

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. Jicarilla 35	
b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other _____				6. IF INDIAN, ALLOTTEE OR TRIBE NAME Jicarilla Apache	
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 Jicarilla 35	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface 1690' FSL, 940' FEL (NE SE) At top prod. interval reported below At total depth				9. WELL NO. 12	
10. FIELD AND POOL, OR WILDCAT West Lindrith Gallup Dakota Extension				11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA Sec. 35-T25N-R5W	
14. PERMIT NO. U. S. GEOLOGICAL SURVEY FARMINGTON, N.M.				12. COUNTY OR PARISH Rio Arriba	
15. DATE SPUDDED 12-18-79				13. STATE New Mexico	
16. DATE T.D. REACHED 1-3-80				18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* GRD 6,854'; KB 6,868'	
17. DATE COMPL. (Ready to prod.) 8-20-80				19. ELEV. CASINGHEAD	
20. TOTAL DEPTH, MD & TVD 7,515'		21. PLUG, BACK T.D., MD & TVD 7,350'		22. IF MULTIPLE COMPL., HOW MANY* NA	
23. INTERVALS DRILLED BY →		ROTARY TOOLS O-TD		CABLE TOOLS	
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 7,259'-65'; 7,272'-74'; 7,287'-89'; 7,300'-09' - Dakota				25. WAS DIRECTIONAL SURVEY MADE NO	
26. TYPE ELECTRIC AND OTHER LOGS RUN Dual Induction - SFL; Comp Neutron-Form Density; Cyberlook				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#		488' KB	
4-1/2"		10.5# & 11.6#		7,513'	
HOLE SIZE		CEMENTING RECORD		AMOUNT PULLED	
12-1/4"		350 sks "B" + 1/4#/sk Frac fluid		-0-	
7-7/8"		See Back of Page		-0-	
29. LINER RECORD					
SIZE		TOP (MD)		BOTTOM (MD)	
				None	
SACKS CEMENT*		SCREEN (MD)		SIZE	
				2-3/8"	
FACER SET (MD)		DEPTH SET (MD)		FACER SET (MD)	
		7,293'		None	
31. PERFORATION RECORD (Interval, size and number) 7,261'-63'; 7,272'; 7,287'; 7,300'-06'; 7,381'-85' w/1 JSPF (17 holes) - Sqz'd. Re-perf 7,259'-65'; 7,272'-74'; 7,287'-89'; 7,300'-09' w/1 JSPF (23 holes)					
32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.					
DEPTH INTERVAL (MD)		AMOUNT AND KIND OF MATERIAL USED			
7,261'-7,385'		BD w/1000 gals 15% HAS-1 + additives. Fraced w/80,000 gals 30# GWX-4 w/120,000# 20-40 sd. w/ 400 SCF N ₂ /bbl in last 25,000 gals.			
33.* PRODUCTION					
DATE FIRST PRODUCTION 8-20-80		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Flowing			WELL STATUS (Producing or shut-in) Producing
DATE OF TEST 8-20-80		HOURS TESTED 24		CHOKE SIZE 12/64"	
PROD'N. FOR TEST PERIOD →		OIL—BBL. 10		GAS—MCF. 12	
WATER—BBL. 16 (Frac Fluid)		GAS-OIL RATIO 1200 SCF/STB			
FLOW. TUBING PRESS. 25 psi		CASING PRESSURE 675 psi		CALCULATED 24-HOUR RATE →	
OIL—BBL. 10		GAS—MCF. 12		WATER—BBL. 16 (Frac Fluid)	
OIL GRAVITY-API (CORR.) 40.9					
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 certify that the foregoing and attached information is complete and correct as determined from all available records					

SIGNED

SEP 2 1980

TITLE Prod Engr- RMD

DATE August 21, 1980

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

FARMINGTON DISTRICT

BY

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 38, 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 TOP TRUE VERT. DEPTH
			*4-1/2" cementing - 1st stage - 500 sx 50-50 Pozmix + 2% gel. Stage collar @ 5,308'. 2nd Stage - 700 sx 65-35 Pozmix + 6% gel + 1/4#/sk Flocele followed w/100 sx 50-50 Pozmix + 2% gel + 1/4#/sk Flocele. Temp Survey Cmt. Top @ 2,050'. Perfs 7,381'-85' - Tstd water - Set Cmt. Ret. @ 7,365'. Sqzd w/100 sks in 3 separate tries. Drilled out. Set another Cmt. Ret. @ 7,360'. Sqzd w/35 sks. Re-perf Dakota 7,259'-65'; 7,272'-74'; 7,287'-89'; 7,300' - 09' w/1 JSPF (23 holes) BD w/1000 gals 15% HCl + 10% Methanol + additives - Tstd - BD w/2500 gals 15% HCl + additives + 500 SCF N₂/bbl + 30 ball sealers. Tstd - Fraced w/6500 gals 40# Polaris gel + 10,500# 20-40 sand + 10% Methanol + 400 SCF N₂/bbl. Tstd. - Re- fraced w/55,000 gal "Mini Max III fluid + 112,500# 20-40 sand + 400 SCF N₂/bbl + 10% Methanol + additives.	LOG TOPS Ojo Alamo Kirtland Fruitland Pictured Cliffs Lewis Chacra Cliff House Menefee Point Lookout Mancos Gallup Lower Mancos Green Horn Graneros Dakota Burro Canyon Morrison TD Driller Logger	2,447' 2,564' 2,793' 2,910' 3,018' 3,752' 4,494' 4,550' 5,130' 5,267' 6,233' 6,582' 7,051' 7,105' 7,258' 7,393' 7,490' 7,515' 7,511'

SAMPLE DESCRIPTION

2600 - 10 20% Ss: clr wht, cg, sbrnd, sl cly fld, gd por, sl glauc
80% Sh: dk gry, sft, blk, clayey

10 - 20 10% Ss: AA, f-mg
90% Sh: AA

20 - 30 10% Ss: AA, cg
90% Sh: AA
Tr. Chert: clr, vcg, sbang

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

40 - 50 N.S.

50 - 70 100% Sh: bl gry, sft, blk, clayey, some dk gry

70 - 80 80% Sh: AA
20% Coal: blk, vit

2680 - 2700 100% Sh: gry-dk gry, frm, blk, clayey, some carb

2700 - 10 100% Sh: AA

10 - 20 10% Ss: wht, fg, sbrnd, sl cly fld, gd por
90% Sh: AA

20 - 30 100% Sh: AA, some blk and coaly

30 - 50 10% Ss: wht, fg, sbrnd, sl cly fld, gd por
90% Sh: AA

50 - 60 100% Sh: AA
Tr. Chert: clr, vcg, sbang

60 - 70 10% Ss: wht, f-mg, sbrnd, sl cly fld, gd por, s & p
90% Sh: AA

70 - 90 100% Sh: AA

90 - 2800 70% Sh: AA
30% Coal: blk, vit

2800 - 10 100% Sh: gry, sft, blk, clayey, some blk and coaly

10 - 20 N.S.

20 - 30 50% Sh: AA
50% Coal: blk, vit

30 - 40 10% Ss: gry, fg, sbrnd, mod cly fld, fair por, s & p
20% Sh: AA
70% Coal: blk, vit

40 - 60 10% Sh: AA
90% Coal: AA

2860 - 70 100% Coal: blk, vit
 70 - 80 20% Ss: wht, fg, sbrnd, sl cly fld, gd por, w/occ carb
 incl, calc, sl feld
 80% Sh: AA
 80 - 90 100% Coal: blk, vit
 2890 - 2910 20% Ss: wht, fg, sbrnd, sl cly fld, gd por, calc
 90% Coal: AA
 10 - 30 30% Ss: wht, fg, sbrnd, cly fld, tite, sl feld, calc
 70% Sh: gry, sft, plty, clayey-slt, w/occ carb incl,
 sl calc
 30 - 60 40% Ss: AA, f-mg
 60% Sh: AA
 2960 - 3020 40% Ss: AA, mg, mod cly fld, fair por
 60% Sh: AA
 3020 - 50 10% Ss: wht-clr gry, fg, sbrnd, sl cly fld, fair por,
 sl feld, calc
 90% Sh: AA
 50 - 80 10% Ss: AA
 90% Sh: AA
 3090 - 3110 100% Sh: gry, frm, plty, slty, calc
 10 - 40 100% Sh: AA, sl slty
 3140 - 3200 100% Sh: lt gry, frm, plty, slty, calc, w/occ carb incl
 3200 - 30 10% Ss: clr gry, fg, sbrnd, sl cly fld, calc, gd por,
 w/occ carb incl
 90% Sh: AA
 30 - 60 100% Sh: AA
 3260 - 3350 100% Sh: AA
 Tr. Chert: translucent brn, cg, ang
 50 - 80 100% Sh: gry, frm, blk-plty, slty, calc
 3380 - 3440 100% Sh: AA, sl less slty
 3440 - 70 100% Sh: AA
 3470 - 3560 100% Sh: gry, frm, plty, slty, calc, w/occ carb incl
 3560 - 90 100% Sh: AA, plty-blky
 3590 - 3620 100% Sh: dk gry, frm, plty, slty, w/occ carb incl

3620 - 50 100% Sh: AA
Tr. Chert: clr, cg, sbrnd

50 - 80 10% Ss: wht, mg, sbrnd, mod cly fld, fair por, calc, sl
glauc
90% Sh: AA

3680 - 3740 100% Sh: AA

40 - 50 100% Sh: AA, sl sndy

50 - 70 100% Sh: gry, frm, plty, slty-clayey, sl calc, some coaly
& blk
Tr. Chert: clr, vcg, ang

70 - 80 10% Ss: wht, fg, sbrnd, sl-mod cly fld, fair por, w/occ
carb incl, calc
90% Sh: AA

80 - 90 30% Ss: gry, vfn-g, sbrnd, shly, tite, w/occ carb incl, calc
70% Sh: AA, slty

3790 - 3800 40% Ss: gry-wht, fg, sbrnd, mod cly fld-shly, fair por-tite,
calc, w/occ carb incl, some sl feld
60% Sh: AA

3800 - 10 30% Ss: gry, vfn-g, sbrnd, shly, tite, calc, w/carb incl
70% Sh: AA

10 - 20 40% Ss: AA, sl less shly
60% Sh: AA

20 - 30 40% Ss: wht, vfn-g, sbrnd, mod cly fld, fair por, calc,
s & p
60% Sh: AA, slty-sl sndy

30 - 50 40% Ss: gry, vfn-g, sbrnd, shly, tite, calc, s & p
60% Sh: AA

50 - 60 20% Ss: clr gry, vfn-g, sbrnd, gd por, calc, w/occ carb
incl
80% Sh: gry-brn, frm, slty, calc, w/carb incl

60 - 90 20% Ss: wht, vfn-g, sbrnd, fair por, calc, s & p
80% Sh: AA

3890 - 3900 50% Ss: lt gry, vfn-g, sbrnd, fair-gd por, sl shly, s & p,
calc
50% Sh: AA

3900 - 10 10% Ss: AA
90% Sh: gry-dk gry, frm, blk, slty, calc, w/carb incl

10 - 20 20% Ss: lt gry, vfn-g, sbrnd, shly, tite, w/occ carb incl,
calc
80% Sh: gry, frm, blk, sndy-vy slty, calc

3920 - 60 10% Ss: wht, fg, sbrnd, mod cly fld, fair por, calc
90% Sh: AA

60 - 80 100% Sh: AA, vy sndy

3980 - 4000 30% Ss: wht-lt gry, fg, sbrnd, mod cly fld-sl shly, fair
por, s & p, calc
70% Sh: gry, frm, blk, slty-sndy, calc

4000 - 20 20% Ss: clr gry, fg, sl cly fld, gd por, s & p, calc
80% Sh: gry, frm, blk, slty, sl lignitic

20 - 40 AA
Tr. Chert: mlky wht, cg, ang

40 - 60 10% Ss: wht, mg, sbrnd, mod cly fld, fair por, s & p, calc
90% Sh: AA, w/occ carb incl

60 - 80 100% Sh: AA

4080 - 4100 30% Ss: gry, fg, sbrnd, sl cly fld, gd por, s & p, sl
glauc
70% Sh: AA

4100 - 20 10% Ss: clr gry, fg, sbrnd, sl cly fld, gd por, w/occ carb
incl, calc
90% Sh: gry-brn, frm, blk, sl slty, calc, w/carb incl

20 - 60 10% Ss: AA
90% Sh: AA

4160 - 4200 100% Sh: AA, some clayey and sft

4200 - 20 10% Ss: clr gry-wht, fg, sbrnd, sl cly fld, gd por, calc
90% Sh: gry-brn, frm, blk-plty, calc, w/occ carb incl

20 - 40 100% Sh: AA, some sl sndy
Tr. Chert: clr, vcg, ang

4240 - 4300 100% Sh: AA, sl clayey-slty-sl sndy

4300 - 20 30% Ss: wht, fg, sbrnd, mod cly fld, fair por, calc
70% Sh: gry, frm, blk-plty, sl slty-sl clayey, calc, w/carb
incl

20 - 40 20% Ss: AA
80% Sh: AA
Tr. Chert: clr, vcg, ang

4340 - 4400 100% Sh: gry-lt gry, frm, blk, slty, calc

4400 - 20 100% Sh: gry, sft, plty, calc, w/occ carb incl, clayey, calc

20 - 60 100% Sh: gry-brn, frm, plty-blk, w/occ carb incl, clayey-
slty-sl sndy, calc

4460 - 4500 10% Ss: wht, fg, sbrnd, sl-mod cly fld, fair por, sl glauc, ca
90% Sh: gry, sft-frm, blk, sl calc, sl slty

4500 - 20 30% Ss: wht, fg, sbrnd, mod cly fld, fair por, calc
70% Sh: gry, sft-frm, blk, sl slty, calc

20 - 40 20% Ss: AA, sl s & p
80% Sh: AA

40 - 80 10% Ss: AA
90% Sh: AA, some blk and coaly

4580 - 4600 10% Ss: wht, fg, sbrnd, cly fld and tite, w/occ carb incl
90% Sh: AA

4600 - 20 90% Sh: AA
10% Coal: blk, vit

20 - 40 80% Sh: AA
20% Coal: blk, vit

40 - 60 10% Ss: gry, fg, sbang, sl cly fld, fair por, calc
90% Sh: lt gry, sft, blk, sl slty, calc

60 - 80 100% Sh: AA, some sft and clayey

4680 - 4700 10% Ss: wht, mg, sbang, mod cly fld, fair por, s & p, sl field
calc
90% Sh: gry-dk gry, frm, blk-plty, sl slty-sl clayey,
some sl carb

4700 - 20 N.S.

20 - 60 100% Sh: gry, sft, blk, sl slty-sl clayey, sl calc

60 - 80 100% Sh: AA, sl clayey

4780 - 4800 10% Ss: wht, vfn-g, sbrnd, sl cly fld, fair por, calc
90% Sh: gry-brn, frm, blk, calc

4800 - 40 10% Ss: wht, mg, sbrnd, sl cly fld, gd por, calc
90% Sh: gry, sft, plty, clayey, sl calc
Tr. Coal: blk, vit

40 - 60 100% Sh: gry, frm, blk, some slty, sl calc, w/occ carb incl

60 - 70 N.S.

70 - 80 90% Sh: gry-brn, sft, plty, sl calc
10% Coal: blk, vit

80 - 90 10% Ss: wht, mg, sbrnd, mod cly fld, fair por, calc
90% Sh: AA
Tr. Coal: AA

4890 - 4900 100% Sh: gry-brn, sft, blk-plty, sl slty-sl clayey, some
dk gry and carb, w/carb incl

4900 - 20 90% Sh: AA
10% Coal: blk, vit

4920 - 30 20% Ss: wht, mg, sbang, mod cly fld, sl porous, calc
70% Sh: AA
10% Coal: AA

30 - 50 100% Sh: AA
Tr. Coal: AA

50 - 70 10% Ss: wht, mg, sbang, mod cly fld, fair por, calc
90% Sh: AA
Tr. Coal: AA

70 - 80 20% Ss: AA
80% Sh: gry-brn, sft, blkly-plty, sl slty-sl clayey, sl calc
w/occ carb incl

80 - 90 20% Ss: gry, fg, sbang, sl cly fld, fair por-tite and hard,
calc, s & p
70% Sh: AA
10% Coal: blk, vit

4990 - 5000 10% Ss: wht, mg, sbang, mod cly fld, fair por, calc,
occ stn. w/yel fluor and fair cut
90% Sh: AA

5000 - 10 30% Ss: wht, mg, sbrnd, sl cly fld, gd por, calc, sl glauc
70% Sh: gry, sft, blkly, clayey-sl slty, sl calc

10 - 20 20% Ss: AA, clr wht
80% Sh: AA

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

30 - 40 40% Ss: clr wht, mg, sbrnd, sl cly fld, gd por, calc, s & p,
sl feld, faint yel fluor w/vy wk cut
60% Sh: AA

40 - 50 30% Ss: AA, faint yel fluor w/vy wk cut
70% Sh: AA

50 - 60 40% Ss: clr wht, mg, sbrnd, sl cly fld, gd por, calc, s & p,
faint yel fluor w/vy wk cut
60% Sh: AA

60 - 70 20% Ss: AA
80% Sh: AA

70 - 90 10% Ss: AA
80% Sh: gry, sft, blkly, sl calc, sl slty
10% Coal: blk, vit

5090 - 5100 100% Sh: AA

5100 - 10 100% Sh: gry, sft, blkly-plty, sl calc, sl clayey, sl carb

5110 - 30 N.S.

30 - 50 10% Ss: clr gry-wht, f-mg, sbrnd, mod cly fld, fair por, calc, s & p
90% Sh: gry, sft, plty, clayey, sl micromic, sl calc

50 - 60 10% Ss: wht, fg, sbrnd, mod cly fld, fair por, calc
90% Sh: AA

60 - 70 60% Ss: clr, mg, sbrnd, calc, clean, gd por, faint yel fluor w/vy wk cut
40% Sh: AA

70 - 90 60% Ss: AA, clr-wht, faint yel fluor w/vy wk cut, s & p
40% Sh: AA

5190 - 5200 20% Ss: AA
80% Sh: AA
Tr. Coal: blk, vit

5200 - 10 10% Ss: wht, fg, sbrnd, cly fld, tite, calc
90% Sh: AA

10 - 30 20% Ss: AA, mod cly fld, fair por
80% Sh: AA

30 - 50 100% Sh: gry, sft, plty-blky, sl calc, some slty w/carb incl

50 - 60 100% Sh: gry, sft, plty, clayey, sl calc
Tr. Chert: clr, cg, sbrnd

60 - 90 100% Sh: AA, some blky and coaly

5290 - 5330 100% Sh: gry, sft, blky, sl calc, some sl slty

30 - 50 100% Sh: gry, sft, blky-plty, sl calc, sl clayey

50 - 60 N.S.

5360 - 5400 100% Sh: gry-dk gry, sft, plty, sl calc

5400 - 30 100% Sh: AA, sl slty

30 - 70 100% Sh: gry-brn, sft, plty, sl calc, sl slty

5470 - 5500 100% Sh: gry, sft, blky, sl slty, calc, some sl sndy

5500 - 10 N.S.

10 - 40 100% Sh: gry, frm, blky, slty, calc, w/occ carb incl

40 - 70 100% Sh: AA, sl less slty

5570 - 5650 100% Sh: gry, frm, blk, slty-sl sndy, calc, w/occ carb incl
 5650 - 5740 100% Sh: dk gry, frm, blk, slty-sl clayey, sl carb, calc
 5740 - 5800 100% Sh: AA, less slty
 5800 - 50 100% Sh: AA, slty
 5850 - 5900 100% Sh: AA, less slty, occ inoceramus prisms
 5900 - 6270 100% Sh: gry-dk gry, frm, slty, calc
 6270 - 6320 100% Sh: lt gry-gry, sl calc, firm
 Tr. Ss: N-S
 6320 - 40 10% Ss: gry, vfn-g, sbrnd, calc, sft, clayey, shly, poss
 sl porosity, faint yel fluor w/wk cut
 90% Sh: AA
 40 - 60 100% Sh: AA
 60 - 70 100% Sh: gry, sft, plty, clayey, calc
 70 - 80 20% Ss: gry, fg, sbrnd, sl shly, tite, N-S
 80% Sh: AA
 80 - 90 100% Sh: dk gry, frm, plty, carb, calc
 6390 - 6410 N.S.
 6410 - 30 100% Sh: AA
 30 - 40 10% Ss: gry, fg, sbrnd, sl cly fld, fair por, calc, sl stn,
dull yel fluor w/no cut
 90% Sh: AA
 Tr. Inoceramus prisms
 40 - 50 20% Ss: clr gry, fg, sbrnd, sl cly fld, calc, s & p, N-S
 80% Sh: AA
 50 - 60 100% Sh: gry-dk gry, sft-frm, plty, clayey, some carb, calc
 60 - 70 10% Ss: wht-bl gry, vfn-g, sbrnd, cly fld, tite, calc
 90% Sh: AA
 Tr. Inoceramus prisms
 70 - 80 20% Ss: AA, sl less cly fld, fair por
 80% Sh: AA
 6480 - 6500 100% Sh: lt gry-dk gry, sft, plty-blky, sl slty, some carb
 6500 - 10 20% Ss: wht-gry, fg, sbrnd, mod cly fld, fair por, calc, dull
yell fluor w/vy wk cut
 80% Sh: AA
 Tr. Inoceramus prisms

6510 - 20 100% Sh: AA
Tr. Ls: brn, m-xln, dnse, no vis porosity

20 - 70 100% Sh: dk gry, frm, blk, carb, calc

70 - 90 100% Sh: gry-brn, frm, blk-plty, sl slty, some carb, calc

6590 - 6600 N.S.

6600 - 30 100% Sh: gry, frm, plty, slty, some sndy, calc, w/occ carb
incl

30 - 60 100% Sh: AA
Tr. Coal: blk, vit

6660 - 6750 100% Sh: AA, sl less slty

6750 - 80 100% Sh: gry-dk gry, frm, plty, sl slty, calc, sl carb

6780 - 6810 100% Sh: AA
Tr. Ss: gry, fg, sbrnd, cly fld, tite, shly, vy calc

6810 - 6900 100% Sh: AA

6900 - 30 100% Sh: AA
Tr. Ss: wht, fg, sbrnd, mod cly fld, fair por, calc

30 - 60 100% Sh: AA, less carb

6960 - 7050 100% Sh: dk gry, frm, plty, sl slty, calc-vy calc, carb

7050 - 7100 100% Sh: dk gry, frm, plty, sl slty, vy calc

7100 - 30 100% Sh: dk gry, frm, slty, calc

30 - 50 100% Sh: dk gry, frm, calc, sndy in part

50 - 60 10% Ss: clr, mg, sbrnd, shly, sl calc, frm, sl porous,
yel fluor w/good cut
90% Sh: dk gry, frm, splintery, calc

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

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

7190 - 7200 N.S.

7200 - 10 100% Sh: dk gry-lt gry, frm, sl calc, some clayey

10 - 40 100% Sh: AA
Tr. Ss: gry, fg, sbrnd, shly, tite, calc

40 - 50 10% Ss: clr wht, fg, sbrnd, gd por, calc, w/occ carb incl
90% Sh: dk gry, frm, plty, sl calc, sl slty

7250 - 60 100% Sh: AA, scat pyrite masses

60 - 80 10% Sltstn: gry, frm
90% Sh: AA

80 - 90 40% Ss: gry-wht, fg, rndd, gd por, calc, N-S
60% Sh: AA

7290 - 7310 50% Ss: wht, fg, sbrnd, sl cly fld, gd por, calc, N-S
50% Sh: AA

10 - 20 30% Ss: AA, clr wht, no cly, gd por, N-S (poss. mud oil show)
70% Sh: AA

20 - 30 70% Ss: wht, mg, sbang, sl cly fld, gd por, calc, yel-grn fluor w/vy wk-no cut (probably mud oil)
30% Sh: AA

30 - 40 50% Ss: AA, yel-grn fluor w/vy wk-no cut, AA
50% Sh: AA

40 - 60 20% Ss: AA, fg
80% Sh: AA

60 - 70 30% Ss: gry-wht, vfn-g, sbrnd, cly fld, tite, calc, (mud oil show)
70% Sh: dk gry, frm, plty, sl calc, carb

70 - 90 50% Ss: clr wht-clr gry, fg, sbrnd, clean, gd por, calc, yel-grn fluor w/fair cut (mud oil)
50% Sh: AA

7390 - 7400 40% Ss: AA
60% Sh: AA, scat pyrite masses

7400 - 10 20% Ss: clr gry, fg, sbrnd, clean, gd por, calc, grn-yel fluor w/fair cut (prob. mud oil)
80% Sh: AA

10 - 20 50% Ss: mlky wht, m-cg, sbrnd, clean, gd por, some lse, calc, grn-yel fluor w/fair cut, AA
50% Sh: AA, some lt gry and clayey

20 - 30 20% Ss: clr wht, fg, sbrnd, clean, gd por, calc, yel-grn fluor AA
80% Sh: AA

30 - 40 40% Ss: AA
50% Sh: AA
10% Chert: clr, cg, ang

40 - 50 30% Ss: clr, mg, sbrnd, sl cly fld, gd por, calc, grn-yel fluor AA
70% Sh: AA, abundant kaolinite frags.

7450 - 70 30% Ss: AA
60% Sh: AA
10% Chert: mlky wht, cg, sbang

70 - 80 N.S.

7480 - 7515 50% Ss: clr wht, m-cg, sbrnd, calc, gd por, yel-grn fl uor
w/fair cut, prob. mud oil
50% Sh: AA, plty-blky