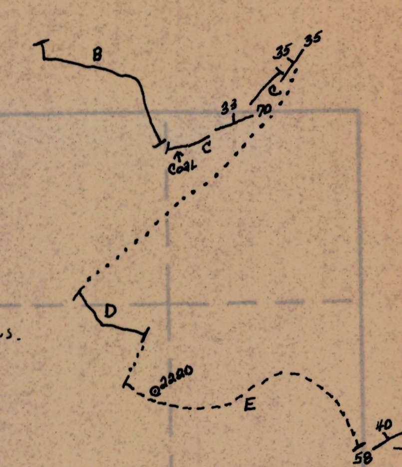
Amoco Production Company

Surface Log



Name Windy Ridge
Area or Quad Chignik (C-2) 1:63,360 **State** Alaska
Location East Black Peak area **Sec** 3, 4, 5, 9, 10, 13, 14, 15, 16 **Twn** 42S **Rng** 59 W
Measured by Wm. Connelly, L. Smirnoff, G. Brown **Date** 20, 21, 22, 24 Aug 77
Interval Bear Lake Fm., "Meshik Fm", "Tolstoi Fm", to top Cretaceous.
Remarks This composite section includes our measured intervals from foot traverses, sketched intervals from helocopter traverses in inaccassable areas, and intervals previously measured by Amoco the nature of measuring and quality of each leg is indicated below.
Location 56° 33' N 158° 35' W
Plotted by Wm. Connelly **Date** 24 to 27 Aug 77.

Periods	Epochs	Group or Fm.	Member	Ages (Stages)	Fossils	Cores	Shows	Depth	Lithology	Porosity	Samples	Description

Leg A — Foot traverse in bad weather, 20 Aug 77
Leg B — Foot traverse in good weather, 21 Aug 77 — Inaccessible, but appears same as ⑤
Leg C — Inaccessible, helocopter traverse, 21 Aug.
Leg D — Equivalent to Amoco's S. Fork Braided Ck. Section; we did not measure — General description, approx. thickness; back of hogback, 21 Aug.
Leg E — All volcanic, unknown thickness; 22 Aug
Leg F — Foot traverse, poor exposure, 22 Aug
Leg G — Foot traverse, steep cliff

Tachilni Fm (?) — Pliocene
Bear Lake Fm. — Miocene
Stepovak Fm (?) — Eocene (?)
Eocene (?)
Hoodoo (?) —?— Cretaceous (?)

Dips: 35 E; 18/55; 11/80; 24/84; 25 E; 23/80; 17/88; 18/77; 33/70; 35/35; 47/41; 47/52; 40/58; 24/63; 26/48; 35/60; 31/60

Depth: 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, 3600, 3700, 3800, 3900, 4000, 4100

Samples: 2199 PF, 2200 L, 2201 PF, 2202 PF, 2203 PF, 2204 PF, 2205 PF, 2206 PF, 2207 PF, 2208 PF, 2209 PF, 2210 PF, 2211 PF, 2212 PF, 2213 PF, 2214 PF

① Tachilni Fm (?) volcanic flow (?) capping peak 3714'; section measured from here down.

② Conglomeritic mudstn, brn., pebbles, channel.
ss, yellow-brn., m.gn., subrounded, poor sort; composed of 20-30% qtz plus lithics; conglomeritic in places; one burrow seen.

Dominantly pebble congl. with abt qtz and some pebbles of reworked plutoniclastic congl. as in Ugashik section.
Mainly ss, gray, m-fgn., well sort, rounded; arkosic with mainly qtz & feldspar; some flasier

Thin bedded congl. & ss with x-beds to 4', common flasier. Tidal flat with some fluvial influence?

③ Mainly conglomeratic (granule to pebble) ss with flasier ss and x-bedded ss interbeds (congl. ss : flasier ss : x-bed ss ≈ 70:20:10). Some coalified wood fragments to 3'. Some redeposited Ugashik plutoniclastics as above.
SS is gray-buff, m gn., subrounded, mod. sort, conglomeritic; arkosic; poorly cemented, fair to g. porosity. Some lg. trough-fill x-beds probably from migrating shallow marine dunes. Probably tidal flat environment.

④ Similar to Unit ③ but with less congl. and more ss & siltstn. Some hering bone x-bedding; siltstn sometimes is carbonaceous and sometimes iron stained.

⑤ Mainly ss with abundant 2-5' x-bedding and some flasiers; occasional large channels; very little congl.
SS is gray-grn, f to c grained, subangular, poorly sorted; contains ~15% qtz, 30% felds, plus abundant matrix. Porosity poor to fair, moderately well cemented. Congl. contains ~10% qtz pebbles, 70% reworked volc., and 20% reworked metamorphics.
Rocks in Leg B below 940' are inaccesible, but appear to be the same as unit ⑤.

⑥ Thick- to med- bedded ss without congl; wht. to buff.

⑦ Congl. & carbonaceous sh & coal beds 4-5' thick.

⑧ Mainly ss as in ⑥ with some congl.
Note: units ⑥, ⑦, & ⑧ only schmatic; area inaccessible and observed only from helocopter.

2215 PF
At 2215PF, SS is lt.grey, med. to coarse grained, subrounded poorly sorted; conglomeritic with granuals to pebbles; weathered, porosity fair; some coaly seams.
Possibly 200-400' of section missed connecting Leg C to Leg D. Leg D begins at back of hogback.

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⑨ Interbedded gray ss and congl; well cemented. Congl contains abundant qtz pebbles.
SS is med. to coarse grained, moderately well rounded, poorly sorted, locally conglomeratic with granules to pebbles, well cemented, fair porosity, 40-50% qtz

Note: Rocks in hogback (Leg D) contrast with previous Legs because better cemented, gray color, and greater abundance of congl.

2217 PF
Two coaly sh beds near top of hogback.
2218 PF

⑩ CMb8-
208 L — Ss, gy, f-crs g, pbly, fel, thn to mas-bdd, poor-fair por.; w/ intbd cgl, rd cht, qtz, qtz, volc pbls 1-3"
209 L
210 L — Ss, brn, fg, arg, thn-bdd, poor por.
211 L — Sill
Sltst, dkgy, carb, baked
Ss, gy, fmg, cglc zn, thn-bdd
Cgl, %; sill
212 P — Sh, carb to lignite
213 L — Ss, gy, fg, occ pbs, ws, thn-bdd, fair por
214 L — Cgl, %a, clasts to 5" v. abnt qtz, several dikes cut section
Sill
215 L — Cgl, %, abnt qtz (cht. clasts to 8", bac cglc ss @ base, thn fg ss & carb intbds; dikes and sills cut section
216 P — Intbd sh. carb; lig; & ss, fg, arg; abnt wood deb tuf.
217 P

Covered
Uncertain tie between Legs D & E.

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2220 G
⑪ Most, or all, of this section is igneous, but it isn't readily apparent if it is flows or sills or intrusion. Much hydrothermal alteration and jointing and fracturing. Columnar jointing common. No bake zones observed. Columnar jointing sometimes occurs in distinct sheets, implying flows. No sedimentary interbeds. Thickness unknown, but probably between 250-800'.

Covered

2222 PF
2223 PF
⑫ Thick bedded congl. with thin lenses of ss. Congl. is ortho, well rounded, mod. well sorted; contains clasts of indurated ss, volc., minor granitic and metamorphic. SS is gray, med. grained, mod. sorted, angular;

⑬ Congl. as in ⑫

⑭ Andesitic flow or sill; dk. gray.

⑮ Same as ⑭

Covered

⑯ Congl. as in Unit ⑫
Uncertainty of tie between Leg F & G about 100-200'

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2239 PF
2240 PF
2241 PF
⑰ Med. bedded ss and blk siltstn/sh. SS is gray-brn, med. grain, subangular, mod. sort; composed mainly of volc. frags., abnt. matrix; well cemented, poor porosity. Marine ss, likely turbidites.
2242 PF

2243 PF
2244 PF
⑱ Thin- to med- bedded ss and pebble congl. Occasional coaly sh layers to 6" thick. One layer tuffaceous ss; wht., bentonitic.

Inaccessible section next to Contact; very steep.

⑲ SS is lt. gray, med grain, subrounded, mod. well sorted, well cemented, poor porosity; very quartzose. Thick bedded, thin laminated.
The prominent break in slope here is at contact between Units ⑱ & ⑲. This probably reflects the greater degree of lithification of Unit ⑲.
We believe Unit ⑲ is cretaceous, in which case the Eocene/Cretaceous contact is approximately conformable.

Section ends at Cret. contact. Exposures continue down mountain side.