

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 ☐		
b. TYPE OF COMPLETION:		NEW WELL ☒	WORK OVER ☐	DEEP-EN ☐	PLUG BACK ☐	DIFF. RESVR. ☐	Other ☐
2. NAME OF OPERATOR						3. ADDRESS OF OPERATOR	
Energy Reserves Group, Inc.						P.O. Box 3280 - Casper, Wyoming 82602	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*						5. LEASE DESIGNATION AND SERIAL NO.	
At surface 1,790' FNL & 1,165' FEL (NW/SE)						SF-078109	
At top prod. interval reported below						6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
At total depth						7. UNIT AGREEMENT NAME	
14. PERMIT NO.						8. FARM OR LEASE NAME	
DATE ISSUED						9. WELL NO.	
15. DATE SPUDDED						10. FIELD AND POOL, OR WILDCAT	
2-16-81						322	
16. DATE T.D. REACHED						11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA	
2-22-81						Sec. 31 - T29N-R12W	
17. DATE COMPL. (Ready to prod.)						12. COUNTY OR PARISH	
4-29-81						San Juan	
18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*						13. STATE	
5,545' (GRD + 2')						New Mexico	
20. TOTAL DEPTH, MD & TVD		21. PLUG, BACK T.D., MD & TVD		22. IF MULTIPLE COMPL., HOW MANY*		23. INTERVALS DRILLED BY	
1,651'		1,605'		NA		ROTARY TOOLS	
						0-TD	
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*						25. WAS DIRECTIONAL SURVEY MADE	
Pictured Cliffs - 1,438'-455' K.B.						NO	
26. TYPE ELECTRIC AND OTHER LOGS RUN						27. WAS WELL CORED	
Induction Electric Log, Density & Compensated Neutron Log						YES (Fruitland Coal)	
28. CASING RECORD (Report all strings set in well)							
CASING SIZE		WEIGHT, LB./FT.		DEPTH SET (MD)		HOLE SIZE	
7"		17#/ft		124' KB		9-7/8"	
4-1/2"		10.5#/ft		1,643' KB		6-1/4"	
29. LINER RECORD							
SIZE		TOP (MD)		BOTTOM (MD)		SACKS CEMENT*	
30. TUBING RECORD							
SIZE		DEPTH SET (MD)		PACKER SET (MD)			
2-3/8"		1,582' KB		NO			
31. PERFORATION RECORD (Interval, size and number)							
1,438'-41', 1,445'-48'							
1,451'-55' w/1 JSPF (13 holes)							
32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.							
DEPTH INTERVAL (MD)				AMOUNT AND KIND OF MATERIAL USED			
1,438'-455' KB				Breakdown: See Back			
				Fracture: See Back			
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	
4-29-81		24		3/8"		OIL—BBL. NA	
						GAS—MCF. 414	
						WATER—BBL. 131	
						GAS-OIL RATIO NA	
FLOW. TUBING PRESS.		CASING PRESSURE		CALCULATED 24-HOUR RATE		OIL—BBL. NA	
80 psi		SICP 220 psi				GAS—MCF. 414	
						WATER—BBL. 131	
						OIL GRAVITY-API (CORR.) NA	
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)						TEST WITNESSED BY	
VENTED DURING TEST						T. C. CARRUTH	
35. LIST OF ATTACHMENTS							
SAMPLE DESCRIPTION ATTACHED, DST Summarys & Core Analysis Attached							
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records							
SIGNED		TITLE				DATE	
Rasie Lopez		PRODUCTION TECH - RMD				MAY 14 1981	
						5-7-81	
						DISTRICT	
						BY RB	

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

NMCC

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				38. GEOLOGIC MARKERS		
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	MEAS. DEPTH	TRUE VERT. DEPTH
See Attached			See Attached Continued from front Breakdown - BD perfs 1,438'-55' w/500 gals. 7½ HCl + additives + 16 ball sealers. Fracture - Frac'd perfs 1,438'-55' w/ 25,000 gal 70% Quality Foam w/42,500# 10-20 Sand.	LOG TOPS Nacimiento Ojo Alamo Kirtland Fruitland Pictured Cliffs Lewis T.D. Logger T.D. Driller	surface 210' 270' 1,040' 1,425' 1,600' 1,650' 1,651'	

TESTS

LYNES

DST #1 (1391' to 1413'), ~~4 1/2" Bore~~ (inflatable, straddle)
 6 1/4" hole, 1" Bottom choke, 3/16" Top Choke, 2 7/8" drillpipe,
 Mud wt 9.6, Vis 48, no cushion

Reason: Coal zone test

OPERATION	TIME	BLOW	PSI (1395')	PSI (1395')
IF	15"	(28 PSI) strong blow - maintained	107 - 240	35 - 17
ISI	60"		409	414
2 nd IF	15"	Fair blow, GTS 5" (burned)	488 - 506	414 - 4
2 nd ISI	70"		463	474
IHP			772#	706
FHP			772#	706
FF	60"	no blow	409 - 427	403 - 44
FSI	120"		421	414

BHT: 100 °F

Fluid Recovery: 120' drilling mud

Sample Chamber: No CFG and 2000 cc drilling mud @ 50^{PS}
 2000 cc

Resistivities: Pit Mud _____ Ω @ _____ °F; Filtrate _____ Ω @ _____ °F
 Recovered Mud _____ Ω @ _____ °F; Rec Wtr _____ Ω @ _____ °F

Samples Caught: Gas _____ Oil _____ Water _____ Mud X

Where Taken: Drillpipe * _____ Flowline _____ Separator _____
 Other _____

Remarks: packers failed at end of 1st SI, then were reset and test resumed, TD (driller) = 1422'

* Top of Mud = 120', bottom of Mud

TESTS

DST #2 (1391' to 1413') ^{Lynes}
6 1/4" hole, 1" bottom choke, 3/16" Top Choke, 2 7/8" drill pipe, (inflatable, straddle)

Reason: Coal zone Test.

<u>OPERATION</u>	<u>TIME</u>	<u>BLOW</u>	<u>PSI (')</u>	<u>PSI (')</u>
IF			-	-
ISI				
FF			80-80	-
FSI				
IHP			711#	
FHP			711#	

BHT: 100 °F

Fluid Recovery: 210 ft. of drilling mud.

Sample Chamber: NO CFG and @

Resistivities: Pit Mud _____ Ω @ _____ °F; Filtrate _____ Ω @ _____ °F;
Recovered Mud _____ Ω @ _____ °F; Rec. Wtr _____ Ω @ _____ °F

Samples Caught: Gas _____ Oil _____ Water _____ Mud X

Where Taken: Drillpipe X Flowline _____ Separator _____
Other _____

Remarks: Pkrs Failed

TESTS

DST #3 (1391' to 1419'), Halliburton (Compression packer)

Reason: Coal Zone Test.

<u>OPERATION</u>	<u>TIME</u>	<u>BLOW</u>	<u>PSI ()</u>	<u>PSI ()</u>
IF	30		67 - 186	-
ISI	60		436	
FF	60		53 - 93	-
FSI	120		423	
IHP			699	
FHP			686	

BHT: 100 °FFluid Recovery: 200' 150' mud 50' waterSample Chamber: NO CFG and _____ @ _____ PSIResistivities: Pit Mud .73 Ω @ 20 °F; Filtrate _____ Ω @ _____ °F
Recovered Mud 1.22 Ω @ 20 °F; Rec. Wtr 1.7 Ω @ 20 °FSamples Caught: Gas _____ Oil _____ Water _____ Mud XWhere Taken: Drillpipe X Flowline _____ Separator _____
Other _____Remarks: Good blow through the bubble hose, 2nd flow went to the pit, 1/4" choke, 4 cE pressure, burned gas for 60 mins.

SAMPLE DESCRIPTION

130-40 90% Ss: wht, transp. cs-g. sbrnd, loose
10% Chert: lt. orange, cream, cs-xln, sbang-sbrnd, sme banded,
loose, hard

140-50 90% Ss: AA
10% Chert: AA
Trace Clyst: wht, plty, vy sft

150-60 100% Ss: AA
Trace Chert: AA
Trace Pyrite: yellow, metallic, modular, hd

160-70 90% Ss: AA w/sme sbang
10% Chert: AA

170-80 80% Ss: AA
20% Chert: AA w/sme pink

180-90 80% Ss: AA w/M-CS-g
20% Chert: AA w/red stained grains

190-200 70% Ss: AA
30% Chert: AA

200-10 90% Ss: AA
10% Chert: AA

210-20 80% Ss: AA w/mstly M-g
20% Chert: AA

220-30 70% Ss: wht, trgnsp, M-CS-g, Sbang-sbrnd, loose
30% Chert: H orange, pink, red, trnsp-opaque, CS-xln, sbang-sbrnd,
loose
Trace Anhydrite: wht, blk, firm-soft

230-40 70% Ss: AA
30% Chert: AA w/sme dk brn
Trace Clyst: lt. grn, plty, vy sft

240-50 50% Ss: AA
50% Chert: AA
Trace Pyrite: yellow, metallic, nodular, hd
Trace Coal: blk, vit, ang-sbang, firm

250-60 50% Ss: AA
50% Chert: AA w/sme green

260-70 90% Ss: wht, grn, f-m-g, sbrnd, bentonitic, vy cly flld, tite
10% Chert: AA

270-80 80% Ss: AA w/mstly grn, bentonitic, vy cly flld,
20% Chert: AA

280-90 90% Ss: wht, vy lt. grn, f-m-g, sbrnd, bentonitic, sme carb incl, vy cly flld, tite
10% Chert: AA
Trace Coal: blk, vit, ang-sbang, hd

290-300 60% Ss: wht, transp-opaque, f-m-g, sbrnd-sbang, sl. bentonitic, sme carb incl, sl-vy clyflld, firm-soft, tite
30% Chert: AA
10% Clyst: ~~grn~~, blk-pity, vy sft

300-10 60% Ss: wht, transp, m-g, sbrnd, sl. clyflld, friable, grn, f-g, sbrnd, vy clyflld, bentonitic, tite, wht, transp, cs-g, sbrnd, loose
30% Chert: AA
10% Shale: grn, ltgry, blk, sme slty, sme carb, firm

310-20 90% Ss: grn, vf-fg, sbrnd, bentonic, vy clyflld, hard, tite
10% Sh: AA

320-30 20% Ss: AA
70% Sh: grn, lt gry, blk, vy slty, sme carb, firm-hd
10% Chert: AA

330-40 50% Ss: wht, lt grn, vf-m-g, sbrnd, sme carb, sme bentonic, clyflld-vy clyflld, firm-soft, tite
50% Sh: lt. grn, ltgry, blk, slty, carb incl, firm
Trace Pyrite: AA

340-50 20% Ss: AA
80% Sh: AA
Trace Chert: AA

350-60 10% Ss: AA
90% Sh: AA w/incr. gry

360-70 100% Sh: grn, gry, blk-pity, sme slty, firm

370-80 20% Ss: wht, lt grn, vf-g, sbrnd, cln-sl slyflld, sme carb incl, friable-sft
80% Sh: AA

380-90 20% Ss: AA
80% Sh: AA

390-400 10% Ss: AA
90% Sh: AA w/mstly slty

400-10 50% Ss: wht, f-m-g, sbrnd, sme carb, sme glavc, sme amber,
sl. clyflld, sft, sl. poros.
50% Sh: grn, gry, blkyltly, sl. slty, sme carb, firm

410-20 70% Ss: AA w/sl. ark
30% Sh: AA
Trace Chert: pink, lt orange, smoky, ang-sbang, loose hard

420-30 60% Ss: AA w/sme bentontic (grn)
40% sh: AA

430-40 40% Ss: wht, grn, f-m-g, sbrnd, sme carb, sme glavc, sl.
clyflld, hard, poss. sl. poros
60% Sh: AA

440-50 30% Ss: AA
70% Sh: AA

450-60 50% Ss: grn, f-m-g, sbrnd, sme glavc, sme carb, sme amber
sl. clyflld, hard, tite
50% Sh: grn, gry, blkyltly, sme carb, firm

460-70 40% Ss: AA
60% Sh: AA w/lg carb frags included

470-80 70% Ss: wht, lt grn, f-m-g, sbrnd, sbang, carb incl., sl.
clyflld, firm, tite
30% Sh: grn, gry, blkyltly, sme sl. slty, carb frags, firm

480-90 80% Ss: AA w/sme cs-g, loose, sbrnd
10% Sh: AA
10% Chert: pink, cream, cs-g, sbang, loose

490-500 70% Ss: AA w/sl. ark
10% Sh: AA
20% Chert: AA

500-10 100% Ss: wht, transp, f-cs-g, sbrnd-sbang, sme carb incl,
sme glavc, sl. clyflld, calc, hard
Trace Chert: AA

510-20 50% Ss: AA
50% Chert: brn, pink, lt. orange, wht, cs-xln, sbrnd-sbang,
loose, hard

520-30 10% Ss: AA
70% Sh: grn, blk-y-plty, sme vy slty, firm
20% Chert: AA
Trace Pyrite: AA

530-40 30% Ss: AA
60% Sh: AA
10% Chert: AA

540-50 10% Ss: AA
40% Sh: AA
50% Chert: AA

550-60 40% Ss: Wht, f-cs-g, sbrnd, sl. clyfl, sme carb incl, soft,
sl calc
20% Sh: AA w/decreased siltiness
40% Chert: red, pink, lt. orange, brown, transp-opaque,
sbrnd-sbang, loose, hard

560-70 20% Ss: AA
50% Sh: AA w/sme gry
30% Chert: AA

570-80 30% Ss: AA w/mstly cs-g
20% Sh: AA
50% Chert: AA

580-90 80% Ss: AA
20% Chert: AA

590-600 80% Ss: AA
10% Sh: AA
10% Chert: AA

600-10 90% Ss: AA w/mod calc
10% Chert: AA
Trace Shale: AA

610-20 70% Ss: AA
20% Sh: grn, blk-y-plty, soft
10% Chert: AA

620-30 100% Shale: grn, blk-y, sme vy silty, soft-firm
Trace Chert: AA

630-40 100% Sh: AA

640-50 100% Sh: AA w/sme gry

650-60 100% Sh: AA w/vy slty

660-70 80% Sh: AA
20% Chert: AA

670-80 30% Ss: wht, m-g, sbrnd, sme glavc, sme carb, sl. clyfll,
soft, poss poros
70% Sh: AA

680-90 80% Ss: wht, grn, f-m-g, sbrnd, sme glavc, sme carb, mod
clyfll, soft
20% Sh: AA

690-700 70% Ss: wht, grn, f-m-g, sbrnd, sme glavc, sme carb, vy clyfll,
brittle, tite
30% Sh: AA

700-10 40% Ss: AA
50% Sh: AA
10% Chert: AA

710-20 60% Ss: AA w/incr. m-gs.
30% Sh: grn, blk-y-sbrnd, vy silty, hard
10% Chert: AA

720-30 70% Ss: AA
40% Sh: AA w/sme gry

730-40 90% Ss: AA
10% Sh: AA

740-50 80% Ss: AA
20% Sh: AA

750-60 20% Ss: wht, m-g, sbrnd, sme glavc, sme carb incl, clean,
well cemented, hard, tite
80% Sh: grn, gry, plty-blky, vy sl. slt, soft

760-70 30% Ss: AA w/sme grn, vf-g
70% Sh: AA

770-80 50% Ss: AA w/sme sl. ark.
50% Sh: AA

780-90 40% Ss: AA
50% Sh: AA
10% Chert: Wht w/red, lt. yellow, pink stain, cs-xln, loose,
hard

790-800 70% Ss: wht, lt. gry, grn, vf-m-g, sbrnd-sbang, sme glavc,
sme carb incl, sl. arkosic, sme sl. clyfll, well cemented,
hard, tite
30% Sh: AA

800-10 50% Ss: AA
50% Sh: lt. grn, gry, blk-y-plty, sme sl. slty, firm

810-20 50% Ss: AA
50% Sh: lt. grn, gry, blk-y-plty, sme sl. slty, firm

810-20 50% Ss: AA
50% Sh: AA

820-30 60% Ss: AA
40% Sh: AA w/mstly gry, less slty

830-40 30% Ss: AA
70% Sh: AA
Trace Chert: AA

840-50 40% Ss: AA w/sme lg. carb. fragments
60% Sh: AA
Trace Chert: red, opaque, sbrnd, hd.

850-60 NS

860-70 50% Ss: Gry, wht, grn, vf-m-g, sme glauc, mstly carb incl,
sme mod clyfill, all firm-hard, tite
50% Sh: grn, gry, dk brn, blk-y-plty, soft

870-80 100% Sh: AA

880-90 10% Ss: gry, sht, grn, vf-m-g, sme glauc, sme carb incl.,
sl. clyfill, soft
90% Sh: AA

890-900 100% Sh: AA

900-10 20% Ss: wht, lt gry, f-g, sbrnd-sbang, sme carb incl, sl-
mod clyfill, soft, calc.
80% Sh: gry, grn, plty-blky, soft

910-20 30% Ss: AA
70% Sh: AA

920-30 20% Ss: AA
80% Sh: AA

930-40 20% Ss: AA
80% Sh: AA w/mstly grn
Trace coal: blk, vitr, shly, soft

940-50 30% Ss: AA w/lg carb. frags included
70% Sh: AA w/mstly plty

950-60 100% Sh: gry, lt grn, blk-y-plty, sme sl-vy slty, sme firm,
mstly sft

960-70 100% Sh: AA w/sme carb incl.

970-80 100% Sh: AA w/sme dk brwn, firm
Trace Coal: blk, vitr, blk-y, hard w/assoc. pyrite

980-90 100% Sh: AA
Trace Calcite: lt. yellow, cs-xln, vy calc, poss fract fill

990-1000 100% Sh: AA
Trace Calcite: wht, cs-xln, xy calc, poss frac fill

1000-10 100% Sh: lt. grn gry, plty-blk-y, sme sl.-mod slty, sme firm
mstly soft
Trace Coal: blk, dull, sbrnd, vy shly, soft

1010-20 100% Sh: AA

1020-30 100% Sh: AA w/sme dk brn

1030-40 10% Ss: lt grn, vf-fg, sbrnd-sbang, mod clyflld, soft, tite
90% Sh: AA

1040-50 10% Ss: AA w/sl. carb intr
90% Sh: AA

1050-60 100% Sh: lt grn, gry, blk-y-plty, sme sl. slty, soft
Trace Chert: pink, cs-xln, loose, hard
Trace Coal: blk, dull, vy shly, soft w/partings

1060-70 100% Sh: AA w/sme vy slty

1070-80 30% Ss: wht, lt gry, fg, sbrnd, sme glavc, lg mod calc, carb
frags, vy clyflld, vy soft, tite
20% LS; lt brn, f-xln, resinous inclusions, dense, vy calc
50% Sh: AA

1080-90 40% Ss: AA
10% LS; AA
40% Sh: AA
10% Coal: AA

1090-1100 30% Ss: AA
20% LS; AA
40% Sh: AA w/mstly plty
10% Coal: AA w/sme vitreous

1100-10 100% Sh: H-dk gry, clky, sl. slty, firm-soft

1110-20 100% Sh: AA w/lt-med grn
 1120-30 100% Sh: AA w/sme plty
 1130-40 100% Sh: AA
 Trace Clyst: wht, plty (flky), vy soft
 1140-50 100% Sh: AA
 1150-60 100% Sh: lt grn, lt. gry, blk-y-plty, sme sl. slty, soft
 Trace Coal: blk, vitr, blk-y-ang, hard
 1160-70 10% Ss: wht, lt gry, m-g, sbrnd-sbang, carb incl, sl-mod
 clyfll, soft-friable, poss sl. poros
 80% Sh: AA
 10% Coal: AA
 1170-80 10% Ss: AA
 80% Sh: AA
 10% Coal: AA
 Trace Calcite: wht, cs-xln, vy calc, loose hd (fract fill)
 Trace Chert: lt. yellow, cs-xln, loose, hard
 1180-90 10% Ss: AA
 90% Sh: AA w/sme vy carb
 Trace Calcite: AA w/tabular
 Trace Chert: AA
 1190-1200 20% Ss: wht f-g, sbrnd, sme carb incl, clyfll, vy soft,
 tite
 80% Sh: AA w/mstly gry, plty
 1200-10 40% Ss: wht, f-m-g, sbrnd, sme glauc, sme carb frags, vy
 sl. clyfll, friable, poss poros
 60% Sh: grn, gry, dk brn, clky-plty, sl slty, soft
 Trace Coal: blk, vitr, blk-y-ang, hard
 1210-20 30% Ss: AA
 70% Sh: AA w/sme carb
 1220-30 20% Ss: AA
 70% Sh: AA
 10% Coal: blk, vitr, ang-blky, hard
 1230-40 10% Ss: AA
 80% Sh: AA w/sme sl. slty and sme sl. carb
 10% Coal: AA
 1240-50 10% Ss: AA
 80% Sh: AA
 10% Coal: AA

1250-60 30% Ss: wht, m-g, sbrnd, sme carb frags, sme glavc, sl.
ark, sl. clyfll, firm, tite
70% Sh: gry, grn, brn, dk brwn, blk-y-sbrnd, sme carb, soft

1260-70 40% Ss: AA
60% Sh: AA
Trace Pyrite: Yellow, metallic, nodular, hard
Trace Coal: blk, splintery, vitreous, brittle

1270-80 30% Ss: AA
70% Sh: AA

1280-90 40% Ss: AA
60% Sh: AA w/blk-y-plty, sme sl. carb.
Trace Chert: lt. yellow, sbrnded, cs-xln, hard, loose
Trace Pyrite: AA w/assoc. carb. frags.

1290-1300 20% Ss: AA
80% Sh: AA w/sme sl. slty
Trace Pyrite: AA

1300-10 30% Ss: wht, m-g, sbrnd, sme carb frag, sme glavc, vy clyflld,
soft, tite
60% Sh: gry, grn, brn, blk-y-sbrnd, sme vy carb, soft
10% Coal: blk, vit-dull, blk-y-sbrnd, shly, soft

1310-20 40% Ss: AA w/sme lt grn, v-fg
50% Sh: AA
10% Coal: AA

1320-30 30% Ss: wht, f-mg, sbrnd, sme glavc, sme carb, vy clyflld,
sft, tite
70% Sh: lt grn, gry, blk-y-plty, sme slt, sme carb

1330-40 40% Ss: AA w/sme carbon
60% Sh: AA
Trace Coal: blk, vit, sbrnd, hard w/sme pyrite assoc.

1340-50 50% Ss: AA
30% Sh: AA
10% Chert: lt yellow, transp-opaque
10% Coal: AA

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1350'-1353.5'

1353.5'-1354.5'

1354.5'-1356.2'

1356.2'-1357.2'

1357.2'-1357.7'

1357.7'-1358.8'

1358.8'-1360.4'

1360.4'-1365.7'

1365.7'-1376'

Core Description:

1375.8'-1376.4'

1376.4'-1385.5'

1385.5'-1390.8'

1390.8'-1394.3'

1394.3'-1404.1'

Core Description: Core #3

- 1404.1'-1412.7' Coal, solid, blk, vertically jointed, vitreous-bituminous w/high concentration of sulfides (pyrite, marcasite, resins). Calcite (?) filled vert. fract. Thin (0.2-0.3 ft) shale and/or bony partings. Shale is dk gry, vy carb.
- 1412.7'-1416.6' Shale, dk-lt gry, finely laminated (slightly disturbed) somewhat slty sh. w/amber nodules and plant frags.
- 1416.6'-1419.7' Coal, blk, vertically jointed AA, some brn lignite material. Sulfides present, amber, vy thin shale parting at 1418.0
- 1419.7'-1424.8' Sandstone, buff, vy-f-g, clyflld, calc (Trout Crk ss)
- 1430-40 50% ss: wht, m-g, sbrnd-sbang, carb frags, vy clyflld, vy soft, tite
40% Sh: lt grn, brn, blk, vy sl-mod slty, soft
10% Chert: wht, transp, cs-xln, ang-sbang, loose hd
- 1440-50 60% Ss: AA w/sme glavc, sme amber pale yellow flvor w/wk cut
30% Sh: AA
10% Chert: AA w/sme lt. orange, red stained, and sme w/carb. staining
- 1450-60 60% Ss: AA
30% Sh: AA w/mstly grn w/carb intrusions
10% Chert: AA
- 1460-70 60% Ss: wht, m-g, sbrnd, carb incl, sme glavc, vy clyflld, vy sft, tite
40% Sh: grnish gry, med brn, blk-plty, sme vy sl slty, sme carb incl.
Trace Chert: AA
Trace Coal: blk, vitr, blk, hard
- 1470-80 60% Ss: AA
40% Sh: AA w/sme plty lt grn, gry
Trace Coal: AA
Trace Chert: AA
- 1480-90 70% Ss: AA w/sme sl. arkosic, sl. calc
30% Sh: AA
Trace Coal: AA
Trace Chert: AA

1490-1500 50% Ss: wht, f-g, sbrnd, sme carb inc, sme amber, vy clyfldd,
vy sft, tite
20% Sh: AA
10% Chert: wht, lt orange, orange, transp and opaque, ang-
sbang, hard loose

1500-10 90% Ss: AA
10% Sh: AA
Trace Chert: AA

1510-20 70% Ss: AA w/fewer carb incl.
20% Sh: lt grn, brn, blkyl-pty, sme carb incl, firm
10% Coal: blk, dull-vitr, blkyl-sbrnd, shly

1520-30 70% Ss: AA w/sme sl. ark
30% Sh: grn, brn, gryish brown, pty-sbang, sme carb inc,
mstly mod. slty, soft

1530-40 90% Ss: AA
10% Sh: AA
Trace Chert: wht, transp, cs-xln, sbang-sbrnd, hard, loose

1540-50 70% Ss: wht-lt gry, f-g, sbrnd, carb frags, vy sl. clyrll,
sme sl. calc, friable-firm
30% Sh: brn, lt grn, blkyl; brn is mod slty w/carb frags
firm

1550-60 70% Ss: wht-lt gry, f-g, sbrnd, carb frag, mod-vy clyflld,
soft
30% Sh: AA

1560-70 60% Ss: AA
40% Sh: AA
Trace Chert: AA

1570-80 80% Ss: lt gry, vf-fg, sbrnd, sl. ark, carb frags, firm
20% sh: brn w/few lt grn, blkyl, mstly vy slty, firm
Trace Chert: AA

1580-90 80% Ss: AA w/sme sht, sl. clyflld, sl. calc, orange flvor
w/vy wk cut
20% Sh: AA

1590-1600 60% Ss: wht, lt. brwn, f-g, sbrnd, carb frags, vy clyflld,
sm vy calc, firm, tite
30% Sh: brn, blkyl, carbonaceous, sft
10% Clyst: lt. grn, pty-blkyl, soft
Trace Chert: AA

- 1600-10 50% Ss: AA
 30% Sh: AA w/carb. stainings
 10% Clyst: AA
 10% Chert: lt. gold, cs-xln, ang-sbang, loose, hard
- 1610-20 40% Ss: AA orange flvor w/vy wk cut
 30% Sh: AA
 20% Clyst: AA
 10% Chert: AA w/wht, transp.
 Trace Coal: blk, vit, blk, firm
- 1620-30 70% Ss: wht, tan, vf-fg, sbrnd, sl. arkosic, sme vy clyfild,
 carb incl, sme sft-mst firm, sme vy calc, tite, orange
flvor w/vy wk cut
 10% Sh: AA
 10% Clyst: AA
 10% Chert: AA
 Trace Coal: AA w/shly
- 1630-40 20% Ss: AA
 60% Sh: brn, blk-plty, mstly vy slty, carb incl., firm
 10% Clyst: AA
 10% Chert: lt. orange, cream, wht, transp and opaque, cs-xln,
 hard, loose
- 1640-50 20% Ss: AA
 70% Sh: AA
 10% Clyst: AA

30 Min Circ Sample

30% Ss: wht, lt brn fg, sbrnd, sme sl. arkosic, sl-mod clyfill,
 soft, tite. NS
 60% Sh: AA
 10% Chert:
 Trace Calcite: wht, cs-xln, rectangular, vy calc

60 Min Circ Sample

20% Ss: AA NS
 80% Sh: AA
 Trace Chert: AA