

CANADIAN OCCIDENTAL PETROLEUM LTD.

MINERALS DIVISION

GEOLOGY AND GEOCHEMISTRY
OF THE
CLARK CLAIM GROUP

Claim Sheet 82-E-5-W

Lat. : 49°28'N
Long.: 119°49'W

Claims:

CLARK 1: Units 1-15
CLARK 2: Units 1-20
CLARK 3: Units 1-20
CLARK 4: Units 1-12
CLARK 5: Units 1-4
CLARK 6: Units 1-12
Osoyoos Mining Division
British Columbia

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
7305
NO. _____

by:

J.R. Hill, B.Sc.

Work Completed During Period July 10-12, 1978

Contents

	<u>Page</u>
Summary.....	1
Location and Access.....	3
Physiography and Vegetation.....	3
Previous Work.....	3
Work Completed.....	4
Geology and Rock Geochemistry.....	4
Geochemistry.....	5
Conclusions.....	7
Recommendations.....	7
 Figure 1: Location Map.....	 2
 APPENDICES: 1) Petrography.....	 9
2) Geochemistry Values and Statistics.....	13
3) Guide to the Statistical Report.....	A-1

PLANS ACCOMPANYING REPORT

7A: Sediment Geochemistry)
7B: Water Geochemistry)
7C: Heavy Mineral Geochemistry) in back pocket
7D: Geology and Rock Geochemistry)

Summary

The CLARK Claims have favourable geological setting with Eocene clastic Springbrook sediments lying under a capping of Eocene Marron volcanics and situated above Jurassic granitic rocks.

In the southwest corner of the CLARK Claims this favourable geological setting is associated with anomalous spring and lake sediments, values range up to 35 ppm U. Water samples from this area are also anomalous, 2.2-3.0 ppb. These water samples also have relatively low specific conductivity (85-520 m. mho) and bicarbonate content (19.5-143 mg/l) suggesting these values are related to bedrock enhancement rather than to changed environmental characteristics.

Detailed radiometric prospecting and geological mapping together with soil and rock geochemistry should be carried out over the CLARK Claims with special emphasis on the SW corner.

Off the actual claim area, heavy mineral samples have anomalous values in gold and silver in one area and tin and tungsten in another. These anomalies can be checked out to source by further panning.

Sediment and water uranium anomalies occurring in the southeastern part of Plans 7A-D are contained within the MAR Claims.



Location and Access

The centre of Area 16 is located 22 km west of the city of Penticton, and covers an area of 60 km² on NTS map sheet 82E/SW.

Access is via the Apex Mountain ski road from Penticton. Easy access to the northern part of Area 16 is provided by two old logging roads extending off the main paved roads. There are few roads providing access to the southern half of Area 16, however, one major logging road which roughly follows Yellowhawke Creek leads to the extreme southern edge of the area.

Physiography and Vegetation

Relief over the area is 1000 m and consists of deeply incised stream valleys cutting high plateaus. The valley slopes are open to moderately forested with little or no underbrush. However, the stream valley bottoms are thickly vegetated and contain abundant deadfall. Numerous logging blocks within the area have been clear cut.

Previous Work

A total of 23 stream silt samples were collected within Area 16 during the Princeton/Nicky program. The uranium values ranged from 3.1 to 46.9 ppm U with a background of 6.6 ppm

The G.S.C. collected 6 stream silt and water samples during their 1976 regional sampling program. Values ranged from 2.9 to 8.1 ppm U in the silts and from 0.05 to 8.9 ppb U in waters of pH 6.8 to 8.2.

There was also evidence of at least two previous sampling surveys having been carried out by other operators approximately 2-3 years ago.

Work Completed

During the period July 10-12, 1978, the entire Canadian Oxy crew completed stream and lake silt, water and heavy mineral sampling within Area 16 to total 15 man-days of work. A total of 160 stream and lake silt samples, 140 stream and lake water samples and 6 heavy mineral samples were collected. As well, Hill completed geological mapping and rock chip sampling over the northern part of Area 16. A total of 13 rock chip samples were collected.

During the period June 17-21, 1978, the CLARK Claim group were staked to cover the original uranium geochemical stream anomalies as well as cover the area of favourable geology as much as prior staking permitted. A total of 87 units were staked by Eastern Associates Ltd. of Whitehorse, Y.T.

Geology and Rock Geochemistry

Eocene volcanics and sediments of the Marron and Springbrook Formation overlie Middle to Upper Jurassic intrusives within Area 16. As well, older greenstones, limestones, cherts and argillites of the Shoemaker and Independence Formations of presumed Permian age underlie the SW part of Area 16.

Volcanic members, examined during the recent survey, were vesicular intermediate flows with biotite or plagioclase phenocrysts characterized by a scintillometer response of 150-200 cps. Rock chip samples were found to contain 0.5 to 1.0 ppm U. The intrusive rocks vary from coarse-grained biotite hornblende granodiorites to quartz monzonites. Outcrops

generally had scintillometer readings of 100 to 130 cps, but chip samples were found to contain up to 2.5 ppm U.

Geochemistry

Sediments (Plan 7A) - One lake sediment and 11 stream sediments in the southwest corner of the claims contain greater than 5 ppm U. Tertiary volcanics and sediments overlie Jurassic quartz diorite.

Two weakly anomalous samples containing 5.5 and 6 ppm U are present in a small creek in the southern part of the area. Eocene volcanics underlie the stream. The anomaly actually forms part of Area 15 and it is covered by the MAR Claims.

A third sediment anomaly occurs in the northwestern part of the area where 4 samples ranging from 7 to 20 ppm U occur in sediments from a stream draining Jurassic quartz diorite.

A lake sediment anomaly (10444-9 ppm U) is present off the east side of the claims where Eocene volcanics (Marron Formation) occur.

In the north part of the claims sample 10584 contains 48 ppm U, a nearby outcrop of Tertiary volcanics registered 230 cps, however it contains only 0.5 ppm U.

Uranium in sediments correlates best with uranium in heavy minerals indicating particulate transport of some of the uranium in the stream systems of the area.

Waters (Plan 7B) - Good U water anomalies (6.3-12.1 ppb U) occur in a stream draining the MAR Claims in the south-eastern part of the area. Another water anomaly (2.1-5 ppb U) occurs off the east side of the CLARK Claims; and in the south-

west corner of the CLARK Claims 7 water samples contain 2.2 to 3 ppb U. All these areas are underlain by Tertiary volcanics (Marron Formation) under which Tertiary continental sediments (Springbrook Formation) are present.

Waters from the first two areas generally are alkaline, also they have high conductivity (+400 m mho) and HCO_3 (+120 mg/l) the anomalous waters from the southwest corner of the CLARK Claims have relatively lower conductivity (85-520 m mho) and HCO_3 (19.5-143 mg/l).

Correlation coefficients for the stream waters show that there are significant positive correlations between U, pH, conductivity and HCO_3 . However, not all alkaline waters with high conductivity and HCO_3 contain anomalous amounts of U (e.g. waters from the southwestern part of Area 16).

Heavy Minerals (Plan 7C) - In the southwest part of the area sample 10519 contains 200 ppb Au and 1 ppb Ag. The stream here drains Permian volcanics, cherts, tuffs and limestone that are cut by two faults which trend north and northwest. Mineralogically the sample contains 30% chlorite, 10% pyrite and 5% limonite. Also, values of 40-60 ppb Au are present in two samples in the centre part of the area, one of these samples (10661) contains 10 ppm W. Dykes of diorite (Jurassic) cut Permian sediments upstream from this sample. Also, a value of 12 ppm W is present in a heavy mineral concentrate (#13849) from a small stream on the north side of Shatford Creek where the stream drains Jurassic diorite.

One tin anomaly (32 ppm) is present in a sample (#10430) from Shatford Creek, this sample contains up to 30% biotite. Since no cassiterite is present in the sample, the

tin is probably concentrated in the biotite. The source of the tin is upstream where Jurassic granitic rocks intrude Permian sedimentary and volcanic rocks. Additional heavy mineral sampling would have to be done up Shatford Creek to localize the source area.

Major heavy minerals derived from the Tertiary volcanics include: magnetite, pyroxene and amphibole. Magnetite, pyroxene, amphibole, chlorite, epidote and apatite are derived from the Permian volcanics and sediments while the Jurassic intrusives contribute magnetite, pyroxene, amphibole, apatite and sphene.

The highest uranium value (2.5 ppm U) in the heavy mineral concentrates comes from sample 10414 in Clark Creek, this sample also contains the highest sphene content (5%). The uranium probably is associated with the sphene.

Conclusions

Water and sediment uranium anomalies in this area are derived from Tertiary volcanics and sedimentary rocks. Jurassic quartz diorite also contribute uranium to the stream sediments.

High pH, HCO_3 and specific conductivity in stream waters correlate with anomalies in uranium.

A heavy mineral sample from a stream draining faulted Permian sedimentary and volcanic rocks is anomalous in gold.

Recommendations

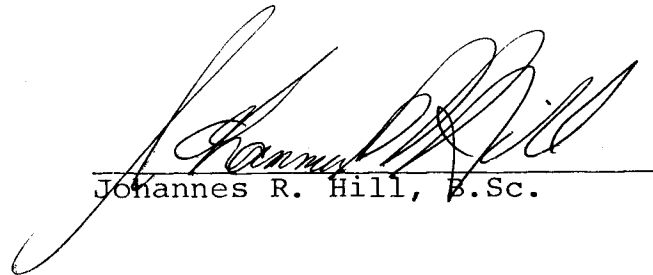
Geochemical soil sampling, prospecting, scintillometer work, geological mapping and rock geochemistry should be

systematically carried out over the southwest part of the CLARK Claims where above normal values for uranium occur in sediments and waters of streams draining Tertiary volcanic and sedimentary rocks.

A stream sediment anomaly in Tertiary volcanic terrain in the north part of the claims should be prospected.

Additional heavy mineral sampling should be done upstream from the gold anomaly (sample #10519) found in the south part of the area where faulted Permian volcanics and sedimentary rocks occur.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'J. R. Hill', written over a horizontal line.

Johannes R. Hill, B.Sc.

TORONTO

November, 1978

Petrography

Specimen No. - 16-54 (8015)

Rock name - fresh hornblende biotite granodiorite

Mineralogy - essential - plagioclase - 40%
K-feldspar - 15%
quartz - 20%
hornblende - 10%
biotite - 10%

accessory - magnetite
sphene
apatite
zircon

secondary - sericite
chlorite
epidote group minerals

Description - This rock is medium grained, hypidiomorphic granular, with a slight tendency towards a porphyritic texture. The grain size is rather uneven, but averages around 1-2 mm. However, very occasional plagioclase crystals reach up to about 7 mm in length indicating a tendency to form phenocrysts. There is no distinct break in size between phenocrysts and matrix. The rock consists essentially of subhedral, tabular, crystals of plagioclase, and scattered anhedral of biotite and hornblende, surrounded by interstitial crystals of quartz and K-feldspar. The result is an interlocking mosaic texture.

Plagioclase in this rock is the predominant mineral. It forms tabular subhedra, and anhedral, which are typically zoned. The zoning patterns are often quite complex. Zoning ranges from a core of labradorite-andesine (about An₅₀) to a rim of sodic oligoclase. Plagioclase crystals range from virtually fresh to moderately altered, the alteration often following the zonal patterns. The alteration consists of a mixture of very fine grained sericite, intermingled with subsidiary clinozoisite, and with occasional granular crystals of epidote. The alteration tends to be concentrated in the crystal cores, in most cases. Occasionally there is very slight development of myrmekite, where plagioclase abuts onto K-feldspar. Quartz crystals occur as small interstitial anhedral, of very irregular shape. They are typically slightly strained. K-feldspar also occurs in small interstitial anhedral, which are very fresh. They often contain small inclusions of the other rock minerals. K-feldspar is sometimes very slightly perthitic, and very occasionally shows microcline twinning. Biotite tends to form compact anhedral which tend to be associated in loose aggregates with other biotite and hornblende crystals. Biotite crystals are usually fresh, but some show slight alteration to chlorite. Hornblende crystals, by contrast, tend to be rather ragged, and fairly small. They are very fresh.

(continued overleaf)

Specimen No. - 16-54 (continued)

They sometimes contain inclusions of chloritised biotite, or of small plagioclase crystals. Accessory amounts of magnetite and sphene tend to be closely associated with the ferromagnesian minerals.

Although most of the thin section is more or less homogeneous, there is a small patch, about 4 mm across, which has a similar mineralogy but which is distinctly finer grained, with an average grain of about 0.2 - 0.5 mm. In this area the plagioclase crystals tend to be equidimensional anhedral, rather than the tabular subhedra usually found in the main part of the rock.

Specimen No. - 16-55 (8016)

Rock name - porphyritic pyroxene, K-feldspar, andesine

Mineralogy - phenocrysts - plagioclase
clinopyroxene
K-feldspar
biotite
groundmass - plagioclase
biotite
magnetite
chlorite
clinopyroxene
apatite
vesicles - zeolites

Description - This rock is highly porphyritic, with very abundant medium grained phenocrysts of plagioclase, occasional large phenocrysts of K-feldspar, and relatively small and sparse phenocrysts of clinopyroxene, set in a very fine grained and largely feldspathic groundmass.

The plagioclase phenocrysts are extremely abundant, and up to about 7 mm long. They are typically euhedral to subhedral, tabular, and often show some zoning. Owing to their alteration, and lack of suitable twinning, it was not possible to estimate their composition. The plagioclase phenocrysts are covered by a network of criss crossing, undulating, cracks usually filled by a very fine grained, bright yellowish brown, chloritic material. In some cases the chlorite covers about two thirds of the crystal. Although it usually fills cracks through the cores of the crystals, in some crystals the chlorite rims, and penetrates the crystal marginally. Other crystals contain a colourless, isotropic, material instead of or in addition to the yellowish chlorite. This colourless material is probably another form of chlorite. The plagioclase, between the alteration filled cracks, is usually clear and fresh looking, but some crystals have a rather blotchy appearance. This rock also contains a very few large euhedral to subhedral phenocrysts of K-feldspar. These are completely fresh, completely free from perthite, and show only simple twinning. They contain occasional inclusions of plagioclase, and occasionally show concentric zoning. Clinopyroxene phenocrysts are relatively small (up to about 3 mm) and sparse. They are euhedral to subhedral, pale greenish in colour, and fresh. They contain numerous small inclusions of magnetite, apatite and occasionally feldspar. Biotite phenocrysts are very small and rare, and have been virtually completely resorbed, so that they now consist of a dense mass of fine iron oxides with a base of remnant biotite.

(continued overleaf)

Specimen No. - 16-55 (continued)

The groundmass is very fine grained, with an average grain size of about 0.05 mm or less. It consists predominantly of criss crossing laths of plagioclase set in a base of rather indeterminate feldspathic material, some of which may include K-feldspar. There are slight indications of small areas of spherulitic feldspar in some parts of the groundmass. Throughout this feldspathic base, there are scattered noticeable amounts of tiny fresh looking biotite flakes, which may be of secondary origin. There is also a fair amount of very finely disseminated yellowish brown chloritic material, similar to that found within the plagioclase phenocrysts. Small granules of magnetite are disseminated through the groundmass, making up about 15% of it. Only a very few small crystals of clinopyroxene were identified in the groundmass.

There are occasional very irregularly shaped patches, filled by zeolitic material, dotted through the rock. These probably represent vesicles. There are also occasional regularly shaped patches, filled by a mixture of the yellowish chloritic material, accompanied by a brownish chloritic material with a spherulitic structure, These may represent completely pseudomorphed plagioclase phenocrysts. They are relatively uncommon.

Geochemistry Values and Statistics

PAGE 1

AREA 16 FLOW SITE PRINIC 1978 GEOCHEMICAL SURVEY

LIST OF VALUES AND THEIR RANK IN % FROM THE TOP

SAMPLE	U-SILT PPM	RANK %	U-WATER PPB	RANK %	PH %	COND MMHO	RANK %	HCO3 MG/L	RANK %	
10402	0.5	71	0.6	86	7.2	84	126	81	38.7	74
10403	6.0	13	1.4	50	7.2	84	140	78	38.5	75
10404	3.0	27	1.5	45	7.3	77	154	74	38.4	76
10405	2.5	35	1.4	50	7.3	77	131	81	37.4	80
10406	2.5	35	-0.1	0	-0.1	0	0	0	-0.1	0
10407	4.0	19	1.3	55	7.8	47	165	68	48.7	61
10408	8.5	6	1.2	61	7.2	84	164	69	45.7	65
10409	24.0	3	1.4	50	7.0	92	152	74	39.0	72
10410	31.0	2	1.0	74	7.0	92	155	72	37.7	79
10411	3.0	27	-0.1	0	-0.1	0	0	0	-0.1	0
10412	1.0	62	1.8	30	8.2	20	275	38	76.6	39
10413	7.0	8	1.8	30	7.5	61	174	64	43.4	68
10414	7.5	7	1.7	37	8.0	34	225	48	57.3	54
10415	1.0	62	2.5	14	7.8	47	530	3	143.0	2
10416	2.5	35	2.8	9	7.8	47	154	74	40.6	71
10417	1.5	50	1.2	61	7.7	53	133	80	40.0	72
10418	4.5	15	2.4	16	7.4	65	155	72	44.6	67
10419	3.0	27	1.6	41	7.3	77	176	61	42.7	69
420	22.0	3	1.9	27	7.1	90	70	88	17.7	83
10421	-0.1	0	1.4	50	7.4	65	340	31	93.2	31
10422	1.0	62	1.9	27	7.7	53	380	24	126.0	10
10423	1.5	50	2.1	20	8.2	20	470	11	128.0	9
10425	0.2	100	-0.1	0	-0.1	0	0	0	-0.1	0
10426	1.0	62	10.2	2	8.4	3	760	2	234.0	2
10427	0.2	100	-0.1	0	-0.1	0	0	0	-0.1	0
10428	3.5	21	0.4	89	7.6	57	1540	1	410.0	1
10429	-4.0	0	1.2	61	7.3	77	55	92	12.2	91
10430	1.0	62	2.1	20	7.3	77	45	95	9.1	96
10431	0.5	71	1.4	50	7.2	84	46	95	4.6	99
10432	0.2	100	1.1	67	7.3	77	60	90	12.1	93
10433	1.0	62	0.5	87	7.3	77	52	94	10.4	95
10434	0.5	71	0.6	86	7.2	84	55	92	11.3	94
10435	0.2	100	1.0	74	7.3	77	56	91	13.8	90
10436	1.0	62	1.2	61	7.3	77	60	90	13.1	91
10441	-4.0	0	2.6	11	7.2	84	290	36	69.5	45
10442	0.5	71	0.4	89	7.8	47	400	22	111.0	23
10443	0.2	100	2.0	22	8.0	34	445	14	125.0	13
10446	1.0	62	-0.1	0	-0.1	0	0	0	-0.1	0
10447	1.0	62	-0.1	0	-0.1	0	0	0	-0.1	0
10448	0.5	71	-0.1	0	-0.1	0	0	0	-0.1	0
10449	1.5	50	7.2	4	8.0	34	450	12	137.0	3
10450	4.0	19	1.3	55	8.1	25	430	15	133.0	5
10451	3.0	27	1.5	55	8.0	34	455	13	130.0	7
10452	1.0	62	1.1	67	8.2	20	460	12	136.0	4
10453	0.2	100	-0.1	0	-0.1	0	0	0	-0.1	0
10454	0.2	100	-0.1	0	-0.1	0	0	0	-0.1	0
10455	0.2	100	-0.1	0	-0.1	0	0	0	-0.1	0
10456	0.2	100	1.1	67	8.3	8	500	9	127.0	9
10457	0.2	100	1.7	37	8.2	20	525	5	125.0	13
10458	0.2	100	1.6	41	8.1	25	510	9	129.0	8

AREA 16 FLOW SITE PRINIC 1978 GEOCHEMICAL SURVEY

LIST OF VALUES AND THEIR RANK IN % FROM THE TOP

SAMPLE	U-SILT PPM	RANK %	U-WATER PPB	RANK %	PH %	COND MMHO	RANK %	HCO3 MG/L	RANK %	
10459	0.2	100	1.6	41	8.2	20	510	9	103.0	27
10460	0.2	100	1.8	30	8.3	8	510	9	125.0	13
10461	2.5	35	0.6	86	6.8	96	192	58	50.6	61
10462	6.0	13	1.8	30	7.1	90	165	68	43.8	68
10463	5.0	14	1.7	37	6.9	94	225	48	62.8	50
10464	4.5	15	1.0	74	7.1	90	250	44	76.0	40
10465	4.0	19	1.3	55	7.8	47	255	42	73.0	41
10466	3.0	27	1.0	74	7.7	53	175	63	44.8	66
10467	2.5	35	1.3	55	7.5	61	175	63	45.8	65
10468	2.5	35	0.6	86	7.6	57	163	70	45.9	64
10469	3.5	21	0.6	86	7.7	53	170	66	46.9	63
10471	7.5	7	1.3	55	7.4	65	180	60	56.7	55
10472	3.0	27	1.0	74	7.8	47	155	68	47.8	62
10473	6.0	13	1.5	45	7.9	40	135	60	51.8	59
10474	2.5	35	0.6	86	7.0	92	155	72	50.9	60
10475	3.0	27	1.1	67	7.8	47	200	56	53.7	57
10476	3.5	21	1.7	37	7.9	40	193	57	53.7	57
10477	2.5	35	2.4	16	7.9	40	210	53	57.4	54
10478	2.5	35	1.4	50	7.9	40	200	56	58.0	53
10479	1.5	50	1.6	41	8.0	34	197	57	59.3	51
10480	1.0	62	2.9	6	8.1	25	300	34	85.6	35
10481	4.0	19	0.4	89	7.3	77	137	79	36.3	80
10482	2.0	37	1.4	50	6.8	96	106	84	25.9	86
10484	16.5	4	1.0	74	6.5	100	52	94	12.1	93
10485	9.0	5	1.9	27	6.5	100	91	87	24.5	87
10487	2.5	35	1.9	27	7.3	77	189	59	38.0	77
10488	-4.0	0	1.0	74	7.3	77	104	86	27.7	84
10489	0.2	100	1.7	37	7.2	84	121	82	30.8	82
10490	35.0	1	2.2	17	6.7	98	71	88	18.1	87
10491	1.5	50	1.5	45	6.9	94	137	79	38.7	74
10492	2.0	37	0.6	86	6.7	98	140	78	37.7	79
10493	1.5	50	0.6	86	6.7	98	170	66	30.8	82
10494	6.0	13	2.8	9	7.1	90	225	48	65.9	46
10496	0.2	100	0.1	100	8.0	34	290	36	91.5	33
10497	-4.0	0	1.1	67	7.1	90	110	84	29.1	83
10498	1.0	62	1.1	67	7.2	84	115	83	28.8	83
10499	0.5	71	1.0	74	7.2	84	170	66	27.3	85
10500	1.0	62	1.1	67	7.4	65	104	86	16.3	89
10502	7.0	8	2.2	17	7.5	61	143	76	38.4	76
10503	6.5	9	2.5	14	7.6	57	145	75	40.9	70
10504	1.0	62	2.6	11	7.8	47	200	56	53.2	57
10505	1.5	50	2.5	14	8.1	25	210	53	59.1	52
10506	1.0	62	2.6	11	8.2	20	240	45	63.6	50
10507	1.0	62	2.8	9	8.3	8	40	98	68.8	46
10508	1.5	50	1.2	61	7.5	61	40	98	6.1	98
10509	-0.1	0	1.5	45	7.4	65	36	99	7.9	97
10511	3.0	27	1.7	37	7.5	61	210	53	65.0	49
10512	0.2	100	-0.1	0	-0.1	0	0	0	-0.1	0
10513	0.2	100	1.9	27	8.2	20	350	29	105.0	25
10514	0.2	100	1.9	27	8.1	25	285	37	86.3	34

AREA 16 FLOW SITE PFIMIC 1979 GEOCHEMICAL SURVEY

LIST OF VALUES AND THEIR RANK IN % FROM THE TOP

SAMPLE	U-SILT PPM	RANK %	U-WATER PPB	RANK %	PH %	RANK %	COND MMHO	RANK %	HCO3 MG/L	RANK %
10515	0.2	100	1.5	45	7.6	57	255	42	80.4	37
10516	0.2	100	1.9	27	8.1	25	255	42	78.9	38
10517	0.2	100	-0.1	0	-0.1	0	0	0	-0.1	0
10518	0.2	100	1.7	37	8.0	34	335	32	94.7	29
10519	0.2	100	2.1	20	8.3	8	365	26	93.4	31
10520	0.2	100	0.1	100	8.5	1	375	26	95.0	28
10541	1.5	50	8.6	3	7.9	40	475	10	132.0	6
10542	0.2	100	-0.1	0	-0.1	0	0	0	-0.1	0
10543	0.5	71	-0.1	0	7.8	47	425	15	108.0	24
10544	0.2	100	6.3	5	7.9	40	410	19	116.0	17
10545	5.5	13	12.1	1	7.9	40	410	19	125.0	13
10546	6.0	13	8.8	2	7.7	53	390	23	-0.1	0
10547	0.2	100	2.0	22	8.2	20	520	6	123.0	14
10548	0.2	100	2.5	14	8.2	20	520	6	131.0	6
10549	0.2	100	-0.1	0	-0.1	0	0	0	-0.1	0
10550	0.2	100	-0.1	0	-0.1	0	0	0	-0.1	0
10551	0.2	100	-0.1	0	-0.1	0	0	0	-0.1	0
10552	0.2	100	-0.1	0	-0.1	0	0	0	-0.1	0
561	0.2	100	0.9	76	7.6	57	340	31	92.8	32
10562	0.2	100	1.2	61	8.0	34	340	31	94.4	30
10563	0.2	100	1.1	67	7.5	61	330	33	95.1	28
10564	1.5	50	0.6	86	7.2	84	215	50	70.4	44
10566	0.5	71	0.6	86	8.0	34	260	40	-0.1	0
10567	0.2	100	1.7	37	8.2	20	290	36	81.6	36
10568	0.2	100	2.0	22	8.0	34	300	34	82.8	35
10569	0.2	100	1.6	41	8.2	20	375	26	107.0	24
10571	0.5	71	3.1	5	8.2	20	350	27	103.0	27
10572	0.2	100	1.2	61	8.2	20	410	19	113.0	18
10573	1.5	50	0.6	86	8.2	20	415	17	112.0	20
10574	0.5	71	0.2	93	8.3	8	350	29	116.0	17
10575	0.2	100	1.3	55	8.3	8	390	23	112.0	20
10576	0.2	100	1.0	74	8.4	3	420	16	115.0	17
10577	0.5	71	0.7	77	8.2	20	405	20	112.0	20
10578	0.2	100	0.9	76	8.2	20	400	22	111.0	23
10580	1.0	62	0.6	86	8.4	3	525	5	111.0	23
10581	1.5	50	0.2	93	7.1	90	36	99	6.7	98
10582	1.5	50	0.1	100	6.8	96	20	100	4.2	100
10583	2.5	35	0.2	93	7.1	90	44	96	11.7	94
10584	48.0	1	0.1	100	7.3	77	225	48	52.0	58
10585	1.5	50	0.1	100	7.3	77	200	56	72.8	42
10586	-4.0	0	0.1	100	7.3	77	250	44	70.8	43
10587	1.0	62	0.1	100	8.0	34	210	53	65.1	48
10588	1.5	50	0.1	100	8.0	34	220	49	65.6	47
589	2.0	37	0.1	100	7.8	47	250	44	72.5	43
10590	1.5	50	0.2	93	7.7	53	260	40	77.7	39
10561	1.5	50	0.2	90	7.7	53	550	2	118.0	15
10662	4.0	19	-0.1	0	-0.1	0	0	0	-0.1	0
10663	2.5	35	-0.1	0	-0.1	0	0	0	-0.1	0
10654	1.5	50	-0.1	0	-0.1	0	0	0	-0.1	0
10665	0.5	71	-0.1	0	-0.1	0	0	0	-0.1	0
VALUES	143		128		129		129		127	

PAGE 4

ARFA 16 FLOW SITE PRINIC 1978 GEOCHEMICAL SURVEY

HEAVY MINERAL VALUES AND RANK IN % FROM THE TOP

SAMPLE	AG RANK		AU RANK		U-HM RANK		W RANK		SN RANK	
	PPM	%	PPM	%	PPM	%	PPM	%	PPM	%
10414	0.1	100	80	50	2.5	20	6	60	4	40
10430	0.1	100	0	0	0.2	100	4	100	32	20
10452	0.1	100	60	75	1.0	60	4	100	1	100
10519	1.0	20	220	25	0.2	100	10	40	1	100
10661	0.1	100	40	100	1.5	40	10	40	2	60
VALUES	5		4		5		5		5	

AREA 16 FLOW SITE PRINIC 1978 GEOCHEMICAL SURVEY

STATISTICAL SUMMARY OF ALL SAMPLES

ELEMENT	AR.	MEAN	STD DEV	GEOM MEAN	LN DEV	RANGE		SMPLS	<DET LIM
						MIN	MAX		
U-S		3.0	6.3	1.1	4.0	0.2	48.0	143	42
U-W		1.7	1.8	1.1	2.6	0.1	12.1	128	9
PH		7.6	0.5	7.6	1.1	6.5	8.5	129	0
COND		260.5	187.0	204.2	2.1	20.0	1540.0	129	0
HCO3		71.0	51.2	54.0	2.3	4.2	410.0	127	0
AG		0.3	0.4	0.2	2.8	0.1	1.0	5	4
AU		100.0	81.6	80.6	2.1	40.0	220.0	4	0
U-HM		1.1	1.0	0.7	3.2	0.2	2.5	5	2
V		6.8	3.0	6.3	1.6	4.0	10.0	5	0
SN		8.0	13.5	3.0	4.2	1.0	32.0	5	0

AREA 16 FLOW SITE

PRINIC 1978 GEOCHEMICAL SURVEY

DEVIATIONS FROM MEANS : VALUES AND % FROM TOP OF GROUP

ELEMENT	MEAN-2 DEV		MEAN-1 DEV		MEAN		MEAN+1 DEV		MEAN+2 DEV		
	VALUE	%	VALUE	%	VALUE	%	VALUE	%	VALUE	%	
U-S	-9.5	0	-3.3	0	3.0	27	9.3	4	15.5	4	ARITH
U-S	0.1	100	0.3	71	1.1	50	4.4	15	17.6	3	LOG
U-W	-1.9	0	-0.1	0	1.7	37	3.5	5	5.3	5	ARITH
U-W	0.2	93	0.4	87	1.1	61	3.0	5	7.9	3	LOG
PH	6.7	98	7.2	84	7.6	53	8.1	20	8.6	0	ARITH
PH	6.7	96	7.2	84	7.6	53	8.1	20	8.7	0	LOG
CCND	-113.6	0	73.4	87	260.5	38	447.5	13	634.6	2	ARITH
CCND	45.4	95	96.3	86	204.2	53	433.1	14	918.7	1	LOG
HCO3	-31.3	0	19.9	87	71.0	43	122.2	14	173.3	2	ARITH
HCO3	10.2	95	23.5	87	54.0	55	124.2	13	285.5	1	LOG
AG	-0.5	0	-0.1	0	0.3	20	0.7	20	1.1	0	ARITH
AG	0.0	100	0.1	100	0.2	20	0.4	20	1.2	0	LOG
AU	-63.3	0	18.4	100	100.0	25	181.6	25	263.3	0	ARITH
AU	18.8	100	39.0	100	80.6	25	166.8	25	345.2	0	LOG
U-HM	-0.9	0	0.1	100	1.1	40	2.0	20	3.0	0	ARITH
U-HM	0.1	100	0.2	60	0.7	60	2.2	20	7.1	0	LOG
W	0.7	100	3.8	100	6.8	40	9.8	40	12.9	0	ARITH
W	2.5	100	4.0	100	6.3	40	9.9	40	15.7	0	LOG
SN	-18.9	0	-5.5	0	8.0	20	21.5	20	34.9	0	ARITH
SN	0.2	100	0.7	100	3.0	40	12.8	20	53.7	0	LOG

AREA 16 FLCW SITE PRINIC 1978 GEOCHEMICAL SURVEY
 CORRELATION COEFFICIENTS, LEVEL OF SIGNIFICANCE, NUMBER OF SAMPLES

	U-S	U-W	PH	COND	HCO3	AG	AU	U-HM	W	SN
U-S	**** **-* ****	0.01 0-50 121	-0.54 99-*** 122	-0.32 99-*** 122	-0.29 99-*** 120	-0.77 80-90 5	-0.59 50-60 4	0.81 90-95 5	-0.27 0-50 5	0.29 0-50 5
U-W	0.01 0-50 121	**** **-* ****	0.16 90-95 128	0.17 90-95 128	0.17 90-95 126	0.38 0-50 5	0.82 80-90 4	-0.54 60-80 5	-0.41 50-60 5	0.31 0-50 5
PH	-0.54 99-*** 122	0.16 90-95 128	**** **-* ****	0.64 99-*** 129	0.67 99-*** 127	0.54 60-80 5	0.78 60-80 4	0.19 0-50 5	0.31 0-50 5	-0.89 95-99 5
COND	-0.32 99-*** 122	0.17 90-95 128	0.64 99-*** 129	**** **-* ****	0.96 99-*** 127	0.21 0-50 5	-0.42 0-50 4	0.50 60-80 5	0.56 60-80 5	-0.95 95-99 5
HCO3	-0.29 99-*** 120	0.17 90-95 126	0.67 99-*** 127	0.96 99-*** 127	**** **-* ****	0.22 0-50 5	-0.33 0-50 4	0.50 60-80 5	0.50 60-80 5	-0.97 99-*** 5
AG	-0.77 80-90 5	0.38 0-50 5	0.54 60-80 5	0.21 0-50 5	0.22 0-50 5	**** **-* ****	0.92 90-95 4	-0.59 60-80 5	0.57 60-80 5	-0.43 50-60 5
AU	-0.59 50-60 4	0.82 80-90 4	0.78 60-80 4	-0.42 0-50 4	-0.33 0-50 4	0.92 90-95 4	**** **-* ****	-0.80 80-90 4	0.28 0-50 4	-0.34 0-50 4
U-HM	0.81 90-95 5	-0.54 60-80 5	0.19 0-50 5	0.50 60-80 5	0.50 60-80 5	-0.59 60-80 5	-0.80 80-90 4	**** **-* ****	0.05 0-50 5	-0.29 0-50 5
W	-0.27 0-50 5	-0.41 50-60 5	0.31 0-50 5	0.56 60-80 5	0.50 60-80 5	0.57 60-80 5	0.28 0-50 4	0.05 0-50 5	**** **-* ****	-0.49 50-60 5
SN	0.29 0-50 5	0.31 0-50 5	-0.89 95-99 5	-0.95 95-99 5	-0.97 99-*** 5	-0.43 50-60 5	-0.34 0-50 4	-0.29 0-50 5	-0.49 50-60 5	**** **-* ****

AREA 16 FLOW SITE PRINIC 1978 GEOCHEMICAL SURVEY

U-S HISTOGRAM AND CUMULATIVE FREQUENCY

INTERV PPM	SAMPLES	CUM FR %	
0.50	42	29.37	+++++
1.00	12	37.76	++++
1.50	18	50.35	+++++
2.00	18	62.94	+++++
2.50	3	65.03	+++
3.00	12	73.43	++++
3.50	8	79.02	++++
4.00	3	81.12	+++
4.50	5	84.62	++++
5.00	2	86.01	++
5.50	1	86.71	+
6.00	1	87.41	+
7.00	6	91.61	++++
8.00	4	94.41	++++
9.00	1	95.10	+
10.00	1	95.80	+
11.00	0	95.80	
12.50	0	95.80	
14.00	0	95.80	
16.00	0	95.80	
18.00	1	96.50	+
20.00	0	96.50	
22.50	1	97.20	+
25.00	1	97.90	+
28.00	0	97.90	
32.00	1	98.60	+
99999.00	2	100.00	++

TOTAL SAMPLES= 143 VALUES < DETECTION = 42 RANGE= 0.2 TO 48.0

AREA 16 FLOW SITE PFINIC 1978 GEOCHEMICAL SURVEY

U-W HISTOGRAM AND CUMULATIVE FREQUENCY

INTERV PPB	SAMPLES	CUM FR %		
0.20	9	7.03	+	
0.30	4	10.16	+	
0.40	1	10.94	+	
0.50	3	13.28	+	
0.60	1	14.06	+	
0.80	13	24.22	+	
1.00	2	25.78	+	
1.20	17	39.06	+	
1.60	26	59.38	+	
2.00	24	78.13	+	
2.50	10	88.94	+	
3.20	12	95.31	+	
4.00	0	95.31		+
5.00	0	95.31		+
6.30	0	95.31		+
8.00	2	96.88	+	+
10.00	2	98.44	+	+
12.50	0	100.00		+
16.00	0	100.00		+
20.00	0	100.00		+
25.00	0	100.00		+
32.00	0	100.00		+
40.00	0	100.00		+
50.00	0	100.00		+
63.00	0	100.00		+
80.00	0	100.00		+
99999.00	0	100.00		+

TOTAL SAMPLES= 128 VALUES < DETECTION = 9 RANGE= 0.1 TO 12.1

AREA 16 FLOW SITE PRINIC 1978 GLOCHEMICAL SURVEY

PH HISTOGRAM AND CUMULATIVE FREQUENCY

INTERV	SAMPLES	CUM FR %	
4.00	0	0.00	
6.50	0	0.00	
6.60	2	1.55	***
6.70	0	1.55	
6.80	3	3.88	*****
6.90	3	6.20	+*****
7.00	2	7.75	+***
7.10	3	10.08	+*****
7.20	7	15.50	+*****
7.30	10	23.26	+*****
7.40	15	34.88	+*****
7.50	5	38.76	+*****
7.60	6	43.41	+*****
7.70	5	47.29	+*****
7.80	7	52.71	+*****
7.90	10	60.47	+*****
8.00	7	65.89	+*****
8.10	12	75.19	+*****
8.20	6	79.84	+*****
8.30	16	92.25	+*****
8.40	6	96.90	+*****
8.50	3	99.22	+*****
8.60	1	100.00	+*****
8.70	0	100.00	+*****
8.80	0	100.00	+*****
8.90	0	100.00	+*****
99999.00	0	100.00	+*****

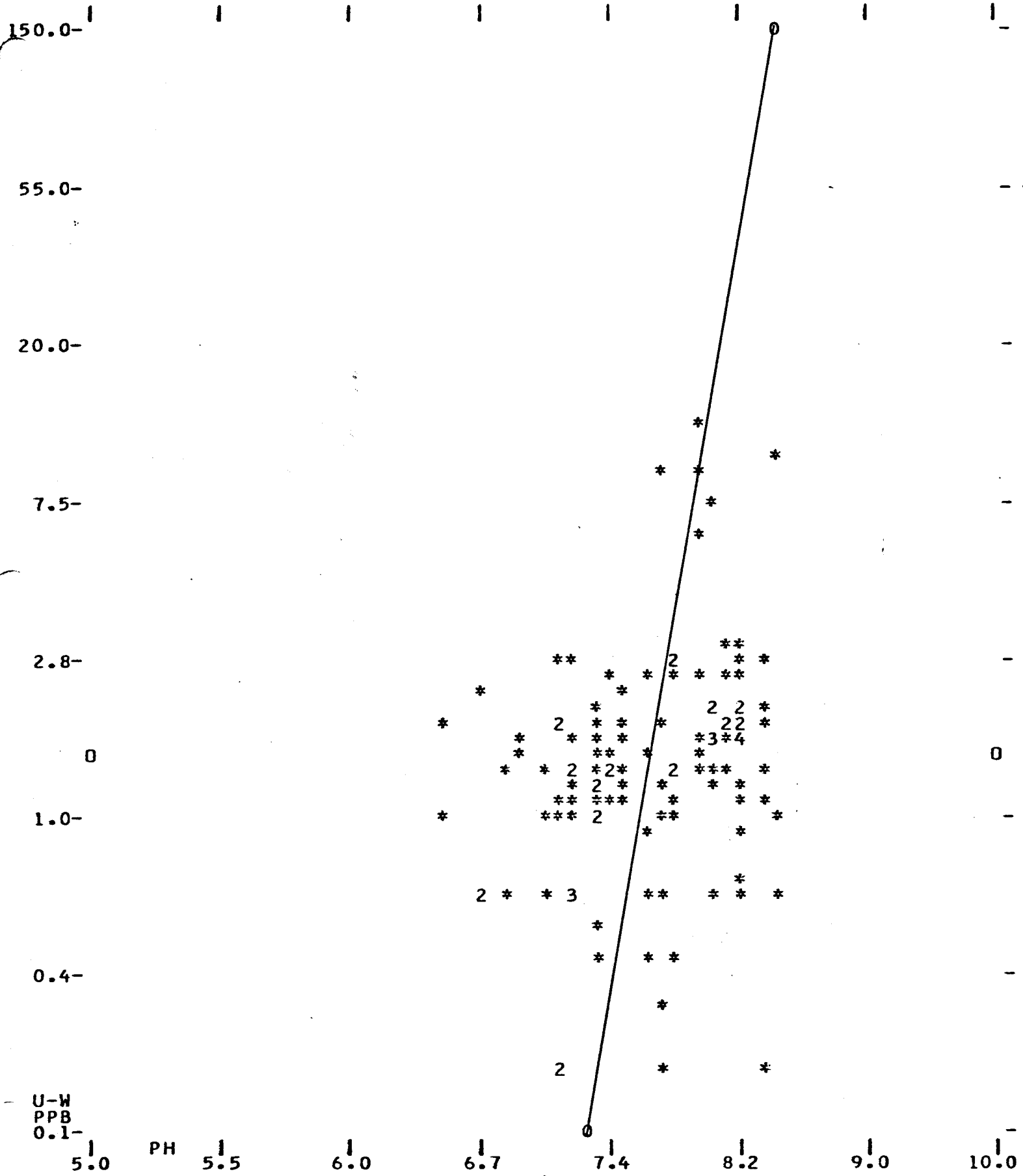
TOTAL SAMPLES= 129 VALUES < DETECTION = 0 RANGE= 6.5 TO 8.5

AREA 16 FLOW SITE PRINIC 1978 GECHEMICAL SURVEY
COND HISTOGRAM AND CUMULATIVE FREQUENCY

INTERV MMHO	SAMPLES	CUM FR %	
1.00	0	0.00	
20.00	0	0.00	
22.00	1	0.78	**
25.00	0	0.78	
28.00	0	0.78	
32.00	0	0.78	
36.00	0	0.78	
40.00	2	2.33	***
45.00	3	4.65	****
50.00	2	6.20	***
56.00	4	9.30	****
63.00	3	11.63	***
71.00	1	12.40	**
80.00	1	13.18	**
90.00	0	13.18	
100.00	1	13.95	*
125.00	6	18.60	*****
140.00	5	22.48	****
160.00	10	30.23	*****
180.00	12	39.53	*****
200.00	6	44.19	****
225.00	10	51.94	*****
250.00	5	55.81	****
280.00	9	62.79	*****
320.00	6	67.44	****
360.00	7	72.87	*****
99999.00	35	100.00	*****

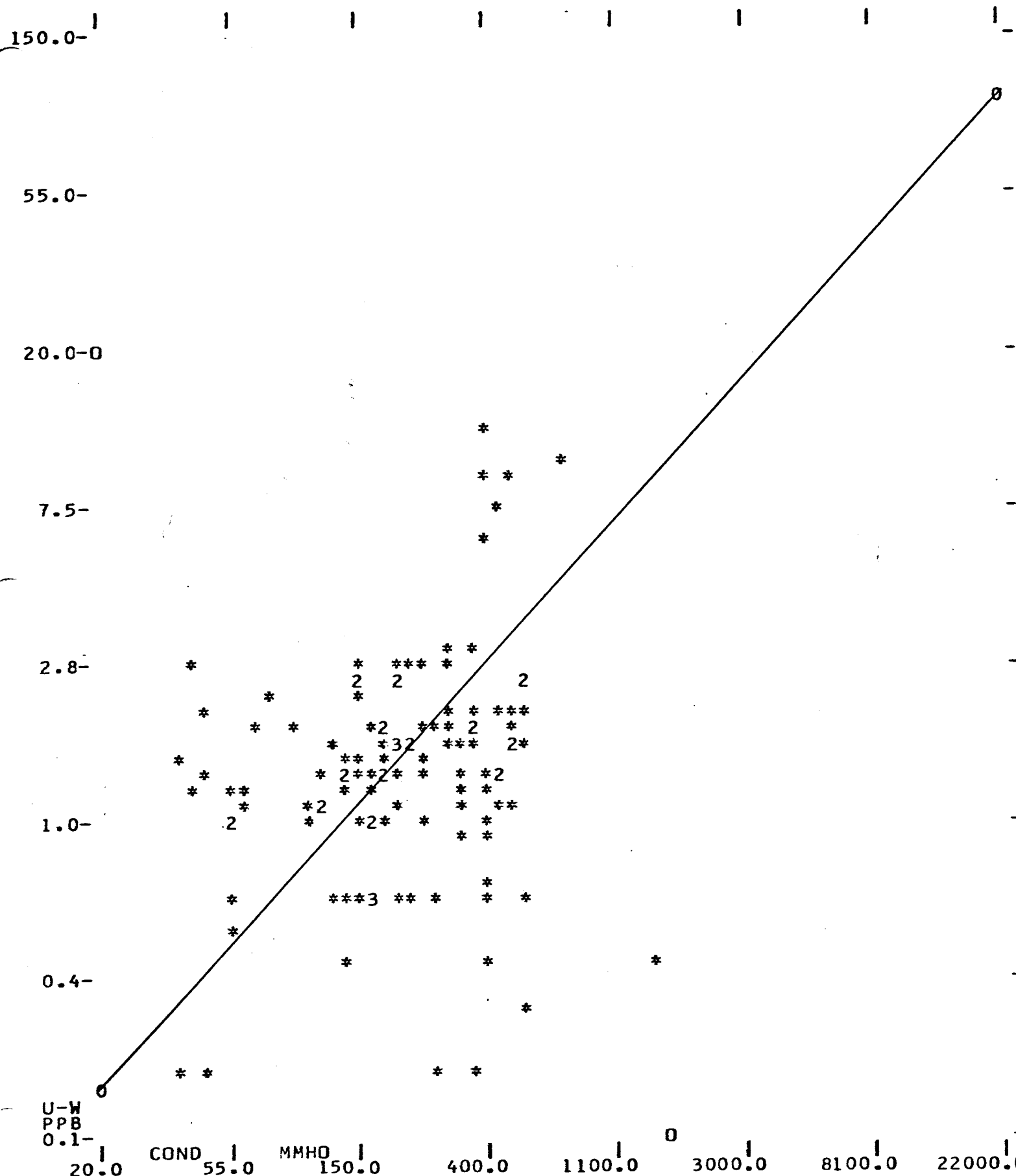
TOTAL SAMPLES= 129 VALUES < DETECTION = 0 RANGE= 20.0 TO 1540.0

AREA 16 FLOW SITE PRINIC 1978 GEOCHEMICAL SURVEY
SCATTERGRAM AND LINEAR REGRESSION OF U-W VS PH



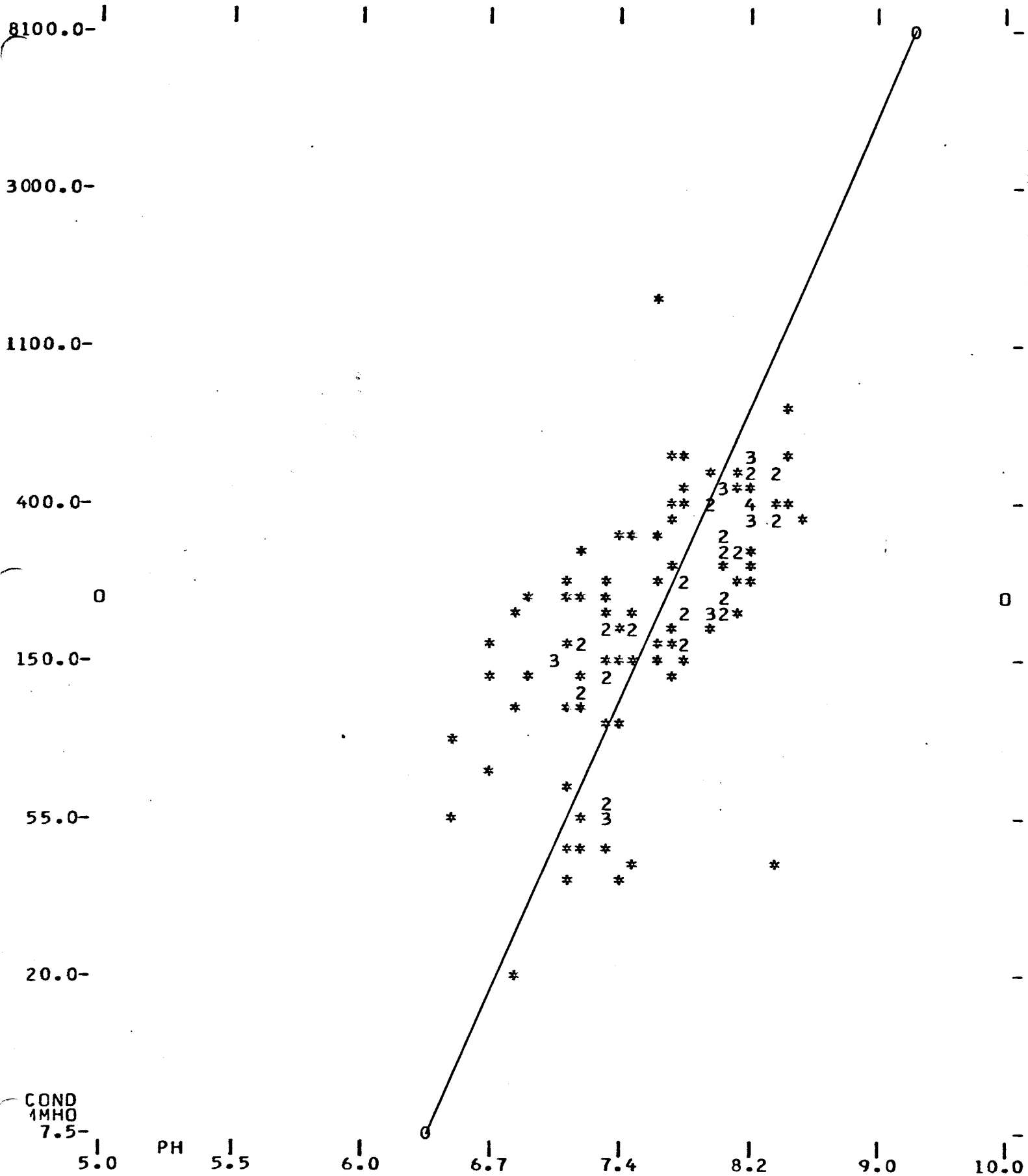
119 SETS USED--VALUES<DETECTION: 0 PH 9 U-W--COR COEF= 0.24--PREDICT 6%

AREA 16 FLOW SITE PRINIC 1978 GEOCHEMICAL SURVEY
SCATTERGRAM AND LINEAR REGRESSION OF U-W VS COND



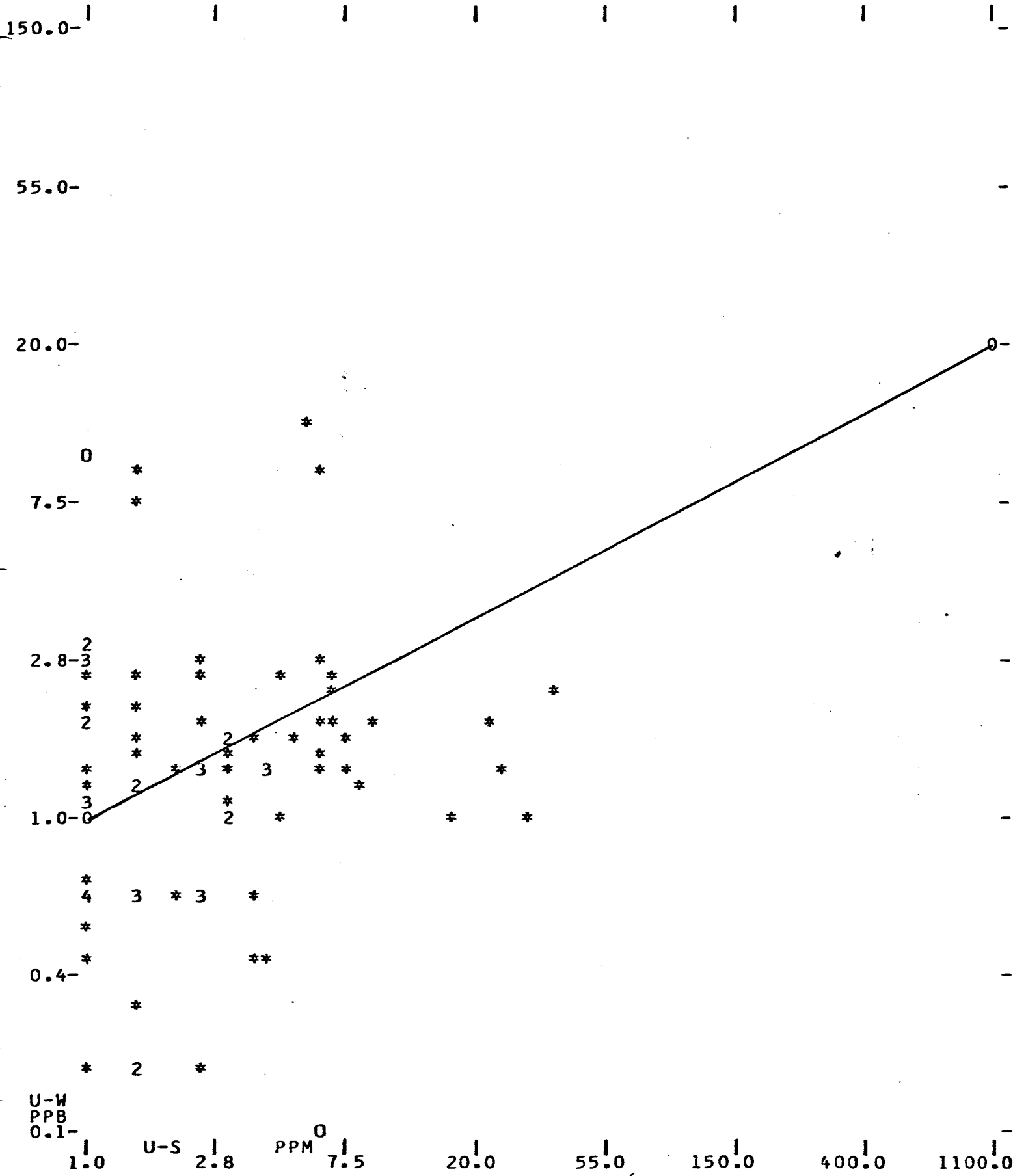
119 SETS USED--VALUES<DETECTION: 0 COND 9 U-W--COR COEF= 0.22--PREDICT 5%

AREA 16 FLOW SITE PRINIC 1978 GEOCHEMICAL SURVEY
SCATTERGRAM AND LINEAR REGRESSION OF COND VS PH



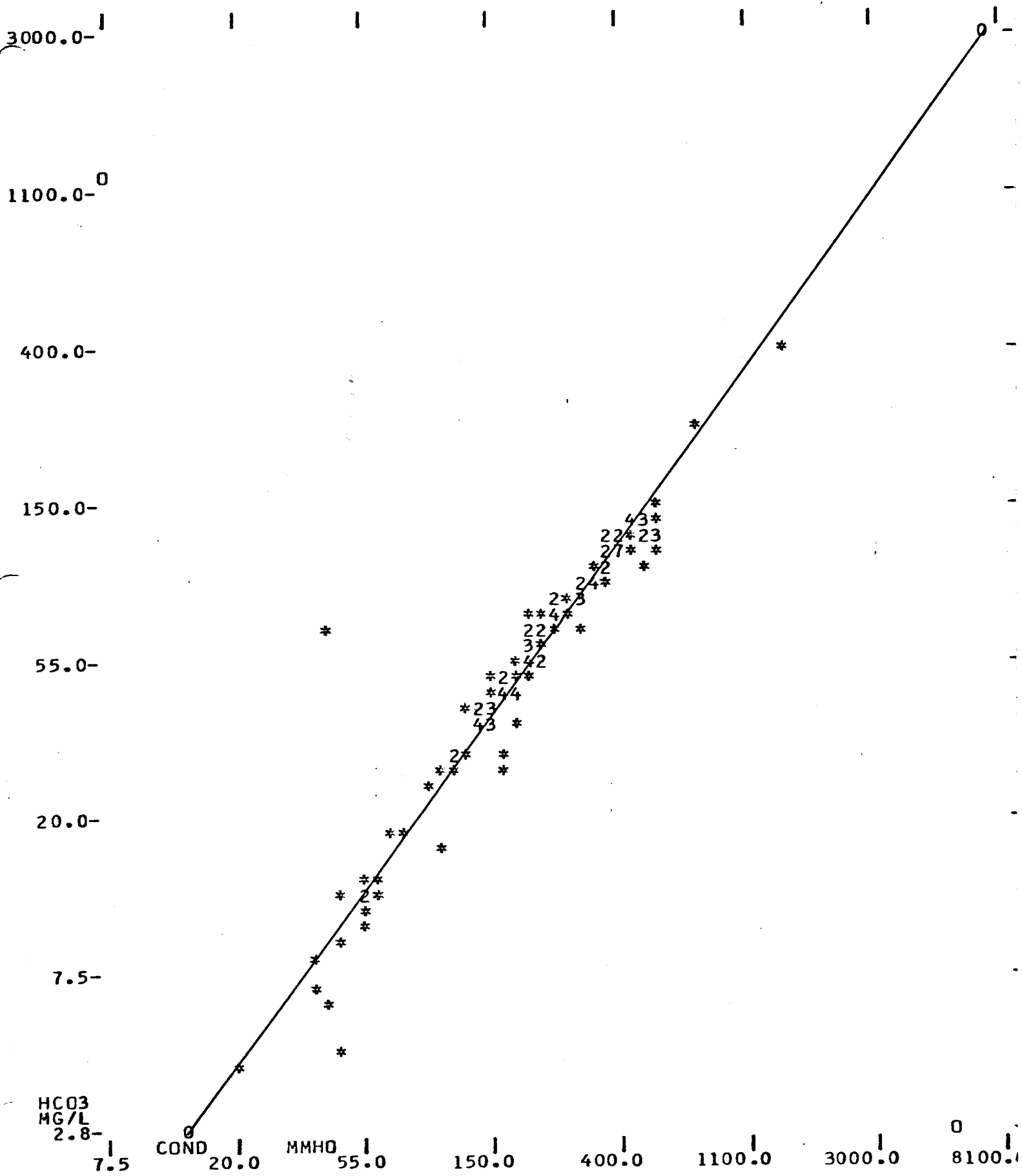
129 SETS USED--VALUES<DETECTION: 0 PH 0 COND--COR COEF= 0.65--PREDICT 42%

AREA 16 FLCW SITE PRINIC 1978 GEOCHEMICAL SURVEY
SCATTERGRAM AND LINEAR REGRESSION OF U-W VS U-S



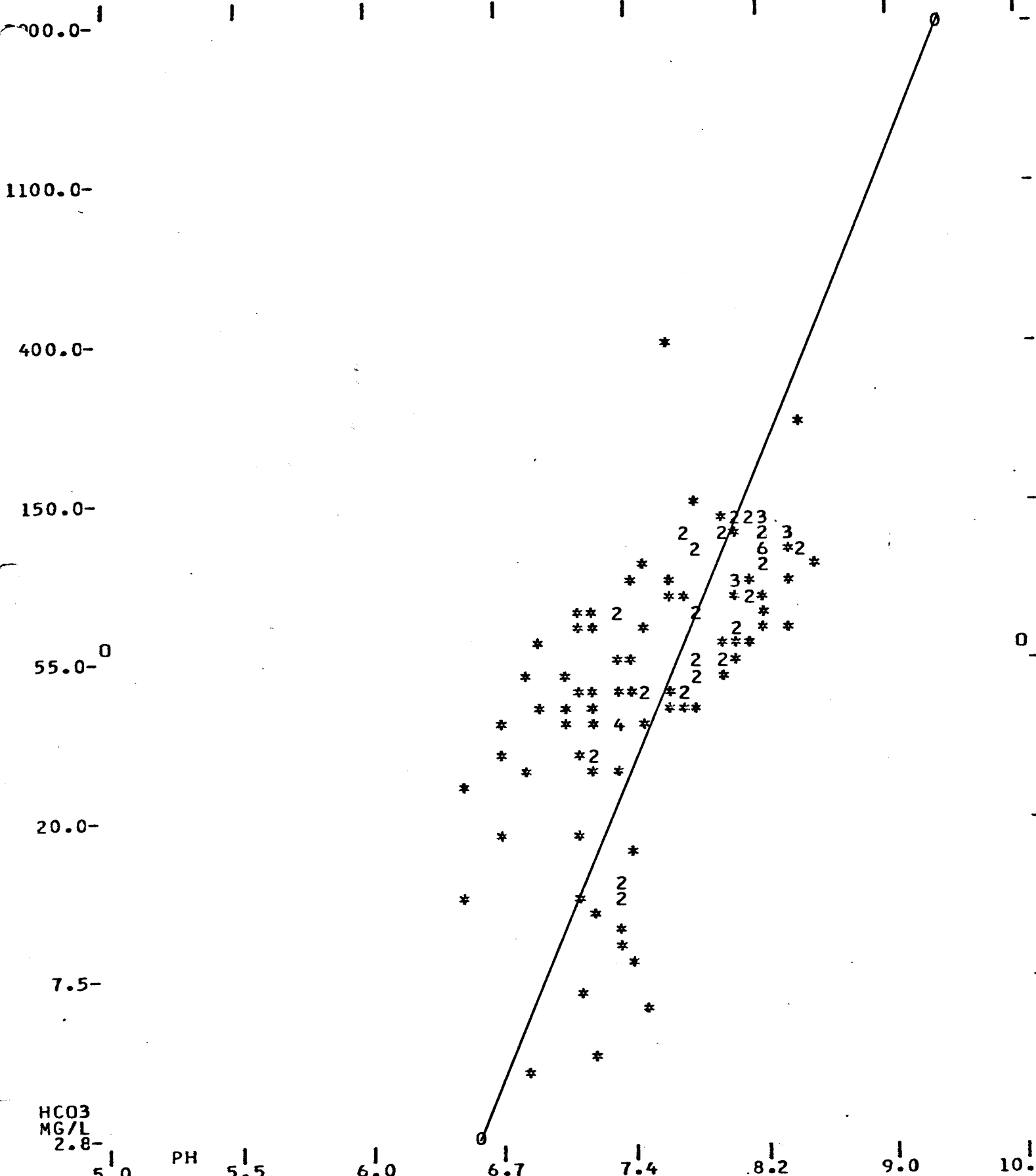
85 SETS USED--VALUES<DETECTION: 42 U-S 9 U-W--COR COEF= 0.19--PREDICT 4%

AREA 16 FLOW SITE PRINIC 1978 GEOCHEMICAL SURVEY
SCATTERGRAM AND LINEAR REGRESSION OF HCO3 VS COND



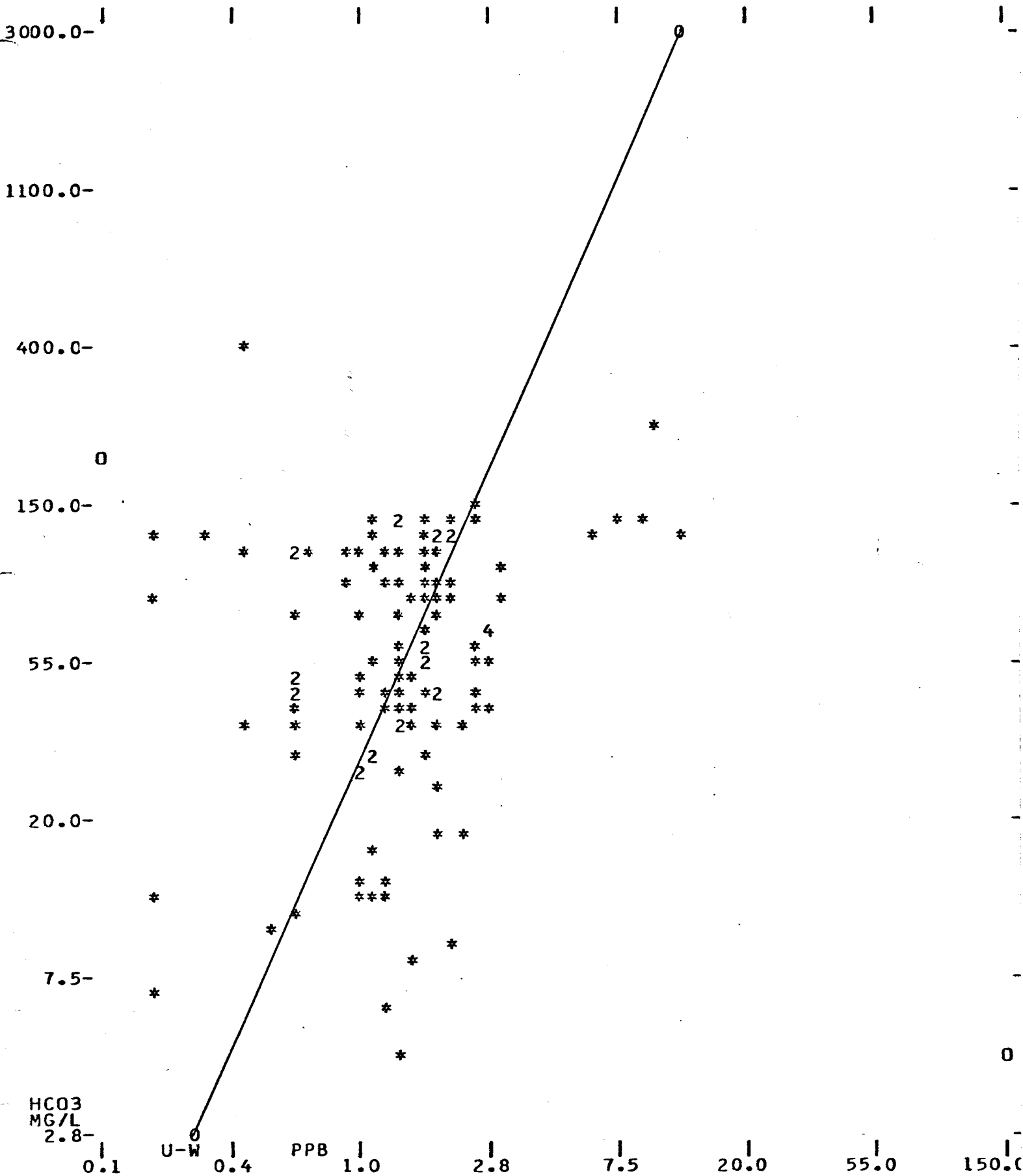
127 SETS USED--VALUES<DETECTION: 0 COND 0 HCO3--COR COEF= 0.95--PREDICT 92%

AREA 16 FLCW SITE PRINIC 1978 GEOCHEMICAL SURVEY
SCATTERGRAM AND LINEAR REGRESSION OF HCO3 VS PH



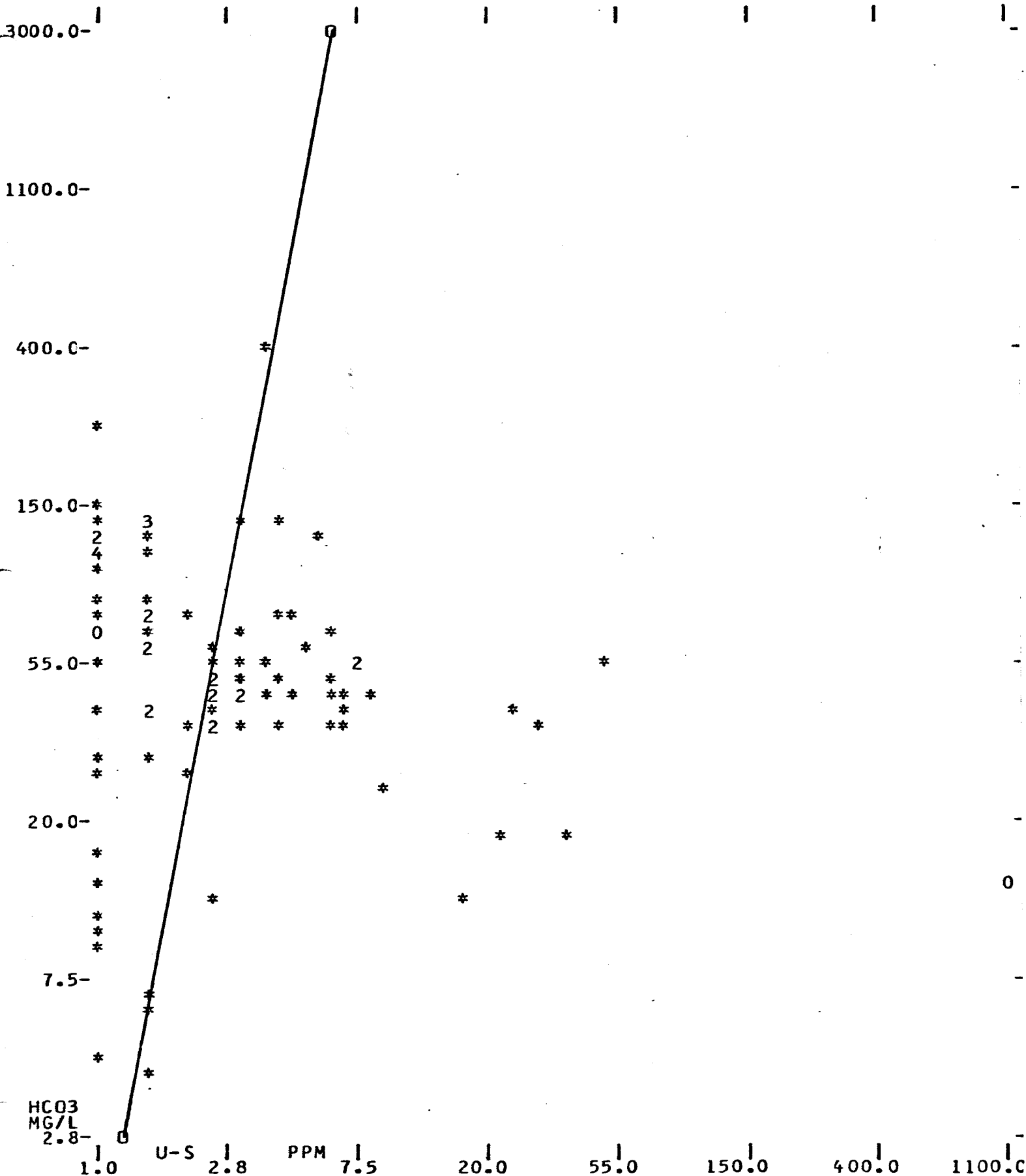
127 SETS USED--VALUES<DETECTION: 0 PH 0 HCO3--COR COEF= 0.67--PREDICT 45%

AREA 16 FLOW SITE PRINIC 1978 GEOCHEMICAL SURVEY
SCATTERGRAM AND LINEAR REGRESSION OF HCO3 VS U-W



117 SETS USED--VALUES<DETECTION: 9 U-W 0 HCO3--COR COEF= 0.24--PREDICT 6%

AREA 16 FLOW SITE PRINIC 1978 GEOCHEMICAL SURVEY SCATTERGRAM AND LINEAR REGRESSION OF HCO3 VS U-S



90 SETS USED--VALUES<DETECTION: 42 U-S 0 HCO3--COR COEF=-0.09--PREDICT 1%

PAGE 1

AREA 16 LAKE SITE ERINIC 1978 GEOCHEMICAL SURVEY

LIST OF VALUES AND THEIR RANK IN % FROM THE TOP

SAMPLE	U-SILT PPM	RANK %	U-WATER PPB	RANK %	FH %	RANK %	COND MMHO	RANK %	HCJ3 MG/L	RANK %
10401	1.5	100	0.6	100	7.2	50	181	62	53.2	62
10424	1.5	100	3.7	37	7.7	12	485	37	127.0	25
10444	9.0	12	5.0	12	7.3	37	500	12	129.0	12
10445	4.5	50	3.7	37	7.6	25	495	25	123.0	37
10483	2.0	75	1.5	62	6.5	100	56	100	15.0	100
10486	7.0	37	1.2	75	6.8	75	160	75	29.5	75
10501	7.0	37	3.0	50	6.7	87	85	87	19.5	87
10510	2.5	62	0.6	100	7.0	62	300	50	85.7	50
VALUES	8		8		8		8		8	

HEAVY MINERAL VALUES AND RANK IN % FROM THE TOP

SAMPLE	AG PPM	RANK %	AU PPB	RANK %	U-HM PPM	RANK %	W PPM	RANK %	SN PPM	RANK %
VALUES	0		0		0		0		0	

AFCA 15 LAKE SITE PRINIC 1978 GEOCHEMICAL SURVEY

STATISTICAL SUMMARY OF ALL SAMPLES

ELEMENT	AR.	MEAN	STD DEV	GECM	MEAN LN	DEV	RANGE		SMPLS	<DET LIM
							MIN	MAX		
U-S		4.4	2.9	3.5	2.1	1.5	9.0	8	0	
U-W		2.4	1.7	1.8	2.3	0.6	5.0	8	0	
PH		7.1	0.4	7.1	1.1	6.5	7.7	8	0	
COND		282.8	188.8	217.3	2.3	56.0	500.0	8	0	
HCO3		72.7	45.6	54.6	2.4	15.0	129.0	8	0	
AG		0.0	0.0	0.0	0.0	0.0	0.0	0	0	
AU		0.0	0.0	0.0	0.0	0.0	0.0	0	0	
U-HM		0.0	0.0	0.0	0.0	0.0	0.0	0	0	
W		0.0	0.0	0.0	0.0	0.0	0.0	0	0	
SN		0.0	0.0	0.0	0.0	0.0	0.0	0	0	

DEVIATIONS FROM MEANS : VALUES AND % FROM TOP OF GROUP

ELEMENT	MEAN-2 DEV		MEAN-1 DEV		MEAN		MEAN+1 DEV		MEAN+2 DEV		
	VALUE	%	VALUE	%	VALUE	%	VALUE	%	VALUE	%	
U-S	-1.5	0	1.4	100	4.4	50	7.3	12	10.3	0	ARITH
U-S	0.8	100	1.7	75	3.5	50	7.3	12	15.2	0	LOG
U-W	-0.9	0	0.8	75	2.4	50	4.1	12	5.7	0	ARITH
U-W	0.3	100	0.8	75	1.8	50	4.3	12	9.9	0	LOG
PH	6.2	100	6.7	87	7.1	50	7.5	25	8.0	0	ARITH
PH	6.3	100	6.7	87	7.1	50	7.5	25	8.0	0	LOG
COND	-94.8	0	94.0	75	282.8	50	471.5	37	660.3	0	ARITH
COND	40.3	100	93.6	75	217.3	50	504.5	0	1171.3	0	LOG
HCO3	-26.5	0	23.1	75	72.7	50	122.3	37	171.9	0	ARITH
HCO3	9.4	100	22.7	75	54.6	50	131.7	0	317.7	0	LOG
AG	-0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	ARITH
AG	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	LOG
AU	-0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	ARITH
AU	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	LOG
U-HM	-0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	ARITH
U-HM	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	LOG
W	-0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	ARITH
W	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	LOG
SN	-0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	ARITH
SN	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	LOG

ARFA 16 LAKE SITE PRINIC 1978 GEOCHEMICAL SURVEY

U-S HISTOGRAM AND CUMULATIVE FREQUENCY

INTERV PPM	SAMPLES	CUM FR %		
0.50	0	0.00		
1.50	0	0.00		
2.00	2	25.00	+	
2.50	1	37.50	+	
3.00	1	50.00	+	
3.50	0	50.00		+
4.00	0	50.00		+
4.50	0	50.00		+
5.00	1	62.50	+	
5.50	0	62.50		+
6.00	0	62.50		+
7.00	0	62.50		+
8.00	2	87.50	+	
9.00	0	87.50		+
10.00	1	100.00	+	
11.00	0	100.00		+
12.50	0	100.00		+
14.00	0	100.00		+
16.00	0	100.00		+
18.00	0	100.00		+
20.00	0	100.00		+
22.50	0	100.00		+
25.00	0	100.00		+
28.00	0	100.00		+
32.00	0	100.00		+
36.00	0	100.00		+
99999.00	0	100.00		+

TOTAL SAMPLES= 8 VALUES < DETECTION = 0 RANGE= 1.5 TO 9.0

APEA 16 LAKE SITE FRINIC 1978 G U CHEMICAL SURVEY

U-W HISTOGRAM AND CUMULATIVE FREQUENCY

INTERV PPB	SAMPLES	CUM FR %
0.20	0	0.00
0.60	0	0.00
0.80	2	25.00
1.00	0	25.00
1.20	0	25.00
1.60	2	50.00
2.00	0	50.00
2.50	0	50.00
3.20	1	62.50
4.00	2	87.50
5.00	0	87.50
6.30	1	100.00
8.00	0	100.00
10.00	0	100.00
12.50	0	100.00
16.00	0	100.00
20.00	0	100.00
25.00	0	100.00
32.00	0	100.00
40.00	0	100.00
50.00	0	100.00
63.00	0	100.00
80.00	0	100.00
100.00	0	100.00
125.00	0	100.00
160.00	0	100.00
99999.00	0	100.00

TOTAL SAMPLES= 8 VALUES < DETECTION = 0 RANGE= 0.6 TO 5.0

AREA 16 LAKE SITE PRINIC 1978 GEOCHEMICAL SURVEY

PH HISTOGRAM AND CUMULATIVE FREQUENCY

INTERV	SAMPLES	CUM FR %			
4.00	0	0.00			
6.50	0	0.00			
6.60	1	12.50	*****		
6.70	0	12.50			
6.80	1	25.00	*****		
6.90	1	37.50	*****		
7.00	0	37.50			
7.10	1	50.00	*****		
7.20	0	50.00			
7.30	1	62.50	*****		
7.40	1	75.00	*****		
7.50	0	75.00			
7.60	0	75.00			
7.70	1	87.50	*****		
7.80	1	100.00	*****		
7.90	0	100.00			
8.00	0	100.00			
8.10	0	100.00			
8.20	0	100.00			
8.30	0	100.00			
8.40	0	100.00			
8.50	0	100.00			
8.60	0	100.00			
8.70	0	100.00			
8.80	0	100.00			
8.90	0	100.00			
99999.00	0	100.00			

TOTAL SAMPLES= 8 VALUES < DETECTION = 0 RANGE= 6.5 TO 7.7

AREA 16 LAKE SITE PRINIC 1978 GEOCHEMICAL SURVEY
COND HISTOGRAM AND CUMULATIVE FREQUENCY

INTERV MMHO	SAMPLES	CUM FR %			
1.00	0	0.00			
56.00	0	0.00			
63.00	1	12.50	+		
71.00	0	12.50	+		
80.00	0	12.50	+		
90.00	1	25.00	+		
100.00	0	25.00	+		
125.00	0	25.00	+		
140.00	0	25.00	+		
160.00	0	25.00	+		
180.00	1	37.50	+		
200.00	1	50.00	+		
225.00	0	50.00	+		
250.00	0	50.00	+		
280.00	0	50.00	+		
320.00	1	62.50	+		
360.00	0	62.50	+		
400.00	0	62.50	+		
450.00	0	62.50	+		
500.00	2	87.50	+		
560.00	1	100.00	+		
630.00	0	100.00			+
710.00	0	100.00			+
800.00	0	100.00			+
900.00	0	100.00			+
1000.00	0	100.00			+
9999.00	0	100.00			+

TOTAL SAMPLES= 8 VALLES < DETECTION = 0 RANGE= 56.0 TO 500.0

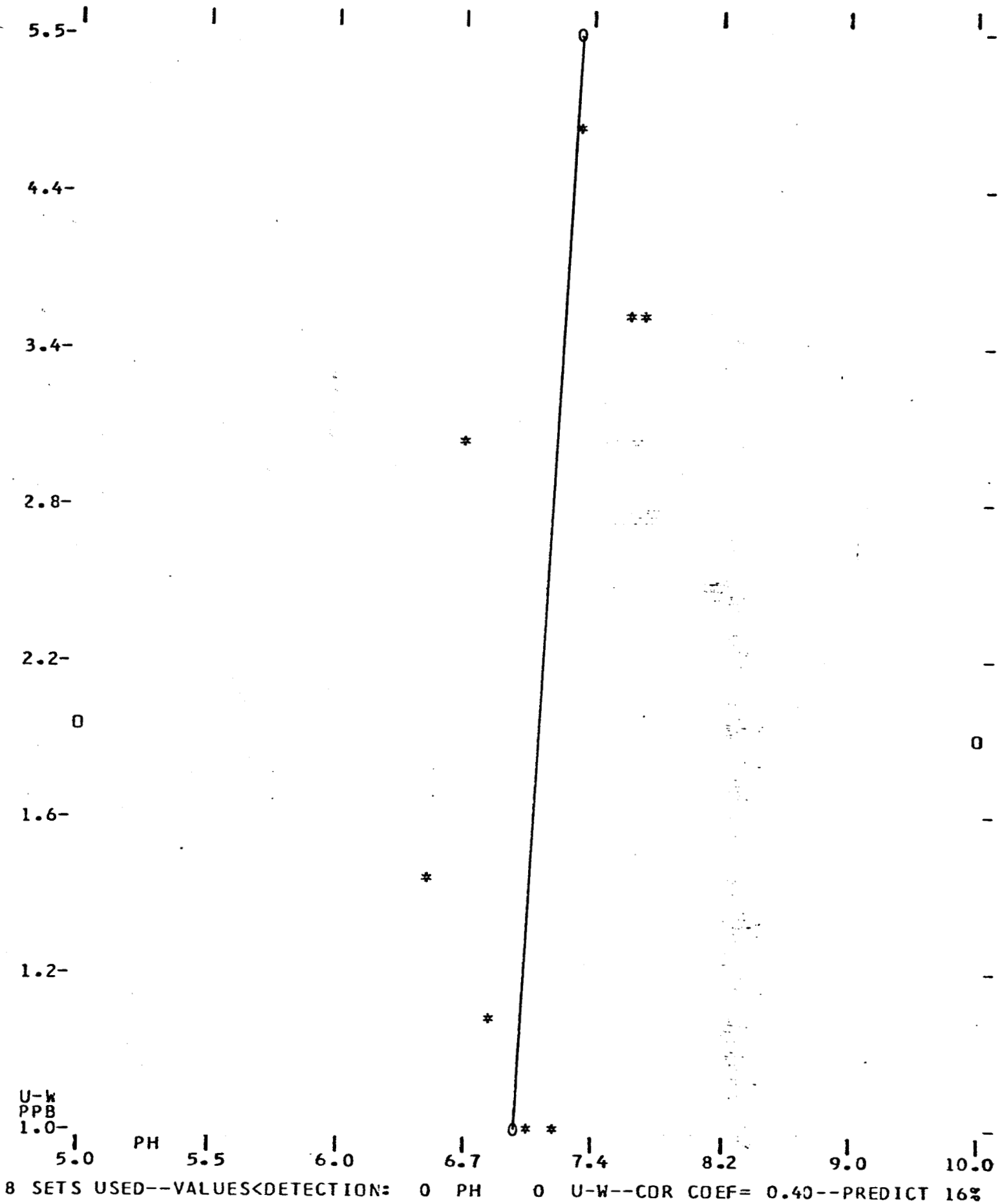
APEA 16 LAKE SITE PRINIC 1978 GEOCHEMICAL SURVEY

HCO3 HISTOGRAM AND CUMULATIVE FREQUENCY

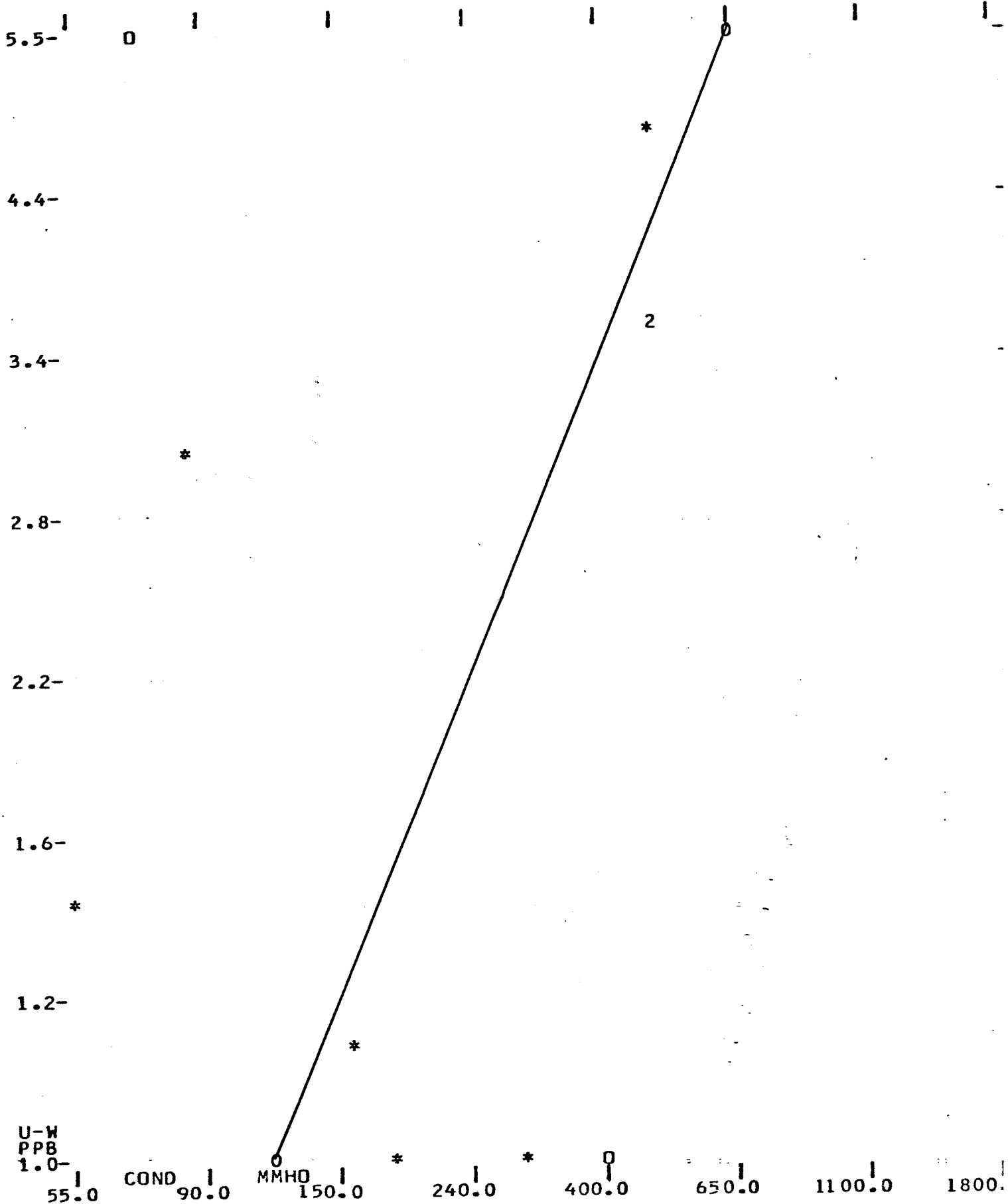
INTERV MG/L	SAMPLES	CUM FR %			
1.00	0	0.00			
14.00	0	0.00			
16.00	1	12.50	+		
18.00	0	12.50			
20.00	1	25.00	+		
22.00	0	25.00			
25.00	0	25.00			
28.00	0	25.00			
32.00	1	37.50	+		
35.00	0	37.50			
40.00	0	37.50			
45.00	0	37.50			
50.00	0	37.50			
56.00	1	50.00	+		
63.00	0	50.00			
71.00	0	50.00			
80.00	0	50.00			
90.00	1	62.50	+		
100.00	0	62.50			
112.00	0	62.50			
125.00	1	75.00	+		
140.00	2	100.00	+		
160.00	0	100.00			
180.00	0	100.00			
200.00	0	100.00			
225.00	0	100.00			
99999.00	0	100.00			

TOTAL SAMPLES= 8 VALUES < DETECTION = 0 RANGE= 15.0 TO 129.0

AREA 16 LAKE SITE PRINIC 1978 GEOCHEMICAL SURVEY
SCATTERGRAM AND LINEAR REGRESSION OF U-W VS PH

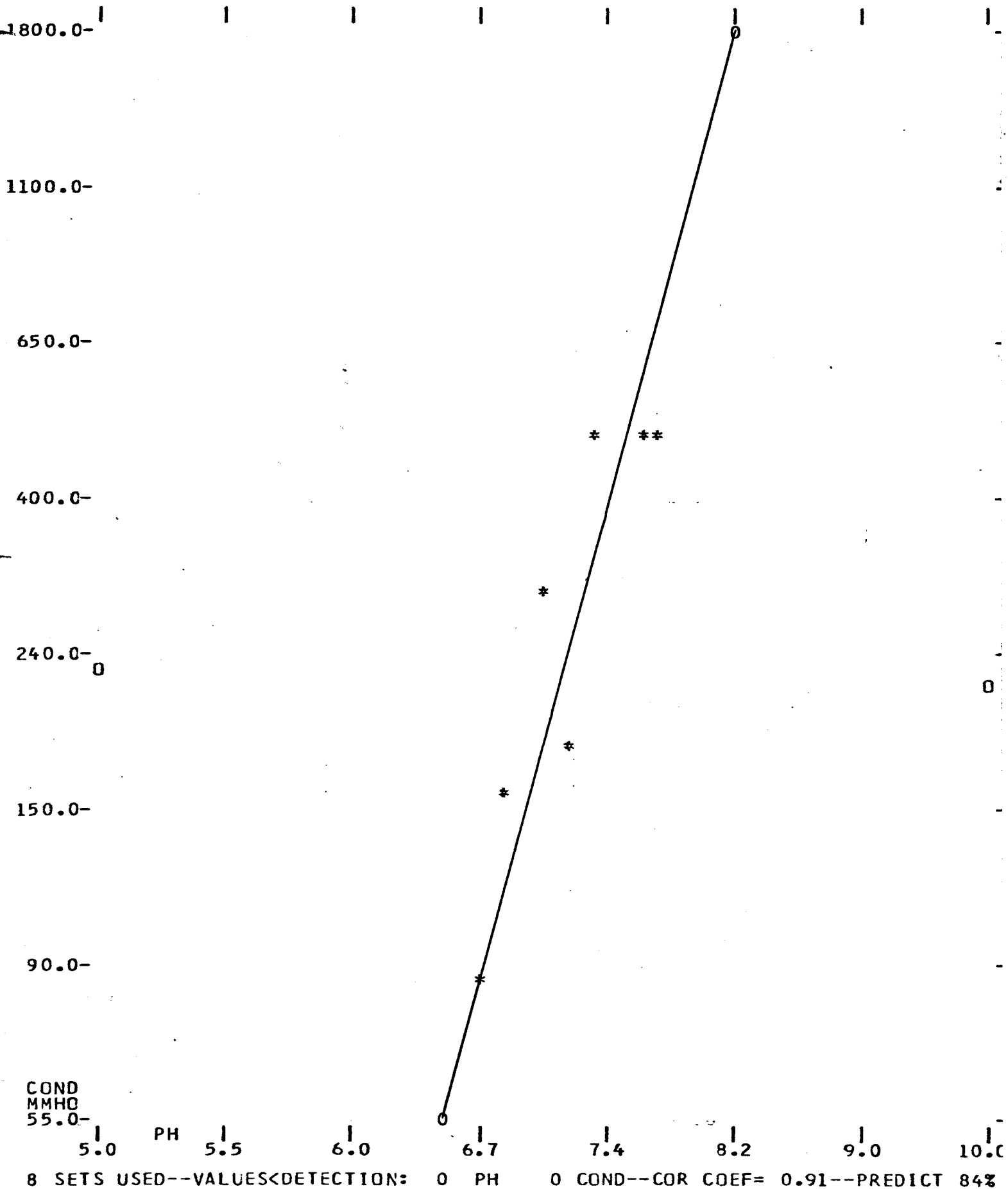


AREA 16 LAKE SITE PRINIC 1978 GEOCHEMICAL SURVEY
SCATTERGRAM AND LINEAR REGRESSION OF U-W VS COND

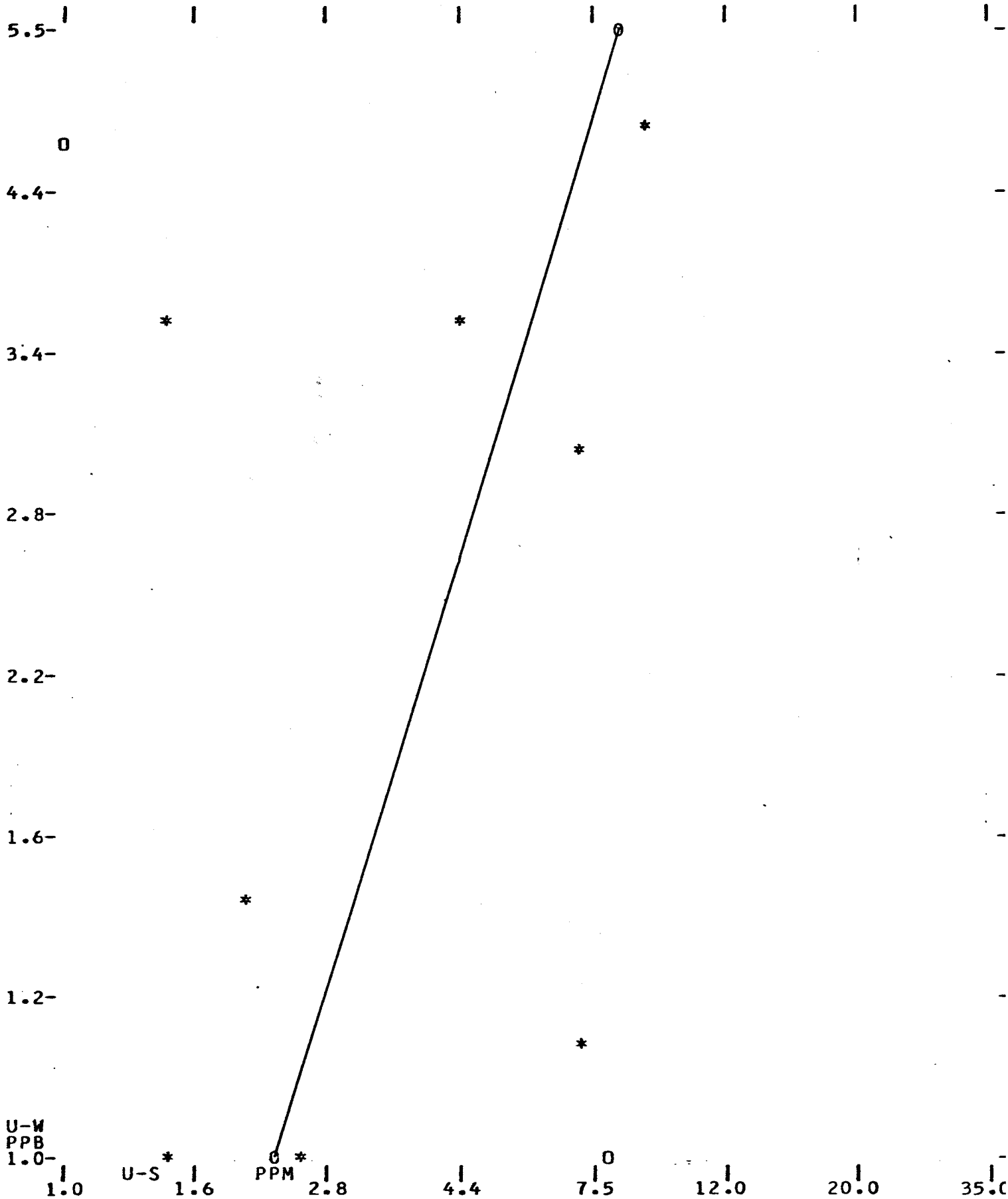


8 SETS USED--VALUES<DETECTION: 0 COND 0 U-W--COR COEF= 0.36--PREDICT 135

AREA 16 LAKE SITE PRINIC 1978 GEOCHEMICAL SURVEY
SCATTERGRAM AND LINEAR REGRESSION OF COND VS PH



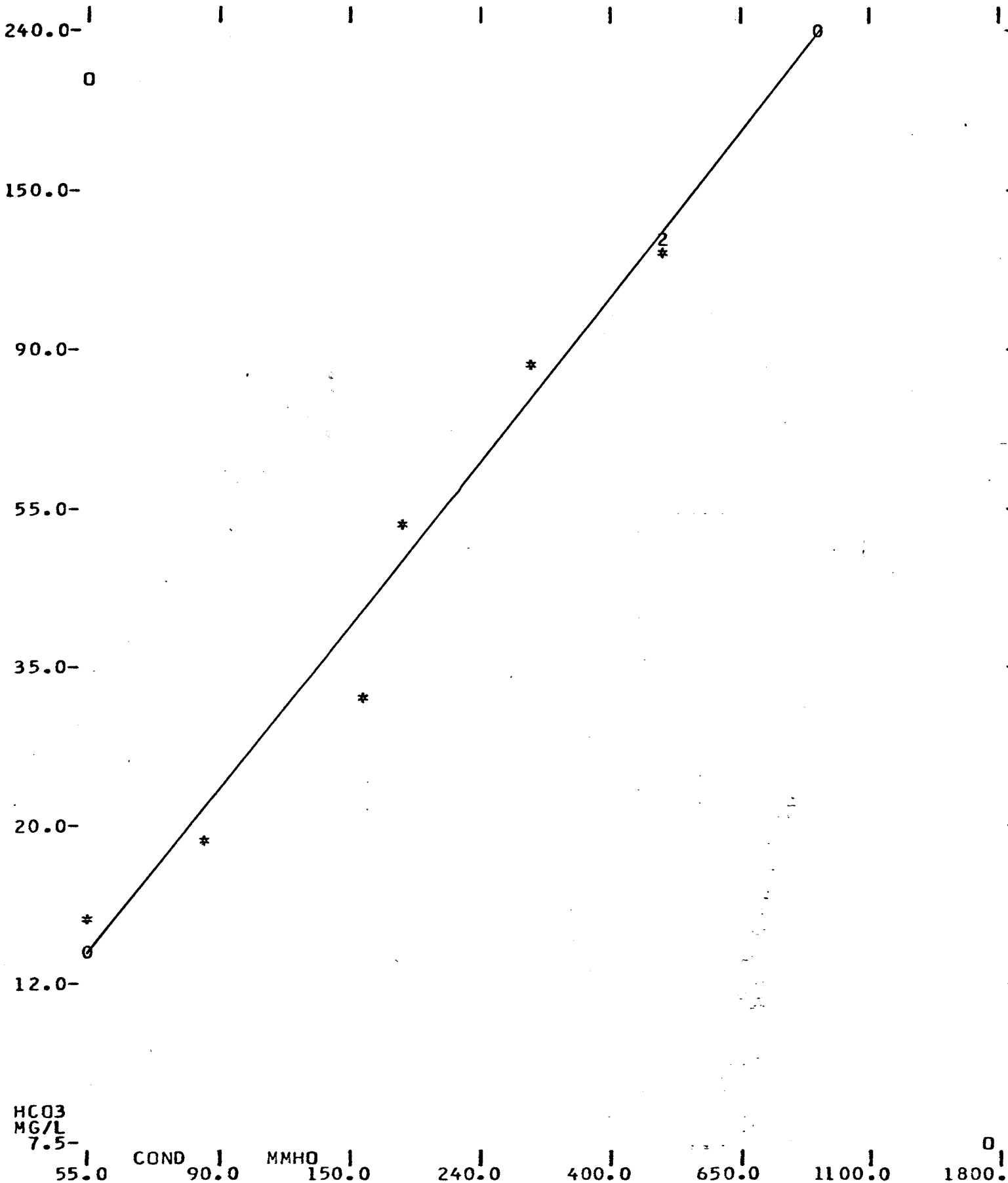
AREA 16 LAKE SITE PRINIC 1978 GEOCHEMICAL SURVEY
SCATTERGRAM AND LINEAR REGRESSION OF U-W VS U-S



U-W
PPB
1.0-
1.0 U-S * 1.6 PPM * 2.8 4.4 7.5 12.0 20.0 35.0

8 SETS USED--VALUES < DETECTION: 0 U-S 0 U-W--COR COEF= 0.47--PREDICT 22%

AREA 16 LAKE SITE PRINIC 1978 GEOCHEMICAL SURVEY
SCATTERGRAM AND LINEAR REGRESSION OF HCO3 VS COND



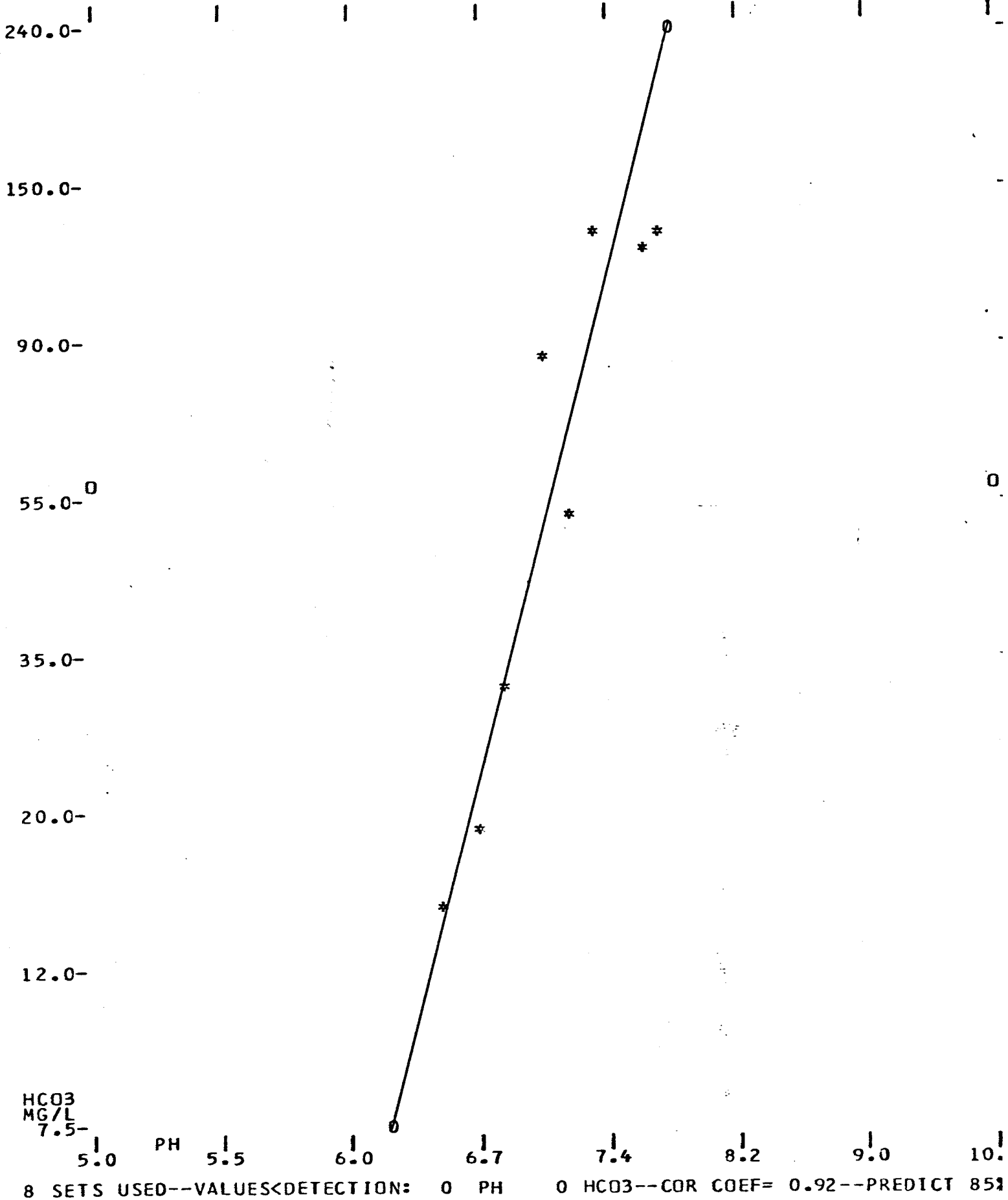
HCO3
MG/L
7.5-

COND

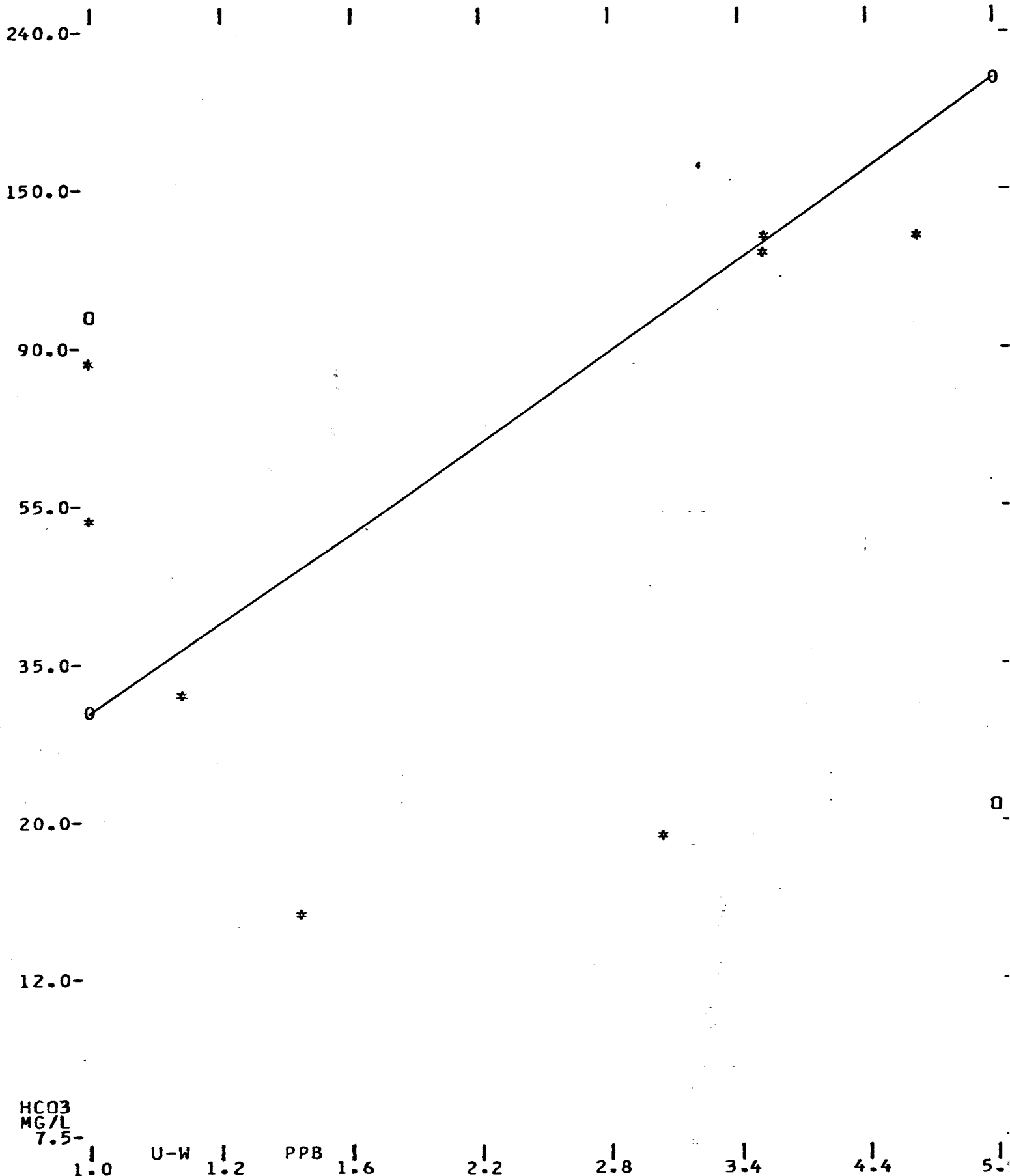
MMHO

8 SETS USED--VALUES<DETECTION: 0 COND 0 HCO3--COR COEF= 0.99--PREDICT 97%

AREA 16 LAKE SITE PRINIC 1978 GEOCHEMICAL SURVEY
SCATTERGRAM AND LINEAR REGRESSION OF HCO3 VS PH



AREA 16 LAKE SITE PRINIC 1978 GEOCHEMICAL SURVEY
SCATTERGRAM AND LINEAR REGRESSION OF HCO3 VS U-W

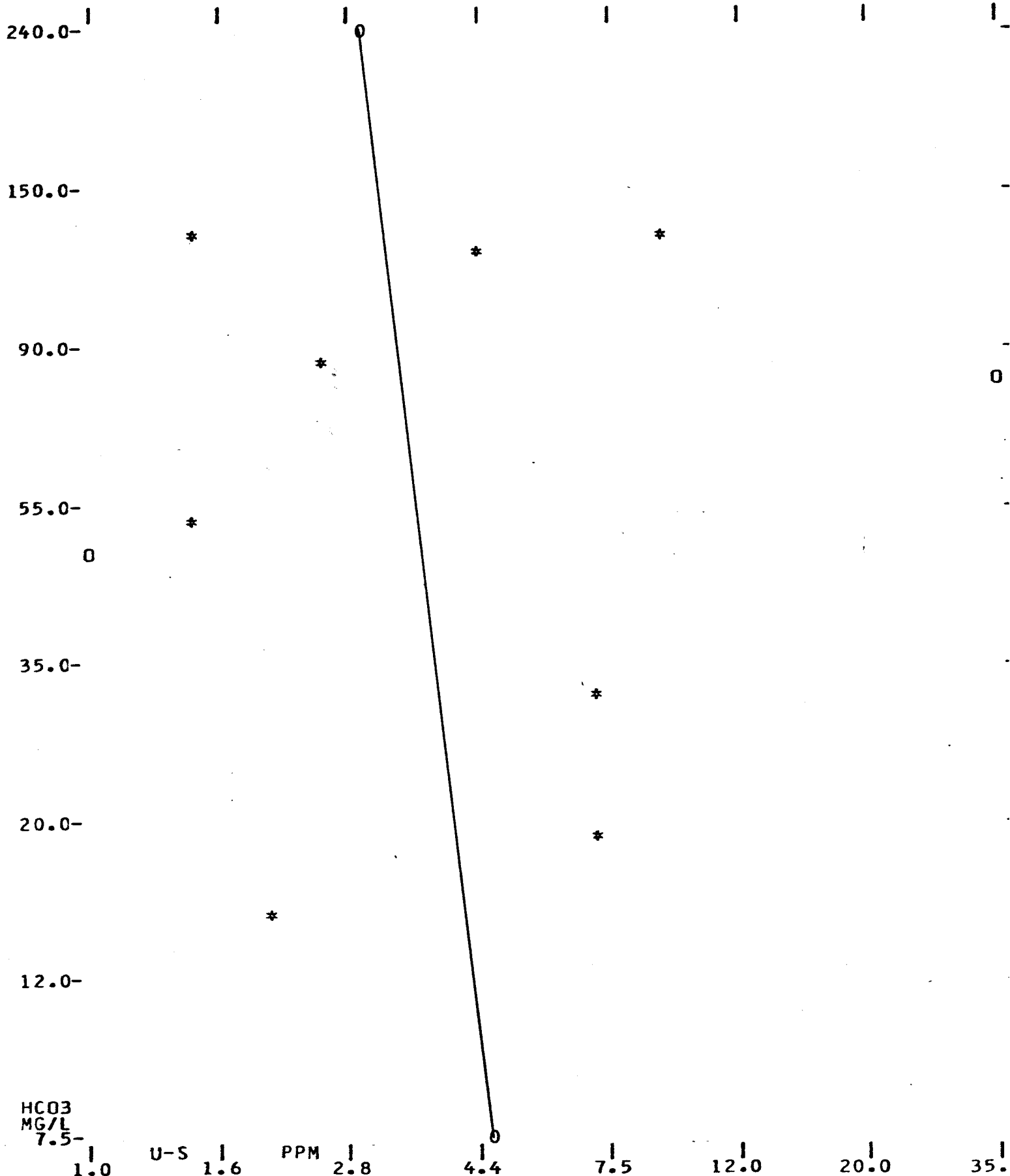


HCO3
MG/L
7.5-

1.0 U-W 1.2 PPB 1.6 2.2 2.8 3.4 4.4 5.0

8 SETS USED--VALUES<DETECTION: 0 U-W 0 HCO3--COR COEF= 0.30--PREDICT 9%

AREA 16 LAKE SITE PRINIC 1978 GEOCHEMICAL SURVEY
SCATTERGRAM AND LINEAR REGRESSION OF HCO3 VS U-S



HCO3
MG/L
7.5-

8 SETS USED--VALUES<DETECTION: 0 U-S 0 HCO3--COR COEF=-0.05--PREDICT 0%

APPENDIX 3

GUIDE TO THE STATISTICAL REPORT

1. LIST OF VALUES AND RANK.

The Sample Number is followed by the measured analytical value and % Rank for each element or parameter. For measured values below the detection limit, the assigned value is 1/2 of the detection limit. A - sign indicates that no analytical value is available. The number of samples with values for a given element is given at the end of the table.

The Rank specifies the position of the corresponding measured value in a sequence from the highest to the lowest values; it is given in % of the number of values for that element to the nearest integer. For example if there are 55 samples, all values below detection are ranked 100 (there are no lower values). The highest value is ranked 2 (1 sample is 2% of 55). Missing values are given 0 rank.

2. STATISTICAL SUMMARY TABLE.

For Element E with N values

a) AR (Arithmetic) MEAN: $MA = \bar{E} = \frac{1}{N} \sum E$

b) STD DEV (Standard Deviation): $SD = \sqrt{\frac{1}{N-1} \sum (E - \bar{E})^2}$

c) GEOM (Geometric) MEAN: $MG = \text{Exp} \left[\frac{1}{N} \sum \ln (E) \right]$

d) LN DEV (Deviation of the Logarithms):

$$LD = \text{Exp} \left[\sqrt{\frac{1}{N-1} \sum [(\ln(E) - \ln(MG))]^2} \right]$$

In the formulas ln indicates the Natural Logarithm, Exp the exponential function.

The Geometric Mean and Logarithmic Deviation are expressed in the same measuring units as the corresponding arithmetic parameters.

- e) The RANGE gives the Minimum and Maximum values
- f) SMPLS is the total number of samples with values for the element (including below detection)
- g) < DET LIM indicates how many of the sample values are below the detection limit.

3. DEVIATIONS FROM THE MEANS.

The table gives the VALUE of the MEAN and at 1 and 2 deviations below and above the mean. The % indicates the RANK of such value, or what percentage of the measured values would be above it. The deviations are given for both the Arithmetic (ARITH) and Logarithmic (LOG) parameters. All Values are expressed in the same measuring units.

Example. Given MA = 10.0 ppm
 SD = 15.0 ppm
 MG = 7.0 ln (MG) = 1.95
 LD = 2.0 ln (LD) = 0.69

For Mean + 2 DEV

ARITH - VALUE is $10 + 2 \times 15 = 40$ ppm

LOG - VALUE is $\text{Exp} \left[\ln (\text{MG}) + 2 \times \ln (\text{LD}) \right] = \text{Exp} (3.33) = 28$ ppm

The LOG value could also be computed directly in true units:

$$V = \text{MG} \times (\text{LD})^2 = 7 \times 4 = 28$$

4. HISTOGRAM AND CUMULATIVE FREQUENCY.

The INTERVAL limits values, the number of SAMPLES in each interval and the Cumulative Frequency are printed. The scaled Bar Diagram (****) illustrate the number of samples in the interval.

The + plots the Cumulative Frequency Curve, rising to 100% at the right. The Number of Samples, the number below the detection limit and the Minimum and Maximum values are shown in the last line.

5. CORRELATION COEFFICIENTS.

The table consists of cells for pairs of elements. In each cell the first value is the Linear Correlation Coefficient for the pair. The second line is the range of the level of significance; it indicates the % probability that the correlation is due to causes other than random measuring errors and is computed by a modified Student-t test at the 50, 60, 80, 90, 95 and 99% levels.

A 0-50 range means that there is better than 50% chance that the correlation is caused by random errors.

A 99-** range means that there is less than 1% probability that errors cause the correlation, or that there is better than 99% certainty that the coefficient reflects the true behaviour of the data.

The third value in the cell indicates the number of samples in the pair, including values below detection.

For N pairs of elements X and Y with means \bar{X} and \bar{Y} and deviations sX and sY, the correlation coefficient R is

$$R = \frac{\sum XY - N \bar{X} \bar{Y}}{N \cdot sX \cdot sY}$$

6. SCATTERGRAM AND LINEAR REGRESSION.

For selected pairs of elements the values are plotted in the scattergram using logarithmic scales on both axes; the labels are in true measuring units. An * indicates one occurrence of a pair of values, a 2 is for two pairs at the same position, 3 for three pairs, etc. up to 9. For ten or more pairs a + is used.

The linear regression is computed assuming errors in both elements, thus the fit minimizes the sum of the distances from the occurrences to the regression line.

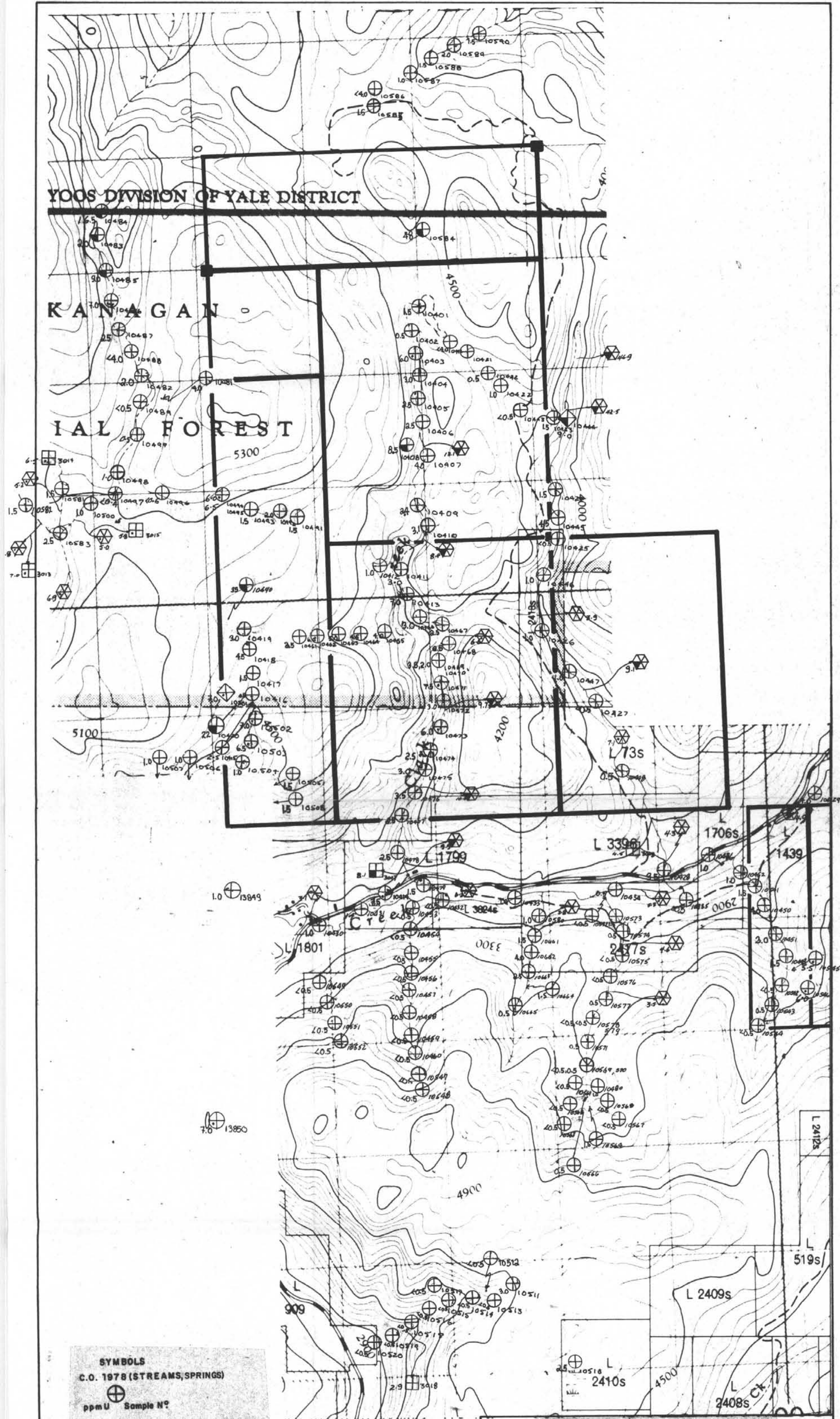
Two possible fits result, the more logical being shown by the regression line.

The last line in the page specifies the number of sets of pairs plotted; the additional number of values for each element below the detection limit (not plotted), the linear correlation coefficient for the plotted values and the percentage of the values which can be predicted from the correlation.

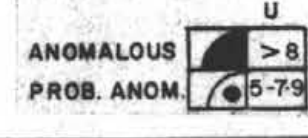
YOOS DIVISION OF YALE DISTRICT

KANAGAN

IAL FOREST



- SYMBOLS**
- C.O. 1978 (STREAMS, SPRINGS)
ppm U Sample N°
 - C.O. 1978 (LAKES, SWAMPS)
ppm U Sample N°
 - G.S.C. CURPJ 1976
ppm U Sample N°
 - C.O. PRINCETON/NICKY 1973, 1974
ppm U



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
7305
NO.

CANADIAN OCCIDENTAL PETROLEUM LTD
MINERALS DIVISION

PROJECT PRINIC
SOUTHERN BRITISH COLUMBIA
AREA 16

SEDIMENT GEOCHEMISTRY

CLARK CLAIMS

Scale 1:25,000
N.T.S. 82-E/5

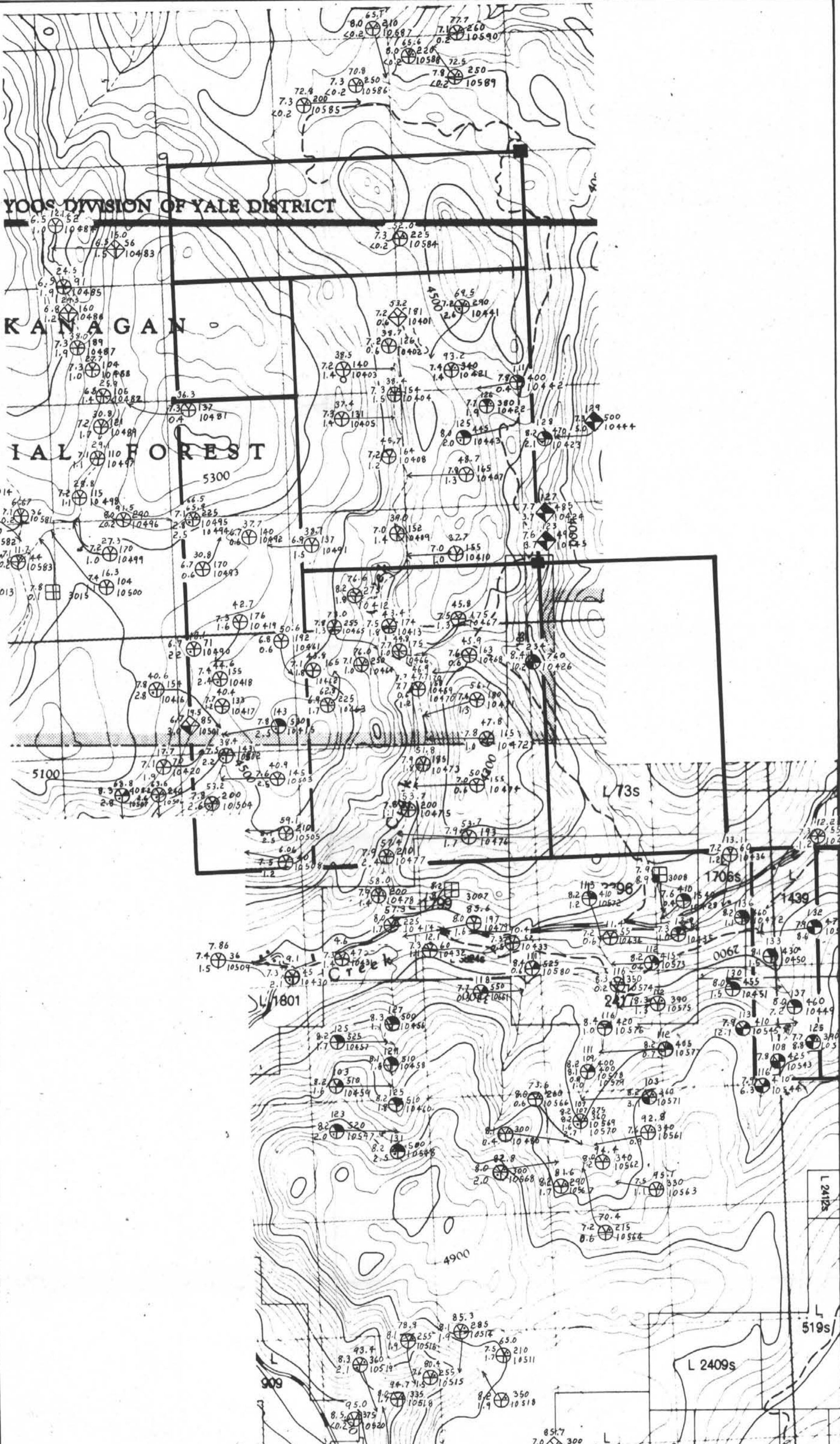
September 1978

PLAN 7A

YOOS DIVISION OF YALE DISTRICT

KANAGAN

YALE FOREST



SYMBOLS

C.O. 1978 (STREAMS, SPRINGS)

pH S.C.

pH HCO₃ S.C.

ppbU Sample N°

ppbU Sample N°

C.O. 1978 (LAKES, SWAMPS)

pH S.C.

pH HCO₃ S.C.

ppb U Sample N°

ppbU Sample N°

G.S.C. [URPJ 1976

pH

ppbU Sample N°

HCO₃ in mg/l

S.C. in μmhos

MINERAL RESOURCES BRANCH

ASSESSMENT REPORT

7305
NO.

ANOMALOUS
PROB. ANOM.
THRESHOLD

	U	S.C.	HCO ₃
ANOMALOUS	> 3	> 400	> 120
PROB. ANOM.	2-2.9	200-300	-
THRESHOLD	-	-	-

CANADIAN OCCIDENTAL PETROLEUM LTD
MINERALS DIVISION

PROJECT PRINIC

SOUTHERN BRITISH COLUMBIA

AREA 16

WATER GEOCHEMISTRY

CLARK CLAIMS

Scale 1:25,000

N.T.S. 82-E/5

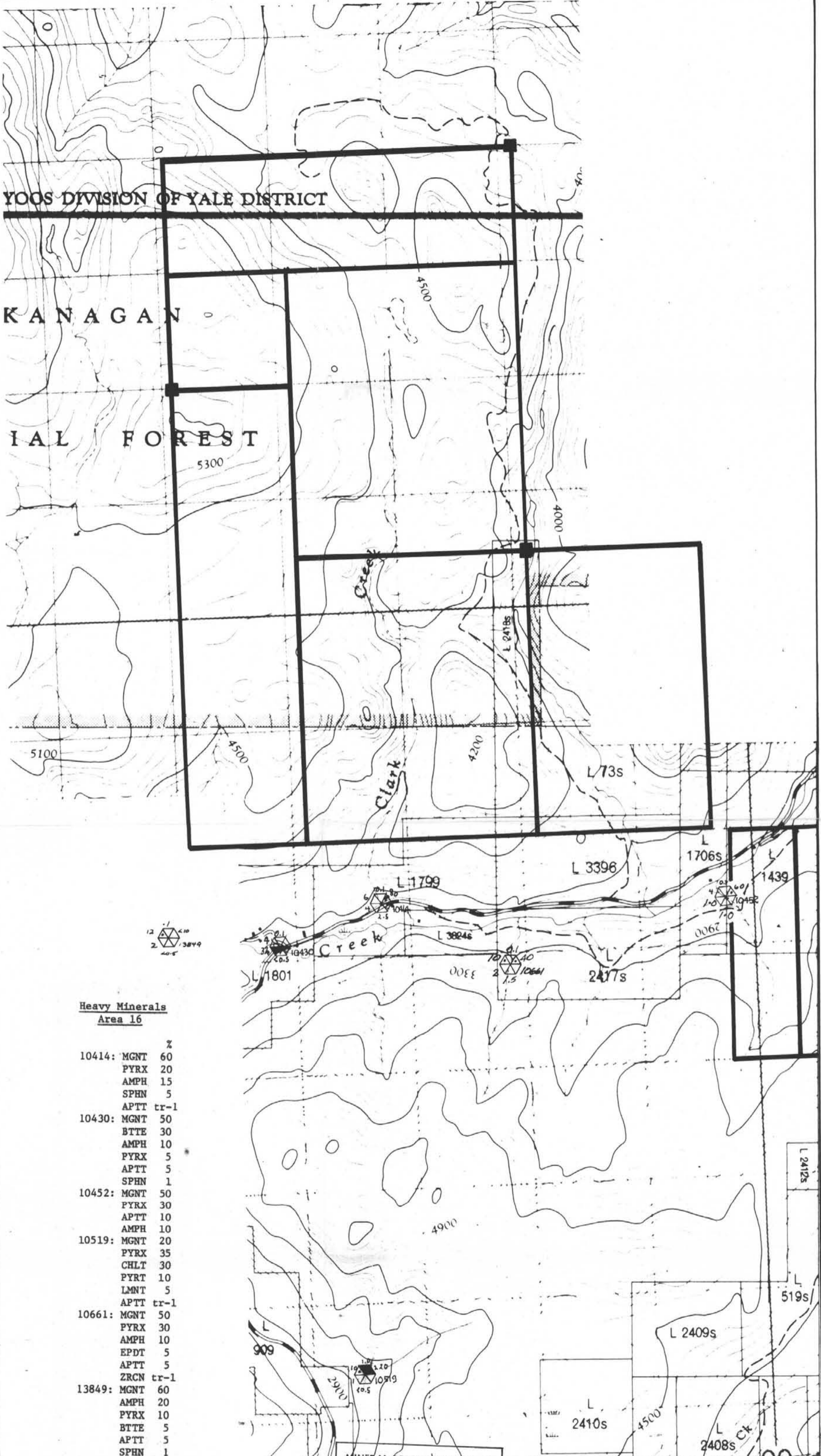
September 1978

PLAN 7B

YOOS DIVISION OF YALE DISTRICT

KANAGAN

IAL FOREST



**Heavy Minerals
Area 16**

Sample No.	MGNT	PYRX	AMPH	SPHN	APTT	ZRCN	CHLT	PYRT	LMNT	BTTE
10414:	60	20	15	5	tr-1					
10430:	50	30	10	5	tr-1					
10452:	50	30	10	1	tr-1					
10519:	20	35	30	10	tr-1					
10661:	50	30	10	5	tr-1					
13849:	60	20	10	5	tr-1					

SYMBOLS
C.O. 1978

ppm Ag
ppm W Δ ppb Au
ppm Sn ∇ Sample No.
ppm U

	U	Sn	W	Ag	Au
ANOMALOUS	-	>30	-	>1	>200
PROB. ANOM.	-	-	10-12	-	40-200
THRESHOLD	-	-	-	-	-

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

7305
NO.

CANADIAN OCCIDENTAL PETROLEUM LTD
MINERALS DIVISION

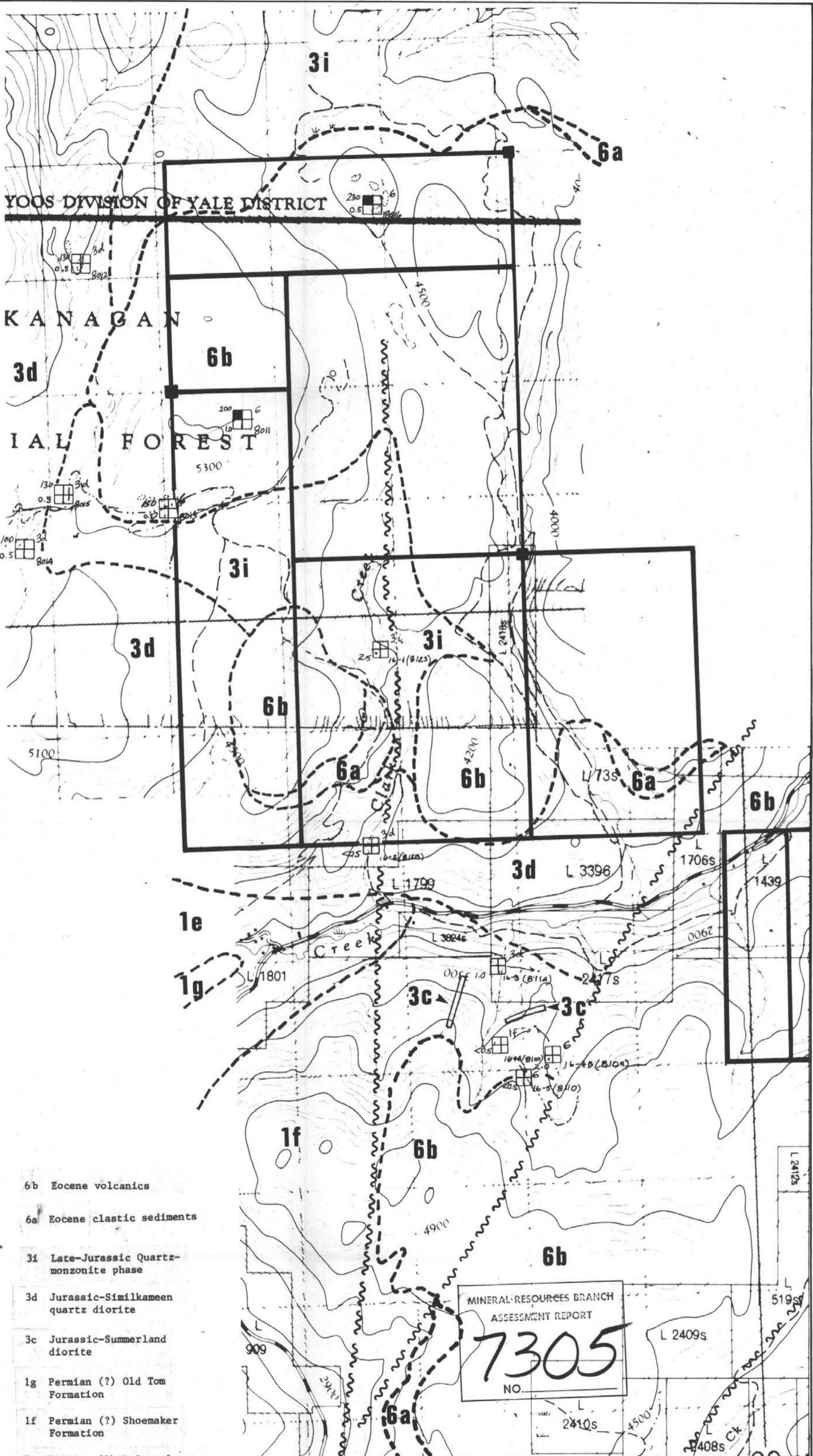
PROJECT PRINIC
SOUTHERN BRITISH COLUMBIA
AREA 16

HEAVY MINERAL GEOCHEMISTRY
CLARK CLAIMS

Scale 1:25,000
N.T.S. 82-E/5

September 1978

PLAN 7C



YOOS DIVISION OF YALE DISTRICT

KANAGAN

IAL FOREST

- 6b Eocene volcanics
- 6a Eocene clastic sediments
- 3i Late-Jurassic Quartz-monzonite phase
- 3d Jurassic-Similkameen quartz diorite
- 3c Jurassic-Summerland diorite
- 1g Permian (?) Old Tom Formation
- 1f Permian (?) Shoemaker Formation
- 1e Permian (?) Independence Formation

SYMBOLS
C.O. 1978

Scintillometer (cps) Rock Unit
ppmU Sample No.

	U Scint.
ANOMALOUS	>200
PROB. ANOM.	2-25
THRESHOLD	-



— DYKES

~ ~ ~ FAULTS

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
7305
NO.

CANADIAN OCCIDENTAL PETROLEUM LTD
MINERALS DIVISION

PROJECT PRINIC
SOUTHERN BRITISH COLUMBIA
AREA 16

GEOLOGY & ROCK GEOCHEMISTRY

CLARK CLAIMS

Scale 1:25,000
N.T.S. 82-E/5

September 1978

PLAN 7D