Amoco Production Company
Surface Log

○ - no recovery
NS = Non-Source
P = Poor
F = Fair
G = Good
VG = Very Good

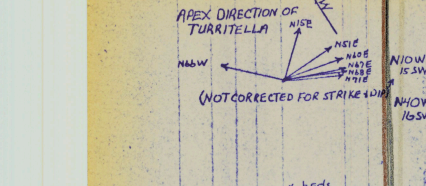
MISTY RIDGE SECTION

Name: MISTY RIDGE SECTION
Area / Quad: PORT MOLLER QUAD. State: ALASKA
Location: LISTED TO RIGHT →
Measured by: WILLIAMS, BROWN, SMIRNOFF 7/77
Interval: (TOLSTOI & STEPOVAK - BEAVER BAY GRP. HOODOO Post SANTONIAN)
Remarks: SECTION BEGINS AT LOWEST EXPOSURES in drainage on south side of ridge. Most of this section is measured along ridge line except where noted. Measured down the section - youngest to oldest. Section ends at the last visible outcrop in the Hoodo Fm. near the crest of the anticline.
Location: 53° 26′ N 161° 19′ W
Plotted by: WILLIAMS & BROWN Date 7/7/77

LOCATIONS:
Leg A Secs: 13, 24, 25 - 55S - 79W
Leg B 13 - 55S - 79W & 18 - 55S - 78W
Leg C 18 - 55S - 78W
Leg D 12 & 13 - 55S - 79W
Leg E SEC 1, T55S, R79W; SEC 35 T54S, R78W
Leg F SEC 25, 36, T54S R79W
Leg G SEC 26, 23, T54S, R79W
Leg H SEC 23, 14, T54S R79W

TERTIARY
Paleocene thru Oligocene
Tolstoi & Stepovak – Beaver Bay Group

Fair - gas - Peak gas - 1.0%
5′ AP 4071 PS, AP 4072 SR — Shale, blk, silty, fissile
Ss, gry, mg, ps, sa, hd & tite
INTRUSIVE - DIORITE? - phaneritic, dk green, gry.
115′ AP 4073 G — SILL - both upper and lower contacts are generally conformable. Local contact metamorphism to 10′. Aphanitic texture on margins. Highly weathered in places - grass like.
254′ AP 4074 PS
275′ AP 4075 PS — SILTSTONE, blk, blocky, hd, sli meta.
305′ AP 4076 PS, AP 4077 SR — Interbedded SS, tan-grn, fg, ms, SR-SA. Siltstone & silty mudstone, dk gry, thinly bedded & carb.
F-gas - Peak gas - .7%
340′ AP 4078 PS — Interbedded: Ss, tan-grn, f-mg, some cg tong., carb, arg, lithic, volcanoclastic. Siltstone & blk mudstone, hackly, conc, wood frags
380′ AP 4079 PS
430 AP 4080 PP (10.4% / 0.05 MD) — Ss, gry-grn, f-mg, some cong. lenses, sa-sr, p-ms, thin bedded, arg, lithic, feld, carb. scarce x-bedding
477′ AP 4081 PS — Siltstone, dk gry,
Ss, gry-grn, f-cg, ps, sa-sr, cong. lenses, few sandy siltstones, lithic, sli feld, carb.
550′ AP 4082 PS, AP 4083 PP (5.3% / 0.69 MD) — debris, poor ø, occ. 1″ thick blk mudstones
587′ AP 4084 PS, AP 4085 SR — Mudstone & siltstone, blk, hd, hackly, poor exposures
P-gas - Peak gas - .5%
Covered - probably silts
640′ AP 4086 PS — Covered - as above
700′ AP 4087 PS, AP 4088 SR — Siltstones & mudstones, dk gry-blk, silty, sli fissile in streaks
F-gas - Peak gas - .6%
780′ AP 4089 PS — Breccia - green, tuffaceous, volcanic angular, vps. - like Belkofski.
812′ AP 4090 PS — Scattered siltstones, blk, dk gry, hackly to 4′ thick
Breccia as above
Ss, grn, f-mg, p-ms, tuff, volc, lithic, poor ø.
Breccia as above.
1152′ AP 4091 PS — Tuffs - tan, brown to green, weathered very clayey.
1215′ AP 4092 PS — As above - leaf imprints carb. highly weathered, poor exposures.
HORNBLENDE ANDESITE - Sill
Scattered breccia in float
Breccia, as above
Thickness ?? — ANDESITE - AS ABOVE. Forms exposed backbone of ridge and peak - no sediments visible to either side - only andesite talus & float.
Ss, grn, mg, vps, sr, tuff, lithic volc. frags, highly jointed weathered
ANDESITE
1778′ AP 4093 PS — Ss - grn, f-mg, vps, sr, chl, tuff, volc. lithic, sli cong, thinly bedded, few gry sandy siltstones. Conglomerate - grading upward from boulders to pebbles.
Thickness ?? — Breccia, green, volcanic, pebble size, tuff matrix very clayey, highly weathered. Very similar to breccias in Belkofski.
Leg A
Break in section — Main saddle - break in section - climb peak to east along strike and work down north face.
Leg B — Leg B - moved along cliff crest, then descended cliff face along easternmost principal chute to stream.
Cliff face exposures: Breccia & Volcanoclastics - coarse pebble to cobble size - green, occ. purple, tuff matrix, scattered wood debris, highly jointed & weathered. Laced with andesite dikes. No fine grained rocks present!
Leg B
2450′ AP 4099 PS, AP 4100 SR — F-gas - Peak gas - .6%
Leg C
2485′ AP 4101 PS — Mudstone, brown-dk gry, silty, fissile to hackly, calc conc, few thin SS.
2532′ AP 4098 PS — Ss, gry, grn, mg, sa-sr, ps, sli. cong., ang., lithic, feld, very hd & tite.
2547′ AP 4097 PS — Shale - dk gry, silty, ironstained
2578′ AP 4096 PS — Ss, grn, gry, f-cg, hard & tite, lithic, cong.
2613′ AP 4095 PS — Siltstone, blk, hard
2655′ AP 4094 PS — Ss, gry, fs, ms, very hd & tite, few interbeds of siltstone & shale, carb debris on bedding surfs. Cong - gry - pebble ss, shale rip ups
Leg C / Leg D — Break in section. Tie back to saddle on ridge
Breccias - green, volcanic, with occ. wood debris, very poor bedding. Numerous andesite dikes
2960′ AP 4102 PS — Mudstone - dk brown-gry - thin zone in breccias
Breccias as above
3133′ AP 4103 PS — Mudstone, brown, gry, fissile
3173′ AP 4105 PP (5.0% / <0.05 MD) — Ss, gry, fs to cg, w/ cong. lenses ½″ pebbles, p-ms, sa, sli ang, feld. lithic, lenses of calc cmt - very hd & tite, med-thick bedded, highly jointed.
3194′ AP 4104 PS — Siltstone & mudstone - dk gry.
Breccia as above
3255′ AP 4106 PS, AP 4107 SR — Siltstone, blk, very hd., deformed
NS - .4 — Andesite intrusive
3310′ AP 4108 PS — Siltstone, blk, calc, hd, highly deformed
Andesite intrusives w/ scattered breccias.
3575′ AP 4109 PS, AP 4110 E — Siltstone, blk-gry, very hd, highly def. 4110 - Concretion with macrofossils. Andesite dikes
3595′ AP 4111 PP (0.9% / <0.05 MD) — SS, tan-gry, f-mg, sa-sr, m-ps, lim, ang, feld, lithic, thin-med bedding, some x bedding, poor ø
3615′ AP 4112 PS — Ss & siltstone as above. Andesite dikes
3653′ AP 4113 PS
3686′ AP 4114 PS — Mudstone & siltstone, dk gry-blk, very carb., thinly bedded, few thin SS, mg, ps, hd & tite
3725′ AP 4115 PS, AP 4116 SR — F-gas - Peak gas - .8 — Mudstone, dk gry, sli silty, hackly
— Top of ridge descending along dip bearing SS, tan, fs, ps, ang, carb feld, lithic
3796′ AP 4117 PS — Siltstone, dk gry-brown, & mudstones. Poor exposures
3840′ AP 4118 PS
3865′ AP 4119 PP (6.5% / <0.05 MD) — SS, green, m & cg, sli cong, ps, sa-sr, feld, lithic, very hd & tite, no visible bedding, highly jointed & weathered.
Conglomerate Ss - similar to above, massive pebbles to 2″. Poor exp.
4010′ AP 4120 PP (5.9% / <0.05 MD) — Ss, green, m-cg to cong, p-ms, sa, sli ang, feld, lithic, poor ø, hd, massive, highly jointed - ridge forming. Large set 10-15′? x set visible from air
Covered - Ss talus
4130 AP 4122 PP (5.7% / <0.05 MD) — SS, green, mg, ps, sa, sli ang, feld, lithic, volc matrix, poor ø.
4135 AP 4123 PS — Siltstone, blk, hackly, hd.
4196 AP 4123 PS, AP 4124 SR (PF) — Siltstone - dk gry, as above. Scattered SS - tan, vfs, silty, ang, carb.
4278′ AP 4125 PS
4328′ AP 4126 PS — Siltstones as above, concretion "slendonites"
4370′ AP 4127 PS, AP 4128 SR — F-gas - Peak gas - .8% — Siltstones as above, few thin SS to mg. hd & tite
4430′ AP 4129 PS
4483′ AP 4130 PS — Siltstones as above, exposures becoming very weathered.
4531′ AP 4131 PS
Poor exposures - siltstone slopewash.
4603′ AP 4132 PS, AP 4133 SR — P-gas - Peak gas - .5% — Siltstone, dk gry-blk, hackly
LEG D / LEG E — Leg D ends at lowest exposure in saddle, Leg E begins at point of projected up dip of bedding on mtn summit & is measured down section to the lowest exposed outcrop.
N30E 30SE; N60E 20SE; N55W 17SW
4665 APS107 PF
4676 APS108 PP (3.8% / <0.05 MD) — SS, gray, f. gr, SA-SR, p. sort., argillaceous, feldspathic, thinly bedded, carbonized plant frags on bedding planes, highly jointed. 1″ thick interbed of fine ss, poor porosity, 3-4″ ferruginous conc. sh, black, coaly
N60W 22SW
4730 APS109 PF — Andesite Sill, MASSIVE. SS, as above; sh, black, coaly at top. Alt. beds of f-med. sh, & siltstone ≈ 2-3′ thick
4765 APS110 PF — SS, gray-green, f-m, ang, v poor sorting, low porosity, massive, some thin laminations, small ¼″ walled burrows
N40W 18SW
4835 APS111 PF — Andesite dike. ss, gray, f-m, ang, p. sorted, thin laminations
4875 APS112 PF — siltstone, gray, f-med, sh. gray-black
4915 APS113 PF — ss, as above. siltstone, dk gray, thinly bedded to massive. SS, as above, vf-f with carbonized wood. sh: as above
oscillation ripples N35W
N35W 18SW
4985 APS114 PF, APS115 F — mudstone, gray, gastropods + pelecypods / siltstone
5010 APS116 PP (3.1% / <0.05 MD) — SS, gray-green, f-m, SA, m sorted, low porosity, highly indurated, slightly argillaceous, mod. bedded, feldspathic - lithic oscillation ripples.
5030 APS117 PF — sh, black, 1-2′ interbeds, pelecypods, gastropods, + carbonized plant frags on bedding surfaces, walled burrows. Fossils: CORALID FLOAT, MYALIKE CLAMS, mud-dwelling pelecypods, turritella
N10W 15SW
5080 APS118 PF
5090 APS119 PF
5095 APS767 PF — Alternating ss + sh as above ss:sh, 3:1



N40W 16SW
5130 APS119 PF — walled burrows filled with crse sand. SS, f-M, A, p sorted, low porosity, thinly laminated, some calcite veins
LEG E / LEG F — LEG F was measured down section, on the same MTN as LEG E, after geometrically projecting position with strike & dip
x-beds S40°E; S80°W; N85°E; N50E
5190 APS120 PP (6.2% / <0.05 MD) — SS, gray, f, sr-sa, M sorted, fair porosity, thin bedded, slightly argillaceous, 40% feld, 40% lith, 20% qtz, carbonized plant frags on bedding planes
5270 APS121 PF — ss, gray, crse - vcrse, A-SA, vp sorted, fair-poor porosity, well cemented (slightly calcareous), x-beds, massive.
5285 APS122 SR (NS - 2%) — sh, black, carbonaceous
5305 APS124 PP (2.7% / <0.05 MD)
5310 APS123 PF — SS, as above, ex poor sorting, x-beds, fair porosity
LEG F / LEG G — LEG G is geometrically tied across a ½ mile wide valley with the strike & dip of the units of the two legs.
5385 APS125 PF, APS126 SR — sh, black, carbonaceous
F-gas - Peak gas - .6% — ss, gray, crse, SA, ex poor sort, low porosity, bedded
5400 APS127 PF — sh, gray, fissile, carbonized plant frags, silty with occ. interbeds of ss & sh. Andesite dike
5415 APS128 PF — Alternating interbeds of shale, dark gray, & ss, gray, fine, A-SA, p sorted, poor porosity, thinly interbedded
5460 APS129 PF — ss, as above, med
5485 APS130 PF — shale, gray, hackly fracture. ss, gray, f-vf, ang, m. sorted, low porosity, 1-2′ thick beds, carbonized wood on bedding planes.
5520 APS131 PF — Andesite porphyry - sill
5550 APS132 PP (7.5% / 0.07 MD) — ss, gray, f., SA, p sorted, fair-poor porosity, thinly laminated
6-7
5595 APS133 PF, APS134 SR — shale, black, thinly laminated
VG-gas - Peak gas - 2.6% — Alt. 1-3′ interbeds of ss & sh. ss-sh ratio 3:2
5625 APS135 PF — sh, as above. ss, gray, med-crse., S.A., v.p. sort., poor porosity, massive
5665 APS136 PF — sh. as above. ss, as above, med gr. Andesite Intrusive
x-beds S50E; N35E; S70E
5710 APS137 PF, APS138 SR — VG-gas - Peak gas [illegible] — ss, as above. sh, black - dk. gray, slightly silty, fissile
5730 APS139 PP (4.5% / <0.05 MD) — ss, tan, f., s.a., m. sorted, low porosity, thinly laminated bedded - crse gr.
5755 APS140 PF — sh. as above. ss as above, crse, no x-beds sh:sh 7:1
5795 APS141 PP (5.8% / 0.11 MD) — ss as above, m-crse, x-beds
N65E 20SE
5805 APS142 PF — sh as above. ss as above crse - v crse
5845 APS143 PF, APS144 SR — sh, black, fissile, some iron, numerous leaf impressions. Andesite intrusive
F-gas - Peak gas - .9% — ss, med, otherwise as above
5885 APS145 PF — Alt. beds of ss, gray, f-m., ang, m.-p. sorted, poor porosity, some crse lens & sh, gray fissile
5925 APS146 PF, APS147 SR — SS, gray-green, crse, ang, v.p. sorted, good porosity, graded bedding
N75W 20SW
NS - [illegible]
5950 APS148 PF — sh. as above; ss:sh = 1:1
N65E 35SE
5980 APS149 PF — mudstone, dk gray, carbonaceous. ss, as above, crse - v. crse, petrified wood inclusions.
6010 APS150 PF, APS151 SR — mudstone, gray, silty, numerous plant frags, concretions
N65E 29SE
F-gas - Peak gas - .8% — ss, as above. gr. size grades med - crse
Andesite Porphyry / Diorite Porphyry - intrusive. includes xenoliths.
6105 APS152 PF — ss, gray, v. crse, ang, vp sorted, poor porosity, massive. sh, mudstone, siltstone, lt. buff - dk gray. SS, gray, f - med - crse, otherwise as above
Recumbent fold? Highly faulted. Ball & pillow structure
6150 APS153 PF
6160 APS154 PF — sh, black-gray, highly folded, faulted area, highly distorted beds. Samples 53 & 55 were taken at two levels on the up? side of the fault at different levels. The same is true for 54 & 56 on the down (NW.) side of the fault. The rest of the section is measured down on the up side.
6185 APS155 PF, APS156 PF — ss, as above
6260 APS157 PF — sh, black, coaly, plant impressions, subbituminous coal, wo[illegible]. claystone, green - brown
6285 APS158 PF, APS159 SR — ss, gray, v crse - gran, SA-A, vp sort. poor porosity, some carbonaceous. sh, brown, fissile
G-gas - Peak gas - 1.0% — ANDESITE SILL
6310 APS160 PF — siltstone, gray, massive. shale, black, coaly. ss, gray, vcrse, ang, v.p. sorted, poor porosity
6350 APS161 PF, APS162 SR — Possible contact between Hoodoo & Tolstoi. shale, black, thinly laminated, occasional thin interbeds of ss coaly, lit ratio ss:sh. calcareous concretions, 8″ dia., with carbonized plant frags.
VG-gas - Peak gas 10.6% — ss, gray, f, ang, p. sorted, low porosity, conc. as above
6410 APS163 PF — Alt. ss, & sh as above
Andesite Intrusive. ss, gray, med-crse., A-SA, p. sorted, low porosity, massive
6495 APS165 PF — sh., gray, silty, highly indurated
6515 APS166 PF — ss, as above. claystone, dk. gray. 15-20′ covered interval
6540 APS169 PF, APS170 SR — mudstone, dk gray, silty, some iron, carbonaceous plant frags.
6565 APS171 PF — VG-gas - Peak gas 2.2% — sh., black, carbonaceous, fissile
LEG G / LEG H — LEG H is geometrically tied to Leg G with the strike & dip. LEG H should be entirely within the Hoodoo.
COVERED INTERVAL
Andesite Dike, sporadic outcrops of.
COVERED INTERVAL
6780 APS172 PF — shale, gray, some thin interbeds of fine tan siltstone with numerous burrows - chondrites?
COVERED INTERVAL
ANDESITE INTRUSIVE
6885 APS173 PF, APS174 SR — sh, black, fissile, thin ½″ thick siltstone interbeds
F-gas - Peak gas .8% — ANDESITE dike
6905′ APS175 PF — sh, as above, some ferruginous minerals
occasional siltstone & vf ss. thin interbeds
6955 APS176 PF, APS177 SR — occasional Andesite dikes
F-gas - Peak gas - .7%
7000′ — Last visible outcrop going down section before the mapped crest of the anticline.

END OF SECTION

(It should be noted that this entire section is structurally complex, with numerous dikes, sills, & other intrusions, faults, the throw of which & direction is not known. Each leg has involved a geometric tie across covered interval. It is hoped that this section can be accurately dated with the correlative techniques of Palynology as this section does repre[illegible] a continuous section of the Oligocene - Eocene, Stepovak, Eoce[illegible] Paleocene Tolstoi, & the Cretaceous Hoodoo formation. No distinct lithologic contact between the formations was noted.

CRETACEOUS
HOODOO FORMATION
Post Santonian