Enclosure 3: Measured sections, in Connelly, William, and Amoco Oil Co., Data compilation and preliminary summary of the 1977 Alaska Peninsula field project

Connelly, William, and Amoco Oil Co.

GMC DATA REPORT 461A

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2019
State of Alaska
Department of Natural Resources
Division of Geological & Geophysical Surveys
GEOLOGIC MATERIALS CENTER

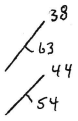
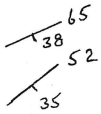
LOWER UGASHIK LAKE SECTION

Date: 19 August 1977

Location: T32S, R48-49W

Geologists: Connelly, Smirnov, Brown

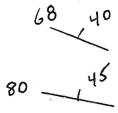
Note: This is not an actual measured section; rather it is a systematic series of helicopter stops, generally moving down-section.

Stop		Description & Samples
1.		Coarse congl, cobble to boulder, mainly granitic clasts; local ss, m-gr, mod well sor, poor to fair porosity; badly weathered; samples are ss a/a. AP-2182 PF Interval 2 or 3 of Wall (1978) (U. Miocene or Lower Pliocene). AP-2183 PP 10.1% porosity, 0.2 md.
2.		Coarse congl, boulders to 5', 95% granitic clasts with minor high temp. metamorphic clasts; local ss beds and rare silstn; well indurated. Fluvial paleoenviornment AP-2184 G: Granitic clast, 120± 5 my BP AP-2185 PF: Siltstn, Interval 2 or 3 a/a AP-2186 PF: Siltstn, a/a AP-2187 L: ss, 24% clinoptilolite AP-2188 PF: Siltstn, barren
3.		Thick bedded congl (a/a) with ss, congl:ss = 3:2 AP-2189 PP: ss, 7.5% porosity, 0.57 md. AP-2190 PF: ss, barren
4.		Massive, thick bedded congl, boulder to cobble, 50% granitic clasts, 25% migmitile and high temp. meta. clasts, and 25% volc. clasts; pararudite is common. AP-2191 PF: Siltstn, barren AP-2192 G: Granitic clast --- was not dated AP-2193 L: ss, qtz rich, poor porosity, 9% clinoptitolite.
5.		Mainly granitic congl a/a.
6.		Congl and ss a/a. AP-2194 RP: ss.

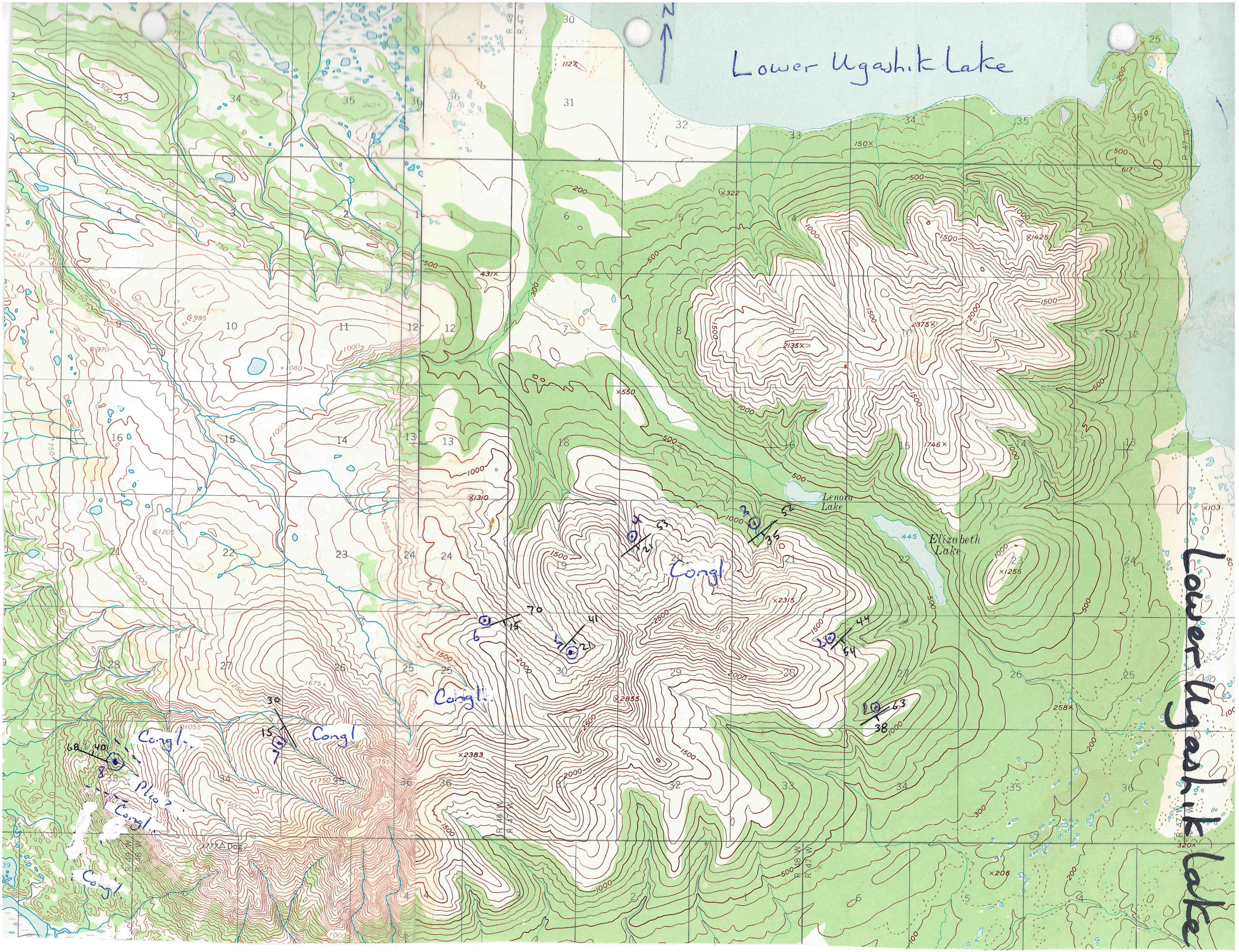
LOWER UGASHIK LAKE SECTION

7. 

SS and conglomeratic ss with less congl, arkosic with abt. qtz; poor porosity.
AP-2195 L: ss, 25% clinoptilolite.

8. 

Pliocene, definitely not granitic congl a/a. Mainly poorly consolidated gry siltstn and yellow-brown ss, m-c gr, conglomeratic, poorly sorted, fair porosity, mainly feldspar with less than 20% qtz and minor volc. rock-fragments; X-beds to 4'; occasional coalified wood fragments. Probably shallow marine deposits.
AP-2196 PF: Siltstn, barren
AP-2197 PF: " "
AP-2198 PF: Siltstn, Interval 2 or 3 of Wall (1978) (U. Miocene or Lower Pliocene)

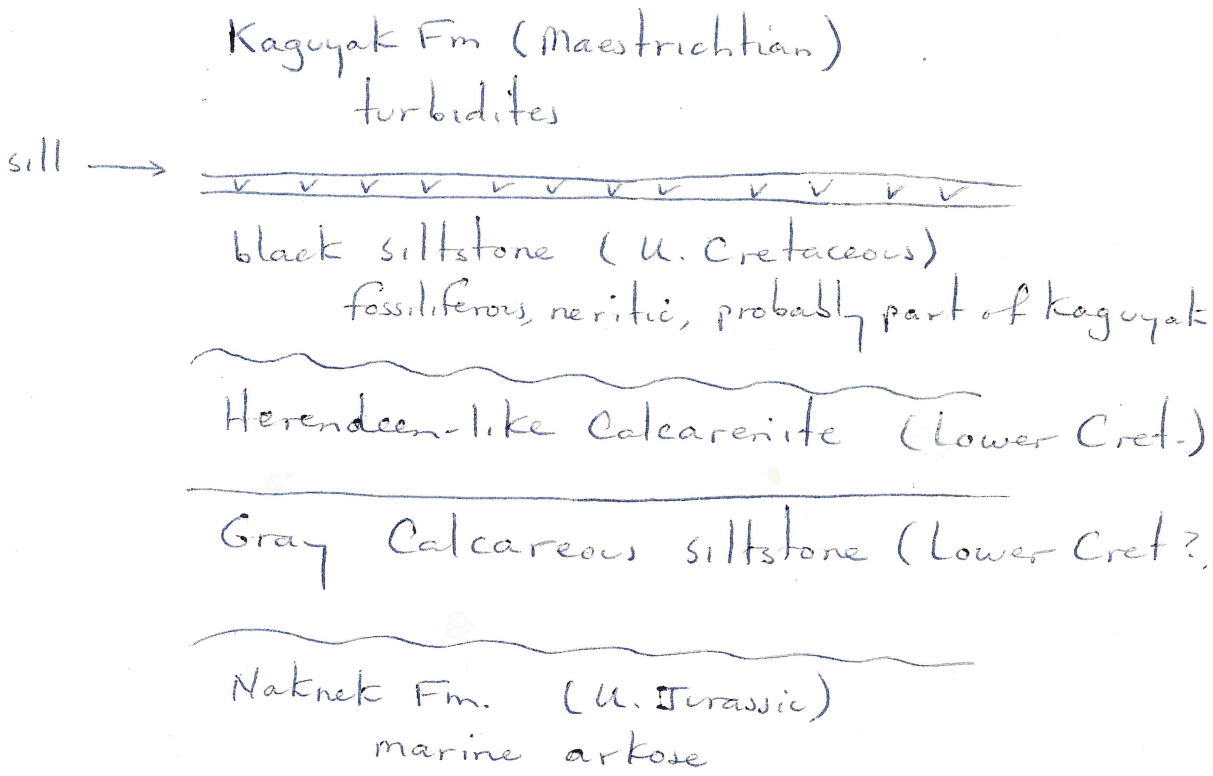

Lower Ugashik Lake
N
Lenora Lake
Elizabeth Lake
Congl
Congl
Congl
Congl
Congl
Congl
Lower Ugashik Lake

KAGUYAK SECTION

Connelly and Smirnov
2 September 1977

Below is a brief summary of the geology and stratigraphy of the Kaguyak area near Cape Douglas. These rocks were studied as a last minute project at the end of our normal field season. Its primary objective was to learn more about the Kaguyak Formation in light of the results of ARCO Cost #1 in Lower Cook Inlet.

Apparent Stratigraphy:



Kaguyak Fm.

Thin to medium-bedded turbidites with groove casts, flute casts, graded beds. SS:Sh = 70:30 Paleocurrents mainly N-S with few absolute direction indicators (Summary attached). Sequence dips gently to the east with dip decreasing to 0^{o} progressively toward Swikshat; no structural complexities. SS is gray, medium grained, poorly sorted, subangular, well cemented, poor to fair porosity. No fossils observed. The fine-grained black interlayers are siltstone to shale. Exposed along beach between Big River and Swikshak in Sections 13, 19, 30; and on Kaguyak Point (Enclosure 5).

the Kaguyak Formation is fairly tight in this area. Since it consists only of turbidites at Kaguyak, it seems likely that the Kaguyak Formation in Lower Cook Inlet would also be turbidites (possibly more distal and finer grained).

Sill:

Pyroxene andesite sill. Large covered intervals on both sides.

Upper Cretaceous:

Fossiliferous; neritic; definitely Upper Cretaceous (Keller & Reiser, 1959).

Nearly structureless black siltstone; poorly defined bedding partings with abrupt basis and gradational tops. The only exposures examined were at localities AP-2289 and AP-2291 because of very high tide. No fossils observed. Possible unconformity between this siltstone unit and the Kaguyak Formation as shown by a change in bedding attitudes (Siltstone: N44^{o}W-17^{o}NE; Kaguyak: N10^{o}E-11^{o}SE).

Herendeen-like Calcarenite:

White to light-gray calcarenite and calcareous ss; abundant large low-angle x-beds; medium-bedded. Medium grained, well cemented, poor porosity, abundantly fossiliferous with Inoceramus and occasional belmnites. Fossils generally broken and occur in discrete horizons less than 2" thick. Probably deposited in shelf environment shallow enough to occasionally feel wave base (storm surf?). Exposed on small islet just south of Kaguyak and possibly on north side of spit at Kaguyak (Section 34). At both localities, this calcareous unit is underlain by dark gray calcareous siltstone (described below).

Gray Calcarous Siltstone:

Poorly exposed, quite fractured, dark gray calcareous siltstone. Abundantly fossiliferous with Buchia and local belmnites and bryozoa. Occasional thin beds of calcareous ss and calcarenites imply a gradational relationship with Herendeen-like limestone (described above).

Naknek Formation:

Thousands of feet of white to buff medium-bedded arkose (with biotite). Medium-grained, moderately sorted, subangular, moderately cemented, fair porosity; ss to sh = 90:10. Local low angle x-beds, but mainly even bedding with no sedimentary strucures. Exposure at McNeil Head shows prominent x-beds, conglomerate, and parallel bedding. Only a short time was

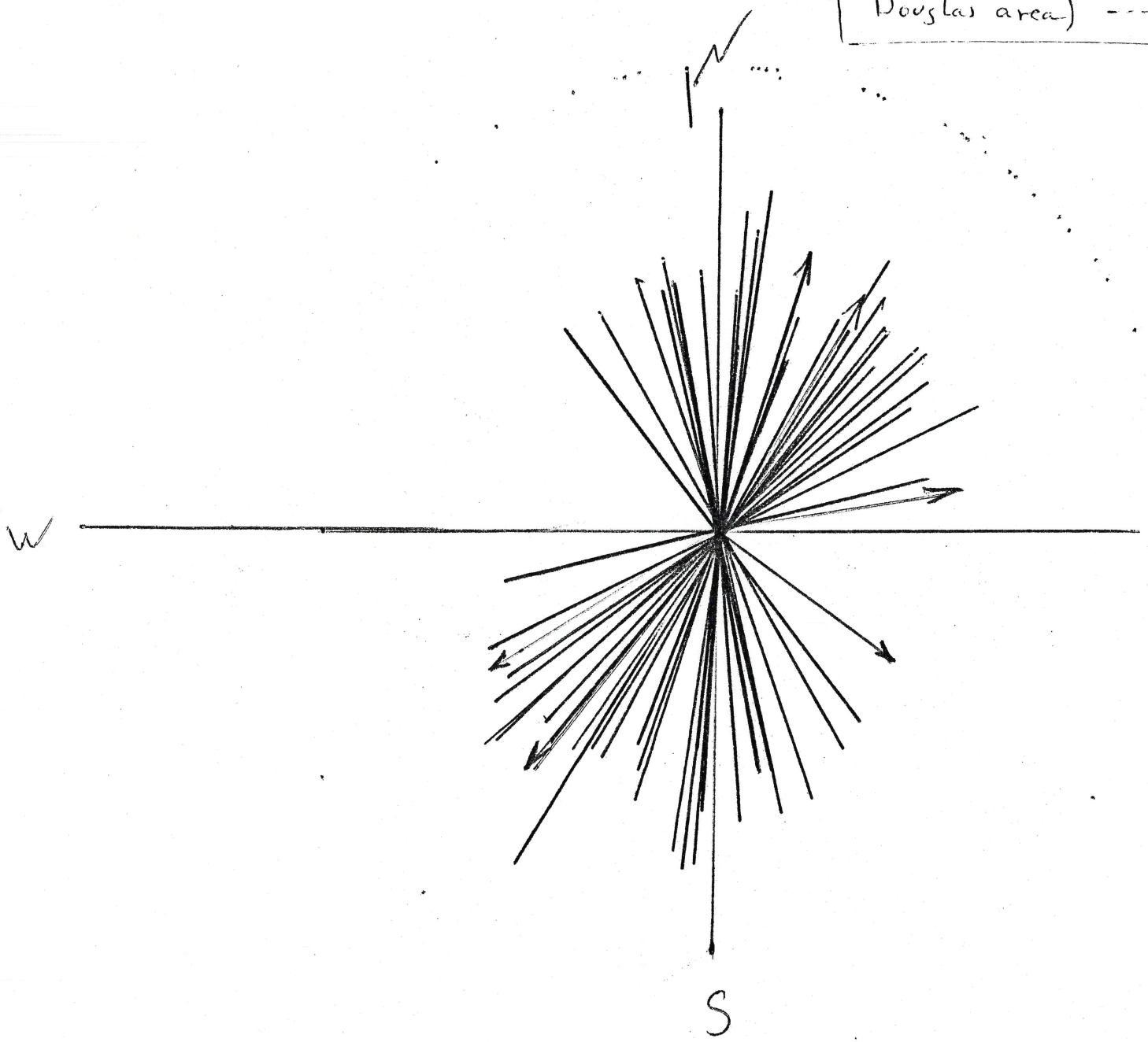
spent looking at the Naknek so we do not have much feeling for it's paleoenvironment. Perhaps it was deposited as a marine delta growing seaward from the Bruin Bay Fault paleoslope. Exxon apparently was doing a good deal of field work on this formation in the area of Kamishak Hills, McNeil Cove, and somewhere an unknown distance south of Kaguyak on the coast.

AMOCO

in Kaguyak Fm. at Kaguyak (Cape Douglas area) --- Upper Cretaceous turbidite

by Connelly & Smirnoff

Aug. 1977



groove casts

flute casts


KENAI PENINSULA BOROUGH
KATMAI
NATIONAL MONUMENT
RIVER
T. 17 S.
T. 18 S.
IAFOGNAK C-5)
N
Yak △ VABM 2961
Blk silty, Upper Cretaceous (?)
Covered
Pyroxene andesite sill
covered
Turbidites Kaguyak Fm.
SWIKSHAK LAGOON
Swikshak (Aban'd)
Tidal Flat
2289-2290
2291-2292
17
44
④ 28 Aug sm. intrusion 2258-2269 collected up-section
29 Aug
2270-2272
2273-2275
2276-2278
2279-2281
2282-2284
2285-2287
begins going down section about here
nearly horizontal beds.
All turbidites, dk. gray, with flute casts, tool marks, graded beds, etc. Kaguyak Fm.
Connelly
② 28 Aug 2255-2257; 2288 Abt Buchia, belmnites, bryozoa almost structureless blk arg with occasional beds wht. calcareous ss & calcarenite and at least 40' of same at top. Stratigraphy appears
12 same as at ①.
13 turbidites; probably Kaguyak Fm.
① 28 Aug
13
20
2252-2254.
calcarenite with Inoceramus; dk gray sh/arg. underlies. Calcareous beds are low-angle x-bedded, many channels, broken fossil horizons <2" thick.
Kaguyak Section
STRAIT
Shakun Islets
VABM 94 △ Shak
Shakun Rock
△ Kag
Kaguyak (Aban'd)
X160
35'