

DISTRICT	Gilbert
DIST_NO	2000
COUNTY	Esmeralda
If different from written on document	
TITLE	See covers
If not obvious	
AUTHOR	Raney J.; Winnett T
DATE OF DOC(S)	1982
MULTI_DIST Y / (N?)	
Additional Dist. Nos:	
QUAD_NAME	Gilbert 7½'
P_M_C_NAME	Gilbert Prospect; Anaconda; Anaconda claims
(mine, claim & company names)	
COMMODITY	Gold
If not obvious	
NOTES	3/988 Property report; geology; cross sections; correspondence, geochemistry; geologic map; claim map  30p

Keep docs at about 250 pages if no oversized maps attached  
(for every 1 oversized page (>11x17) with text reduce  
the amount of pages by ~25)

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## GILBERT PROJECT, NEVADA

## 1981 SUMMARY REPORT

Jay A. Raney

January, 1982

Distribution:Original:

Western District Master Report File - unbound w/o maps

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3. Gilbert Project: Field bound w/uncolored maps

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## GILBERT PROJECT, NEVADA - 1981 PROGRESS REPORT

### SUMMARY

The recognition of potential large tonnage precious metal targets in the Gilbert district was one of the main accomplishments of 1981. Both jasperoid and sinter samples contain locally highly anomalous values in Au, Ag, As, Sb, Hg and Ba that may be suggestive of either Carlin- or McLaughlin-type gold deposits.

A 400 sample soil geochemistry survey was conducted in late 1981. 1981 assessment drilling encountered only Tertiary volcanic rocks, but GLB-6 contains a breccia with quartz-molybdenite vein fragments. The southern portion of the Gilbert property was mapped and additional outcrops of Palmetto siltstones were found and sampled.

During 1982 it is planned to drill test favorable areas for gold mineralization, and to deepen GLB-6 to test the porphyry target. Anaconda will exercise its option to purchase the 33 claims held by Lindsey-Ray in early 1982.

### INTRODUCTION

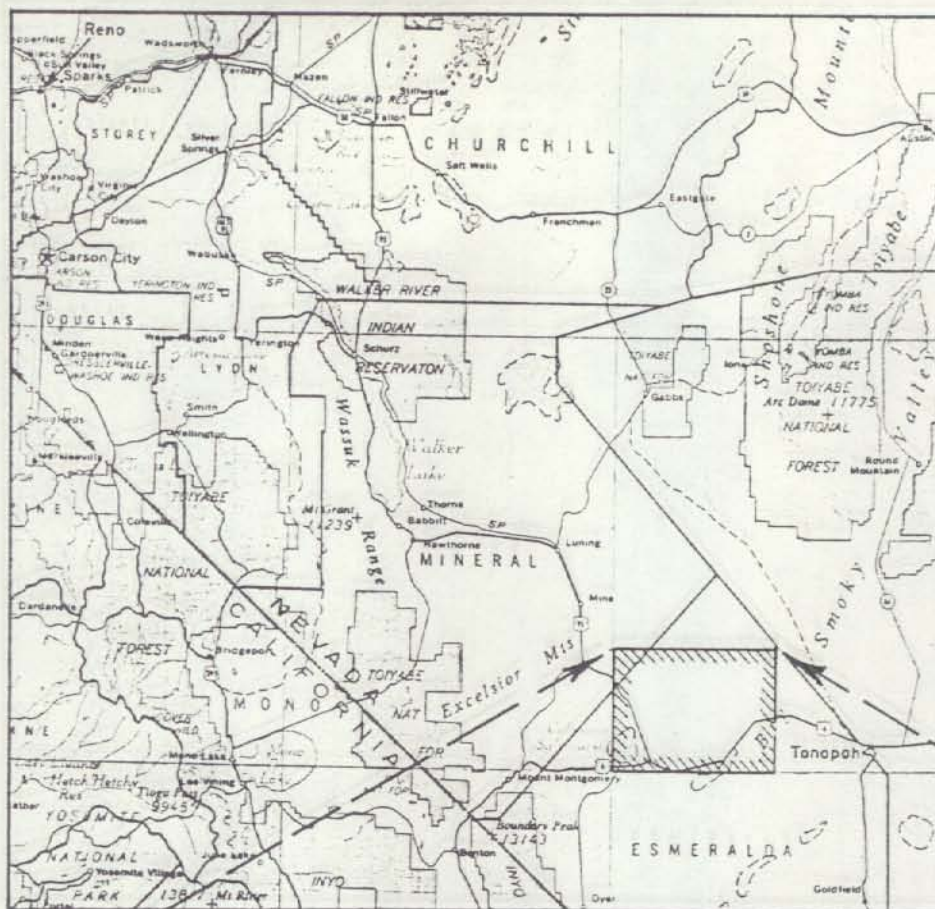
This report is intended to be an update on the progress of the Gilbert Project, Esmeralda County, Nevada, during 1981 (see index map). Only brief summaries of the major activities are presented, and the reader is referred to the appendix of this report and Western District files for more detailed information. A detailed discussion of the geologic framework of the Gilbert Project was presented in the 1979-1980 Progress Report by Geoffrey Wilson and will not be repeated in this report. No discussion of geophysics is included as the geophysical work is currently being reviewed by Doug Washburn.

In late summer of 1981 the supervision of the Gilbert Project was returned to Jay A. Raney as Geoffrey Wilson's other projects required major time commitments. Geoffrey supervised the 1981 assessment drilling and Jay began the geochemical review (soils and rock chips) that will lead to an evaluation of the precious metal potential of the Gilbert property.

### PRELIMINARY EVALUATION OF PRECIOUS METAL POTENTIAL

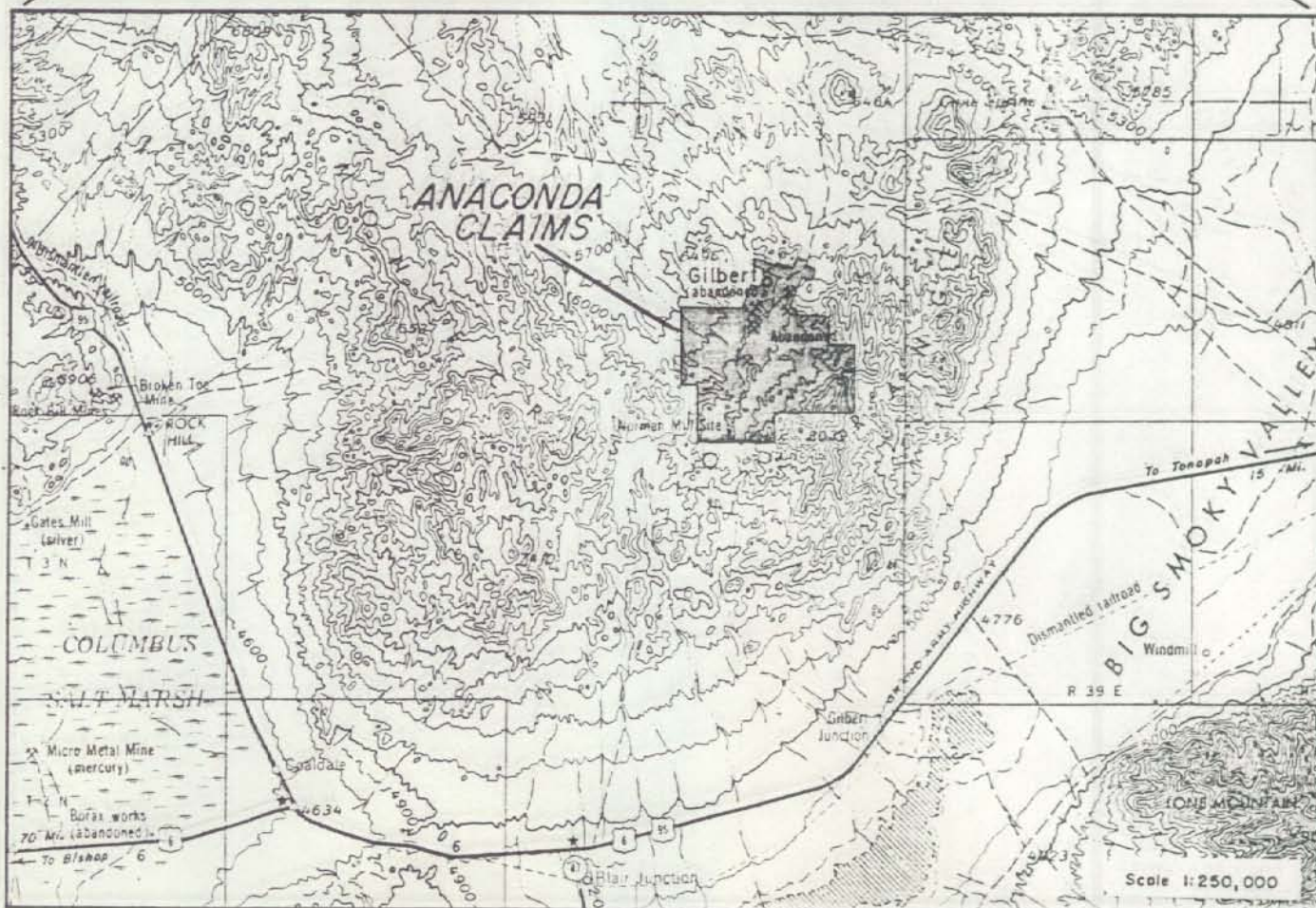
A review of existing geochemical data on rock chips previously collected from jasperoid bodies at Gilbert suggests potential for disseminated "Carlin-type" gold mineralization at Gilbert. At the time of the initial sampling the jasperoids were viewed as being genetically related to the porphyry mineralization at Gilbert. Subsequent mapping (Terrie Winnett) suggests the jasperoids may be Tertiary in age. Additional Western District experience with the geochemistry of jasperoids, gained in exploration efforts to find disseminated gold targets, allowed us to recognize that the Gilbert jasperoids are some of the most geochemically anomalous jasperoids Anaconda has sampled in the Great Basin.

Figure 1



LOCATION MAP  
GILBERT PROJECT  
ESMERALDA COUNTY, NEVADA

— MARCH, 1982 —



The 1981 gold generative effort also lead to an increased understanding of hot spring systems and a reinterpretation of the significance of the Gilbert sinter deposits. Geochemical values which had previously been viewed as interesting but not economically significant are now recognized as being locally highly anomalous in comparison to other hot spring systems. It is possible to interpret the Gilbert sinter deposits as overlying a hot spring disseminated/lode gold deposit.

#### JASPEROID GEOCHEMISTRY:

Existing jasperoid geochemical analyses compare favorably with the Alligator Ridge jasperoids (see report on Alligator Ridge by Carl A. Kuehn, October 9, 1981, and Gilbert Jasperoid file folder). The Gilbert jasperoids have similar values for base metals, including locally anomalous Mo, As, and precious metals. Ag values at Gilbert are commonly in excess of 1 to 2 ppm with several values significantly greater than the 5 ppm maximum value that was detected in the Alligator Ridge jasperoids. 17 of the 53 Gilbert jasperoid samples contain gold in excess of 100 ppb (17 samples average 298 ppb Au) which again compares favorably with Alligator Ridge samples (6 jasperoid samples average 242 ppb Au).

Only 25 of the original 53 pulps could be found in the Golden warehouse. These were analysed for Sb, Hg, and Ba. The Hg and Ba values are similar to those from Alligator Ridge jasperoids. The Gilbert Sb values (mostly 10 to 35 ppm) are clearly anomalous but less than the Sb values from Alligator Ridge (6 samples average 234 ppm). No other jasperoids sampled during the 1981 gold generative program are as geochemically encouraging for gold mineralization as are the Gilbert jasperoids.

#### SINTER GEOCHEMISTRY:

Rock chip samples of the Gilbert sinter deposits were collected in 1979. The 43 samples were analysed for Au, Ag, As, Sb, Hg, Ba and Bi, in hopes of delineating a large tonnage precious metals target. As all but two samples contained non-economic amounts of gold or silver no further work was done. In 1981 Western District staff sampled a number of hot spring deposits in known mercury districts in Nevada, California and Oregon in an attempt to find a geochemical signature that might suggest the presence of a McLaughlin-type gold deposit. The Gilbert sinters are geochemically anomalous in many elements considered to be typical of epithermal precious metal deposits and in a few samples strongly anomalous in gold and/or silver. The samples of Gilbert sinter have geochemical values that are as intriguing as any of the sinters sampled elsewhere in 1981.

Thirteen of 43 samples contain over 1000 ppb Hg; 11 of 43 samples contain over 100 ppm As; 7 of 43 samples contain over 20 ppm Sb; 17 of 43 samples contain over 1000 ppm Ba; 4 samples contain over 1 ppm Ag (max. 102 ppm); 5 of 43 samples contain over 100 ppb Au (max. 1.8 ppm). The precious metal values are quite erratic but very encouraging. Attempts to locate the pulps of the sinter geochem samples have not been successful.

## SOIL GEOCHEM PROGRAM:

In late fall 1981, soil samples were collected from areas underlain by Tertiary sinter deposits and the Ordovician Palmetto Formation. These are the two main rock types thought to have potential to host disseminated precious metal targets. The design of the soil sampling program, the number and type of variability tests to be taken, and the size fraction to be analysed were all discussed with Larry Bramlett (see memo dated December 4, 1981; Appendix No. 1).

Approximately 430 soil samples were collected under the direction of Terrie Winnett and Dan Wendell, temporary geologists. 15 samples on a 200 by 300 foot grid were collected from each claim underlain by favorable host rocks. Samples were numbered to reflect both the claim number and the sample site within the claim to facilitate map plotting of analytical results. The -35 to +80 mesh fraction was analysed for Au, Ag, As, Sb, Hg, Ba, Cu, Pb and Zn. Analytical results have not yet been received. The soil geochemistry will be compared with rock chip analyses and geology to help select sites for drilling in 1982.

## ROCK CHIP DATA:

Rock chip data from the 1979 sampling program has been briefly reviewed. Unfortunately, only Z score plots of the data and tabulated lists of data are available. Raw data plots have been requested from Nick Davis (memo December 22, 1981). Additional chip samples have been collected in some areas previously sampled and also from outcrops of Palmetto rocks in the area mapped by Terrie Winnett during 1981. Initial results tend to confirm previously reported anomalous values, but many analytical results are pending. Attempts are being made to locate existing pulps from both the 1979 rock chip program and the Minex drill core.

## MAPPING OF THE SOUTHERN GILBERT AREA

Terrie Winnett, a temporary geologist, mapped much of the southern portion of the Gilbert claim block in late 1981. Lane Coddington, a temporary field assistant, assisted Terrie and collected many rock chip samples for geochemical analyses. I have not yet had an opportunity to field check the map, but the interpretations and distributions of rock types appear reasonable. A copy of Terrie Winnett's memo is attached to this report as Appendix II.

The most important results of this mapping were the recognition of several large outcrops of Palmetto siltstones, the interpretation of a possible Tertiary age for some jasperoid bodies that may include silicified Tertiary volcanic rocks, and the extension of rock units and structures previously mapped by Geoffrey Wilson and myself in adjacent areas to the north and west. Only partial geochemical analyses have been received, but anomalous values for Ag, As, Sb and Ba are locally present in the siltstone and jasperoid outcrops.

## 1981 ASSESSMENT DRILLING

Holes GLB-6 and GLB-7 were drilled during 1981 to satisfy assessment work requirements on the Gilbert property. The drilling project has been described in an undated and unsigned report from Anaconda's drilling support group. These holes were logged by Geoffrey Wilson.

Drill hole GLB-7 is located on claim GLB-248, south of drill hole GLB-5. GLB-7 was drilled by rock bit to 160 feet (no samples taken), then cored (HQ) to a total depth of 1013 feet. The purpose of this hole was to further evaluate the distribution of the highly anomalous geochemistry noted previously in drill holes GLB-4 and GLB-5. To a depth of 600 feet the hole encountered a crystal rich ignimbrite that may be correlative with unit  $Ty_2$  seen in outcrop to the east. Below 600 feet the rock is a volcanic breccia with angular, unoxidized fragments of Tertiary ignimbrites, Palmetto siltstone and Gilbert quartz monzonite. The most encouraging feature is the occasional occurrence of quartz-molybdenite vein fragments within the breccia.

Drill hole GLB-6 was drilled to a depth of 106 feet on the Red Cloud 41 claim to satisfy assessment work on the Lindsey-Ray properties. GLB-6 was drilled with a rock bit from 0 to 20 feet, and was cored (NQ) to its total depth of 106 feet. All the core is of a strongly clay altered and oxidized rock that is probably a Tertiary ignimbrite. The rock is anomalous in gold (10 to 70 ppb), silver (0.4 to 4.5 ppm) and arsenic (67 to 105 ppm), which is not unexpected in view of its proximity to a known precious metal bearing vein.

## GILBERT PROPERTY

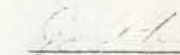
In the late summer of 1981 it was decided in discussions with John Wilson that Anaconda should exercise its option to purchase the Lindsey-Ray claims (33) at the north end of the Gilbert district. Questions concerning the agreement were discussed by letter with Richard Alletag and Mickey Love, and a memo to formalize the request for exercise of the purchase option was sent to John Wilson (November 2, 1981). The Land Department is to remonument and survey the Lindsey-Ray claims in early 1982.

A possible error was discovered in the description of our unpatented claims (see letter from Jay Raney to Richard Alletag, September 11, 1981). This error is to be corrected by the Land Department in early 1982 by repapering the Anaconda claims and amending Esmeralda County and Bureau of Land Management records.

## PLANS FOR 1982

Much of the 1982 work will focus on the precious metal potential of the Gilbert district. Approximately 5000 feet of rotary drilling will be done to test soil and rock chip geochemical anomalies. The choice of areas to be drilled will be strongly influenced by geologic interpretations of structure, stratigraphy, and ore deposit models. It is anticipated that drilling will begin in late winter or early spring of 1982.

Approximately 1000 feet of core drilling has been budgeted for 1982. GLB-7 will be deepened to test the porphyry potential in this area. A second core hole may be started based on the results of the deepening of GLB-7 and Doug Washburn's review of the geophysics. It is planned upon completion of the drilling to have surveyed coordinates determined for all drill holes.

  
\_\_\_\_\_  
Jay A. Raney

JAR/dg

ANACONDA Copper Company  
850 Industrial Way  
Sparks, Nevada 89431  
Telephone 702 359 4941



December 4, 1981

Larry Bramlett  
Geochem (Geologic Services)  
Anaconda Copper Company  
555 17th Street  
Devner, CO 80202

Dear Larry:

Attached to this letter are copies of the raw geochem data and graphical plots of the data from six soil samples collected from the Gilbert Project area, Esmeralda County, Nevada. Samples 04005 and 00105 are of Ordovician siltstones, samples 26207 and 28601 are of Ordovician limestone, and samples 00706 and 01001 are of Tertiary sinter.


As you can see from the plots, and as we discussed by phone, there is a tendency for the fractions coarser than -80 mesh to have somewhat higher values. Similar tendencies have been noted in soil samples from the Toiyabe and Churchill project areas. Based on these results and our conversation the -35 + 80 mesh fraction of the Gilbert soil samples will be sent for analysis. The -80 and +35 mesh fractions will also be saved, and are of course available for your use should you want to further evaluate this aspect of soil programs.

The data available to me is obviously limited. Is there sufficient benefit to be derived from analysis of the coarser soil fractions such that further work on this problem is justified? I am intrigued that you mentioned that coarser soil fractions tend to more closely approximate the bedrock values than do the -80 mesh samples. Should selection of a soil fraction coarser than -80 mesh be used as "standard procedure" in Anaconda soil sampling programs?

I am curious if you believe the question of "which size fraction of a soil sample provides the most useful data" is of sufficient importance to justify either a review of published data or a detailed study by Anaconda?

Thanks for your help.

Sincerely,

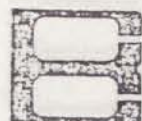
  
Jay A. Raney

JAR/jcd

Encl.

# Geochemical Lab Report

	ELEMENT	Au UNITS	Cu PPB	Pb PPM	Zn PPM	As PPM	As PPM	Hg PPB	Sb PPM	Ba PPM
20135	SOIL	100	37	118	46	8.8	240	1800	78	1220
6		< 5	16	14	43	0.2	12	600	8	770
1		< 5	20	13	46	0.2	14	230	7	690
5		45	91	69	312	1.8	165	190	ND	1470
7		20	35	219	211	1.2	210	100	35	2080
1		10	35	53	420	0.2	33	90	ND	600



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# Geochemical Lab Report

	ELEMENT	Au UNITS	Cu PPB	Pb PPM	Zn PPM	As PPM	As PPM	Hg PPB	Sb PPM	Ba PPM
05		45	24	55	45	4.6	100	900	30	1030
06		< 5	18	12	50	0.2	12	260	ND	800
01		< 5	19	11	54	0.2	13	150	ND	780
05		25	60	44	205	1.5	125	150	ND	1370
07		20	29	76	148	1.0	95	60	13	1540
01		5	35	48	305	0.6	35	50	ND	710

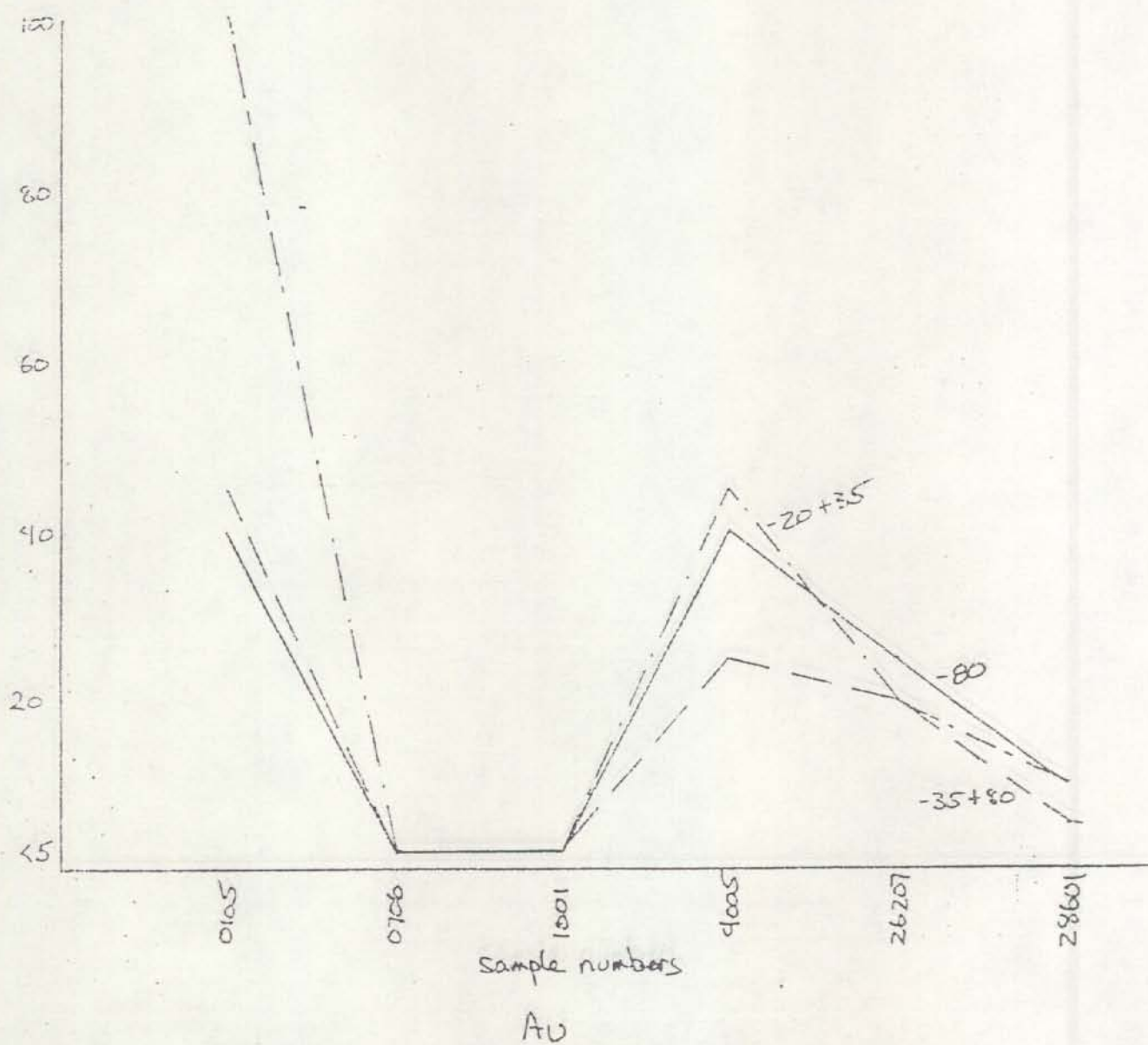


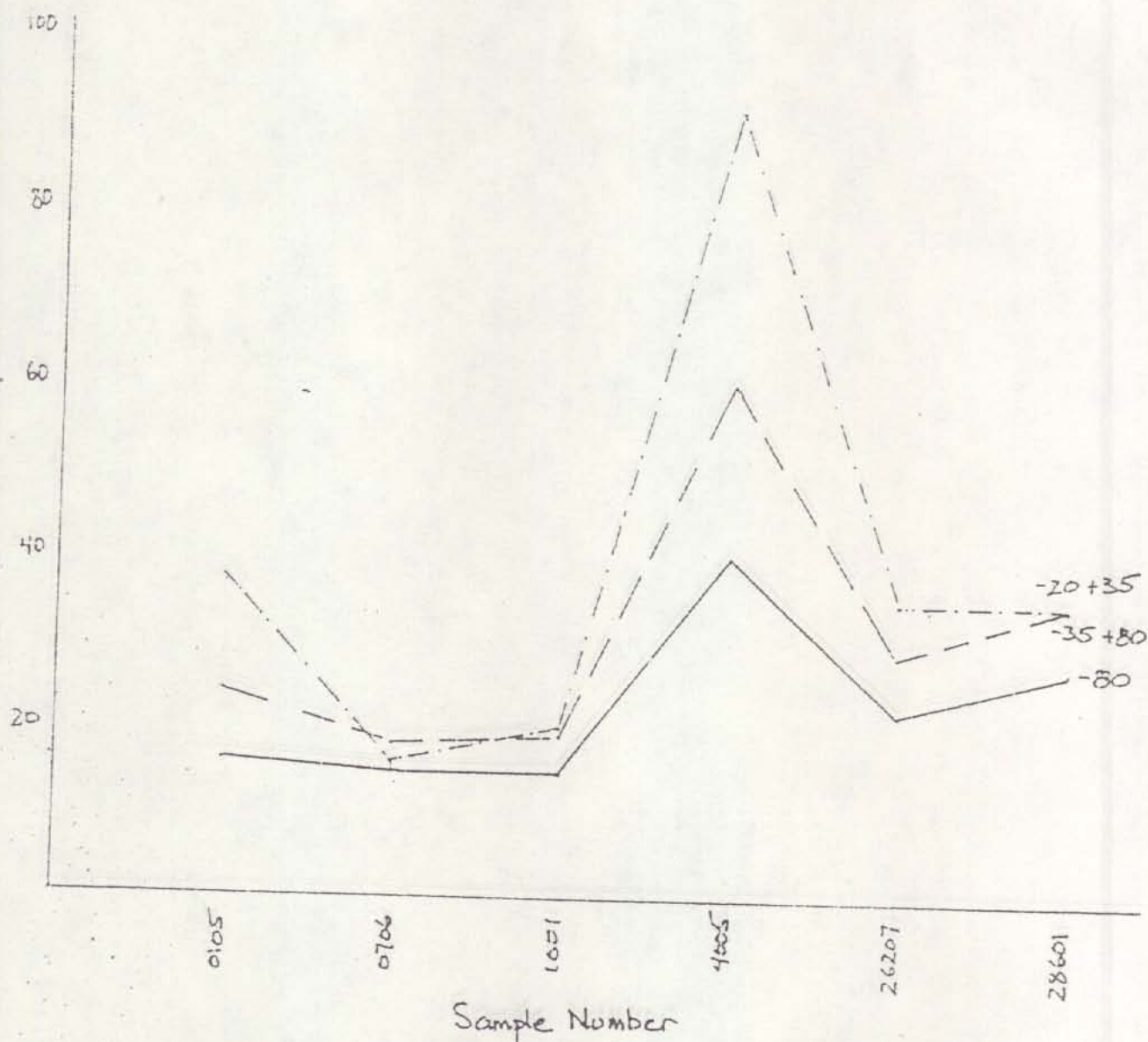
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# Geochemical Lab Report

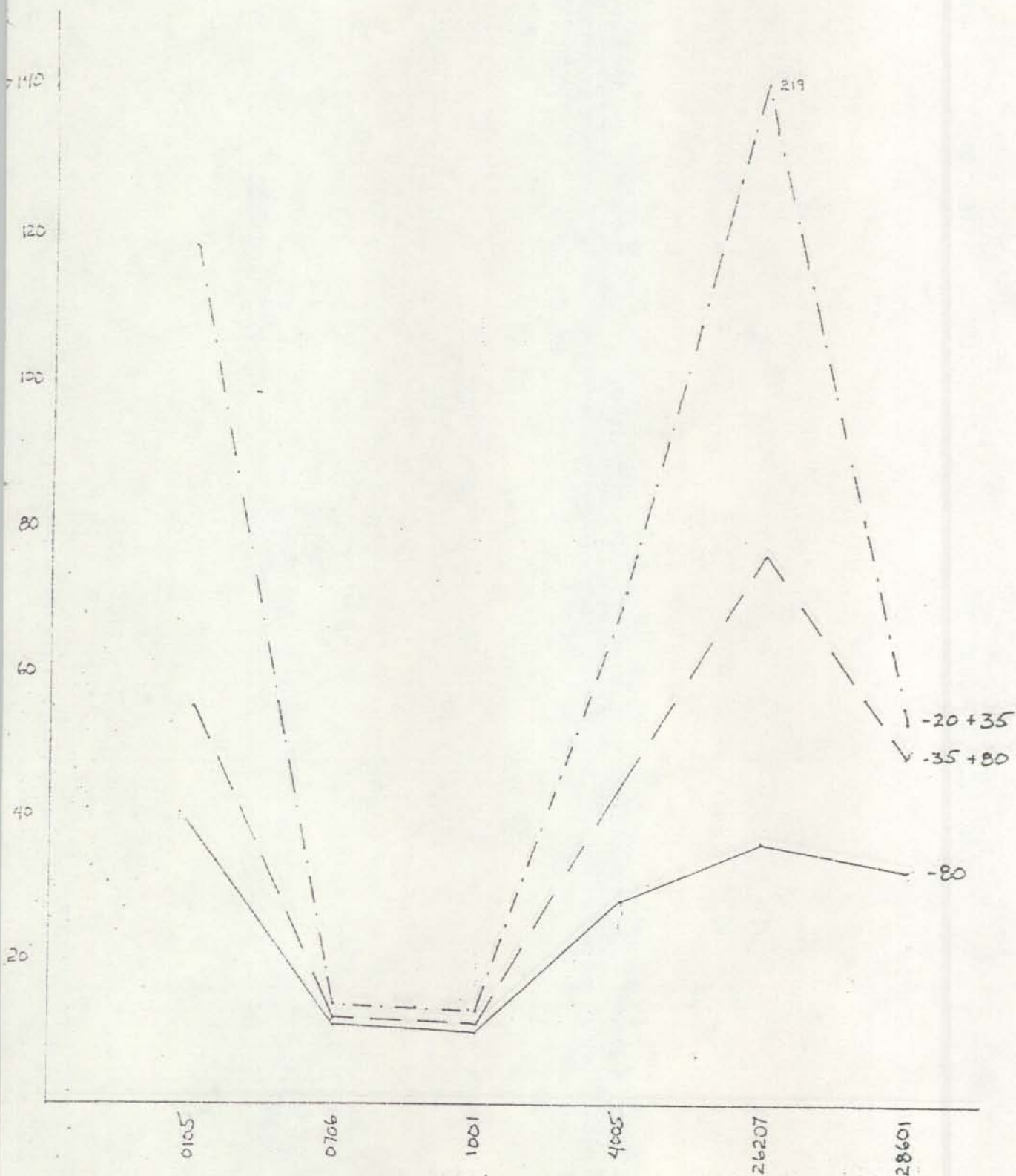
	ELEMENT	Au UNITS	Cu PPB	Pb PPM	Zn PPM	As PPM	As PPM	Hg PPB	Sb PPM	Ba PPM
05		40	16	38	34	3.0	43	510	4	940
06		< 5	15	11	41	0.2	11	225	ND	770
01		< 5	15	10	44	0.2	10	180	ND	770
05		40	40	28	149	1.6	68	170	ND	1260
07		25	22	36	107	0.8	42	100	6	1330
01		10	27	32	219	0.4	25	100	ND	730



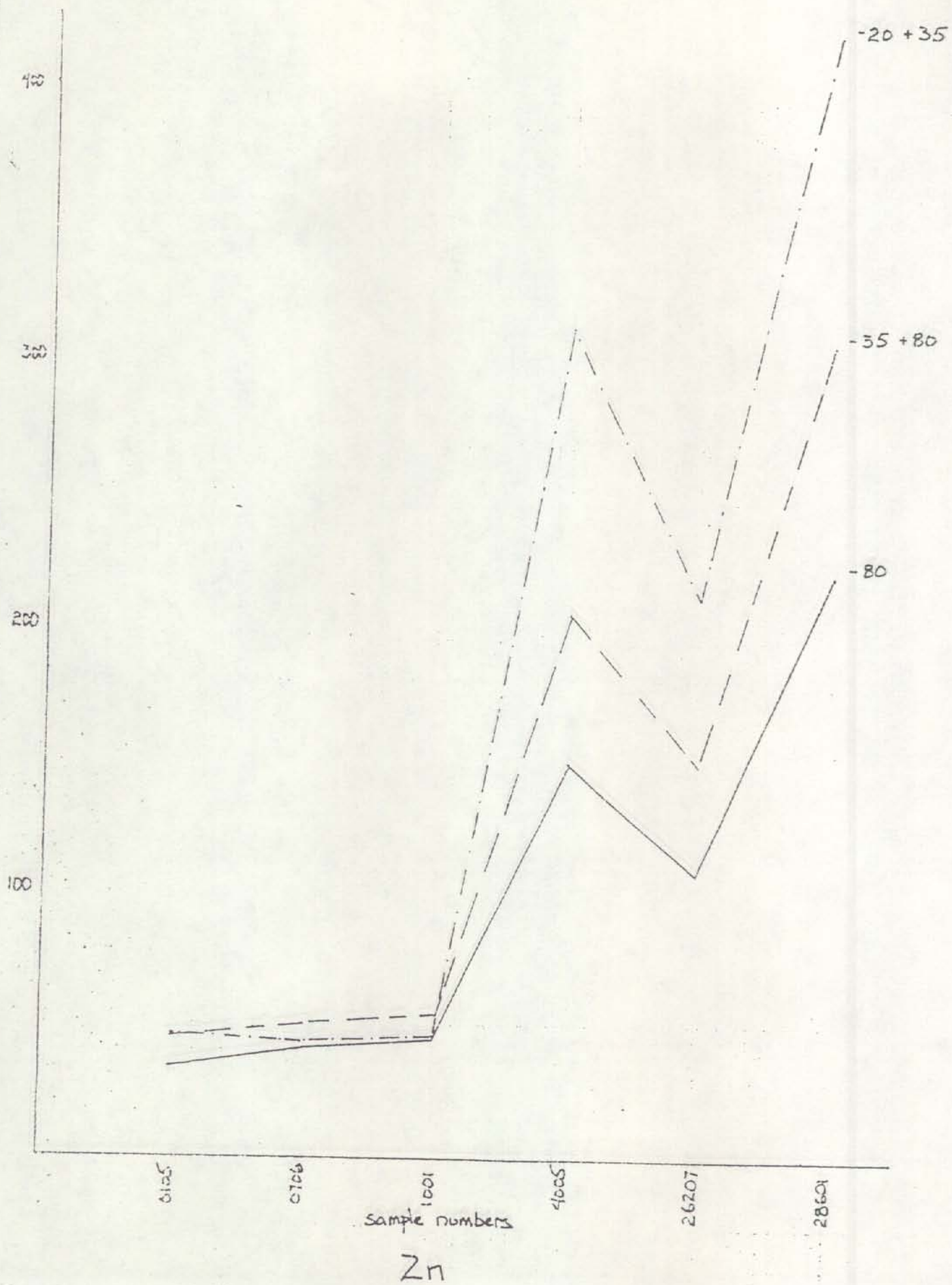


CU

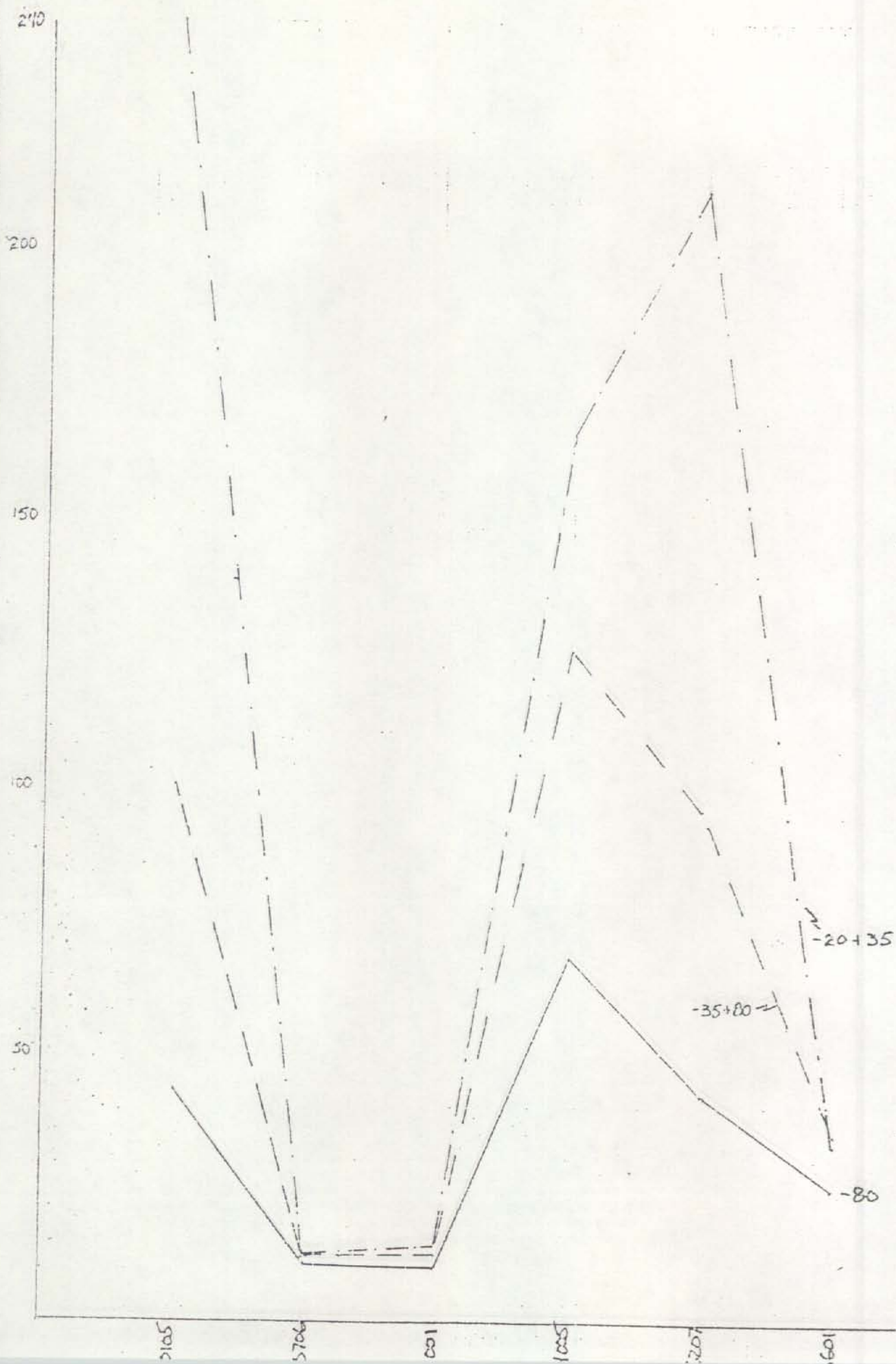
REPORTS 121-3398, 399, 400

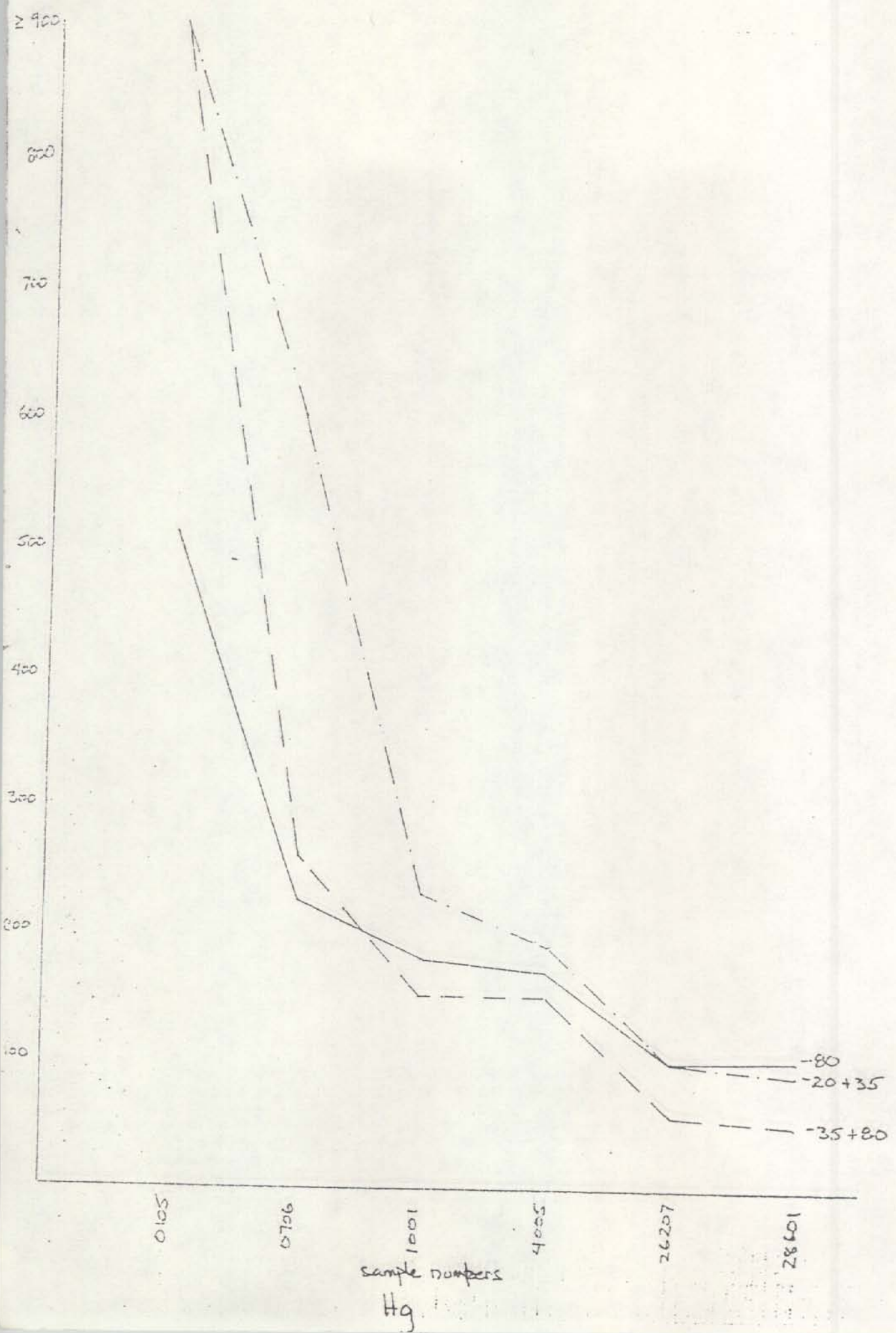


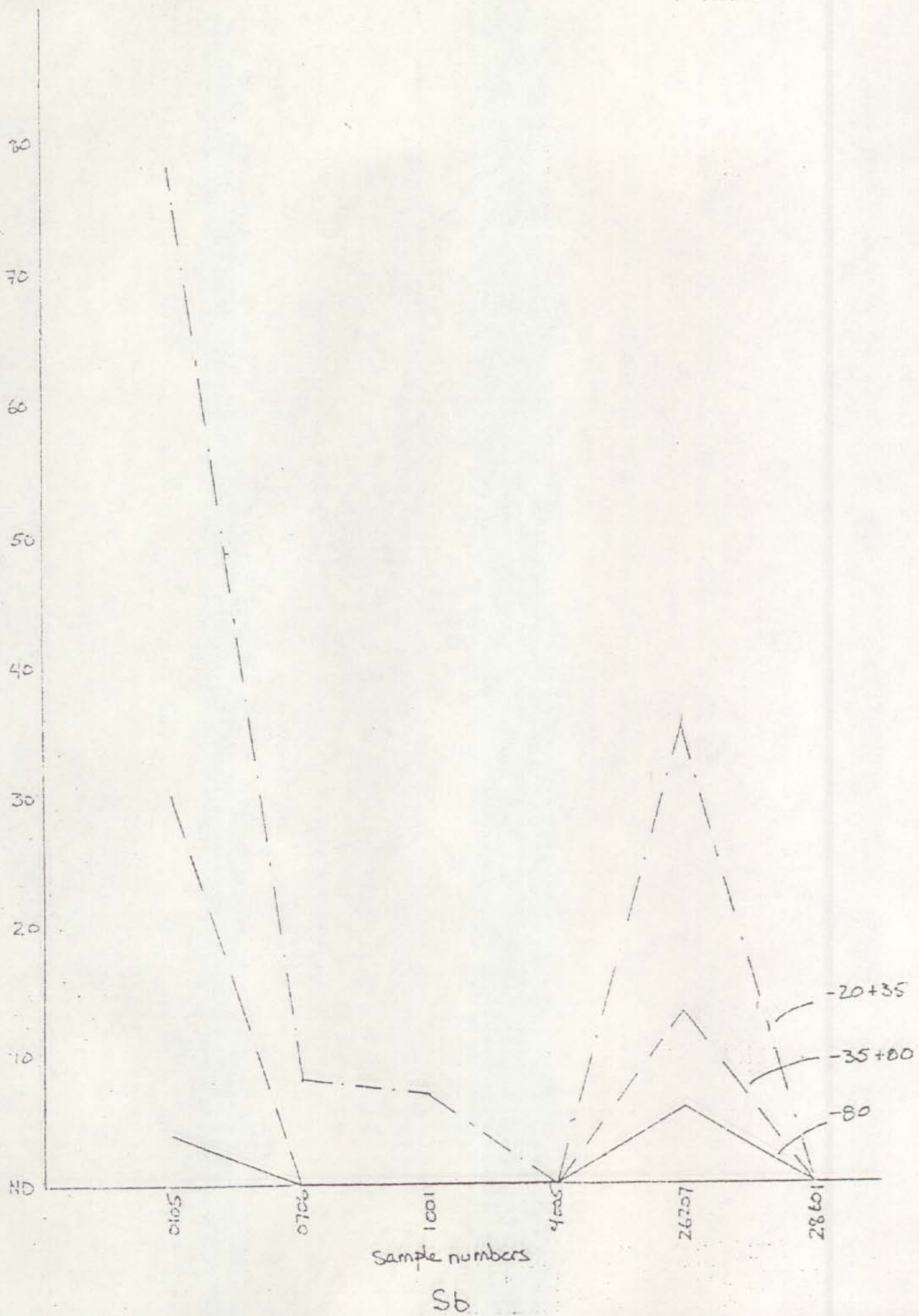
PB

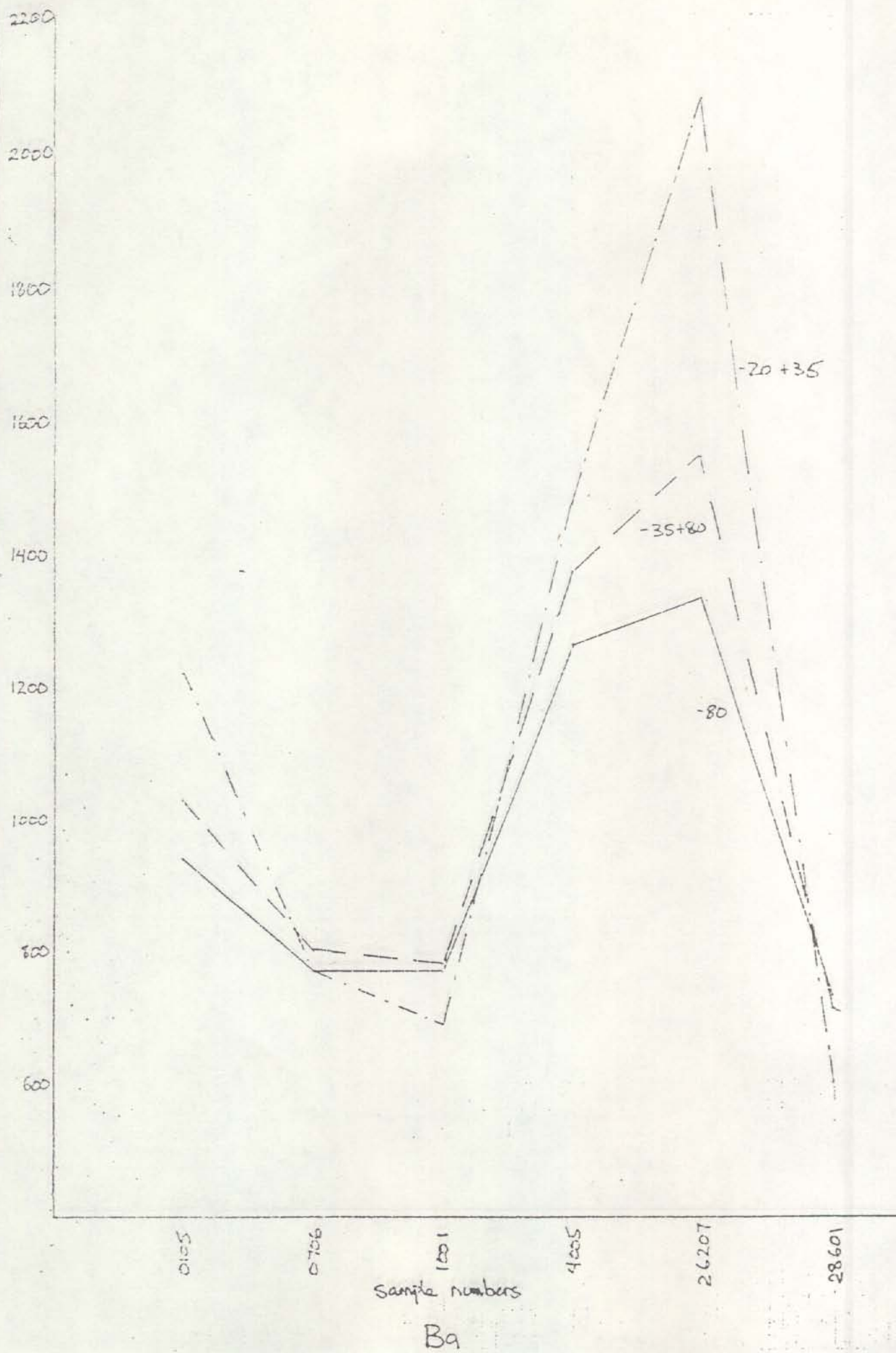














MEMORANDUM

To: Jay Raney  
From: Terrie Winnett  
Re: Gilbert 1981, to accompany map

Introduction

During November and December, 1981, I continued mapping Palmetto sediments and Tertiary volcanic units originally delineated by Jay Raney and Geoff Wilson in Anaconda's Gilbert claim block. I will present brief descriptions of the various lithologies that I encountered and, when necessary, a discussion of possible errors in certain lithologic designations.

Descriptions

Palmetto -- Only the siltstone unit of the Palmetto was recognized during this mapping. Where it was unsilicified, it was usually dark gray to black and thin-bedded -- and rarely exposed except in subcrop. However, ribs of massive and/or brecciated silicified siltstone are prominent features within exposures of Palmetto. The silicified siltstone range in color from (sometimes sooty) black to shades of gray. Some are stained with iron and manganese oxides, and are encrusted with small secondary euhedral quartz crystals. In the breccia, angular siltstone fragments are unoriented in a pale gray (rock powder?) matrix and show various degrees of silicification. The breccias are often found near, but not necessarily adjacent to, younger volcanic units. Some siltstone is pale, or bleached to a greenish-tan. When silicified, this subunit probably makes up at least part of the pale jasperoid.

Tv<sub>1</sub> -- This ignimbrite unit shows little variation in lithology and was recognized by its pale green or purplish color, quartz eyes, pumice fragments, and green spheritic volcanic fragments. It may also contain siltstone fragments, especially near contacts with the Palmetto or the jasperoid. It does not contain much biotite/sericite or feldspar. Outcrops often show superficial iron-oxide stains.

Tv<sub>2</sub> -- This unit is fairly varied, but was generally recognized by the presence of biotite or sericite, and often the presence of feldspar or kaolinized feldspar. The unit ranges between a welded purple-brown tuff and a pale green; rather friable tuff. Some parts contain abundant and varied types of lithic fragments (e.g., the northernmost strip of Tv<sub>2</sub>); because of this characteristic, I wondered if a lithic- and quartz eye-rich "jasperoid" near the top of hill 6968 might be a silicified version of Tv<sub>2</sub>. Tv<sub>2</sub> seems to be the most widespread of the older tuff units.

Tv<sub>3</sub> -- This unit was recognized by its eutaxitic structure.

Tvg -- This unit is also varied. In the eastern part of the area, it is mostly represented by a thick sequence of gently-dipping glassy green or purple beds. These glassy units are often perlitic and seem to thin or become less prominent to the northwest (perhaps only due to lack of protection by overlying andesites). This unit also contains some pale green or white lithic- and crystal-poor welded/silicified tuff that occasionally looked brecciated and stained. There were beds of red jasper and some possible sinter associated with this unit, as well as a brecciated unit that looked cemented by dark silica. The tuffs of this unit seem to show more widespread, if not more intense silicification than the older tuffs.

### Discussion

Rock designations became more straightforward as I spent more time in the area, but some ambiguities still exist. An exposure of welded tuff mapped as Tv<sub>0</sub> south of the limestone hill 7352 could also have fit the description of Tv<sub>2</sub>, but because of its position, I decided to call it Tv<sub>0</sub>.

I only mapped in andesite where there were obvious outcrops -- most of the blank areas (other than stream valleys) are covered with andesite boulders. Some of the lower andesite cliff contacts are estimated because of heavy snow cover.

Only the largest masses of jasperoid were mapped; smaller jasperoid outcrops were usually in gradational contact with silicified siltstone. The massive siltstone ribs were not broken out (these can be seen on aerial photos).

The volcanics that come up the northwest side of hill 6968 were difficult to label. Those in the stream bed contained abundant sericite grains and therefore were called Tv<sub>2</sub>. The mica content decreased up the hill, so I called the bulk of the volcanics Tv<sub>1</sub>. However, higher up the hill were some lithic- and crystal-poor tuffs and some odd green tuff which contained nothing but some green pumice (?) fragments and feldspar. These were designated Tvg. The latter green tuffs were also seen further south, especially near the Norman Mill site. I am not sure to which unit they belong. If Tv<sub>2</sub>, to which they might belong near Norman Mill, then it is possible that the whole volcanic package on 6968 is Tv<sub>2</sub> (some containing less biotite). This musing finally seemed very subjective, so I labelled the units in the manner on the map, possibly putting too much emphasis on variability.

The non-glassy portions of the Gilbert tuff caused problems. I made decisions based both on lithology and attitude where it could be seen. However, some of the lithologic varieties I recognized (on hills that had previously been mapped as Tvg as well) seemed as if they could be due to brecciation and silicification of the older ignimbrites. I still labelled these breccias, etc. Tvg.

The contact between massive siltstone and the volcanics was not well-defined. There were several zones of massive siltstone alternating with zones of volcanics through about 100 feet. The actual contacts were nubbly or brecciated, usually with clasts of siltstone enclosed in the volcanic matrix. This is probably due to relief on the surface of deposition of the volcanics. On the northern end of 6968, siltstone is shot with quartz veins near the contact with tuff.

No additional exposures of quartz monzonite or Palmetto limestone were seen.

### Structure

The attitude of the siltstone was impossible to measure because of no outcrop, except where silicified. The foliation in the older ignimbrites generally had attitudes of about N20°E, 35-40°NW. The glassy units of the Gilbert ignimbrite also seem to strike slightly NE, but with a shallower dip. However, there were several areas where they looked nearly vertical (near a proposed high-angle fault).

A continuation of a previously-mapped fault was recognized near the center of the map area. Another fault needs to be plotted to the west of hill 6968; its location is not obvious. The fault traces and jasperoid/silicified siltstone ribs may fall parallel to a conjugate fracture system. A number of jasperoids strike N10E, often within a larger mass which, as a whole, strikes about N45W. Silicified zones in the Gilbert tuff also usually strike N10E.

### Nature of Jasperoids

Jasperoids are primarily associated with the Palmetto formation. Jasperoid bodies are generally small, scattered, and irregularly-oriented within Palmetto limestone, but are larger and rather aligned within the siltstone. When found in the siltstone, they are often near contacts with the Tertiary volcanics. It seems quite possible that some of the jasperoids are silicified volcanics adjacent to silicified Palmetto. This especially seems likely at the northern end of hill 6968 where quartz eyes and lithic fragments are still discernible within a jasperoidal rock.

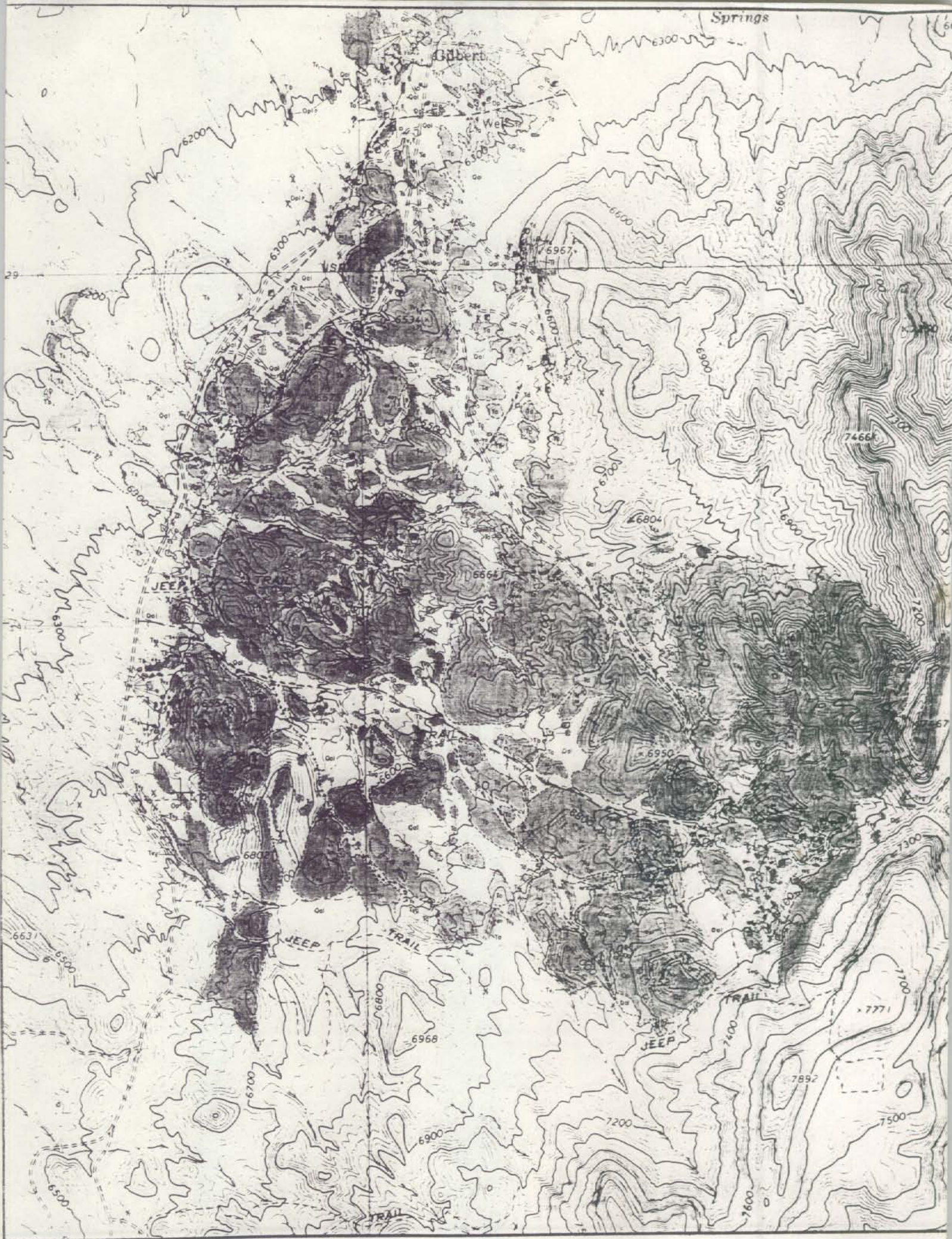
There seems to be structural control of the jasperoids, because of their orientation, brecciation, and the common occurrence of slickensides in outcrops.

There may be several episodes of silicification in the Gilbert area, possibly including episodes associated with the intrusion of quartz monzonite, with either the group of volcanics or with the sinter. Brownish silicified clasts (siltstone?) are locally present within rocks of the older volcanic sequence, but highly silicified zones seem to cross into these same volcanics (as mentioned above). Chalcedonic silica also occurs in veinlets and crusts in the Gilbert tuff and may be related to the deposition of sinter. Some Gilbert tuff and perlite is pervasively silicified.

Rock chip samples of jasperoid, massive siltstone, friable siltstone, and silicified volcanics were collected by Lane Coddington. So far, the higher geochemical results (only Sb and Ba in) seem first associated with location and then with rock type.

Terrie Winnett (clj.)  
Terrie Winnett

TW/dmf:1222/3



# APPENDIX III EXPLANATION

	Alluvium	
	Sinter	PLATE TERTIARY TO RECENT
	Basalt	
	Lacustrine sediments	
	To-andesite; To-dacite	
	Rhyolite to rhyodacite	MID TO LATE TERTIARY
	Gilbert andesite	
	Gilbert tuff	
	Ignimbrite; Crystal-poor, somewhat well-sorted ignimbrite composed of numerous thin subvolcanic andesite flows. Several subvolcanic cones may underlie.	
	Ignimbrite; Porphyritic crystal-poor to moderately crystal-rich ignimbrite. Characterized by 5-15% bottle flakes, variable amounts of vesicular strombolitic fragments. Locally brecciated where in place.	MID TERTIARY
	Ignimbrite; Medium to fine grained, crystal-poor to moderately crystal-rich ignimbrite. Traces of 5% quartz, crystals. Porphyritic, rounded and green quartz fragments, and vesicular strombolitic fragments (mostly vesicular, with strombolitic fragments).	
	Ignimbrite; Fine to medium crystal-rich, moderately well-sorted ignimbrite. 5-10% bottle flakes. Locally in core of base of Tg.	
	Jasperoid ribs and breccia	AGE UNCERTAIN
	Porphyritic to subporphyritic, medium-grained, quartz-very poor Qmp	
	Qmp1 - Quartz-very poor, with scattered medium-grained quartz up to 1/4 inch long. Qmp2 - Un differentiated Qmp - most nearly resembles Qmp1.	EARLY MESOZOIC
	Quartz monzonite, coarse grained, medium to subporphyritic.	
	Palmetto Formation - siltstone and hornfels	OPPOCENE
	Palmetto Formation - limestone and marble	

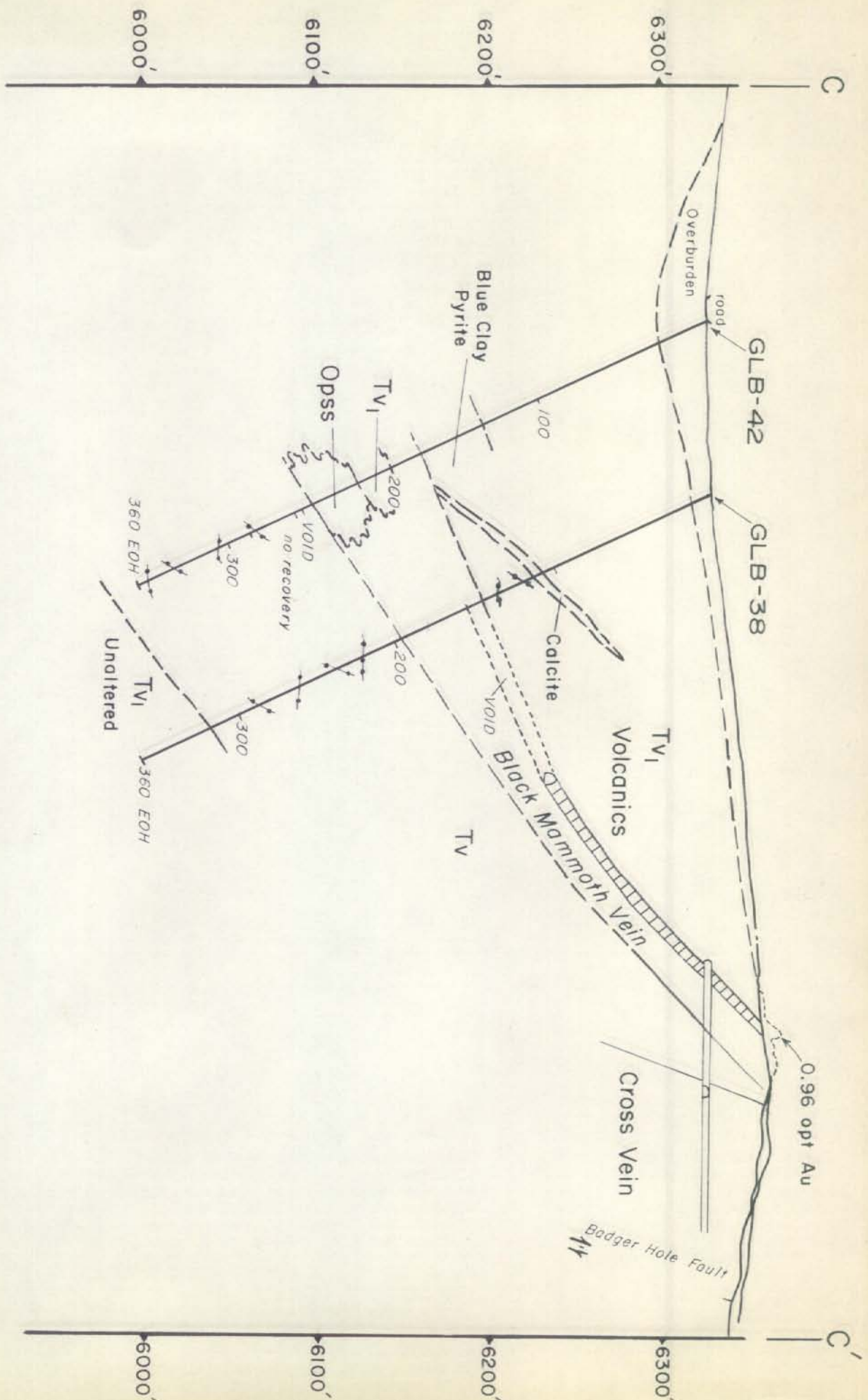
0 500 1000 Meters  
SCALE 1:10,000



GEOLOGIC MAP  
OF

GILBERT DISTRICT  
ESMERALDA COUNTY, NEVADA

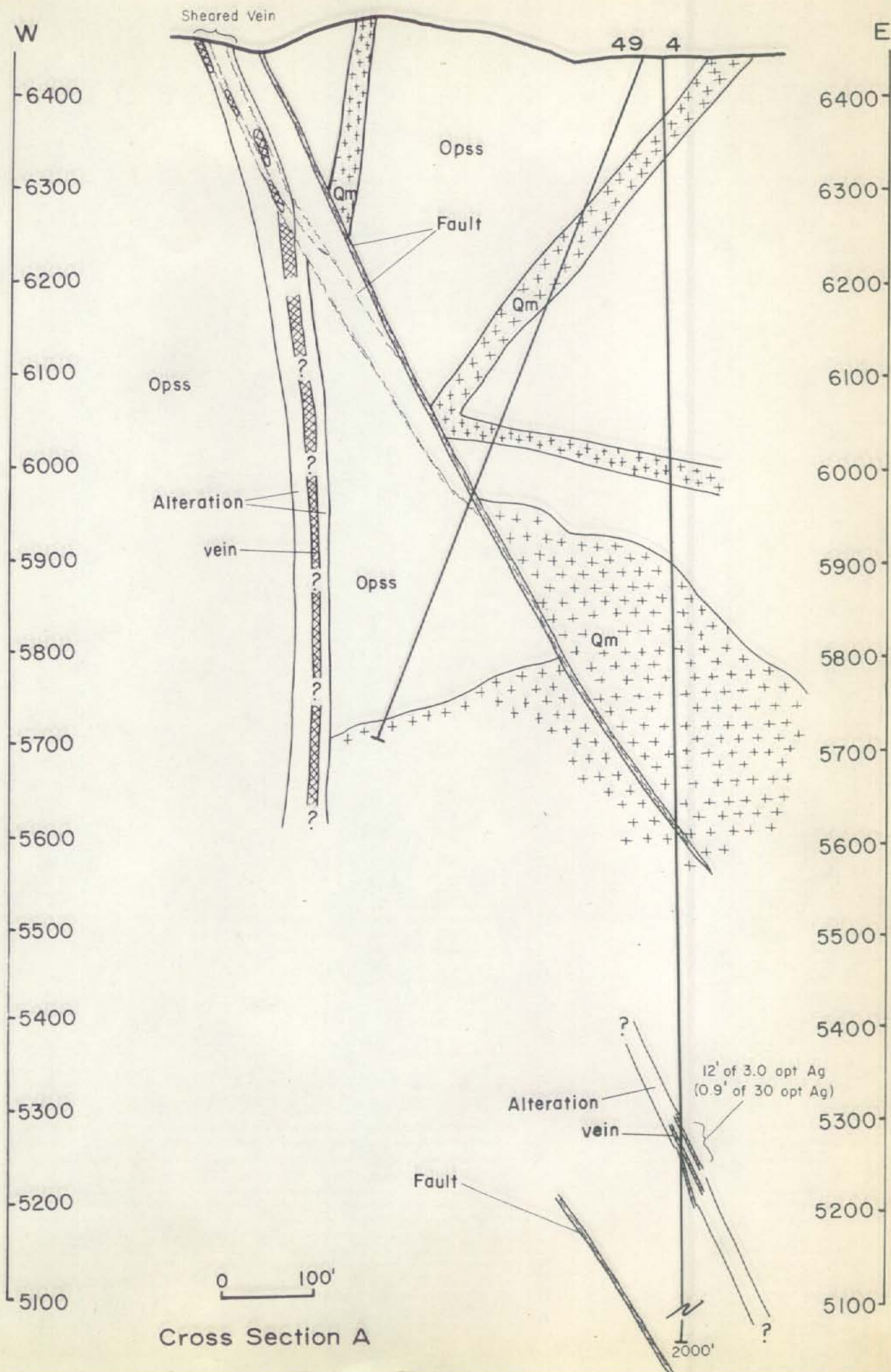


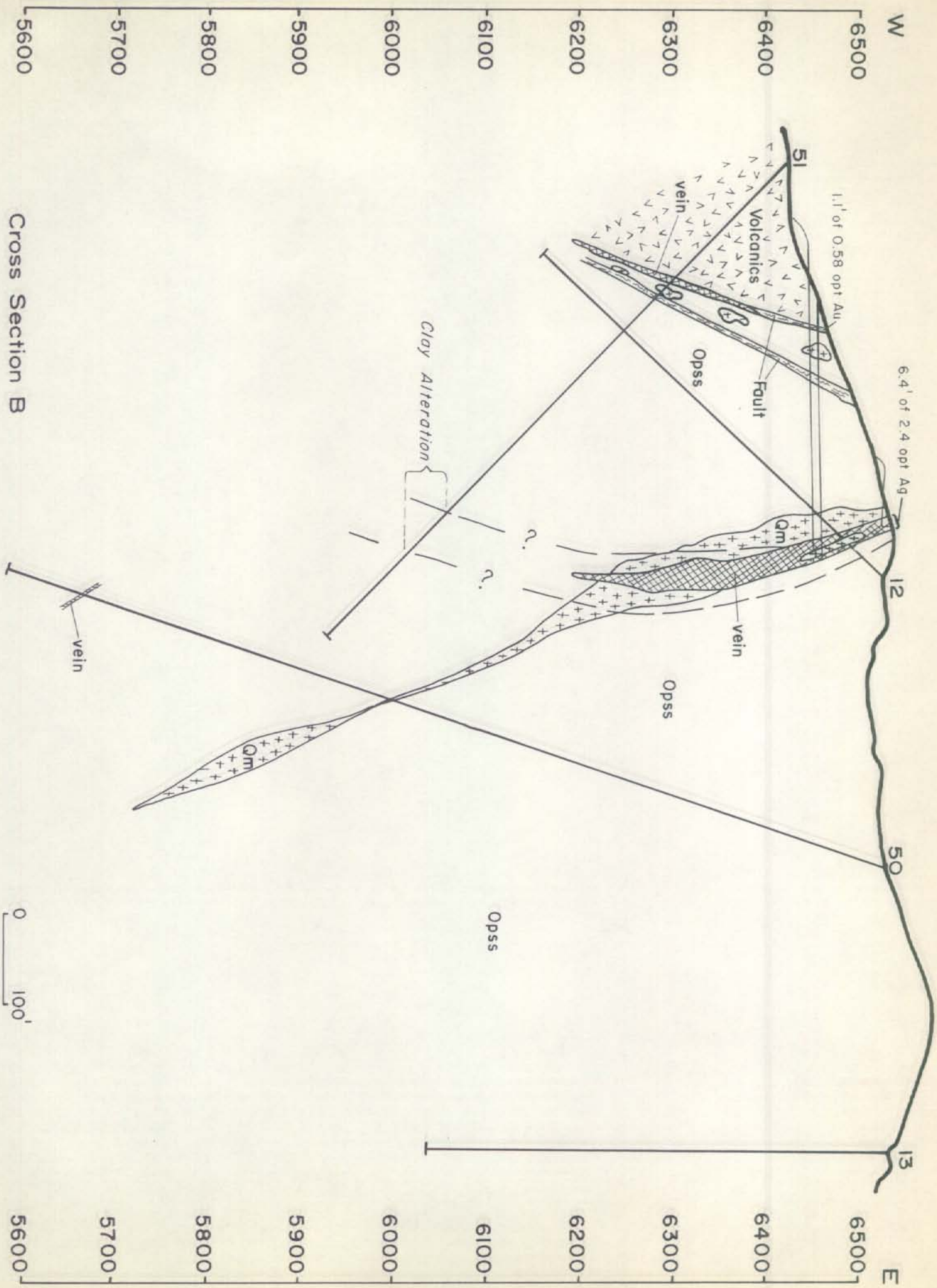


# Black Mammoth Vein

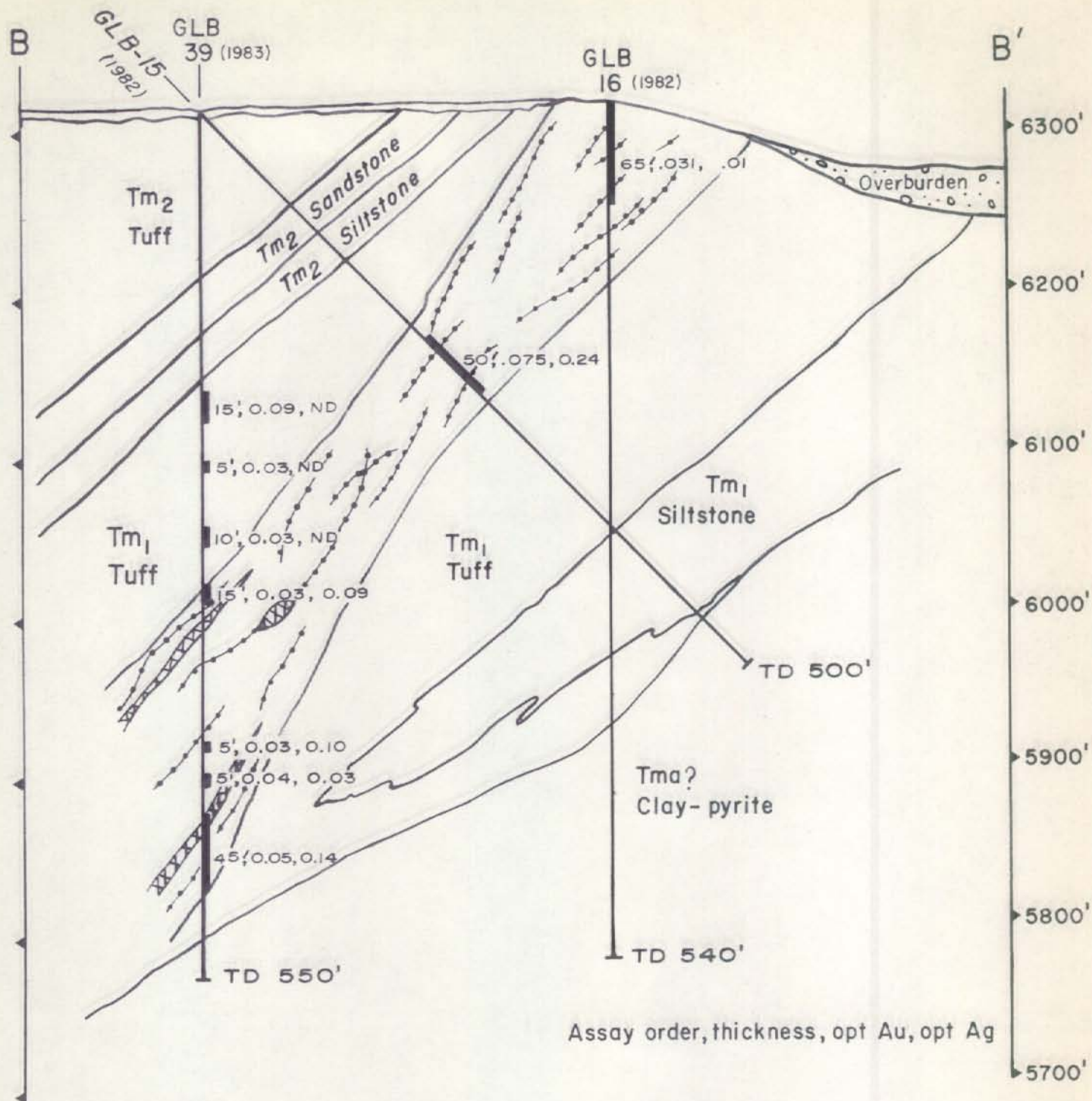
Section N 40 W  
Looking NE

— Figure 4 —





Cross Section B



Volcanic - hosted Area  
Section Bearing N20W  
Looking NE

