Amoco Production Company

Surface Log

Name: American Bay
Area or Quad: Port Moller C-1 State: Alaska
Location: West shore of American Bay, S8, T20S, R70W
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

Tertiary — Oligocene-Eocene ? — Stepovak

Trend of Paleocurrent: Trend of "X-Beds" N25E; N35W; N15E; R0SE; S40E; SE; N65W, N80W (Trend of x-beds); Striae of ripple N55W

Description

SS, green-gray, f-med, m sorting, med-granular interbeds (poor sorted) 40% feld, 50% lithic, 10% qtz, granules are volcanic/lithic, granules are sparse, med qz's most common. Thin-med bedded sets of trough x-beds.

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

Strong single trend of paleocurrent

SS as above with coalified wood

Scattered oysters with sponge borings, clams, gastropods

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

485 - AP6004F: SS, gray, fine, ang, m sorted, thinly laminated, the gr size is fining downward, mactra, ostrea (oysters), wood, bioturbated, near shore interface, occ. large shore clasts, rare wood thin fossils, concretions - calcareous ≈ 5" dia

585 - AP5179PF: shale, gray, slightly silty

SS, gray, fine, s-ang, m sorted, massive, burrows, occasional granular interbeds 1" thick (few stones)

865 - AR5180AP: concretions as above

925 - AP6005F: Fossils, acila, pectin?, wood

945 - AR5181PF, 950 - AR5182AP: SS, gray, crse, sang-ang, p sorted, flaser bedding (inner shore shelf), interbedded, thin beds of crse + med sand, ripple laminated ≈ 20 thick

980 - AR5183AP: 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 (only this interval) contains mactra clams, covered interval probably shale. Siltstone, gray, badly weathered, poorly exposed, poor samples, thin laminations

1085 - AR5184PF: occasional thin interbeds of fine ss.

1190 - AR5184PF

1345 - AR5185PF, AR5186SR: SS, gray, med-crse, ang, p sorted, granule clasts, thinly laminated. Sh, gray, lots of iron, conc - calcareous - sub spherical.

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

1410 - AP6006F, 1425 - AR5187PF: Shale, gray, silty, ferruginous stains, sparse fossils - articulated, upright position

Sparse fossils

1640 - AP6007: SS, gray, fine, ang, m sorted, homogeneous, massive; Fossils - mactra clams, oysters, scaphopods, burrows, slightly bioturbated, coaly wood frags, random calc. concretions ≈ 8" dia

SS, as above with some thin beds of crse ss

Fault, direction + displacement undetermined

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

Clay laminations in ss

2220 - AR5188AP: SS, gray-green, fine-med, ang, p sorted. Few small burrows, nodules, mactra, oyster frags, chondrites burrows, coaly wood

Small fault - fault direction unknown

SS, gray, crse, p sorted, volcanic grains

Wedge planar x-beds, main trend S80E however minor trends to the NW. SS, gray, crse-granular, volcanic clasts, some iron conc.

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

Thin laminations of ss + mudstone, ss as above

3230 - AR5189PF: SS, gray, fine as above + siltstone, highly Fe-stained, green volcanic clasts

Occasional crse ss interbeds

SS, gray-green, crse-v crse, ang, v.p sorted, lithic + volcanic clasts

SS, pink, m-crse, ang, v.p sorted, flaser bedding, ferruginous, mudstone laminations (flaser bedding)

Large fault, appears to be about 3' of displacement

SS, as above with clay pebble fragments ≈ 3" dia - ripups, burrows

4020 - AR5190AP, 4080 - AR5191PF: Siltstone, gray; SS, gray, med, ang, m sorted, poor porosity, burrowed, condrites, crse ss - granules at top, grading down ward to siltstone

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

4745 - AR5192AP: SS, gray, f, ang, p sorted

Andesite flow or sill

SS, gray, f, ang, m sorted, poor porosity, flaser bedding, ripup clasts

4955 - AR5193PF: shale, dk gray, silty

SS, dk-gray, m-crse, ang, p sorted, poor porosity, volcanic frags. Siltstone, dk-gray, thinly bedded, fossils - mactra, acila, burrows, concretions ≈ 2" dia

5040 - AR5194PF, 5140 - AP6008F: Lava flows

Siltstone, as above

Andesite dike

5235 - AR5195PF, AR5196SR: Siltstone, as above, scattered clams + gastropods, concretions ≈ 6" dia

5505 - AR5197PF: Shale, dk-gray, thinly bedded

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

5990 - AR5198PF, AR5199SR

Siltstone as above

6100: Mudstone, thin laminated

Covered interval

Lahar, green, volcanic and sedimentary rocks' clasts up to 2'.

6820 - AP6009PF: 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.

7000: Interbedded: ss, dark, f-g and siltstones

7120 - AP 6010 Pf, 6011 SR: Ss, gray, vc-g, poorly sorted, lithic and feldspathic clasts. Vertical andesite? dike.

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

7730 - 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

Ss, gray, m-f-g, moderately sorted, mainly feldspathic, massive with scattered pebbles and oysters. with ripple marks

Interbedded: siltstones, ss, gray, m-f-g, moderately sorted, as above but without oysters, graded coarse ss at the top; conglomerates at the top with clasts up to 10" of different sedimentary rocks. Vertical dikes of dark green, [illegible] breccia, one interbed of porphyritic extrusive basic

Basic porphyritic intrusive

Ss, gray, c-f-g, graded, mainly lithic fragments thickness of the cycles up to 3'. Extrusive as above with vertical dike of basic rock.

9000: Interbedded: ss, gray, m-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 (7750-9130) is complex, containing congl. and ss and graded beds. It followed by a transgressive sequence of siltstones with progressively fewer volcanic ss in siltstone.

6180-7120: Regressive-transgressive cycle. Coarsening up and down sequence; gray ss, volcanic - lahar probably by siltstone (covered interval) - mudstone

4650-6100: Siltstones, comparatively shallow, 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 [illegible]