Form 9-330
(Rev. 5-63)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE* (See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

5. LEASE DESIGNATION AND SERIAL NO.: NM-03153

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other

7. UNIT AGREEMENT NAME:

b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other

8. FARM OR LEASE NAME: O.H. Randel

2. NAME OF OPERATOR: Energy Reserves Group, Inc.

9. WELL NO.: 2-E

3. ADDRESS OF OPERATOR: P.O. Box 3280 - Casper, Wyoming 82602

10. FIELD AND POOL, OR WILDCAT: Basin Dakota

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)*
At surface 1,700' FSL & 1,800' FEL (NW SE)
At top prod. interval reported below
At total depth

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 10-T26N-R11W

RECEIVED JUN 9 1980 U. S. GEOLOGICAL SURVEY FARMINGTON, N. M.

14. PERMIT NO. | DATE ISSUED

12. COUNTY OR PARISH: San Juan | 13. STATE: New Mexico

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
4-5-80	4-16-80	5-20-80	GRD 6,364'; KB 6,378'	----------

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
6,395'	6,352'	NA	→	0-TD	----------

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
6,310' - 6,330' - Dakota

25. WAS DIRECTIONAL SURVEY MADE: NO

RECEIVED JUN 11 1980 OIL CON. COM. DIST. 3

26. TYPE ELECTRIC AND OTHER LOGS RUN
Dual Induction - SFL & Compensated 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
8-5/8"	24#	955'		665 sx Class "G" w/2% CaCal$_2$ + 1/4# Celloflake	-0-
4-1/2"	9.5# & 10.5#	6,391'		See Back of Page	-0-

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
		None		

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-3/8"	6,314'	None

31. PERFORATION RECORD (*Interval, size and number*)
6,310'-16' & 6,326'-30' w/1 JSPF (12 holes)

ACCEPTED FOR RECORD
JUN 10 1980
FARMINGTON DISTRICT
BY

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
6310'-16' & 6326'-30'	Breakdown w/1000 gal. Smith 7-1/2% "HAS-1" Acid w/Methanol, N_2 & additives. See back of page for frac details

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
5-20-80	24	48/64"		9	357	2(load fluid)	39,667 SCF/STBO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
50	150 psi		9	357	2(load fluid)	36.1

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 J. E. Jones TITLE Dist.Prod Engr-RMD DATE June 3, 1980

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

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:
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 - 330 sks 50-50 Pozmix + 2% Gel + 1/4#/sk Flocele - Followed w/165 sks "B" + 10% Salt + 1/4#/sk Flocele. Stage Collar @ 4,527' 2nd stage - 360 sks 65-35 Pozmix + 6% Gel + 10#/sk Gilsonite - Followed w/665 sks 50-50 Pozmix + 2% Gel + 12-1/2#/sk Gilsonite - Circ. cement to surface. Frac - 25,000 gal. 70% Quality Foam w/ 12,000# 20-40 sand - sanded off. Refrac - 55,000 gal. 70% Quality Foam w/ 30,000# 40-60 sand & 20,000# 20-40 sand.

38. GEOLOGIC MARKERS

NAME	TOP MEAS. DEPTH	TOP TRUE VERT. DEPTH
LOG TOPS		
Fruitland	1,477'	
Pictured Cliffs	1,739'	
Lewis	2,027'	
Chacra	2,626'	
Cliff House	3,280'	
Menefee	3,365'	
Point Lookout	4,168'	
Mancos	4,458'	
Gallup	5,310'	
Greenhorn	6,143'	
Graneros	6,201'	
Dakota	6,262'	
TD Driller	6,395'	
Logger	6,384'	

U.S. GOVERNMENT PRINTING OFFICE: 1963—O-683636

GPO 680-378

SAMPLE DESCRIPTION

1010 - 30	20% Ss: clr, cg, lse, sbang 80% Sh: bl gry-brn, sft, plty-blky, clayey
30 - 50	100% Sh: AA, some slty-sl sndy
50 - 70	80% Ss: clr, cg, sbrnd-sbang, lse 20% Sh: AA
70 - 80	70% Ss: AA 30% Sh: gry, sft, blky, clayey, w/occ carb incl
1080 - 1110	70% Ss: AA, some wht, fg, cons, cly fld, tite 30% Sh: AA
10 - 30	30% Ss: AA 70% Sh: bl gry-lt gry, sft, blky, clayey, w/occ carb incl
30 - 40	20% Ss: AA 80% Sh: AA, some sl slty
40 - 60	N.S.
60 - 90	80% Ss: clr, cg, ang-sbrnd, lse 20% Sh: AA
1190 - 1200	100% Ss: AA
1200 - 10	20% Ss: wht, f-m-cg, psrt, cly fld, tite, some lse. 80% Sh: bl gry-brn, blky, frm, clayey-some sl slty
10 - 20	N.S.
20 - 50	100% Sh: bl gry, sft, blky-plty
50 - 80	100% Sh: bl gry-gry, frm, blky, clayey, some sl slty
80 - 90	10% Ss: wht, vfn-g, sbang, cly fld, tite, occ carb incl 90% Sh: AA
90 - 1300	30% Ss: AA 70% Sh: AA
1300 - 10	100% Sh: bl gry-brn, frm, blky, sl clayey, w/occ carb incl
10 - 50	N.S.
50 - 60	20% Ss: wht, f-mg, psrt, sbang, mod cly fld, visible porosi sl feld 80% Sh: lt gry-gry, blky, clayey
60 - 80	10% Ss: AA 90% Sh: AA
80 - 1400	10% Ss: wht, fg, sbrnd, cly fld, tite 90% Sh: AA

1400 - 30 100% Sh: bl gry-gry, frm, blky

30 - 50 100% Sh: AA, some sl slty, blky-plty

50 - 90 10% Ss: wht, fg, sbang, cly fld, tite, sl feld
90% Sh: AA

1490 - 1520 10% Ss: AA
90% Sh: AA, w/occ carb incl

20 - 40 100% Sh: AA

40 - 50 N.S.

50 - 60 100% Sh: AA, some sl sndy

1560 - 1650 90% Sh: AA
10% Coal: blk, vit

50 - 60 100% Sh: gry, sft, blky, clayey

60 - 80 100% Sh: AA, w/carb incl

80 - 90 100% Sh: AA, some dk brn, sl carb

1690 - 1720 10% Ss: wht, fg, cly fld, tite
90% Sh: AA

20 - 50 30% Ss: wht, fg, sbang, cly fld, tite, sl feld, sl calc, w/carb incl
70% Sh: AA

50 - 70 100% Sh: lt gry-gry, sft, blky, clayey

70 - 80 20% Ss: wht, fg, sbang, cly fld, tite, sl calc, sl feld, w/occ carb incl
80% Sh: AA

80 - 90 N.S.

90 - 1800 20% Ss: wht, fg, sbang, cly fld, tite, sl feld, w/occ carb incl
80% Sh: AA

1800 - 10 10% Ss: AA
90% Sh: AA

10 - 40 20% Ss: wht, fg, sbang, cly fld, tite, sl feld, w/carb incl
80% Sh: AA

40 - 50 20% Ss: AA, calc, no feld
80% Sh: gry, sft, plty, clayey

50 - 70 30% Ss: AA, poss sl por.
70% Sh: AA

1870 - 90 N.S.

90 - 1900 20% Ss: wht, fg, sbang, cly fld, tite, w/carb incl
80% Sh: AA

1900 - 10 30% Ss: AA
70% Sh: AA

10 - 20 N.S.

20 - 50 30% Ss: wht, fg, sbang, cly fld, tite, sl feld, s & p, sl glauc
70% Sh: AA

50 - 70 100% Sh: AA

1970 - 2710 N.S.

Sample Description

2710 - 20	tr Ss wht vfg s ang clay flld
	90% Sh gy,gy-tn,dk gy-bn carb
	10% Coal
20 - 30	AA
30 - 40	60% Sh tn-bn,dk gy-bn carb,gy slty,gn-gy mudst
	30% Coal
40 - 50	AA
50 - 60	AA
60 - 70	80% Sh lt gy,gy-bn slty,sm carb,tn slty
	20% Coal
70 - 80	AA
80 - 90	AA
90 - 2800	40% Sh wht-lt gy,gy-tn carb,occ tn slty
	60% Coal
2800 - 10	AA
10 - 20	AA
20 - 30	Sh tn slty,lt gy mudst 20%
	80% Coal
30 - 40	AA
40 - 50	AA
50 - 60	10% Ss lt gy vfg s rdd w/occ carb strks
	90% Sh blu-gy,sm gy-tn slty ip
60 - 70	AA
70 - 80	AA
80 - 90	100% Sh aa,occ lt gy-wht mudst,dk gy-bn carb
	tr Coal
90 - 2900	AA
2900 - 10	AA
10 - 20	90% Sh blu-gy,gn-gy,tn-gy,occ lt gy
	10% Coal
20 - 30	AA
30 - 40	AA
40 - 50	90% Sh aa,occ dk gy-bn carb
	10% Coal
50 - 60	AA
60 - 70	AA
70 - 80	90% Sh gn-gy,bn slty,dk gy-bn carb
	10% Coal
80 - 90	AA
90-3000	AA
3000 - 10	90% Sh aa,occ gy slty,abdt dk gy-bn carb
	10% Coal
10 - 20	AA
20 - 30	AA
30 - 40	100% Sh gn-gy,lt gy slty,bn carb
	tr Ss wht-lt gy vfg v carb
	tr Coal
40- 50	AA
50 - 60	AA
60 - 70	Sh gy-tn,bn carb,occ lt gy slty,sm aa100%
	tr Ss lt bn vfg s&p shly
70 - 80	AA
80 - 90	AA
90 - 3100	100% Sh gy-tn slty ip,sm dk gy-bn carb
	tr Ss wht-lt gy vfg
3100 - 10	AA
10 - 20	AA

3120 - 30	100% Sh tn-gy slty lp,abdt dk gy-bn carb,occ gy slty
	tr Ss lt gy vfg
30 - 40	AA
40- 50	AA
50 - 60	100% Sh aa
	tr Coal
	tr Ss lt gy s&p vfg shly
60 - 70	AA
70 - 80	AA
80 - 90	80% Sh lt gy mudst,gy-tn slty lp,abdt dk gy-bn carb
	10% Ss wht-lt gy vfg sl shly
	10% Coal
90 - 3200	AA
3200 - 10	AA
10 - 20	90% Sh gy slty,lt gy-tn slty lp,dk gy-bn carb
	10% Coal
20 - 30	100% Sh gy-bn,lt gy bent,sm g slty
	tr Ss lt gy s&p vfg s ang
30 - 40	100% Sh gy sdy sft,sm gy slty frm lt tn bent
40 - 50	100% Sh tn slty sft,sm gy-bn carb
	tr Ss lt gy vfg s&p w/carb lams
50 - 60	tr Ss gy vfg s&p shly
	100% Sh gy-tn slty,occ gy-bn carb
60 - 70	100% Sh gy slty,dk gy-bn carb
70 - 80	10% Ss wht-lt gy vfg s&p sl shly lp
	90% Sh gy-tn carb,dk gy-bn
80 - 90	10% Ss aa
	90% Sh lt bn slty,gy-tn
90 - 3300	20% Ss lt tn vfg-clt s&p
	80% Sh lt bn slty,gy,gy-tn,occ dk gy-bn carb
3300 - 10	tr Ss lt tn vfg s&p shly
	90% Sh aa
	10% Coal
10 - 20	tr Ss lt gy vfg
	100% Sh gy slty gy-bn slty,dk gy-bn carb
	tr Coal
20 - 30	10% Ss tn vfg s&p shly
	90% Sh gy-tn slty carb lp
30 - 40	20% Ss wht-lt gy vfg s rdd sm lt gy shly
	80% Sh gy-tn slty carb
40 - 50	20% Ss aa
	80% Sh gy slty,bn carb
50 - 60	100% Sh gy-tn slty,gy slty,occ lt gy slty
60 - 70	90% Sh aa,sm tn carb
	10% Coal
70 - 80	10% Ss lt tn vfg s rdd shly lp
	90% Sh aa,abdt dk gy-bn carb
80 - 90	100% Sh tn slty,gy-tn slty,dk gy-bn carb
90 - 3400	100% Sh gy-bn carb,dk gy-bn carb,tn slty
3400 - 10	100% Sh gy-tn,gy slty,sm lt gn-gy slty,dk gy-bn carb
10 - 20	20% Ss wht-lt gy s&p vfg
	60% Sh gy slty,gy-tn mudst
	20% Coal
20 - 30	30% Ss wht-lt gy vfg sl shly
	70% Sh lt gy bent,gy-tn slty,dk gy-bn carb
30 - 40	tr Ss aa
	100% Sh aa,abdt dk gy-bn carb
40 - 50	100% Sh gy slty,gy-tn,dk gy slty

50 - 60 80% Sh gy slty,dk gy-bn carb
20% Coal

60 - 70 90% Sh gy slty,gy-bn slty carb
tr Ss wht fg clay fild
10% Coal

70 - 80 tr Ss aa,lt gy vfg s&p shly
90% Sh dk gy-bn carb
10% Coal

80 - 90 100% Sh bn carb,dk gy-bn carb,sm gy-tn slty
tr Ss lt bn vfg shly

90 - 3500 tr Ss gy vfg carb
100% Sh tn slty carb,dk gy-bn carb

3500- 10 10% Ss wht vfg-slt,sm gy vfg shly
90% Sh lt bn carb slty

10 - 20 20% Ss aa
90% Sh aa,sm gy-bn carb

20 - 30 90% Sh aa,sm lt grn slty
10% Coal

30 - 40 100% Sh aa,dk gy-bn slty carb

40 - 50 10% Ss wht vfg s&p clay fild
90% Sh gy slty,dk gy-bn carb

50 - 60 10% Sswht-lt gy vfg-slt s&p shly
90% Sh gy slty,gy-bn carb

60 - 70 90% Sh gy-tn slty,dk gy-bn carb
10% Ss wht fg s rdd clay fild

70 - 80 10% Ss aa,occ v carb
90% Sh aa,sm tn slty carb
tr Coal

80 - 90 20% Ss tn vfg s&p shly,carb ip
80% Sh tn,gy slty,sm dk gy-bn carb

90 - 3600 Ss wht vfg 10%
90% Sh gy-bn slty,dk gy-bn carb
tr Coal

3600 - 10 90% sh lt gy bent,dk gy carb
10% Coal

10 - 20 20% Ss lt gy vfg s&p sm clay fild
80% Sh tn slty carb,dk gy slty
tr Coal

20- 30 20% Ss aa,sm gy vfg carb
80% Sh aa

30 - 40 20% Ss wht fg s ang clay fild
80% Sh aa,sm bn slty

40 - 50 20% Ss aa
80% Sh aa

50 - 60 10% Ss aa,sm fg clay fild
90% Sh tn sft carb,dk gy-bn carb

60 - 70 90% Sh aa,sm gy slty
10% Coal

70 - 80 10% Ss wht-tn f-mg s ang clay fild
80% Sh tn slty carb,dk bn carb
10% Coal

80 - 90 10% Ss wht vfg s ang clay fild
90% Sh gy slty,gy-bn carb,dk gy-bn carb

90 -3700 10% Ss aa,sm gy vfg s&p sl shly
90% Sh gy slty,dk gy-bn carb

3700 - 10 100% Sh bn carb,dk gy-bn carb

10 - 20 90% Sh aa
10% Ss wht-tn vfg s rdd clay fild

20 - 30	tr Ss aa
	100% Sh aa
30 - 40	N S
40 - 50	20% Ss lt gy vfg s rdd
	80% Sh gy-tn,dk gy-bn carb,gy slty
50 - 60	10% Ss wht-lt gy vfg s&p sm clay fild
	70% Sh gy slty,gy-bn carb
	20% Coal
60 - 70	tr Ss lt gy vfg s&p shly
	90% Sh aa
	10% Coal
70 - 80	tr Ss aa w/carb flecks
	90% Sh aa
	10% Coal
80 - 90	10% Ss lt gy vfg s&p shly
	90% Sh aa,abdt dk gy v carb
90 - 3800	100% Sh tn,bn carb,dk bn carb
3800 - 10	AA A
10 - 20	100% Sh bn shly carb,dk gy-bn carb
20 - 30	AA
30 - 40	100% Sh aa,sm lt bn slty
40 - 50	100% Sh lt bn carb mudst,dk gy-bn carb,occ bn slty
50 - 60	90% Sh lt bn slty carb,dk bn carb
	10% Coal
60 - 70	AA
70 - 80	tr Ss lt tn vfg s&p carb clay fild
	100% Sh bn carb,dk gy-bn carb
80 - 90	100% Sh lt bn slty carb,dk gy carb,sm bn slty carb
	tr Coal
90 - 3900	100% Sh gy slty carb,dk gy-bn carb
3900 - 10	Sh dk bn carb,sm dk-blk
10 - 20	100% Sh aa,occ lt bn carb
20 - 30	AA,tr Coal
30 - 40	tr Ss gy vfg s&p shly
	Sh aa
40 - 50	100% Sh gy-bn shly carb,dk gy carb
50 - 60	AA
60 - 70	N S
70 - 80	tr Ss lt gy vfg s rdd
	Sh gy slty carb,dk gy-blk carb
80 - 90	100% Sh bn carb dk gy-bn carb,occ gy slty
90 - 4000	10% Ss wht-lt tn fg s ang clay fild carb ip
	90% Sh aa,tr Coal
4000-10	30% Ss wht-lt gy s&p vfg sm lt bn vfg s&p shly
	70% Sh aa
10 - 20	10% Ss aa
	90% Sh gy-bn,bn slty,gy carb
20 - 30	10% Ss aa,sm bn slty shly
	90% Sh bn carb,dk bn carb,tr Coal
30 - 40	10% Ss wht-lt gy s&p vfg clay fild
	90% Sh aa
40 - 50	90% Sh bn slty carb,dk gy-bn carb,sm gy slty carb
	10% Coal
50 - 60	10% Ss gy vfg s&p shly
	90% Sh gy slty carb,dk gy-bn carb
60 - 70	100% Sh aa,sm bn slty,tr Coal
70 - 80	tr Ss gy vfg s&p shly
	Sh aa

4080 - 90 20% Coal,80% Sh aa
90 - 4100 tr Ss gy vfg s&p shly
70% Sh bn slty,dk gy-bn carb
30% Coal
4100 - 10 90% Sh gy slty,bn carb,dk gy-bn carb
10% Coal
10 - 20 100% Sh aa,tr Coal
20 - 30 20% Ss wht-lt gy vf-fg s&p clay flld ip
80% Sh gy,gy-bn carb
30 - 40 20% Ss aa,tr glauc,sm gy shly
80% Sh aa,tr Coal
40 - 50 20% Ss aa
80% Sh bn slty carb,dk gy carb
50 - 60 10% Ss bn vfg-slt s&p shly,occ lt bn vfg shly
90% Sh gy slty carb,dk bn carb
60 - 70 80% Sh aa,20% Coal
70 - 80 50% Sh aa,50% Coal
80 - 90 tr Ss gy vfg w/carb flecks sl shly
Sh bn carb,dk gy carb
90 - 4200 20% Sh aa,80% Coal
4200 - 10 N S
10 - 20 10% Sh aa,90% Coal
20 - 30 AA
30 - 40 70% Sh aa,30% Coal
40 - 50 10% Ss wht-lt gy vfg s&p clay flld
90% Sh bn carb slty ip,gy-bn carb
50 - 60 Ss aa10%
80% Sh aa
10% Coal
60 - 70 100% Sh gy-bn slty carb,bn carb
70 - 80 Ss wht-lt tn vfg s&p,sm clay flld
90% Sh aa,tr Coal
80 - 90 10% Ss aa,sm gy-bn vfg shly
90% Sh aa
90 - 4300 100% Sh aa
4300 - 10 tr Ss wht-clr fg s ang sm clay flld
Sh aa,sm dk bn slty
10 - 20 100% Sh gy-bn carb
20 - 30 AA
30 - 40 Sh aa abdt dk gy-bn carb
40 - 50 10% Ss lt gy fg tr glauc
90% Sh gy shly,bn carb,dk gy-bn carb
50 - 60 10% Ss lt gy vfg sm clay flld
90% Sh aa
60 - 70 100% Sh gy-bn carb slty ip
70 - 80 10% Ss gy vfg s&p shly
90% Sh aa,sm dk gy-bn carb
80 - 90 100% Sh aa
90 - 4400 10% Ss clr-wht fg s ang
90% Sh gy carb,dk gy-bn carb slty ip
4400 - 10 30% Ss wht-clr s&p vf-fg clean occ sl shly
70% Sh gy-bn slty carb
10 - 20 40% Ss lt gy fg s&p sl shly,occ glauc
60% Sh aa
20 - 30 40% Ss aa,occ gy sl slty
60% Sh aa,sm dk gy-bn carb
30 - 40 30% Ss wht-lt tn fg occ glauc,sl shly
70% Sh aa
40 - 50 50% Ssm aa,occ dirty,sm gy vfg shly
50% Sh aa

4450 - 60 20% Ss aa
80% Sh gy-bn carb slty ip,dk gy-bn carb
60 - 70 30% Ss wht-lt gy fg s&p occ glauc,sm clay flld
70% Sh aa sm gy carb
70 - 80 30% Ss gy vfg s&p shly,sm aa
70% Sh gy slty carb,dk on carb
80 - 90 20% Ss lt gy f-mg occ glauc.clay flld
80% Sh aa
90 - 4500 10% Ss aa
90% Sh bn slty,gy-bn,dk gy-bn carb
4500 - 10 100% Sh aa,tr Ss aa
10 - 20 Sh aa sm tn carb mudst
20 - 30 30% Ss lt gy-tn fg s ang sm clay flld,occ bn vfg shly
70% Sh aa
30 - 40 20% Ss aa
80% Sh gy slty,gy-bn slty carb
40 - 50 10% Ss aa,90% Sh aa
50 - 60 20% Ss clr-wht f-mg s&p s ang clay flld
40% Sh aa
40% Coal
60 - 70 10% Ss lt gy-tn fg s ang sm clay flld,
80% Sh aa
10% Coal
70 - 80 10% Ss aa,sm lt gy,gy fg s&p sm shly
80% Sh aa
10% Coal
80 - 90 10% Ss aa,sm clay flld
20% Coal
70% Sh gy slty carb,dk gy-bn carb
90 - 4600 10% Ss gy vfg s&p shly
20% Coal
70% Sh aa sm bn carb
4600 - 10 10% Ss aa,sm bn vfg s&p shly
90% Sh bn-gy,dk on slty ip carb
10 - 20 10% Ss gy-bn vfg s&p shly
90% Sh aa
20 - 30 20% Ss aa,sm lt gy s&p fg clay flld
10% Coal
70% Sh aa,sm dk gy-bn carb
30 - 40 tr Ss aa,tr Coal
Sh bn slty carb,dk bn carb
40 - 50 AA
50 - 60 tr Ss wht-lt gy fg s&p s ang clay flld
30% Coal
70% Sh aa
60 - 70 20% Ss lt gy-gy vfg s&p sl shly
20% Coal
60% Sh dk gy-bn carb
70 - 80 20% Ss gy vfg s&p shly
80% Sh aa,tr Coal
80 - 90 20% Ss aa,sm bnx vfg s&p shly carb
80% Sh aa
90 - 4700 10% Ss lt gy-gy vfg s&p sm clay flld
90% Sh dk gy,gy-bn carb,tr Coal
4700 - 10 10% Ss wht-tn vfg,sm gy vfg s&p shly
90% Sh gy,dk gy-bn carb
10 - 20 20% Ss aa
80% Sh aa
20 - 30 tr Ss aa
90% Sh bn carb, 10% Coal

4730 - 40	tr Ss gy-bn vfg s&p shly
	Sh bn slty carb,dk gy-bn carb
40 - 50	100% Sh aa,sm gy slty
50 - 60	AA, tr Coal
60 - 70	AA
70 - 80	tr Ss lt tn vfg-slt shly
	Sh bn carb,dk gy-bn carb
80 - 90	tr Ss gy vfg shly
	Sh aa
90 - 4800	100% Sh gy-dk gy slty carb,gy-bn slty carb
4800 - 10	AA
10 - 20	AA
20 - 30	AA
30 - 40	AA
40 - 50	AA
50 - 60	100% Sh gy slty carb,dk bn carb,occ gy-bn slty carb
60 - 70	AA
70 - 80	AA
80 - 90	AA
90 - 4900	AA
4900 - 10	tr Ss dk bn vfg carb slty shly
	Sh gy-bn,dk bn slty carb
10 - 20	AA
20 - 30	AA
30 - 40	100% Sh bn,gy-bn,dk gy-bn carb slty ip
40 - 50	AA
50 - 60	AA
60 - 70	AA,sm dk bn lign
70 - 80	AA
80 - 90	AA
90 - 5000	AA
5000 - 10	100% Sh dk gy-bn carb slty ip
10 - 20	AA
20 - 30	AA
30 - 40	AA
40 - 50	AA
50 - 60	100% Sh dk bn slty carb
60 - 70	AA
70 - 80	AA
80 - 90	AA
90 - 5100	AA
5100 - 10	100% Sh dk bn slty carb,sm bn sl carb,occ dk gy-blk carb
10 - 20	AA
20 - 30	AA
30 - 40	AA
40 - 50	AA
50 - 60	100% Sh dk bn slty carb,occ bn carb
60 - 70	AA
70 - 80	AA
80 - 90	AA
90 - 5200	100% Sh aa,sm bn slty
5200 - 10	100% Sh bn slty carb,dk gy-bn carb,sm dk gy slty sl carb
10 - 20	AA
20 - 30	AA
30 - 40	AA
40 - 50	AA
50 - 60	N S
60 - 70	100% Sh bn-gy slty sl carb,dk bn slty v carb

5270 @ 80	100% Sh aa,sm gy slty
80 - 90	AA
90- 5300	AA
5300 - 10	AA
10 - 20	AA
20 - 30	100% Sh dk gy-bn carb slty ip
30 - 40	AA
40 - 50	AA
50 - 60	100% Sh dk gy-bn slty carb
60 - 70	100% Sh aa,occ gy slty
70 - 80	100% Sh gy,gy-bn slty carb,abdt dk gy-bn carb
80 - 90	AA
90 - 5400	AA (Poor Samples)
5400 - 10	AA
10 - 20	AA
20 - 30	AA
30 - 40	AA
40 - 50	AA
50 - 60	100% Sh bn-gy slty gy slty carb,dk bn slty carb
60 - 70	AA,sm dk gy-bn v carb
70 - 80	AA
80 - 90	AA
90 - 5500	trSs gy-bn slty-shly,Shk aa
5500 - 10	100% Sh dk gy slty carb,dk gy-bn carb
10 - 20	AA
20 - 30	AA (Poor Samples)
30 - 40	AA
40 - 50	tr Ss dk gy vfg shly,Sh aa
50 - 60	100% Sh gy slty carb,dk bn carb
60 - 70	AA
70 - 80	AA
80 - 90	AA
90 - 5600	AA
5600 - 10	100% Sh aa,sm dk bn carb
10 - 20	AA
20 - 30	tr Ss dk gy vfg shly,Sh aa
30 - 40	100% Sh dk gy-bn slty carb
40 - 50	AA (Poor Samples)
50 - 60	AA
60 - 70	tr Ss dk bn vfg shly,Sh aa
70 - 80	AA (Poor Samples)
80 - 90	AA
90 - 5700	AA
5700 - 10	100% Sh dk gy carb,gy-bn carb
10 - 20	30% Ss dk gy-bn vfg shly
	70% Sh aa
20 - 30	60% Ss aa,40% Sh aa
30 - 40	70% Ss aa,30% Sh aa
40 - 50	80% Ss aa,20% Sh aa
50 - 60	60% Ss dk gy-bn vfg v shly
	40% Sh aa
60 - 70	30% Ss aa,70% Sh aa
70 - 80	100% Sh dk gy-blk v slty calc,tr Ss aa
80 - 90	10% Ss aa
	90% Sh aa,sm gy-bn carb,sm blk v slty calc
90 - 5800	trSs aa,Sh aa
5800 - 10	100% Sh aa
10 - 20	AA
20 - 30	AA
30 - 40	AA

5840 - 50 100% Sh aa,sm gy-dk gy slty
50 - 60 100% Sh dk gy-blk slty
60 - 70 10% Ss dk gy vfg shly
90% Sh aa
70 - 80 AA
80 - 90 100% Sh aa,sm dk gy v slty,occ dk gy-bn slty carb
90 - 5900 AA
5900 - 10 Sh aa,tr Ss bn vfg shly carb
10 - 20 AA
20 - 30 AA(Poor Samples)
30 - 40 tr Ss dk bn vfg slty-shly
Sh dk gy-bn slty
40 - 50 10% Ss dk bn vfg slty-shly,occ gy vfg shly
90% Sh dk gy-bn slty
50 - 60 tr Ss aa,gy vfg shly
Sh aa
60 - 70 10% Ss dk bn vfg shly,occ bn vfg sl shly
90% Sh dk gy-blk slty
70 - 80 AA
80 - 90 20% Ss bn,gy-bn vfg shly-slty
80% Sh dk gy-blk slty
90 - 6000 tr Ss aa,Sh aa
6000 - 10 30% Ss gy-bn vfg s ang shly ip
70% Sh blk slty
10 - 20 100% Sh blk slty-sdy
20 - 30 20% Ss gy-dk gy vfg s ang shly
80% Sh aa
30 - 40 tr Ss aa,Sh aa
40 - 50 40% Ss dk gy vfg s ang shly
60% Sh aa
50 - 60 100% Sh blk slty
60 - 70 10% Ss bn vfg s ang shly
90% Sh blk v slty,sm gy slty
70 - 80 AA (Poor Samples)
80 - 90 tr Ss dk bn vfg shly carb
Sh aa,sm dk gy-bn slty carb
90 - 6100 AA
6100 - 10 100% Sh blk v slty
10 - 20 tr Ss dk bn vfg v shly
Sh blk v slty,occ dk gy-blk slty
20 - 30 tr Ss dk bn vfg v slty-shly
Sh aa,v slty
30 - 40 20% Ss aa
80% Sh aa
40 - 50 20% Ss aa,sm dk bn s&p vfg shly
80% Sh dk gy-bn slty,blk slty
50 - 60 10% Ss dk gy-bn vfg slty-shly
90% Sh aa
60 - 70 10% Ss dk gy vfg shly
90% Sh aa
70 - 80 tr Ss aa,Sh aa
80 - 90 100% Sh dk gy-bn slty carb,blk slty
90 - 6200 AA
6200 - 10 AA
10 - 20 AA
20 - 30 AA
30 - 40 AA,occ Sh dk gy slty
40 - 50 tr Ss dk gy vfg shly calc
Sh aa
50 - 60 AA

6260 - 70 tr Ss gy fg s ang clay flld shly
Sh aa

70 - 80 tr Ss gy f-mg prly srtd s rdd shly
Sh aa

80 - 90 tr Ss lt bn vfg s ang tt
Sh aa

90 - 6300 N S

6300 - 10 30% Ss bn vfg s ang tt w/sm intrbdds
70% Sh dk gy-bn-blk slty

10 - 20 80% Ss bn-dk bn vfg s ang sl shly tt
20% Sh aa

20 - 30 90% Ss aa
10% Sh aa

30 - 40 90% Ss lt bn fg s ang clean,sm aa
10% Sh aa,dk gy-bn slty

40 - 50 90% Ss bn-dk bn fg s ang shly,occ aa
10% Sh aa

50 - 60 100% Sh dk gy-blk slty (Poor Sample)

60 - 70 tr Ss dk bn vfg shly
Sh aa (Poor Sample)

70 - 80 tr Ss clr mg s ang uncons
Sh aa (Poor Sample)

80 - 90 70% Ss gy-dk gy vfg shly
30% Sh aa

90 - 95 (T.D.) tr Ss aa,Sh aa