Airborne Gamma-Ray Spectrometer and Magnetometer Survey

MASTER

Cape Flattery Quadrangle

(Washington)

Final Report

Volume II

D

prepared by

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LOCATION MAP

Cape Flattery

Survey Area

CAPE FLATTERY QUADRANGLE

GEOLOGY

The geologic map of the Cape Flattery quadrangle, which provided the geologic background for the interpretation of the radiometric data, was prepared for Bendix Field Engineering Corporation by Greenhorne and O'Mara, Inc. The explanation of the geologic legend, Appendix C, was taken from this map.

The Cape Flattery quadrangle is in one physiographic province; the Olympic Mountains.

The Olympic Mountains are chiefly of Tertiary age and are part of an eugeosynclinal accumulation of marine sedimentary and submarine volcanic rocks that total 50,000 feet as deposited. The earliest Tertiary rocks are a sequence of Eocene argillites and graywackes more than 30,000 feet thick that forms the core of the Olympic Mountains. This was followed by a thick sequence of submarine volcanic rocks. Near centers of volcanism, the accumulated thickness exceeds 20,000 feet, while away from these centers the basalt flows and breccias may exceed 10,000 feet in thickness. In the present Olympic Mountains, these volcanic rocks form many of the structural and topographic highs as they are more resistant to weathering. An uplift in late Eocene time raised the area of the Olympic Mountains above sea level and erosion provided much of the material which was deposited in nearby low areas. Further uplift near the close of the Miocene with intense deformation formed the present Olympic Mountains.

Tertiary marine sedimentary deposits and submarine basalt flows crop out in the southeast corner of the quadrangle. Quaternary terrace deposits and alluvium also occur in the southeast corner of the area.

Figure 1

in the Cape Flattery quadrangle.

Washington, D.C., 1950; Weissenborn, 1950/1.

radioactive spring - Bumping Lake, Yakima County.

properties in the state (Weissenborn, 1986).

Radioactive Occurrences in Washington

GEOPHYSICAL DATA INTERPRETATION

Radiometric Data

A total of zero (0) uranium anomalies meet the minimum statistical requirements as defined in Volume I. There is no Uranium Anomaly Interpretation Map for the Cape Flattery quadrangle.

Potassium (%K), equivalent Uranium (ppm eU), equivalent Thorium (ppm eT), eU/eT, eU/K, cT/K, and magnetic pseudo-contour maps are presented in Appendix E. Stacked Profiles showing geologic strip maps along each flight-line, together with sensor data, and ancillary data are presented in Appendix F. All maps and profiles were prepared on a scale of 1:250,000, but have been reduced to 1:500,000 for presentation in Volume II.

REFERENCES

Huntting, M.T., (1956); Inventory of Washington Minerals, Part II: Metallic Minerals. Bulletin 37, Department of Natural Resources, State of Washington.

Weissenborn, A.E., (1966); Uranium IN Mineral and Water Resources of Washington. Prepared by the United States Geological Survey.

APPENDIX A - FLIGHT LINE MAP

APPENDIX B - GEOLOGY MAP

A graphic scale bar with two rows of markings. The top row is labeled 'Statute Miles' and has markings at 5, 10, 15, and 20. The bottom row is labeled 'Kilometers' and has markings at 5, 10, 15, 20, and 25. The bar is divided into segments by vertical lines corresponding to these markings.

APPENDIX C - EXPLANATION OF GEOLOGIC LEGEND

SYMBOLS

FORMATION CONTACT
(dashed where approximate
dotted where concealed)

FAULT
(dashed where approximate
dotted where concealed)

THRUST FAULT

QUATERNARY

ALLUVIUM— Sand, silt, and gravel on floors of main valleys and on beaches. Unit includes small moraineds, talus, and landslide deposits: in larger river valleys on west, includes lower river terraces, some of which may be older than Holocene

GLACIAL DEPOSITS— Deposits of the continental ice sheet— Moraine and stratified deposits including sand, gravel, silt, and clay characterized by rock clasts foreign to Olympic Peninsula

LANDSLIDE DEPOSITS

CORE ROCKS

TERTIARY

WESTERN OLYMPIC LITHIC ASSEMBLAGE

Sandstone and minor granule conglomerate with generally less than 40 percent siltstone and argillite; minor semischist and phyllite on eastern margin— Bluish gray to black, weathering to brown, feldspatholithic and lithofeldspathic sandstone, medium to very thick bedded, angular, poorly sorted, commonly micaceous, and locally calcareous. Graded beds with quartz and chert granule conglomerates, sole structures and crossbedding common. Sedimentary breccias, thin, coaly laminae, and carbonaceous debris ubiquitous on west. Argillite is gray to black, commonly with finegrained sandstone in rhythmic sequences

Basaltic rocks, greenstone, and greenschist— Includes red argillite and limestone on Sore Thumb

SANDSTONE OF THE SOOES RIVER AREA

Sandstone— Lithic sandstone, thick to thin bedded, commonly graded and with interbeds of siltstone and mudstone with calcareous concretions, and granule pebble conglomerate

NEEDLES— GRAY WOLF LITHIC ASSEMBLAGE

Basaltic rocks— Basalt contains phenocrysts of altered plagioclase and titanite, rarely oxyhornblende in intersertal matrix, commonly altered to chlorite, sphene, and calcite. It is dense to variolitic or highly amygdaloidal with vesicles filled with calcite, zeolites, pumpellyite, and quartz. Interbedded tuffs and volcanic-rich sediments include rare gray or red limestone, very rare red and green chert, and tuffaceous green or maroon slate

Micaceous sandstone and sandstone packets— Mapped separately where outcrops are abundant and (or) thick beds of sandstone are continuous.

Micaceous sandstone and slate undifferentiated

PERIPHERAL ROCKS

TERTIARY	Miocene	CLALLAM FORMATION	
		Tc	Sandstone, conglomerate, and minor silty sandstone—Carbonaceous fragments and thin stringers of coal are common; some of the latter were once mined along the coast. Conglomerate is rich in quartz clasts
	Eocene, Oligocene and Miocene	TWIN RIVER FORMATION	
		Ttru	Upper member, massive to thin-bedded mudstone and siltstone— Spherical, cylindrical, or irregular-shaped calcareous concretions common
		Ttrm	Middle member, massive siltstone, mudstone, and minor thin-bedded sandstone—Massive greenish-gray siltstone and mudstone and medium-grained sandstone beds contain sporadic concretions and calcareous lenses nearly 2m thick
		UNCONFORMITY	
		Ttrl	Lower member, thin-bedded sandstone with minor siltstone—Channel deposits of conglomerate and pebbly granule sandstone occur in places at base
		rc	Conglomerate— Massive conglomerate is composed of subangular of subrounded pebbles and cobbles of varied lithology in a matrix of coarse-grained to granule sandstone. Locally includes sandstone and pebbly sandstone. Basaltic debris is common at the base of some conglomerate lenses where it forms a basal breccia
		rs	Sandstone— Light-gray, fine-grained lithic sandstone is thin bedded and contains siltstone interbeds
		LYRE FORMATION	
		Tlc	Conglomerate— Thick bedded to massive, pebble to cobble conglomerate. Lithology varies from the northwestern outcrop area to Mount Zion; in the former, well-rounded clasts are mostly argillite, quartzite, chert, metavolcanic rock, metasandstone and the matrix contains considerable phyllite. Chert, felsic and mafic volcanic rocks, and intrusive rocks predominate in the Mount Zion area and the matrix is richer in slate and volcanic clasts. Generally a ridge-former, although it includes thin sandstone and shale beds
TERTIARY	Eocene, Oligocene and Miocene	Tls	Sandstone and minor siltstone— Fine- to medium-grained, olive-gray to gray lithic sandstone, thin to thick bedded, and subangular to subrounded
		Tlb	Breccia and conglomerate— Similar to unit Tlc but poorly sorted
		UNCONFORMITY	
		ALDWELL FORMATION	
		Tal	Siltstone, minor sandstone, and conglomerate— Greenish-gray to medium-olive-gray siltstone, regularly bedded and alternating with fine-grained dark sandstone. Calcareous concretions common; granule microbreccia, pebble, and boulder lenses locally. Thin-bedded, fine- to medium-grained calcareous sandstone with cut-and-fill structures locally grades into conglomerate
		UNNAMED SEDIMENTARY ROCKS	
		Tusb	Sandstone and siltstone between Waatch Point and Bear Creek— Similar to parts of the Lyre and Twin River Formations
	Lower (?) and Middle Eocene	CRESCENT FORMATION AND THE BLUE MOUNTAIN UNIT	
		Tcb	Crescent Formation includes: Basalt, massive flows, pillows, and breccia; minor diabase and gabbro— Basaltic rocks are gray, green, and brown, less commonly black, weathering to dark brown and light green; dense to highly vesicular; contain clinopyroxene (rare titanite) and soda to calcic plagioclase microphenocrysts in a matrix of chlorite and (or) montmorillonoid minerals and rare brown glass. Alteration minerals in groundmass vesicles and veins are calcite, zeolites, prehnite, and pumpellyite. Pillows and tube structures are common, ranging from centimeters to 3m across; some show budding but most occur as separate pillows and pillow fragments in a tuffaceous matrix. Shears and fractures are common. Gabbro and diabase, probably occurring mostly as sills, are compositionally similar to basalt but with subophitic or hypidiomorphic granular texture. Unit includes minor red limestone and chert, and on Striped Peak, altered dacite and other siliceous volcanic rocks
		Tcs	Sedimentary rocks— Thin tongues and isolated lenses of sedimentary rocks in the Crescent Formation are commonly stratified dark-reddish-brown to green breccia, tuff, and volcanic conglomerate and maroon, green, or black argillite and siltstone with thin to thick beds of dark fine- to medium-grained volcanic lithic sandstone. Characteristic are red foraminiferal limestones and green to white aphanitic volcanic rock and (or) chert. Conglomerate clasts are generally diabase and basalt, less commonly chert and siliceous or limy argillite in a matrix of chlorite, calcite, zeolite, and montmorillonoids. Breccia, tuff, and sandstone are commonly graded and have rare crossbeds and penecontemporaneous slump structures. Basalt flows or breccia lenses generally pinch out into maroon or green argillite or black volcanic sandstone. On Striped Peak, includes water-laid rhyolitic to calcitic tuffs and mudflow breccias
		Tbm	Blue Mountain unit includes: Sandstone and argillite— Gray or black, weathering to brown, very fine to medium-grained lithic sandstone, volcanic rich; fair to poorly sorted and angular with thin to thick beds and crossbeds rare. Sandstone contains rare limestone pods or coaly plant fragments. Argillite is black, weathering to light or dark brown, with hackly to slaty fracture and grades to siltstone. Unit includes rare conglomerate, tuffaceous argillite, and red limestone
		Tbmc	Conglomerate and pebbly sandstone— Predominantly pebbles and cobbles of volcanic rocks and chert in greenish-gray, weathering to brown, very coarse grained, feldspathic lithic sandstone with rare calcareous concretions and abundant shale chip breccia. Conglomerates are thin to very thick bedded and massive with less than 30 percent interbeds of black argillite; there are some graded beds and scour structures
		UNCONFORMITY	
	PRE-TERTIARY	POINT OF THE ARCHES PLUTON AND ASSOCIATED ROCKS	
		pTs	Sedimentary rocks and pillow basalt— Light- to dark-colored, mostly thick bedded, fine- to medium-grained, micaceous feldspathic lithic sandstone and dark argillite; includes a sedimentary breccia of thick-bedded micaceous sandstone with angular clasts up to 15cm across of shallow marine oolitic, bioclastic limestone, mafic volcanic rock, slate, coarse-grained calcareous sandstone, and metaquartzite. Pillow basalt is composed of a mesh of plagioclase laths with intergranular clinopyroxene and is locally altered to calcite, chlorite, and pumpellyite
JURASSIC OR OLDER	PRE-TERTIARY	UNCONFORMITY	
		Jp	Plutonic rocks— Massive to gneissic pyroxene hornblende gabbro, and diorite partially altered to uranite, sphene, calcite, chlorite, hydrogarnet, and prehnite; the gabbro contains tabular bodies of cataclastic epidote-quartz-plagioclase gneiss, irregular masses of hornblende with plagioclase relicts and quartz veins and masses

APPENDIX D - FLIGHT LINE/GEOLOGY

APPENDIX E - PSEUDO-CONTOUR MAP

Magnetic

CONTOUR INTERVAL = 100.00
REFERENCE CONTOUR (00000) = 0.00

eU

CONTOUR INTERVAL = 20
REFERENCE CONTOUR (00000) = 0.00

Total Count

CONTOUR INTERVAL = 100.00
REFERENCE CONTOUR (00000) = 500.00

eTh

CONTOUR INTERVAL = 30
REFERENCE CONTOUR (00000) = 0.00

CAPE FLATTERY

K₄₀

CONTOUR INTERVAL = .20
REFERENCE CONTOUR (00000) = 0.00

eU/K₄₀

CONTOUR INTERVAL = .20
REFERENCE CONTOUR (00000) = 0.00

eU/eTh

CONTOUR INTERVAL = .05
REFERENCE CONTOUR (00000) = 0.00

eTh/K₄₀

CONTOUR INTERVAL = 1.00
REFERENCE CONTOUR (00000) = 0.00

HIGH LIFE - QEB

APPENDIX G - ANOMALY MAPS

CAPE FLATTERY, WA

EU

HIGH LIFE - QEB

0 4 8 12 16 MILES

CAPE FLATTERY, WA

ETH

HIGH LIFE - QEB

MILES 0 4 8 12 16 MILES

CAPE FLATTERY, WA

K

HIGH LIFE - QEB

MILES 0 4 8 12 16

CAPE FLATTERY, WA

EU/ETH

HIGH LIFE - QEB

0 4 8 12 16 MILES

CAPE FLATTERY, WA

EU/K

HIGH LIFE - QEB

0 4 8 12 16 MILES

CAPE FLATTERY, WA

ETH/K

HIGH LIFE - QEB

MILES 0 4 8 12 16

APPENDIX H - GEOLOGIC HISTOGRAMS

UNIT QA

CAPE FLATTERY.WA
LOG-NORMAL

CAPE FLATTERY.WA

UNIT TWO

UNIT TTRU

UNIT TTRM

UNIT TTRL

UNIT TSSR

UNIT TNMS

CAPE FLATTERY,WA

UNIT TLC

CAPE FLATTERY,WA

UNIT TNMU

CAPE FLATTERY,WA

UNIT TLS

UNIT TLB

UNIT TAL

UNIT TUSB

UNIT TCB

UNIT TRM

APPENDIX I - SPEED AND ALTITUDE HISTOGRAMS

APPENDIX J - STATISTICAL TABLES

UNIT	ETH			EU			K			EU/ETH			EU/K			ETH/K		
	MEAN	ST.DEV.	EVENTS	MEAN	ST.DEV.	EVENTS	MEAN	ST.DEV.	EVENTS	MEAN	ST.DEV.	EVENTS	MEAN	ST.DEV.	EVENTS	MEAN	ST.DEV.	EVENTS
			DIS.			DIS.			DIS.			DIS.			DIS.			DIS.
QA	1.63	.85	180 L	.62	.12	28 N	.46	.17	227 L	.36	.25	23 U	1.15	.49	28 U	3.56	1.67	180 N
QC	1.41	.60	1082 L	.58	.17	93 N	.35	.15	1414 L	.42	.19	80 L	1.28	.64	93 L	4.11	1.80	1079 L
TAL	1.46	.57	161 L	.53	.16	32 U	.43	.17	211 L	.42	.20	25 U	1.37	.79	32 L	3.30	1.18	161 L
TBM	2.62	.35	9 U	.50	.06	3 U	.56	.07	9 U	.20	.03	3 U	.93	.18	3 U	4.79	.98	9 U
TCB	1.10	.43	159 L	.63	.14	7 U	.30	.13	490 L	.40	.07	7 U	1.23	.39	7 U	3.12	1.04	159 L
TLB	1.11	.35	198 L	.50	.09	16 L	.37	.14	326 N	.44	.06	8 U	1.33	.48	16 U	3.09	1.56	198 L
TLC	1.20	.40	79 U	.52	.13	4 U	.29	.16	186 L	.37	.09	4 U	1.43	.51	4 U	3.52	1.23	79 N
TLS	1.94	.72	10 U	0.00	0.00	0 U	.35	.19	19 U	0.00	0.00	0 U	0.00	0.00	0 U	4.73	1.79	10 U
TNMS	2.39	.16	4 U	.72	.20	3 U	.47	.02	4 U	.31	.10	3 U	1.57	.45	3 U	5.14	.35	4 U
TNMU	3.82	1.11	157 L	.92	.32	127 L	.85	.28	157 N	.25	.12	127 L	1.07	.39	127 N	4.65	1.06	157 N
TSSR	1.56	.57	318 L	.67	.22	71 L	.47	.16	345 L	.41	.19	70 L	1.40	.58	71 L	3.42	1.14	318 N
TTRL	1.70	.70	912 L	.61	.20	251 L	.48	.19	1020 L	.35	.15	232 L	1.09	.35	251 L	3.57	1.19	912 L
TTRM	1.33	.47	279 L	.52	.10	38 L	.42	.15	344 L	.41	.13	31 L	1.35	.41	38 U	3.30	1.15	279 L
TTRU	1.17	.39	119 L	.51	.08	16 U	.37	.11	163 N	.54	.16	10 U	1.58	.54	16 U	3.19	1.14	119 U
TUSB	1.32	.43	169 L	.59	.27	17 N	.42	.16	226 L	.53	.25	12 U	1.48	.52	17 U	3.03	.92	169 N
TWO	1.85	.88	1194 L	.68	.27	244 L	.49	.24	1289 L	.32	.18	235 L	1.16	.56	244 L	3.94	1.58	1194 L

N=NORMAL DISTRIBUTION
 L=LOG-NORMAL DISTRIBUTION
 U=UNKNOWN DISTRIBUTION

	QA	QC	TAL	TBM	TCB	TLB	TLC	TLS	TNNS	TNNU	TSSR	TTRL	TTRM	TTRU	TUSB
1	2.70	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.60	0.00	0.00	0.00	0.00	0.00
2	.51	1.47	1.29	0.00	1.16	0.00	0.00	0.00	0.00	0.00	0.00	2.21	0.00	0.00	1.21
3	1.73	1.41	1.42	0.00	1.14	0.00	1.45	0.00	0.00	0.00	1.37	1.63	1.25	1.21	1.48
4	1.56	.94	2.17	0.00	.85	.94	1.14	0.00	0.00	0.00	0.00	1.39	1.47	0.00	1.46
5	1.25	0.00	.83	0.00	0.00	1.11	0.00	2.08	0.00	0.00	0.00	1.25	1.17	0.00	0.00
501	1.06	1.31	1.31	0.00	1.16	1.12	1.21	0.00	0.00	0.00	1.94	1.23	1.09	0.00	1.29
502	1.98	1.67	1.14	2.62	.82	0.00	1.17	.68	2.39	3.94	0.00	1.69	1.47	.98	0.00

	TWO
1	1.97
2	1.80
3	1.19
4	0.00
5	0.00
501	1.20
502	2.21

COMPUTER LINES 1 THRU 5 REFER TO PROFILE LINES 1 THRU 5.

COMPUTER LINES 501 THRU 502 REFER TO NORTH - SOUTH TIE LINES 1 THRU 2.

GEOLOGIC UNIT AVERAGE VALUE AS A
FUNCTION OF MAP LINE FOR PPM ETH

	QA	QC	TAL	TBM	TCB	TLB	TLC	TLS	TNMS	TNMU	TSSR	TTRL	TTRM	TTRU	TUSB
1	.65	.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.80	0.00	0.00	0.00	0.00	0.00
2	.52	.64	.40	0.00	.63	0.00	0.00	0.00	0.00	0.00	0.00	.62	0.00	0.00	.52
3	.66	.54	.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.60	.67	.55	.49	.68
4	0.00	0.00	.61	0.00	0.00	.49	0.00	0.00	0.00	0.00	0.00	.48	.52	0.00	0.00
5	.57	0.00	.34	0.00	0.00	.50	0.00	0.00	0.00	0.00	0.00	.43	.46	0.00	0.00
501	0.00	.50	.49	0.00	0.00	.50	.52	0.00	0.00	0.00	.74	.51	.42	0.00	0.00
502	.65	.67	0.00	.50	0.00	0.00	0.00	0.00	.72	.98	0.00	.63	.57	.54	0.00

	TWO
1	.66
2	.63
3	.60
4	0.00
5	0.00
501	.49
502	.98

COMPUTER LINES 1 THRU 5 REFER TO PROFILE LINES 1 THRU 5.

COMPUTER LINES 501 THRU 502 REFER TO NORTH - SOUTH TIE LINES 1 THRU 2.

GEOLOGIC UNIT AVERAGE VALUE AS A
FUNCTION OF MAP LINE FOR PPM EU

	QA	QC	TAL	TBM	TCB	TLB	TLC	TLS	TNNS	TNNU	TSSR	TTRL	TTRM	TTRU	TUSB
1	.55	.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.72	0.00	0.00	0.00	0.00	0.00
2	.36	.37	.41	0.00	.27	0.00	0.00	0.00	0.00	0.00	0.00	.64	0.00	0.00	.38
3	.59	.32	.39	0.00	.32	0.00	.51	0.00	0.00	0.00	.41	.48	.37	.39	.50
4	.44	.22	.55	0.00	.23	.22	.27	0.00	0.00	0.00	0.00	.38	.45	0.00	.48
5	.46	0.00	.36	0.00	0.00	.37	0.00	.43	0.00	0.00	0.00	.36	.35	0.00	0.00
501	.24	.34	.63	0.00	.35	.39	.36	0.00	0.00	0.00	.59	.31	.34	0.00	.45
502	.60	.48	.31	.56	.32	0.00	.22	.21	.47	.92	0.00	.59	.53	.29	0.00

	TWO
1	.54
2	.44
3	.32
4	0.00
5	0.00
501	.27
502	.62

COMPUTER LINES 1 THRU 5 REFER TO PROFILE LINES 1 THRU 5.

COMPUTER LINES 501 THRU 502 REFER TO NORTH - SOUTH TIE LINES 1 THRU 2.

GEOLOGIC UNIT AVERAGE VALUE AS A

FUNCTION OF MAP LINE FOR 2K

	QA	QC	TAL	TBM	TCB	TLB	TLC	TLS	TNMS	TNMU	TSSR	TTRL	TTRM	TTRU	TUSB
1	.18	.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.22	0.00	0.00	0.00	0.00	0.00
2	0.00	.55	.36	0.00	.40	0.00	0.00	0.00	0.00	0.00	0.00	.29	0.00	0.00	.51
3	.60	.27	.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.45	.49	.57	.51	.55
4	0.00	0.00	.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.34	.42	0.00	0.00
5	.39	0.00	.38	0.00	0.00	.43	0.00	0.00	0.00	0.00	0.00	.42	.32	0.00	0.00
501	0.00	.43	.35	0.00	0.00	.45	.37	0.00	0.00	0.00	.38	.42	.38	0.00	0.00
502	.20	.40	0.00	.20	0.00	0.00	0.00	0.00	.31	.26	0.00	.43	.30	.60	0.00

	TWO
1	.27
2	.44
3	.58
4	0.00
5	0.00
501	.46
502	.47

COMPUTER LINES 1 THRU 5 REFER TO PROFILE LINES 1 THRU 5.

COMPUTER LINES 501 THRU 502 REFER TO NORTH - SOUTH TIE LINES 1 THRU 2.

GEOLOGIC UNIT AVERAGE VALUE AS A
FUNCTION OF MAP LINE FOR EU/ETH

	QA	QC	TAL	TBM	TCB	TLB	TLC	TLS	TNMS	TNMD	TSSR	TTRL	TTRM	TTRU	TUSB
1	1.20	1.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.08	0.00	0.00	0.00	0.00	0.00
2	2.79	1.27	1.08	0.00	1.23	0.00	0.00	0.00	0.00	0.00	0.00	.97	0.00	0.00	1.65
3	1.30	1.15	1.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.56	1.38	1.34	1.47	1.29
4	0.00	0.00	.93	0.00	0.00	1.56	0.00	0.00	0.00	0.00	0.00	1.22	1.30	0.00	0.00
5	.83	0.00	.88	0.00	0.00	1.22	0.00	0.00	0.00	0.00	0.00	1.87	1.66	0.00	0.00
501	0.00	1.39	.96	0.00	0.00	1.36	1.43	0.00	0.00	0.00	1.25	1.59	1.80	0.00	0.00
502	1.15	1.23	0.00	.93	0.00	0.00	0.00	0.00	1.57	1.06	0.00	1.03	1.20	1.68	0.00

	TWO
1	.98
2	1.57
3	1.97
4	0.00
5	0.00
501	2.11
502	1.35

COMPUTER LINES 1 THRU 5 REFER TO PROFILE LINES 1 THRU 5.

COMPUTER LINES 501 THRU 502 REFER TO NORTH - SOUTH TIE LINES 1 THRU 2.

GEOLOGIC UNIT AVERAGE VALUE AS A

FUNCTION OF MAP LINE FOR EU/2K

	QA	QC	TAL	TBM	TCB	TLB	TLC	TLS	TNMS	TNMU	TSSR	TTRL	TTRM	TTRU	TUSB
1	4.94	4.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.08	0.00	0.00	0.00	0.00	0.00
2	2.24	4.02	3.56	0.00	3.60	0.00	0.00	0.00	0.00	0.00	0.00	3.50	0.00	0.00	3.02
3	3.03	4.02	3.58	0.00	2.94	0.00	3.50	0.00	0.00	0.00	3.51	3.47	3.53	3.16	3.02
4	3.56	4.32	3.48	0.00	3.25	5.48	3.49	0.00	0.00	0.00	0.00	3.70	3.25	0.00	3.32
5	2.96	0.00	2.45	0.00	0.00	3.20	0.00	4.86	0.00	0.00	0.00	3.82	3.54	0.00	0.00
501	5.76	4.00	2.11	0.00	2.81	2.88	3.60	0.00	0.00	0.00	3.24	3.98	3.52	0.00	3.02
502	3.36	3.58	3.15	4.79	2.95	0.00	3.79	3.52	5.14	4.43	0.00	2.77	2.81	3.35	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

	TWD
1	3.84
2	4.15
3	4.00
4	0.00
5	0.00
501	4.68
502	124.59
0	0.00

COMPUTER LINES 1 THRU 501 REFER TO PROFILE LINES 1 THRU ##.

COMPUTER LINES 501 THRU 502 REFER TO NORTH - SOUTH TIE LINES 1 THRU 2.

GEOLOGIC UNIT AVERAGE VALUE AS A
FUNCTION OF MAP LINE FOR ETH/2K

APPENDIX K - MAGNETIC AND ANCILLARY PROFILES

APPENDIX L - TEST LINE DATA

PRE-FLIGHT AND POST-FLIGHT TEST LINE DATA

CAPE FLATTERY QUADRANGLE

8/3/80

Pre TL	10.41
Post TL	10.06
Pre Bi	2.14
Post Bi	2.17
Pre K	39.23
Post k	38.02
Pre TC	357.96
Post TC	362.43