CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
416 W. Congress St., Suite 100
Tucson, Arizona 85701
520-770-3500
http://www.azgs.az.gov
inquiries@azgs.az.gov

The following file is part of the

James Doyle Sell Mining Collection

ACCESS STATEMENT

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

CONSTRAINTS STATEMENT

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

QUALITY STATEMENT

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

JDS

ASARCO

Southwestern Exploration Division

February 4, 1991

J.D. Sell

Crystal Hill Project
Iron King Mines Inc.
Date Creek District
Yavapai County, Arizona

The attached data was in response to my inquiring about this prospect described in GCNL #15, 1991, p. 3. The area is described as hosting a "breccia pipe" in a quartz-monzonite intrusive. Gold values range from detection to .133 opt. Most, however, are in the 10-20 ppb range. The "anomaly" is defined by a 20 ppb contour. It is probably worth a look in light of mineralization in the Congress Mine and of the Yarnell Mine area for a bulk tonnage target. The terms suggested are really ridiculous for this virgin prospect, but this can be worked out later if there is something there to negotiate on.

We have no file information on the property.

Mark A. Miller

MAM:mek

cc: W.L. Kurtz

IRON KING MINES INC.

ALLAN R. ST. JAMES
PRESIDENT
FRANK H. CRERIE
CHAIRMAN OF THE BOARD

Mr. M. Miller
ASARCO Inc.
PO Box 5747
1150 North 7th. Avenue
Tucson, AZ., 85703-0747
USA

January 28, 1991

Dear Mark;

RE: **Joint Venture: Crystal Hill Project, Arizona**

Iron King Mines Inc. (IRK) is currently seeking a joint venture partner on it's Crystal Hill Project, located northwest of Wickenburg, Arizona. The exploration target is a large copper/gold/silver mineralized zone that could be mined by open-pit methods (see attached project summary sheet).

Exploration work to date on the property has consisted mainly of geochemical sampling (rock chips, soils) and copies of this data is enclosed. The geochemical anomaly outlined on the map by consultant geologist Don White (Scale: 1 inch = 400 ft.) is open to the west where sampling was terminated due to gravel cover. Additional surrounding land can be staked or obtained (by prospecting permits) from the state and BLM before extensive exploration activities commence. The land is available at the present time.

Iron King Mines Inc. is seeking a joint venture partner to earn a 50% interest in the property by making the following payments and expenditures:

Payments to IRK	Work Commitments
(1) $ 50,000 on closing	$ 75,000 in year 1
(2) $100,000 at the end of 12 months	$200,000 in year 2
(3) $200,000 at the end of 24 months	$500,000 in year 3

A firm commitment would be required for the first payment and work program for year 1. No equity is earned until the 3 year payment schedule/work commitments are completed (both may be accelerated by the joint venture partner if desired).

A one (1) mile area of influence (calculated from the outside boundary of present land holdings) would be established around the property. Please give me a call if you have any questions regarding the property.

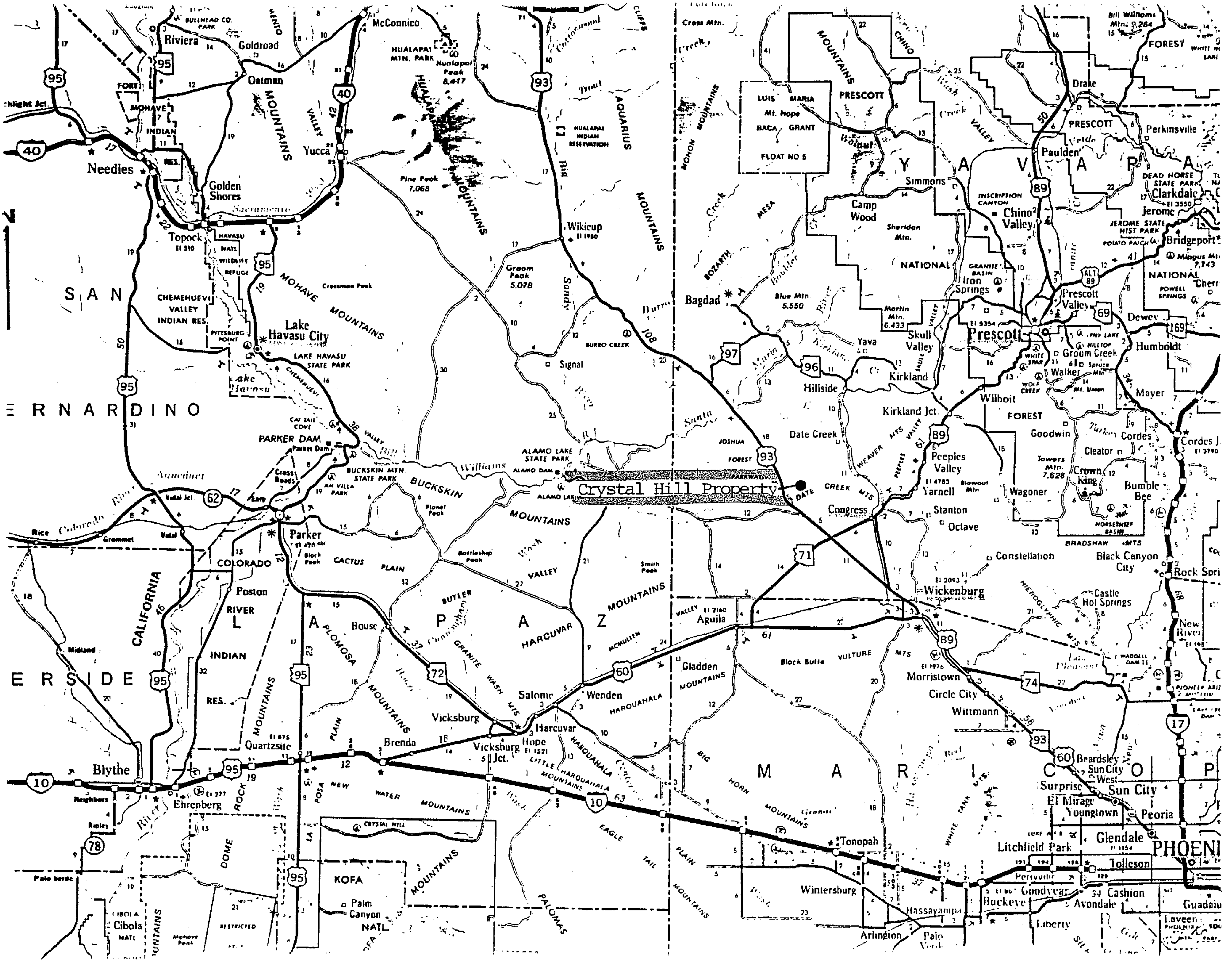
Yours truly;

Allan St. James
President

ml/coronado

10th FLOOR, 900 WEST HASTINGS STREET,
VANCOUVER, BRITISH COLUMBIA, CANADA V6C 1E5

TEL: (604) 684-8952
FAX: (604) 684-9959



Crystal Hill Property
Needles
Topock
Golden Shores
Oatman
Riviera
Goldroad
McConnico
Yucca
Lake Havasu City
LAKE HAVASU STATE PARK
PARKER DAM
Parker
Poston
BUCKSKIN MTN. STATE PARK
ALAMO LAKE STATE PARK
Wikieup
Signal
Bagdad
Hillside
Kirkland
Kirkland Jct.
Skull Valley
Yava
Date Creek
Peeples Valley
Yarnell
Congress
Stanton
Octave
Wickenburg
Aguila
Wenden
Salome
Harcuvar
Hope
Vicksburg
Bouse
Brenda
Quartzsite
Ehrenberg
Blythe
Prescott
Chino Valley
Wilhoit
Humboldt
Mayer
Dewey
Tonopah
Wintersburg
Buckeye
Goodyear
Litchfield Park
Tolleson
Glendale
Peoria
Sun City
Surprise
El Mirage
Youngtown
Morristown
Wittmann
Circle City
KOFA
CRYSTAL HILL
CALIFORNIA
Y A V A P A I
L A P A Z
M A R I C O P A

PROJECT SUMMARY

THE CRYSTAL HILL PROJECT

TARGET:

A copper, silver, gold deposit of 10 to 15 million tons that could be mined by open pit methods.

STATUS:

The company has obtained a prospecting permit from the state of Arizona to conduct exploration activities on the property. This permit can be renewed annually for a term of 5 years. By the 5th year (or before) the company must demonstrate that it has made a discovery of a valuable mineral deposit and apply for a mineral lease. A mineral lease is valid for 20 years and permits mining to commence.

The state retains a 5% NSR on the property as a state tax. Since it is a tax it is roughly equivalent to a 3.5% NSR on non-state land. Presently in Arizona 2 major copper companies and several small companies produce from state land.

LOCATION:

20 miles northwest of Wickenburg, central Arizona and approximately 9 miles west of the Congress Mine (Malartic Gold Mines, presently in production).

ACCESS:

Access is excellent: an all weather gravel road runs through the centre of the property and highway 93 is located 2 miles to the south.

PROPERTY SIZE:

480 acres (640 acres = one square mile).

LOGISTICS:

The property is located at an elevation of about 3,000 feet in gently rolling hills. The climate is suitable for year-round exploration/development.

PROPERTY PAYMENTS/WORK COMMITMENTS:

The property is located on state land and the right to explore has been obtained through a state prospecting permit. Annual rental fees are $2/acre/year and annual work requirements are $10/acre/year.

GEOLOGY AND MINERALIZATION:

The target area consists of a copper, silver, gold, zinc, lead anomaly (trenching, soil, rock chips) associated with brecciated, copper-stained quartz monzonite type of intrusive. This intrusive is likely Laramide in age and is intruded into a Precambrian granodiorite. Fragments of country rock are contained in the 'breccia' system.

The system appears to be a breccia pipe or a capping on a copper porphyry. Abundant quartz and siderite crystals occur on the property and several small old diggings on malachite-stained areas occur (generally less than 8 feet deep).

The property has not been drilled; but a VSE company did some trenching over it in 1985. They dropped an option on the property because of initial sampling results and due to the fact that the land was being transferred from Bureau of Land Management to the state of Arizona at that time and they couldn't get clear title.

The highest gold values obtained were 0.086 to 0.133 oz/ton. Good silver (0.2 to 0.4 oz/ton) and copper values (0.5 to 2.0%) are readily obtainable from surface sampling. Zinc and lead values (0.1 to 0.4%) are significant.

The potential size of the target: 1500 feet by 800 feet (anomaly dimensions and open to the west) is large and could host 10 to 15 million tons of material that could be mined by open pit.

RECOMMENDED EXPLORATION PROGRAM:

FIRST STAGE:

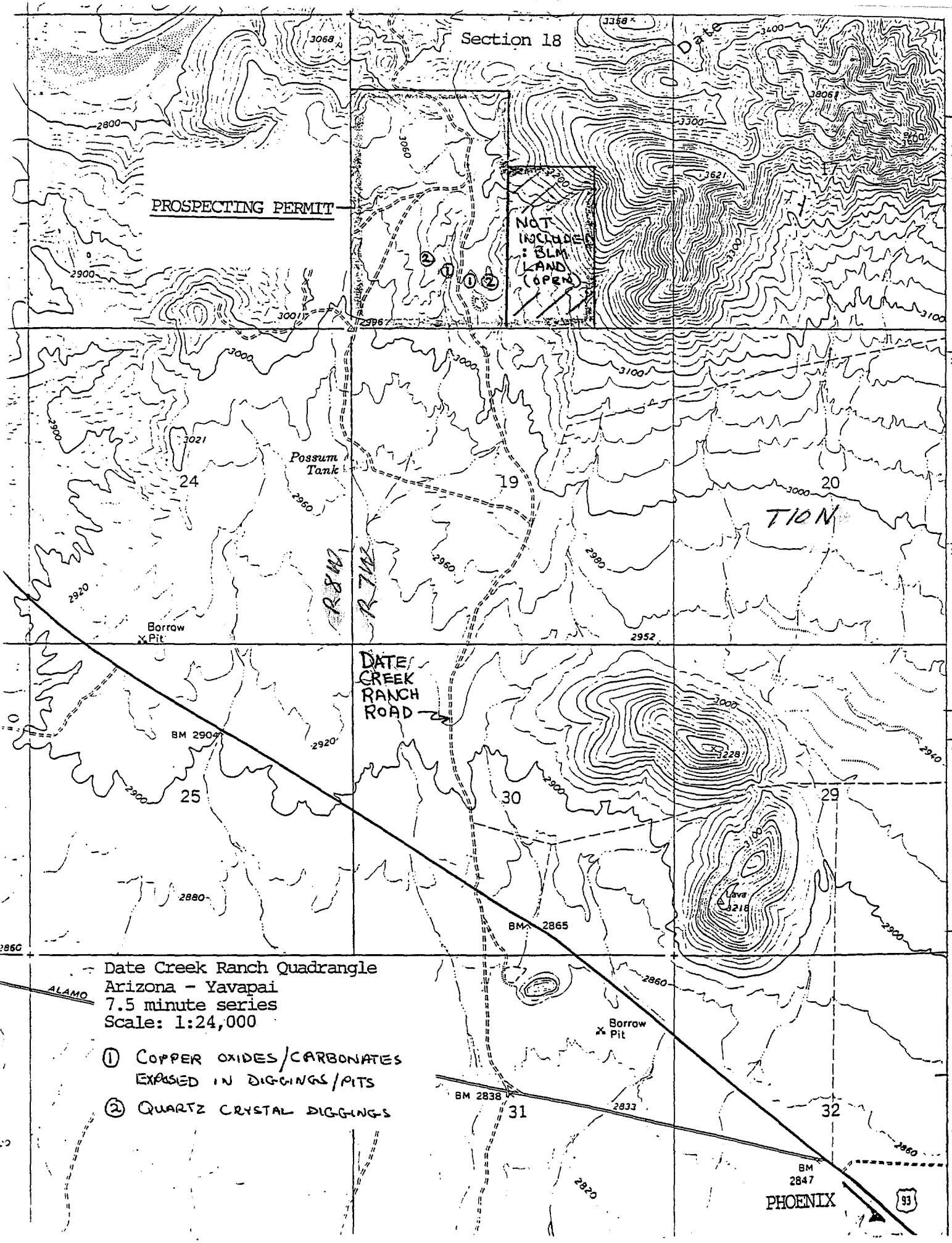
Detailed mapping, surface sampling (trenching, rock chip geochemistry) and geophysics (I.P.) Estimated cost: $20,000 - $25,000.

SECOND STAGE:

A reverse circulation drilling program of holes penetrating to a depth of 200 to 300 feet. Two (2) to four (4) core holes for grade confirmation and geological/structural information if warranted. Estimated cost : $250,000 to $350,000.

THIRD STAGE:

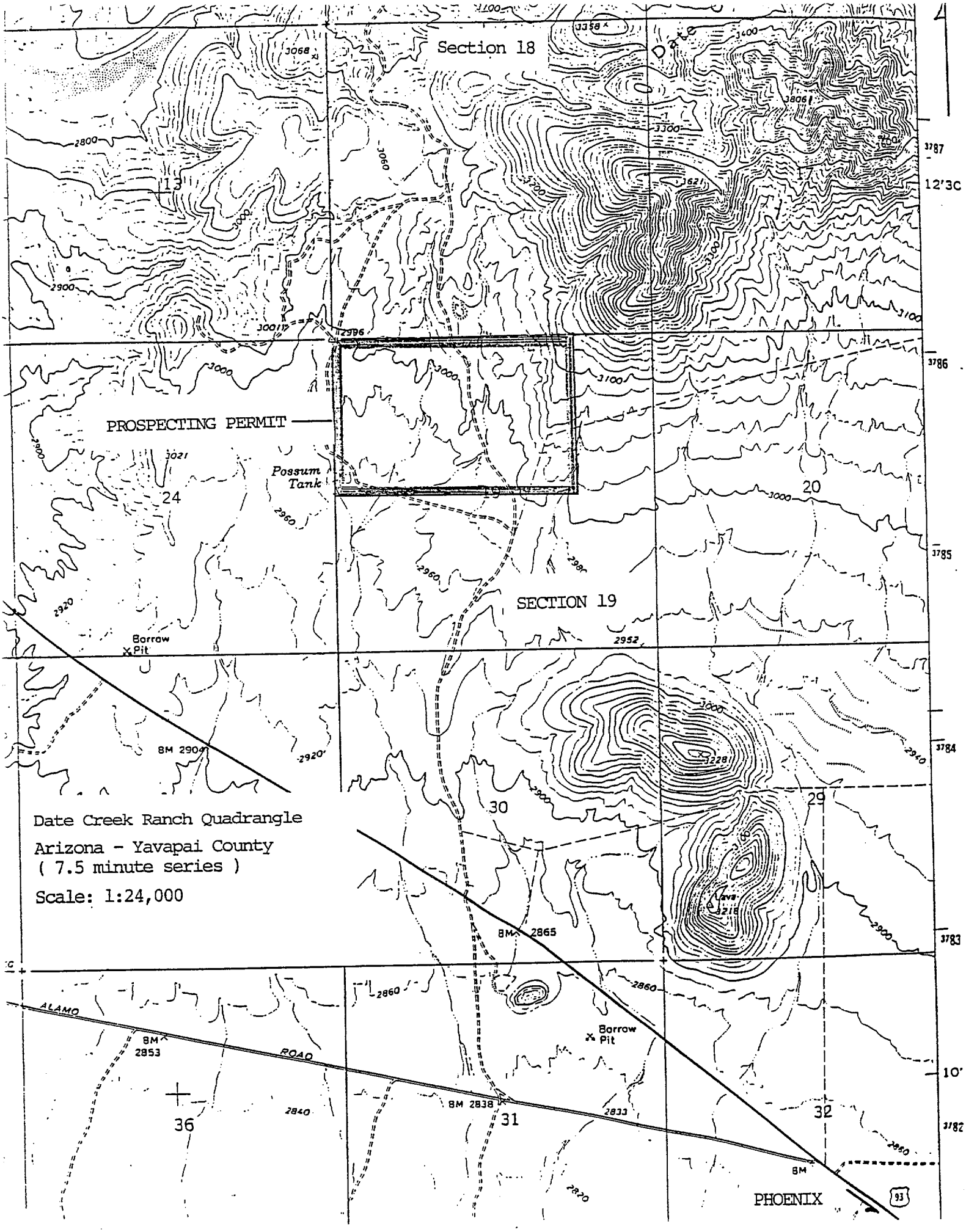
Additional reverse circulation/core drilling. Extent of program and costs dependent on previous results.



Date Creek Ranch Quadrangle
Arizona - Yavapai
7.5 minute series
Scale: 1:24,000

① COPPER OXIDES/CARBONATES EXPOSED IN DIGGINGS/PITS

② QUARTZ CRYSTAL DIGGINGS


Section 18
PROSPECTING PERMIT
Possum Tank
SECTION 19
Borrow Pit
Date Creek Ranch Quadrangle
Arizona - Yavapai County
(7.5 minute series)
Scale: 1:24,000
ALAMO ROAD
PHOENIX
13
17
24
20
30
29
36
31
32
3787
3786
3785
3784
3783
3782
12'30"
10'

ACME ANALYTICAL LABORATORIES LTD.
852 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6
PHONE 253-3158 DATA LINE 251-1011

DATE RECEIVED: APR 22 1985

DATE REPORT MAILED: April 24/85

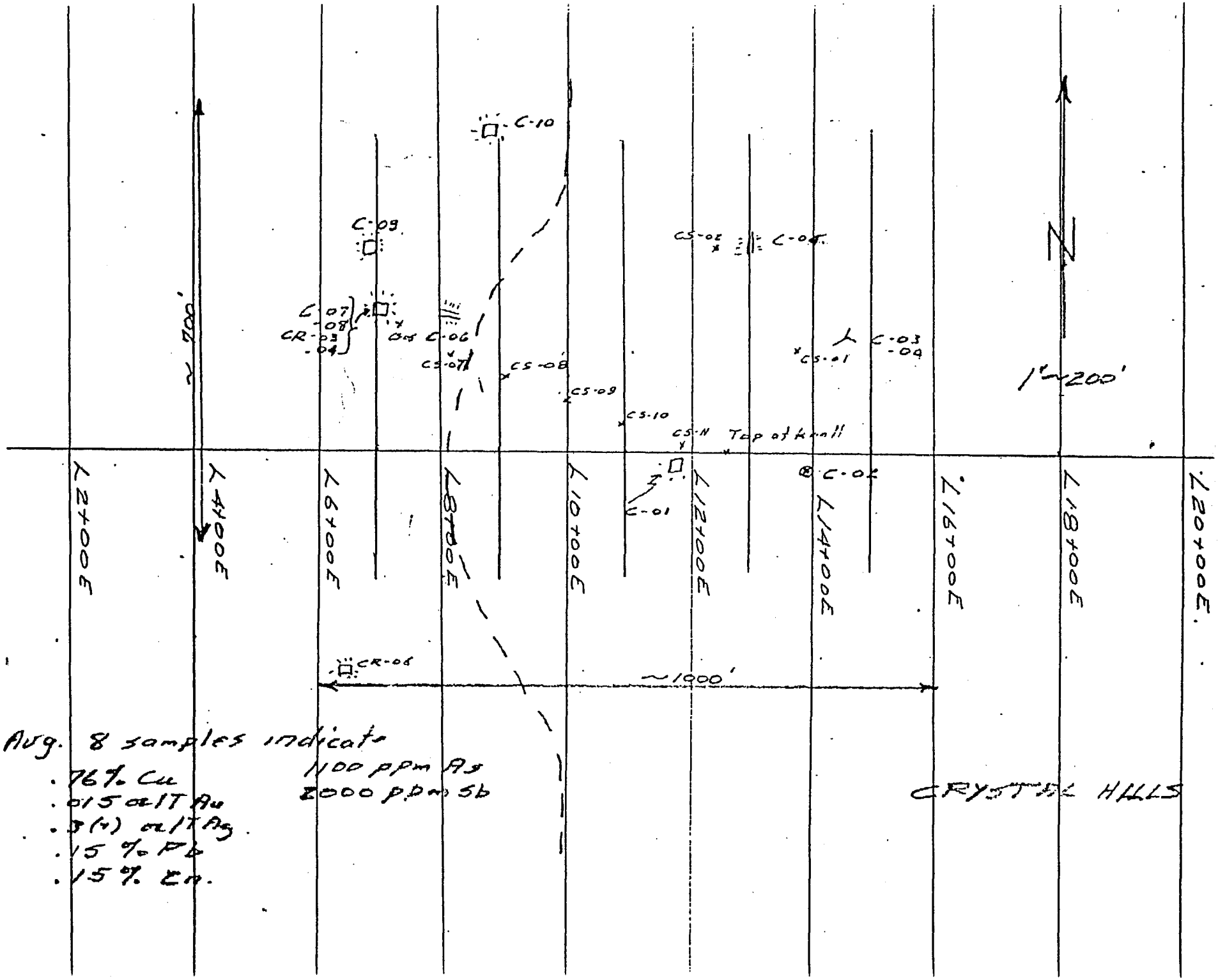
GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-3 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK CHIPS AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.

ASSAYER: V. Saundry DEAN TOYE OR TOM SAUNDRY. CERTIFIED B.C. ASSAYER

EUREKA RESOURCES FILE # 85-0420 PAGE

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Mn ppm	As ppm	Sb ppm	Ba ppm	W ppm	Au* ppb	
A-01	3	7	10	8	.1	449	16	4	323	1	2	
A-02	2	6	9	12	.1	191	37	4	167	1	2	
A-03	19	6	5	19	.1	63	172	8	37	1	3	
A-04	2	3	4	12	.1	121	26	2	67	1	1	
A-05	1	5	4	6	.1	191	3	2	93	1	2	
A-05A	1	17	10	9	.1	193	15	9	89	1	1	Apple
A-06	2	7	4	6	.1	158	74	2	50	1	3	
A-07	1	2	2	3	.3	63	2	3	8	1	3	
A-08	1	6	6	29	.1	101	19	2	19	1	4	
A-09	1	5	6	17	.1	75	6	4	21	1	3	
A-10	1	3	2	13	.2	175	2	2	228	2	2	
A-12	2	1459	632	1641	374.6	368	16	5	16	1	950	Mob Fault
C-01	2	16	8	185	.9	772	12	11	559	1	3	
C-02 Frag	6	6894	73	1488	6.7	2967	319	2770	351	4	195	
C-03 Chip	2	284	43	322	.8	541	14	66	222	1	32	
C-04 Select	3	6073	658	381	16.1	48	810	4913	1494	3	865	Crystal Hills
C-05 Chip	5	5201	61	2346	2.9	2776	287	2318	1682	3	76	
C-06	1	72	13	47	.1	262	7	52	164	1	3	
C-07 Select	2	19971	15	1246	4.2	84	418	169	225	12	9	
C-08 Chip	7	5857	1310	2831	4.6	148	365	426	127	1	88	
C-09 Select	10	16687	8025	2931	19.0	119	6519	4912	643	7	3090	
C-10 Chip	4	853	225	228	1.7	306	157	650	133	1	51	
E-01	1	137	60	87	2.0	115	64	116	899	1	165	
E-02	4	55	20	659	.3	127	100	71	68	12	2	
E-03	2	31	14	86	.1	74	33	22	136	1	5	Echo
E-04	2	36	8	41	.1	48	73	54	648	16	6.	
E-05	11	82	6	39	.5	90	44	42	523	1	68	
E-06	376	76	5	11	.1	37	435	56	57	1	51	
E-07	3	6	2	8	.3	583	40	4	180	3	4	
E-08	9	5	4	15	.5	679	22	2	425	3	2	
STD C/AU 0.5	20	60	40	132	7.2	1150	41	16	177	12	485	



Avg. 8 samples indicate
- .76% Cu
- .015 oz/T Au
- .3(+) oz/T Ag
- .15 % Pb
- .15 % Zn.

1100 ppm As
2000 ppm Sb

ACME ANALYTICAL LABORATORIES LTD.
852 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6
PHONE 253-3158 DATA LINE 251-1011

DATE RECEIVED: JULY 2 1985

DATE REPORT MAILED: July 9/85

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1-7 SOILS P8-ROCKS. AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.

ASSAYER: T. Saundry DEAN TOYE OR TOM SAUNDRY. CERTIFIED B.C. ASSAYER

EUREKA RESOURCES FILE # 85-1187 PAGE 1

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Sb PPM	Au* PPB
L2E 1S	36	57	89	.3	10	2	2
L2E 2S	20	16	64	.1	6	2	5
L2E 3S	24	31	90	.2	8	2	4
L2E 4S	22	22	87	.1	10	2	5
L2E 5S	20	20	68	.1	10	2	2
L2E 6S	24	21	76	.1	8	2	3
L2E 7S	26	23	83	.3	10	2	1
L2E 8S	12	18	40	.2	8	2	1
L2E BL+00	36	32	89	.1	9	2	5
L2E 10N	24	16	102	.1	6	2	1
L2E 9N	25	12	91	.1	5	2	2
L2E 8N	24	19	65	.2	5	2	3
L2E 7N	25	16	102	.1	8	2	2
L2E 6N	40	16	122	.1	9	2	1
L2E 5N	37	51	119	.1	9	2	4
L2E 4N	28	17	87	.1	4	2	7
L2E 3N	187	242	302	.1	16	7	22
L2E 2N	67	73	102	.1	13	2	2
L2E 1N	57	170	245	.3	16	5	24
L4E 1S	42	109	155	.1	8	2	7
L4E 2S	53	94	148	.3	8	3	13
L4E 3S	25	20	84	.1	6	2	4
L4E 4S	48	47	125	.1	11	2	2
L4E 5S	46	52	127	.2	9	2	2
L4E 6S	44	42	118	.1	5	3	2
L4E 7S	32	20	86	.1	10	2	9
L4E 8S	40	27	110	.3	7	2	1
L4E BL4+00E	36	73	107	.1	11	2	5
L4E 10N	32	14	115	.1	2	2	2
L4E 9N	23	12	107	.1	7	2	1
L4E 8N	30	22	97	.1	9	2	4
L4E 7N	24	22	102	.1	7	2	4
L4E 6N	25	18	83	.1	7	3	5
L4E 5N	39	16	109	.1	5	2	6
L4E 4N	86	46	93	.1	11	3	190
L4E 3N	66	123	163	.1	13	2	9
STD C/AU-0.5	60	40	133	7.0	40	15	485

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Sb PPM	Au* PPB
L4E 2N	34	99	108	.1	6	2	9
L4E 1N	27	30	79	.1	6	2	3
L5E 1S	63	63	162	.3	12	2	7
L5E 2S	51	71	137	.2	5	2	5
L5E 3S	51	45	177	.2	6	2	4
L5E 4S	45	75	146	.1	11	2	3
L5E 5S	50	54	167	.1	8	2	2
L5E BL0+00	35	32	93	.2	10	2	4
L5E 5N	35	23	111	.1	5	2	12
L5E 4N	38	32	122	.1	10	2	5
L5E 3N	43	212	317	.3	3	2	3
L5E 2N	78	213	638	.3	8	3	11
L5E 1N	72	171	488	.2	13	5	10
L6E 1S	54	28	147	.3	11	3	12
L6E 2S	30	73	104	.5	6	2	3
L6E 3S	37	65	112	.2	13	2	13
L6E 4S	47	98	125	.2	3	2	6
L6E 5S	28	25	69	.2	5	2	1
L6E 6S	13	12	50	.2	6	2	7
L6E 7S	23	9	84	.1	5	2	6
L6E 8S	20	9	83	.1	6	2	3
L6E BL0+00	392	97	527	.6	48	87	31
L6E 10N	34	15	160	.1	7	2	5
L6E 9N	21	10	96	.1	8	2	2
L6E 8N	26	11	106	.1	4	2	1
L6E 7N	23	18	88	.1	7	2	9
L6E 6N	16	12	61	.1	4	2	6
L6E 5N	38	84	141	.1	8	2	2
L6E 4N	46	277	305	.2	12	2	8
L6E 3N	50	208	415	.3	8	2	3
L6E 2N	80	39	290	.3	17	8	12
L6E 1N	54	43	238	.1	10	2	4
L7E 1S	92	51	234	.6	6	7	8
L7E 2S	26	27	84	.1	5	2	1
L7E 3S	27	38	87	.2	4	2	1
L7E BL7+00E	132	15	176	.2	8	10	19
STD C/AU-0.5	58	41	134	7.0	37	15	510

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Sb PPM	Au* PPB
L7E 5N	48	33	96	.3	7	2	7
L7E 4N	38	111	129	.2	5	6	8
L7E 3N	195	585	1519	.8	9	13	16
L7E 2N	1173	251	537	.7	99	246	27
L7E 1N	74	42	228	.2	11	9	7
L8E 1S	94	33	135	.5	6	9	6
L8E 2S	46	25	89	.2	9	2	2
L8E 3S	35	99	103	.4	11	4	3
L8E 4S	39	68	78	.3	7	2	5
L8E 5S	27	14	71	.5	2	2	1
L8E 6S	25	9	74	.2	5	2	2
L8E 7S	24	9	69	.3	2	2	1
L8E 8S	29	13	73	.3	3	2	3
L8E BL0+00	40	35	129	.5	5	3	10
L8E 10N	28	13	126	.1	3	2	2
L8E 9N	30	13	117	.1	5	2	1
L8E 8N	25	11	110	.2	6	2	3
L8E 7N	37	15	97	.1	2	2	4
L8E 6N	31	15	101	.2	5	2	5
L8E 5N	25	14	59	.3	3	2	1
L8E 4N	23	16	60	.5	4	2	1
L8E 3N	27	22	78	.3	5	3	3
L8E 2N	58	24	212	.1	6	5	4
L8E 1N	35	29	99	.1	2	5	3
L9E 1S	62	24	117	.2	7	12	6
L9E 2S	78	31	118	.5	9	9	13
L9E 3S	37	32	80	.3	8	3	4
L9E BL9+00E	44	36	105	.2	7	5	3
L9E 5N	22	20	54	.5	5	2	1
L9E 4N	25	17	64	.3	5	3	4
L9E 3N	27	44	116	.5	2	2	2
L9E 2N	35	51	96	.2	4	2	4
L9E 1N	44	32	96	.4	8	4	2
L10E 1S	163	92	216	.4	28	25	14
L10E 2S	78	34	178	.3	11	14	4
L10E 3S	246	55	129	.4	40	50	9
STD C/AU-0.5	61	38	129	6.8	38	15	500

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Sb PPM	Au* PPB
L10E 4S	79	18	80	.4	2	11	9
L10E 5S	60	49	128	.3	14	4	12
L10E 6S	26	32	76	.1	15	4	8
L10E 7S	22	23	63	.1	9	2	10
L10E 8S	24	11	78	.2	3	2	7
L10E BL0+00	75	29	234	.1	24	14	18
L10E 10N	26	19	57	.3	6	2	3
L10E 9N	20	16	46	.4	3	2	4
L10E 8N	20	16	50	.2	7	2	2
L10E 7N	20	19	52	.1	8	2	2
L10E 6N	21	17	52	.2	5	2	1
L10E 5N	23	22	55	.1	8	3	6
L10E 4N	24	47	72	.3	6	2	1
L10E 3N	23	34	68	.1	4	2	5
L10E 2N	31	39	80	.3	10	2	9
L10E 1N	81	25	127	.5	15	12	10
L11E 1S	78	42	241	2.4	18	13	15
L11E 2S	131	35	188	.1	22	26	14
L11E 3S	39	53	95	.1	7	4	2
L12E 1S	168	31	243	.4	47	41	56
L12E 2S	55	36	115	.1	20	8	32
L12E 3S	38	66	100	.1	10	6	15
L12E 4S	26	24	77	.1	9	4	2
L12E 5S	30	18	95	.1	15	2	32
L12E 6S	29	20	85	.1	8	4	7
L12E 7S	24	25	63	.1	8	2	9
L12E 8S	26	17	70	.1	12	2	7
L12E 0+00	28	25	209	.3	11	7	6
L12E 10N	24	16	74	.1	8	2	3
L12E 9N	27	19	88	.1	16	2	9
L12E 8N	25	14	74	.1	11	3	4
L12E 7N	23	27	90	.1	7	2	13
L12E 6N	28	21	94	.1	15	2	5
L12E 5N	157	386	158	.1	17	8	11
L12E 4N	26	30	72	.2	5	2	4
L12E 3N	70	26	92	.1	14	8	11
STD C/AU-0.5	58	40	132	6.7	41	16	490

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Sb PPM	Au* PPB
L12E 2N	230	22	237	.7	26	29	13
L12E 1N	90	22	228	.1	21	12	6
L13E 1S	279	57	265	.4	61	75	59
L13E 2	146	140	224	.5	27	23	90
L13E 3S	43	70	129	.1	12	6	11
L13E BL0+00	194	29	245	.2	34	29	39
L13E 5N	30	27	79	.1	12	2	7
L13E 4N	38	45	100	.1	17	3	12
L13E 3N	127	27	129	.1	17	18	18
L13E 2N	147	53	215	.2	19	14	11
L13E 1N	404	105	318	.6	37	57	59
L14E 1S	154	203	254	.2	40	115	28
L14E 2S	172	271	333	.2	21	34	19
L14E 3S	76	129	171	.1	15	12	8
L14E 4S	37	54	111	.1	22	3	24
L14E 5S	31	21	75	.1	11	2	2
L14E 6S	25	15	72	.2	7	4	2
L14E 7S	30	28	83	.1	13	2	1
L14E 8S	27	21	76	.1	7	2	1
L14E BL0+00	140	83	257	.5	25	24	26
L14E 10N	52	18	81	.1	22	3	7
L14E 9N	24	16	115	.1	10	2	2
L14E 8N	11	9	68	.1	4	2	1
L14E 7N	27	16	84	.1	9	2	1
L14E 6N	26	15	78	.1	9	2	4
L14E 5N	33	26	83	.1	12	2	11
L14E 4N	54	32	129	.1	12	2	9
L14E 3N	44	123	173	.1	11	3	13
L14E 2N	67	210	183	.1	13	7	4
L14E 1N	244	230	382	.4	28	26	38
L15E BL0+00	29	19	76	.1	10	2	7
L15E 5N	23	21	74	.1	12	2	12
L15E 4N	42	22	84	.1	10	2	9
L15E 3N	194	1082	939	.4	25	18	36
L15E 2N	43	210	161	.1	11	17	7
L15E 1N	21	14	63	.1	7	2	3
STD C/AU-0.5	58	40	134	7.2	39	16	490

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Sb PPM	Au* PPB
L16E 1S	29	23	85	.1	14	2	6
L16E 2S	34	106	129	.1	8	2	11
L16E 3S	21	18	76	.1	8	2	10
L16E 4S	27	13	65	.1	7	3	1
L16E 5S	21	14	61	.1	7	2	2
L16E BL	25	21	74	.1	6	2	3
L16E 10N	24	15	60	.1	10	2	1
L16E 9N	23	16	57	.1	11	2	1
L16E 8N	23	19	62	.2	5	2	2
L16E 7N	22	17	59	.1	8	2	1
L16E 6N	25	20	66	.1	7	2	1
L16E 5N	18	16	61	.2	6	2	5
L16E 4N	25	22	69	.3	13	3	2
L16E 3N	27	27	72	.2	5	3	1
L20E BL0+00	24	12	66	.1	5	2	2
L20E 10N	23	15	55	.3	7	2	1
L20E 9N	19	13	57	.2	5	2	2
L20E 8N	23	20	61	.2	4	3	3
L20E 7N	21	14	66	.4	5	2	1
L20E 6N	20	15	61	.2	2	2	2
L20E 5N	20	19	61	.1	7	2	1
L20E 4N	22	19	58	.2	6	2	1
L20E 3N	23	17	60	.1	7	2	2
L20E 2N	26	18	92	.1	16	2	3
L20E 1N	22	11	62	.1	9	2	3
L24E 1S	23	8	62	.2	4	2	1
L24E 2S	33	14	65	.3	6	3	2
L24E 3S	23	11	59	.1	3	2	3
L24E 4S	24	8	60	.1	7	2	3
L24E 5S	20	15	61	.2	2	2	2
L24E BL	24	14	76	.1	6	2	1
L24E 10N	24	14	53	.3	5	2	2
L24E 9N	29	15	65	.2	6	2	2
L24E 8N	26	18	61	.3	6	2	5
L24E 7N	23	16	58	.1	10	2	2
L24E 6N	25	14	63	.1	6	2	3
STD C/AU-0.5	57	41	130	6.9	38	16	500

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Sb PPM	Au* PPB
L24E 5N	24	18	64	.2	4	3	8
L24E 4N	29	22	83	.1	2	2	2
L24E 3N	27	17	67	.1	5	4	1
L24E 2N	27	19	66	.1	4	2	1
L24E 1N	24	18	69	.1	2	2	1

852 E. HASTINGS, VANCOUVER B.C.
PH:(604)253-3158 COMPUTER LINE:251-1011 DATE REPORTS MAILED May 30/85

GEOCHEMICAL ASSAY CERTIFICATE

SAMPLE TYPE : PULP
Au* - 10 GM.IGNITED, HOT AQUA REGIA LEACHED, MIBK EXTRACTION, AA ANALYSIS.

ASSAYER T. Saundry .DEAN TOYE OR TOM SAUNDRY, CERTIFIED B.C. ASSAYER

EUREKA RESOURCES FILE# 85-0642 R PAGE# 1

SAMPLE	Au* ppb
CR-04	8
CR-06	1800

JUN 03 1985

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS, VANCOUVER B.C.
PH: (604) 253-3158 COMPUTER LINE: 251-1011

DATE RECEIVED MAY 21 1985

DATE REPORTS MAILED May 24/85

ASSAY CERTIFICATE

SAMPLE TYPE : PULP

ASSAYER T. Saundry DEAN TOYE OR TOM SAUNDRY, CERTIFIED B.C. ASSAYER

EUREKA RESOURCES FILE# 85-0420 R

SAMPLE	Cu %	Pb %	Zn %	Ag oz/t	Au oz/t
C-04	.59	-	-	.43	.027
C-07	1.81	.01	.11	.10	.001
C-09	1.61	-	-	.54	.086

IRON KING ASSAY INC.

 DATE CREEK / CRYSTAL HILL PROJECT, ARIZONA 22-Jul-88

LAB JOB #: MSC02793

ATTN: Allen St. James

Client name: St. James and Assoc.

No. Samples: 11
Date Received: 07-14-88
Submitted by: Don White

Billing address: 1557 W. 60th Avenue
Vancouver, B.C. V6P2A4

Phone number: (602) 778-3140

INVOICE ATTACHED

ANALYTICAL REPORT

Client ID MSC02793	Lab ID	FA/AA Au ppm	AA Ag oz/ton	Cu ppm	Pb ppm	Zn ppm
C-1	2793- 1	0.02	<.10	5	60	90
C-2 (OFF ZONE)	2793- 2	0.02	<.10	10	55	<10
C-3	2793- 3	<.01	<.10	35	45	100
C-4	2793- 4	<.01	<.10	25	65	<10
C-5	2793- 5	0.07	<.10	15	95	1500
C-6	2793- 6	0.01	<.10	45	150	800
C-7	2793- 7	0.03	<.10	95	500	2200
C-8	2793- 8	0.15	0.34	7000	110	2000
C-9	2793- 9	0.43	0.48	500	500	2500
C-10	2793- 10	0.13	<.10	400	1000	2700
C-11	2793- 11	0.48	0.43	6000	2100	2700

* CHIP SAMPLES (SURFACE) COLLECTED BY DON WHITE (1988)

N.B. SAMPLES C-1 THROUGH C-4 TAKEN CONSIDERABLE DISTANCE OFF ZONE OF INTEREST (SEE MAP BY D. WHITE, JULY, 1988).

REGISTERED ASSAYER CERTIFICATE NO. 14315 ROBERT G. CROOK Registered ARIZONA U.S.A.

P.O. Box 56 • Humboldt, Arizona 86329 • Phone (602) 632-7410

NORTH AMERICAN LABORATORIES, INC.

CERTIFICATE OF ANALYSIS

Client Name: Allan St. James
Address: P.O. Box 205
Wickenburg, AZ
Telephone: 684-3573

Job Number: MA-1846
Date: February 26, 1985

Copies to:

Submitted by: Allan St. James
Date Received: 2/7/85

Additional Info:

Client I.D.	Lab #	Fire Assay		Fire Assay AA	Geochemical Analysis			
		Au (Oz/ton)	Ag (Oz/ton)	Au (Oz/ton)	Ag (Oz/ton)	Cu (ppm)	Pb (ppm)	Zn (ppm)
RE-01	1			<.001				
RE-02	2			.002				
CH-01	3			<.001	<.01			
CH-02	4			<.001				
CH-03	5	.001	<.01					
CH-04	6			<.001	CRYSTAL HILL			
CH-05	7	.010	.14		(CHIP SAMPLES)			
CH-06	8	.030	.20					
CH-07	9			.001				
CH-08	10			.001				
CH-09	11			<.001				
CH-10	12			<.001	<.01			
CH-11	13	.133	<.01			12200	860	2500

* COLLECTED BY A. ST. JAMES
LOCATIONS OF CH-03, 05, 06, 11
PLOTTED ON MAP BY DON WHITE (1"=400')

Registered Assayer
CERTIFICATE NO. 15184
JAMES W. ANDERSON
Date Signed 2/26/85
ARIZONA, U.S.A.

These analyses are based on materials supplied by the client to whom and for whose exclusive and confidential use this report is made. North American Laboratories, Inc., and its officers and employees assume no responsibility and make no representations as to the productivity or profitability of any mineral deposit in connection with which this report is made.

We will store the PULPS for ONE YEAR in case you desire further analysis. They will be returned to you if you so request or be discarded after one year.

Mineral and Water Analysis

1022 West 23rd Street • Tempe, Az. 85282 • (602) 894-0919

ACME ANALYTICAL LABORATORIES LTD.
352 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6
PHONE 253-3158 DATA LINE 251-1011

DATE RECEIVED: FEB 19 1986

DATE REPORT MAILED: Feb.24/86

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK CHIPS AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.

ASSAYER: D. Toye DEAN TOYE. CERTIFIED B.C. ASSAYER.

EUREKA RESOURCES FILE # 86-0193 PAGE 1

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Sb PPM	Au* PPB
T1-1	14	16	95	.2	8	10	6
T1-2	30	9	118	.3	8	7	9
T1-3	247	72	141	.1	32	152	21
T1-4	745	21	345	.6	46	402	180
T1-5	265	43	146	1.4	46	273	19
T1-6	148	44	212	.6	20	53	29
T1-7	167	40	438	.9	21	47	21
T1-8	52	25	151	.4	7	18	11
T1-9	220	347	1261	1.1	26	119	24
T1-10	380	2705	1252	1.2	37	100	49
T1-11	133	423	508	.3	13	21	10
T1-12	129	167	114	.2	13	28	4
T2-1	60	10	175	.4	15	20	17
T2-2	69	20	210	.3	17	30	7
T2-3	24	8	164	.2	14	10	6
T2-4	63	22	139	.4	13	29	7
T2-5	96	14	141	.3	16	27	13
T2-6	41	20	100	.4	13	46	8
T2-7	101	41	218	1.0	21	56	41
T2-8	1210	124	240	1.0	30	71	17
T2-9	50	68	146	.4	9	14	8
T2-10	26	32	116	.3	10	6	9
T2-11	26	5	91	.2	8	9	3
T2-12	54	15	103	.1	4	8	4
T2-13	1460	10	92	.3	22	85	12
T2-14	28	11	69	.2	5	5	3
T2-15 GRAB	120576 ✓	179	598	2.4	819	8167 ✓	390
T3-1	85	47	81	.4	8	28	2
T3-2	123	50	101	.3	12	37	5
T3-3	93	23	75	.1	11	24	4
T3-4	34	23	67	.2	10	8	3
T3-5	36	115	90	.2	9	10	2
T3-6	91	221	176	.5	13	23	16
T3-7	1267	737	445	1.2	25	50	14
T3-8	95	321	379	1.0	9	29	8
T3-9	75	95	146	.2	7	9	6
T3-10	46	43	92	.3	6	7	11
STD C/AU-0.5	61	41	136	7.1	40	17	510

✓ Assay required for correct result —

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Sb PPM	Au* PPB
T4-1	47	10	50	.8	8	5	11
T4-2	23	22	64	.6	2	2	7
T4-3	20	17	90	.4	6	3	2
T4-4	41	15	65	.4	7	6	3
T4-5	26	8	54	.7	3	2	18
T4-6	18	7	59	.5	2	2	2
T4-7	33	8	60	.4	4	3	4
T4-8	26	18	69	.4	2	3	1
T5-1	13	3	56	.3	5	2	1
T5-2	24	24	54	.6	5	2	4
T5-3	37	6	52	.1	4	2	37
T5-4	27	4	61	.4	6	4	17
T5-5	14	8	65	.5	5	2	3
T5-6	11	7	60	.7	3	2	5
T5-7	13	6	70	.3	5	2	7
T5-8	15	9	65	.4	3	2	9
T5-9	15	8	60	.5	5	2	4
T6-1	87	10	127	.5	8	15	7
T6-2	13	5	49	.1	5	2	2
T6-3	131	19	97	.9	8	18	7
T6-4	346	141	632	1.8	17	67	60
T6-5	493	274	545	1.9	80	386	23
T6-6	422	152	331	1.3	33	178	70
T6-7	240	65	268	1.3	14	35	28
T6-8	161	53	206	1.2	10	26	36
T6-9	279	464	483	1.6	28	99	31
T6-10	156	350	333	.4	11	22	8
T6-11	35	24	57	.3	2	10	6
T7-1	727	96	285	1.0	59	206	26
T7-2	140	40	276	.6	17	29	11
T7-3	290	36	567	1.2	24	53	7
T7-4	166	22	323	.6	24	49	10
T8-1	684	15	250	1.4	84	188	11
T8-2	64	10	265	.8	15	24	9
T8-3	1057	72	558	1.7	79	3434 ✓	6
T8-4	99	56	177	.6	7	30	24
STD C/AU-0.5	59	42	135	7.0	40	15	520

✓ Assay required for correct result

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Sb PPM	Au* PPB
T8-5	46	9	112	.1	7	65	13
T8-6	23	11	88	.2	5	9	9
T8-7	25	10	79	.1	3	8	11
T8-8	23	14	177	.1	6	13	18
T8-9	23	3	150	.1	6	7	4
T8-10	39	6	294	.2	11	13	8
T8-11	1497	15	327	.8	45	372	80
T8-12	526	8	165	1.3	15	57	60
T8-13	492	15	279	2.3	48	151	16
T8-14	82	56	170	.9	8	22	280
T8-15	652	16	423	2.9	19	16	8
T8-16	271	1408	1025	8.1	57	77	216
T8-17	75	249	886	.4	4	2	16
T9-1	57	70	137	.5	7	2	4
T9-2	36	51	78	.4	4	2	3
T9-3	192	23	102	.2	5	4	13
T9-4	24	5	53	.2	5	2	4
T9-5	31	7	53	.5	4	2	3
T10-1	80	14	116	.5	10	2	11
T10-2	84	4	44	.3	3	2	4
T10-3	25	6	42	.3	3	2	5
T10-4	24	5	48	.5	2	2	4
T10-5	36	2	58	.6	3	2	2
T10-6	31	2	37	.3	2	2	1
T10-7	75	18	49	.4	5	2	18
T10-8	148	306	196	.7	7	7	28
T10-9	43	15	69	.5	9	2	5
T11-1	21	7	49	.1	3	2	3
T11-2	129	187	133	.6	14	51	16
T11-3	36	13	59	.4	7	2	6
T11-4	29	7	48	.4	6	2	2
T11-5	25	4	44	.3	4	2	5
T11-6	28	28	68	.6	6	2	4
T11-7	38	20	58	.3	4	2	5
T11-8	30	24	51	.4	8	2	6
T11-9	26	19	80	.4	4	2	5
STD C/AU-0.5	58	39	130	6.9	38	15	500

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	As PPM	Sb PPM	Au* PPB
T11-10	127	241	417	.7	12	8	19
T11-11	122	245	684	1.1	7	4	36
T11-12	29	23	69	.4	5	2	6
T11-13	28	22	81	.6	5	2	6
T12-1	13	4	79	.4	4	2	3
T12-2	22	8	101	.5	5	2	1
T12-3	18	6	150	.6	7	2	2
T12-4	17	3	85	.7	2	2	1
T13-1	499	27	344	2.1	29	87	9
T13-2	1123	117	2589	2.6	24	63	13
T13-3	40	10	94	.6	5	7	6
T13-4	23	5	71	.4	5	2	1
T13-5	27	5	63	.5	5	2	3
T13-6	28	7	49	.7	7	6	6
T14-1	33	169	295	.9	8	14	9
T14-2	189	526	1253	1.3	10	13	13
T14-3	432	1713	4711	2.2	20	31	42
T14-4	189	1202	2124	1.7	16	8	22
T14-5	47	156	310	.7	8	2	6
T15-1	421	45	246	1.4	47	362	19
T16-1	123	16	246	1.1	9	26	17
T17-1	56	65	185	.6	13	24	18
STD C/AU-0.5	57	43	135	7.0	37	16	510

ACME ANALYTICAL LABORATORIES LTD.
852 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6
PHONE 253-3158 TELEX 04-53124

DATE RECEIVED: FEB 1986

DATE REPORT MAILED: 13 March 86

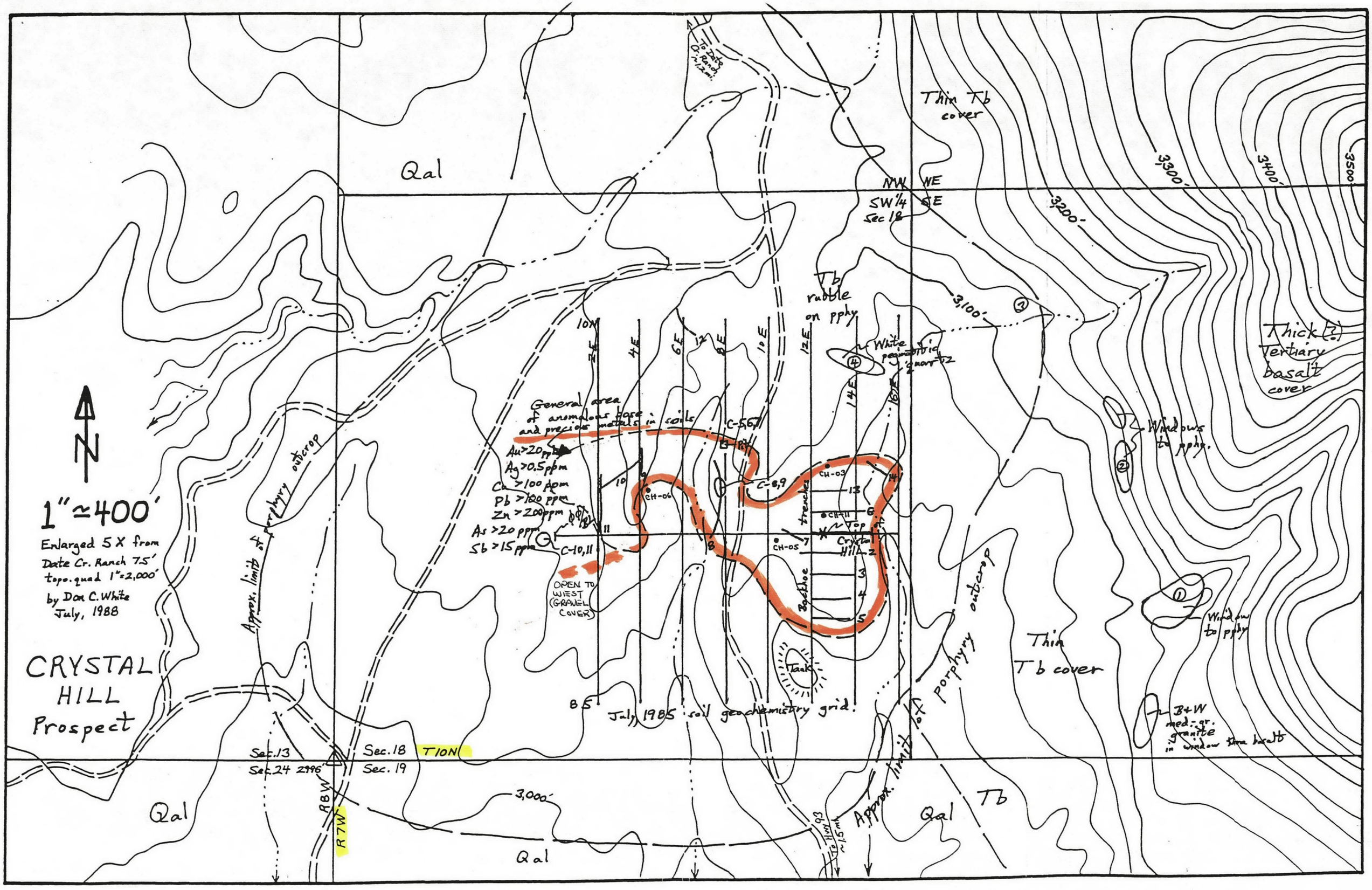
ASSAY CERTIFICATE

SAMPLE TYPE: PULP AU* 10 GRAM REGULAR ASSAY

ASSAYER: B. Jerry for DEAN TOYE. CERTIFIED B.C. ASSAYER.

EUREKA RESOURCES FILE # 86-0193 R

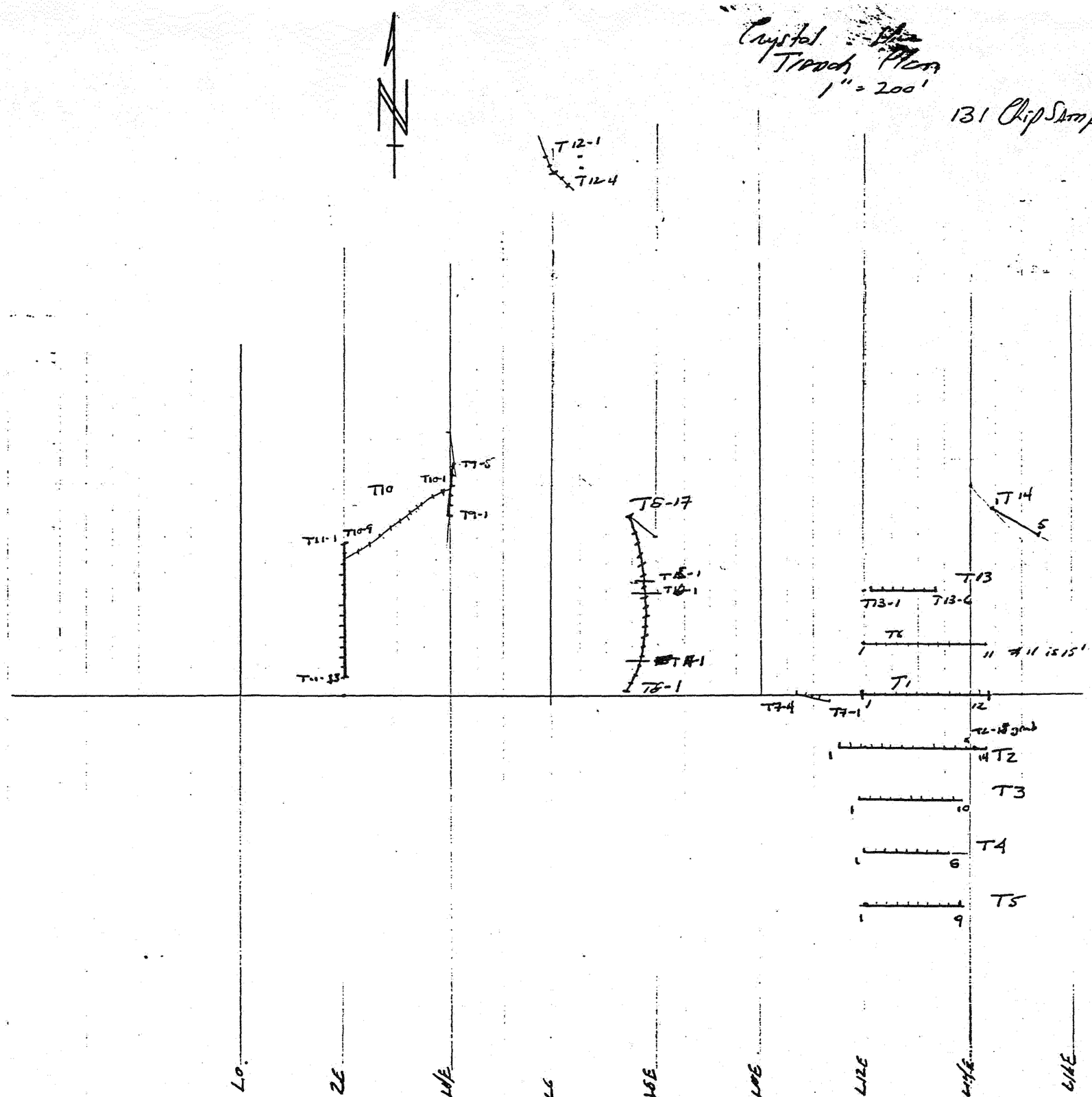
SAMPLE#	Cu %	Ag OZ/T	Au OZ/T
T-1 #4	.08	.04	.005
T-2 #7	.01	.06	.001
T-2 #15	2.24	.06	.011
T-6 #6	.05	.10	.002
T-8 #11	.16	.01	.002
T-8 #12	.06	.14	.001
T-8 #13	.05	.08	.001
T-8 #14	.01	.02	.002
T-8 #15	.07	.04	.001
T-8 #16	.03	.28	.006
STD R-1	.89	2.98	-

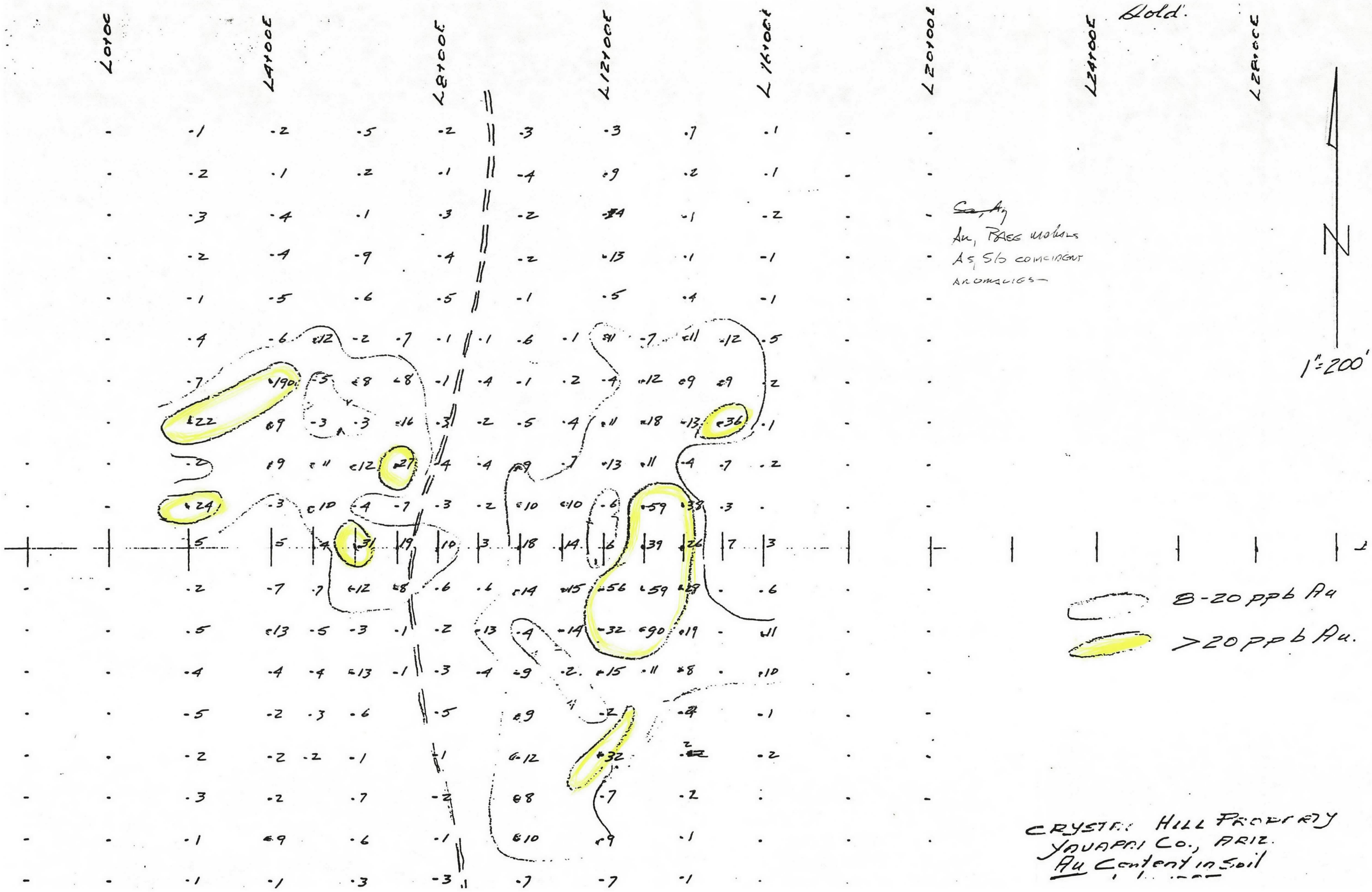

CRYSTAL HILL Prospect
1" ≃ 400'
Enlarged 5X from Date Cr. Ranch 7.5' topo. quad 1"=2,000'
by Don C. White July, 1988
N
Qal
Thin Tb cover
NW SW¼ Sec 18
NE SE
3,300'
3,400'
3,500'
3,200'
3,100'
Tb rubble on pphy
White pegmatitic quartz
Thick (?) Tertiary basalt cover
Windows to pphy.
Approx. limit of porphyry outcrop
General area of anomalous base and precious metals in soils
Au > 20 ppb
Ag > 0.5 ppm
Cu > 100 ppm
Pb > 100 ppm
Zn > 200 ppm
As > 20 ppm
Sb > 15 ppm
C-5,6
C-8,9
C-10,11
CH-03
CH-05
CH-06
CH-11
Top of Crystal Hill
trenches
Backhoe
Tank
OPEN TO WEST (GRAVEL COVER)
July, 1985 soil geochemistry grid.
Thin Tb cover
Approx. limit of porphyry outcrop
B+W med.-gr. granite in window thru basalt
Sec. 13
Sec. 24
Sec. 18
Sec. 19
T10N
R8W
R7W
3,000'
Qal
Tb
To Date Cr. Ranch
To Hwy 93 ~1.5 mi.

TRENCH LOCATIONS

Crystal Trench Plan
1" = 200'

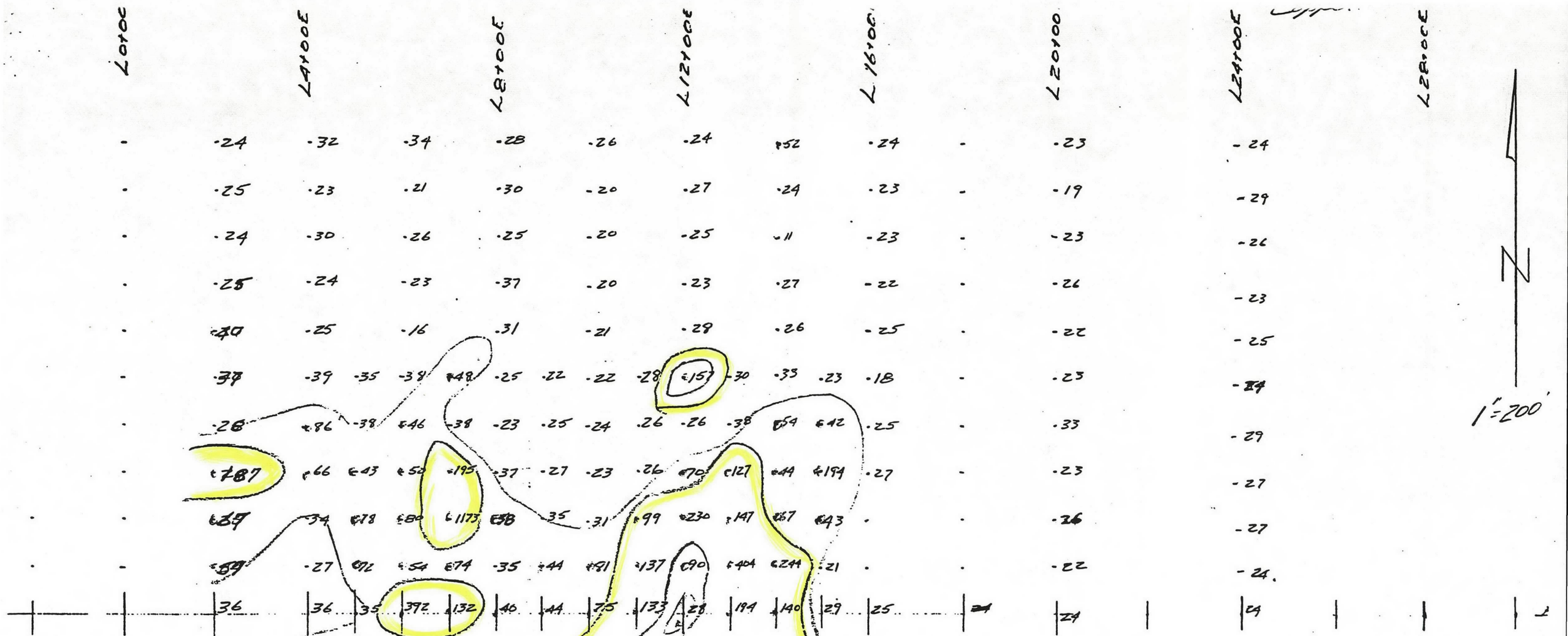
131 Chip Samples



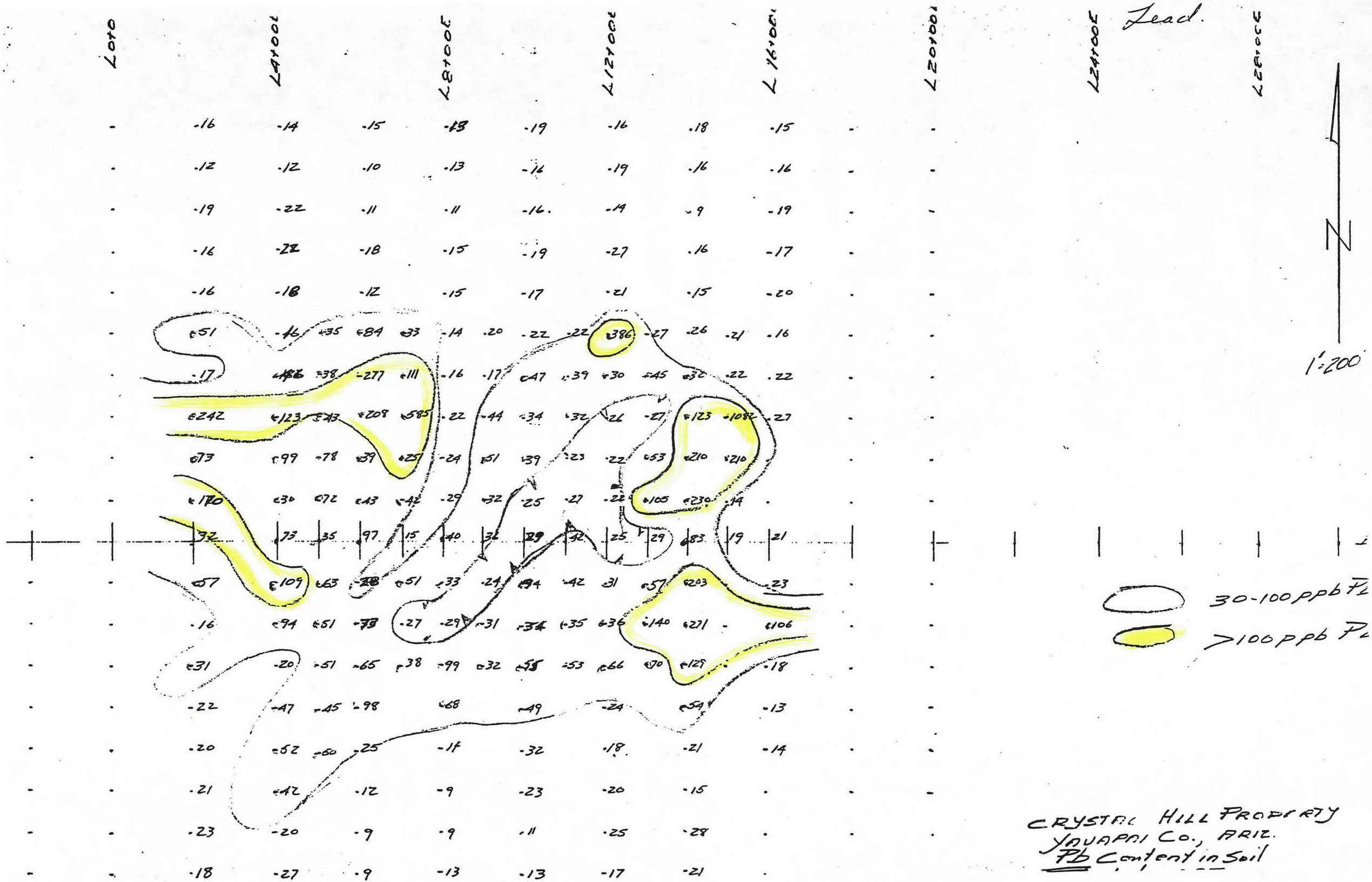


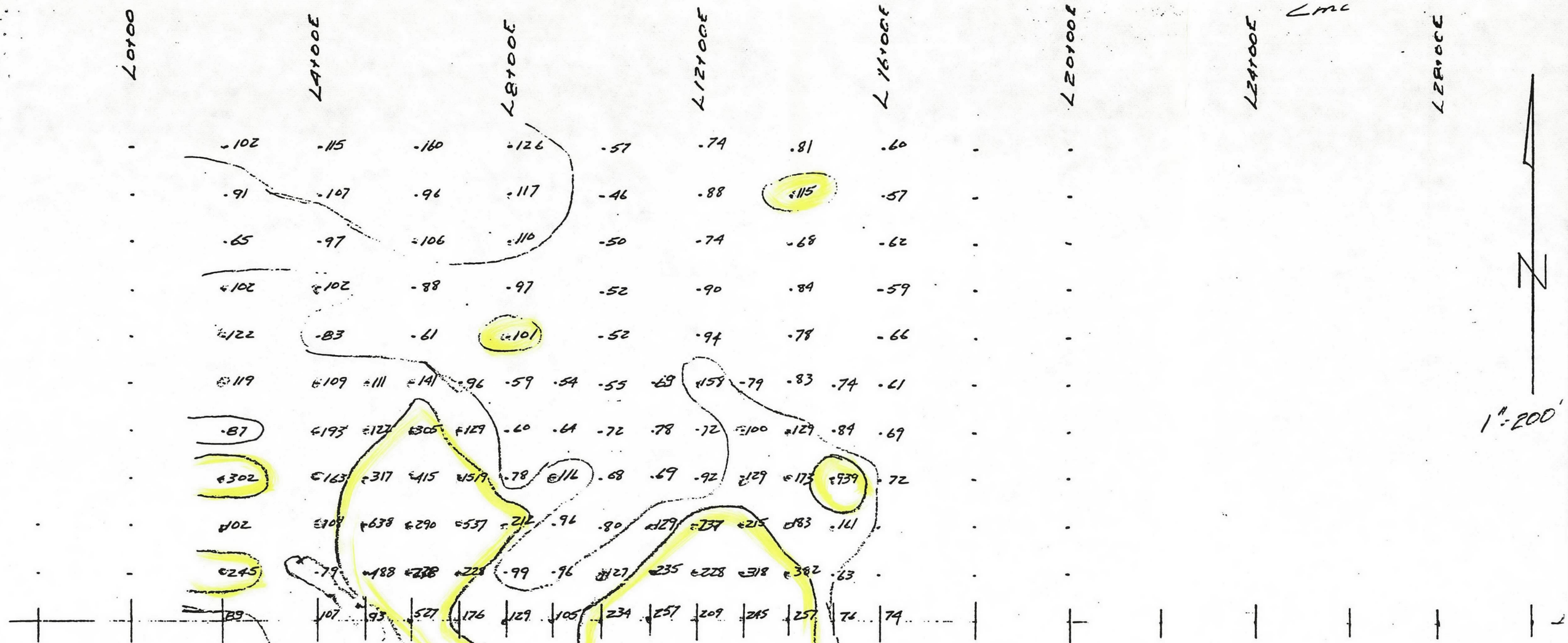
CRYSTAL HILL PROPERTY
YAVAPAI Co., ARIZ.
Au Content in Soil

CRYSTAL HILL PROPERTY
YAVAPAI CO., ARIZ.
Ag Content in Soil



CRYSTAL HILL PROPERTY
YAVAPAI CO., ARIZ.
Cu Content in Soil

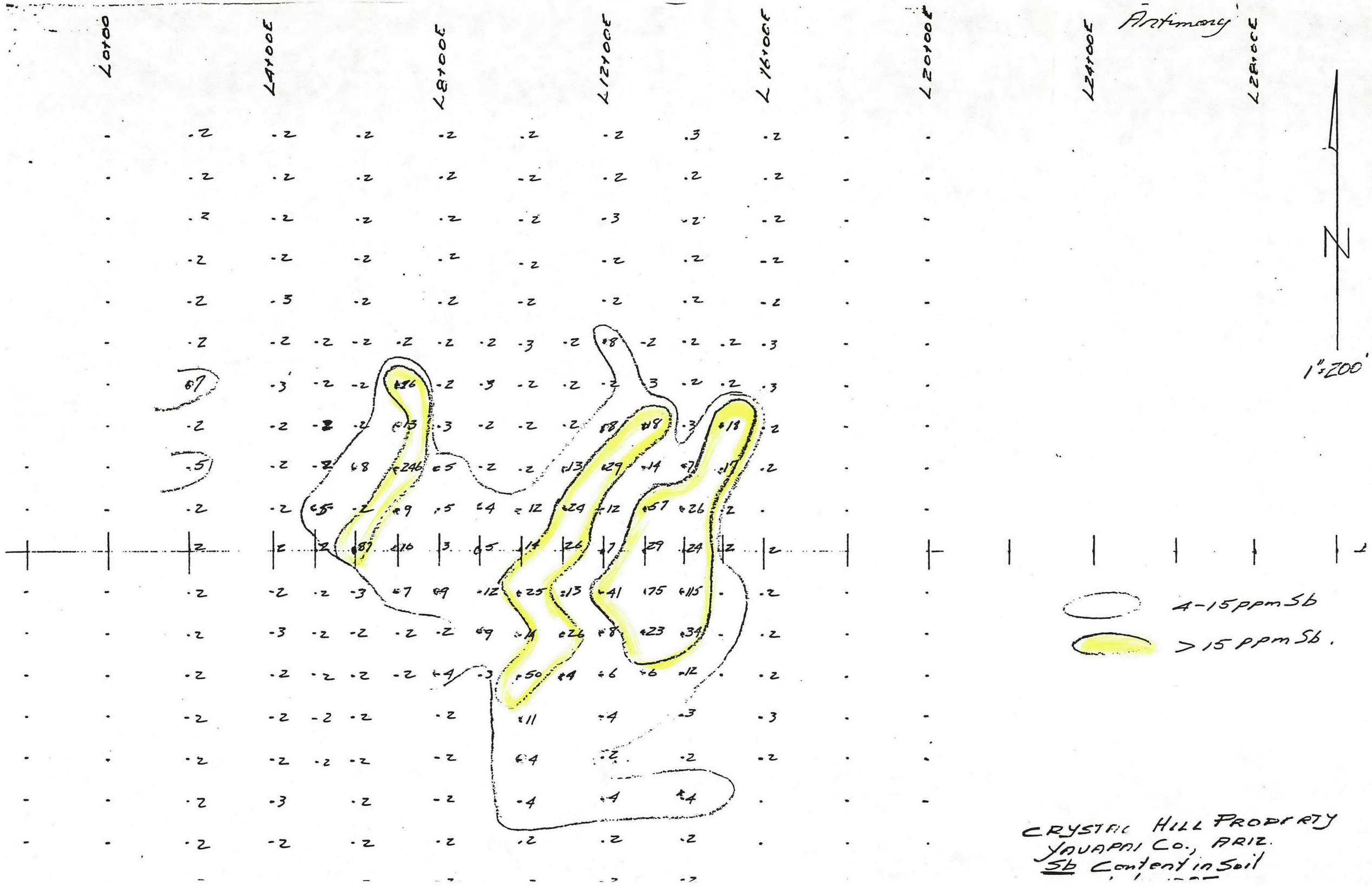

L0+00
L4+00E
L8+00E
L12+00E
L16+00E
L20+00E
L24+00E
L28+00E
Lead.
N
1"=200'
30-100 ppb Pb
>100 ppb Pb
CRYSTAL HILL PROPERTY
YAVAPAI Co., ARIZ.
Pb Content in Soil



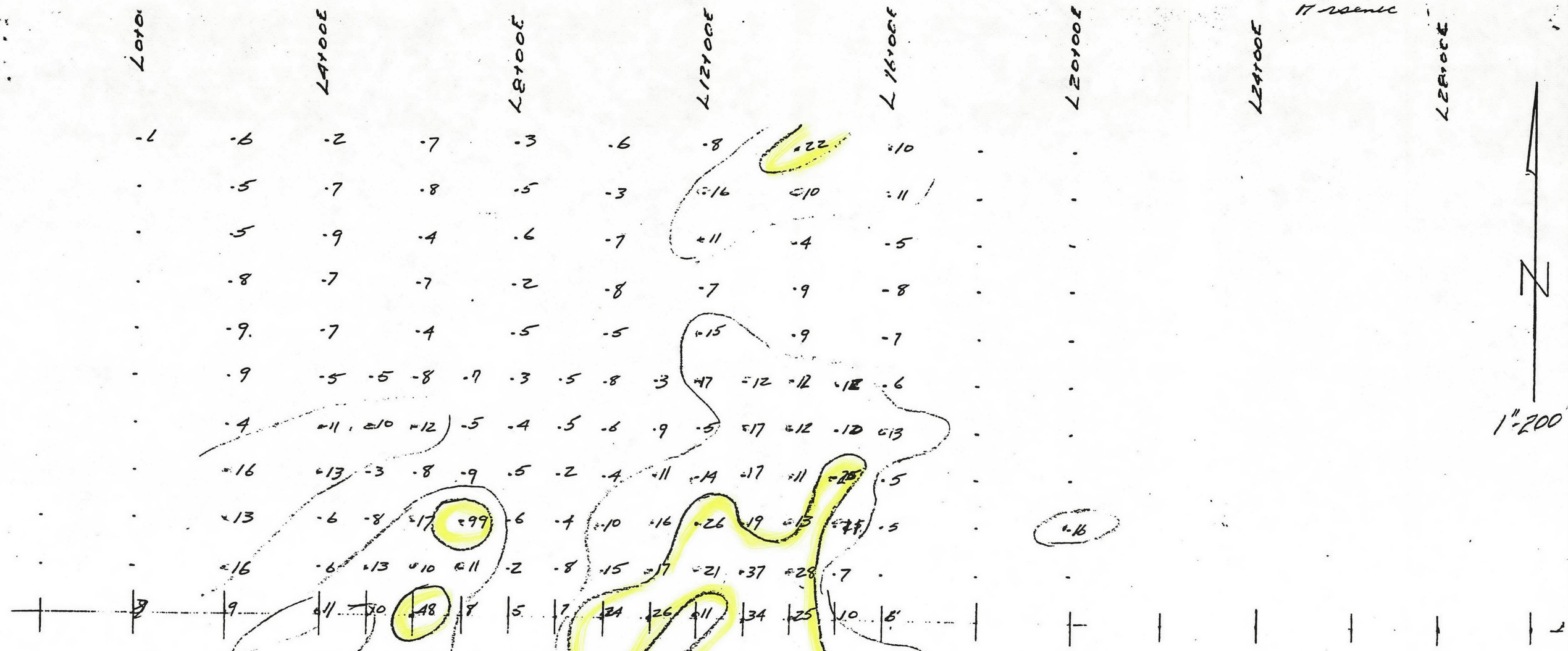
100-200 ppm Zn.

>200 ppm Zn.

CRYSTAL HILL PROPERTY
YAVAPAI CO., ARIZ.
Zn Content in Soil



CRYSTAL HILL PROPERTY
YAVAPAI Co., ARIZ.
Sb Content in Soil



CRYSTAL HILL PROPERTY
YAVAPAI CO., ARIZ.
AS Content in Soil

JDS

FROM: J. D. SELL

2/9/91

TO: M A Mulles

Crystal Hill
Lion King Mine
Date Creek West
Yavapai Co., AZ

On your day off go see. Doesn't appear to have continuous values of the type we're after but a ground check needs to be made. ? Bagby Co-Mus?

J D Sell

ANALYSIS REPORT

American Assay Laboratories

REPORT : SP 010631

Sample	Au ppb	Au(R) ppb	Ag ppm	
CH-1	24		--	Crystal Hill Yavapai Co.
CH-2	241		--	
CH-3	22		--	
CH-4	21	22	--	
CH-5	61		--	
CH-6	26		--	
RB-1 0-9	5040	4675	1.0	Red Bluff Yavapai Co.
RB-1 9-18	6080		2.5	
RB-2	138	6370	<0.5	
RB-3	871		0.8	
RB-4	37		<0.5	
RB-5	35		<0.5	
RB-6	5		<0.5	
GB-1	6	<5	--	Gold Bar

Please refer to the cover sheet for further analysis details.

ASARCO Inc.

MAR 6 1991

Sir Exploration

CLIENT: ASARCO INC.
CLIENT REF: RECON
AAL REF: SP010631
METHOD: AAL 01-0

1500 GLENDALE AVE. SPARKS
NEVADA 89431
TELEPHONE (702) 356 0606
FACSIMILE (702) 356 1413

ELEMENT SAMPLES	Au ppm	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Sr ppm	Th ppm	Ti %	U ppm	V ppm	W ppm	Zn ppm
CH-1	2	2.1	0.47	89	29	421	6	0.58	1.5	9	8	911	2.61	1	0.24	31	0.08	653	2	0.01	7	0.068	108	87	29	6	0.01	5	17	1	2231
CH-2	2	2.8	0.64	73	8	67	13	0.23	2.4	10	12	1929	2.56	1	0.19	32	0.18	536	4	0.03	9	0.064	1624	31	16	6	0.02	5	11	4	11269
CH-3	2	0.1	0.38	2	2	107	2	0.23	0.2	6	11	23	2.07	1	0.15	28	0.07	432	2	0.03	9	0.058	18	2	12	5	0.01	5	9	1	116
CH-4	2	0.1	0.4	11	18	403	3	2.89	0.7	8	8	15	2.51	1	0.21	22	0.06	684	1	0.01	6	0.064	8	7	22	1	0.01	5	8	1	235
CH-5	2	0.3	0.11	17	8	1711	2	6.18	2	11	12	37	4.12	1	0.07	10	0.05	2050	2	0.01	11	0.013	7	17	54	1	0.01	8	9	1	488
CH-6	2	0.5	0.6	7	18	314	2	1.18	1.3	8	13	255	2.69	1	0.21	30	0.12	731	2	0.02	12	0.062	35	13	25	2	0.01	5	11	1	405
GB-1	2	0.1	2.05	2	2	196	2	16.08	1.7	12	9	11	7.35	2	0.37	6	0.39	3722	1	0.01	12	0.023	2	2	250	1	0.01	5	33	1	118
DETECTION LIMIT	3	0.2	0.01	2	2	2	2	0.01	0.2	1	1	1	0.01	1	0.01	2	0.01	1	1	0.01	1	0.001	2	2	1	2	0.01	5	2	1	1

CH Capital Hill

GB Gold Bar

0.500 GRAMS OF PULP IS DIGESTED WITH HYDROCHLORIC AND NITRIC ACID AT 95 DEGREE CENTIGRADE FOR ONE HOUR.
DIGEST IS PARTIAL FOR B Ba Ca Cr Fe La Mg Mn Sr Ti AND W
DIGEST IS LIMITED FOR Al K AND Na

American Assay Laboratories

American Assay Laboratories

Copy

INVOICE

Reno, NV 89570
Phone No.: 702-356-0606
Fax No.: 702-356-1413

JDS

AMERICAN ASSAY LABORATORIES
P. O. BOX 71060
RENO, NV 89570

INVOICE NO: SP 0010631-IN
INVOICE DATE: 02/28/91

(702) 356-0606
Mark Miller

INVOICE TO:
ASARCO, INC.
P. O. BOX 5747
TUCSON AZ 85703

ASARCO, INC.
P. O. BOX 5747
TUCSON AZ 85703

CUSTOMER P.O.	PROJECT	TERMS
	RECON	NET 30

QUANTITY	DESCRIPTION	PRICE	AMOUNT
14	SAMPLES RECEIVED	.00	.00
14	DRYING	.80	11.20
14	JAW CRUSHING CHARGE	1.20	16.80
14	SPLITTING CHARGE	.50	7.00
14	KEEGOR MILLING CHARGE	2.00	28.00
14	Au (1 A.T. FIRE ASSAY)	7.25	101.50
7	HYDROCHLORIC/NITRIC DIGESTION	2.00	14.00
7	Ag ANALYSES	.80	5.60
7	MULTI-ELEMENT ICP PACKAGE	6.20	43.40

APPROVED FOR PAYMENT
By _____
(Signature)

NET INVOICE:	227.50
LESS DISCOUNT:	.00
FREIGHT:	.00
INVOICE TOTAL:	227.50

ASARCO Inc.
MAR 6 1991
SW Exploration

ANALYSIS REPORT

American Assay Laboratories

RENO: 1500 Glendale Ave,SPARKS 89431
P.O. Box 71060, RENO 89570
Ph (702)356 0606 Fax 3561413

JDS

ASARCO, INC.

REPORT : SP 010631 1 Page(s) Date : 02/28/91

Client reference : CH-1/GB-1 Project : RECON

Cost code :

Copies to : MARK MILLER (I)

J.D. SELL (RESULTS)

Samples : Type Preparation code
Received : 02/21/91

Analysis	Code	Quality Parameter	Detection	Units
Au	FA30	Acc. 15 %	5	ppb
Au(R)	FA30	Acc. 15 %	5	ppb
Ag	D210	Prec.10 %	0.5	ppm

ASARCO Inc.,

MAR 6 1991

SW Exploration

Signatory : Jorge Ugarte

UN

PRELIMINARY REPORT

RENO: 1500 Glendale Ave,SPARKS 89431
P.O. Box 71060, RENO 89570
Ph (702)356 0606 Fax 3561413

ASARCO, INC.

REPORT : SP 010631 1 Page(s) Date : 02/22/91

Client reference : CH-1/GB-1 Project : RECON

Cost code :

Copies to : MARK MILLER (T)

J.D. SELL (RESULTS)

ASARCO Inc.
FEB 22 1991
SW Exploration

Samples : Type Preparation code
Received : 02/21/91 ----------

Analysis	Code	Quality Parameter	Detection	Units
Au	FA30	Acc. ±15 %	5	ppb
Au(R)	FA30	Acc. ±15 %	5	ppb

Comments :

DTF=DATA TO FOLLOW

Signatory : Jorge Ugarte

PRELIMINARY REPORT

REPORT : SP 010631

Sample	Au ppb	Au(R) ppb	
CH-1	24		CH = Crystal Hill
CH-2	241		Yavapai Co, Az
CH-3	22		
CH-4	21	22	
CH-5	61		
CH-6	26		
RB-1 0-9	DTF		RB = Red Bluff Mine
RB-1 9-18	DTF		Yavapai Co, Az
RB-2	138		
RB-3	871		
RB-4	37		
RB-5	35		
RB-6	5		
GB-1	6	<5	GB = Gold Bar Mine

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

RENO: 1500 Glendale Ave,SPARKS 89431
P.O. Box 71060, RENO 89570
Ph (702)356 0606 Fax 3561413

ASARCO, INC.

REPORT : SP 010631 1 Page(s) Date : 02/25/91

Client reference : CH-1/GB-1 Project : RECON

Cost code :

Copies to : MARK MILLER (I)

J.D. SELL (RESULTS)

ASARCO Inc.,
FEB 25 1991
SW Exploration

Samples : Type Preparation code
Received : 02/21/91

Analysis	Code	Quality Parameter	Detection	Units
Au	FA30	Acc. ƒ15 %	5	ppb
Au(R)	FA30	Acc. ƒ15 %	5	ppb
Ag	D210	Prec.ƒ10 %	0.5	ppm

Signatory : Jorge Ugarte

PRELIMINARY REPORT

REPORT : SP 010631

Sample	Au ppb	Au(R) ppb	Ag ppm
CH-1	24		--
CH-2	241		--
CH-3	22		--
CH-4	21	22	--
CH-5	61		--
CH-6	26		--
RB-1 0-9	5040	4675	1.0
RB-1 9-18	6080		2.5
RB-2	138	6370	<0.5
RB-3	871		0.8
RB-4	37		<0.5
RB-5	35		<0.5
RB-6	5		<0.5
GB-1	6	<5	--

Please refer to the cover sheet for further analysis details.

ASA
FEB 25 1991
SW LABORATORY

JDS

ASARCO

Southwestern Exploration Division

March 4, 1991

J.D. Sell

Crystal Hill Property
Iron King Mines Inc.
Date Creek District
Yavapai County, AZ

One day was spent on the Crystal Hill Property controlled by Iron King Mines. The area is controlled by two prospecting permits on state land. Additional property is available for staking or by prospecting permits. Iron King has stated that the additional ground is "available" at this time.

The area is underlain by a medium to coarse grained granitic rock which appears to be cut by finer grained dikes of similar composition. The area of anomalous gold and base metals is also a popular collecting area for quartz crystals as evidenced by the numerous holes dug all over and the five individuals digging "crystals." Don White in his report of July 1988 indicated a geochemical anomaly trending E-W and 1400 feet long by 200-800' wide. A reconnaissance of the ground revealed strongly altered rocks with abundant quartz veins and possibly an increase in silification. Also associated with the alteration is hematite and copper oxides usually associated with high angle fractures. In fact, it appears that the alteration and mineralization are very restricted to the fracture system and the western projection under cover may not exist.

Seven samples were taken throughout the anomalous area and results (attached) indicate no significant precious metal values. I do not recommend any further work on this prospect.

Agree, JDS

Mark A. Miller

MAM:mek
Att.

CRYSTAL HILL PROSPECT
DATE CREEK DISTRICT
YAVAPAI CO., AZ

Sample Description

(Au in ppb)

CH-1: Altered granitic rock, localized around hematitic quartz vein 1-2' thick. Trend of vein and possible structure is N30W, 25SW. Granitic rock is altered to sericite, pictures #4 & 5. (24)

CH-2: Narrow near vertical structure, N50W, 75SW; alteration appears to be restricted to the high angle structure. Hematite, limonite and copper oxides occur in parallel fractures to the structure. Width of the structure is less than 5'. Abundant quartz veins seen possibly a stockwork. (241)

CH-3: Small dump of recent digging for quartz crystals. Granitic rock is altered to sericite; limonite on fractures. Some sulfides (limonite after pyrite) seen in dump material, some quartz veining. (22)

CH-4: Small prospect pit; altered granite to sericite, quartz. Potassium feldspars are unaltered. (21)

CH-5: Select dump sample from CH-4 location; quartz with strong goethite. (61)

CH-6: Small adit driven into moderately altered granitic rock. Biotite present, but appears to be slightly bleached (brassy in color). Moderate abundant quartz veins. Orientation of adit is S57W. (26)

PRELIMINARY REPORT

REPORT : SP 010631

Sample	Au ppb	Au(R) ppb
CH-1	24	
CH-2	241	
CH-3	22	
CH-4	21	22
CH-5	61	
CH-6	26	
RB-1 0-9	DTF	
RB-1 9-18	DTF	
RB-2	138	
RB-3	871	
RB-4	37	
RB-5	35	
RB-6	5	
GB-1	6	<5

Please refer to the cover sheet for further analysis details.

CLIENT: ASARCO INC.
CLIENT REF: RECON
AAL REF: SP010631
METHOD: AAL 01-0

1500 GLENDALE AVE. SPARKS
NEVADA 89431
TELEPHONE (702) 356 0606
FACSIMILE (702) 356 1413

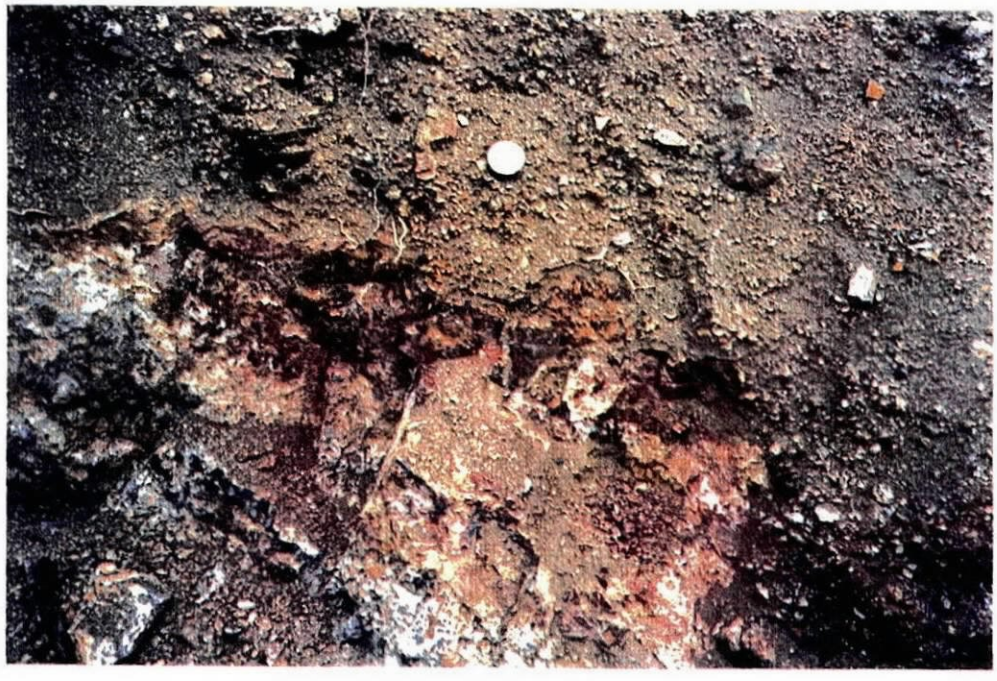
ELEMENT SAMPLES	Au ppm	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Sr ppm	Th ppm	Ti %	U ppm	V ppm	W ppm	Zn ppm
CH-1	2	2.1	0.47	89	29	421	6	0.58	1.5	9	8	911	2.61	1	0.24	31	0.08	653	2	0.01	7	0.068	108	87	29	6	0.01	5	17	1	2231
CH-2	2	2.8	0.64	73	8	67	13	0.23	2.4	10	12	1929	2.56	1	0.19	32	0.18	536	4	0.03	9	0.064	1624	31	16	6	0.02	5	11	4	11269
CH-3	2	0.1	0.38	2	2	107	2	0.23	0.2	6	11	23	2.07	1	0.15	28	0.07	432	2	0.03	9	0.058	18	2	12	5	0.01	5	9	1	116
CH-4	2	0.1	0.4	11	18	403	3	2.89	0.7	8	8	15	2.51	1	0.21	22	0.06	684	1	0.01	6	0.064	8	7	22	1	0.01	5	8	1	235
CH-5	2	0.3	0.11	17	8	1711	2	6.18	2	11	12	37	4.12	1	0.07	10	0.05	2050	2	0.01	11	0.013	7	17	54	1	0.01	8	9	1	488
CH-6	2	0.5	0.6	7	18	314	2	1.18	1.3	8	13	255	2.69	1	0.21	30	0.12	731	2	0.02	12	0.062	35	13	25	2	0.01	5	11	1	405
GB-1	2	0.1	2.05	2	2	196	2	16.08	1.7	12	9	11	7.35	2	0.37	6	0.39	3722	1	0.01	12	0.023	2	2	250	1	0.01	5	33	1	118
DETECTION LIMIT	3	0.2	0.01	2	2	2	2	0.01	0.2	1	1	1	0.01	1	0.01	2	0.01	1	1	0.01	1	0.001	2	2	1	2	0.01	5	2	1	1

0.500 GRAMS OF PULP IS DIGESTED WITH HYDROCHLORIC AND NITRIC ACID AT 95 DEGREE CENTIGRADE FOR ONE HOUR.
DIGEST IS PARTIAL FOR B Ba Ca Cr Fe La Mg Mn Sr Ti AND W
DIGEST IS LIMITED FOR Al K AND Na

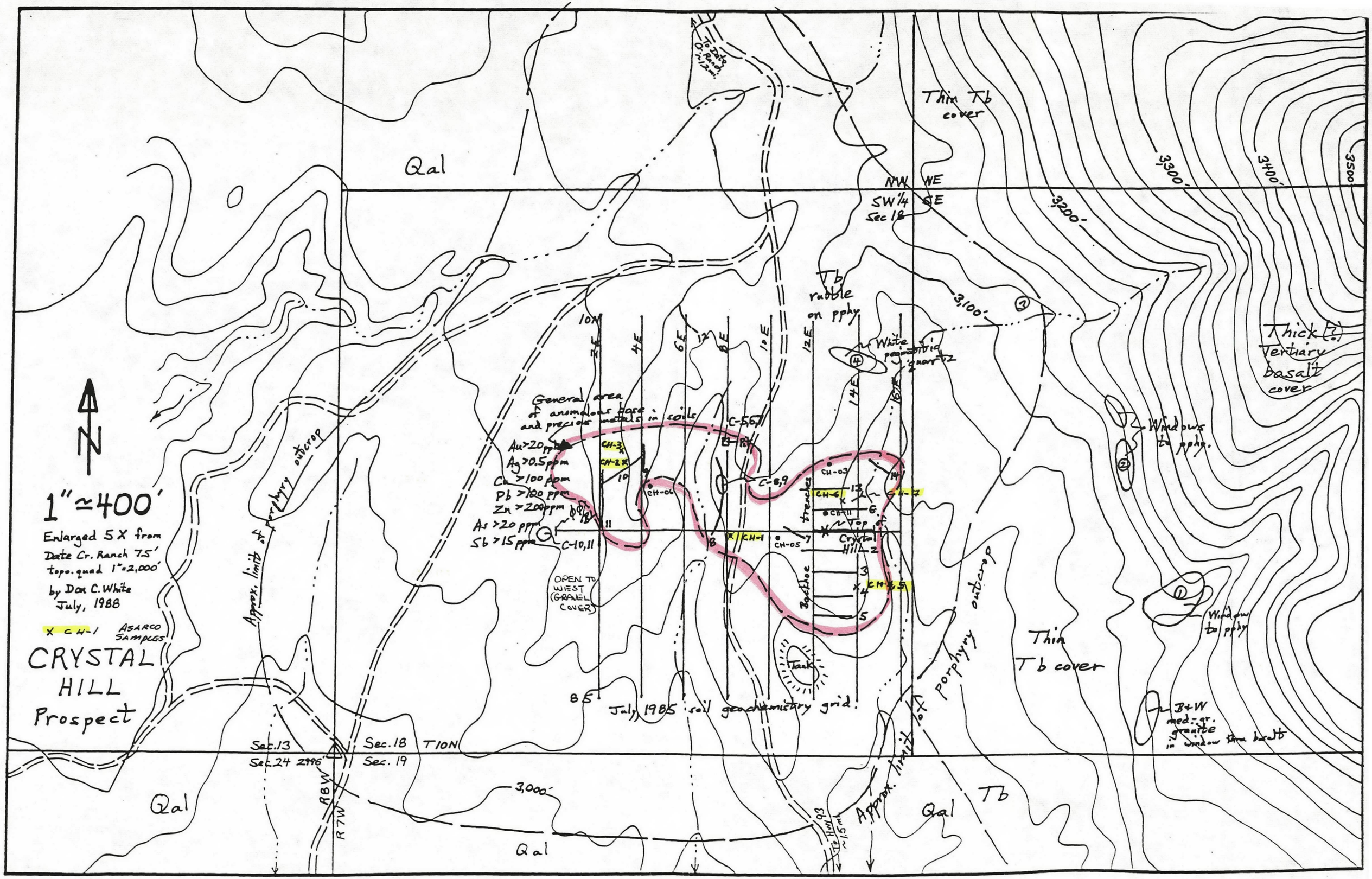
American Assay

CRYSTAL HILL, YAVAPAI COUNTY, ARIZONA

Small Pit, Cu Oxide Staining on Fracture Surfaces Looking E. Granite Sericitically Altered along N30°W Fracture/Fault



CH-1 - Altered Granite Localized Around Hematitic Quartz Veins 1-2' Thick Looking E


N
1" ≃ 400'
Enlarged 5X from Date Cr. Ranch 7.5' topo. quad 1"=2,000'
by Don C. White
July, 1988
X CH-1 ASARCO SAMPLES
CRYSTAL HILL Prospect
Qal
Thin Tb cover
NW NE
SW¼ SE
Sec 18
3,300'
3400'
3500
3200'
3,100'
Tb rubble on pphy
White pegmatitic quartz
Thick (?) Tertiary basalt cover
Windows to pphy.
Window to pphy
B+W med.-gr. granite in window thru basalt
General area of anomalous base and precious metals in soils
Au>20 ppb
Ag>0.5 ppm
Cu>100 ppm
Pb>100 ppm
Zn>200 ppm
As>20 ppm
Sb>15 ppm
CH-3
CH-2
CH-06
C-10,11
C-5,6
C-8,9
CH-03
CH-6
CH-11
CH-7
CH-1
CH-05
CH-4,5
trenches
Top of Crystal Hill
backhoe
Tank
OPEN TO WEST (GRAVEL COVER)
Approx. limit of porphyry outcrop
10N
2E
4E
6E
8E
10E
12E
14E
16E
July, 1985 soil geochemistry grid.
Sec.13
Sec.24
Sec.18
Sec.19
T10N
R8W
R7W
3,000'
Qal
Tb
Thin Tb cover

FOR THE RECORD

ASARCO

Exploration Department
Southwestern United States Division

March 20, 1991

Mr. Allen St. James
President
Iron King Mines Inc.
900 W. Hastings St., 10th Floor
Vancouver, B.C. V6C-1E5
Canada

Dear Mr. St. James:

Thank you for allowing us to review the Crystal Hill Mines property. I regret to inform you that Asarco will not be doing any further work on the project at this time. If you acquire additional data during the course of investigations, we would be happy to review it as to our future participation. Again, thank you.

Enclosed for your files are the data I collected on your property.

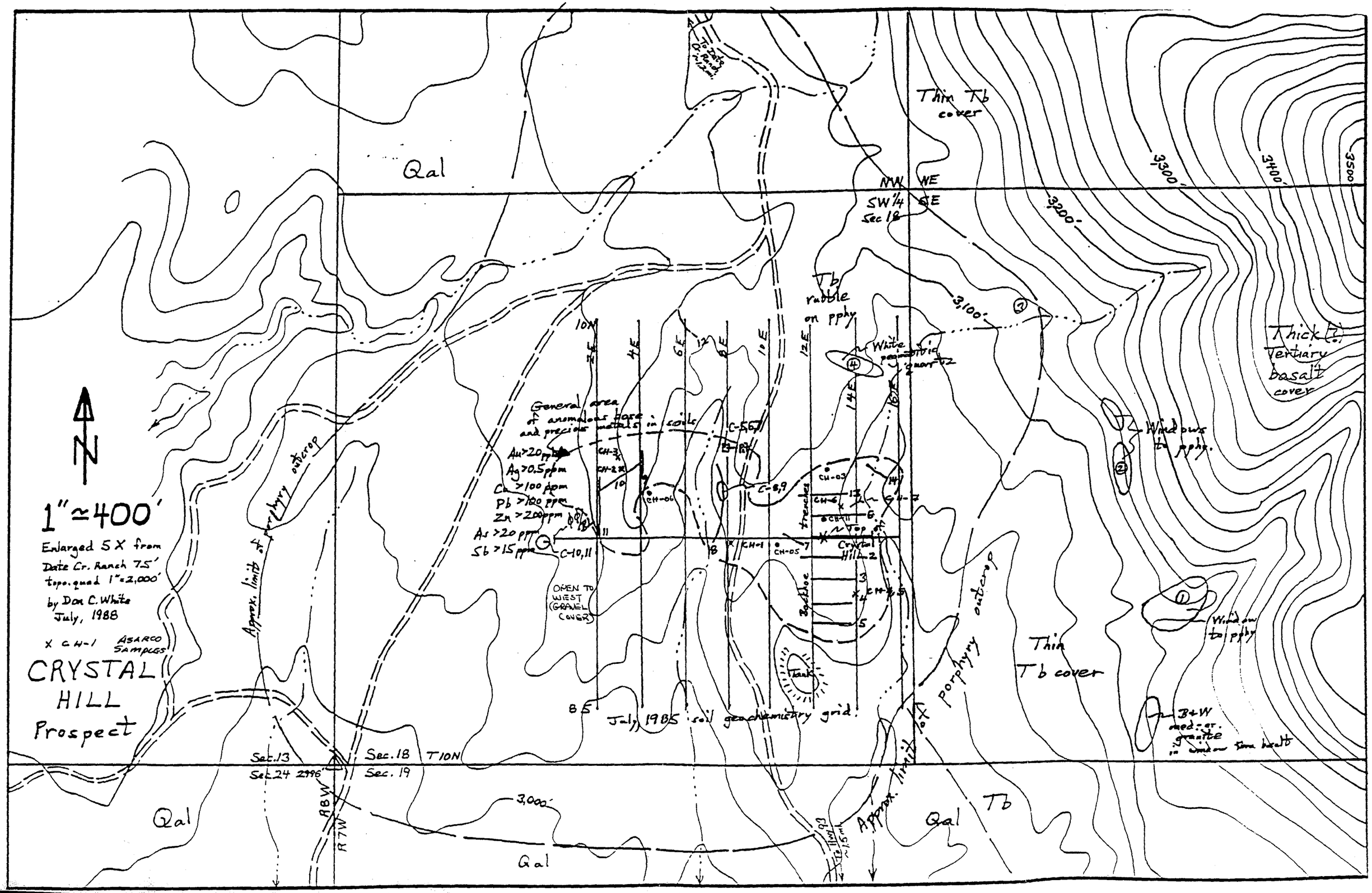
Respectfully,

Mark A. Miller
Geologist

MAM:mek
Encs.

cc: J.D. Sell

ASARCO Incorporated P. O. Box 5747 Tucson, Az 85703-0747
1150 North 7th Avenue (602) 792-3010


N
1" ≃ 400'
Enlarged 5X from
Date Cr. Ranch 7.5'
topo. quad 1" = 2,000'
by Don C. White
July, 1988
X CH-1 ASARCO SAMPLES
CRYSTAL HILL Prospect
Qal
Thin Tb cover
NW SW¼ Sec 18
NE SE
3,300
3,400
3,500
3,200
3,100
Tb rubble on pphy
White pegmatitic quartz
Thick (?) Tertiary basalt cover
Windows to pphy.
General area of anomalous base and precious metals in soils
Au > 20 ppb
Ag > 0.5 ppm
Cu > 100 ppm
Pb > 100 ppm
Zn > 200 ppm
As > 20 ppm
Sb > 15 ppm
C-10,11
C-5,6
C-8,9
CH-3
CH-2
CH-06
CH-03
CH-6
CH-11
CH-1
CH-05
CH-7
trenches
top of Crystal Hill
Tailings
Tank
OPEN TO WEST (GRAVEL COVER)
Approx. limit of porphyry outcrop
Approx. limit of porphyry outcrop
Thin Tb cover
Windows to pphy
B+W med.-gr. granite
July, 1985 soil geochemistry grid
Sec. 13
Sec. 24
Sec. 18
Sec. 19
T10N
R8W
R7W
3,000
Qal
Tb

CRYSTAL HILL PROSPECT
DATE CREEK DISTRICT
YAVAPAI CO., AZ

Sample Description

(Au in ppb)

CH-1: Altered granitic rock, localized around hematitic quartz vein 1-2' thick. Trend of vein and possible structure is N30W, 25SW. Granitic rock is altered to sericite, pictures #4 & 5. (24)

CH-2: Narrow near vertical structure, N50W, 75SW; alteration appears to be restricted to the high angle structure. Hematite, limonite and copper oxides occur in parallel fractures to the structure. Width of the structure is less than 5'. Abundant quartz veins seen possibly a stockwork. (241)

CH-3: Small dump of recent digging for quartz crystals. Granitic rock is altered to sericite; limonite on fractures. Some sulfides (limonite after pyrite) seen in dump material, some quartz veining. (22)

CH-4: Small prospect pit; altered granite to sericite, quartz. Potassium feldspars are unaltered. (21)

CH-5: Select dump sample from CH-4 location; quartz with strong goethite. (61)

CH-6: Small adit driven into moderately altered granitic rock. Biotite present, but appears to be slightly bleached (brassy in color). Moderate abundant quartz veins. Orientation of adit is S57W. (26)

PRELIMINARY REPORT

REPORT : SP 010631

Sample	Au ppb	Au(R) ppb
CH-1	24	
CH-2	241	
CH-3	22	
CH-4	21	22
CH-5	61	
CH-6	26	

Please refer to the cover sheet for further analysis details.

CLIENT: ASARCO INC.
CLIENT REF: RECON
AAL REF: SP010631
METHOD: AAL 01-0

1500 GLENDALE AVE. SPARKS
NEVADA 89431
TELEPHONE (702) 356 0606
FACSIMILE (702) 356 1413

ELEMENT SAMPLES	Au ppm	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Sr ppm	Th ppm	Ti %	U ppm	V ppm	W ppm	Zn ppm
CH-1	2	2.1	0.47	89	29	421	6	0.58	1.5	9	8	911	2.61	1	0.24	31	0.08	653	2	0.01	7	0.068	108	87	29	6	0.01	5	17	1	2231
CH-2	2	2.8	0.64	73	8	67	13	0.23	2.4	10	12	1929	2.56	1	0.19	32	0.18	536	4	0.03	9	0.064	1624	31	16	6	0.02	5	11	4	11269
CH-3	2	0.1	0.38	2	2	107	2	0.23	0.2	6	11	23	2.07	1	0.15	28	0.07	432	2	0.03	9	0.058	18	2	12	5	0.01	5	9	1	116
CH-4	2	0.1	0.4	11	18	403	3	2.89	0.7	8	8	15	2.51	1	0.21	22	0.06	684	1	0.01	6	0.064	8	7	22	1	0.01	5	8	1	235
CH-5	2	0.3	0.11	17	8	1711	2	6.18	2	11	12	37	4.12	1	0.07	10	0.05	2050	2	0.01	11	0.013	7	17	54	1	0.01	8	9	1	488
CH-6	2	0.5	0.6	7	18	314	2	1.18	1.3	8	13	255	2.69	1	0.21	30	0.12	731	2	0.02	12	0.062	35	13	25	2	0.01	5	11	1	405
GB-1	2	0.1	2.05	2	2	196	2	16.08	1.7	12	9	11	7.35	2	0.37	6	0.39	3722	1	0.01	12	0.023	2	2	250	1	0.01	5	33	1	118
DETECTION LIMIT	3	0.2	0.01	2	2	2	2	0.01	0.2	1	1	1	0.01	1	0.01	2	0.01	1	1	0.01	1	0.001	2	2	1	2	0.01	5	2	1	1

0.500 GRAMS OF PULP IS DIGESTED WITH HYDROCHLORIC AND NITRIC ACID AT 95 DEGREE CENTIGRADE FOR ONE HOUR.
DIGEST IS PARTIAL FOR B Ba Ca Cr Fe La Mg Mn Sr Ti AND W
DIGEST IS LIMITED FOR Al K AND Na

American Assay

Small Pit, Cu Oxide Staining on Fracture Surfaces Looking E. Granite Sericitically Altered along N30°W Fracture/Fault

CH-1 - Altered Granite Localized Around Hematitic Quartz Veins 1-2' Thick Looking E

ANALYSIS REPORT

American Assay Laboratories

REPORT : SP 010631

Sample	Au ppb	Au(R) ppb	Ag ppm	
CH-1	24		--	Crystal Hill Yavapai Co.
CH-2	241		--	
CH-3	22		--	
CH-4	21	22	--	
CH-5	61		--	
CH-6	26		--	
RB-1 0-9	5040	4675	1.0	Red Bluff Yavapai Co.
RB-1 9-18	6080		2.5	
RB-2	138	6370	<0.5	
RB-3	871		0.8	
RB-4	37		<0.5	
RB-5	35		<0.5	
RB-6	5		<0.5	
GB-1	6	<5	--	Gold Bar

Please refer to the cover sheet for further analysis details.

Jack Devault
PO Box 1498
Wickenburg AZ 85358

Constellation Dist
Yavapai Co, AZ

ASARCO Inc.

MAR 6 1991

Sir Exploration

CLIENT: ASARCO INC.
CLIENT REF: RECON
AAL REF: SP010631
METHOD: AAL 01-0

1500 GLENDALE AVE. SPARKS
NEVADA 89431
TELEPHONE (702) 356 0606
FACSIMILE (702) 356 1413

ELEMENT SAMPLES	Au ppm	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sb ppm	Sr ppm	Th ppm	Ti %	U ppm	V ppm	W ppm	Zn ppm
CH-1	2	2.1	0.47	89	29	421	6	0.58	1.5	9	8	911	2.61	1	0.24	31	0.08	653	2	0.01	7	0.068	108	87	29	6	0.01	5	17	1	2231
CH-2	2	2.8	0.64	73	8	67	13	0.23	2.4	10	12	1929	2.56	1	0.19	32	0.18	536	4	0.03	9	0.064	1624	31	16	6	0.02	5	11	4	11269
CH-3	2	0.1	0.38	2	2	107	2	0.23	0.2	6	11	23	2.07	1	0.15	28	0.07	432	2	0.03	9	0.058	18	2	12	5	0.01	5	9	1	116
CH-4	2	0.1	0.4	11	18	403	3	2.89	0.7	8	8	15	2.51	1	0.21	22	0.06	684	1	0.01	6	0.064	8	7	22	1	0.01	5	8	1	235
CH-5	2	0.3	0.11	17	8	1711	2	6.18	2	11	12	37	4.12	1	0.07	10	0.05	2050	2	0.01	11	0.013	7	17	54	1	0.01	8	9	1	488
CH-6	2	0.5	0.6	7	18	314	2	1.18	1.3	8	13	255	2.69	1	0.21	30	0.12	731	2	0.02	12	0.062	35	13	25	2	0.01	5	11	1	405
GB-1	2	0.1	2.05	2	2	196	2	16.08	1.7	12	9	11	7.35	2	0.37	6	0.39	3722	1	0.01	12	0.023	2	2	250	1	0.01	5	33	1	118
DETECTION LIMIT	3	0.2	0.01	2	2	2	2	0.01	0.2	1	1	1	0.01	1	0.01	2	0.01	1	1	0.01	1	0.001	2	2	1	2	0.01	5	2	1	1

CH Capital Hill

GB Gold Bar

0.500 GRAMS OF PULP IS DIGESTED WITH HYDROCHLORIC AND NITRIC ACID AT 95 DEGREE CENTIGRADE FOR ONE HOUR.
DIGEST IS PARTIAL FOR B Ba Ca Cr Fe La Mg Mn Sr Ti AND W
DIGEST IS LIMITED FOR Al K AND Na

American Assay