh gry, gry, blk, sl. carb, soft

850-60 30% Ss: wht, blue grn, vf-fg, sbrnd, mod-vy clyfll, firm-
 vy soft, tite, NS
 70% Sh: AA

860-70 30% Ss: blue grn, lt gry, vf-fg, sbrnd, vy clyflld, soft,
 tite, NS
 70% Sh: grnsh gry, gry, blk-plty, sl. slty, soft

870-80 20% Ss: AA
 70% Sh: AA
 10% Clyst: creme, blk, isol. qtz grns, vy soft

880-90 100% Sh: gry, grnsh gry, brn, blk-plty, sl. carb, soft
 Trace Ss: AA

890-900 100% Sh: AA
 Trace Clyst: AA

900-10 30% Ss: wht, lt blue, f-g sbrnd, fairly sorted, glauc,
 vy sl. clyflld, firm, fair poros, NS
 70% Sh: grnsh gry, gry, dk brn, blk-plty, soft

910-20 40% Ss: AA
 60% Sh: AA w/sl. slty, sme silicified

920-30 50% Ss: wht, lt. blue, grnsh blue, f-g, sbrnd, sl. clyflld,
 glauc, vy firm-firm, sl. poros, NS
 50% Sh: grnsh gry, gry, blk, clyey, soft w/sl. swelling
 Trace Clyst: AA
 Trace Pyrite.

930-40 30% Ss: grnsh blue, f-g, sbrnd, glauc, vy firm, tite, NS
70% Sh: AA

940-50 60% Ss: wht, f-g, sbrnd, well sorted, sl. ark, glauc and
mica, vy clyflld, vy soft w/most loose, tite, NS
40% Sh: grnsh gry, gry, blk, soft
Trace Pyrite

950-60 20% Ss: AA
80% Sh: AA w/mstly gry

960-70 10% Ss: AA
90% Sh: brn, gry, grnsh gry, blk, soft

970-80 10% Ss: wht, f-g, sbrnd, well sorted, sl. ark w/glauc and
carb, sl. clyflld, firm, fair poros, NS
90% Sh: AA
Trace Pyrite

980-90 10% Ss: AA
90% Sh: AA

990-1000 10% Sh: AA
90% Sh: AA

1000-10 100% Sh: grnsh gry, brn, gry, blk, sl. slty, firm-soft

1010-20 10% Ss: wht, f-g, sbrnd, vy clyflld, firm, tite, NS
90% Sh: AA

1020-30 100% Sh: grnsh gry, gry, brn, blk, sl. slty, firm-soft
Trace Ss: AA

1030-40 100% Sh: lt grnsh gry, grnsh gry, gry, brn, blk-plty,
clyey, soft-vy soft, w/sme vy sl slty

1040-50 100% Sh: AA

1050-60 100% Sh: AA

1060-70 20% Ss: wht, lt. gry, f-g, sbrnd, mod clyflld, soft, vy sl.
poros, NS
80% Sh: grnsh gry, gry, brn, blk-plty, sl. slty, firm-
soft
Trace Pyrite

1070-80 20% Ss: AA
80% Sh: AA
Trace Pyrite

1080-90 30% Ss: wht, blue grn, vf-fg, sbrnd, sl. clyflld, vy
sl ark w/glauc and carb incl, firm, sl. poros, NS
70% Sh: gry, brn, grnsh gry, blkyltly, sl. slty, firm-soft

1090-1100 30% Ss: AA w/sme vy clyflld, soft
70% Sh: AA

1100-10 10% Ss: wht, lt gry, vf-fg, sbrnd, well sorted, sl. ark
w/glauc, mod clyflld, firm, sl. poros, NS
90% Sh: AA

1110-20 30% Ss: wht, f-g, sbrnd, sl ark, sl clyflld, firm, sl.
poros, NS
70% Sh: AA
Trace Pyrite

1120-30 10% Ss: AA
90% Sh: brn, grnsh gry, gry, blkyltly, firm-soft
Trace Pyrite

1130-40 10% Ss: wht, vy lt. grn, vf-g, sbrnd, fairly sorted,
sl ark, glauc and carb, mod clyflld, soft, tite, NS
90% Sh: AA
Trace Clyst: wht, blkyltly, vy soft

1140-50 30% Ss: wht, creme, f-g, sbrnd, well sorted, glauc and sh
incl, mod clyflld, vy calc, tite, NS
70% Sh: AA

1150-60 30% Ss: AA w/o calc
70% Sh: grnsh gry, gryy, blkyltly, clyey, swelling, vy soft

1160-70 30% Ss: wht, creme, vf-fg, sbrnd, glauc and sh incl,
mod clyflld, firm-soft, sme vy calc, tite, NS
70% Sh: AA

1170-80 40% Ss: AA
60% Sh: AA

1180-90 10% Sh: wht, f-g, sbrnd, well sorted glauc, mod
clyflld, firm, sl. poros, NS
90% Sh: grnsh gry, blkyltly, sl. slty, soft

1190-1200 10% Ss: AA
90% Sh: AA
Trace Pyrite

1200-10 10% Ss: wht, lt gry, f-g, sbrnd, glauc, vy sl. clyflld,
soft-friable, fair poros, NS
90% Sh: grnsh gry, blkyltly, sl. slty, sme waxy, soft
Trace Calcite: wht, opaque, cs-xln, blkyltly, vy calc

1210-20 100% Sh: AA w/sme dk gry

1220-30 100% Sh: AA

1230-40 100% Sh: grnsh gry, brn, blkyl-pty, waxy, clyey, sl.
swlling, soft

1240-50 100% Sh: AA
Trace Clyst: wht-creme, blkyl, vy soft

1250-60 100% Sh: grnsh gry, gryy, brn, blkyl-pty, sl. slty,
soft

1260-70 20% Ss: wht, f-g, sbrnd, carb, sl. clyfll, firm, sl.
poros, NS
80% Sh: AA
Trace Pyrite

1270-80 30% Ss: AA w/sl. ark
70% Sh: AA

1280-90 100% Sh: AA w/dissemin. pyrite grains

1290-1300 20% Ss: AA w/carb coatings
80% Sh: AA

1300-10 10% Ss: wht, lt gry, vf-fg, sbrnd, sl. ark w/glauc incl,
sl. clyfll, firm, vy calc, tite, NS
90% Sh: grnsh gry, blkyl, soft w/sme carb coatings

1310-20 20% Ss: AA w/carb coatings
80% Sh: AA

1320-30 30% Ss: wht, vf-fg, sbrnd, sl. ark w/glauc incl, sl-mod
clyfll, firm, vy calc, tite, NS
70% Sh: grnsh gry, dk grnsh gry, blkyl-pty, soft
Trace Pyrite

1330-40 10% Ss: AA
90% Sh: AA w/carb stringers
Trace Calcite: wht, opaque, cs-xln, blkyl-ang, vy calc

1340-50 100% Sh: grnsh-dk grnsh gry, blkyl-pty, sl. slty, carb, soft
Trace Ss: AA

1350-60 10% Ss: wht, lt grn, vf-fg, sbrnd, sl. ark, mod-vy clyfll,
firm, vy sl. poros, NS
90% Sh: dk-grnsh gry, brn, gry, blkyl-pty, sl. slty, soft
Trace Coal: blk, vitr, blkyl, firm

1360-70 100% Sh: AA
Trace Coal: AA
Trace Calcite: AA

1370-80 100% Sh: dk-grnsh gry, brn, gry, blk-y-plty, sl. slty, soft
 1380-90 20% Ss: lt grn, gry, vf-fg, sbrnd, sl-mod clyflld, firm
 vy calc, tite, NS
 80% Sh: AA
 1390-1400 100% Sh: brn, gry, grnsh gry, blk-y-plty, carb, clyey, soft
 Trace Ss: AA
 1400-10 100% Sh:AA w/sl. slty
 Trace Ss: AA
 1410-20 20% Ss: lt gry, wht, vf-fg, sbrnd, carb and glauc incl,
 sl. clyflld, firm, sme vy calc, tite, NS
 80% Sh: AA
 1420-30 10% Ss: AA
 90% Sh: lt-dk grnsh gry, brn, dk gry, blk-y-plty, sl.
 slty and carb, soft
 Trace Clyst: wht-creme, blk-y, vy soft
 1430-40 40% Ss: lt gry, f-g, sbrnd, sl. ark w/carb incl, sl.
 clyflld, firm, vy calc, tite, NS
 60% Sh: AA
 1440-50 50% Ss: AA w/med carb frags
 50% Sh: AA
 Trace Pyrite
 1450-60 50% Ss: wht, vf-fg, sbrnd, sl ark and clyflld, glauc and
 carb, firm, vy calc, NS
 50% Sh: AA
 Trace Pyrite
 Trace Calcite; wht, transl, cs-xln, ang, vy calc
 1460-70 20% Ss: AA
 80% Sh: AA
 Trace Calcite: AA
 1470-80 10% Ss: lt gry, f-g, sbrnd, sl. ark and clyflld, glauc incl,
 firm, sl. poros, NS
 70% Sh: grnsh gry, brn, dk gry, blk-y-plty, sl. slty and carb,
 soft
 20% Coal: blk, vitr, blk-y, firm
 1480-90 20% Ss: AA
 60% Sh: AA

1490-1500 20% Ss: AA w/vy sl. calc
80% Sh: grnsh gry, brn, dk gry, blk-y-plty, sl slty, carb,
soft
Trace Pyrite

1500-10 30% Ss: wht, f-g, sbrnd, well sorted, sl ark and clyflld,
carb and glauc, firm, vy calc, tite, NS
60% Sh: lt-dk grnsh gray, brn, dk gry, blk-y-plty, soft
10% Coal: blk, vitr, blk-y, firm

1510-20 40% Ss: AA
60% Sh: AA w/carb

1520-30 30% Ss: wht, f-g, sbrnd, well sorted, sl ark and clyflld,
glauc and carb incl, firm, sme calc, tite, NS
70% Sh: dk grnsh gry, brn, dk gry, blk-y-plty, carb frags
and stringers, sl. slty, soft
Trace Coal: AA w/pyrite fracture fill

1530-40 40% Ss: AA w/incr. carb
60% Sh: AA

1540-50 40% ss: wht, lt gry, f-g, sbrnd, sl. ark and clyflld, firm,
sl. poros, NS
60% Sh: AA

1550-60 20% Ss: AA w/carb coatings
80% Sh: AA
Trace Coal: blk-y, vitr, blk-y, firm

1560-70 50% Ss: wht, f-g, sbrnd, well sorted, sl. ark, vy sl.
clyflld, glauc incl, firm, vy calc, tite, NS
30% Sh: gry, grnsh gry, blk-y, clyey, carb, soft
20% Coal: AA

1570-80 30% Ss: AA
70% Sh: AA

1580-90 50% Ss: wht, lt. gry, vf-fg, sbrnd, sl. ark, sl-mod clyflld,
firm, vy calc, tite, NS
50% Sh: AA

1590-1600 40% Ss: AA
40% Sh: AA
20% L.S.: tan, brwn, dense, ang, firm, vy calc

1600-10 100% Sh: gry, grnsh gry, blk-y-plty, waxy, sl. carb, soft
Trace Coal: blk, vitr, blk-y-splintery, soft

1610-20 10% Ss: wht-vy lt. grn, f-g, sbrnd, sl. clyflld, firm,
sl. calc, sl. poros, NS
90% Sh: AA

1620-30 20% Ss: AA w/carb incl.
80% Sh: grnsh gry, gry, dk brn, blk-pty, soft
Trace Coal: AA

1630-40 20% Ss: wht, lt gry, f-g, sbrnd, sl. ark, sl. clyfld, glauc, vy firm, mod calc, tite, NS
80% Sh: AA
Trace Clyst: wht-creme, pty, vy soft

1640-50 10% Ss: AA
90% Sh: AA

1650-60 10% Ss: wht, f-g, sbrnd, sl. ark, sl. clyfld, glauc and carb, vy firm, mod calc, tite, NS
90% Sh: gry, grnsh gry, blk, sl. slty w/carb frags and stringers, soft

1660-70 20% Ss: AA
70% Sh: AA
10% L.S.: tan-brn, dense, ang, hard, vy calc

1670-80 30% Ss: AA
70% Sh: AA w/incr. carb material

1680-90 40% Ss: AA
60% Sh: AA

1690-1700 50% Ss: AA
30% Sh: AA
20% Coal: AA

1700-10 50% Ss: wht, lt gry, f-g, sbrnd, well sorted, sl. ark, mod clyfld, carb, firm, mod clyfld, tite, NS
50% Sh: gry, brn, grnsh gry, blk-pty, sl. slty, carb, soft
Trace Pyrite
Trace Coal: AA

1710-20 50% Ss: AA
50% Sh: AA
Trace Coal: AA w/shly, soft

1720-30 60% Ss: wht, lt.gry, vf-fg, sbrnd, carb, clean, firm, vy calc, tite, NS
40% Sh: gry, brn, grnsh gry, blk, clyey, slty, carb, soft
Trace Pyrite
Trace Coal: AA

1730-40 60% Ss: AA
40% Sh: AA

1740-50 30% Ss: wht, lt gry, vf-fg, sbrnd, sl. clyflld, carb,
 firm, sl. poros, NS
 70% Sh: gry, brn, grnsh gry, blkylt, slty, carb, soft
 Tract Pyrite: AA

1750-60 30% Ss: AA
 70% Sh: AA
 Trace Clyst: wht, plty, vy soft
 Trace Pyrite

1760-70 20% Ss: wht, lt gry, vf-fg, sbrnd, sl. ark, clean, carb
 firm, mod calc, NS
 80% Sh: AA
 Trace Pyrite

1770-80 10% Ss: AA w/mod-vy clyflld, soft, NS
 90% Sh: dk gry, gry, grnsh gry, blkylt, waxy, soft
 Trace Pyrite

1780-90 10% Ss: wht, f-g, sbrnd, sl. ark, sl. clyflld, carb, firm,
 vy calc, tite, NS
 90% Sh: AA

1790-1800 20% Ss: AA
 80% Sh: AA