GRAPHIC LOG OF FISH CREEK TEST WELL 1, ALASKA

PROFESSIONAL PAPER 305 PLATE 32

EXPLANATION

Gravel
Sandstone
Sandstone
Silty sandstone
Calcareous sandstone
Siltstone
Siltstone
Conglomeratic siltstone
Clay shale or claystone
Sandy clay shale or claystone
Silty clay shale or claystone
Calcareous clay shale or claystone
Coal or carbonaceous material
Limestone
Limestone
Dolomitic limestone
Marl
Ash
Gilsonite
Cored interval
No samples recovered
Oil show
Very fine grained
Fine grained
Medium grained
AM Electrite sparing

BIT SYMBOLS

DRILL BITS
CRA Crum Brinkerd rock
GG Globe 4-40 drag
GWS Grant weld scraper
HTC Hughes Tri-Cone rock
HM Reed HM
RRA Reed Roto reamer
RRK Reed rock
SR Security rock
S-2 Smith S-2
SMRK Smith rock

CORE BITS
A-1R A-1R wire line, hard formation
H Hughes core

Location: Lat. 70°19'10" N., Kelly bushing 29.5 feet
Elevation: above mean sea level
Spudded: May 17, 1946
Completed: July 1, 1946
Total depth: 7300 feet
Other tests: Dipmeter surveys, sidewall cores, and directional surveys

Drilling and engineering data compiled from records of Richfield Oil Corporation
Electric log by Schlumberger Well Surveying Corporation
All depths are measured from the top of Colony sands determined by comparison of Schlumberger electrical survey with Geological Research Council Rock Color Chart, 1948

SYSTEM OR SERIES: LOWER CRETACEOUS
GROUP: TOPAGORUK
FORMATION: Fortress Mountain formation
MICROFAUNAL ZONE
HEAVY-MINERAL ZONE
DEPTH (in feet): 3600 3700 3800 3900 4000 4100 4200 4300 4400 4500 4600 4700 4800 4900 5000 5100 5200 5300 5400 5500 5600 5700 5800 5900 6000 6100 6200 6300 6400 6500 6600 6700 6800 6900 7000 TOTAL DEPTH 7300

SPONTANEOUS POTENTIAL (millivolts): 40 0 +40
RUN 5 RUN 6 RUN 7 RUN 8

COMPOSITION

RESISTIVITY (ohms m²/m): 4 8 12 16 20 24 28 32 36 40 60 80 100 120 140 160 180 200
SHORT NORMAL 64" 16" INCHES
LONG NORMAL 64" 16" INCHES

SELECTED LITHOLOGIC DESCRIPTION

Clay shale, light- to medium-gray; with rare silty partings. Coarse and fine fluorescence intergranular and widespread cavities

Clay shale, light-gray

Clay shale, light- to medium-gray, slightly silty

Clay shale, light- to medium-gray, very slightly micaceous. Rare light-gray siltstone and clay-shale laminae

Clay shale, light- to medium-gray, slightly silty and siliceous, a few light-gray siltstone laminae below 6,900 feet

Clay shale, medium-gray, slightly to very slightly silty, micaceous, flecks to part, light-gray siltstone laminae below 6,900 feet

Clay shale, medium-gray, silty in part, micaceous, with pale-olive clay cleavage

Clay shale, medium-gray, with pale-olive clay cleavage

Clay shale, medium-gray, slightly siliceous, pale-olive clay cleavage

Clay shale, as above

Interbedded clay shale, medium-gray, micaceous, slightly silty, and siltstone, light-gray, micaceous, slightly argillaceous; siltstone, light-gray, micaceous, slightly argillaceous, with pale-olive clay cleavage. Abundant fine fluorescence and intergranular porosity. Fracture 6,418 feet

Interbedded clay shale, medium-gray, and siltstone, light-gray, micaceous, slightly argillaceous. Fracture 6,418 feet

Clay shale and siltstone as above, interbedded

Clay shale, medium- to light-gray, very slightly silty, slightly micaceous; siltstone laminae

Clay shale, medium-gray, slightly micaceous, with pale-olive clay cleavage

Clay shale, as above

Interbedded clay shale, medium-gray, micaceous, and siltstone, light-gray, micaceous, slightly argillaceous. Fracture 7,017 feet

Clay shale, as above

Clay shale, medium-gray, micaceous, and siltstone, light-gray, micaceous, slightly argillaceous. Fracture 7,213 feet

Clay shale, medium-gray, micaceous, and siltstone, light-gray, micaceous, slightly argillaceous, with pale-olive clay cleavage. Fracture 7,213 feet

Clay shale, medium-dark-gray, slightly micaceous, pale-olive clay cleavage

Clay shale, medium-dark-gray, slightly micaceous, pale-olive clay cleavage. Siltstone laminae below 7,300 feet

Clay shale, medium-dark-gray, as above

Clay shale, medium-dark-gray, slightly micaceous, with laminae of light-gray siltstone

Clay shale, siltstone laminae as above

FORMATION TEST

Test 1, 6,865-6,886 ft. Unsampled; flow of gas and oil to surface at rate of 1,000 barrels per day of 40° gravity oil and 1,000,000 cubic feet per day of gas

Test 2, 6,900-6,940 ft. Unsampled; flow of gas and oil to surface

Test 3, 7,056-7,080 ft. Fluid rose 1,100 feet in hole; flow of gas to surface at rate of 1,000,000 cubic feet per day

CORE

NUMBER	RECOVERY (FEET - INCHES)
39	10-0
40	9-3
41	8-4
42	7-5
43	4-8
44	6-3
45	6-0
46	10-0
47	8-9
48	7-9
49	3-9
50	9-5
51	9-5
52	9-5
53	10-0
54	10-0
55	10-0
56	10-0
57	10-0
58	10-0
59	10-0
60	10-0
61	7-5
62	8-9
63	10-0
64	10-0
65	10-0
66	10-0
67	10-0
68	10-0
69	10-0
70	10-0
71	5-4
72	1-4
73	8-4
74	6-10
75	8-3

DEVIATION: DIP

HOLE DIAMETER → AND CASING DIAMETER ← (IN INCHES): 10½ 9½ 7⅝ 5½

RATE OF PENETRATION (MINUTES PER FOOT — CASING WHERE CORED): 0 10 20 30

CORE BIT NUMBER (SIZE IN INCHES)

DRILL BIT (SIZE IN INCHES) (CASED WHERE REAMED)

DEPTH (in feet)

Logged by Fortenberry & Collins

SYSTEM OR SERIES: PLEISTOCENE | LOWER CRETACEOUS
GROUP: UPPER CRETACEOUS
FORMATION: GUBIK | SCHRADER BLUFF formation, SEABEE formation, TULUVAK TONGUE OF THE PEBBLE CHERT, COLVILLE, SCHRADER BLUFF formation, TOPAGORUK, Fortress Mountain formation
MICROFAUNAL ZONE: Tylostella Tomminoa
HEAVY-MINERAL ZONE

DEPTH (in feet): 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800 2900 3000 3100 3200 3300 3400 3500

SPONTANEOUS POTENTIAL (millivolts): Ground level, Sea level; 40 0
RUN 1 RUN 2 RUN 3 RUN 4

COMPOSITION

RESISTIVITY (ohms m²/m): 4 8 12 16 20 24 28 32 36 40 60 80 100 120 140 160 180 200
SHORT NORMAL 64" 16" INCHES
LONG NORMAL 64" 16" INCHES

SELECTED LITHOLOGIC DESCRIPTION

Sand, light-yellowish-gray, well-rounded clear quartz grains, with some yellow and white grains. Abundant dark pellets that are fish scat pellets

Clay shale, light-gray

Siltstone, light-gray and light-olive-gray, moderately indurated, with wavy laminae. Abundant flecks, pyrite, carbonized plant fragments, and abundant microscopic shells

Pyrite, as above

Sandstone, light-gray, friable, massive; and shale and siltstone, clear and milky quartz. Abundant carbonized plant fragments and abundant microscopic shells

Glauconite grains, abundant, to 1/8 in.

Sandstone, rare to abundant, to 1/8 in.

Clay shale, light-gray, moderately indurated. Abundant carbonized plant fragments and abundant flecks, pyrite, carbonized plant fragments, and abundant fragments

Limestone, dark-brown and light-gray

Limestone, dark-brown and light-gray; abundant fragments of shells, pyrite, and carbonized plant fragments

Clay shale, brownish, to siltstone, light-gray, micaceous, in part, very slightly calcareous; abundant gray limestone, pyrite, and abundant fragments

Pyrite, abundant

Clay shale, light-gray, very silty, micaceous; slightly mineralized with pyrite

Clay shale, light-gray, slightly siliceous; rare limestone stringers below

Clay shale, light-gray, slightly micaceous; rare siltstone laminae; abundant fragments of carbonized plant material and pyrite. Abundant fine fluorescence and intergranular porosity in sandy siltstone, flecks; some sandstone, light-gray, micaceous, flecks; clear-tinted rock and flecks, brownish-black, carbonized plant fragments and pyrite

Siltstone, light-gray, micaceous, slightly argillaceous; and clay shale, light-gray, micaceous, slightly argillaceous; rare limestone stringers. Carbonized plant fragments and pyrite

Siltstone, light-gray, micaceous, slightly argillaceous; and clay shale, light-gray, micaceous, slightly argillaceous, with interbedded light-gray limestone. Abundant fine fluorescence and intergranular porosity in sandy siltstone, flecks; some sandstone, light-gray, micaceous, flecks; clear-tinted rock and flecks, brownish-black, carbonized plant fragments and pyrite

Clay shale, medium- to light-gray, very silty, slightly calcareous, very micaceous

Limestone, white to yellow

Limestone, blue-gray

Clay shale, light-gray, micaceous, with rare siltstone laminae

Clay shale, light-gray, micaceous, with rare siltstone laminae and limestone fragments; limestone, fragments of gray-green rock to 1/4 in.

Siltstone, light-gray, micaceous, slightly argillaceous, and clay shale, light-gray, micaceous, slightly argillaceous; abundant fragments of carbonized plant material and pyrite. Abundant fine fluorescence and intergranular porosity in sandy siltstone, flecks; some sandstone, light-gray, micaceous, flecks; clear-tinted rock and flecks, brownish-black, carbonized plant fragments and pyrite

Clay shale, light-gray, very slightly micaceous, and siltstone, light-gray, micaceous, slightly argillaceous

Limestone, white to yellow

Limestone, blue-gray

Pyrite nodules, abundant, carbonized

Clay shale, medium-gray, micaceous, with rare siltstone laminae and pale-brown limestone fragments; limestone, brown

Siltstone, light-gray, micaceous, slightly argillaceous, and clay shale, light-gray, micaceous, slightly argillaceous, with abundant fragments of carbonized plant material and pyrite. Abundant fine fluorescence and intergranular porosity in sandy siltstone, flecks; some sandstone, light-gray, micaceous, flecks; clear-tinted rock and flecks, brownish-black, carbonized plant fragments and pyrite

Siltstone, light-gray, micaceous, slightly argillaceous, and clay shale, light-gray, micaceous, slightly argillaceous, with abundant fragments of carbonized plant material and pyrite. Abundant fine fluorescence and intergranular porosity in sandy siltstone, flecks; some sandstone, light-gray, micaceous, flecks; clear-tinted rock and flecks, brownish-black, carbonized plant fragments and pyrite. Fracture 7,213 feet

Zircon in shell fragment

Siltstone, light-gray, micaceous, slightly siliceous, grades into sandy siltstone, light-gray, micaceous, slightly argillaceous, and sandstone, light-gray, micaceous, slightly argillaceous, with abundant fragments of carbonized plant material and pyrite

Clay shale, medium-dark-gray, slightly micaceous, with laminae of light-gray siltstone

FORMATION TEST

Test 4, 7,056-7,080 ft. Fluid rose 1,100 feet in hole; flow of gas to surface at rate of 1,000,000 cubic feet per day of gas

CORE

NUMBER	RECOVERY (FEET - INCHES)
1	3-5
2	7-2
3	3-6
4	6-6
5	6-6
6	6-6
7	3-4
8	6-6
9	4-5
10	6-6
11	6-6
12	6-6
13	6-6
14	2-6
15	6-6
16	6-6
17	3-7
18	6-6
19	6-6
20	6-6
21	6-6
22	6-6
23	6-6
24	6-6
25	6-6
26	6-6
27	6-6
28	6-6
29	6-6
30	6-6
31	6-6
32	6-6
33	6-6
34	6-6
35	6-6
36	6-6
37	6-6
38	6-6

DEVIATION: DIP

HOLE DIAMETER → AND CASING DIAMETER ← (IN INCHES): 10¾ 7⅝ 5½ 4½ liner 3½ liner

RATE OF PENETRATION (MINUTES PER FOOT — CASING WHERE CORED): 0 10 20 30

CORE BIT NUMBER (SIZE IN INCHES)

DRILL BIT (SIZE IN INCHES) (CASED WHERE REAMED)

DEPTH (in feet)

Logged by Fortenberry & Collins

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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