UTAH GEOLOGICAL AND MINERALOGICAL SURVEY
AFFILIATED WITH
THE COLLEGE OF MINES AND MINERAL INDUSTRIES
UNIVERSITY OF UTAH
SALT LAKE CITY, UTAH

DRILLING RECORDS
FOR OIL AND GAS IN UTAH

COMPILED UNDER THE DIRECTION OF
GEORGE H. HANSEN, H. C. SCOVILLE
AND THE
UTAH GEOLOGICAL AND MINERALOGICAL SURVEY

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NUMBER	LOCATION	LAND STATUS	OPERATOR AND WELL NUMBER	FIELD OR AREA	COMPLETED	ELEVATION	GEOLOGIC FORMATIONS SURFACE	GEOLOGIC FORMATIONS BOTTOM	TOPS: DEPTH IN FEET FROM SURFACE	REMARKS CONCERNING PRODUCING HORIZONS OR SHOWS	TOTAL DEPTH	WELL STATUS
24-167	C NESW 21-11S21E	Pu	Carter Oil Co. #1	Willow Creek	2-6-52	5743	Uinta	Mancos Shale	Tegr 605', Tew 3790', Tpa 5640', Kmv 6390', Km shale 8712'.	—	9,538	Abd
24-168	NWNWSE 10-11S22E	Pu	Stanolind Oil & Gas Co. #1	Asphalt Creek	10-1-52	5300	Uinta	Wasatch	Tegr 250', Tew 3358', Tuscher 4950', Kmv 5240'.	Several DSTs, slight gas shows.	5,500	Abd
24-169	NWNWSW 2-11S23E	S	Stanolind Oil & Gas Co. to 5505', General Petroleum Corp. 5505' to T.D. #1	Rainbow	3-10-53	5550	Uinta	Mancos	Tegr 96', Tew 3243', Kmv 4884', Km 7435'.	7 DSTs.	8,037	Abd
24-170	SESWSE 15-12S24E	Pu	Continental Oil Co. #1	Oil Springs	12-21-51	6395	Green River	Mesaverde	Tew 2270', Kmv 3120'.	—	4,350	Abd
24-171	W NWSW 18-12S25E	Pu	Continental Oil Co. #2	Oil Springs	2-4-52	6278	Green River	Wasatch	Tew 2030'.	Lost casing.	2,667	Abd
24-172	W NWSW 18-12S25E	Pu	Continental Oil Co. #2-A	Oil Springs	3-21-52	6278	Green River	Mesaverde	Tew 1710', Kmv 2695'.	—	4,170	Abd
24-173	S NWSW 18-12S25E	Pu	Continental Oil Co. #4	Oil Springs	10-19-52	6184	Green River	Mesaverde	Tew 1649', Kmv 2603'.	DSTs gave several good gas shows.	3,498	Abd
24-174	NESW 12-13S20E	P	Sunray Oil Co. Utah Corp. #1	Agency Draw	11-24-53	5767	Green River	Mancos	Tew 2380', Kmv 4690', Km 7222'.	Some gas shows.	7,316	Abd
24-175	SWSESW 27-13S21E	Pu	Continental Oil Co. #1	Bull Canyon	8-3-52	5672	Green River	Mesaverde	Tew 2220', Kmv 3420'.	—	4,215	Abd
24-176	NWNWNE 15-13S24E	Pu	Continental Oil Co. #3	Oil Springs	6-7-52	6661	Green River	Mesaverde	Tew 1800'±, Kmv 2700'.	—	4,177	Abd
24-177	C SESE 1-14S18E	Pu	El Paso Natural Gas Co. #1	Firewater Canyon	8-29-53	7050	Green River	Mesaverde	Tew 2760' (Spl.), 2740' (Schl.), Kmv 5460' (Spl.), 5455' (Schl.).	Oil and gas-cut mud in hole.	5,513	Abd
24-178	24-14S19E	P	Castle Dale Oil Co. #1	Hill Creek	1921	?	Green River	Green River	—	—	900	Abd
24-179	24-14S19E	P	Castle Dale Oil Co. #2	Hill Creek	1922	7000?	Green River	Green River	—	—	1,170	Abd
24-180	SWSW 29-14S20E	Pu	Midwest Refining Co. #1	Hill Creek	2-2-22	7000?	Green River	?	—	—	26	Abd
24-181	SWNW 32-14S20E	P	Utah Oil Refining Co. #1	Hill Creek	6-25-22	7000	Green River	Green River	—	—	2,150	Abd
24-182	S SESE 9-14S21E	Pu	Continental Oil Co. #2	Bull Canyon	9-14-52	5885	Green River	Mesaverde	Tew 2116', Kmv 3160'?	—	4,205	Abd
24-183	35-15S23E	P	John Pope #1	?	1900	?	Wasatch?	?	—	—	1,000	Abd
UTAH COUNTY												
25-1	C SWSW 16-8S5E	Pu	Sun Oil Co. #2	Diamond Fork	11-13-52	6937	Price River	Park City	Thaynes 100', Woodside 1505', Ppc 2384'.	Abnormally thick Ppc.	5,632	Abd
25-2	SENW 16-8S5E	P	Diamond Oil Co. #1	Diamond Fork	3-?-45	6200?	Triassic	Pennsylvanian?	—	Log available on photostats.	3,980	DSI
25-3	S SENW 16-8S5E	P	Utah Drilling & Development Co. Buskirk #1	Diamond Fork	3-?-45	6800?	Quaternary	Park City?	—	Lost hole in 1940 at 3990' and drilled out through window in 3-1/2" casing at 3890'. Formerly known as Diamond Oil Co. Well #2.	3,990	Abd
25-4	SWSENE 17-8S5E	Pu	Sun Oil Co. #1	Diamond Fork	7-5-52	7424	Price River	Park City	Thaynes 580', Woodside 1740', Ppc 3700'.	—	3,821	Abd
25-5	NENE 29-8S5E	P	Diamond Oil Co. #3	Diamond Fork	12-22-26	6000?	Ankareh	Permian?	—	—	1,691	Abd
25-6	NENE 29-8S5E	Pu	Diamond Oil Co. #1	Diamond Fork	12-31-28	6500	Ankareh	?	—	—	10	Abd

Note: Wells for each county are "spotted" on the accompanying map.

Note: For abbreviated legend data see explanation before tables.

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GEOLOGIC COMPLETION REPORT

EL PASO NATURAL GAS COMPANY

FIELD:	Wildcat
PROPERTY:	Firewater Canyon Unit
WELL NUMBER:	Firewater Canyon #1 Unit
LOCATION:	660' fr. S line, 660' fr. E line Section 1, Township 14 South, Range 18 East, Uintah County, Utah
ELEVATION:	7054 Gr., 7063 RB
DRILLED:	El Paso Natural Gas Co. Rig #C99301
DATE SPUDDED:	7-12-53
DATE DRILLING COMPLETED:	8-29-53
TOTAL DEPTH:	5,512
DATE PLUGGED:	8-30-53
PLUGS:	5490-5390 - 40 sx 4520-4420 - 40 sx 3860-3760 - 50 sx 3320-3260 - 25 sx 2340-2260 - 30 sx 250-198 - 40 sx Total 225 sx
CASING:	13 3/8" casing at 226' w/170 sx
INITIAL PRODUCTION:	Dry and Abandoned

GEOLOGIC TOPS

	SAMPLE	SCHLUMBERGER
Green River	Surface	Surface
True Wasatch	2,760'	2,740'
Mesaverde	5,460'	5,455'

WOA S T 1815

DRILL STEM TESTS

DST #1

3182-3324 Tool open 1 1/2 hrs. Shut in 45 min. Good blo 35 min, dead in one hour. Rec 240' wtr cut Ø mud, 1200' fresh wtr. IF 500#, FP 690#, HH 1640.

DST #2

3830-3900 Tool open 1 1/2 hours, SI 30 min weak blo immed died 1 hr. 10 min Recovered 20' sli gas-cut-mud. IF 10, FF 10, SIP 130, HH 1960.

DST #3

4134-4178 Tool open 4 hrs, SI 30 min, weak blo air throughout, recovery: 20' sli G-C-M, IF [illegible], FF 25# SIP 325# HH 2150#

DST #4

4454-4510 Open 4 hours, SI 30 min, good opening blow, decreasing throughout, no gas to surface, Rec. 180' fluid, 30' oil and gas-cut-mud, 150' oil heavily gas and water-cut-mud, (fresh H_2O) IF 10, FF10, SIP 290, HH 2350.

DST #5

4470-4510 Open 4 hrs, SI 1 hr, fair opening blow, decreased to weak blo throughout. Rec 180' fluid, 30' oil and gas-cut-mud, 150' oil, gas and H_2O-cut-mud. IF 5, FF 5, SIP 600, HH 2400

DST #6

4838-64 Tool open 3 1/2 hrs., SI 45 min, weak blow throughout. Rec. 25' Ø mud.
IF O, FF O, SIP O, HH 2490

SUMMARY OF DRILLING

Drilling conditions at Firewater presented several problems in the upper 2,000 feet of the hole. Junk was found in the hole after drilling the plug on the surface pipe. Circulation was lost at 478'. It was believed that the mud was lost in bedding planes between an oil shale and siltstone. Eight sacks of hulls were required to regain circulation. Drill pipe was stuck at 612' for several hours by hole cavings. The lost circulation material was removed at 900' and circulation was again lost at 1086'. Cottonseed hulls were again added and circulation was regained. Circulation was again lost at 1600' and more hulls were added. It was believed all the mud was lost at approximately 500' and not at the depths at which lost circulation was noticed. The hole was tight at 2288' for several trips but eventually wore away. The hole never was a great deal of trouble from 2288' to total depth.

Rocky Mountain Well Loggers were put on the well at 980' and logged from there to total depth. Epr-An Laboratories ran core analysis upon samples selected from the various cores. Rocky Mountain assisted greatly by running a quick field analysis at the well on the most promising zones.

The well was drilled to 5512' which was approximately 40' into the Mesaverde formation. The Mesaverde was found to be dry and the well was plugged and abandoned.

CORES

Core #1

3358-3403 Full recovery

3358-59, Siltst, gr, f g. hd, silty, p/sort, w/cem, est por 4% no show.

3359-60, Ss, as above plus 3" parting sh, grn, w/indur, fiss.

3360-77, Ss, lt gr, f.g, ang, sli fri, w/sort clean, 12% por, mic, ferromag, pyr, No show.

3377-82, Ss, as above plus lt gr, siltst nodules nad lt tan, Ls, dns, silty pyr.

3382-97, Ss, lt gr, fg, sli fri, subA, w/sort mic, ferro mag, pyr est por 14% appears to contain sulfur H_2O

3397-99, Ss, lt gr, fg, brit, subA, no show w/sort, contains fract. 20° from vert, mic, pyr, por est 8% no considering fract. No show.

3399-3403, Siltst, fr gr, hd, silty, brit mic,sdy, contains conoidal fract, shattered when removed from core barrel.

Core #2

3418-3466 Full Recovery

3418-34, Ss, lt gr, f g, sub A, sli fri w/sort, mic, ferro mag, est por 14%.

3434-36, Ss, lt gr, fg, sub A, sli fri inclusions, siltst, gr, hd calc.

3436-40, Ss, gr, f g, ang, w/sort, sli fri, mic ferro mag, est por 12%. Occasional sh parting.

3440-47, Ss, lt gr, fg hd, w/sort, est por 6% ferro mag, mic, ind, lt tan Ls, dns, vugs filled w/pyr.

3447-61, Ss, gr, f g sli, fri, clean, sub R, mic, ferro mag, est por 14%.

3461-64, Ls, gr, hd, dns, brit, silty, pyr.

3464-66, Siltst, reddish-brn, hd, brit, sli calc.

Core #3

3488-3538 Full Recovery

3488-3507, Ss, gr, fg, subA, sli fri, mic, ferro-mag, pyr no show, est por 16%.

3507-3515, Ss, gr, fg, fri, ang, clean, p/sort, mic, pyr, ferro-mag, no show, est por 16%.

3515-17, Ss, gr, fg, m hcl, ang, mic, ferro-mag, inclusions of pyr, heavy carb strks of p ant remains.

3517-20 Ss, gr, fg, ang, frii, mic, ferro-mag, pyr, no show, est por 18%.

3520-24, Ss as above plus carb parting.

3524-31, Ss, gr, fg, p/sort, ferro mag, mic, inclusions of pyr, carb plat remains & sh, gr, brit, mottled app.

SEE FROM

Cores (con't) -

Core #3

3531-33, Sh, gr, w/indur, brit, air flakes on exposure, concoidal fract filled veins of pyr.
3533-35, Siltst, reddish-brn, hd, brit, sdy, incl of Lt tan dns, hd.
3535-38, Sh, brn, brit, plty, becomes air slaked.

Core #4

3874-3886 Full Recovery
3874-76, Ss, gr, v f g, slty, hd, mic no show est por (%5)
3876-79, Slst, gr, hd, dns, pyr.
3879-89, Ss, gr, vfg, hd, slty, mic, pyr, tr, glau, no show, est por 6%.
3589-92, Ss, gr, fg hd, slty, mic, vert fract filled w/pyr, est por 8%.
3592-3610, Ss, gr, fg, sli fri, clean, ang, p/sort, pyr, mic, est por 12%.
3610-15, Ss as above but fri, est por 16%.
3615-18, Ss as above plus vert fract filled with calcite.
3618-22, Ss, gr, f g, fri, clean, p/sort, pyr, mic, no show, est por 12%.
3622-23, Siltst, lt gr, hd, dns, brit, sdy, mic.

Core #5

3850-3900 Full recovery
3850-55, Ss, brn, f g hd, w/cem, p/sort, ang mic, ferro-mag, est por 2%, ti vert fract, fluor & odor on fract.
3855-61, Siltst, reddish-brn, hd, brit, sdy, mic ti vert fract.
3861-72, Ss, brn, v f g, hd, ang, w/cem, w slty, p/sort mic, ferro-mag, no show.
3872-85, Siltst, reddish-brn, hd sft, sdy, mic.
3885-88, Siltst, reddish-brn, grn, brit, sft, bend air slakes, mic, mottled app.
3888-91, Siltst, reddish-brn, hd, brit, mic.
3891-94, Siltst, brn, w/ind., brit, sft, air slakes.
3894-96, Siltst, reddish-brn, hd, brit, mic.
3896-97, Ss, gr, f g, v hd, w/cem, w/sort, ang mic, est por 1% no show.
3897-3900, Siltst, reddish-brn, hd, brit, mic.

Core #6

4140-78 Full recovery
4140-45, Ss, brn, gr, fg, hd, w/cem, p/sort, sub A, mic glau, ferro-mag, weak fluor sli gas odor, por 10%.
4145-57, Ss, gr, f g , m hd, w/cem, p/sort, sub R, mic, ferro-mag, weak fluor, sli gas odor, est por 12%
4157-60, Siltst, reddish-brn., brit, plty, mic, nodules, grn, siltst.

SEP 15 VOM

Cores (cont'd)

Core #6

4160-63, Siltst, reddish-brn, hd, plty, brit, mic, vert fract. filled w/calcite.
4163-72, Siltst, as above without fract.
4172-75, Ss, gr, v f g, silty, p/sort, p/cem, mic, ferro-mag, no show, est per 7%.
4175-78, Siltst, reddish-brn, hd, brit, mic.

Core #7

4460-4510 Full Recovery
4460-62, Ss, gr, brn, S&P, f g, ang, sli fri, glauc, p/sort, vert fract, tr fluor, gas odor.
4462-69, Ss, gr, S&P, ang. sli fri, p/sort, biotite, glauc, 20% fluor, gas odor.
4469-73, Ss a/a, plus tr asp Res, 80% fluor.
4473-82, Ss a/a.
4482-88, Ss, gr, grn, f g, sub A, fri, feldspar, p/sort mic, 20% fluor, gas odor.
4488-91, Ss, a/a plus biotite.
4491-4500, Ss, a/a plus sh nodules & 40% lt blue fluor, gas odor.
4500-04, Ss, gr, S&P, ang, fri, sub A, p/sort, mic, biotite 20% fluor, gas odor.
4504-05, Ss, a/a, plus sh incl.
4505-07, Ss, fg, gr, w/cem, p/sort, ang, biotite, tr fluor, odor of gas.
4507-08, Sh, reddish-brn, w/ind, plty, brit.
4508-10, Ss, gr, f g, fri, silty, brit, p/sort, mic concodial vert fract, 20% fluor, gas odor.

Core #8

4510-4550 Full Recovery
4510-15, Ss, h gr, f g, sli fri, silty p/sort, ang, mic glau, tr fluor, gas odor.
4515-17, Siltst, gr, hd, brit, mic sdy.
4517-18, Ss, gr, hd, f g, silty, p/sort, w/cem, mic, low por.
4518-19, Siltst, gr, hd, plty, brit, vert fract.
4519-24, Siltst, reddish-brn, brit, plty, mic.
4524-26, Siltst, gr, grn, brit, plty, calc.
4526-35, Siltst, red-brn, plty, brit, mottled app.
4535-42, Siltst, gr, brit, hd, v sdy, mic.
4542-49, Siltst, red-brn, sdy, brit, mic.
4549-50, Sh, gr, w/ind, sdy, brit.

Core #9

4586-4608 Full Recovery
4586-89, Ss, gry, fg, w/cem, p/sort, sub A, glau, S&P, wet app, v sli gas odor, few specks of fluor.
4589-90, Sh, g, grn, yell, mottled, mic, w/ind, silty, calc.

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Cores (cont'd)

Core #8

4590-4602, Sh, red, grn, gry, mottled in part, w/ind brit w/lt gry, v/calc, sh incl.
4602-04, Reddish-brn, v mic, hd, w/ind, calc.
4604-08, Sh, red-grn, sltym mottled, mic, w/ind, calc, w/lt gry, calc, sh inc.

Core #10

4718-4738

4718-20, Ss, gr, S&P, f g, ang, low por p/sort, glau, ferro-mag, clear qutz, mic, sli gas odor, tr fluor.
4720-38, Sltst, reddish-brn, brit, plty, gr, sh incl.

Core #11

4790 - 4802 Full recovery
4790-94, Ss, gr, f g, ang, p/sort, S&P, ferro-mag, glau, mic.
4794-4802, Sltst, reddish-brn, plty, brit, w/ind.

Core #12

4846-4854 Full recovery
4846-48, Ss, gr, tan, S&P, sub A, p/sort, glau, mic clear qtz, grn, tr fluor, sli gas odor.
4848-53, Sh gr, brit, incl, sa gr, ss, & tan Ls.
4853-54, Sltst, gr, w/ind, hd, brit, sdy, mottled w/Wasatch red incl.

STAT S VOM

GEOLOGIC INTERPRETATION
OF FIREWATER CANYON #1 UNIT

The best well for comparison with Firewater Canyon would be our Peters Point #2 well located in Section 36, Township 12 South, Range 16 East, Carbon, County, Utah. The two wells were approximately thirteen miles apart.

Firewater Canyon #1 was spudded in the Douglas Creek member of the Green River formation and drilled to a total depth of 5,512' in the Mesaverde formation. Samples for the first thousand feet were poor because of the amount of lost circulation material in the mud. A mud logging unit was used from 980' to total depth which gave very accurate samples.

The Green River section could not be correlated with Peter's Point on sandstones because of their lenticular nature. The best correlation possible was by using zones rather than any particular marker. The best zones for correlation were the fresh water ostracodial limestones present in the Basal Green River formation. Firewater Canyon had well-developed and greater thicknesses of sandstone than the Peter's Point #2 well, but these sandstones had no shows of gas.

The sample top of the Wasatch was called at 2760' which made Firewater Canyon 346' higher structurally than Peters Point #2. The pay sand at Peters Point #2 was absent at Firewater Canyon. It should have been found at approximately 2630'.

The following zones were of interest and will be discussed as follows:

<u>Basal Green River</u>: 2530-2740 - This is the zone which the first show was encountered at Peters Point. Firewater Canyon has three sands present but no gas or oil shows were present.

Upper Wasatch: 2760-3020 - This zone is the producing zone at Peters Point. No sands were present in the upper 150'. Two sands were logged in the bottom 100'. These sands were well developed and have good porosity. Both had no gas or oil shows.

Wasatch: 3190-3710 - There were many well-developed sands present here. Four cores were cut which are minutely described in the core descriptions of this report. On a whole the sands have porosity ranging from 6%-18% and permeabilities sufficiently high for natural production of gas. The sands all contained water as proved by core analysis and drill stem tests.

Wasatch: - 3845-55 - This was the first show encountered. Core #5 was cut after drilling six feet of the sand section. This showed the gas reading to be coming from vertical fractures with a slight odor and fluorescence on the fractures. The zone was tested and proved negative.

Wasatch: - 4136-4210 - This show was also cored. The sandstone had fair porosity but low permeability. It had a weak fluorescence and gas odor. A drill stem test proved the zone negative.

Lower Wasatch: 4450-4515 - This was the most promising zone in the well and it proved to be too poor for completion. The zone was cored and tested. The test recovered oil, gas amd water-cut-mud. The water was though to be coming from the top of the sand because of the core analysis report. A second test was held in which the top of the sand was packed off. Again oil, gas and very slightly water-cut-mud were recove red. No gas ever reached the surface on either test. A Schlumberger was ran and it was decided to drill ahead.

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Paleocene - 5410-40 - This sand was looked forward to because of the good development to the west. However, in Firewater Canyon the sand was hard and tight with streaks of quartzitic sand.

Mesaverde - 5458-5512 - This is a prolific sand in both the San Juan Basin and the Hiawathia gas field in Northwestern Colorado. Therefore it was hoped it would produce at Firewater. Approximately 70 ft. of Mesaverde type sands were drilled and no shows encountered.

CONCLUSION

The Firewater Canyon #1 Unit can be considered accurately drilled, logged, cored and tested to the total depth drilled. No zones of commercial production were encountered or passed by. The one dry hole does not condemn the whole unit. Many well-developed sands were encountered in the Basal Green River Section. Also the Wasatch formation had several sands of future interest.

El Paso has now drilled two wells in this region which indicated that the answer to production is stratigraphy rather than structure. The future wells will continue to prove this at Peters Point. Another well can be drilled at Firewater after more control is obtained on the regional stratigraphy with much better chances of obtaining gas production

Signed,

Leroy Bechtel

SAMPLE DESCRIPTION

Samples described by L. E. Bechtel

DEPTH	DESCRIPTION
230-50	Sltst, gr, brit, sdy, plus oil shale.
250-70	Sltst, lt gr, brit, plty.
270-300	Sltst, reddish-brn, plty, brit, calc, sdy.
300-20	Sltst, a/a, plus tr ss, wh, f g sft.
320-30	Ss, wh-clear, f g, sub R, w/sort, ferromag.
330-40	Sh, lt tan, slty, bent, sft.
340-50	Sltst, gr, hd, blky, sdy, biotite.
350-70	Ss, lt gr, f g, sub R, w/sort, hd, est 8% por, ferromag, pyr.
370-410	Sltst, gr, hd, plty, v sdy, a/a graded into this.
410-20	Sh, dk brn-blk, fiss, brit, oil shale, med-hi grade.
420-30	Ss, wh, m g, frt, sub A, w/sort, ferromag, to glau, est por 12%.
430-50	Sltst, gr, plty, brit, v sdy, pyr.
450-70	Sh, dk, brn, fiss, low-med grade oil sh.
470-500	Ss, lt gr-clear, f g slt frt, p/cem, ferromag, subA, calc.
500-30	Sltst, gr, hd, brit, mic, sdy.
530-40	Sltst a.a plus oil shale.
540-50	Sltst, gr, hd, plty, sdy, mic.
550-70	Ss, lt tan, f g, sft, slty, calc, sub R.
570-90	Sltst, grn, hd, brit, sdy, mic, pyr.
590-600	Dolo, lt tan, hd, no por, banded.
600-30	Ss, lt gr, v f g, frt, p/cem, w/sort, ferromag, low por calc.
630-40	Ss a/a but slty.
640-50	Sltst, lt grn, v sdy, sft, calc.

Steel's VOM

680--80	Ss, lt gr, V f g, sft, fri, w/sort, p/cem, dsp, low por.
680-90	Sltst, grn, sft, brit, v sdy, mic.
690-720	Ss, lt gr, sft, fri v f g, sub A, w/sort, p/cem, biotite calc.
720-30	Ls, brn, dns, f g, dirty, no por.
730-60	Sltst, lt gr, sft, bent, mic.
760-80	Ss, clear, f g, fri, sub A, w/sort, tr glau.
780-810	Sltst, brn, gra, plty, brit, calc.
810-30	Marl, wh, sft, calc, pebbles plus sltst, gra.
830-	Sltst, grn, plty, brit, sdy, mic.
980-1010	Ss, lt gr, f g, fri, sub A, w/sort, p/cem, mic, glau, slty, asp Res.
1010-0	Ls, ostrocodal, sft, marly, cem, mic, no por, no shows
1020-30	Ss, grn, v slty, ss, lt gr, v f g, slty, mic, sft sub A.
1030-50	Ss, lt gr, f g, fri w/ sort, mic, slty, tr asp Res., calc.
1050-60	Sltst, lt grn, sft, v sdy.
1060-70	Sltst, lt gr, sft, calc, v sdy, mic.
1070-80	Ss, wh, v f g, fri, mic, sub A, w/sort, p/cem, calc pyr.
1080-90	Sltst, gr, plty, brit, mic, calc.
1090-1100	Sltst a/a groding into v calc.
1100-20	Ss, lt gr, f g, sft, slty, sub A, w/sort, mic, biotite, glau, calc.
1120-30	Ss, wh, f g, fri, clean, sub A, w/sort, mic, est por 10%.
1130-60	Ls, ost, lt tan, marly, cem, mic, sft, no por, no show.
1160-80	Ss, wh, f g, w/sort, fri, p/cem, glau, calc, mic.
1180-90	Sltst, d k gr, hd, plty, mic, calc.
1190-1200	Sltst, lt gr, plty, sft, mic, calc.
1200-20	Ss, wh, f g, fri, sub, w/sort, mic, slty, calc.
1220-30	Sltst, lt gr, v sdy, sft, mic, calc.

1230-40	Ss, clear, f-m g, v fri. sib A, w/sort, p/cem, calc, mic, pyr 12%
1240-50	Ss, a/a plus feldspar, arkosic.
1250-70	Ss, a/a plus pyr.
1270-90	Sltst, lt gr, sft, calc, sdy, mic.
1290-1310	Ss, lt gr, v f g, fri, w/sort, sub A, mic calc.
1310-30	Ss, a/a plus pyr.
1330-40	Sltst, gr, hd, plty, sdy.
1340-1410	Ss, eh, f g, fri, w/sort, mic, p/cem, est 10%.
1410-40	Sltst, lt gr, v sdy, mic, sft.
1440-60	Ss, wh, f g, fri, w/sort, p/cem, mic, lpor est 8%, glau.
1460-80	Sltst, lt grn, sdy, plty, tr ost. Ls, lt tan.
1480-1500	Sltst a/a, but v sdy, mic.
1500-10	Ss, wh, fg, fri, slty, sub A, w/sort, p/cem, feldspar, mic, est 12%.
1510-20	Ss, wh, v fri, contains shot sized Ls. oolites.
1520-30	Sltst, lt gr, plty, mic, calc.
1530-40	Ss, wh, tan v, fri, ang, contains shot sized Ls oolites
1540-50	Sltst, gr & grn, plty, brit, mic.
1550-80	Ss, wh, f g, fri, ang, w/sort, p/cem, mic est 8% por.
1580-1600	Sltst, lt gr, sft, plty, sdy, mic, calc.
1600-10	Sltst, ochea, plty, hd, mic calc.
1610-70	Sltst, wasatch red, hd, plty, mic.
1670-80	Ss, wh, f g, fri, ang, w/sort, mic, est 6-8%.
1680-1710	Ss, a/a plus pyr.
1710-40	Sltst, gr, grn, plty, mic, sdy, calc.
1740-50	Sltst, reddish-brn, sdy, mic, plty, hd.

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1750-60	Ss, lt gr, f g, sft, mic, w/sort, subA, est por 6%.
1760-70	Sltst, grn, sdy, plty, brit, mic.
1770-80	Ss, lt gr, f g, sft, mic w/sort, sub A, est por 8%.
1780-90	Ss, a/a plus pyr.
1790-1800	Sltst, gr, plty, brit, mic.
1800-10	Ss, wh, f g, fri, ang, w / sort, p/cem, mic est 8%.
1810-40	Sltst, gry, plty, bric, tr Ls, lt tan, dns.
1840-1850	Sltst a/a but v sdy.
1850-60	Sltst, a/a plus Ls, lt tan dns.
1860-70	Ss, wh, f g, sft, v calc, w/sort, p/cem, low por.
1870-90	Sltst, ~~gr sdy, mic, plty~~, reddish-brn, plty, mic, sdy.
1890-1900	Sltst, ~~gr, sdy, mic, plty~~.
1900-	Sltst, a.a, but v sdy.
1910-20	Sltst, reddish brn, plty, brit, sdy, mic.
1920-30	Sltst, gr, sdy, plty, ostracods, mic.
1930-40	Ss, lt gr, f g, sft, slty, w/sort, p/cem, mic.
1940-50	Sltst, reddish brn, plty, hd, mic.
1950-70	Sltst, a.a plus brick red, sltst.
1970-90	Ss, lt gr, f g, sft, slty, w/sort, mic, low por.
1990-2010	Ls, wh, v slty, plty, brit, f xln.
2010-40	Ss, wh, f g, fri, ang, p/sort, contains oo & ostracods
2040-50	Sltst, gr, plty, brit, sdy, mic.
2050-60	Ss, lt gr, f g, fri, ang, w/sort, mic, calc, tr gr, oo, Ls.
2060-70	Ls, tan-brn, oo, pebbly, sft, slty.
2070-2120	Sltst, lt gr, plty, brit, v sdy, mic, calc.
2120-30	Ls, gr, hd, brit, f x, dns, no por, mic, slty.

DEPTH	DESCRIPTION
2130-40	Siltst, lr gr, v sdy, plty, mic, contains many Ls, pebbles.
2140-50	Siltst, reddish-brn, plty, mic, brit.
2150-60	Siltst, gr, plty, hd, mic, sdy.
2160-70	Ls, lt tan-brn, ost, brit.
2170-80	Ss, lt gr, fri, v slty, ang, w/sort, calc.
2180-90	Ss, a/a plus Ls, tan, oo.
2190-2210	Ls, tan, oo, hd, brit, slty, low por.
2210-20	Siltst, gr, mat, hd, plty, pyt, mic, tr ss, lt gr, f g.
2220-30	Ss, wh, fg, fri, ang, slty, v pyt, mic, w/sort, est 7%.
2230-40	Ss a/a but v sdy.
2240-50	Ls, lt tan, oo v fri, sft, appeast as buck shot in samples.
2250-60	Ss, lt tan, f g, fri, ang, w/sort, mic, calc, est 6%.
2260-70	Siltst, gr, plty, hd slikensides, tr dk gr, ost, Ls.
2270-90	Ls, dk gr, ost, dns, hd, brit, no por.
2290-2310	Siltst, reddish-brn, hd, brit, v sdy, mic.
2310-20	Ss, brn, f g, brit, v slty, dirty, calc, sli stain (?)
2320-30	Ss, wh, f g, ang, fri, calc cem, w/sort, mic, asp res. flushed app.
2330-50	Ss, a/a plus pyr.
2350-2400	Siltst, reddish-brn, plty, hd, mic, sdy.
2400-2420	Siltst, a/a but v sdy.
2420-30	Ss, red f g, fri, w/sort, slty, mic, est 8%.
2430-40	Siltst, reddish-brn, bent, plty, mic.
2440-60	Siltst, a/a but v sdy.
2460-90	Ss, pink, f g, ang, fri, w/sort pyr, mic, calc.
2490-	Siltst, gr, plty, brit, sdy, mic.
2500-20	Siltst, reddish-brn, plty, v sdy, tr gilsonite.

DEPTH	DESCRIPTION
2520-30	Ls, tan, ost, brit, marly, mic, fmx water type.
2530-50	Ss, pink, v f g, sft, v silty, mic, low por.
2550-60	Ss, a/a but lt gr.
2560-80	Sltst, reddish-brn, hd, plty, mic.
2580-90	Ss, lt gr, f g, sft, ang, lsty, w/sort, low por, mic.
2590-2610	Ss, a/a, plus Ls, gr, hd, dns, f x.
2610-20	Sltst, lt gr, plty, sft, sdy, mic
2620-30	Ls, tan, ost, dns, marly, cem, no show.
2630-40	Sltst, gr, plty, brit, sdy, mic.
2640-60	Ss, lt gr, sft, f g, ang, v silty, mic.
2660-70	Ss, a/a w/sltst breaks.
2670-80	Sh, gr, plty, brit, tr gilsonite or coal.
2680-90	Ls, dk gr, ost, hd, dns.
2690-2700	Sltst, gr, mar, plty, v sdy, mic.
2700-10	Sltst, gr, bent, v sdy, mic.
2710-20	Ss, lt gr, fg, fri, sub R, w/sort, silty, mic, tr glauc.
2720-40	Ss, a/a plus pyr.
2740-60	Sltst, lt gr, bent, v sdy, tr, Ls, gr, dns, f y.
2760-90	Sltst, reddish-brn, plty, brit, sdy, mic.
2790-2860	Sltst, a/a plus bent.
2860-80	Sltst, a/a v sdy.
2880-2920	Sltst, reddish-brn, plty, brit, sdy mic
2920-30	Sltst, a/a, but v sdy.
2930-40	Ss, lt gr, f g, sub R, p/sort, fri, p/cem, mic.
2940-50	Ss, a/a, but v sdy.
2950-70	Ss, lt gr, f g, sub A, p/sort, fril, silty, est por 10%, mic.
2970-90	Sltst, reddish-brn, hd, brit, sdy, mic.

DEPTH	DESCRIPTION
2990-3000	Siltst a/a, but v sdy.
3000-20	Ss, lt gr, f g, fri, p/sort, p/cem, ferromag, 10%.
3020-40	Siltst, grn, reddish-brn, plty, brit, mic.
3040-3110	Siltst, a/a, plus blk, fiss, sh.
3110-40	Siltst, a/a but v sdy.
3140-70	Siltst, a/a plus occas sh, gr, slty.
3170-80	Siltst, a/a plus tr wh f g, slty ss.
3180-90	Siltst, reddish-brn, hd, plty, brit, mic sdy.
3190-3210	Ss, wh, f g, fri, sub R, p/sort, p/cem, mic, pyr, 12% no show.
3210-3220	Sh, gr, mar, hd, brit, mic, sdy, slty.
3220-30	Ss, wh fg, sub A, p/sort, p/cem, mic, pyr, 14%, no show.
3280-70	Ss, a/a but v slty.
3270-80	Sh, reddish-brn, lt gr, plty, brit, w/ind, mic.
3280-3300	Siltst, gr, sdy, sft, mic.
3300-10	Siltst, reddish-brn, plty, sdy, mic.
3310-20	Ss, wh, f g, fri, w/sort, pyr, mic, est por, no show.
3320-40	Siltst, reddish-brn, grn, plty, brit, mic, sdy.
3340-50	Ss, wh, f g, fri, w/sort, ang, mic, ferromag, est por 12%, no show.
3350-88	Siltst, reddish-brn, sdy, mic, plty.
3403-10	Siltst, gr, sdy, brit, mic.
3470-80	Siltst, reddish-brn, sdy, mic, plty, brit.
3480-88	Ss, wh, v f g, slty, sft, p/sort, mic, pyr, est por 10% no show.
3540-70	Siltst, reddish-grn, hd, brit, plty, sdy, mic.
3520-30	Siltst, reddish-brn, plty, brit, sdy, mic.
3630-50	Ss, v f g, slty, sft, p/sort, mic, pyr, est por 8% no show.
3650-90	Ss, a/a but clean fri, est por 12%.

DEPTH	DESCRIPTION
3690-	Siltst, gr, v, sdy, plty, brit, mic.
3700-10	Ss, lt tan, f g, brit, p/sort, w/cem, mic silty.
3710-40	Siltst, reddish-brn, silty, brit, mic.
3740-80	Siltst, a/a, but v sdy & pyr.
3780-3800	Ss, lt gr, f g, fri, sub A, p/sort, ferromag, mic silty.
3800-20	Siltst, reddish-brn, brit, plty, mic, sdy.
3820-40	Siltst, reddish-brn, sft, bent, mic.
3840-50	Ss, gr, tan, hd, f g, fi, ang, p/sort, w/cem, sli gas show.
3850-3900	Core #5
3900-10	Siltst, reddish-grn, hd, brit, plty, sdy.
3910-30	Slst, a/a plus ss, gr, f g, fri.
3950-70	Siltst, reddish-brn, plty, mic, v sdy.
3970-90	Siltst, a/a plus ss, gr, mic, ti.
3990-4010	Siltst, reddish-brn, sft, bent.
4010-20	Siltst, reddish-brn, brit, plty, mic, sdy.
4020-50	Siltst a/a plus Ss, lt gr, f g, fri, mic.
4050-60	Siltst, reddish-brn, sft, bent, tr ss, gr, fg fri.
4060-4110	Siltst, reddish-brn, plty, brit, mic, sdy.
4120-30	Siltst a/a, plus ss, lt gr, f f g, silty.
4130-40	Ss, gr, f g, sft, silty, ang, w/sort, p/cem, mic, ferromag, sli gas show.
4140-78	Core #6.
4180-4250	Siltst, reddish-brn, plty, brit, mic.
4250-60	Siltst, reddish-brn, sdy, mic, plty.
4260-90	Siltst, a/a plus tr, ss, gr, silty.
4290-4300	Siltst, a/a plus tr gr, f xln, Ls.
4300-4420	Siltst, a/a plus ss, wh bent, f g, mic.

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DEPTH	DESCRIPTION
4420-4450	Sltst, a/a, plus gr sh.
4450-60	Ss, lt gr, f g, silty, p/sort, mic, gas show.
4460-4510	Core #7
4510-50	Core #8
4450-60	Sltst, red-brn, brit, plty, plys?, gr, w. ind sh.
4560-4660	A/a plus tr ss, gr, f g silty.
4660-70	A/a plus tr ss, gr f g silty.
4670-80	Sltst, a/a plus tr ss, gr f g.
4680-4718	Sltst, reddish-brn, plty, brit.
4718-38	Core #10
4738-4782	Sltst, reddish-brn, hd, plty, sdy.
4782-90	Ss, gr, f g, ang, p/sort, S&P, ferromag, glau, mic.
4790-4802	Core #11
4802-40	Sltst, reddish-brn, plty, brit.
4840-46	Ss, gr tan, S&P, f g, sub ang, p/sort, glau, mic gas show.
4846-64	Core #12
4864-4900	Sltst, and sh, gr, mottled with Wasatch red, hd, calc, sdy.
4900-20	Sltst, reddish-brn, plty, sdy, mic, gr, sh incl.
4920-40	Ss, gr, fg, S&P, ang, p/sort, silty, mic, no show.
4940-90	Sh, red, yel gr, silty, sdy, mic.
4990-5000	Sh, a/a plus lt tan f x ls.
5000-10	Sltst, red-brn, fr, sdy, mic.
5010-30	Sltst a/a plus ss, wh, fg, bent, mic.
5030-80	Sltst, red-brn, gr, sdy, plty, mic.
5080-5130	Sltst a/a plus lt gr, f x, ls.
5130-50	Sltst, red-brn, gr, plty, sdy, mic.

DEPTH	DESCRIPTION
5180-80	st, yel, sft, tr gr-grn, Ls.
5190-5230	Sh, v col, mostly gr, tr nod ls.
5230-5300	Sh, a/a.
5300-20	Ss, lt gr, v fg, slty, p/sort, mic, pyr, no show, ferro mag and glau.
5320-5410	Sh, gr-grn, red-brn, w/ind, brit, sdy, plty.
5410-20	Ss, wh, f g, slty, w/sort, mic, no show.
5420-40	Ss, a/a, but hd qtz.
5440-5510	Ss, gr, S&P, frim, f-m g, p/sort, sub ang, mic, ferro mag carb, no show, occasional carb Sh parting plus tr coal.
5510-12	Sh, blk, fiss, carb, plus Wasatch type siltstone and shales.