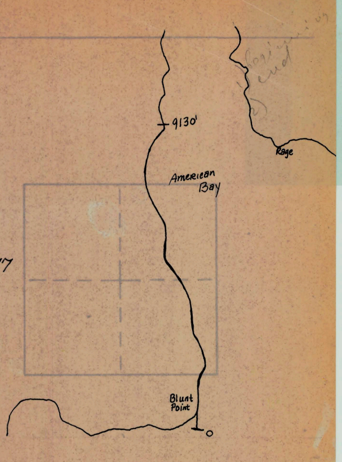
Amoco Production Company

Surface Log

Name: AMERICAN BAY
AREA OR QUAD: Port Moller C-1 STATE: Alaska
LOCATION: West shore of American Bay 5,8,17,20 TWN 52S RNG 70W
MEASURED BY: Brown-Smirnov, Scott DATE: 16-17 JULY 77
INTERVAL: Stepovak, Oligocene - Eocene?
REMARKS: Beach section, measured down section, along the western shore of American Bay, from the wave cut terrace exposed at low tide to the crest of the anticline.
LOCATION: 160° 8' W 55° 42' N
PLOTTED BY: Brown Smirnov DATE: 18 JULY 77



PERIODS	EPOCHS	GROUP or FM.	MEMBER	AGES (Stages)	FOSSILS / Trend of Paleocurrent	CORES	SHOWS	DEPTH	LITHOLOGY	POROSITY	SAMPLES	DESCRIPTION

TERTIARY — OLIGOCENE-EOCENE? — STEPOVAK

TREND OF "X-BEDS" N25E

50 N61E 50SE — SS, green-gray, f-med, M sorting, med-granular interbeds (ex. poor sorted) 40% feld, 50% lithic, 10% qtz, granules are volcanic/lithic. granules are sparse, med gr's most common

flaser bedding — thin-med bedded sets of trough x-beds.

x-beds — Medium scale trough x-beds composed of thin bedded trough x-bedsets. shallow marine sands

Ripples — Strong single trend of paleocurrent

flaser bedding — ss as above with coalified wood

scattered oysters with sponge borings, clams, ? gastropods

Ripple bedded ss, mud laminae in the trough x-beds

495-AP6004F — ss, gray, fine, ang, M. sorted, thinly laminated, the gr. size is fining downward, mactra, ostrea (oyster), coaly wood, bioturbated, near shore interface, occ. large storm clasts, more wood than fossils, concretions - calcareous ≈ 5" dia

48 N58E 48SE — 585-AP5179Pf shale, gray, slightly silty

burrows — ss, gray, fine, s-ang, m sorted, massive, burrows, occasional granular interbeds 1" thick (from storms)

825-AP5180AP — Concretions as above

905-AP6005F — Fossils, acila, pecten?, wood

flaser bedding, ripple laminations — 945-AP5181Pf, 950-AP5182AP — ss, gray, crse, s.ang.-ang., p. sorted, flaser bedding (near shore shelf) interbedded, thin beds of crse + med sand, ripple laminated ≈ 20' thick

N60E 41SE — 980-AP5183AP — ss, tan, crse-med, s-ang, mod sorted, 15% qtz, 40% feld, 45% lithic,

thick bedded sets of thin bedded wedge planar x-beds - (wave bar)

Float from this interval contains mactra clams

covered interval probably shale

1095-AP5184Pf — siltstone, gray, badly weathered, poorly exposed, poor samples, thin laminations

occasional thin interbeds of fine ss.

1190-AP5184Pf

45 N61E 45SE — 1325-AP5185Pf — ss, gray, med-crse, ang, p. sorted, green clasts, thinly laminated

AP5186SR — sh, gray, lots of iron, conc.-calcareous - sub spherical,

ss, gray, fine, plant frags, conc. as above.

bioturbation — 1410-AP6006F, 1425-AP5187Pf — shale, gray, silty, ferruginous stains, sparse fossils - articulated, upright position

sparse fossils

burrows, bioturbated — 1640-AP6007 — ss, gray, fine, ang, M. sorted, homogeneous, massive; Fossils - mactra clams, oysters, scaphopod, burrows, slightly bioturbated, coaly wood frags, random calc. concretions ≈ 8" dia.

ss, as above with some thin beds of crse ss

36 FAULT N60E 36SE — Fault, direction & displacement undetermined

ss, gray, crse-med, ang, p sorted, crse at top grading downward to fine, thin granular interbeds at the top

flaser bedding — clay laminations in ss

burrows — 2290'-AP5188AP — ss, gray-green, fine-med, ang, p sorted, few small burrows, modiolus, mactra, oyster frags, chondrites burrows, coaly wood

FAULT — Small fault direction unknown

ss, gray, crse, p. sorted, volcanic grains

40 N66E 40SE wedge planar x-beds — wedge planar x-beds, main trend S20E however minor trends to the NW

ss, gray, crse, granular, volcanic clasts, some iron conc.

Rip ups — ss, gray, fine, ang, m-p sorted, flaser bedding (interbeds of clay in ss) occ. thin laminated mudstone & f. ss. some mudstone rip up clasts 1-2", volcanic - andesite clasts

FLASER BEDDING

ripples, festoon x-beds — thin laminations of ss & mudstone, ss as above

3290'-AP5189Pf — ss, gray, fine as above & siltstone, highly Fe-stained, green volcanic clasts

occasional crse ss interbeds

wedge planar x-beds — ss, gray-green, crse-vcrse, ang, v.p. sorted, lithic & volcanic clasts

flaser bedding, ripups, burrows — ss, pink, m-crse, ang, v.p. sorted, flaser bedding, ferruginous, mudstone laminations (flaser bedding)

wedge planar x-beds, ripups, burrows — Large fault, appears to be about 3' of displacement

N68E 36SE — ss, as above with clay pebble fragments ≈ 3" dia - ripups burrows

36 burrows wedge planar x-beds — 4030-AP5190AP — siltstone, gray,

4080-AP5191Pf — ss, gray, med, ang, M. sorted, poor porosity, burrowed, condrites crse ss - granules at top. grading downward to siltstone

ripples — conglomerate, green, cobble-pebble, poor porosity, tuffaceous, polymictic, coarsening upwards

ss, gray-green, f-med, ang, p sorted, volcanic grains

tuffaceous conglomerate as above

ss as above

COVERED INTERVAL

ss, tan, crse-med, ang, p. sorted, massive

siltstone, light tan, pyrite mineralization

4765-AP5192AP — ss, gray, f., ang, p. sorted

Andesite flow or sill

flaser bedding, rip ups — ss, gray, f, ang, M. sorted, poor porosity, flaser bedding, ripup clasts

4855-AP5193Pf — shale, dk. gray, silty

N60E 39SE — ss, dk-gray, m-crse, ang., p. sorted, poor porosity, volcanic frags.

burrows — siltstone, dk.-gray, thinly bedded, Fossils - mactra, acila, burrows, concretions ≈ 2" dia

5090-AP5194Pf — Lava flows

5140-AP6008F — siltstone, as above

Andesite dike

5225-AP5195Pf, AP5196SR — siltstone, as above, scattered clams & gastropods concretions ≈ 6" dia

5505-AP5197Pf — shale, dk.-gray, thinly bedded

siltstone, dk. gray, thin interbeds of med ss. near the bottom, random plant frags.

5840-AP5198Pf, AP5199SR

N70E 39SE

siltstone as above

6100 — Mudstone, thin laminated

Covered interval

Lahar, green, volcanic and sedimentary rocks' clasts up to 1"

6820 — AP6009PP — Ss, green-gray, vc-g, poorly sorted, lithic and volcanic clasts. Cross-bedding sets up to 3' thick. The most coarse ss at the top.

Interbedded: ss, dark, f-g and siltstones

7000 — Ss, gray, vc-g, poorly sorted, lithic and feldspathic clasts. Vertical andesite? dike.

7120 — AP 6010 Pf, 6011 SR

Thin interbedded: ss, dark, f-g; siltstones; occasional volcanic ss up to 1' thick with increasing thickness down section.

7780 — AP 6012 Pf

8000

8130 — AP 6013 Pf, 6014 SR

Claystone.

Interbedded: ss, gray, m-f-g, graded, lithic and feldspathic clasts, massive with decreasing thickness of interbeds down section; ss, dark-gray, f-g, massive; siltstones. There are plant fragments? and clams?

AP 6015 Pf

Covered interval

Strike of ripples N55W — Ss, gray, m-fg, moderately sorted, mainly feldspathic, massive with scattered pebbles and oysters.

Interbedded: siltstones, ss, gray, m-g, moderately sorted, as above but without oysters, with ripple marks; graded-coarse ss at the top; conglomeratic ss at the base with clasts up to 10" of different sedimentary rocks. Vertical dikes of basic rock and tectonical breccia, one interbed of porphyritic extrusive. (basic)

Basic porphyritic intrusive

Ss, gray, c-fg - graded, mainly lithic fragments Thickness of the rythm up to 3'.

9000 — Intrusive as above with vertical dike of basic rock.

Interbedded: ss, gray c-g, poorly sorted, lithic and feldspathic clasts, massive; ss, graded as above; siltstones. Cut by tectonical breccia.

Conglomerates with boulder size clasts of different rocks, matrix - v.c-g ss.

Last part of the section exactly at the crest of anticline.

Summary:

7120-9130 — Lower-most interval (8750-9130) is complex, containing congl. and ss and graded beds. It followed by a transgressive sequence of siltstones with progressively fewer volcanic ss up section

6100-7120 — Regressive-transgressive cycle. Coarsening up and down sequence: veg ss, volcanic - lahar - probably siltstone (covered interval) - mudstone

4650-6100 — Siltstones, comparatively stable, probably deep marine environment.

1500-4650 — Regressive-transgressive cycle: veg ss - coarsening up section conglomerates - ss and siltstones - shale. Paleocurrents are bimodal NE-SW (parallel to shore?) and unimodal SE (perpendicular to shore down paleoslope?)

0-1500 — Regressive sequence: Shale and siltstone - stable shallow marine fossiliferous ss. NE Paleo