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CLIFF 1, 2, 3, 4
CLAIMS
(4836, 4837, 4838, 4839)
LIARD MINING DIVISION
PROSPECTING REPORT
OCTOBER, 1989

FILMED

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

19,204

Latitude : 57° 02'
Longitude: 131° 25'

Paul W. Jones
CORONA CORPORATION

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MAPS

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Compilation Map 1 - 1:25,000

CONCLUSIONS

The claims cover Triassic Stuhini Group volcanics and sediments. A fault which Sphaler Creek follows divides the volcanics to the north and sediments to the south. The presence of shear zones within the mafic, chlorite-altered volcanics returned some anomalous copper values. These shears contained sulphides which included disseminations and blebs of pyrite and chalcopyrite.

RECOMMENDATIONS

The lower slopes on the north side of Sphaler Creek, although wood-covered, are extremely steep which makes exploration along them almost impossible. The claim group contains Stuhini volcanics which locally are favourable rocks for hosting deposits, but limited encouragement was obtained during the first pass. As a final attempt to cover the claim area a geochemical stream sampling program including heavy mineral, silt and moss matt samples should be undertaken. The optimal time to complete this survey would be in the fall.

INTRODUCTION

The **Cliff A** claim group includes the four 20-unit **Cliff 1** (4836), **Cliff 2** (4837), **Cliff 3** (4838) and **Cliff 4** (4889) claims. They were staked from July 6, 1988 to July 9, 1988 by a contractor for **Lacana Ex. (1981) Inc.**, a subsidiary of **Corona Corporation**. They are located on Sphaler Creek, 8 km from its confluence with the Porcupine River. The claims lie just to the east of the contact of the Coast Plutonic Complex and the Intermontane Belt. Access is via helicopter from the Scud airstrip located at the

confluence of the Scud and Stikine Rivers or the Galore Creek airstrip located 10 km to the north.

A major prospecting program was undertaken during August 1988. This program was based on the Scud airstrip. During 5 1/2 man-days, 47 samples were collected. The cost of this exploration amounted to \$9,399.00 CDN. A regional government stream silt geochemical survey released in June of 1988, collected six samples from the claim area.

PROPERTY LOCATION



 CORONA CORPORATION

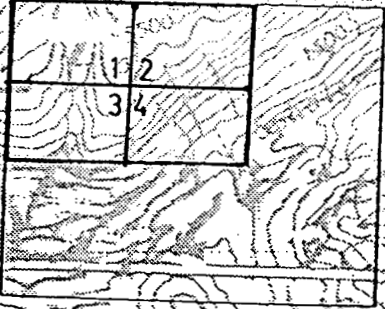
CLIFF PROPERTY LOCATION MAP

DATE: Jul./1989 SCALE: DRAWING No. Fig. 1

TELEGRAPH CREEK

93 km

SPHAL



CLIFF
1,2,3,4

SCUD AIRSTRIP


48 km



Scale 1:150 000

0 2 4 6km

Scale

 CORONA CORPORATION

**CLIFF PROPERTY
CLAIM LOCATION MAP**

DATE: Jul./1989

SCALE: 1:150,000

DRAWING No. Fig.2

REGIONAL GEOLOGY

The claim area lies on the western margin of the Intermontane Belt at its contact with the Coast Plutonic Complex. Paleozoic sediments and Mesozoic sediments and volcanics are cut by intrusive bodies of the main Coast Belt and the satellite Hickman and Yeheniko Plutons. General tectonic fabric of the region trends north-northwesterly.

The oldest rocks exposed in the area are Lower Paleozoic clastics including impure quartzites and limestones, overlain by crystalline schists and gneisses. A thick impure limestone unit caps the Paleozoic oceanic sequence.

The lower contact of Mesozoic units is described by F.A. Kerr, G.S.C. Memoir 246 and J.G. Souther, G.S.C. Paper 71-44, as gradational and in places unconformable. Triassic rocks consist of a thick sedimentary sequence overlain by an island arc volcanic assemblage which is in turn capped by volcanic derived sediments.

The Jurassic layered sequence consists largely of a thick, near shore sedimentary package and later volcanic (island arc?) rocks. Extensive intrusive activity during this period resulted in the emplacement of the multi phased 'Coast Complex' and related satellite plutons. Alkaline and calc-alkaline members of this suite are directly associated with most of the numerous mineral occurrences in the area. Cretaceous rocks consist mainly of marine sediments with a thin basaltic to rhyolitic component.

Cenozoic stratigraphy includes mafic and felsic aerial volcanic units. These rocks are a major component of glacial and fluvial deposits throughout the area. Several active hot springs attest to ongoing geologic activity throughout the general Iskut-Stikine region.

Most of the region has been subjected to Quaternary glaciation, resulting in rugged alpine terrain.

Study of aeromagnetic data published at a scale of 1:250,000 suggests that regional lows may reflect areas of thick ice cover.

PROPERTY GEOLOGY

The **Cliff A** claim group includes middle and upper Triassic volcanics and sediments. The volcanics occupy the north side of Sphaler Creek, the sediments the south side. Sphaler Creek follows a major fault structure.

The Mesozoic volcanics range from dark black fine-grained mafic tuffs and flows to andesite-dacite massive tuffs. The mafic volcanics are more extensive. The mafic volcanic outcrops observed near Sphaler Creek have been metamorphosed, silicified and chlorite/epidote altered. Isolated lenses of sediments were discovered in the mafic volcanics that consisted of limey sandstones, brecciated limestones and quartzites. These discontinuous sediments have disseminated pyrite and chalcopyrite up to two per cent. The quartzite horizon has the greatest amount of sulphides, including malachite stain. Shear zones within the mafic tuffs and flows range from 20cm. up to 4m. in width, the longest being 50m in length. The shears are discontinuous and the mineralization is limited to pyrite, chalcopyrite, azurite and malachite. The pinching of the shears limits their potential.

The sediments on the SE corner of **Cliff 4** on the south side of Sphaler Creek are a massive sequence of siltstones, sandstones, argillites and limestones. No traverse was completed over this area.

PROSPECTING TRAVERSES

The following traverses are grouped according to the individuals who performed the work, with the traverse numbers correlating to traverses marked on the compilation map.

Rob Klassen - Company Geologist - Employee of Corona Corporation with 2 years of mineral exploration experience.

(5) August 17, 1988

CLIFF 1, 2 - 13 rock samples, #1969 - 1981

This traverse along the steep slopes north of Sphaler Creek was within a thick Mesozoic volcanic unit with minor bands of volcanic derived sediments, and limestone. The volcanic rocks observed were dark to medium green fine-grained tuffs and flows. Throughout the sequence are quartz veins and veinlets with pyrite and chalcopyrite mineralization. A siliceous sedimentary horizon was prospected and found to contain up to 10 per cent disseminated pyrite, chalcopyrite and malachite.

(11) August 18, 1988

CLIFF 3, 4 - 6 rock samples, #1982 - 1987

This traverse was on the north slope of Sphaler Creek just above the tree line at the 4000 ft. level. The entire day was spent in a dark grey black fine-grained mafic volcanic. Areas of interest included quartz veins and veinlets with epidote and chlorite alteration and zones of euhedral-disseminated pyrite.

(13) August 24, 1988

CLIFF 1 - 6 rock samples, #1286 - 1291

Prospecting on this traverse was again on the north slope of Sphaler Creek, up around the glaciers at 5500 ft. The geology is fine-grained dark mafic volcanics with felsic hornblend rich intrusive dykes. Disseminated pyrite within the volcanics and blebs of pyrite and chalcopyrite within quartz veins up to 10m. wide comprise the mineralization.

Karen Soby - Contract Prospector - A graduate of the B.C.D.M. prospecting course with three years of mineral exploration experience.

(6) August 17, 1988

CLIFF 1 - 15 rock samples, #1847 -1861

This traverse was on the north side of Sphaler Creek below the toes of the glaciers at 5000 ft. The primary host in the area was an intermediate volcanic ranging from andesite to dacite. The volcanics are epidote and chlorite-altered and have numerous shear zones. Along with the shear zones are gossans. The shear zones are from 20cm. to 4m. in width and are primarily ankerite quartz filled. Mineralization within the shear zones includes disseminated pyrite and chalcopyrite. The gossans are altered volcanics with very fine grained disseminated pyrite. The gossans and shear zones are both discontinuous.

(12) August 18, 1988

CLIFF 3, 5 - 3 rock samples, #1862 - 1864
- 3 silt samples, #1865 - 1867

This traverse was along the break in slope on the north side and beside Sphaler Creek. Due to the thick overburden cover and dense bush very little outcrop was observed. What was prospected was epidote chlorite-altered metavolcanics. The **CLIFF**

3 4W 4S I.P. was located.

Peter Neelands - Geology Student - Summer employee of Corona Corporation, five years of field work the last two full time.

(7) AUGUST 18, 1988

CLIFF 2, 7 4 rock samples, #20554 - 20557

 This traverse was along the north slope of Sphaler Creek at the 5000 ft - 5500 ft elevation below the glaciers. The geology of the area is a thick massive andesite tuff. The volcanic is weakly epidote altered and has quartz veins and veinlets. A rusty blue quartzite horizon was prospected that has pyrite and malachite.

GEOCHEMISTRY

 The 47 samples collected during this phase of work were submitted to Min - En Labs of Vancouver for ICP and geochemical analysis. Analytical techniques are described in Appendix A, sample descriptions in Appendix B and results are given in Appendix C.

STATEMENT OF COSTS

CLIFF 1, 2, 3, 4 - PROSPECTING


Prospecting 5.5 man days @ \$300/man day	\$ 1,650.00
Samples (Including Shipping) 47 @ \$25/sample	1,175.00
Food @ \$30/man day	165.00
Supplies and Equipment	175.00
Contract Base Camp	1,320.00
Mob - De Mob (Aircraft Charter)	1,164.00
Helicopter Support 4.8 hours @ \$625/hr	3,000.00
Report Preparation	750.00
	<hr/>
TOTAL	\$ 9,399.00
	=====

Dates: August 17, 18, 23, 1988

STATEMENT OF QUALIFICATIONS

I, **PAUL WILLIAM JONES** of the City of Vancouver, B.C. declare that:

1. I have been actively involved in the mining industry in Canada and the United States for 12 years.
2. I have personally directed and performed the work enclosed in this report under the supervision of Corona Corporation's Senior Geologist, **Darrel Johnson**.



Paul W. Jones

DATED THIS 11th DAY OF Dec 1989
AT VICTORIA, BRITISH COLUMBIA.

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APPENDIX A - GEOCHEMICAL METHODS

MIN-EN Laboratories Ltd.

Specialists in Mineral Environments

Corner 15th Street and Bewicke

705 WEST 15th STREET

NORTH VANCOUVER, B.C.

CANADA

ANALYTICAL PROCEDURE REPORTS FOR ASSESSMENT WORK

PROCEDURE FOR GOLD GEOCHEMICAL ANALYSIS.

Geochemical samples for Gold processed by Min-En Laboratories Ltd., at 705 W. 15th St., North Vancouver Laboratory employing the following procedures.

After drying the samples at 95°C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed and pulverized by ceramic plated pulverizer.

A suitable sample weight 5.0 or 10.0 grams are pre-treated with HNO_3 and HClO_4 mixture.

After pretreatments the samples are digested with Aqua Regia solution, and after digestion the samples are taken up with 25% HCl to suitable volume.

At this stage of the procedure copper, silver and zinc can be analysed from suitable aliquote by Atomic Absorption Spectrophotometric procedure.

Further oxidation and treatment of at least 75% of the original sample solutions are made suitable for extraction of gold with Methyl Iso-Butyl Ketone.

With a set of suitable standard solution gold is analysed by Atomic Absorption instruments. The obtained detection limit is 5 ppb.



**MINERAL
• ENVIRONMENTS
LABORATORIES**

ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK:

PROCEDURE FOR 31 ELEMENT TRACE ICP:

Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cu,
Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb,
Sr, Th, U, V, Zn, Ga, Sn, W, Cr

Samples are processed by Min-En Laboratories., at 705 West 15th Street, North Vancouver, employing the following procedures.

After drying the samples at 95°C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by a jaw crusher and pulverized by ceramic plated pulverizer or ring mill pulverizer.

1.0 gram of the sample is digested for 4 hours with an aqua regia HClO_4 mixture.

After cooling samples are diluted to standard volume. The solutions are analysed by computer operated Jarrall Ash 9000 ICAP or Jobin Yvon 70 Type II Inductively Coupled Plasma Spectrometers. Reports are formatted and printed using a dot-matrix printer.

APPENDIX B - SAMPLE DESCRIPTIONS

CLIFF A GROUP

<u>Sample No.</u>	<u>Sample Type</u>	<u>Description</u>
<u>CLIFF 1</u>		
1286	grab	yellow white weathered fine grained blue grey mafic volcanic with disseminated pyrite and chalcopyrite
1287	grab	brown fine grained felsic intrusion with hornblende crystals
1288	grab	red weathered fine grained dark grey mafic volcanic with disseminated pyrite
1289	grab	orange brown weathered fine grained dark grey mafic volcanic
1290	grab	rusty black fine grained mafic volcanic with quartz veinlets and disseminated pyrite both in the volcanic and vein
1291	grab	10cm wide quartz vein with pyrite and chalcopyrite
1847	grab	dull dacite/andesite volcanic unit
1848	1.5m chip	gossanous shear within andesite with disseminated pyrite
1849	grab	quartz vein with green chlorite alteration and dark silver black mineral within epidote chlorite altered volcanic
1850	grab	epidote chlorite altered siliceous volcanic dyke with trace chalcopyrite mineralization
1851	grab	quartz flooded altered volcanic, epidote chlorite with quartz veinlets
1852	float	gossanous altered volcanic with disseminated pyrite and black mineral
1853	3/4m chip	yellow weathered ruggy quartz vein within felsic volcanic, malachite, auzurite and disseminated chalcopyrite and pyrite
1854	grab	over 4m, yellow weathered ruggy quartz vein within felsic volcanic, malachite, auzurite and disseminated chalcopyrite and pyrite
1855	grab	quartz veined shear zone with epidote alteration
1856	grab	quartz veined shear zone with epidote alteration
1857	grab	siliceous shear zone, rusty weathered with malachite, chalcopyrite, pinches out
1858	grab	flat lying ankerite shear zone above previous quartz zone
1859	grab	small shear zone with parallel ankerite zones with disseminated pyrite
1860	grab	gossanous sheared siliceous volcanic zone with disseminated pyrite

Sample No.	Sample Type	Description
<u>CLIFF 1</u> cont..		
1861	float	talus from gossanous zone, deeply rusted with disseminated pyrite
1981	grab	rusty weathered fine grained medium grey siliceous volcanic with disseminated pyrite
<u>CLIFF 2</u>		
1969	grab	green siliceous fine grained volcanic with quartz veinlets and secondary biotite
1970	grab	green fine grained epidote rich volcanic with minor carbonate and quartz veinlets needle like feldspar crystals
1971	grab	green grey medium grained sediment with secondary biotite with quartz veinlets and minor chalcopyrite
1972	grab	green volcanic with hornblende and disseminated pyrite and arsenopyrite at contact with sediment
1973	grab	blue grey fine grained limestone with quartz veinlets and disseminated pyrite, chalcopyrite and arsenopyrite
1974	grab	green grey medium grained sediment with feldspar phenocrysts, disseminated pyrite and chalcopyrite
1975	grab	quartz vein with massive pyrite and chalcopyrite blebs all with mafic volcanic
1976	grab	green medium grained volcanic, sediment? with quartz veining, minor biotite, hornblende and pyrite, chalcopyrite quartz vein at contact
1977	grab	tan weathered blue grey fine grained quartzite with minor carbonate veinlets
1978	grab	orange weathered grey black medium grained silicified sediment with disseminated pyrite and carbonate veinlets
1979	grab	tan weathered dark grey medium grained sediment with epidote and quartz flooding
1980	grab	green siliceous sediment with pyrite, chalcopyrite and malachite within mafic volcanic
20554	grab	medium agglomeratic volcanic with epidote
20555	grab	massive medium volcanic with epidote and fine grained
20556	grab	quartz epidote vein within medium volcanic

Sample No.	Sample Type	Description
<u>CLIFF 3</u>		
1982	grab	dark grey fine grained mafic volcanic with epidote and quartz veinlets
1862	grab	medium volcanic epidote and chlorite alteration, trace disseminated pyrite
1863	float	medium volcanic epidote and chlorite alteration, trace disseminated pyrite
1864	grab	medium volcanic epidote and chlorite alteration, trace disseminated pyrite
1865	silt	near post 4W 4S, west of
1866	silt	near post 4W 4S, east of
<u>CLIFF 4</u>		
1983	grab	dark brown rusty weathered dark grey green mafic volcanic with hornblende and minor epidote
1984	grab	orange brown weathered shear zone within dark green fine grained mafic volcanic
1985	grab	dark brown weathered dark green grey mafic volcanic with crystalline pyrite
1986	grab	tan orange green weathered lime green with brown swirls, epidote mafic volcanic with quartz vein
1987	grab	tan orange green weathered lime green with brown swirls, epidote mafic volcanic with quartz veins with red metallic mineral

APPENDIX C - ANALYTICAL RESULTS

(VALUES IN PPM)

CLIFF 1

#	AG	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE	K	LI	MG	NH	NO	NA	NI	P	PB	SO	SR	TH	U	V	ZH	GA	SH	U	CR	AU-PPB
1286	2.2	1247	28	7	191	0.5	19	8308	2.1	31	147	23474	4040	41	2214	42	8	774	13	2849	15	4	31	1	1	47.4	14	3	4	1	55	5
1287	2.9	3696	53	1	44	0.5	13	400	2.8	15	34	6790	1917	44	1871	334	9	1141	15	203	27	13	11	4	1	17.4	30	4	2	9	177	5
1288	1.4	17057	19	10	229	0.7	24	10583	2.1	34	196	42434	4324	46	8705	426	8	742	10	2451	15	1	33	1	1	154.5	47	1	5	1	87	5
1289	0.5	23558	27	10	47	1	19	10534	1.5	40	83	43921	2420	49	24814	448	7	807	4	2433	9	1	27	1	1	215.4	51	2	4	1	81	10
1290	0.3	29374	3	8	107	0.9	2	27495	2.4	34	4	45483	2447	51	35487	1494	4	423	127	423	4	2	50	1	1	48.2	77	2	1	9	378	5
1291	1.9	8977	22	7	18	0.5	13	8744	2.8	19	35	15944	1487	43	7537	342	8	543	17	474	12	5	28	1	1	75.2	29	3	2	7	175	5
1847	0.7	24690	26	6	80	1.1	2	38120	0.8	34	39	50160	4400	51	18440	1020	4	430	4	1940	7	5	17	1	1	222.2	40	1	2	3	45	5
1848	0.7	19050	23	6	391	1.4	9	10140	1.3	40	86	48060	4450	43	7190	224	9	570	10	2830	18	1	3	1	1	229.9	36	1	3	2	40	5
1849	0.4	12430	4	4	17	0.5	4	12180	2.1	22	23	22650	1440	40	8450	398	7	510	15	440	15	1	80	1	1	120.4	27	1	1	1	175	5
1850	0.4	11600	6	3	48	0.9	2	10340	2.2	25	50	34330	2620	45	8450	550	7	740	9	1540	26	2	36	1	1	145.4	44	1	1	1	119	5
1851	0.6	28300	27	4	14	1.1	11	19970	2.1	39	44	25000	1540	43	22750	1072	4	400	9	1990	17	1	130	1	1	127.8	75	1	3	3	120	10
1852	0.5	18410	25	9	449	1.1	2	42810	1.9	33	4	41740	4800	35	24040	1097	5	490	4	2450	10	1	44	1	1	104	70	4	1	2	40	5
1853	2.4	8310	1	3	50	0.7	2	14090	3.7	25	6198	19880	3540	38	3770	448	10	510	14	1340	20	1	8	1	1	58.1	13	1	1	1	104	15
1854	3	3630	15	1	42	0.5	3	10860	3.9	15	5170	9090	2790	41	1800	329	9	480	15	790	14	1	4	1	1	27.4	9	1	1	1	162	15
1855	0.7	15880	13	5	1	0.7	15	24020	0.3	18	53	15920	1090	35	2490	311	7	440	13	1540	15	1	508	1	1	96.4	11	1	2	2	158	5
1856	1	14110	5	4	46	1	6	15110	0.1	30	89	30990	3120	42	10270	364	10	410	12	2390	17	1	52	1	1	264.1	33	1	3	2	47	5
1857	2.1	8420	3	3	59	0.6	4	39180	2	25	4778	14630	4040	42	3450	444	10	440	14	1550	24	1	12	1	1	39.5	24	1	1	1	111	15
1858	0.6	7280	1	2	270	0.6	1	48940	1.3	15	310	15670	4190	35	5020	1457	7	440	8	1450	14	1	54	1	1	38	13	1	1	1	42	10
1859	0.8	18250	1	7	552	0.9	3	42200	3	31	77	59400	4150	36	22890	1162	4	470	4	2170	11	3	42	1	1	122.4	48	4	1	1	73	10
1860	0.4	23220	4	6	366	0.8	3	50410	0.8	26	221	49140	2640	42	16670	1149	4	540	4	1470	11	2	53	1	1	121.9	52	1	1	1	40	5
1861	0.4	12930	10	4	50	0.4	9	14580	2.8	19	50	30550	1440	36	4030	229	25	480	9	1800	55	1	157	1	1	158.2	22	1	1	1	112	5
1911	0.7	11450	1	5	44	0.8	20	8910	1.8	22	38	30130	2510	40	5190	169	14	700	11	1180	34	1	95	1	1	104.6	21	1	3	1	73	10

CLIFF 2

#	AG	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE	K	LI	MG	NH	NO	NA	NI	P	PB	SO	SR	TH	U	V	ZH	GA	SH	U	CR	AU-PPB
1969	0.6	25890	1	7	17	1.2	10	15860	1	38	82	42210	1480	51	20410	788	4	430	16	1030	14	1	24	1	1	137.4	47	1	2	1	130	5
1970	0.5	18740	16	4	4	0.9	11	21430	1.9	33	70	22300	1010	44	13690	428	7	450	19	1140	15	1	35	1	1	77.5	40	1	1	1	95	5
1971	0.7	17490	12	4	11	1	9	10180	2.6	33	48	27770	1390	47	16160	524	7	500	26	1280	15	1	12	1	1	84.2	52	2	1	1	86	10
1972	0.5	30480	25	10	27	1.5	5	21380	1.6	45	55	57960	2950	49	25470	1078	6	440	15	1540	11	1	47	3	1	201.3	74	7	3	2	119	5
1973	0.5	27440	23	10	37	1.1	4	33470	2	29	89	50950	3250	45	19940	1130	10	530	6	1340	15	5	3	1	1	86.6	45	1	1	1	54	10
1974	0.9	24570	1	7	23	1.2	8	15740	0.9	34	54	46390	2040	51	18290	745	4	430	13	1340	12	2	22	1	1	137.9	42	2	3	2	74	5
1975	0.7	22480	7	7	18	1.1	4	14500	2.1	27	3444	29540	1740	44	10990	742	4	520	13	780	13	4	24	1	1	122.3	53	1	1	1	123	20
1976	0.9	24050	1	7	8	0.9	16	17950	0.1	33	91	34520	1210	36	16250	512	4	550	15	910	12	3	13	1	1	126.4	44	1	2	1	72	5
1977	0.8	7940	1	1	72	0.9	3	23200	2.2	19	82	26260	1910	34	7090	549	7	590	10	1430	16	1	7	1	1	70.1	37	2	1	1	44	5
1978	0.5	4970	1	4	830	1	2	40710	3.3	21	31	37890	3840	36	15920	942	4	510	5	1730	12	1	25	1	1	73.5	41	4	1	1	41	5
1979	0.4	20780	7	5	38	1.1	5	15480	0.9	31	47	37840	2570	34	14360	726	4	580	10	1750	11	1	50	1	1	149.9	42	1	2	1	80	5
1980	0.9	17480	2	3	30	0.9	9	23150	1.5	24	1422	24440	1370	42	8270	493	7	470	12	1810	13	1	197	1	1	109.2	29	1	2	1	85	5
20554	0.7	25440	9	4	39	0.7	5	12610	0.6	35	64	48770	4490	35	28350	908	4	1350	14	1290	12	5	29	1	1	142.3	111	1	1	3	103	5
20555	0.3	21460	7	7	23	1.2	4	17270	2.6	34	27	48470	1450	41	19630	1054	4	440	8	1310	10	3	44	1	1	144.1	71	2	1	1	73	5
20556	0.5	25530	7	9	13	1	8	30250	0.5	30	159	31880	1350	44	12170	543	4	530	12	800	10	3	31	1	1	115.5	42	1	2	1	104	10

CLIFF 3

#	AG	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE	K	LI	MG	NH	NO	NA	NI	P	PB	SO	SR	TH	U	V	ZH	GA	SH	U	CR	AU-PPB
1842	0.4	15450	3	3	73	0.8	5	14340	1.7	30	81	40420	7540	41	11710	581	7	720	7	2210	14	1	49	1	1	180.4	48	2	2	2	85	10
1843	0.4	24800	28	5	394	1.1	2	12810	1.6	33	71	54160	12340	41	21190	1073	4	440	5	2310	11	1	24	1	1	149.3	72	1	1	3	72	5
1844	0.7	25990	16	4	214	1	7	26390	0.7	33	58	36480	9420	35	16090	794	4	440	11	2050	15	1	95	1	1	158	54	3	2	1	115	5
1845	1	21230	17	4	109	1.3	18	14500	1.5	34	95	53640	3530	48	16490	975	7	420	11	2140	14	2	52	1	1	186.5	61	1	3	1	48	5
1846	0.4	20310	13	5	117	1.4	14	14290	2	33	134	45790	3480	46	17340	1084	7	490	11	2100	8	1	47	2	1	154.7	62	1	3	1	47	5
1982	0.7	13300	10	4	30	1.2	2	24440	1.4	30	231	45850	2480	41	8070	421	4	410	8	2520	14	1	98	1	1	205.4	31	1	2	2	44	5

CLIFF 4

#	AG	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE	K	LI	MG	NH	NO	NA	NI	P	PB	SO	SR	TH	U	V	ZH	GA	SH	U	CR	AU-PPB
1983	0.6	20910	14	5	47	0.9	9	12910	1.2	31	61	39490	3930	49	15540	694	7	490	10	1440	13	1	29	1	1	144.8	55	1	2	1		

