

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other in-
structions on
reverse side)Form approved.
Budget Bureau No. 42-R655.5.

LEASE DESIGNATION AND SERIAL NO.

SF-078828

IF INDIAN, ALLOTTEE OR TRIBE NAME

UNIT AGREEMENT NAME

Gallegos Canyon Unit

FARM OR LEASE NAME

WELL NO.

279

FIELD AND POOL, OR WILDCAT

Kutz Pictured Cliffs, West

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

Section 23, T28N-R12W

COUNTRY OR
PARISH
San JuanSTATE
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 1650' FNL, 990' FWL (SW NW)

At top prod. interval reported below

At total depth

14. PERMIT NO.

DATE ISSUED

15. DATE SP'DDED

8-17-79

6. DATE T.D. REACHED

8-21-79

17. DATE COMPL. (Ready to prod.)

9-21-79

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

Grd 5767' KB 5777'

19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD

1828'

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

1758'

22. IF MULTIPLE COMPL.,
HOW MANY*23. INTERVALS
DRILLED BY

ROTARY TOOLS

0 - TD

CABLE TOOLS

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

1602'-10', 1620'-32'

25. WAS DIRECTIONAL
SURVEY MADE

No

26. TYPE ELECTRIC AND OTHER LOGS RUN

Induction - SFL; Comp Neutron-Form 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
8 5/8"	36#	129' KB	12 1/4"	100 sks 'B' + 2% CaCl ₂ + 1/2#/sk Flocele	-0-
4 1/2"	10.79#	1798' KB	6 3/4"	175 sks 65-35 Poz-Tailin w/135 sks 'B' *	-0-

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
	None				2 3/8"	1609'	None

31. PERFORATION RECORD (Interval, size and number)

1602'-10' w/4 JSPF
1620'-32' w/1 JSPF

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
1620'-32'	25,000 gals 70% Quality Foam + 40,000# 10-20 sd @ 2PPG

33. PRODUCTION

DATE FIRST PRODUCTION:	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
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DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
9-20-79	24	3/4"	→	-0-	260	78	
FL. C. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
125#	SI 195#	→	-0-	260	78		

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

Heers B. Barnes

TITLE

Dist. Prod. Eng. - RMD

DATE

September 24, 1979

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

NMCCC

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 POHOLS ZONES:				38. GEOLOGIC MARKERS		
SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORREL 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
			SEE ATTACHED		LOG TOPS	
			* 4 1/2" Csg cemented to surface	Naclimiento	Surface	
				Ojo Alamo	377'	
				Kirtland	465'	
				Fruitland	1311'	
				Pictured Cliffs	1592'	
				Lewis	1789'	
				TD Driller	1828'	
				Logger	1829'	

SAMPLE DESCRIPTION

730 - 50	100% Sh: gry, firm, sandy
50 - 70	10% Ss: clr, m-g, sbang, friable, clean, <u>N-S</u> 90% Sh: AA
70 - 80	20% Ss: clr, m-crs-g, sbang, uncons., vy porous, <u>N-S</u> 80% Sh: gry, sandy, firm
80 - 90	10% Ss: AA 90% Sh: AA
90 - 800	30% Ss: clr-lt gry, m-g, sbang, hard, mod clay fill, porous, <u>N-S</u> 70% Sh: gry, firm
800 - 10	20% Ss: AA 80% Sh: AA
10 - 20	10% Ss: AA 90% Sh: AA
20 - 30	10% Chert: clr, vy crs-g, sbang, lse. 90% Sh: lt gry-drk gry, firm, pyritic in part
30 - 40	20% Ss: lt gry, m-g, sbrnd, sl clay fill, friable, porous, <u>N-S</u> 70% Sh: AA 10% Chert: clr, crs-g, sbang, lse.
40 - 50	30% Ss: AA 60% Sh: AA 10% Chert: AA
50 - 60	50% Ss: AA 40% Sh: AA 10% Chert: AA
60 - 70	30% Ss: AA 60% Sh: AA 10% Chert: AA
70 - 80	10% Ss: AA 80% Sh: AA 10% Chert: AA
80 - 90	20% Ss: lt gry, m-crs-g, sbrnd, vy clay filled, soft, tite, <u>N-S</u> 80% Sh: gry, soft, w/carb. frags.
90 - 900	30% Ss: AA 70% Sh: AA

900 - 20	40% Ss: lt gry-clr, fn-crs-g, sbrnd, mod clay fill, friable, sl porous, <u>N-S</u> 60% Sh: AA
20 - 30	10% Ss: AA 90% Sh: AA
30 - 40	20% Ss: AA, w/more lse grains 80% Sh: AA
40 - 50	30% Ss: AA 70% Sh: AA
50 - 60	10% Ss: lt gry, vfn-g, sbrnd, clay filled, soft, tite, <u>N-S</u> 90% Sh: AA
60 - 70	20% Ss: lt gry, fn-m-g, sbrnd, vy clay filled, soft, tite, <u>N-S</u> 80% Sh: AA
70 - 80	30% Ss: AA 70% Sh: AA
80 - 90	50% Ss: lt gry-clr, m-crs-g, sbrnd-sbang, sl to mod clay fill, friable, vy porous, <u>N-S</u> 50% Sh: AA
90 - 1000	30% Ss: lt gry-clr, fn-m-g, sbrnd, mod clay fill, firm, sl porous, <u>N-S</u> 70% Sh: AA
1000 - 10	10% Ss: AA 90% Sh: gry, firm, silty
10 - 20	10% Ss: AA 80% Sh: AA 10% Chert: clr, vy crs-g, sbrnd, frosted
20 - 30	20% Ss: AA 80% Sh: AA
30 - 40	40% Ss: AA 60% Sh: gry, firm, silty in part, some carb.
40 - 50	60% Ss: clr-lt gry, m-crs-g, sbrnd, sl clay fill, friable, vy porous, <u>N-S</u> 40% Sh: AA
50 - 70	40% Ss: clr, fn-crs-g, sbrnd, sl clay fill, sl arkosic, sl carb, sl porous, <u>N-S</u> 60% Sh: AA
70 - 80	20% Ss: AA 80% Sh: AA
1080 - 1380	N.S.

1380 - 90	80% Ss: wht, m-g, sbang, mod clay fill, fair porosity, sl calc, w/carb. incl. 10% Sh: gry, firm, silty, sl lignitic 10% Coal: blk, vit, sl shaly
90 - 1400	30% Ss: AA, clr, wht 40% Sh: AA 30% Coal: AA
1400 - 10	80% Ss: AA 10% Sh: AA 10% Clystn: bl gry, soft, waxy
10 - 30	100% Coal: AA Tr. Ss: AA, and Tr. Clystn: AA
30 - 40	20% Ss: gry, fn-g, sbrnd, sl shaly, mod clay fill, sl calc, fair porosity, w/occ. carb. incl. 80% Sh: gry, firm, silty, sl lignitic
40 - 50	80% Ss: wht, m-g, sbrnd, sl calc, mod clay fill, w/carb. incl. 20% Sh: AA
50 - 60	20% Ss: AA, clr, gry 80% Sh: AA
60 - 80	20% Ss: AA 50% Sh: AA, some drk brn & carb. 30% Clystn: bl gry, soft, waxy
80 - 90	60% Ss: AA 40% Sh: AA Tr. Coal: Blk, vit.
90 - 1500	70% Ss: AA, mod-hvy clay fill 20% Clystn: bl gry, soft, waxy 10% Coal: AA
1500 - 10	100% Sh: gry-bl gry, soft-firm, clayey, w/occ. carb. incl.
10 - 20	80% Sh: AA 20% Coal: blk, vit.
20 - 30	N.S.
30 - 50	100% Sh: AA, some silty Tr. Coal: AA
1550 - 1630	N.S.
1630 - 40	80% Ss: clr wht, sbrnd, sl clay filled, calc, w/occ. carb. incl., some lse, <u>N-S</u> 20% Sh; gry-drk gry, soft-firm, sl clayey, some carb.
40 - 50	80% Ss: wht, fn-g, sbrnd, calc, mod-hvy clay fill, soft, w/occ. carb. incl. 10% Sh: bl gry-dk gry, soft, some clayey, some carb. 10% Coal: blk, vit. sl shaly

1650 - 80	70% Ss: AA, fn-m-g 30% Sh: AA
80 - 1700	50% Ss: AA 50% Sh: AA
1700 - 20	90% Ss: AA, fn-g 10% Sh: gry, soft, sl silty, sl lignitic
20 - 50	50% Ss: AA, fn-m-g, mod-hvy clay fill 50% Sh: AA Tr. Coal: AA
50 - 60	100% Sh: gry, soft, sl calc, slty-sndy, w/occ. carb. incl.
60 - 1800	50% Ss: wht, vfn-fn-g, sbrnd, mod clay fill, fair porosity hard, tite 50% Sh: AA
1800 - 30	100% Sh: AA
TD 1830	

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil ☐ well gas ☒ well 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. See space 17 below.)
AT SURFACE: 1650' FNL & 990' FWL (SW NW)
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

TEST WATER SHUT-OFF ☐
FRACTURE TREAT ☐
SHOOT OR ACIDIZE ☐
REPAIR WELL ☐
PULL OF: ALTER CASING ☐
MULTIPLE COMPLETE ☐
CHANGE ZONES ☐
ABANDON* ☐

SUBSEQUENT REPORT OF:

(other) Well History

5. LEASE

SF-078828

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

Gallegos Canyon Unit

8. FARM OR LEASE NAME

9. WELL NO.

279

10. FIELD OR WILDCAT NAME

West Kutz - Pictured Cliffs

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

Sec. 23-T28N-R12W

12. COUNTY OR PARISH

San Juan

13. STATE

New Mexico

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)

G.L. 5767'; K.B. 5777'

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

This above described well was spudded @ 11:00 am, 8-17-79. Drilled 12 1/2" hole to 133'. Ran 3 jts of 8 5/8" O.D., 36#, 8Rth, R-3, New, K-55, Casing set @ 129' (K.B.). Cemented w/100 sx of Class "B" cement w/2% CaCl₂ and 1/4# Flocele/sx. Plug down @ 5:45 am, 8-18-79. Good cement returns.

Nippled up and pressure tested BOPE to 800 PSI, held O.K. Drld 6 3/4" hole to 1,823' and ran logs.

Ran 45 jts 4 1/2" O.D., 8Rth, 10.79#, BE, R-3, ST&C, New casing set @ 1,798' (K.B.). Cement w/175 sx of 65-35 pozmix w/12% gel; followed w/135 sx of Class "B" cement w/1/4# Flocele/sx. Plug down @ 10:10 am, 8-22-79. Good cement returns.

8-23-79 - W.O.C.T.

Subsurface Safety Valve: Manu. and Type

18. I hereby certify that the foregoing is true and correct

SIGNED Karen Wilson TITLE Drlg

Supt.

DATE

8-24-79

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

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.

5. LEASE DESIGNATION AND SERIAL NO.

SF-078828

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

Gallegos Canyon Unit

8. FARM OR LEASE NAME

9. WELL NO.

279

10. FIELD AND POOL, OR WILDCAT

Kutz Pictured Cliffs, West

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

Section 23, T28N-R12W

12. COUNTY OR
PARISH

San Juan

13. 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 1650' FNL, 990' FWL (SW 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.)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
8-17-79	8-21-79	9-21-79	Grd 5767' KB 5777'	

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
1828'	1758'		→	0 - TD	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
1602'-10', 1620'-32'25. WAS DIRECTIONAL
SURVEY MADE

No

26. TYPE ELECTRIC AND OTHER LOGS RUN

Induction - SFL; Comp Neutron-Form 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
8 5/8"	36#	129' KB	12 1/4"	100 sks 'B' + 2% CaCl ₂	
				+ 1/4#/sk Flocele	-0-
4 1/2"	10.79#	1798' KB	6 3/4"	175 sks 65-35 Poz-Tailin	
				w/135 sks 'B' *	-0-

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
	None				2 3/8"	1609'	None

31. PERFORATION RECORD (Interval, size and number)

1602'-10' w/4 JSPF
1620'-32' w/1 JSPF

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
1620'-32'	25,000 gals 70% Quality Foam + 40,000# 10-20 sd @ 2PPG

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
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DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
9-20-79	24	3/4"	→	-0-	260	78	

FLOW, TURING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
125#	SI 195#	→	-0-	260	78	

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

Heen B. Barnes

TITLE

Dist. Prod. Eng. - RMD

DATE

September 24, 1979

*(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 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

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	GEOLOGIC MARKERS	
					MEAS. DEPTH	TRUE VERT. DEPTH
			SEE ATTACHED		LOG TOPS	
			* 4½" Csg cemented to surface	Nacimientito	Surface	
				Ojo Alamo	377'	
				Kirtland	465'	
				Fruitland	1311'	
				Pictured Cliffs	1592'	
				Lewis	1789'	
				TD Driller	1828'	
				Logger	1829'	

SAMPLE DESCRIPTION

730 -- 50	100% Sh: gry, firm, sandy
50 -- 70	10% Ss: clr, m-g, sbang, friable, clean, <u>N-S</u> 90% Sh: AA
70 -- 80	20% Ss: clr, m-crs-g, sbang, uncons., vy porous, <u>N-S</u> 80% Sh: gry, sandy, firm
80 -- 90	10% Ss: AA 90% Sh: AA
90 -- 800	30% Ss: clr-lt gry, m-g, sbang, hard, mod clay fill, porous, <u>N-S</u> 70% Sh: gry, firm
800 -- 10	20% Ss: AA 80% Sh: AA
10 -- 20	10% Ss: AA 90% Sh: AA
20 -- 30	10% Chert: clr, vy crs-g, sbang, lse. 90% Sh: lt gry-drk gry, firm, pyritic in part
30 -- 40	20% Ss: lt gry, m-g, sbrnd, sl clay fill, friable, porous, <u>N-S</u> 70% Sh: AA 10% Chert: clr, crs-g, sbang, lse.
40 -- 50	30% Ss: AA 60% Sh: AA 10% Chert: AA
50 -- 60	50% Ss: AA 40% Sh: AA 10% Chert: AA
60 -- 70	30% Ss: AA 60% Sh: AA 10% Chert: AA
70 -- 80	10% Ss: AA 80% Sh: AA 10% Chert: AA
80 -- 90	20% Ss: lt gry, m-crs-g, sbrnd, vy clay filled, soft, tite, <u>N-S</u> 80% Sh: gry, soft, w/carb. frags.
90 -- 900	30% Ss: AA 70% Sh: AA

900 -- 20	40% Ss: lt gry-clr, fn-crs-g, sbrnd, mod clay fill, friable, sl porous, <u>N-S</u> 60% Sh: AA
20 -- 30	10% Ss: AA 90% Sh: AA
30 -- 40	20% Ss: AA, w/more lse grains 80% Sh: AA
40 -- 50	30% Ss: AA 70% Sh: AA
50 -- 60	10% Ss: lt gry, vfn-g, sbrnd, clay filled, soft, tite, <u>N-S</u> 90% Sh: AA
60 -- 70	20% Ss: lt gry, fn-m-g, sbrnd, vy clay filled, soft, tite, <u>N-S</u> 80% Sh: AA
70 -- 80	30% Ss: AA 70% Sh: AA
80 -- 90	50% Ss: lt gry-clr, m-crs-g, sbrnd-sbang, sl to mod clay fill, friable, vy porous, <u>N-S</u> 50% Sh: AA
90 -- 1000	30% Ss: lt gry-clr, fn-m-g, sbrnd, mod clay fill, firm, sl porous, <u>N-S</u> 70% Sh: AA
1000 -- 10	10% Ss: AA 90% Sh: gry, firm, silty
10 -- 20	10% Ss: AA 80% Sh: AA 10% Chert: clr, vy crs-g, sbrnd, frosted
20 -- 30	20% Ss: AA 80% Sh: AA
30 -- 40	40% Ss: AA 60% Sh: gry, firm, silty in part, some carb.
40 -- 50	60% Ss: clr-lt gry, m-crs-g, sbrnd, sl clay fill, friable, vy porous, <u>N-S</u> 40% Sh: AA
50 -- 70	40% Ss: clr, fn-crs-g, sbrnd, sl clay fill, sl arkosic, sl carb, sl porous, <u>N-S</u> 60% Sh: AA
70 -- 80	20% Ss: AA 80% Sh: AA
1080 -- 1380	N.S.

1380 - 90	80% Ss: wht, m-g, sbang, mod clay fill, fair porosity, sl calc, w/carb. incl. 10% Sh: gry, firm, silty, sl lignitic 10% Coal: blk, vit., sl shaly
90 - 1400	30% Ss: AA, clr, wht 40% Sh: AA 30% Coal: AA
1400 - 10	80% Ss: AA 10% Sh: AA 10% Clystn: bl gry, soft, waxy
10 - 30	100% Coal: AA Tr. Ss: AA, and Tr. Clystn: AA
30 - 40	20% Ss: gry, fn-g, sbrnd, sl shaly, mod clay fill, sl calc, fair porosity, w/occ. carb. incl. 80% Sh: gry, firm, silty, sl lignitic
40 - 50	80% Ss: wht, m-g, sbrnd, sl calc, mod clay fill, w/carb. incl. 20% Sh: AA
50 - 60	20% Ss: AA, clr, gry 80% Sh: AA
60 - 80	20% Ss: AA 50% Sh: AA, some drk brn & carb. 30% Clystn: bl gry, soft, waxy
80 - 90	60% Ss: AA 40% Sh: AA Tr. Coal: Blk, vit.
90 - 1500	70% Ss: AA, mod-hvy clay fill 20% Clystn: bl gry, soft, waxy 10% Coal: AA
1500 - 10	100% Sh: gry-bl gry, soft-firm, clayey, w/occ. carb. incl.
10 - 20	80% Sh: AA 20% Coal: blk, vit.
20 - 30	N.S.
30 - 50	100% Sh: AA, some silty Tr. Coal: AA
1550 - 1630	N.S.
1630 - 40	80% Ss: clr wht, sbrnd, sl clay filled, calc, w/occ. carb. incl., some lse, <u>N-S</u> 20% Sh: gry-drk gry, soft-firm, sl clayey, some carb.
40 - 50	80% Ss: wht, fn-g, sbrnd, calc, mod-hvy clay fill, soft, w/occ. carb. incl. 10% Sh: bl gry-dk gry, soft, some clayey, some carb. 10% Coal: blk, vit. sl shaly

1650 - 80	70% Ss: AA, fn-m-g 30% Sh: AA
80 - 1700	50% Ss: AA 50% Sh: AA
1700 - 20	90% Ss: AA, fn-g 10% Sh: gry, soft, sl silty, sl lignitic
20 - 50	50% Ss: AA, fn-m-g, mod-hvy clay fill 50% Sh: AA Tr. Coal: AA
50 - 60	100% Sh: gry, soft, sl calc, slty-sndy, w/occ. carb. incl.
60 - 1800	50% Ss: wht, vfn-fn-g, sbrnd, mod clay fill, fair porosity hard, tite 50% Sh: AA
1800 - 30	100% Sh: AA
TD 1830	