



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

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TAB

Rawhide -
Assessment
work &
claims

TO

JDS

FROM

SUBJECT

DATE 6/23/72

MESSAGE

Ramon says that the new ^{foreman} owners of Weiss's ranch said something about Inspiration wanted to build a road up the canyon past A-2.

SIGNED

Katz

REPLY

SIGNED

DATE / /

Rediform® 45 472

SEND PARTS 1 AND 3 WITH CARBON INTACT - PART 3 WILL BE RETURNED WITH REPLY

Verbal from Hugh Olmstead
August 28, 1972
Rawhide Project

Applicable \$ for Assessment 1972

Rusty Moore Road

July 12 - July 31 - \$ 3,705

Aug 1 - Aug 15 - 3,335

ICC GP, May 1972 - 1,300

8,340

RM Aug 16 - Sept 2 (Est) - 3,000+
\$11,340+

1971 affidavit

OS claims - 7

Code claims - 82

89

Conts - 26

115

Verbal

OS & Code = 89

Conts = 37

626
893-891

Applicable \$

Carly Moore

July 12 - July 31 = 3,705

Aug 1 - 15 = 3,335

7,040

GP costs
(May 1972)

1,300

\$8,340

Aug 15 - 30 est 3,000

11,340

32⁵⁰ / hr 46 A cal

Cash 005

Ento ↓

89-126

2 claims

12,600

need 15,000

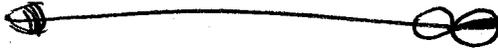
2700 feet completed

1000 ft to 1st

2200 ft to 2nd (better)

3200 ft to flanged area

4000 ft to pit.



AFFIDAVIT OF LABOR PERFORMED AND IMPROVEMENTS MADE

STATE OF ARIZONA)
) ss.
 COUNTY OF GILA)

HUGH W. OLMSTEAD, being duly sworn, deposes and says that he is a citizen of the United States and more than Twenty-one years of age, and resides at 910 E. Skyline Drive, Globe, in Gila County, Arizona, and is personally acquainted with the hereinafter described mining claims situated in the Summit Mining District, Gila and Pinal Counties, Arizona the location notices of which are recorded in the office of the County Recorder of said County as follows:

GILA COUNTY

<u>CLAIM NAME</u>	<u>DOCKET</u>	<u>PAGE</u>	<u>CLAIM NAME</u>	<u>DOCKET</u>	<u>PAGE</u>
Conto 9 ✓	205	160	- Conto 45 ✓	205	196
Conto 10 ✓	205	161	- Conto 71 ✓	205	222
- Conto 18 ✓	205	169	- Conto 72 ✓	205	223
- Conto 19 ✓	205	170	- Conto 73 ✓	205	224
- Conto 20 ✓	205	171	- Conto 74 ✓	205	225
- Conto 21 ✓	205	172	- Conto 75 ✓	205	226
- Conto 22 ✓	205	173	- Conto 76 ✓	205	227
Conto 34 ✓	205	185	- Conto 77 ✓	205	228
- Conto 42 ✓	205	193	- Conto 79 ✓	205	230
- Conto 43 ✓	205	194	Conto 117 ✓	207	431
- Conto 44 ✓	205	195	Conto 118 ✓	207	432
			Conto 119 ✓	207	433

PINAL COUNTY

OS 3	371	503	Crook 30	370	389
OS 18	371	510	Crook 31	370	390
OS 19	371	511	Crook 32	370	391
OS 20	371	512	Crook 33	370	392
OS 21	371	513	Crook 34	370	393
OS 22	371	514	Crook 35	370	394
OS 23	371	515	Crook 36	370	395
Crook 1	370	360	Crook 37	370	396
Crook 2	370	361	Crook 38	370	397
Crook 3	370	362	Crook 39	370	398
Crook 4	370	363	Crook 40	370	399
Crook 5	370	364	Crook 41	370	400
Crook 6	370	365	Crook 42	370	401
Crook 7	370	366	Crook 43	370	402
Crook 8	370	367	Crook 44	370	403
Crook 9	370	368	Crook 45	370	404
Crook 10	370	369	Crook 46	370	405
Crook 11	370	370	Crook 47	370	406
Crook 12	370	371	Crook 48	370	407
Crook 13	370	372	Crook 49	370	408
Crook 14	370	373	Crook 50	370	409
Crook 15	370	374	Crook 51	370	410
Crook 16	370	375	Crook 52	370	411
Crook 17	370	376	Crook 53	370	412
Crook 18	370	377	Crook 54	370	413
Crook 19	370	378	Crook 55	370	414
Crook 20	370	379	Crook 56	370	415
Crook 21	370	380	Crook 57	370	416
Crook 22	370	381	Crook 58	370	417
Crook 23	370	382	Crook 103	474	339
Crook 24	370	383	Crook 104	474	340
Crook 25	370	384	Crook 105	474	341
Crook 26	370	385	Crook 106	474	342
Crook 27	370	386	Crook 107	474	343
Crook 28	370	387	Crook 108	474	344
Crook 29	370	388	Crook 109	474	345

36

PINAL COUNTY (Cont'd)

34
10 9
2 3
13 2
Pinal Co
Casa Grande

CLAIM NAME	DOCKET	PAGE	CLAIM NAME	DOCKET	PAGE
Crook 110	474	346	Conto 18	490	341
Crook 111	474	347	Conto 19	490	342
Crook 112	474	348	Conto 20	490	343
Crook 113	474	349	Conto 21	490	344
Crook 138	474	350	Conto 22	490	345
Crook 139	474	351	Conto 42	490	346
Crook 140	371	542	Conto 43	490	347
Crook 141	371	543	Conto 44	490	348
Crook 142	371	544	Conto 45	490	349
Crook 143	371	545	Conto 71	490	353
Crook 148	474	352	Conto 72	490	354
Crook 149	474	353	Conto 73	490	355
Crook 150	474	354	Conto 74	490	356
Crook 151	474	355	Conto 75	490	357
Crook 152	474	356	Conto 76	490	358
Crook 153	474	357	Conto 77	490	359
Crook 154	474	358	Conto 79	490	361
			Conto 113	490	368
			Conto 115	490	370
			Conto 116	490	371

That between the 1st day of September, 1970, and the 1st day of September, 1971, at least ~~12,000.00~~ dollars worth of work and improvements were done and performed upon said claims not including the location work, by and at the expense of Inspiration Consolidated Copper Company owner of said claims for the purpose of complying with the laws of the United States pertaining to annual work, and J. O. Barnes Drilling Company, P. O. Box 141, Casa Grande, Arizona was the company employed by said owner and who labored upon said claims, did said work and improvements, the same being as follows: Down the hole hammer drilling.

All of the above mining claims are contiguous, and are held by Inspiration Consolidated Copper Company. The work and improvements done and performed as above described were done and performed for the benefit of all such mining claims.

Hugh W. Olmstead
Hugh W. Olmstead
Chief Exploration Geologist

Subscribed and sworn to before me this 7th day of April, 1971.

Christina K. Selbe
Christina K. Selbe
Notary Public

My Commission Expires:
My Commission Expires Nov. 26, 1974

STATE OF ARIZONA }
County of Pinal }

I hereby certify that the within instrument was filed and recorded at request of Inspiration Cons. Copper Co. on APR 8 - 1971 at 8:00 am in DOCKET 626 PAGE 893 on page _____ Witness my hand and official seal the day and year aforesaid.
SOPHIE M. SMITH,
County Recorder
By *Jean Goodman*
Deputy Recorder

INDEXED COMPARED



Inspiration Consolidated Copper Company

INSPIRATION, ARIZONA 85537

RECEIVED

October 5, 1972

OCT 10 1972

S. W. U. S. EXPL. DIV.

W. L. K.

OCT 16 1972

Mr. W. L. Kurtz
American Smelting and Refining Co.
Southwestern Exploration Division
P. O. Box 5747
Tucson, Arizona 85703

Dear Bill:

Enclosed is the following information on the Oak Flat area that you requested during a telephone conversation with Hugh Olmstead:

1. Logs from diamond drill holes No. 1 and 2.
2. Generalized logs for rotary drill holes No. 1 and 2. These holes are logged in large cardboard sheets, and I transferred the pertinent information to the attached sheets.
3. Daily reports for drill hole AOF No. 1. We do not have driller's reports for this hole, but the enclosed daily reports are as good or better.
4. Driller's logs for diamond drill hole AOF No. 2 and rotary drill holes No. 1 and No. 2.
5. A set of 4 small maps and a cross section showing:
 - a.) claim map and drill hole location
 - b.) I.P. contour maps at search depths, 2400 and 3200
 - c.) Geologic map
 - d.) Cross section showing all diamond drill holes
6. Two figures showing results of core test on core from diamond drill hole AOF No. 1.

The daily reports for hole AOF No. 1 and the driller's reports for the other holes are originals, which we would like to have returned when you no longer need them. All other material consists of copies, which you may keep.

Please feel free to call if you need additional information, or if you have any questions regarding the enclosed material.

Sincerely yours,

Rene von Boeck
Asst. Chief Exploration Geologist

RvB/am
Encls.

cc: Mr. H. W. Olmstead



JDS -

Inspiration Consolidated Copper Company RECEIVED

INSPIRATION, ARIZONA 85537

OCT 9 1972

S. W. U. S. EXPL. DIV.

W. L. K.

OCT 16 1972

October 6, 1972

Mr. W. L. Kurtz
American Smelting and Refining Co.
Southwestern Exploration Division
P. O. Box 5747
Tucson, Arizona 85703

Dear Bill:

Enclosed you will find a copy of the last affidavit of labor for the Crook and Conto Claims that was recorded recently. A map showing all the claims is being sent under separate cover.

Sincerely yours,

Rene von Boeck
Assistant Chief Exploration Geologist

RvB/am
Encl.

AMENDEDAFFIDAVIT OF LABOR PERFORMED AND IMPROVEMENTS MADE

STATE OF ARIZONA)
) s.
 COUNTY OF GILA)

The undersigned, H. W. Olmstead, being first duly sworn, deposes and says:

That he is a citizen of the United States of American, and is more than twenty-one (21) years of age, and a resident of Globe, Gila County, State of Arizona; that he is Chief Exploration Geologist for the Inspiration Consolidated Copper Company and is personally acquainted with and responsible for the mining claims hereinafter described, situated in the Summit Mining District, Gila County, Arizona and the Summit Mining District, Pinal County, Arizona, the location notices of which are recorded in the office of the County Recorder of said Gila County and said Pinal County in the Docket and Pages hereinafter set forth. That between September 1, 1972 and September 1, 1973, at least TWELVE THOUSAND ONE HUNDRED DOLLARS (\$12,100.00) worth of work and improvements were done and performed upon and for the benefit of said claims, which are part of a large contiguous group, and each of them as a group, not including the location work of said claims. That said work performed and improvements made were for the benefit of all the claims hereinafter described and were made for the purpose of complying with the laws of the United States pertaining to annual assessment work, and that all of said claims are contiguous. That such work and improvements were made by and at the expense of Inspiration Consolidated Copper Company, a Maine Corporation, duly qualified to do business in the State of Arizona, which Company owns said claims. That Inspiration Consolidated Copper Company employed a local heavy equipment contractor, Carley L. Moore, to repair and build roads at a cost in excess of \$12,100.00. That the mining claims herein referred to and for the benefit of which said labor was performed and improvements made are specifically as follows:

GILA COUNTY

<u>CLAIM NAME</u>	<u>DOCKET</u>	<u>PAGE</u>	<u>CLAIM NAME</u>	<u>DOCKET</u>	<u>PAGE</u>
Conto 9	205	160	Conto 46	205	197
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Conto 45	205	196	Conto 118	207	432
			Conto 119	207	433

PINAL COUNTY

<u>CLAIM NAME</u>	<u>DOCKET</u>	<u>PAGE</u>	<u>CLAIM NAME</u>	<u>DOCKET</u>	<u>PAGE</u>
Conto 18	490	341	Conto 79	490	361
Conto 19	490	342	Conto 108	490	363
Conto 20	490	343	Conto 109	490	365
Conto 21	490	344	Conto 110	490	366
Conto 22	490	345	Conto 111	490	366
Conto 71	490	353	Conto 113	490	368
Conto 72	490	354	Conto 115	490	370
Conto 73	490	355	Conto 166	490	371
Conto 74	490	356	Crook 1	370	360
Conto 75	490	357	Crook 2	370	361
Conto 76	490	358	Crook 3	370	362
Conto 77	490	359	Crook 4	370	363

CLAIM NAME	DOCKET	PAGE	CLAIM NAME	DOCKET	PAGE
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Crook 27	370	387	Crook 152	474	356
Crook 28	370	388	Crook 153	474	357
Crook 29	370	389	Crook 154	474	358
Crook 30	370	390	OS - 3	371	503
Crook 31	370	391	OS -18	371	510
Crook 32	370	392	OS -19	371	511
Crook 33	370	393	OS -20	271	512
Crook 34	370	394	OS -21	371	513
Crook 35	370	395	OS -22	371	514
Crook 36	370	396	OS -23	371	515
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Crook 44	370	404	Crook 54	370	414
Crook 45	370	405	Crook 55	370	415
Crook 46	370	406	Crook 56	370	416

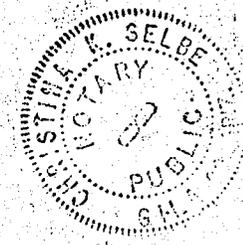
That said labor performed and improvements made as heretofore set forth is and was for the purpose of obtaining the benefits conferred by the Statutes of the State of Arizona and to satisfy the work requirements prescribed by the United States Mining Laws for the period September 1, 1971 to September 1, 1972.

Hyd W. Olmsted
 Chief Exploration Geologist

Subscribed and sworn to before me this 13th day of SEPTEMBER, 1972.

Christina K. Selbe
 Notary Public in and for Gila County,
 State of Arizona

My Commission expires: My Commission Expires Nov. 26, 1974



DOCKET 327 PAGE 814

200
11:15
C

357448

STATE OF ARIZONA, County of Gila, ss:

I do hereby certify that the within instrument was filed and recorded at request of Inspiration Consolidated

Date Sep. 13, 1972 Time 11:15 A. M., Docket 327 Copper Company
Records of Gila County, Arizona. Official Records Page 812,

WITNESS my hand and official seal the day and year first above written.

*Inspiration Consolidated
Copper Company
Inspiration, Az., 85537
Att.: Hugh W. Olmstead*

INDEXED

DORIS PARKIN, County Recorder

PHOTO-COPIED
PAGED

By Mary V. DePaolis, Deputy.

COMPARED



AMERICAN SMELTING AND REFINING COMPANY
EXPLORATION DEPARTMENT
SOUTHWESTERN UNITED STATES DIVISION
P. O. BOX 5747, TUCSON, ARIZONA 85703

R. B. CRIST
PROPERTY MANAGER

November 30, 1972

1150 NORTH 7TH AVENUE
TELEPHONE 602-792-3010

Mr. Hugh W. Olmstead
Chief Exploration Geologist
Inspiration Copper Company
Inspiration, Arizona 85537

RAWHIDE PROJECT
ICC/ASARCO

Dear Hugh:

Enclosed please find the claim map we are planning to use to record the Affidavits of Location Work by Drilling on claims staked to fill an apparent gap that lies between your Crook claims and our Margaret claims.

The possibility exists that there may be some land open to the north. This land, too, has been papered.

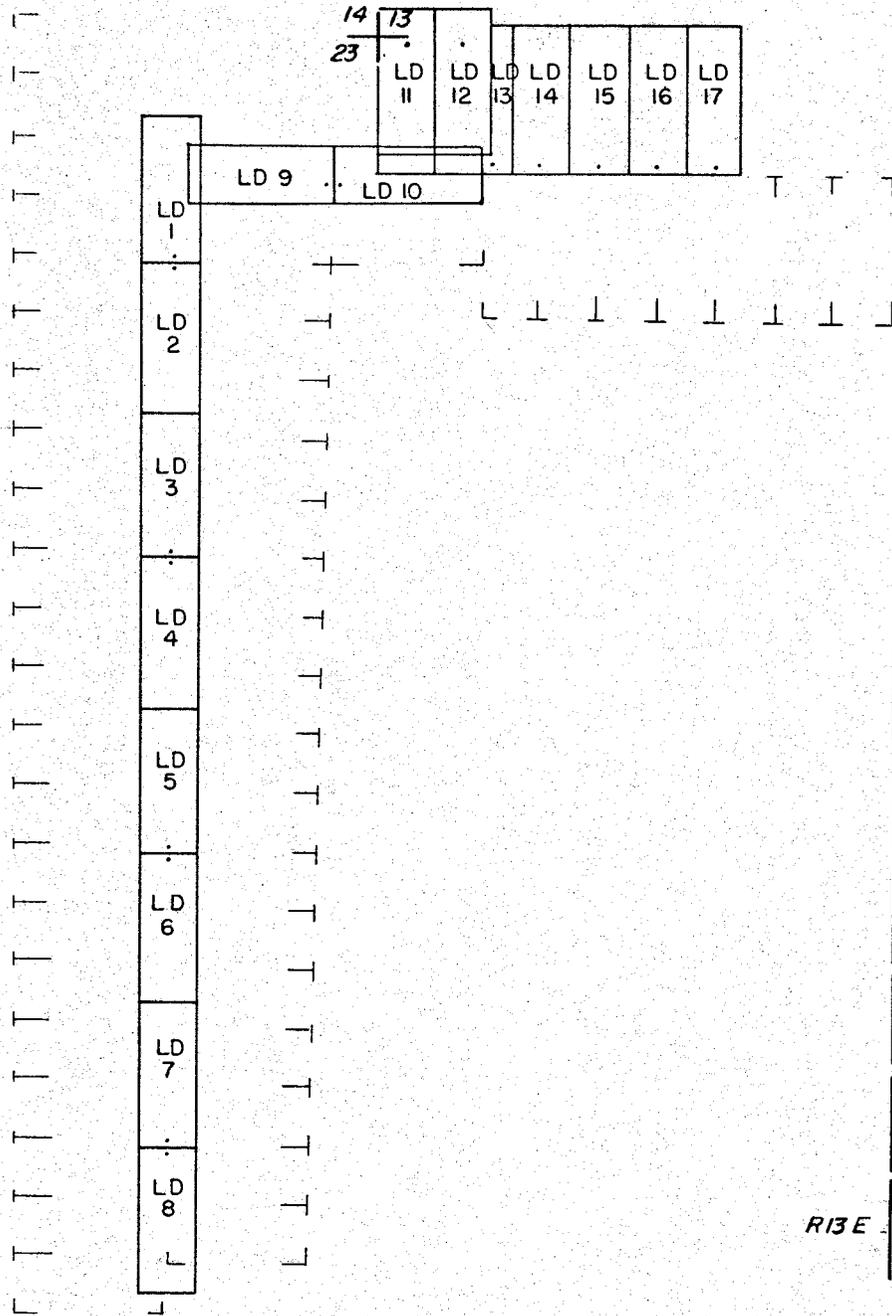
We also would like to take advantage of your triangulation stations and have a mineral surveyor establish a solid base in case of any future conflicts to the north. I understand that Jim Sell will see if Travis Gant is available.

Let us know if you have any corrections or suggestions.

Very truly yours,

R.B. Crist
R.B. Crist

RBC:kre
Encl: map
cc: W.L. Kurtz w/o encl.
J.D. Sell w/o encl. ✓



T 1 S

R 13 E R 14 E

LD CLAIM GROUP
T 1 S, R 13 E
1" = 2000'
PINAL COUNTY, ARIZONA

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

January 8, 1973

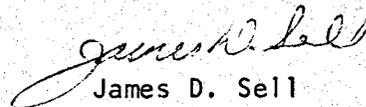
TO: W. L. Kurtz

FROM: J. D. Sell

Completed LD Claims
Rawhide Project
Pinal County, Arizona

Mr. H. Stone and I completed the LD claims with all corner and end center monuments, drill location monument, and location monument as follows:

January 2, LD No. 1 and No. 2
January 3, LD No. 9 and No. 10
January 4, LD No. 11 and No. 12
January 5, LD No. 13 (Amended location notice only).


James D. Sell

JDS:lab

cc: RBCrist

Cook # 155

Location is approximately 120 feet @ S 45° W
from SE corner LD ~~20~~ No 10. 1

Pit is about 50' @ S 45° E from loc monument.

AMERICAN SMELTING AND REFINING COMPANY
TUCSON ARIZONA

September 19, 1973

FILE MEMORANDUM

Rawhide-Superior East
Claim Conflicts

Mr. Crist and I discussed with Leo Smith and Desmond Kearns of Verity and Smith the claim conflicts on our Superior East-Rawhide project areas. Of several possible courses of action, the following was considered the best at this time:

- 1) Complete drill hole AI-1 without deflecting beneath the LD-9 - Stew-1 conflict area.
- 2) Continue our exploration in normal fashion.
- 3) Do not initiate action to bring conflicts into litigation.
- 4) Do not answer Willis Dees' letter.

The reason for the above action is the opinion that the conflicts involve which party has the better case for possession of the claims at the time of location and not which makes the first discovery of mineral in place. In other words, we are asserting our LD-9 and LD-10 are valid because Stew 1 and Stew 2 were abandoned (forfeited) claims due to lack of assessment work and not to lack of discovery (even though no discovery exists). According to Leo Smith, it is always difficult to prove assessment work was not done and, therefore, we should not push claim conflict into litigation now. If we assert our right to LD-9 by virtue of the discovery of mineral in place (by deflecting drill hole AI-1), we are inviting other parties to occupy our numerous claims that do not currently have a mineral discovery.

W. L. Kurtz
W. L. Kurtz

WLK:lb

cc: TCOsborne
JHCourtright
RBCrist
JDSell ✓



AMERICAN SMELTING AND REFINING COMPANY
SOUTHWESTERN EXPLORATION DIVISION
P. O. BOX 5747, TUCSON, ARIZONA 85703

1150 NORTH 7TH AVENUE
TELEPHONE 602-792-3010

October 2, 1973

Mr. Desmond P. Kearns
Attorney at Law
Verity & Smith
902 Transamerica Bldg.
Tucson, Arizona 85701

Dear Mr. Kearns:

The enclosed letter presents the viewpoint of our New York Office on the LD 9-Stew No. 1 conflict.

We are starting coring on our drill hole today and are in hopes of making a valid mineral discovery within a few weeks; therefore, we may want to wedge the drill hole at any time.

Please be thinking about all the ramifications of this problem.

Very truly yours,

A handwritten signature in dark ink, appearing to read "W. L. Kurtz", with a long horizontal flourish extending to the right.

W. L. Kurtz
Manager of Exploration

WLK:lb
Enc.

cc: RBCrist - w/enc.
L JDSell - w/enc.



AMERICAN SMELTING AND REFINING COMPANY
EXPLORATION DEPARTMENT
120 BROADWAY, NEW YORK, N. Y. 10005

T. C. OSBORNE
ASSISTANT DIRECTOR OF EXPLORATION

Air Mail

RECEIVED
SEP 27 1973
S. W. U. S. EXPL. DIV.
W. L. R.
SEP 27 1973

September 19, 1973

Mr. W. L. Kurtz
Southwestern Division
Tucson Office

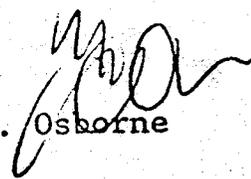
Rawhide Project
Claim Conflicts

Dear Mr. Kurtz:

With reference to your File Memorandum of September 19, and our conversation yesterday, it will be satisfactory to proceed as you suggest, i.e. complete drill hole Al-1 without deflecting beneath the conflict area.

Mr. Hecox points out that if we encounter worthwhile ore mineralization in the hole, we should be prepared immediately to take physical possession of the LD-9 and LD-10 claims, i.e. have men available to put on the claims immediately. Having clear-cut possession, we could then proceed to make a valid discovery either by wedging or by drilling another hole. As a practical matter then, bear in mind that if favorable mineralization is encountered in the hole you should promptly consult both with the Verity firm and with Mr. Hecox as to your actions.

Very truly yours,


T. C. Osborne

cc: MBHecox w/enclosure

AMERICAN SMELTING AND REFINING COMPANY
TUCSON ARIZONA

March 25, 1974

TO: W. L. Kurtz

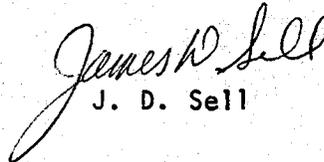
FROM: J. D. Sell

Drill Hole AI-1
ASARCO/ICC Joint Venture
Rawhide Project
Pinal County, Arizona

Mr. Rene von Boeck of Inspiration called this afternoon and wishes to look at some of the core of the AI-1, ASARCO/ICC Joint Venture, hole. He is specifically interested in the lower Whitetail contact area with the schist.

He also inquired if we were still interested in helping finance the road building up to the plateau above the Eder claims, as they are going to overrun their estimate.

I told him we were probably still interested and that you had been thinking of going up to ICC to talk with Hugh about several things.


J. D. Sell

JDS:1b



AMERICAN SMELTING AND REFINING COMPANY
SOUTHWESTERN EXPLORATION DIVISION
P. O. BOX 5747, TUCSON, ARIZONA 85703

1150 NORTH 7TH AVENUE
TELEPHONE 602-792-3010

April 30, 1975

Mr. Hugh Olmstead
Inspiration Consolidated Copper Co.
Inspiration, Arizona 85537

Rawhide Project
Pinal County, Arizona

Dear Hugh:

As recently discussed with you by Mr. Sell, we propose applying our work in the general area of the Rawhide property for assessment work for the year ending August 31, 1975. We have already spent money for drilling (on adjacent, contiguous claims) well in excess of that needed for the Rawhide claims and all the other contiguous claims held by Asarco in the dacite plateau area.

Presently we are doing some geophysical work on the Rawhide claims.

If you have any questions, please call me.

Very truly yours,

W. L. Kurtz
Manager of Exploration

WLK:lb

cc: RBCrist
JDSell ✓

ASARCO

Exploration Department
Southwestern United States Division

February 9, 1984

Mr. Hugh Olmstead
Chief Exploration Geologist
Inspiration Development Company
P.O. Box 1320
Claypool, AZ 85532

Conto, Crook and OS Claims

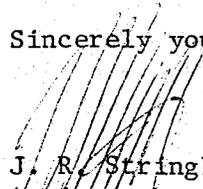
Dear Mr. Olmstead:

This letter is to advise you that we are once again planning to do the assessment for the claims encompassed by our agreement on the adjacent Margaret claims. We expect to deepen the hole that we started last year.

ICC has previously agreed that it would accept such an action as valid work for its block of claims. No charges will be assessed against the joint agreement for the costs of the work.

Please let us know if you have any comments about our plans. We want to finish our work early this year.

Sincerely yours,


J. R. Stringham
Assistant to the
Manager, SWED

JRS:mek

cc: J. D. Sell

ASARCO

Exploration Department
Southwestern United States Division

CERTIFIED MAIL
RETURN RECEIPT

May 24, 1984

Bureau of Land Management
Arizona State Office
3707 North 7th St.
Phoenix, AZ 85014

Rawhide Project
Crook, Conto & OS Claims
Pinal & Gila Counties, AZ

Gentlemen:

In checking our records on the subject claims with the BLM Geographic and Claimant Indexes we have noted a number of discrepancies in locations and a few in location dates. The following list reflects the location of the claims as indicated on the recorded plats submitted to your office and filed on June 16, 1979 in accordance with amended mining law ARS Title 27-210 for the Crook and OS Claims in Book 1017, Pages 220 & 221, and amended recording for the Conto Claims in Book 517, Pages 174 thru 181.

<u>BLM</u> <u>Serial No.</u>	<u>Claim</u> <u>Name</u>	<u>Location as shown</u> <u>on Recorded Map</u>	<u>Incorrect Location shown</u> <u>on BLM Microfiche Indexes</u>
		<u>T1S, R14E</u>	
AMC 45410	Conto 18	South half of Section 19	SE quarter of Section 19
45415	Conto 34	NW quarter of Section 20 & SW quarter of Section 17	NW quarter of Section 20
45416	Conto 42	East half of Section 19	SE quarter of Section 19
45417	Conto 43	East half of Section 19	SE quarter of Section 19
45418	Conto 44	East half of Section 19	SE quarter of Section 19
45419	Conto 45	East half of Section 19 & West half of Section 20	SE quarter of Section 19
45421	Conto 52	NW quarter of Section 20 & SW quarter of Section 17	NW quarter of Section 20
45422	Conto 71	NW quarter of Section 29 & NE quarter of Section 30	NW quarter of Section 29
45430	Conto 108	South half & NW quarter of Section 19	South half of Section 19
45431	Conto 109	North half & SE quarter of Section 19	NE quarter of Section 19
45434	Conto 113	South half of Section 19 & North half of Section 30	South half of Section 19 & NW quarter of Section 30
45439	Conto 119	NW quarter of Section 20 & SW quarter of Section 17	NW quarter of Section 20

<u>BLM Serial No.</u>	<u>Claim Name</u>	<u>Location as shown on Recorded Map</u>	<u>Incorrect Location shown on BLM Microfiche Indexes</u>
<u>T1S, R13E</u>			
AMC 45440	Crook 1	South half of Section 24	SW quarter of Section 24
45442	Crook 3	South half of Section 24	SW quarter of Section 24
45444	Crook 5	South half of Section 24	SW quarter of Section 24
45446	Crook 7	South half of Section 24 & North half of Section 25	SW quarter of Section 24
45447	Crook 8	SW quarter of Section 24 & NW quarter of Section 25	SW quarter of Section 24
45448	Crook 9	North half of Section 25	NW quarter of Section 25
45450	Crook 11	North half of Section 25	NW quarter of Section 25
45452	Crook 13	North half of Section 25	NW quarter of Section 25
45454	Crook 15	North half of Section 25	NW quarter of Section 25
45456	Crook 17	All quarters of Section 25	SW quarter of Section 25
45457	Crook 18	West half of Section 25	SW quarter of Section 25
45458	Crook 19	South half of Section 25	SW quarter of Section 25
45460	Crook 21	South half of Section 25	SW quarter of Section 25
45462	Crook 23	South half of Section 25	SW quarter of Section 25
45464	Crook 25	South half of Section 25 & North half of Section 36	SW quarter of Section 25
45465	Crook 26	SW quarter of Section 25 & NW quarter of Section 36	SW quarter of Section 25
45466	Crook 27	North half of Section 36	NW quarter of Section 36
45468	Crook 29	West half of Section 25 & East half of Section 26	SE quarter of Section 26
45469	Crook 30	East half of Section 26	SE quarter of Section 26
45470	Crook 31	SW quarter of Section 25 & SE quarter of Section 26	SE quarter of Section 26
45472	Crook 33	SW quarter of Section 25 & SE quarter of Section 26	SE quarter of Section 26
45474	Crook 35	SW quarter of Section 25 & SE quarter of Section 26	SE quarter of Section 26
45476	Crook 37	SW quarter of Section 25, SE quarter of Section 26, NE quarter of Section 35 & NW quarter of Section 36	SE quarter of Section 26
45477	Crook 38	SE quarter of Section 26 & NE quarter of Section 35	SE quarter of Section 26
45478	Crook 39	NE quarter of Section 35 & NW quarter of Section 36	NE quarter of Section 35
45498	Crook 103	NW quarter of Section 25 & NE quarter of Section 26	NE quarter of Section 26
45500	Crook 105	NW quarter of Section 25 & NE quarter of Section 26	NE quarter of Section 26
45502	Crook 107	NW quarter of Section 25 & NE quarter of Section 26	NE quarter of Section 26
45504	Crook 109	NW quarter of Section 25 & NE quarter of Section 26	NE quarter of Section 26
45506	Crook 111	SE quarter of Section 23, SW quarter of Section 24, NW quarter of Section 25 & NE quarter of Section 26	SE quarter of Section 23

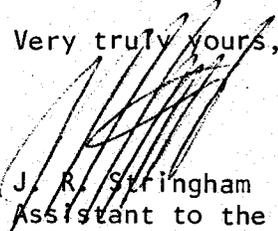
<u>BLM Serial No.</u>	<u>Claim Name</u>	<u>Location as shown on Recorded Map</u>	<u>Incorrect Location shown on BLM Microfiche Indexes</u>
AMC 45507	Crook 112	SE quarter of Section 23 & NE quarter of Section 26	SE quarter of Section 23
45508	Crook 113	SE quarter of Section 23 & SW quarter of Section 24	SE quarter of Section 23
45510	Crook 139	SE quarter of Section 23 & SW quarter of Section 24	SE quarter of Section 23
45516	Crook 149	SE quarter of Section 23 & SW quarter of Section 24	SE quarter of Section 23
45518	Crook 151	East half of Section 23 & West half of Section 24	SE quarter of Section 23
45519	Crook 152	East half of Section 23	SE quarter of Section 23
45520	Crook 153	NE quarter of Section 23 & NW quarter of Section 24	NE quarter of Section 23
47296	Crook 155	West half of Section 24	NW quarter of Section 24
<u>T1S, R13E</u>			
45401	OS-3	West half of Section 24	NW quarter of Section 24
45402	OS-18	West half of Section 24	SW quarter of Section 24
45403	OS-19	All quarters of Section 24	SW quarter of Section 24
45404	OS-20	East half of Section 24	SE quarter of Section 24
45405	OS-21	East half of Section 24	SE quarter of Section 24
45406	OS-22	East half of Section 24	SE quarter of Section 24
45407	OS-23	East half of Section 24	SE quarter of Section 24

Would you please amend your records to conform with the maps as submitted and recorded.

Also, the location date for Crook Claims 21 thru 26 as shown on Notice of Location and Map is October 10, 1963, the BLM microfiche shows the location date as October 9, 1963. Please make corrections.

If you have any questions, please don't hesitate to call

Very truly yours,


J. R. Stringham
Assistant to the
Manager, SWED

JRS:mek

cc: J.D. Sell ✓

ASARCO

Exploration Department
Southwestern United States Division

CERTIFIED MAIL
RETURN RECEIPT

August 9, 1984

Bureau of Land Management
Arizona State Office
Mining Claims Section
P.O. Box 16563
Phoenix, AZ 85011

Rawhide Project
Crook, Conta Claims
Pinal & Gila Counties, AZ

Gentlemen:

In reviewing our Amended Notice of Location for the subject claims with the BLM Microfiche Geographic and Claimant Indexes, we have noted some discrepancies in the locations on the microfiche. These are listed below. Refer to Docket 517, Pages 174 thru 181.

<u>Name of Claim</u>	<u>BLM Serial No.</u>	<u>Location as Shown on Amended Notices & Map</u>	<u>Location as Shown on BLM Microfiche</u>
		<u>T1S, R14E</u>	
Conto 22	AMC 45414	SE Sec. 19, SW Sec. 20 and NE Sec. 30	SE Sec. 19 and SW Sec. 20
Conto 72	45423	NW Sec. 29 & E2 Sec. 30	NW Sec. 29 & NE Sec. 30
Conto 117	45437	NE Sec. 19 & NW Sec. 20	NE Sec. 19
Crook 8	AMC 45447	SW Sec. 24 & NW Sec. 25	SW Sec. 24, T1S, R13E & NW Sec. 25, T1S, R14E
Crook 48	45487	SE Sec. 24 & NE Sec. 25	SE Sec. 24, T1S, R13E & SW Sec. 19, T1S, R14E
		T1S, R13E, and SW Sec. 19, T1S, R14E	

Please correct your records to conform with the Amended Notices and Maps as submitted and recorded. If you have any questions, please don't hesitate to call.

Very truly yours,

J. R. Stringham
Assistant to the
Manager, SWED

JRS:mek

cc: J. D. Sell

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

ASARCO

Exploration Department
Southwestern United States Division

CERTIFIED MAIL
RETURN RECEIPT

August 24, 1984

Ms. Mary V. DePaoli
Gila County Recorder
1400 East Ash Street
Globe, AZ 85501

Mining Claims
Affidavit of Labor
Rawhide Project

Dear Ms. DePaoli:

Enclosed is Asarco's check of \$5.00 as the Recording Fee for the attached Affidavit of Labor.

Also enclosed is a return self-addressed envelope.

Very truly yours,

Original Signed By
J. R. STRINGHAM

J. R. Stringham
Assistant to the
Manager, SWED

JRS:mek
encs.

cc: A. J. Robles
J. D. Sell

AFFIDAVIT OF LABOR PERFORMED
AND IMPROVEMENTS MADE

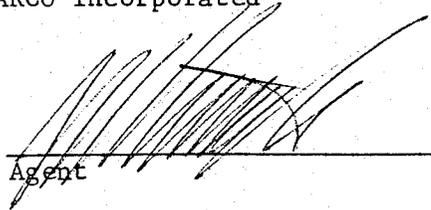
STATE OF ARIZONA)
) ss
County of Pima)

J. R. Stringham, being first duly sworn, deposes and says that he is a citizen of the United States and more than twenty-one (21) years of age, and resides in Tucson, County of Pima, State of Arizona, and is personally acquainted with the mining claims situated in the Summit Mining District, Pinal and Gila Counties, Arizona, the names and books and pages of record in the office of the County Recorders of Pinal and Gila Counties, Arizona, and the Bureau of Land Management serial number of the Notices of Location as set forth in Exhibit A.

That all of said mining claims are owned by Inspiration Consolidated Copper Company and ASARCO Incorporated, the mailing address for which is P.O. Box 5747, Tucson, Arizona 85703; that between September 1, 1983 and July 31, 1984, in excess of \$15,000 worth of work and improvements were done and performed for the benefit of the described claims. Work and improvements consisted of diamond core drilling, performed by Joy Manufacturing Company, P.O. Drawer 489, La Porte, Indiana 46350, road and drill site preparation performed by the Bryant Construction Company, 843 Spray Street, Superior Arizona 85273.

Said labor was performed and improvements made at the expense of ASARCO Incorporated for the benefit of each and all of said mining claims comprising said contiguous groups as part of a general plan of exploration, improvements, and development, and they tend to explore, improve, and develop each and all of said mining claims. The amount expended for and the value of said labor and improvements is more than One Hundred Dollars (\$100.00) for each of the mining claims and at least said amount was allocated to each of the mining claims. Said expenditure was made in good faith for the purpose of exploring, improving, and developing said contiguous groups of mining claims, and was intended as annual labor and improvements for each and all of the described unpatented lode mining claims for the assessment year ending at 12:00 o'clock Meridian, September 1, 1984.

ASARCO Incorporated

By 
Agent

STATE OF ARIZONA)
) ss
County of Pima)

The foregoing instrument was acknowledged before me this 23rd day of August, 1984, by J. R. Stringham.

My Commission expires:

My Commission Expires March 4, 1985

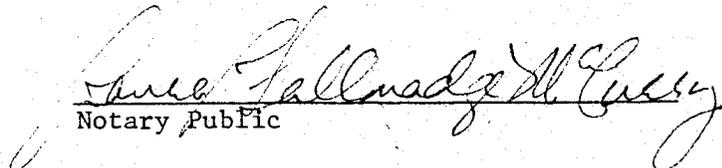

Notary Public

EXHIBIT A
 TO AFFIDAVIT OF PERFORMANCE
 OF LABOR FOR THE YEAR
 ENDING SEPTEMBER 1, 1984

The following contiguous group of unpatented mining claims are situated in the Summit Mining District, Pinal and Gila Counties, Arizona. The Location Notices of which are of record in the office of the Pinal and Gila County Recorder and the Bureau of Land Management serial numbers are filed in Phoenix, Arizona.

Gila County

<u>Name of Claim</u>	<u>Docket</u>	<u>Page</u>	<u>BLM</u>	
			<u>Serial Number</u>	
			<u>A</u>	<u>MC</u>
Conto 9	205	160	45408	
Conto 10	"	161	" 09	
Conto 18*	"	169	" 10	
Conto 19*	"	170	" 11	
Conto 20*	"	171	" 12	
Conto 21*	"	172	" 13	
Conto 22*	"	173	" 14	
Conto 34	"	185	" 15	
Conto 42*	"	193	" 16	
Conto 43*	"	194	" 17	
Conto 44*	"	195	" 18	
Conto 45*	"	196	" 19	
Conto 46	"	197	" 20	
Conto 52	"	203	" 21	
Conto 71*	"	222	" 22	
Conto 72*	"	223	" 23	
Conto 73*	"	224	" 24	
Conto 74*	"	225	" 25	
Conto 75*	"	226	" 26	
Conto 76*	"	227	" 27	
Conto 77*	"	228	" 28	
Conto 79*	"	230	" 29	
Conto 117	207	431	" 37	
Conto 118	"	432	" 38	
Conto 119	"	433	" 39	

*Claim also of record in Pinal County.

Pinal County

<u>Name of Claim</u>	<u>Docket</u>	<u>Page</u>	<u>BLM Serial Number</u>
Conto 18	490	341	45410
Conto 19	"	342	" 11
Conto 20	"	343	" 12
Conto 21	"	344	" 13
Conto 22	"	345	" 14
Conto 42	"	346	" 16
Conto 43	"	347	" 17
Conto 44	"	348	" 18
Conto 45	"	349	" 19
Conto 71	"	353	" 22
Conto 72	"	354	" 23
Conto 73	"	355	" 24
Conto 74	"	356	" 25
Conto 75	"	357	" 26
Conto 76	"	358	" 27
Conto 77	"	359	" 28
Conto 79	"	361	" 29
Conto 108	"	363	" 30
Conto 109	"	364	" 31
Conto 110	"	365	" 32
Conto 111	"	366	" 33
Conto 113	"	368	" 34
Conto 115	"	370	" 35
Conto 116	"	371	" 36
Crook 1 thru 58	370	360-417	45440 thru 45497
Crook 103 thru 113	474	359-349	" 98 thru 45508
Crook 138	"	350	45509
Crook 139	"	351	" 10
Crook 140	371	542	" 11
Crook 141	"	543	" 12
Crook 142	"	544	" 13
Crook 143	"	545	" 14
Crook 148 thru 154	474	352-358	" 15 thru 45521
Crook 155	701	98	47296
OS-3	371	503	45401
OS-18	"	510	" 02
OS-19	"	511	" 03
OS-20	"	512	" 04
OS-21	"	513	" 05
OS-22	"	514	" 06
OS-23	"	515	" 07

All claims are located in Sections 19, 20, 29, and 30, Township 1 South, Range 14 East; Sections 23, 24, 25, 26, 35, 36, Township 1 South, Range 13 East, G&SR&M.

TAB

Gart -

Leuveying

AUG 7 1974

~~WLK~~

JDS

SUPERIOR EAST

INSPIRATION 7/30/74

Hugh Olmstead, via telephone, stated that he would agree to a compromise line as suggested by WLK - whereas ICCI would deed "Cap 130" to ASARCO and INSPIRATION would use GANT'S SURVEY LINE as their west boundary.

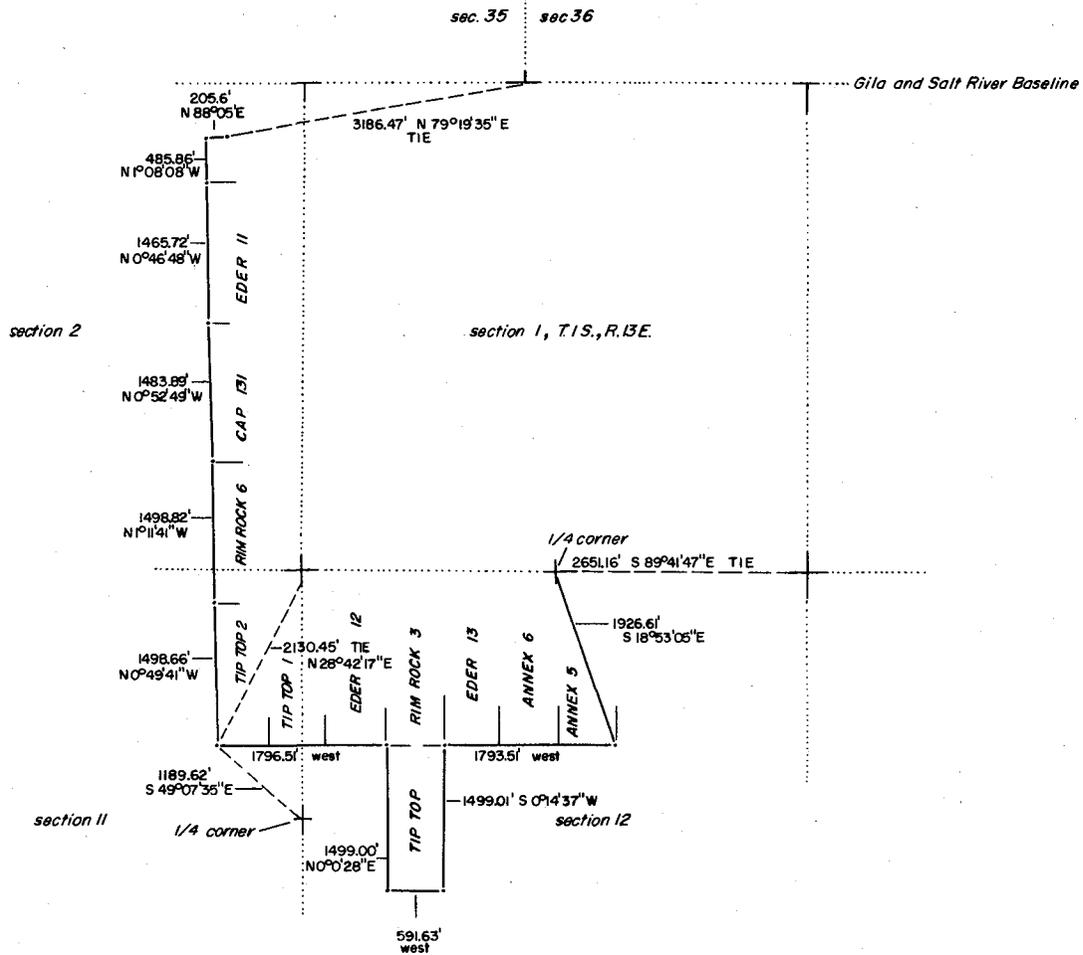
We both felt the entire line should be included in the settlement - Ghost claims. (Assuming North line is settled & DCA-1 is on the MARGARET)

ICC is surveying for Patent.

" will pay for survey.

" " forward copy of survey to ASARCO
as soon as GANT has it completed.

GANT should automatically be picking up all MARGARET corners in vicinity of boundary line.



**ASARCO · INSPIRATION
AGREEMENT LINE
SUPERIOR AREA
1" = 2,000'**

From survey by Travis L. Gant Aug. 24, 1974

AMERICAN SMELTING AND REFINING COMPANY
TUCSON ARIZONA

March 15, 1974

TO: J. D. Sell

FROM: A. W. Scott-Fleming

Report on Overlap Between
Margaret Claim Group and
"64" Claim Group
Superior East Project
Pinal County, Arizona

From February 20 to 25, 1974, I field-checked the overlap between the Margaret Claim Group and the "64" Claim Group by finding the claim monuments in the field and plotting their locations directly on a combined map of the corners of four 7-1/2 minute quadrangle sheets (see Figure 1).

The major problem I found with the Margaret Claim Group was the location of the drill holes M-20 and M-21 within the "64" Claim Group, specifically claim "Tip Top 2" (see Figure 2). Hole M-20 was drilled as validation work for Margaret Claims 183, 185, 187, 293, 294, and 295, and M-21 was drilled for Margaret Claims 184, 186, 188, 213, 214, and 215. If the "64" Claims are valid and correctly located, then the location work for the above-mentioned Margaret Claims was performed on claims of the "64" Claim Group.

In addition to the placement of the above-mentioned drill holes in the "64" Claim Group, the following Margaret Claims had their location monuments inside "64" block claims (see Figure 3):

M-16	{	Margaret 297 ✓ 296 ✓ 298 ✓	Margaret 190 ✓ 191 ✓ 192 ✓ 193 ✓	}	M-17
		" 232 ✓ (possibly)	" 189 ✓ 194 ✓ 195 ✓ 196 ✓		
		" 167 ✓ 168 ✓	" 187 (possibly)	}	M-21
		" 199 ✓ 200 ✓	" 185 (possibly)		
		" 197 ✓ 198 ✓	" 183		
		" 195 (possibly)	" 295		
		" 192	" 294		
" 191	" 293	60' SW COR. #183 S17°W			

If all these claims are invalid, then the following free ground exists between "64" Claims and valid Margaret Claims:

<u>In Former Claim</u>	<u>Free Ground</u>
Margaret 183	A strip 1500' long north of Margaret 181; NW Corner
" 293	SW Corner
" 185	West End
" 187	Southwest Corner
" 193	West End
" 195	West End
" 197	Southwest Corner
" 199	Northwest Corner
" 167	West End
" 232	West End
" 297	West End

All the plotted "64" claim block monuments were 4' lengths of 4"x4" with iron plates and plastic bottles to hold notices. In many cases, but not all, an old cairn placed by Eder in the 1930's could be found 20 to 30 feet to the south and 60 to 90 feet to the east.

In addition, several of the "64" claims had two bottles containing location notices. The older bottles contained notices with the old name (e.g., Tip Top 2) as plotted on Figure 3, while the newer bottles contained notices for the same claims with new names (e.g., Eder 25) posted by H. W. Olmstead in September, 1973. The new names are included in the Appendix.

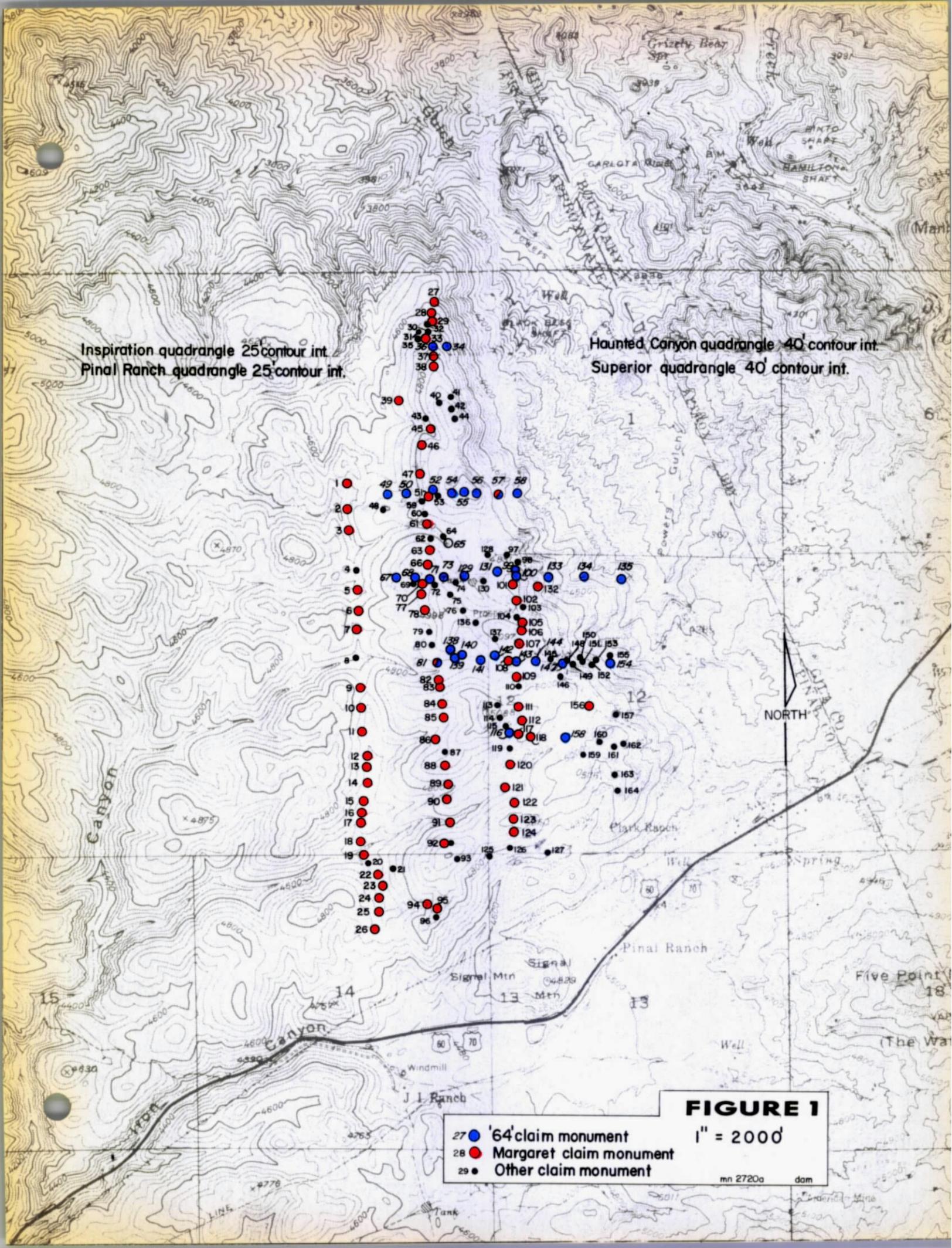
With this report I have included five Figures and an Appendix as follows:

- Fig. 1: Map of Claim Monuments
- Fig. 2: Sketch Map of Drill Holes M-20 and M-21
- Fig. 3: Overlap Between Margaret Claim Group and "64" Claim Group
- Fig. 4: Margaret Claims and Monuments
- Fig. 5: "64" Claims and Monuments

Appendix: Field Notes


A. W. Scott-Fleming

AWS:lb
Encs.



Inspiration quadrangle 25 contour int.
Pinal Ranch quadrangle 25 contour int.

Haunted Canyon quadrangle 40 contour int.
Superior quadrangle 40 contour int.

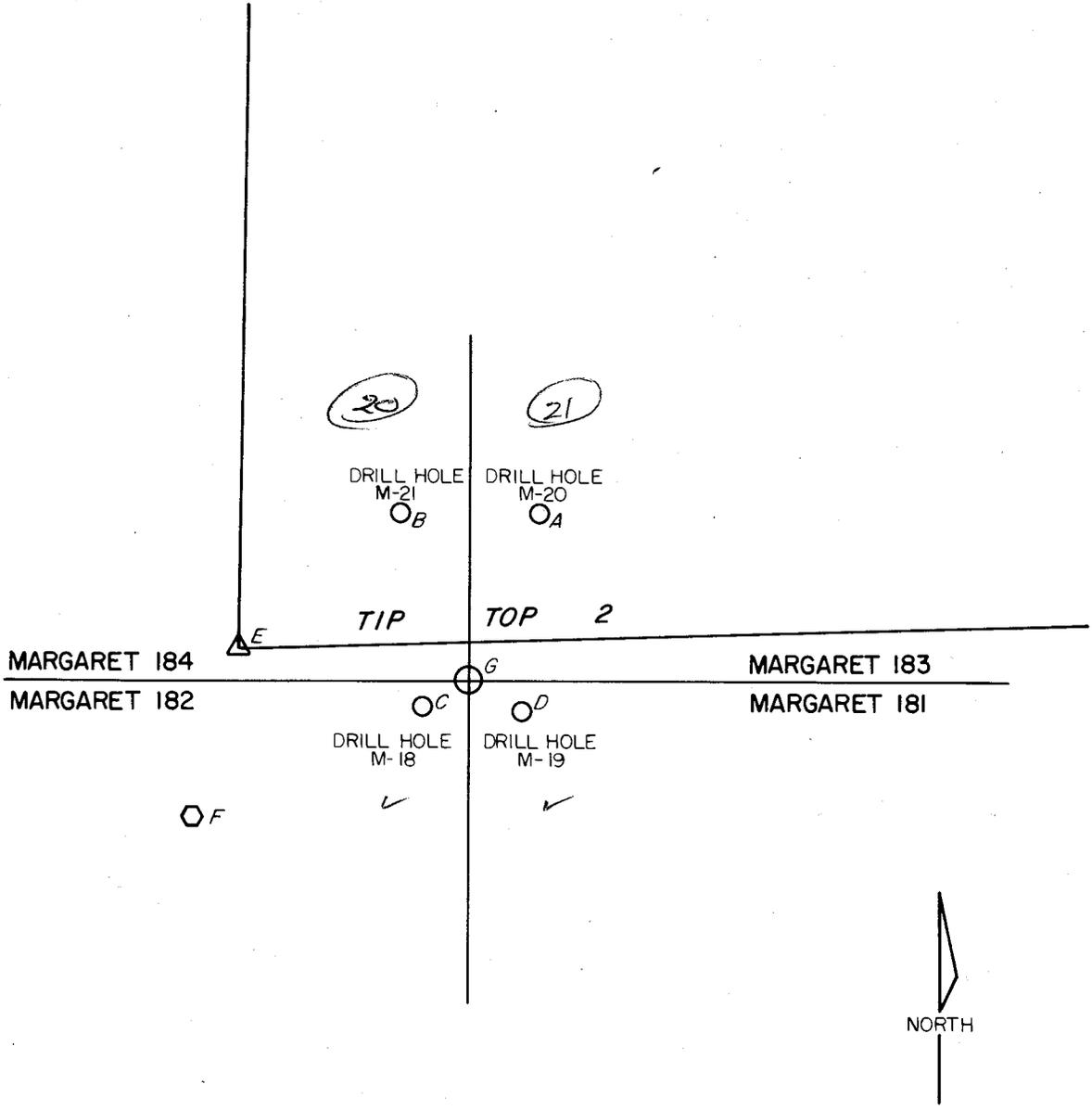
NORTH

FIGURE 1

1" = 2000'

- 27 ● '64' claim monument
- 28 ● Margaret claim monument
- 29 ● Other claim monument

mn 2720a dam



**FIGURE 2
FIELD SKETCH OF
DRILL HOLES FOR VALIDATION
OF MARGARET CLAIMS**

Note:
Letters (A, B, C etc.) refer to
note 81 in the appendix.

1" = 50'

May 27, 1975

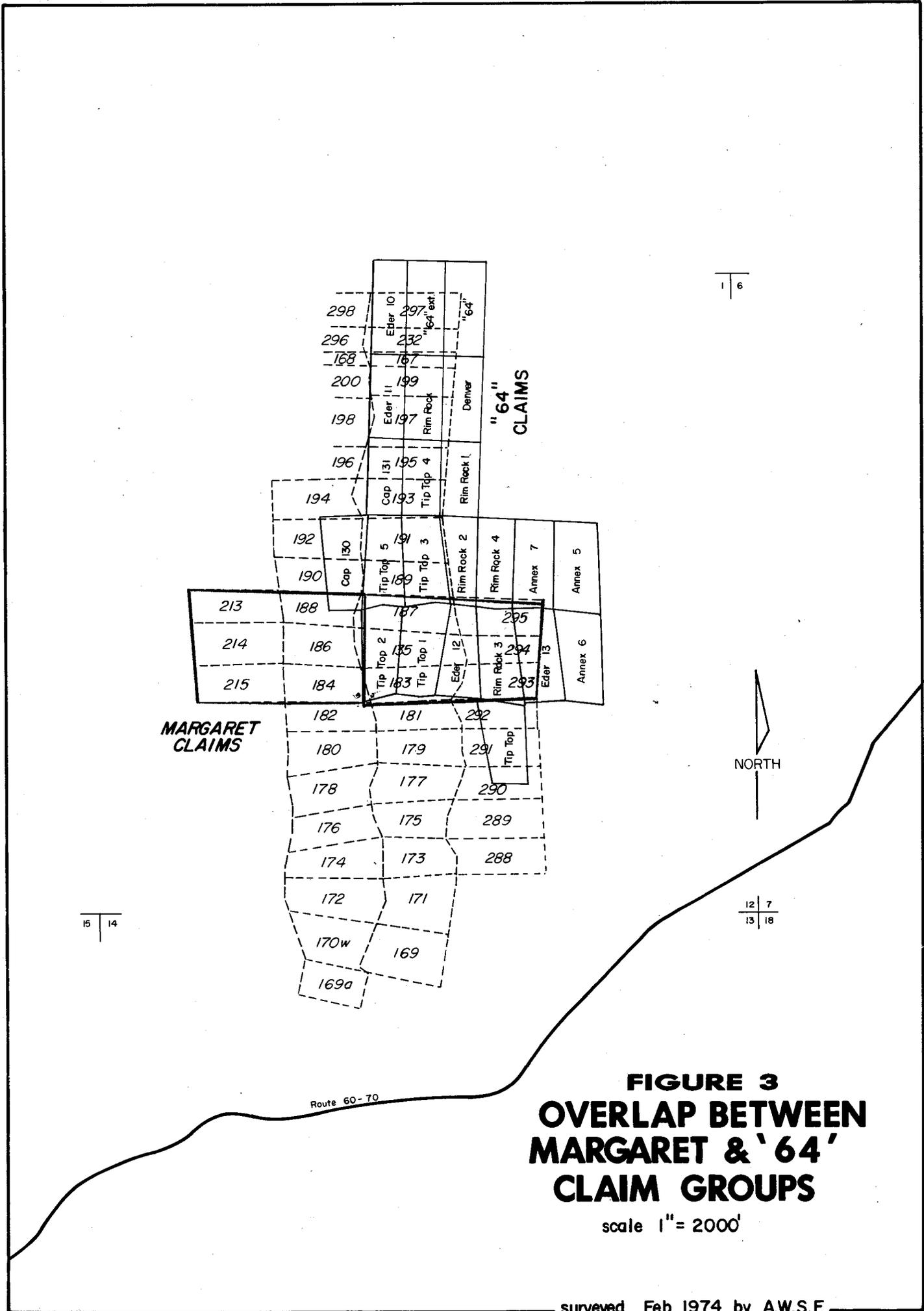
4:45

Rene VB of ICC called.

The problem of describing the ASANCO-ICC boundary has come up in that the Mangarts are very irregular etc. ~~of~~ The document will be filed & recorded and so they do not wish to put on anything to jeopardize the ASANCO position etc.

I suggested merely mentioning the Mangarts in adjacent positions are related in general but not placing any actual corners etc. on the filed document.

Sant apparently did not pick up all the Mangart corners as he reviewed in the Eden group.



**FIGURE 3
OVERLAP BETWEEN
MARGARET & '64'
CLAIM GROUPS**

scale 1" = 2000'

surveyed Feb. 1974 by A.W.S.F.

ms 2720a 4pm

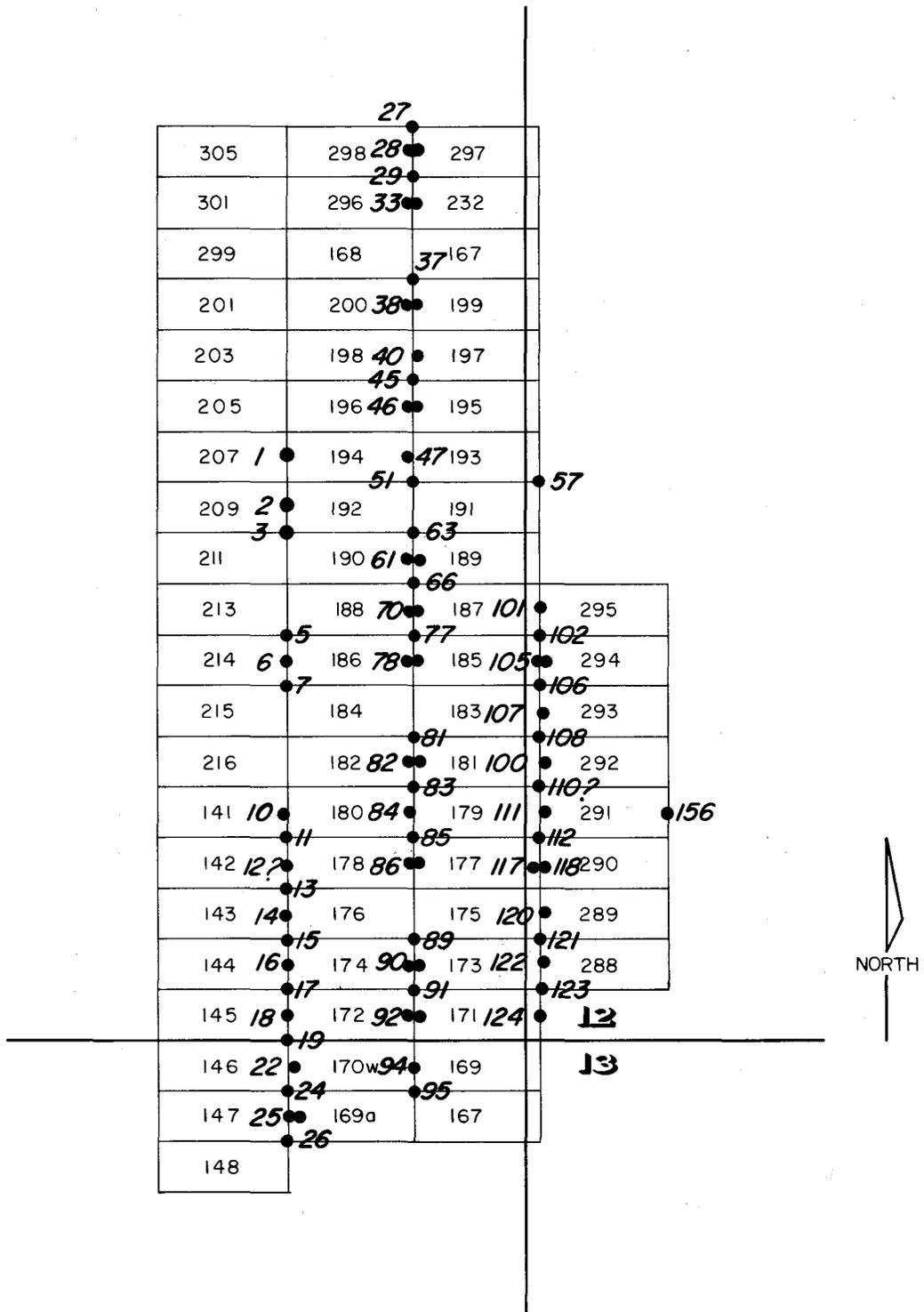


FIGURE 4
MARGARET CLAIM MONUMENTS

scale 1" = 2000'

121 • **FOUND MONUMENT - NUMBER**
REFERS TO APPENDIX

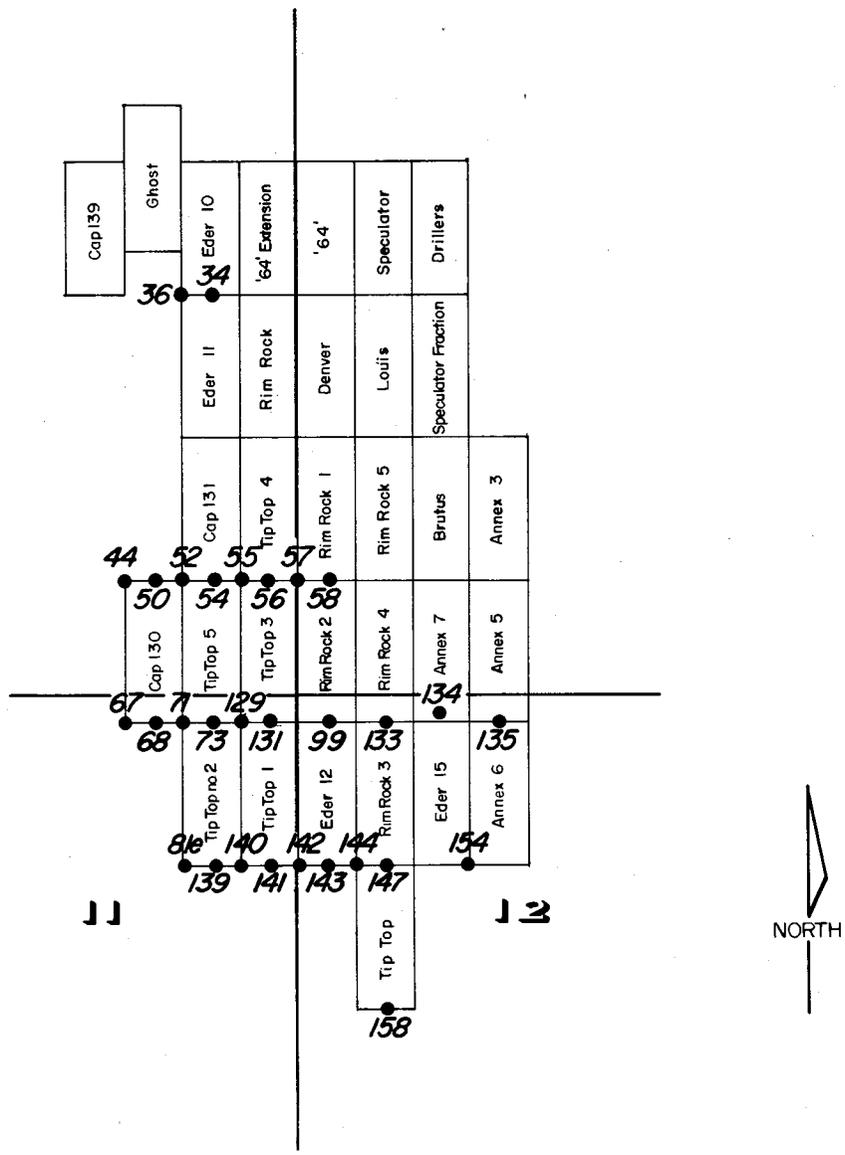


FIGURE 5
'64' CLAIM MONUMENTS

scale 1" = 2000'

81 • **FOUND MONUMENT** •
NUMBER REFERS TO APPENDIX

MAILING ADDRESS:
P. O. BOX 943
GLOBE, ARIZONA 85501

PHONE: 425-6131 • 110 BLAZER DR., GLOBE, ARIZONA

FEEES FOR PROFESSIONAL ENGINEERING
AND SURVEYING SERVICES

Effective January 1, 1973

FEE SCHEDULE:

Field Services:

3-man Survey Crew: (Basic Crew)	\$25.00/hr.
4-man Survey Crew:	32.50/hr.
2-man Survey Crew:	17.50/hr.
2-man Monumenting Crew:	14.00/hr.
Field Services by Prof. Engineer:	12.00/hr.
Field Man, working alone:	7.00/hr.

Office Services:

Professional Engineering Services:	
(a) Designing and Computing	\$12.00/hr.
(b) Consultation	20.00/hr.
Engineering Technician or Technical Aide (drafting, calculating)	9.00/hr.
Office Aide's Services:	5.00/hr.
Electronic Computer Time:	6.00/hr.

The above fees are for regular 8-hour days. Overtime work, when requested by the Client, shall be paid for at the above rates plus 30%. All Saturday, Sunday, or holiday time shall be overtime.

It is our policy to charge to the Client daily travel time from our office to the job site. We bear the cost of return trip time up to a maximum of one hour per day. All return travel time in excess of one hour per day is charged to the Client at the regular straight-time rates listed above.

Out-of-Town Expenses, including Room and Board:

2-man Crew:	\$35.00/day
3-man Crew:	50.00/day
4-man Crew:	60.00/day

Transportation: 15¢ per mile for 4-wheel-drive vehicle, on or off the highway. Minimum is \$3.00 per day per vehicle.

Special Equipment: Electronic distance-measuring equipment is charged at the rate of \$15.00 per working hour in addition to the cost of crew-time required to operate the equipment. Daily maximum charge is \$75.00 regardless of number of hours used.

Materials: Reimbursement in the amount of receipts submitted, plus cost of acquisition of material.

PROGRESS REPORT

JOB NO. 73001.

DATE Thurs., January 18, 1973.

CLIENT: ASARCO -- Exploration Div.

REPORT BY Travis L. Gant
Travis L. Gant, P.E.

JOB NAME Pinal Ranch area -- Claim survey.
in Secs. 13, 23, and 24, T. 1 S.,
R. 14 E., G&SRM.

Sun. 1/14/73 Preparation for commencement of survey on Monday: made photocopies of topo sheets, being portions of the SUPERIOR and PINAL RANCH quadrangles. Researched old files on this area, bringing out material previously used and information developed in prior jobs performed by T.L.Gant for Gerald Craig, "Dutch" Webb, and Tom Clary. Prof. Engr's services: 1½ hrs.

Mon. 1/15/73 Field work by 3-man survey crew, + Prof. Engr. (T.L.Gant), -- searched for public-land corners as follows: Found a bearing tree for the E. ¼-cor. of sec. 23 but did not find the ¼-cor. stone. We will look further. Found SE Cor. Sec. 13, the W. ¼-cor. of Sec. 13, and the S. ¼-cor. of sec. 14, the latter two points having been used previously (10-years ago) by this surveyor. Preliminary searches for the E. ¼-cor. of Sec. 13 and the N. ¼-cor. of Sec. 13 were fruitless. We will close in on these points, however, as we develop survey information and we should find at least a portion of those corners we require, i.e., all 4 quarter-corners of secs. 13 and 23. Also today we had conversations with several people in the area, -- Messrs. Bob Craig and a Mr. Brown of the Thomas Dees ranch, also Mrs. Henderson. I had called Mr. Craig Sunday evening, so he was expecting the crew. The others had to be approached with some care, but after we had stated our business, we had promises of cooperation from them. In general we find that local people can be very helpful with providing access information, if not with data RE location of public-land corners. We also met with your Mr. Harold Stone who showed us access into the northeasterly portion of Sec. 23 and informed us that there had been other mining interests in the area using the same trail-roads.
Crew time today = 8 hours Engineer's time today = 8 hrs. Transportation: two 4-wheel-drive vehicles, approx. 30 miles each. EDM equipment not used today.

Tues. 1/16/73 Field work by 3-man crew: Set up beginnings of control system for surveying the entire area. Established an electronic distance-metering station (called PR-1) atop the rock knoll on the south side of the highway cut just west of the Pinal Ranch Hs. From here direct ties were made to two of the old I.C.C.Co tri. stations (#15 & #27) to the scribed stone found at the SE Cor. of Sec. 13, to the West ¼-cor. Sec. 13, and to two additional control-points for our future use situated northeast of PR-1. Crew then moved to Tri. Sta. #27 and made a direct tie to the sec. cor. of secs. 13, 14, 23, and 24. All angles, -- both horizontal and vertical for slope-distance reduction purposes, -- were made with a Kern DKM-2Ae theodolite. All distances were measured with a Hewlett-Packard Model 3800 electronic distance-meter, hereinafter referred to as "EDM". Single-ray triangulation angles were measured from PR-1 and #27 to other stations wherever visible in order to augment and strengthen our system. Crew time today = 8 hours. Transp: 4-2h-drive, 30 mi. Use of EDM: 4 hrs.

<u>RECAP OF FEES:</u>	Three-man Suurvey crew:	16 hrs. @ \$ 24.00 =	\$ 384.00
	Prof. Engineer's services:	9½ hrs @ 10.00 =	95.00
	Transportation:	90 mi. @ 0.15 =	13.50
	Use of EDM equipment:	4 hrs. @ 15.00 =	60.00
	Total fees earned, this report		<u>552.50</u>

PERSONNEL

PROGRESS REPORT

JOB NO. 73001

DATE January 23, 1973

CLIENT: ASARCO

REPORT BY Travis L. Gant
Travis L. Gant, P.E.

JOB NAME Pinal Ranch area -- Claim Survey
in Secs. 13, 23, and 24, T. 1 S.,
R. 14 E.,

- Weds. 1/17 Office work by T.L.Gant, -- calculations pertaining to field work performed to date, -- 4 hours engineer's time + 2½ hours use of electronic computer. Made working plat for use in the field; formulated distances and bearings to use in narrowing down our search for the East, South, and North ¼-corners of Sec. 13. Prepared instructional notes for crew use.
- Thur. 1/18 Three-man survey crew, using EDM and theodolite, reduced the search area for the S. ¼-cor. of Sec. 13 to a small circle, then shortly found the scribed stone set by the original surveyor. Had less good fortune on the East ¼-cor. and North ¼-corner. The main problem with the East ¼-cor. is an ambiguity between two sets of B.L.M. survey notes; one calls for a cross on a huge boulder, 14' x 12' x 12', while the other set, made one year later, calls for a small stone set in the grd., measuring 8" x 6" x 6". Consequently, I don't know what we'll find, if anything. The north ¼-cor. may have been destroyed by a road which was constructed years ago; we'll try some hand excavation before giving up. In Section 23, ties were made to the B.T. found 1/14, and to a stone which may possibly have been the ¼-corner, although no discernible scribing could be found on it. Crew time today = 8 hours; EDM equipment used 2 hours. Transportation: 36 miles.
- Fri. 1/19 Three-man survey crew, extended control south toward a point from which the S. ¼-corner of Sec. 23 might be tied-in. Established a temporary point, measured to it, then got out of the area because of a beginning snow-storm. Total time worked on this job = 2 hours.
- Mon. 1/22 Three-man survey crew: picked up where work was left off Fri. morning, moving on south to a Tri. Sta. #28, left by I.C.C.Co.; made a tie to it. Plan to use it to assist us in locating the S. ¼-cor. of Sec. 23. Also made a long traverse into the western part of Sec. 23, establishing coords. for old Tri. Sta. #26 and from thence another tri. sta. from which we can look back to the east at the W. ¼-cor. Sec. 23. Made a direct tie from #15 Sta. to the S. ¼-cor. of Sec. 14 = N. ¼-cor. Sec. 23. This work involved measurements in excess of 11000 feet, none of it having the benefit of nearby roads for access, so this constitutes a full day's work. Crew time = 8 hours; transportation 34 miles; EDM equipment used 3 hours.
- Tue. 1/23 Office work by T.L.Gant: Performed all calculations arising from yesterday's and Thursday's field work. Prepared information for use in the search for the South ¼-cor. and West ¼-cor. of Sec. 23. Still not satisfied with East ¼-cor. Sec. 23; will have one more look in the vicinity for the scribed stone. Gant's time today = 3½ hrs (Received request from Bob Crist to appear in Phoenix Thursday, 1/25, to attend a hearing RE a restraining order which would affect our surveying work.) Computer used 2 hr

RECAP OF FEES:

Three-man survey crew:	18 hrs. @	\$ 24.00 =	432.00
Prof. Engineer's services:	7½ hrs. @	10.00 =	75.00
Use of EDM equipment:	5 hrs. @	15.00 =	75.00
Transportation:	105 mi. @	.15 =	15.75
Electronic computer used:	4½ hrs. @	6.00 =	27.00

PERSONNEL

Total earnings, this report = 624.75

PROGRESS REPORT

JOB NO. 73001.

DATE Fri., January 26, 1973

CLIENT: ASARCO.

REPORT BY Travis L. Gant
Travis L. Gant, P.E.

JOB NAME Pinal Ranch Area, -- Claim Survey
in Secs. 13, 23, & 24, T. 1 S., R 14

Weds 1/24 Three-man survey crew + engineer conducted a carefully planned search for three quarter-corners of Sec. 23 and found all three of them. Using pre-calculated bearings and distances leading away from the expanded control-points established and tied-in on 1/22, we were able to narrow down our search areas to a circle 50' or so in diameter. The E. $\frac{1}{4}$ -cor. was found first, nearly buried by earth and leaf mold under oak scrub brush. It obviously hadn't been used for many years, possibly not since it was set. Next, the S. $\frac{1}{4}$ -cor. was found but approx. 65 feet south of where it was pre-calculated to be. Both of the bearing trees were gone. The stone itself was still intact but the rock pile was missing. This is one corner we found by careful inspection of each rock, checking first for a size that checked with the Official Notes, then checking for stability, and finally for man-made markings. We returned to the vehicles for lunch about 1:15 P.M., then drove around to Devil's Canyon and entered the road currently being constructed by Paul Bryant for ASARCO. Met Paul and explained what we were looking for. Once again, this turned out to be like hunting for the proverbial needle in a haystack, -- a "+" on a "rock in place" according to the Official Notes. Our precalculations, however, placed us within 30 feet of the corner. We found this one because a portion of the original rock-pile was still in place, although grown over by brush. After cutting out the brush, we swept away the dirt and leaf mold from all the rocks in the vicinity; one of them bore the "+" and the " $\frac{1}{4}$ ", both scribed clearly into ledge rock. In the case of all three of these corners, precise ties were made using EDM and theodolite after the location of the exact point was known. We re-built rock piles at each site; these will facilitate finding said corners in the future. We did not, however, festoon the areas with flagging so as to draw particular attention to their locations. Having now acquired all the data needed for breaking down Sec. 23 into its legal quarters, I performed the necessary calculations in the office this evening; also calculated the setting ties (Bearings and Distances) required to be made from Tri. Stas. #15 and #26 to set the two 1/16-th corners which will define the SEly and SWly corners of the patented land in Sec. 23. These cors. may also be defined as the SE and SW cors. of the N $\frac{1}{2}$ NE $\frac{1}{4}$ Sec. 23. Today's charges: 3-man field crew: 8 hours. EDM equipment used 3 hours; transportation, 2 vehicles totalling 70 miles; Prof. engineer's services, field + office, 10 hours; electronic computer used 1 $\frac{1}{2}$ hours.

Thur. 1/25 Three-man survey crew: set the two 1-16th cors. discussed above. Had much difficulty with brush and large trees when setting the SE cor of the Pat. property. Set a 3/4-in re-bar with brass tag mkd. "5703" which is T.L.Gant's Land Surveyor number. At the SW cor. of the Pat. property we set a "+" on stone in place since the true point falls at a point where a re-bar could not be placed. Rock piles were erected immediately south of each true corner. Altho the crew had information with them for setting the 1/16-cor. $\frac{1}{4}$ -mile east of the SW cor. Sec. 13 (Being the SE Cor. SW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 13), there was not enough time left in the day to get this done. Crew time today = 6 $\frac{1}{2}$ hrs. EDM equipment used 2 hrs. Transportation 32 miles.

RECAP OF FEES:

3-man Survey Crew	14.5 hrs. @	\$ 24.00	=	\$ 348.00
Engineer's services:	10 hrs. @	10.00	=	100.00
Use of EDM equipment:	5 hrs. @	15.00	=	75.00
Use of computer	1 $\frac{1}{2}$ hrs. @	6.00	=	9.00
Transportation:	102 mi. @	0.15	=	15.30

Total earned, this report = 547.30

PERSONNEL

PROGRESS REPORT

JOB NO. 73001.

DATE Sun., February 4, 1973

CLIENT: ASARCO.

REPORT BY Travis L. Gant
Travis L. Gant, P.E.

JOB NAME Pinal Ranch Area, -- Claim survey in Sections 13, 23, and 24, T. 1 S., R. 14 E., Pinal County.

- Tues. 1/30 Conference in Gant's office with Jim Sell, 3:00 to 4:30 P.M. Discussion and planning for next phase of our participation in the claim work at Pinal Ranch. Lent Motorola radio and one Johnson to Mr. Sell for use tomorrow in the field, thus permitting all five persons to have radio communication (3-man crew + 2 ASARCO men). Engineer's time devoted to this project today = 1½ hours.
- Weds. 1/31 Began making ties to existing rock monuments and other important points in the area south of Sec. 13; included were drill-holes, a tunnel, a shaft. Also, the 1/16-th cor. between the SW Cor. and the S. ¼-cor. of Sec. 13 was established by survey and monumented with a 3/4-inch re-bar and tagged with L.S. 5703. Mr. Sell took one crew member and Mr. Harold Stone took the other one, and, operating as two 2-man crews, they selected the points which were to be tied to the control-system. All ties were made with EDM from Tri. Sta. PR-1, each 2-man crew having a corner-cube reflector. Primary problems today were difficulty on the part of the EDM operator in finding the crew-members and their reflectors; also, there was wind. Nonetheless, a fairly large number of points were tied-in. Today's charges: 3-man crew, 8 hrs.; EDM equipment used all day, charge for 5 hours; transportation: 32 miles.
- Thur. 2/1 Continued work described above. Field direction was under Mr. Stone today. Same crew, otherwise. EDM equipment was set up on Tri.Sta. #15 for most of the day's work, then a few shots were taken from the Sec. Cor. of secs. 13, 14, 23, and 24. Received a telephone request from Mr. Sell in Tucson, asking that we get started immediately on plotting the points surveyed yesterday and today, so this evening our party-chief brought the Field Notes to the office, made photocopies of them for Gant's use, and kept the originals for reference tomorrow. Crew time today = 8 hours; EDM equip. used 5 hours; Transportation: 38 mi; Aide's services, 1 hour.
- Fri. 2/2 Completed, for the time being, all field work needed by ASARCO. Activities again under the direction of Mr. Sell and Mr. Stone. Field crew worked 8 hrs; used EDM equip. 5 hrs.; transportation 35 mi. Occupied Tri. Sta. #13, -- a good hike with EDM equip.; also used Tri. Sta. #27 and set a new Tri. Sta. PR-4. In the office, T.L.Gant began reducing notes and plotting the survey. Total time = 4 hrs., engineer's rate.
- Sat. 2/3 Office work by T.L.Gant: continuation of note reducing and plotting everything surveyed to date; scale 1" = 200'. Completed this evening and called Jim Sell at 8:30 P.M. RE analysis of information so plotted. I did the best I could with the claim-lines, but was restricted by lack an adequate map showing the supposed positioning of the Lindburg and LD lodes. Mr. Sell agreed to make a trip to Globe tomorrow morning with the needed data. Total time by Gant today = 9 hours.

<u>RECAP OF FEES:</u>	Three-man Survey Crew:	24 hrs. @ \$24.00 =	576.00
	USE of EDM equipment	15 hrs. @ 15.00 =	225.00
	Transportation: 4-wh-dr	105 mi. @ .15 =	15.75
	Prof. Engineer's services:	14½ hr. @ 10.00 =	145.00
	Engrg. Aide's services:	1 hr. @ 8.00 =	8.00

Total earned, this report = 969.75

PERSONNEL

MAILING ADDRESS:
P. O. BOX 943
GLOBE, ARIZONA 85501

PHONE: 425-6131 • 110 BLAZER DR., GLOBE, ARIZONA

STATEMENT

Job No. 73001
February 6, 1973

American Smelting & Refining Co.
P. O. Box 5747
Tucson, Arizona 85703

Attn: Mr. James D. Sell
Geologist

For professional surveying services rendered during the period January 14, 1973, through February 3, 1973, in connection with your claim holdings in the Pinal Ranch area (in Secs. 13, 23, and 24, T. 1 S., R. 13 E., G. & S.R.M.), and consisting of the subdivision by government rules of Sec. 23 plus certain claim surveying as directed, we now present our request for payment:

Time-and-Material Charges:

Professional surveyor's services:	41½ hrs. @ 10.00 =	\$ 415.00
Three-man Survey Party:	72½ hrs. @ 24.00 =	1,740.00
Technical Aide's services:	1 hr. @ 8.00 =	8.00
Electronic Distance-metering equip:	29 hrs. @ 15.00 =	435.00
Electronic computer used:	6 hrs. @ 6.00 =	36.00
Transportation: 4-wh-drive	402 mi. @ 0.15 =	60.30

Total Amount Earned - - - - - \$2,694.30

All work has been billed in accordance with the provisions of our Fee Schedule, revised March 15, 1972, and verbally accepted by both parties as basis of payment. The work for which this request is submitted is described in detail in our Progress Reports numbered 1 thru 4. We also submit herewith a photocopy of our Job Charge Sheets Nos. 1 and 2, showing accumulation of daily charges to this survey project.

A copy of our March 15, 1972, Fee Schedule is attached; these rates shall apply until July 1, 1973.

JOB CHARGE SHEET

TRAVIS L. GANT & ASSOCIATES
Professional Engineers & Surveyors

CLIENT: American Smelting & Refining Co.

Job Number **73001**

JOB DESCRIPTION: Pinal Ranch Area -- Section Breakdowns
and other surveying work as assigned.

Sheet **1** of

DATE 1973	TYPE OF CHARGE	HOURS	HOURLY RATE	TRANSP. @ 15¢/MI.	OTHER CHGS	DAILY AMT	CUMUL AMT	
Report No. 1	Sun. 1/14	Office preparation work: Research of records, etc. T.L.Gant, Engineer	1½	10.00			15.00	15.00
	Mon. 1/15	Three-man Survey Crew, attempting to re-cover public-land cors. in Secs. 13 and 23, working under direction of engineer:	8	24.00	2 vehs.,	60 mi.	9.00	192.00
			8	10.00			80.00	296.00
	Tue. 1/16	Three-man survey crew: setting up triangulation and EDM control network for use in all phases of this project; tied all points found to date, except those in Sec. 23. Electronic distance meter equipment: Transportation: 4-wheel-drive	8 4	24.00 15.00			192.00 60.00	552.00
	Weds. 1/17	Office work by engr: pertaining to ties made yesterday, plus preparation of instructional notes for use in Sec. 13 Electronic computer used	4 2½	10.00 6.00			40.00 15.00	607.00
	Thur. 1/18	Three-man crew, resuming search for public-land cors. in Sec. 13, finding the S. ¼-cor. but no others Electronic distance meter equip (EDM) Transportation:	8 2	24.00 15.00		36 mi. @ 15¢	192.00 30.00 5.40	834.00
	Fri. 1/19	Three-man crew, extending survey-control network intoward S. central part of Sec. 23; work stopped due to snow. (use of EDM and transportation charges not charged to client today) Transportation:	2	24.00		35 mi. @ 15¢	48.00 5.25	882.00 888.00
Report No. 2	Mon. 1/22	Three-man survey crew: completed extension of control network into S. and W. portions of Sec. 23; made ties to old I.C.C.Co. control points, (tri. stas.). No vehicular access to these areas. Electronic distance meter equip. Transportation	8 3	24.00 15.00		34 mi. @ 15¢	192.00 45.00 5.10	1,130.00
	Tue. 1/23	Office work by T.L.G; in furtherance of field work; planned ties to use in search for ¼-cors. of Sec. 23 Electronic computer used	3½ 2	10.00 6.00			35.00 12.00	1,177.00
Report No. 3	Weds. 1/24	Three-man survey crew: In Sec. 23: searched for and fd. E., W., and S. ¼-cors. and made ties to each. Engr: With crew all day, + evening on calculations involving breakdown of Sec. 23 and data for setting new cors. Transportation: two vehicles used Electronic computer used: EDM equipment used:	8 10 1½ 3	24.00 10.00 6.00 15.00		70 mi. @ 15¢	192.00 100.00 10.50 9.00 45.00	1,488.00 1,533.00
	Thur. 1/25	Three-man survey crew: worked less than a full day, -- set two 1/16th cors. @ S. end Pat. land in Sec. 23 Transportation Use of EDM equipment	6½ 2	24.00 15.00		32 mi. @ 15¢	156.00 4.80 30.00	1,724.00
	Tue. 1/30	Prof. Engr's services -- office work & conference	1½	10.00			15.00	1,739.00
Report No. 4	Weds. 1/31	Three-man survey crew: making ties, under direction of Messrs. Sell and Stone, in northern part Sec. 24 Use of EDM equipment Transportation:	8 5	24.00 15.00		32 mi. @ 15¢	192.00 75.00 4.80	2,011.00
	Thur. 2/1	Three-man Survey Crew, continuation Use of EDM equipment Transportation: Engineering Aide: evening work	8 5 1	24.00 15.00 8.00		38 mi. @ 15¢	192.00 75.00 5.70 8.00	2,292.00

JOB CHARGE SHEET

TRAVIS L. GANT & ASSOCIATES
Professional Engineers & Surveyors

CLIENT: American Smelting & Refining Company

Job Number: 7300

JOB DESCRIPTION: Pinal Ranch Area -- Section Breakdowns
and other surveying work, as assigned.

Sheet 2 of _____

DATE 1973	TYPE OF CHARGE	HOURS	HOURLY RATE	TRANSP. C/MI/MI.	OTHER CHGS.	DAILY AMT.	CUMUL AMT.
				Brought Fwd. from Sheet No. 1 -----			2,292.00
REPORT NO. 4 (cont.)	Fri. 2/2	Three-man Survey Crew, finishing for the present all ties needed to prepare a situation map of the claims surveyed.		8	24.00		192.00
		Use of Electronic Distance Meter equip.		5	15.00		75.00
		Transportation:				35 mi. @ 15¢	5.25
		Office work: Gant, beginning plotting		4	10.00		40.00
							2,604.25
Sat. 2/3	Office engineering work by T.L.Gant: completed plotting, -- map complete to point of requiring study by ASARCO personnel		9	10.00			90.00
							2,694.25

MAILING ADDRESS:
P. O. BOX 943
GLOBE, ARIZONA 85501

PHONE: 425-6131 • 110 BLAZER DR., GLOBE, ARIZONA

FEEES FOR PROFESSIONAL ENGINEERING
AND SURVEYING SERVICES

Effective March 15, 1972

Fee Schedule:

Field Services:

2-man Survey Crew	\$17.00/hr.
2-man Monumenting Crew	14.00/hr.
3-man Survey Crew	24.00/hr.
4-man Survey Crew	31.00/hr.
Field man, working alone	6.50/hr.
Field Services by Prof. Engr.	10.00/hr.

The above fees are for regular 8-hour days. Overtime work, when requested by the Client, shall be paid for at the above rates plus 30%. All Saturday, Sunday, or holiday time shall be overtime.

It is our policy that daily travel time to the job site is paid for by the Client; return trip time is paid for by the Engineer up to a maximum of one hour per day. All travel time in excess of one hour per day will be charged to the Client at the regular straight-time rates listed above.

Out-of-Town Expenses:

\$25.00/day for 2-man crew
\$40.00/day for 3-man crew
\$50.00/day for 4-man crew

Transportation: 15¢ per mile for 4-wheel-drive Jeep, on or off the highway. Minimum is \$3.00 per day per vehicle.

Office Services:

Professional Engineering Services:	
(a) Consultation	\$20.00/hr.
(b) Designing and Computing	10.00/hr.
Engineering Aide's services:	
(drafting, minor calculating)	8.00/hr.
Electronic Computer Time:	6.00/hr.
Secretarial Services:	4.00/hr.

Electronic distance-measuring equipment is available at the rate of \$15.00 per working hour in addition to the cost of crew-time required to operate the equipment.

Materials and rentals of special equipment: Reimbursement in the amount of receipts submitted, plus cost of acquisition.

PROGRESS REPORT

JOB NO. 73001.

DATE Thur., March 8, 1973

CLIENT: ASARCO

REPORT BY Travis L. Gant
Travis L. Gant, P.E.

JOB NAME Pinal Rch. Are, -- claim survey in
Secs. 13, 23, & 24, T. 1 S., R. 14 E.,
Pinal County Plus other services as
assigned.

- Sun. 2/4 Meeting in Gant's office in Globe, 9:00 to 10:30 AM. Messrs. Jim Sell, Bill Kurtz, John Sheesley (draftsman), present. Claim group was discussed, using plotted points and my analysis of claim-lines as basis for discussion. ASARCO men showed us how the LINDBERG lodes were supposed to lie, as well as the BUCKs. These lodes were plotted in pencil on my working map to the satisfaction of ASARCO, then the map was turned over to my draftsman for presentation on mylar.
- Mon. 2/5 Draftsman finished his mylar by noon today (9½ hrs. work yesterday and this morning); Gant worked all afternoon and part of the evening (5½ hrs) preparing auxiliary sepias with certain info being restricted to certain sepia reproducibles, -- all as directed in yesterday morning's meeting with ASARCO personnel. After the sepias were made and info added thereto, 9 black-line prints were made for distribution to ASARCO. Total cost of materials for black-line prints, + sepias, + mylar = \$21.11. The draftsman came back this evening and picked up one sepia for additional information to be added.
- Thur. 2/8 Office work by T.L.Gant: prepared (by pre-calculation of distances and bearings) set of instructional field notes for use by the survey crew in establishing the locations for claim-corners of the LD-11, LD-12, and LD-13 lodes. Instructions from Jim Sell, received last evening by phone, were to monument the corners and end-ctrs. of these claims, only. Gant's time on this work = 3 hrs.
- Fri. 2/9 Three-man survey crew placed 11 monuments in their newly-assigned positions as discussed in Thurs. report. Occupied 3 control points in performing the preliminary survey work required before building the rock monuments. Also today: draftsman returned final sepia drawing with all info shown thereon: his time = 1 hour. Crew time today = 8 hrs; Electronic distance-measuring equipment used 2 hours; vehicle 1 vehicle-day of 35 mi.
- Thur. 2/15 Mr. Sell picked up two additional prints of latest map, showing all points surveyed to date.
- Tue. 2/27 Call from Bob Crist: requests prints of revised drawing (showing BUCK lodes); prints picked up by H. Crittenden. Cost of prints, + time required by T.L.Gant to revise drwg: \$2.20 + ½ hour, respectively.
- Thur. 3/1 Responding to call by J. Sell, 3-man crew set up on Tri. Stas. #15 and #26 and made ties to approx. 65 claim-corner monuments, location monuments, etc., as directed in the field by Mr. Sell. Crew also adjusted north-end monuments of LD-11, LD-12 and LD-13, according to instructions by Mr. Sell. Total crew time today = 8½ hrs.; EDM used all day, but maximum charge is, by prior agreement, 5 hours for any one day. Vehicle: 36 mi.

<u>RECAP OF FEES:</u>	Prof. Engineer's services:	9 hrs. @ \$10.00 =	90.00
	3-man Survey Crew:	16½ hrs. @ 24.00 =	396.00
	Draftsman's services:	10½ hrs. @ 8.00 =	84.00
	Electronic Distance Metering equip.	7 hrs. @ 15.00 =	105.00
	Transportation: 4-wheel-drive	71 miles @ 0.15 =	10.65
	Printing services:	1 L.S. =	23.31

Total, this report - - - - = 708.96

PERSONNEL

Telephone costs to ASARCO: Jan: 8.25
Feb: 5.10

13.35
Total charges - - = 722.31

MAILING ADDRESS:
P. O. BOX 943
GLOBE, ARIZONA 85501

PHONE: 425-6131 • 110 BLAZER DR., GLOBE, ARIZONA

STATEMENT

Job No. 73001
April 10, 1973

American Smelting & Refining Co.
P. O. Box 5747
Tucson, Arizona 85703

Attn: Mr. James D. Sell
Geologist

For professional surveying services rendered during the period February 8, 1973 through March 29, 1973, in connection with your claim holdings in the Pinal Ranch area in Sections 13, 23, and 24, T. 1 S., R 13 E., G. & S. R. M., Pinal County, Arizona, we present the following request for payment:

Time and Material Charges:

Professional surveyor's services:	24½ hrs. @ \$10.00 =	\$ 245.00
Three-man Survey Party:	20½ hrs. @ 24.00 =	492.00
Technical Aide's services:	14½ hrs. @ 8.00 =	116.00
Electronic distance-metering equip:	7 hrs. @ 15.00 =	105.00
Transportation: 4-wheel-drive	106 mi. @ .15 =	15.90
Automobile	186 mi. @ .12 =	22.32
Telephone charges, Feb. & Mar.		= 13.35
Printing services:		= 9.40
Materials used:		= 21.11

Total Amount Earned - - - - - \$ 1,040.08

Services performed for ASARCO between February 4 and March 1 were reported in detail in our Progress Report No. 5, submitted to your office on March 8, 1973. Services performed since March 2 are listed on our Job Charge Sheet, a photocopy of which is enclosed herewith; a separate Progress Report has not been prepared for such services, but we will prepare one if you require it.

OK for Payment
Superior East 0010
507-25
gds

JOB CHARGE SHEET

TRAVIS L. GANT & ASSOCIATES
Professional Engineers & Surveyors

CLIENT: American Smelting & Refining Company

Job Number: 73001

JOB DESCRIPTION: Pinal Ranch Area -- Section Breakdowns
and other surveying work, as assigned.

Sheet 2 of _____

DATE 1973	TYPE OF CHARGE	HOURS	HOURLY RATE	TRANSP. @ 15¢/MI.	OTHER CHGS.	DAILY AMT	CUMUL. AMT
						Brought Fwd. from Sheet No. 1 -----	2,292.05
Fri. 2/2	Three-man Survey Crew, finishing for the present all ties needed to prepare a situation map of the claims surveyed.	8	24.00			192.00	
	Use of Electronic Distance Meter equip.	5	15.00			75.00	
	Transportation:			35 mi. @ 15¢		5.25	
	Office work: Gant, beginning plotting	4	10.00			40.00	2,604.30
Sat. 2/3	Office engineering work by T.L.Gant: completed plotting, -- map complete to point of requiring study by ASARCO personnel	9	10.00			90.00	2,694.30
						(Bill'd 2/6/73 & Paid)	
Thur. 2/8	Rec'd telephone bill: calls made in furtherance of ASARCO work; incl. calls to ASARCO Tucson Office and to Fred Ferguson, atty. in Phx.					8.25	2,702.55
Sun. 2/4	Meeting, Gant's office.					No Chg.	
Mon. 2/5	Draftsman:	9½	8.00			76.00	
	Prof. Engineer's services:	5½	10.00			55.00	
	Materials:					21.11	2,854.66
Thur. 2/8	Office engineering, prep. of instructional notes for crew use	3	10.00			30.00	2,884.66
Fri. 2/9	3-Man survey crew: monumenting & surveying required beforehand	8	24.00			192.00	
	Draftsman	1	8.00			8.00	
	Electronic Distance Measuring equipment:	2	15.00			30.00	3,119.91
Tue. 2/27	Prof. engr's. services	½	10.00			5.00	
	Printing:					2.20	3,127.11
Thur. 3/1	Three-man survey crew: ties to monuments, directed by J. Sell. E.D.Meas. equip:	8½	24.00			204.00	
		5	15.00			75.00	
				36 mi. @ 15¢		5.40	3,411.51
3/8	Rec'd telephone bill for Feb: calls made in ASARCO work. J. Sell here; studied map which includes Buck lodes.					5.10	3,416.61
Fri. 3/9	T.L.Gant, working on map of most recent survey; plotting survey notes on detail paper; discussion with Jim Sell via telephone; rec'd OK to proceed with adding this info to the so-called "Stew Copy" of the original drawing; Engineer's services today	4	10.00			40.00	3,456.61
Tue. 3/13	Drafting newly-acquired data on most-inclusive map of the Survey to date T.L.Gant, as draftsman	4	8.00			32.00	3,488.61
Thur. 3/15	Meeting in Phx., -- T.L.Gant present as directed by Mr. Bob Crist. Total time, 7 AM to 7:30 PM. Transportation to and from Phx.	11½	10.00			115.00	
				186 mi. @ 12¢		22.32	3,625.93
Mon. 3/19	3-Man Survey Crew: survey and monumentation of the west end-monuments of lode claim LD No. 21. Transportation: 4-wh-drive	4	24.00			96.00	
				35 mi. @ 15¢		5.25	3,727.18
Thur. 3/29	Custom printing for J. Sell: (2 occasions)				4 prints @ 1.80	7.20	3,734.38
	RECAP for Billing:						
	Earnings, 1st Quarter, 1973					3,734.38	
	Paid, Billing of 2/3/73					2,694.30	
	Billing, April 9, 1973					1,040.08	

MAILING ADDRESS:
P. O. BOX 943
GLOBE, ARIZONA 85501

PHONE: 425-6131 • 110 BLAZER DR., GLOBE, ARIZONA

STATEMENT

May 29, 1973
Job No. 73001
Statement No. 3

American Smelting & Refining Co.
P. O. Box 5747
Tucson, Arizona 85703

Attn: Mr. James D. Sell
Geologist

For professional surveying services rendered during the period April 30, 1973, through May 24, 1973, in connection with your lode claim holdings in the Pinal Ranch area in Sections 13, 23, and 24, T. 1 S., R. 13 E., G. & S.R.M., including certain work in your American Group in Secs. 18 and 19, T. 1 S., R. 14 E., G. & S.R.M., we now present our request for payment:

Time and Material Charges:

Three-man Survey Crew time:	20½ hrs. @ \$24.00 =	\$492.00
Two-man Survey Crew time:	18 hrs. @ 17.00 =	306.00
Use of Electronic distance-meter	14 hrs. @ 15.00 =	210.00
Prof. Engineer's services:	8 hrs. @ 10.00 =	80.00
Electronic computer used:	1½ hrs. @ 6.00 =	9.00
Transportation: 4-wh-dr.	201 mi. @ 0.15 =	30.15

Total Amount Requested - - - - - \$ 1,127.15

Please refer to our Job Progress Report No. 6 for detailed information regarding the services performed; the accompanying photocopy of our Job Charge Sheet shows daily accumulation of earnings and is intended to augment the Progress Report.

*OK for payment
Superior Est 0010
507-25
JDSell*

JOB CHARGE SHEET

TRAVIS L. GANT & ASSOCIATES
Professional Engineers & Surveyors

CLIENT: American Smelting & Refining Co.

Job Number 73001

JOB DESCRIPTION: Pinal Ranch Area == Section break-down
+ other surveying work, as assigned.

Sheet 3 of

<u>DATE</u>	<u>TYPE OF CHARGE</u>	<u>HOURS</u>	<u>HOURLY RATE</u>	<u>TRANSP. @ 12¢/MI.</u>	<u>OTHER CHGS.</u>	<u>DAILY AMT.</u>	<u>CUMUL AMT.</u>
Thur. 5/17	Two 2-man Survey Crews: 9 hrs. each Electronic distance meter: Transportation:	18 4 66 mi.	17.00 15.00 .15			306.00 60.00 9.90	375.90
Fri. 5/18	Three-man Survey Crew: Electronic distance meter: Transportation	8 4 34 mi.	24.00 15.00 .15			192.00 60.00 5.10	633.00
Mon. 5/21	Three-man Survey Crew: Electronic distance meter: Transportation:	8 4 35 mi.	24.00 15.00 .15			192.00 60.00 5.25	890.25
Tue. 5/22	Prof. Surveyor's services	1	10.00			10.00	900.25
Thur. 5/24	Three-man survey crew: Prof. surveyor's services, with crew Prof. surveyor's services, office, eve. Electronic computer used Transportation: Electronic distance meter used:	4½ 4½ 2½ 1½ 66 mi. 2	24.00 10.00 10.00 6.00 .15 15.00			108.00 45.00 25.00 9.00 9.90 30.00	1,127.15

PROGRESS REPORT

JOB NO. 73001.

DATE Mon., May 28, 1973

CLIENT: ASARCO.

REPORT BY *Travis L. Gant*
Travis L. Gant, P.E.JOB NAME Pinal Ranch area, -- claim survey
work, as directed.

NOTE: Following the submittal of Report No. 5 certain services were performed in this area, payment for which was received in our second Statement, tendered April 10, 1973. These services included T.L.Gant's appearance in Phoenix for deposition, certain drafting services, printing services, and the monumentation of the westerly end of the LD No. 21 lode claim. All these performed between 3/9/73 and 3/29/73.

Mon. 4/30 Conference with Jim Sell in my office, -- he wants further surveying at Pinal Ranch including finishing the break-down of Sec. 13 so that the SW 1/16-corner thereof can be established. An "agreement line" is to be established also, for which payment will be made by ASARCO and Arizona Mining Co. as a cooperative endeavor. Also, the "American Group" of lodes is to be surveyed and a drawing submitted showing the actual positions of the corners of these claims.

Weds. 5/2 Rec'd call from Bob Franks: Announcing the need for the "agreement line" mentioned above; wants to be present when this work is performed, to represent Arizona Mining Co. Since I couldn't tell when we would be starting, I called Tucson office of ASARCO and talked with Bob Crist, who said to wait until further notice before doing any work at Pinal Ranch and to inform Franks of this decision.

Thur. 5/10 Rec'd call from Jim Sell: Said to schedule meeting for Thur., 5/17, and to begin survey of American Group for ASARCO on same date. I.C.C.Co. personnel would be present to show us corner monuments of American Group.

Thur. 5/17 Field meeting with John Lavin of I.C.C.Co., Jim Sell of ASARCO, + my survey crew and I. Found numerous corners of the AMERICAN Group; set up control stations PR-5, 6, 7, 8, 9, and 10 for immediate use. After Lavin left at noon, I split our personnel into two crews. Crew No. 1, accompanied by Jim Sell, began making ties to 4x4s and mds. rx. identified by Mr. Sell; Sta. PR-2 was used for control and ties were made by theodolite and electronic distance-meter. Crew No. 2, (T.L.G. and a helper) began search for the NW cor. of sec. 13; found it after 2½ hours of intense effort; set control pt. for making a tie to said corner, then returned to the vicinity of the NE cor. of sec. 13 and searched for this monument. Found three bearing-trees but no stone monument. Ties to bearing trees will enable us to reconstruct said monument, however. Rejoined Crew No. 1 at 3:30 and worked another hour establishing needed extension of controls to east of PR-5. Total crew time today = 9 hours each; EDM was used 4 hrs.; two vehicles totalled 66 mi.

Fri. 5/18 Three-man theodolite-EDM crew made ties to all cors. of the American Group in the NE and East central portions of the Group, completing the Fairview, F. #1, F #2, R.Cross, and Dark Horse No. 2; also ties to N. ends of White Elephant, Astonish, and Dark Horse. Crew time today = 8 hours; transportation 34 mi; EDM used 4 hrs.

RECAP OF FEES: Office: T.L.Gant called Willard Shoecraft and asked for permission to cross over some of his patented property in order to reach the NE cor. of Sec. 13; he gave the permission and said he would be in touch with ASARCO for a copy of our survey results.

PERSONNEL

PROGRESS REPORT

JOB NO. 73001

DATE _____

CLIENT: _____

REPORT BY Travis L. Gant

JOB NAME _____

Mon. 5/21 Three-man crew: Completed finding and making ties to the claim corners of the American Group. Worked on South end-line of White Elephant, Astonish, and Dark Horse. Crew moved at 2 PM to Sec. 13 breakdown work: made tie from PR-10 to the NW cor. stone of Sec. 13; also, using a station (PR-3) set in January, made a tie to a point amid the three bearing trees for the NE Cor. Sec. 13. Next, they occupied the point and made ties to each tree so that the corner itself can be calculated. (We have USGLO Field Notes which will enable us to determine the true position of the corner, although the monument itself is lost). Crew hours today = 8. EDM used 4 hours. Transportation 35 mi.

I rec'd another call from Bob Franks: says he must be present when survey of "agreement line" is performed. I informed him that I still had nothing in writing from ASARCO or from Ariz. Mining Co. or either company's lawyers giving me an order to proceed.

Tue. 5/22 Office work by T.L.Gant: computed probable positions of N. $\frac{1}{4}$ -cor. and E. $\frac{1}{4}$ -cor. of Sec. 13; also computed needed ties to reach these positions, -- the first from PR-2 and the second from PR-1. Office time = 1 hours.

Weds. 5/23 Called Jim Sell in Tucson: Received OK to proceed with West line of Arizona Mining Co. claims, beginning with SW 1/16-th cor. of sec. 13, --- thus the need to complete the breakdown of this section. No word on continuation of the "Compromise line" or "agreement line" yet.

Thur. 5/24 Three-man crew, + T.L.Gant: Using new data to isolate N. and E. quarter-corners of Sec. 13, made diligent search for each. Had 50% luck. Could not find N. $\frac{1}{4}$ -cor.; believe it is under edge of road fill on access road to Powers Gulch. Did find the "+" on vertical rock wall for E. $\frac{1}{4}$ -cor., as described in the official USGLO notes. Made ties to E. $\frac{1}{4}$ -cor.; also made ties to a juniper and to 2 oaks which may be the bearing trees called for in the official Notes for the N- $\frac{1}{4}$ -cor. Also made ties to the NE and SE (N. and E.) corners of the Lindberg No. 3 lode; these are needed in order to compute the intersections of claim lines with the "agreement line". Field time today = $4\frac{1}{2}$ hrs. for 3-man crew and for T.L.Gant. Transportation: 66 mi. EDM used 2 hours. Evening: Gant, calculated positions of B.T.s mentioned above: we may have a chance to uncover the N. $\frac{1}{4}$ -cor. since it appears that we do have two B.T.s, altho only their stumps are left. Also calculated everything possible in connection with (1) the breakdown of sec. 13, including its East Line, and (2) the positions of the newly-established controls for the American Group. This is now ready to plot. Gant's time this evening: $2\frac{1}{2}$ hours. Computer used $1\frac{1}{2}$ hrs.

<u>RECAP OF FEES:</u>	Three-man Survey Crew time:	20 $\frac{1}{2}$ hrs. @ \$ 24.00 =	492.00
	Two-man Survey Crew time:	18 hrs. @ 17.00 =	306.00
	Use of Electronic distance-meter	14 hrs. @ 15.00 =	210.00
	Prof. Engineer's services:	8 hrs. @ 10.00 =	80.00
	Electronic computer used:	1 $\frac{1}{2}$ hrs. @ 6.00 =	9.00
	Transportation: 4-wh-dr.	201 miles @ 0.15 =	30.15

Total earned, this report = 1,127.15

PERSONNEL

FROM: W. L. KURTZ

To: JDS

May 29

Ferguson writing
Gant per your
instructions

TRAVIS L. GANT & ASSOCIATES
PROGRESS REPORT

REPORT NO. 73001

JOB NO. 73001

DATE Thur., June 7, 1973

CLIENT: American Smelting & Refining Co.

REPORT BY Travis L. Gant
Travis L. Gant, P.E.

JOB NAME "Compromise Line" -- work pertaining to calculation and monumentation thereof, + other assignments

Mon. 5/28 Office work by T.L.Gant, -- plotted entire set of claims of the American Group; sketched claim-lines. All appear to fit well together with some minor correction needed on the White Elephant lode and the Astonish lode. Engineer's time applicable to those claims needed to derive intersections with "compromise line" = 1½ hrs.; remainder = 3½ hrs. Total: 5 hrs.

Tue. 5/29 Rec'd. telephone go-ahead from Fred Ferguson, atty.; survey of "compromise line" can now begin. Gant worked 2 hrs. this afternoon getting data ready for setting the first monuments on said "compromise line"; this consisted of measuring, etc., off a 1" = 200' scale map and the preparation of instructional notes for crew use.

Weds. 5/30 Three-man survey crew: made final, unproductive search for the N. ¼-cor. of sec. 13; used stumps thought to be those of bearing trees as points from which to measure swing-ties. Dug into road-bed of Powers Gulch road in an effort to find the "¼" stone but to no avail. Consequently, the N. ¼-cor. shall be assumed to be at the mid-point of the line connecting the NW and NE corners of Sec. 13; Gant's calculations tonight therefore constitute a completion of the breakdown of Sec. 13 and we now have coordinates of all corners and all interior corners needed for this survey. Crew made second ties to all corner monuments on the easterly end-lines of the Fairview #1 and Fairview #2 lodes, as well as the north end-line corners of OS-23 lode, White Elephant, and Astonish lodes; also a further check on the northeast end of the Lindburg No. 3 lode. All this was done in order to ascertain whether mistakes had been made in our earlier ties to these points from our Tri. Sta. PR-2. Today's re-measurments were made from our Tri. Sta. PR-5. When calculations and plotting were completed this evening, it is clear that no appreciable error was made the first time, which means that the Fairview #1 and Fairview #2 lodes are over-long and will have to be shortened from the west end; also, the R. Cross and Fairview lodes are short but legal. Gant's time tonight = 2½ hrs. Crew time today = 8 hours. Engrg. Aide worked 1½ hrs. overtime tonight helping prepare instructional notes for use during the remainder of the week. Transportation: 40 mi. EDM not use

Also today: James D. Sell was here requesting that we stake the LD No. 1 claim as per a relocation he indicated.

Thur. 5/31 Office work by T.L.Gant: continuation of calcs. and preparation of instructional notes for setting points on the "compromise line", using Tri. Stas. PR-2, PR-5, and PR-1 for controls. This constitutes about 80% of the calcs. needed for the line. Crews (2) consisting of one 2-man and one 3-man began setting "comp. line" monuments. The 2-man crew spent the morning making aluminum tags showing identification for the monuments, -- also acquiring 2x2 posts and attaching tags to posts.

RECAP OF FEES: In PM, this 2-man crew began field work, setting the posts behind the 3-man survey crew which had been in the field all morning. Total time, each crew = 8 hrs. Transportation: 2 4-wheel-drive trucks, 40 mi. each = 80 mi. EDM used 4 hrs. by 3-man crew. Prof. Engr's services (T.L.Gant) 6 hrs., + 2 hrs. evening, = 8 hrs.

Rec'd letter from Fred Ferguson constituting official authorization to proceed with establishment of "compromise line".

PERSONNEL

PROGRESS REPORT

JOB NO. 73001

DATE Thur., June 7, 1973

CLIENT: _____

REPORT BY T.L. Gant

JOB NAME _____

Fri. 6/1 Three-man survey crew finished setting all points needed to be set from Tri. Sta. PR-2, a total of 19, (including those set yesterday, the total is 22 from this point). Two-man monumenting crew followed, establishing 2x2 posts at each required corner and constructing substantial mounds of stone around each post. Of the 22 corners set from this point, half were "compromise line" corners and half were corners of ASARCO claims or claims leased by ASARCO. Each crew worked 8 hours; two vehicles travelled 80 miles. E.D.M. was used 5 hours.

Sat. 6/2 T.L.Gant, office work: completed instructional notes for crew to use in the field on the "compromise line", -- 2½ hours. Spent another 3½ hours planning closing fractions, PINK ELEPHANT, and LD No. 22, and preparing instructional notes for setting locations and corners for these lodes, as well as for the LD No. 1 relocation requested by Mr. Sell on 5/31. Also made plans for setting 100-foot markers along southerly side-line of STEW No. 1 or N. line of "MO No. 1".

Sun 6/3 Prepared location notices for Amendments to the LD Nos. 14, 15, 16, and 17 lodes, plus new location notices for the LD no. 22, the LD No. 1, and the PINK ELEPHANT lodes. Total time by T.L.Gant = 2 hours.

Mon. 6/4 Due to the fact that several additional claim-monumenting requirements have developed over the past week, we had to obtain more 2x2 posts and make aluminum identification tags for them. Field man on this today = 3 hours. Materials used to date include: aluminum for tags: est. \$2.00 Posts: 26 on comp. line @ 50¢ + 32 used elsewhere on ASARCO claim corners.

Tue. 6/5 Three-man crew: set four markers at easternmost end of "compromise line" during first half of day, then moved to south end-line of White Elephant, Astonish, and Pink Elephant lodes and shortened these claims to legal dimension, establishing corners for all. Two-man crew followed the surveying crew: did the monument-building. Three-man crew worked 8 hours today; Two man crew worked 3 hours on the morning's monuments and 4 hours on the south end monuments for a total of 7. Two vehicles were used, totalling 80 miles. E.D.M. used only 2 hours today; remainder of points were set by transit-stadia (theodolite-stadia).

Rec'd telephone bill for May: calls to ASARCO and pertaining to ASARCO work = \$14.32.

Weds. 6/6 Operated a 3-man crew today + one field-man, working alone. The 3-man crew set markers from PR-1, finishing all but 4 cors. of the Comp. line; then moved back to PR-2 and set N. end-line of Pink Elephant and OS-23. Field man posted loca. notices signed by Jim Sell. Total time = 8 hrs. for each operation, + 2 vehicles (80 mi) and E.D.M. was used 4 hrs. Mr. Bob Franks accompanied the crew while the work from Tri. Sta. PR-1 was being performed.

PERSONNEL

PROGRESS REPORT

JOB NO. 73001

DATE Sun., June 10, 1973

CLIENT:

REPORT BY

Travis L. Gant

JOB NAME

Thur. 6/7 Today field work was completed on the Compromise Line, the last four corners being established from Tri. Sta. #13. This involved a lengthy hike with equipment to the top of a peak south of the southwest portion of the Comp. Line and consequently took an unusually large amount of time for the number of points set on the Line. Also from #13 were set 5 points of the LD-No. 22 lode, i.e., the location, the south end-line, and some points on the revised west end-line of the Fairview No. 2 lode. The work proceeded as follows: a 3-man survey crew setting laths for 2-man monument-building crew to find for installation of 2x2 posts and rock mounds. First crew came off #13 at 1 P.M. and moved to the work on the LD No. 1 lode, followed by second crew an hour later. From Tri. Sta. #26 the north end-line and location were set and a traverse point set for moving to the south end-line, then the south end-line was run directly. Finally, a series of laths were set along the northerly side of the old "M.O. No. 1" lode at 100-foot intervals, beginning at the NW cor. thereof and proceeding 700 feet easterly toward the NE cor. Since these points did not require big rock piles, the monumenting crew caught up with the staking crew at about the time this was finished, but all hands had to work until 6:30 P.M. in order to finish the job today. Considering the access problems, we considered this a reasonable use of overtime, which amounted to $2\frac{1}{2}$ hours per man for which we charge the client a 30% surcharge to offset the time-and-one-half premium we are obliged to pay. Time chargeable to Compromise Line work = 4 hours.
Time chargeable to other ASARCO work = 4 hours straight time = $2\frac{1}{2}$ hrs. overtime.
E.D.M. used from all points, total 5 hours. Transportation: 2 vehicles = 80 mi.

Office work by T.L.Gant: Calculations of ties for Compromise Line, + beginning of Description: 4 hours.

Fri. 6/8 Office work by T.L.Gant: Completed Description of Compromise Line in 2 hours. Also lengthy telephone conversation with Jim Sell RE methods of including inter-section calls in the Description.

This completes the work which we expect to describe in detail in Progress Reports. There remains a certain amount of drafting work, the cost of which cannot be determined as yet. The charge for preparing the Compromise Line map will appear on our Job Charge Sheets unsupported by Progress Report detail.

At this point an effort will be made to ascertain what part of each day's work since the beginning of this job should be shared by Arizona Mining Properties, Inc., in line with the stipulations of the order to proceed which we received from Fred E. Ferguson, Jr., on 6/1/73.

RECAP OF FEES:

PERSONNEL

MAILING ADDRESS:
P. O. BOX 943
GLOBE, ARIZONA 85501

PHONE: 425-6131 • 110 BLAZER DR., GLOBE, ARIZONA

STATEMENT

June 20, 1973
Job No. 73001
Statement No. 4

American Smelting & Refining Co.
P. O. Box 5747
Tucson, Arizona 85703

Attn: Mr. James D. Sell
Geologist

For professional surveying services rendered during the period May 28, 1973, through June 18, 1973, in connection with your claim holdings in the Pinal Ranch area in Sections 13, 23, and 24, T. 1 S., R. 13 E., and in Sections 18 and 19, T. 1 S., R. 14 E., G. & S.R.M., Pinal County, Arizona, we now present our request for payment:

Time and Material Charges:

Professional surveyor's services:	36½ hrs. @ \$ 10.00 =	365.00
Three-man Survey crew:	48 hrs. @ 24.00 =	1,152.00
Three-man Survey Crew, overtime:	2½ hrs. @ 31.20 =	78.00
Two-man Survey Crew:	31 hrs. @ 17.00 =	527.00
Two-man Survey Crew, overtime:	2½ hrs. @ 22.10 =	55.25
Technical Aide's services:	21 hrs. @ 8.00 =	168.00
Electronic distance-metering equip:	20 hrs. @ 15.00 =	300.00
Field-man, working alone	11 hrs. @ 7.00 =	77.00
Transportation: 4-wheel-dr.	440 mi. @ 0.15 =	66.00
Printing services:		= 20.20
Materials used: posts, etc.		= 31.00
Long Distance telephone in behalf of this work		= 14.32

Total Amount Earned - - - - - 2,853.77

We enclose herewith our Job Charge Sheets covering the time period indicated above; these sheets show the daily accumulation of fees earned up through the completion of the surveying and the office work. Our Progress Report No. 7 has also been submitted to your office, but it includes only the work performed through June 8, 1973; the office work performed after that date is not included in that Report.

Since a total of \$1,955.60 was applicable to the Compromise Line survey, the remainder of all this is now being requested of ASARCO:

Total Earned	2,853.77
Compromise Line work	<u>-1,955.60</u>
	628.17 ←

Balance Due and now payable

OK for Payment
James W. Bell
MA-0010
507-25

JOB CHARGE SHEET

TRAVIS L. GANT & ASSOCIATE
Professional Engineers & Surveyors

CLIENT: American Smelting & Refining Co.

Job Number 73001

JOB DESCRIPTION: Pinal Rch. Area == Section Breakdown, Sec. 13, Sheet 1 of 2
+ other surveying work as assigned.

DATE 1973	TYPE OF CHARGE	HOURS	HOURLY RATE	TRANSP. @ 15¢/MI.	OTHER CHGS.	DAILY AMT.	CUMUL. AMT.
Mon. 5/28	Office work on American Group and Compromise Line, combined total: Prof. Engr.	5	10.00			50.00	50.00
Tue. 5/29	Office work on Instructional Notes for Compromise Line: Prof. Engr.	2	10.00			20.00	70.00
Weds. 5/30	3-Man Survey Crew: Finished search for Sec. 13 corners; made second measurements to various Fairview, OS, and Lindberg cors. to see if Fairviews really were too long (they were).	8	24.00			192.00	
	Office work by T.L.Gant: prep. for field	2½	10.00		40 mi. @ 15¢	6.00	
	" " " Engrg. Aide: "	1½	8.00			12.00	305.00
Thur. 5/31	3-Man Survey Crew: Comp. line layout-- + layout of numerous corners for ASARCO lodes not a part of the Comp. 2-Man Monumenting Crew: preparing materials, then starting monumenting of both Comp. Line & separate ASARCO cors.	8	17.00			136.00	
	Bought 58 posts, 2x2, @ 50¢ + cost of nails, etc., :\$2.00					31.00	
	Electronic Distance Meter equipment	4	15.00			60.00	
	T.L.Gant, office work, preparation of instructions and calculations	8	10.00			80.00	816.00
Fri. 6/1	3-Man Survey Crew: Continuation of 5/31	8	24.00			192.00	
	2-Man Monumenting Crew: " " "	8	17.00			136.00	
	E.D.M. equipment used:	5	15.00			75.00	
					80 mi. @ 15¢	12.00	1,231.00
Sat. 6/2	Office work by T.L.G. -- calcs. & instructional notes, finishing Comp. Line and going to LD-1, Pink Elephant.	6	10.00			60.00	1,291.00
Sun. 6/3	T.L.Gant, office: Preparing 7 location notices for Amendments & new claims	2	10.00			20.00	1,311.00
Mon. 6/4	Field man, working on tags & posts (materials charged 5/31)	3	7.00			21.00	1,332.00
Tue. 6/5	3-Man Survey Crew: layout of comp. line and south-end of American Group. Completes east end of Comp. Line	8	24.00			192.00	
	2-Man Monu. Crew: following layout	7	17.00			119.00	
	Use of E.D.M. equipment	2	15.00		Two vehicles, total 180 mi. @ 15¢	30.00	
	Telephone calls made for benefit of ASARCO - - - May bill					14.32	1,699.32
Weds. 6/6	3-Man Survey Crew: Comp. line + other	8	24.00			192.00	
	Field Man, posting loca. notices, + assisting on layout crew in p.m.	8	7.00			56.00	
	Use of EDM equip.	4	15.00		Two vehs. = 80 mi. @ 15¢	12.00	2,019.32
Thur. 6/7	3-Man Layout Crew: Fin. comp. line + other ASARCO work, esp. on LD-1 lode, + LD-22 lode. Worked overtime to finish all field work on this job.	8	24.00			192.00	
	2-Man Monu. Crew, same work and same overtime to finish. Remoteness of this work made this especially advisable	2½ ot	31.20			78.00	
	EDM used.	5	15.00		Two vehs. = 80 mi. @ 15¢	75.00	2,567.57
Fri. 6/8	Office work by T.L.Gant:(incl. work done Thurs. on Comp. Line description)	6	10.00			60.00	2,627.57

Report No. 7

JOB CHARGE SHEET

TRAVIS L. GANT & ASSOCIATES
Professional Engineers & Surveyors

CLIENT: American Smelting & Refining Co.

Job Number 73001

JOB DESCRIPTION: Pinal Rch. Area -- Section Breakdown, Sec. 13
+ other surveying work as assigned.

Sheet 2 of 2

DATE	TYPE OF CHARGE	HOURS	HOURLY RATE	TRANSP. @ 11/MI.	OTHER CHGS.	DAILY AMT.	CUMUL. AMT.												
	Brought Fwd. from Sheet No. 1 - - - - -						2,627.												
Sat. 6/9	Office work by T.L.Gant -- consultation with draftsman regarding preparation of two new drawings and the up-dating of the original drawing for ASARCO, numbered 73001-E-1; also included calculation of some additional ties for the American Group drwg.	1½	10.00			15.00	2,642.												
Sun. 6/17	Draftsman completed all three drawings, reporting time distribution as follows: (1) Compromise Line Drawing --9 hours (2) American Group Drawing --6 hours (3) Additions to ASARCO drwg. -- 4½ hours. Total draftsman's time =	19½	8.00			156.00	2,798.												
Mon. 6/18	Drafting work by T.L.Gant -- adding minor detail and omitted information to all three drawings discussed above; checked compromise line drawing against Description, etc. Total time by T.L.G. Printing: 18 ea. 24" x 36" + 3 ea. 36" x 54" + 2 Luminar sepias, 24" x 36" + Photocopies	3½	10.00			35.00 20.20	 2,853.												
<p>NOTE: The above figure represents the total amount earned by the Surveyor. A separate account of the cost of surveying, monumenting, and describing and drawing the so-called compromise line is to be furnished to ASARCO along with this statement. The amount of work chargeable to ASARCO alone is as follows: (American Group, LD-1, LD-22 areas)*</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding-right: 20px;">Total Bill =</td> <td style="text-align: right;">\$ 2,853.77</td> </tr> <tr> <td>Comp. line =</td> <td style="text-align: right;">- 1,955.60</td> </tr> <tr> <td style="padding-left: 20px;">* Balance</td> <td style="text-align: right; border-top: 1px solid black;">628.17</td> </tr> <tr> <td>ASARCO's share of Comp. Line =</td> <td style="text-align: right; border-top: 1px solid black;">977.80</td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black;">1,605.97</td> </tr> <tr> <td>Total Due from ASARCO =</td> <td style="text-align: right;">1,605.97</td> </tr> </table> <p>However, in order to keep this billing as clear as possible where the Compromise Line is concerned, we are sending ASARCO's Tucson office a bill for only the *Balance shown above. Attorney Fred Ferguson will receive a bill for \$977.80 for ASARCO's share of the Compromise Line survey cost, and Attorney P. Richard Meyer will receive a similar bill for \$977.80 for Arizona Mining Properties, Inc., share of this cost.</p>								Total Bill =	\$ 2,853.77	Comp. line =	- 1,955.60	* Balance	628.17	ASARCO's share of Comp. Line =	977.80		1,605.97	Total Due from ASARCO =	1,605.97
Total Bill =	\$ 2,853.77																		
Comp. line =	- 1,955.60																		
* Balance	628.17																		
ASARCO's share of Comp. Line =	977.80																		
	1,605.97																		
Total Due from ASARCO =	1,605.97																		
<p>ACTUAL AMOUNT OF THIS STATEMENT - \$628.17</p>																			

* Charges not covered by separate Report

Total
\$628.17

JOB CHARGE SHEET

TRAVIS L. GANT & ASSOCIATE
Professional Engineers & Surveyors

CLIENT: ASARCO and Arizona Mining Properties, Inc.

Job Number 73001

JOB DESCRIPTION: Compromise Line -- Survey to establish,
plus office work required; also breakdown of Sec. 13 (part).

Sheet 1. of 2

DATE 1973	TYPE OF CHARGE	HOURS	HOURLY RATE	TRANSP. \$/MI.	OTHER CHGS.	DAILY AMT.	CUMUL. AMT.
	Both ASARCO and Arizona Mining Properties, Inc., gained a portion of the cost of breaking down Sec. 13, T. 1 S., R. 13 E., through the fact that this surveyor had already performed work in the adjoining section to the west and had found the SW Corner and W. $\frac{1}{4}$ -cor. of Sec. 13 several years ago. Then, in the early part of this year, ASARCO hired our firm to establish the southern boundary of said Sec. 13, which we did by finding and tying-in the S. $\frac{1}{4}$ -corner and SE corner of this Section. Therefore, when the conditions of Agreement between the two parties stipulated that the Compromise Line would begin at the SW one-sixteenth corner (the center of the SW $\frac{1}{4}$) of Sec. 13, our job of determining the position of said corner depended upon our success in finding the remaining $\frac{1}{4}$ -corners of the section. Searches for the E. $\frac{1}{4}$ -cor. and N. $\frac{1}{4}$ -cor. were at first fruitless, even thru use of the U.S.G.L.O. Field Notes. When the $\frac{1}{4}$ -cors. could not be found, it became necessary to find the NE and NW cors. of the section in order to calculate the proper positions of said $\frac{1}{4}$ -corners. Here we were more successful: the NW cor. was found intact; the NE cor. could be restored through the use of three Bearing Trees found. Armed with new information following ties made to these section corners, we calculated the most probable positions of the missing $\frac{1}{4}$ -cors. and renewed our search for them, using EDM equip. and a theodolite to spot the searchers into the (supposed) immediate vicinity of the missing $\frac{1}{4}$ -corners. The process produced excellent results in the case of the East $\frac{1}{4}$ -cor. but produced nothing for us in the case of the North $\frac{1}{4}$ -cor. Consequently, the breakdown of Sec. 13 is based on true monuments for the E-W quarter-section line, while the N-S quarter-section line is based on a line running from the found monument at the S. $\frac{1}{4}$ -corner to a calculated point, -- not re-monumented, -- at the mid-point of the line connecting the NW and NE corners of the section. Further breakdown of the section into its sixteenths follows according to government rules. The only part worked out for this project was the SW $\frac{1}{4}$ of the section. The north line of the SE $\frac{1}{4}$ SW $\frac{1}{4}$ was thus found to bear S. 89° 53' E., and, by instructions given by the Companies involved, this became the bearing of the East-West portion of the Compromise Line.						
	ASARCO has agreed to absorb all surveying costs incurred prior to the decision to finish the break-down of Section 13. We began this work on May 17, 1973, somewhat before a written Notice to Proceed was received by this surveyor. Nonetheless, the total cost is included herein for 50-50 distribution between the Companies. It should be pointed out that other work for ASARCO was in progress concomitantly with survey work on the Sec. 13 breakdown and the subsequent Compromise Line; therefore, odd numbers of hours will appear on most dates given.						
Thur. 5/17	Two-man survey (T.L.Gant + a helper): search for NE and NW cors. of Sec. 13; found BTs for NE cor; fd. NW cor. stone	5 $\frac{1}{2}$	17.00			93.50	
	33 mi. @ 15¢			Transp.		4.95	98.45
Fri. 5/18	Three-man Survey Crew: Ties to cors. of American Group Lodes Dark Horse No. 2 and R. Cross, -- needed to tie down east end of Compromise Line.						
	Crew time	3	24.00			72.00	
	Use of Electronic Distance Meter equip.	2	15.00			30.00	
	20 mi. @ 15¢			Transp.		3.00	203.45
Mon. 5/21	Three-man Survey Crew: Ties to BTs and to stone at NW cor. of Sec. 13, using triangulation control and traverse-points established earlier.						
	Three-man survey crew:	3	24.00			72.00	
	E.D.M. equipment used	2	15.00			30.00	
	35 mi. @ 15¢			Transp.		5.25	310.70
Tue. 5/22	Office engineering: Calcs. RE probably positions of N. $\frac{1}{4}$ -cor. and E. $\frac{1}{4}$ -cor. Engineer's services	1	10.00			10.00	320.70
Thur. 5/24	Three-man crew in pursuit of both $\frac{1}{4}$ -cors.; had 50% success. Made ties to E. $\frac{1}{4}$ -cor. and to what we thought might be the two BTs called for in the Notes for the N. $\frac{1}{4}$ -cor. 3-man crew:	4 $\frac{1}{2}$	24.00			108.00	
	Use of EDM equip.	2	15.00			30.00	
	Prof. engr's services, with crew and in office: 7 hrs. @ 10.00					70.00	
	Transp. 2 vehs. 66 mi. @ 15¢					9.90	538.60

JOB CHARGE SHEET

TRAVIS L. GANT & ASSOCIATES
Professional Engineers & Surveyors

CLIENT: ASARCO and Arizona Mining Properties, Inc.

Job Number 7300

JOB DESCRIPTION:

Sheet 2 of 2

DATE 1973	TYPE OF CHARGE	HOURS	HOURLY RATE	TRANSP. @ 15¢/MI.	OTHER CHGS.	DAILY AMT.	CUMUL. AMT.
Mon. 5/28	Office engineering: Plotting claims of American Group. use with Compromise Line ---	1½	10.00		Portion applicable to	15.00	538.6
Tue. 5/29	Office: Preparation of first instructional notes for setting monuments on Comp. line ---	2	10.00			20.00	573.6
Weds. 5/30	Three-man Survey Crew: Tried to find N. ¼-cor. Sec. 13 by excavating into the southerly embankment of the Powers Gulch Road at the position indicated by the old BT stumps. No luck; stumps may not have been BTs. Made ties from PR-5 Tri. Sta. to East end corners of Lindberg No. 3, -- needed for computation of intersection points of this claim's side-lines with the Comp. line. Work today was transit-stadia. Crew time: Transportation: Engr. Aide, helping with instr. notes. Prof. engr.'s time tonight, same work	5	24.00			120.00	
				40 mi.	@ 15¢	6.00	
		1½	8.00			12.00	
		1½	10.00			15.00	726.60
Thur. 5/31	Prof. Engr: contin. of calcs. & Notes 3-Man Crew: began setting pts. on C.Line 2-Man Crew: began monumentation, after preparing tags & attaching to 2x2s E.D.M. equip. used on Comp. Line work	5	10.00			50.00	
		4	24.00			96.00	
		7	17.00	40 mi.	@ 15¢	6.00	
		2	15.00			119.00	
						30.00	1,027.60
Fri. 6/1	3-Man layout crew: theod. + EDM 2-Man monumenting crew Use of EDM equipment	4	24.00			96.00	
		4	17.00			68.00	
		2½	15.00			37.50	
				40 mi.	@ 15¢	6.00	1,235.10
Sat. 6/2	T.L.Gant, office work, completing instructional notes for use of field crews Materials used: 2x2 posts, 26 required on Comp. line @ 50¢	2½	10.00			25.00	1,260.10
						13.00	1,373.10
Tue. 6/5	3-Man layout crew: E. end of line. 2-Man monumenting crew: " " " EDM equipment used	3½	24.00			84.00	
		3	17.00			51.00	
		1	15.00			15.00	
				40 mi.	@ 15¢	6.00	1,429.10
Weds. 6/6	3-Man Layout Crew: W. ends. Lind. Ext., No. 15 and No. 16, from PR-1. total time E.D.M. used.	5	24.00			120.00	
				40 mi.	@ 15¢	6.00	
		2½	15.00			37.50	1,592.60
Thur. 6/7	3-Man Layout Crew: completed SW bend in Compromise Line, thus finishing the entire line. Also built monuments for points set yesterday. This crew worked until 1 PM. 2-Man monumenting crew: E,D,M, equipment used Office work by T.L.Gant, completing calcs. needed for prep. of description of Comp. Line, + beginning of Descrip.	4	24.00			96.00	
		4	17.00			68.00	
		2	15.00			30.00	
		4	10.00			40.00	
				40 mi.	@ 15¢	6.00	1,832.60
Fri. 6/8	Office work by T.L.Gant: completed Description -- rough draft	2	10.00			20.00	1,852.60
Mon. 6/18	Accumulated time devoted to Compromise Line drawing, No. 73001-A-1: By Travis L. Gant, surveyor By Sheesley's Drafting Service Printing charges applicable to Compromise Line drawing, only:	2	10.00			20.00	
		9	8.00			72.00	
						11.00	1,955.60
	Distribution of charge to two companies: 50% of 1,955.60 = \$ 977.80 each						

JOB CHARGE SHEET

TRAVIS L. GANT & ASSOCIATES
Professional Engineers & Surveyors

CLIENT: American Smelting & Refining Co.

Job Number 73001

JOB DESCRIPTION: Pinal Rch. Area == Section Breakdown, Sec. 13, Sheet 1 of 2
+ other surveying work as assigned.

DATE 1973	TYPE OF CHARGE	HOURS	HOURLY RATE	TRANSP. @ 15¢/MI.	OTHER CHGS.	DAILY AMT.	CUMUL. AMT.
Mon. 5/28	Office work on American Group and Compromise Line, combined total: Prof. Engr.	5	10.00			50.00	50.00
Tue. 5/29	Office work on Instructional Notes for Compromise Line: Prof. Engr.	2	10.00			20.00	70.00
Weds. 5/30	3-Man Survey Crew: Finished search for Sec. 13 corners; made second measurements to various Fairview, OS, and Lindberg cors. to see if Fairviews really were too long (they were).	8	24.00			192.00	
	Office work by TLGant: prep. for field	2½	10.00	40 mi. @ 15¢		6.00	
	" " " Engrg. Aide: "	1½	8.00			12.00	305.00
Thur. 5/31	3-Man Survey Crew: Comp. line layout-- + layout of numerous corners for ASARCO lodes not a part of the Comp. 2-Man Monumenting Crew: preparing materials, then starting monumenting of both Comp. Line & separate ASARCO cors. Bought 58 posts, 2x2, @ 50¢ + cost of nails, etc., :\$2.00 Electronic Distance Meter equipment T.L.Gant, office work, preparation of instructions and calculations	8	24.00			192.00	
		8	17.00			6.00	
		4	15.00			60.00	
		8	10.00			80.00	816.00
Fri. 6/1	3-Man Survey Crew: Continuation of 5/31 2-Man Monumenting Crew: " " " E.D.M. equipment used:	8	24.00			192.00	
		8	17.00			136.00	
		5	15.00	80 mi. @ 15¢		75.00	
						12.00	1,231.00
Sat. 6/2	Office work by T.L.G. -- calcs. & instructional notes, finishing Comp. Line and going to LD-1, Pink Elephant.	6	10.00			60.00	1,291.00
Sun. 6/3	T.L.Gant, office: Preparing 7 location notices for Amendments & new claims	2	10.00			20.00	1,311.00
Mon. 6/4	Field man, working on tags & posts (materials charged 5/31)	3	7.00			21.00	1,332.00
Tue. 6/5	3-Man Survey Crew: layout of comp. line and south-end of American Group. Completes east end of Comp. Line 2-Man Monu. Crew: following layout Two vehicles, total 80 mi. @ 15¢ Use of E.D.M. equipment Telephone calls made for benefit of ASARCO - - - May bill	8	24.00			192.00	
		7	17.00			119.00	
		2	15.00			30.00	
						14.32	1,699.32
Weds. 6/6	3-Man Survey Crew: Comp. line + other Field Man, posting loca. notices, + assisting on layout crew in p.m. Use of EDM equip.	8	24.00			192.00	
		8	7.00			56.00	
		4	15.00	Two vehs. = 80 mi. @ 15¢		12.00	
						60.00	2,019.32
Thur. 6/7	3-Man Layout Crew: Fin. comp. line + other ASARCO work, esp. on LD-1 lode, + LD-22 lode. Worked overtime to finish all field work on this job. 2-Man Monu. Crew, same work and same overtime to finish. Remoteness of this work made this especially advisable EDM used.	8	24.00			192.00	
		2½ ot	31.20			78.00	
		8	17.00			136.00	
		2½ ot	22.10			55.25	
		5	15.00	Two vehs. = 80 mi. @ 15¢		12.00	
						75.00	2,567.57
Fri. 6/8	Office work by T.L.Gant:(incl. work done Thurs. on Comp. Line description)	6	10.00			60.00	2,627.57

Report No. 7

JOB CHARGE SHEET

TRAVIS L. GANT & ASSOCIATES
Professional Engineers & Surveyors

CLIENT: American Smelting & Refining Co.

Job Number 73001

JOB DESCRIPTION: Pinal Rch. Area -- Section Breakdown, Sec. 13
+ other surveying work as assigned.

Sheet 2 of 2

DATE	TYPE OF CHARGE	HOURS	HOURLY RATE	TRANSP. @ 18/MI.	OTHER CHGS.	DAILY AMT.	CUMUL. AMT.												
	Brought Fwd. from Sheet No. 1						2,627.57												
Sat. 6/9	Office work by T.L.Gant -- consultation with draftsman regarding preparation of two new drawings and the up-dating of the original drawing for ASARCO, numbered 73001-E-1; also included calculation of some additional ties for the American Group drwg.	1½	10.00			15.00	2,642.57												
Sun. 6/17	Draftsman completed all three drawings, reporting time distribution as follows: (1) Compromise Line Drawing --9 hours (2) American Group Drawing --6 hours (3) Additions to ASARCO drwg. -- 4½ hours. Total draftsman's time =	19½	8.00			156.00	2,798.57												
Mon. 6/18	Drafting work by T.L.Gant -- adding minor detail and omitted information to all three drawings discussed above; checked compromise line drawing against Description, etc. Total time by T.L.G. Printing: 18 ea. 24" x 36" + 3 ea. 36" x 54" + 2 Luminar sepias, 24" x 36" + Photocopies	3½	10.00			35.00 20.20	2,853.77												
<p>NOTE: The above figure represents the total amount earned by the Surveyor. A separate account of the cost of surveying, monumenting, and describing and drawing the so-called compromise line is to be furnished to ASARCO along with this statement. The amount of work chargeable to ASARCO alone is as follows: (American Group, LD-1, LD-22 areas)*</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>Total Bill =</td> <td>\$ 2,853.77</td> </tr> <tr> <td>Comp. line =</td> <td>- 1,955.60</td> </tr> <tr> <td>* Balance</td> <td><u>628.17</u></td> </tr> <tr> <td>ASARCO's share of Comp. Line =</td> <td><u>977.80</u></td> </tr> <tr> <td></td> <td>1,605.97</td> </tr> <tr> <td>Total Due from ASARCO =</td> <td>1,605.97</td> </tr> </table> <p>However, in order to keep this billing as clear as possible where the Compromise Line is concerned, we are sending ASARCO's Tucson office a bill for only the *Balance shown above. Attorney Fred Ferguson will receive a bill for \$977.80 for ASARCO's share of the Compromise Line survey cost, and Attorney P. Richard Meyer will receive a similar bill for \$977.80 for Arizona Mining Properties, Inc., share of this cost.</p> <p style="text-align: center;">ACTUAL AMOUNT OF THIS STATEMENT = \$628.17</p>								Total Bill =	\$ 2,853.77	Comp. line =	- 1,955.60	* Balance	<u>628.17</u>	ASARCO's share of Comp. Line =	<u>977.80</u>		1,605.97	Total Due from ASARCO =	1,605.97
Total Bill =	\$ 2,853.77																		
Comp. line =	- 1,955.60																		
* Balance	<u>628.17</u>																		
ASARCO's share of Comp. Line =	<u>977.80</u>																		
	1,605.97																		
Total Due from ASARCO =	1,605.97																		

Charges not covered by separate Report

JOB CHARGE SHEET

TRAVIS L. GANT & ASSOCIATES
Professional Engineers & Surveyors

CLIENT: ASARCO and Arizona Mining Properties, Inc.

Job Number 73001

JOB DESCRIPTION: Compromise Line -- Survey to establish,
plus office work required; also breakdown of Sec. 13 (part).

Sheet 1. of 2

DATE 1973	TYPE OF CHARGE	HOURS	HOURLY RATE	TRANSP. @12/MI.	OTHER CHGS.	DAILY AMT.	CUMUL. AMT.
	<p>Both ASARCO and Arizona Mining Properties, Inc., gained a portion of the cost of breaking down Sec. 13, T. 1 S., R. 13 E., through the fact that this surveyor had already performed work in the adjoining section to the west and had found the SW Corner and W. $\frac{1}{4}$-cor. of Sec. 13 several years ago. Then, in the early part of this year, ASARCO hired our firm to establish the southern boundary of said Sec. 13, which we did by finding and tying-in the S. $\frac{1}{4}$-corner and SE corner of this Section. Therefore, when the conditions of Agreement between the two parties stipulated that the Compromise Line would begin at the SW one-sixteenth corner (the center of the SW $\frac{1}{4}$) of Sec. 13, our job of determining the position of said corner depended upon our success in finding the remaining $\frac{1}{4}$-corners of the section. Searches for the E. $\frac{1}{4}$-cor. and N. $\frac{1}{4}$-cor. were at first fruitless, even thru use of the U.S.G.L.O. Field Notes. When the $\frac{1}{4}$-cors. could not be found, it became necessary to find the NE and NW cors. of the section in order to calculate the proper positions of said $\frac{1}{4}$-corners. Here we were more successful: the NW cor. was found intact; the NE cor. could be restored through the use of three Bearing Trees found. Armed with new information following ties made to these section corners, we calculated the most probable positions of the missing $\frac{1}{4}$-cors. and renewed our search for them, using EDM equip. and a theodolite to spot the searchers into the (supposed) immediate vicinity of the missing $\frac{1}{4}$-corners. The process produced excellent results in the case of the East $\frac{1}{4}$-cor. but produced nothing for us in the case of the North $\frac{1}{4}$-cor. Consequently, the breakdown of Sec. 13 is based on true monuments for the E-W quarter-section line, while the N-S quarter-section line is based on a line running from the found monument at the S. $\frac{1}{4}$-corner to a calculated point, -- not re-monumented, -- at the mid-point of the line connecting the NW and NE corners of the section. Further breakdown of the section into its sixteenths follows according to government rules. The only part worked out for this project was the SW $\frac{1}{4}$ of the section. The north line of the SE $\frac{1}{4}$ SW $\frac{1}{4}$ was thus found to bear S. 89° 53' E., and, by instructions given by the Companies involved, this became the bearing of the East-West portion of the Compromise Line.</p> <p>ASARCO has agreed to absorb all surveying costs incurred prior to the decision to finish the break-down of Section 13. We began this work on May 17, 1973, somewhat before a written Notice to Proceed was received by this surveyor. Nonetheless, the total cost is included herein for 50-50 distribution between the Companies. It should be pointed out that other work for ASARCO was in progress concomitantly with survey work on the Sec. 13 breakdown and the subsequent Compromise Line; therefore, odd numbers of hours will appear on most dates given.</p>						
Thur. 5/17	Two-man survey (T.L.Gant + a helper): search for NE and NW cors. of Sec. 13; found BTs for NE cor; fd. NW cor. stone	5½	17.00			93.50	
	33 mi. @ 15¢			Transp.		4.95	98.45
Fri. 5/18	Three-man Survey Crew: Ties to cors. of American Group Lodes Dark Horse No. 2 and R. Cross, -- needed to tie down east end of Compromise Line.						
	Crew time	3	24.00			72.00	
	Use of Electronic Distance Meter equip.	2	15.00			30.00	
	20 mi. @ 15¢			Transp.		3.00	203.45
Mon. 5/21	Three-man Survey Crew: Ties to BTs and to stone at NW cor. of Sec. 13, using triangulation control and traverse-points established earlier.						
	Three-man survey Crew:	3	24.00			72.00	
	E.D.M. equipment used	2	15.00			30.00	
	35 mi. @ 15¢			Transp.		5.25	310.70
Tue. 5/22	Office engineering: Calcs. RE probably positions of N. $\frac{1}{4}$ -cor. and E. $\frac{1}{4}$ -cor. Engineer's services	1	10.00			10.00	320.70
Thur. 5/24	Three-man crew in pursuit of both $\frac{1}{4}$ -cors.; had 50% success. Made ties to E. $\frac{1}{4}$ -cor. and to what we thought might be the two BTs called for in the Notes for the N. $\frac{1}{4}$ -cor. 3-man crew:	4½	24.00			108.00	
	Use of EDM equip.	2	15.00			30.00	
	Prof. engr's services, with crew and in office:	7 hrs.	@ 10.00			70.00	
	Transp. 2 vehs. 66 mi. : 15¢					9.90	536.60

JOB CHARGE SHEET

TRAVIS L. GANT & ASSOCIATES
Professional Engineers & Surveyors

CLIENT: ASARCO and Arizona Mining Properties, Inc.

Job Number 73001

JOB DESCRIPTION:

Sheet 2 of 2

DATE 1973	TYPE OF CHARGE	HOURS	HOURLY RATE	TRANSP. @/MI.	OTHER CHGS.	DAILY AMT.	CUMUL. AMT.
Mon. 5/28	Office engineering: Plotting claims of American Group. use with Compromise Line ---	1½	10.00		Portion applicable to	15.00	538.60
Tue. 5/29	Office: Preparation of first instructional notes for setting monuments on Comp. line ---	2	10.00			20.00	573.60
Weds. 5/30	Three-man Survey Crew: Tried to find N. ¼-cor, Sec. 13 by excavating into the southerly embankment of the Powers Gulch Road at the position indicated by the old BT stumps. No luck; stumps may not have been BTs. Made ties from PR-5 Tri. Sta. to East end corners of Lindberg No. 3, -- needed for computation of intersection points of this claim's side-lines with the Comp. line. Work today was transit-stadia.						
	Crew time:	5	24.00			120.00	
	Transportation:			40 mi. @ 15¢		6.00	
	Engrg. Aide, helping with instr. notes.	1½	8.00			12.00	
	Prof. engr.'s time tonight, same work	1½	10.00			15.00	726.60
Thur. 5/31	Prof. Engr: contin. of calcs. & Notes	5	10.00			50.00	
	3-Man Crew: began setting pts. on C.Line	4	24.00			96.00	
	2-Man Crew: began monumentation, after preparing tags & attaching to 2x2s	7	17.00	40 mi. @ 15¢		6.00	
	E.D.M. equip. used on Comp. Line work	2	15.00			30.00	1,027.60
Fri. 6/1	3-Man layout crew: theod. + EDM	4	24.00			96.00	
	2-Man monumenting crew	4	17.00			68.00	
	Use of EDM equipment	2½	15.00			37.50	
				40 mi. @ 15¢		6.00	1,235.10
Sat. 6/2	T.L.Gant, office work, completing instructional notes for use of field crews	2½	10.00			25.00	1,260.10
	Materials used: 2x2 posts, 26 required on Comp. line @ 50¢					13.00	1,373.10
Tue. 6/5	3-Man layout crew: E. end of line.	3½	24.00			84.00	
	2-Man monumenting crew: " "	3	17.00			51.00	
	EDM equipment used	1	15.00			15.00	
				40 mi. @ 15¢		6.00	1,429.10
Weds. 6/6	3-Man Layout Crew: W. ends. Lind. Ext., No. 15 and No. 16, from PR-1. total time	5	24.00			120.00	
	E.D.M. used.	2½	15.00		40 mi. @ 15¢	6.00	
						37.50	1,592.60
Thur. 6/7	3-Man Layout Crew: completed SW bend in Compromise Line, thus finishing the entire line. Also built monuments for points set yesterday. This crew worked until 1 PM.	4	24.00			96.00	
	2-Man monumenting crew:	4	17.00			68.00	
	E,D,M, equipment used	2	15.00			30.00	
	Office work by T.L.Gant, completing calcs. needed for prep. of description of Comp. Line, + beginning of Descrip.	4	10.00			40.00	
				40 mi. @ 15¢		6.00	1,832.60
Fri. 6/8	Office work by T.L.Gant: completed Description -- rough draft	2	10.00			20.00	1,852.60
Mon. 6/18	Accumulated time devoted to Compromise Line drawing, No. 73001-A-1: By Travis L. Gant, surveyor By Sheesley's Drafting Service Printing charges applicable to Compromise Line drawing, only:	2 9	10.00 8.00			20.00 72.00	1,955.60
	Distribution of charge to two companies: 50% of 1,955.60 = \$ 977.80 each						

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

June 28, 1973

FILE MEMORANDUM

Survey Plat showing Compromise Line
ASARCO-Arizona Mining Properties
Pinal County, Arizona

Mr. T. L. Gant has submitted his drawing No. 73001-A-1 of the compromise line established between the Lindburg Group of claims and the American-LD Groups of claims.

Also attached is the Boundary Description of the "Compromise Line".

This total information is a copy of the material sent to our lawyer, Mr. Ferguson, in regard to the settlement.

A copy will be sent to Mrs. Mildred P. Clark and her son, John S. Clark.

This map has been given the ASARCO #2615.

James D. Sell
James D. Sell

JDS:lb
Attachs.

Have Sepia



AMERICAN SMELTING AND REFINING COMPANY
SOUTHWESTERN EXPLORATION DIVISION
P. O. BOX 5747, TUCSON, ARIZONA 85703

J. D. S.

1150 NORTH 7TH AVENUE
TELEPHONE 602-792-3010

July 3, 1973

Travis L. Gant & Associates
P. O. Box 943
Globe, Arizona 85501

RE: Cause No. C 272415

Dear Mr. Gant:

Enclosed is our payment of \$977.80 for ASARCO's share of the
Compromise Line Survey.

Very truly yours,

W. L. Kurtz
W. L. Kurtz
Manager of Exploration

WLK:1b
Enc.

cc: Fred E. Ferguson, Jr.
Evans, Kitchel & Jenckes, P.C.
363 North First Avenue
Phoenix, Arizona 85003

MAILING ADDRESS:
P. O. BOX 943
GLOBE, ARIZONA 85501

PHONE: 425-6131 • 110 BLAZER DR., GLOBE, ARIZONA

STATEMENT

July 23, 1973

Job No. 73001
Statement No. 5

American Smelting & Refining Co.
P. O. Box 5747
Tucson, Arizona 85703

Attn: Mr. James D. Sell
Geologist

For professional surveying services rendered during the period July 3, 1973, through July 7, 1973, in connection with the amending of the LD No. 9 and LD No. 10 lode claims and the posting of the LD No. 9 FRACTION and LD No. 10 FRACTION lode claims, along with required monumentation and corner identification, said claims situated in Secs. 23 and 24, T. 1 S., R. 13 E., G. & S. R. M., Pinal County, Arizona; also for pertinent revisions of two survey maps of the general area to reflect the new claims, -- we now present our request for payment.....

Total Amount Due - - - - - \$ 823.75

Please refer to the attached copy of our Job Charge Sheet for this survey project. It contains a short history of the services performed, reported on a daily basis, and also shows the method used in deriving our fee. We also attach a copy of the June telephone bill to justify our request for reimbursement for this expense on ASARCO'S behalf.

Thank you for calling on Travis L. Gant & Associates. We would like to be of further service to you in the future.

OK for Payment
JDSell
Superior East
MA-0010
507-25

CLIENT: American Smelting & Refining Co.

Job Number 73001

JOB DESCRIPTION: Claim work in T. 1 S., R. 13 E.
Pinal Ranch area, Pinal County

Sheet ___ of ___

DATE	TYPE OF CHARGE	HOURS	HOURLY RATE	TRANSP. @/MI.	OTHER CHGS.	DAILY AMT.	CUMUL. AMT.
1973 7/3 Tues.	Rec'd telephone call from James D. Sell requesting survey crew on Independence Day, July 4, to set out location notices in existing location monuments for LD-9 and LD-10 lodes, to set new locations called LD-9 FRACTION and LD-10 FRACTION, and to survey into proper place and to erect monuments at all corners and end-centers involved in these four claims. The work on LD-9 and LD-10 is amendment in nature; the other two are new lode claims. So I (Travis L. Gant) spent the bulk of the day making arrangements for this work. Prepared Amended Location Notices (2) and new Location Notices (2) and got Harold Stone to come to my office to sign these notices prior to their posting tomorrow. In addition it was necessary to prepare instructional notes for the crew to use tomorrow. There were 19 points to calculate and enter into the notebook. Total time by T.L.G. today Office Aide: Preparation, typing	8 1	12.00 5.00			96.00 5.00	101.00
Weds. 7/4	Three-man theodolite-EDM crew Two-man monument-building crew Use of Electronic-distance meter equip. Two 4-wheel-drive vehicles Materials: 19 posts + tags @ 50¢ Crew #1 left office @ 7 AM; set all required points from two Tri. Stas., #15 and #26. Crew #2 left office at 9:30 AM after acquiring 2x2 posts, making aluminum identification tags for each post, and attaching with cement-coated nails. Both crews finished their work around 3:30 PM and returned to Globe, arriving about 4:30. No particularly bad problems with the survey and no known visitors while the work was going on. Since the field crews were not planning on working this Holiday, it was necessary to pay each man at the time-1/2 rate; we make up the difference by charging you an extra 30% over the Straight Time rate.	9 9 5	32.50 (\$T. + 30%) 22.75 (\$T. + 30%) 15.00		76 mi @ 15¢	292.50 204.75 75.00 11.40 9.50	694.15
Thur. 7/5	Prof. Engr's services: Up-dating plat to show newly-set claims and amended claims. and removing superseded data. Made 3 prints of revised plat; these were picked up by Harold Stone this afternoon, who also picked up Originals of the 4 Notices I prepared Wednesday. Gant's time: Also today: rec'd calls from Bob Crist and Jim Sell checking on yesterday's progress.	3	12.00		Printing:	36.00 5.40	735.55
Fri. 7/6	Prof. Engr's services: Conference in my office with Jim Sell, 4:00 to 5:30 PM, regarding Weds. work; also instructions RE revising the original claim situation map of the entire work area (our work since January). After Mr. Sell's departure, I turned over the work to our draftsman for completion as soon as possible. This material was returned to us on July 9 and prints were made for ASARCO. We are keeping a sepia and turning the original mylar over to ASARCO. Total charges involved: Gant Draftsman Printing: 3 blue-line prints, 3' x 5' @ 12¢/s/f/ = Telephone charges rec'd, June bill: ASARCO: \$18.00 + 10% tx.	1 1/2 5	12.00 9.00			18.00 45.00 5.40 19.80	823.75

LONG DISTANCE CALLS OR TELEGRAMS

BILL DATE 6-28-73

PAGE 1

TELEPHONE NUMBER 1 425-6131 320

DATE	FROM	TO	AREA	TELEPHONE NO.	AMOUNT
5280	GLOBE	ARZ ROOSEVELT	ARIZ	6024672377	40
5280	GLOBE	ARZ SAN ANTONIO	TEX	5123421717	465
5280	GLOBE	ARZ NO PHOENIX	ARIZ	6029442011	505
5290	GLOBE	ARZ TUCSON	ARIZ	6027923010	40
5290	GLOBE	ARZ PHOENIX	ARIZ	6022742052	109
5290	GLOBE	ARZ PHOENIX	ARIZ	6022635728	175
5310	GLOBE	ARZ MESA	ARIZ	6028321640	60
5310	GLOBE	ARZ TUCSON	ARIZ	6027923010	852
640	GLOBE	ARZ SCOTTSDALE	ARIZ	6029489939	55
650	GLOBE	ARZ TUCSON	ARIZ	6027923010	40
650	GLOBE	ARZ PHOENIX	ARIZ	6022635728	87
650	GLOBE	ARZ PHOENIX	ARIZ	6022613551	197
660	GLOBE	ARZ SAN ANTONIO	TEX	5123421717	110
660	GLOBE	ARZ PHOENIX	ARIZ	6022613551	241
670	GLOBE	ARZ TUCSON	ARIZ	6027923010	40
680	MESA	ARZ GLOBE	ARIZ	6024256131	175
680	ROSEV T	ARZ GLOBE	ARIZ	6024572377	55
680	GLOBE	ARZ ROOSEVELT	ARIZ	6024672377	53
680	GLOBE	ARZ TUCSON	ARIZ	6027923010	668
690	GLOBE	ARZ NO PHOENIX	ARIZ	6029441524	90
610	GLOBE	ARZ NO PHOENIX	ARIZ	6029442011	397
610	GLOBE	ARZ PHOENIX	ARIZ	6022774776	65

D - DIALED CALL
C - COLLECT CALL

LONG DISTANCE CALLS OR TELEGRAMS

BILL DATE 6-28-73

PAGE 2

TELEPHONE NUMBER 1 425-6131 320

DATE	FROM	TO	AREA	TELEPHONE NO.	AMOUNT
6110	GLOBE	ARZ PHOENIX	ARIZ	6022731675	65
6110	GLOBE	ARZ PHOENIX	ARIZ	6022774776	131
6170	GLOBE	ARZ SANTA ANA	CAL	7145478510	440
6180	IN PHNX	ARZ TEMPE	ARIZ	6029667256	37
6180	IN PHNX	ARZ GLOBE	ARIZ	6024256131	296
6180	GLOBE	ARZ PHOENIX	ARIZ	6022613551	429
6190	GLOBE	ARZ TUCSON	ARIZ	6027923010	40
6210	GLOBE	ARZ PHOENIX	ARIZ	6022613551	242
6210	GLOBE	ARZ PHOENIX	ARIZ	6022646747	65
6210	GLOBE	ARZ PHOENIX	ARIZ	6022635728	175
6220	PHCENX	ARZ GLOBE	ARIZ	6024256131	323
6230	GLOBE	ARZ NO PHOENIX	ARIZ	6029442011	105
6250	GLOBE	ARZ PHOENIX	ARIZ	6022649665	253
6260	GLOBE	ARZ WILLINGBO	NJ	6098777321	109
6270	GLOBE	ARZ PHOENIX	ARIZ	6022613551	219
		TOTAL			9088

D - DIALED CALL
C - COLLECT CALL

ALARKO 18.00
Cite Sec = 24.00
51.00

To _____
Date 8-3-73 Time 8:25

WHILE YOU WERE OUT

M. Travis Hart
of _____

Phone _____
Area Code Number Extension

TELEPHONED	<input checked="" type="checkbox"/>	PLEASE CALL	
CALLED TO SEE YOU		WILL CALL AGAIN	
WANTS TO SEE YOU		URGENT	

RETURNED YOUR CALL

Message He has repaired the location notice situation with respect to the LD9 & 10

Operator _____

JDS

F.L. Memo

8/3/73

Suprise EAST

TRAVIS GAIT reported to Lois via phone that most of the LD 9^{FRAC} & 10^{FRAC} monuments have been destroyed.

GAIT's crew on 8/3/73 was checking the End Centers and Loc. Notices (Monuments) of LD 9^{FRAC} & 10^{FRAC}. They reportedly rebuilt one of the monuments in its approximate original location.

I Report this to Doc Keane about 9:30 A.M.

Kirby CORYELL and I had an appointment with Keane after lunch to discuss the Memo Recording of CANUS. CORYELL agreed to start proceedings immediately - ALL of his Ltd. Partners are out of state (one Canadian) and to circulate & acknowledge will take Time. See Attachment.

After the above discussion Keane stated that we should:

- ① immediately Rebuild the monuments
- ② Hire a Security Guard to protect them & prevent further occurrences.

We have no evidence or witnesses of who may have destroyed the monuments.

TAB

Rawhide -

Henderson -

Clark Claims

Maine Tools or Franchise

AFFIDAVIT OF LABOR PERFORMED AND IMPROVEMENTS MADE

STATE OF ARIZONA)
COUNTY OF GILA) SS.

The undersigned, H. W. Olmstead, being first duly sworn, deposes and says:

That he is a citizen of the United States of America, and is more than twenty-one(21) years of age, and a resident of Inspiration, Gila County, State of Arizona; that he is Chief Exploration Geologist for Inspiration Consolidated Copper Company, and is personally acquainted with and is responsible for the mining claims hereinafter described, situated in the Summit Mining District, Pinal County, Arizona, the location notices of which are recorded in the office of the County Recorder of Said County in the Docket and at the Pages hereinafter set forth; that between September 1, 1966, and September 1, 1967, at least TWO THOUSAND SEVEN HUNDRED DOLLARS (\$2,700.00) worth of work and improvements were done and performed upon and for the benefit of said claims, and each of them as a group, not including the location work of said claims. That said work performed and improvements made were for the benefit of all the claims hereinafter described and were for the purpose of complying with the laws of the United States pertaining to annual assessment work, and that all of said claims are contiguous. That such work and improvements were made by and at the expense of Inspiration Consolidated Copper Company, a Maine Corporation, duly qualified to do business in the State of Arizona, which Company holds options to purchase said claims and also holds by annual assessment work, the adjoining Crook Claim Group. That Inspiration Consolidated Copper Company employed a local heavy equipment Contractor, Carley L. Moore, to repair and build roads and to make exploration cuts and Boyle Bros. Drilling Company of 10801 North 21st Avenue, Phoenix, Arizona, drilled exploration holes on contiguous property. That the total expenditure for annual assessment labor is in excess of TWO THOUSAND SEVEN HUNDRED DOLLARS (\$2,700.00). That the mining claims herein referred to and for the benefit of which said labor was performed and improvements made are specifically as follows:

	Docket	Page	Docket	Page	
Lindberg 1	43	149	Lindberg 15	44	489
Lindberg 2	43	150	Lindberg 16	44	492
Lindberg 3	43	151	Fairview	44	491
Lindberg 4	43	152	Fairview 1	243	227
Lindberg 5	43	153	Fairview 2	243	228
Lindberg 6	43	154	Fairview 3	243	229
Lindberg 7	43	155	Dark Horse 1	141	270
Lindberg 8	43	156	Dark Horse 2	141	271
Lindberg 9	43	167	White Elephant	343	231
Lindberg 10	43	168	R, Cross No. 1	53	162
Lindberg 11	43	169	Astonished	243	230
Lindberg 12	43	170	Hutton #1	375	134
Lindberg 13	43	171	Hutton #2	375	135
Lindberg 14	43	172			

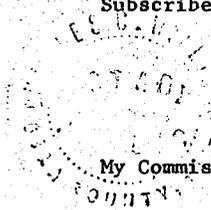
N-5

AMERICAN COP.

That said labor performed and improvements made, as heretofore set forth, is and was for the purpose of obtaining the benefits conferred by the Statutes of the State of Arizona, and to satisfy the work requirements prescribed by the United States Mining Laws for the period September 1, 1966, to September 1, 1967.

Hugh W. Olmstead
Chief Exploration Geologist

Subscribed and sworn to before me this 30th day of October, 1967.



Charles E. Williams
Notary Public in and for
Gila County, State of Arizona

My Commission expires: September 22 1971

By *Sophie M. Smith*
Deputy Recorder

INDEXED COMPARE
STATE OF ARIZONA
County of Pinal
I hereby certify that the within
Instrument was filed and recorded
at request of *Sophie M. Smith*
on NOV 1 - 1967 8:00 am
In Docket NOV 1 1967 PAGE 327
on page _____
Witness my hand and official seal
the day and y at aforesaid.

John Clark
MIA 473-3209

Amber... 11/1/67

FROM: W. L. KURTZ

To: Acc't Dept - with
Andy
JD Seel ✓
RB Crist
Luis B.

Please note and change
your records.



AMERICAN SMELTING AND REFINING COMPANY
EXPLORATION DEPARTMENT
120 BROADWAY, NEW YORK, N. Y. 10005

RECEIVED

FEB 22 1973

S. W. U. S. EXPL. DIV.

T. C. OSBORNE
ASSISTANT DIRECTOR OF EXPLORATION

W. L. K.

FEB 21 1973

Air Mail

February 20, 1973

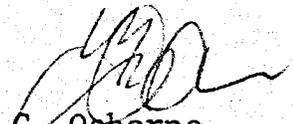
Mr. W. L. Kurtz
Tucson, Arizona

Clark Option
Pinal County, Arizona

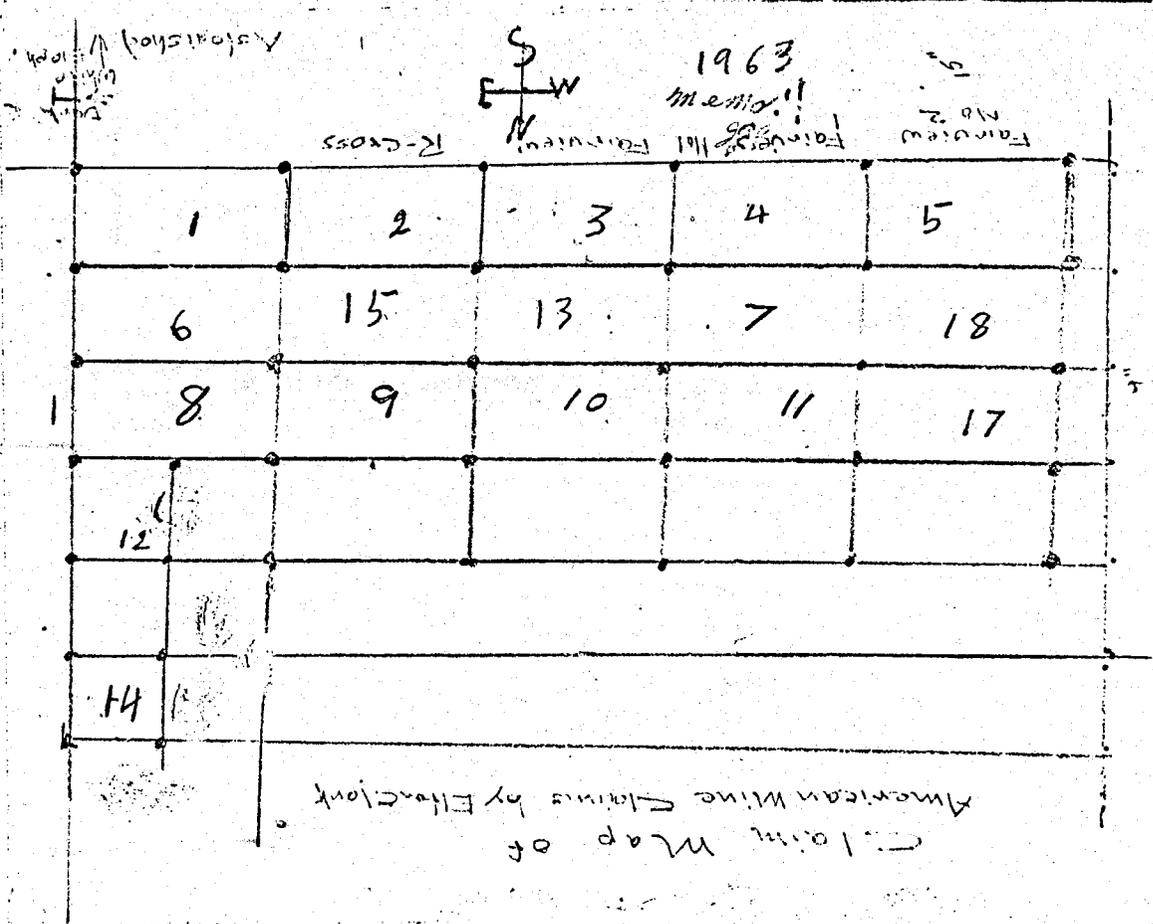
Dear Mr. Kurtz:

In reply to your letter of February 16, we will secure approval of a \$2000 expenditure on the Clark claims tomorrow. Meanwhile, although this property is close to the Rawhide project, it should be carried as a separate exploration authorization and the name Rawhide project should be confined to our joint venture with Inspiration. Please adjust your records to show the Clark option as a separate project.

Very truly yours,

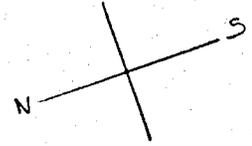
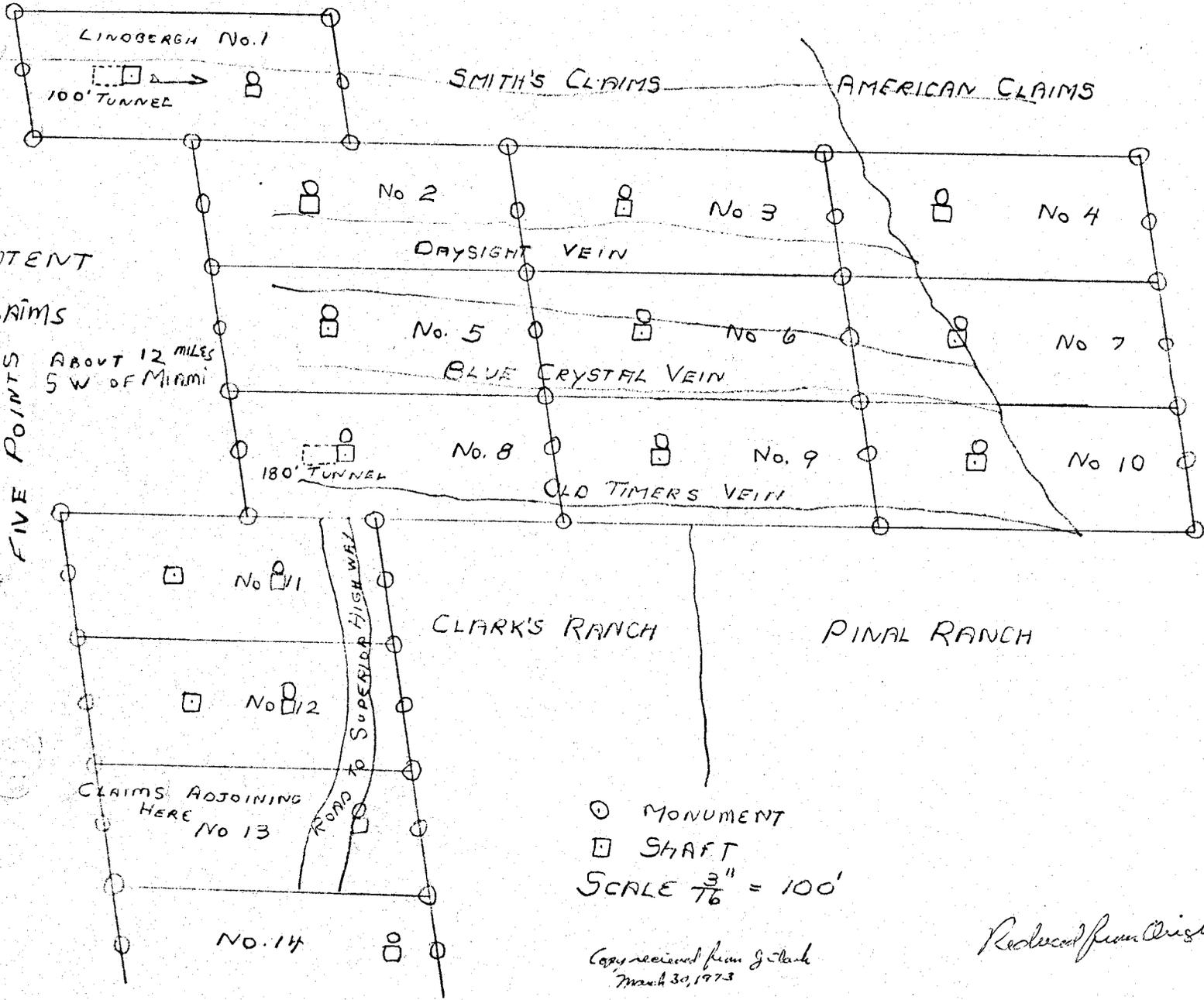


T. C. Osborne



ABOUT 3 MILES WEST
OF GIBSON

THE LINDBERGH CLAIMS



TO EAST
ABOUT 9 MILES FROM
MAGNIA COPPER CO

DIRECT
CLAIMS

ABOUT 12 MILES
5 W OF MIAMI

DICK COUNTY
PINAL COUNTY
FIVE POINTS

CLAIMS ADJOINING
HERE NO 13

○ MONUMENT
 □ SHAFT
 SCALE $\frac{3}{16}'' = 100'$

Copy received from J. Clark
March 30, 1973

Redrawn from Original

LOCATION NOTICE

LODE MINING CLAIM

This mining claim, the name of which is the FAIRVIEW #3
No. _____
mining claim, was located by the undersigned AMERICAN SMELTING AND
REFINING COMPANY on the 17 of April, 1973

This claim is 1500 feet long and 600 feet wide, and the
point of discovery is 50 feet from the EAST end and 1450 feet
from the WEST end of this claim.

The general course of this claim is from EAST to WEST
~~North to South~~.

This claim is situated and located in the Summit Mining
District, in Pinal County, State of Arizona.

This claim is located in Section 18 & 19, T 1 S, R 14 E.

Bounded on the EAST by FAIRVIEW #4 Bounded on the SOUTH by
R. Cross + Dark Horse #2 Bounded on the WEST by Lindberg #1
Lindberg #3 Bounded on
the NORTH by _____.

Dated and posted on the ground the day and year first above
written. to cover any open ground as of this date.

AMERICAN SMELTING AND REFINING COMPANY

By: Walter L. King
Agent

LOCATION NOTICE

LODE MINING CLAIM

This mining claim, the name of which is the FAIRVIEW #4
No. _____
mining claim, was located by the undersigned AMERICAN SMELTING AND
REFINING COMPANY on the 17 of April, 1973
~~October, 1972.~~

This claim is 1500 feet long and 600 feet wide, and the
point of discovery is 50 feet from the WEST end and 1450 feet
from the EAST end of this claim.

The general course of this claim is from EAST TO WEST
~~North to South.~~

This claim is situated and located in the Summit Mining
District, in Pinal County, State of Arizona.

This claim is located in Section 18914, T15 R14E
~~T11N, R13E.~~
Bounded on the EAST by _____ Bounded on the SOUTH by
_____ Bounded on the WEST by FAIRVIEW #3 Bounded on
the NORTH by _____.

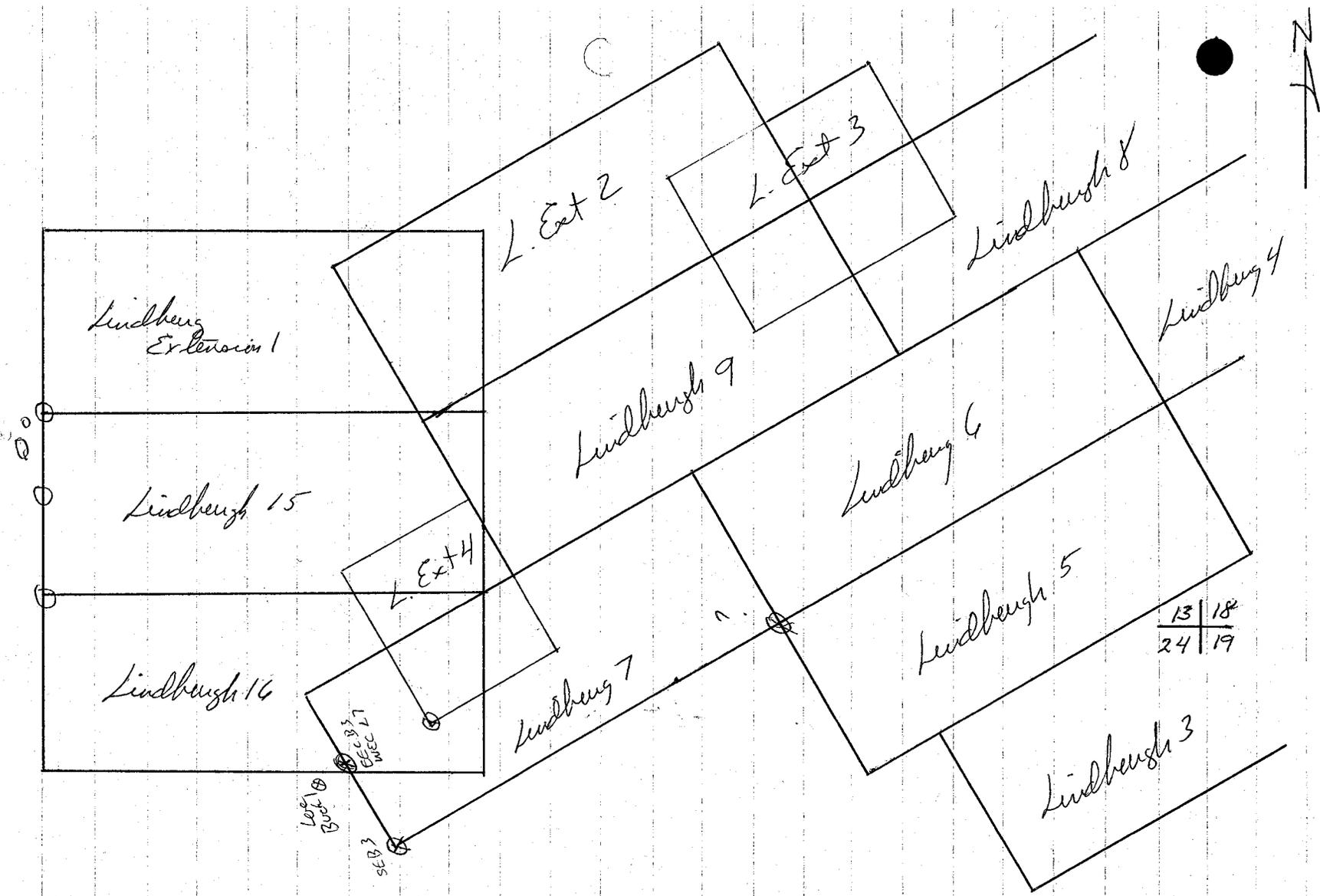
Dated and posted on the ground the day and year first above
written. to cover any open ground as of this date.

AMERICAN SMELTING AND REFINING COMPANY

By: Walter L. King
Agent

AMERICAN GROUP
AMEMB

	<u>Bearing</u>	<u>Pt. of Disc</u>
White Elephant June 11, '72	N/S	400'S - 1100'N 2540' S <u>7°E</u> cor. 24/13/18/19
DARK HORSE "	N/S	350'S - 1150'N 2950' S. 28°30'E. from 24/13/18/19
DARK HORSE NO. 2 MAY 6, '72	N/S	400'S - 1100'N 2200' S. 51°30'E. from 24/13/18/19
ASTON. MOB June 11, '72	N/S	350'N - 1150'S 2000' S. 23°30'E. from 24/13/18/19
FAIRVIEW APR. 8, '72	E/W	200'W - 1300'E Loc. Mon. about 1175' S. 5°30'E from com. corners 24/13/18/19
FAIRVIEW NO. 1 APR. 8, '72	E/W	400'E - 1100'W 745' S. 41°W. from 24/13/18/19
FAIRVIEW NO. 2 APR. 8 '72	E/W	50'E - 1450'W 1180' S. 7°W from 24/13/18/19
R. CROSS APR. 8 '72	E/W	400'W - 1100'E 650' S. 29°E from 24/13/18/19



1" = 500'

SETTLEMENT AGREEMENT

THIS AGREEMENT made this _____ day of _____, 1973, by and between ARIZONA MINING PROPERTIES, INC., a Texas corporation; Dale L. States, P. Richard Meyer and Rad L. Vucichevich, a co-partnership dba STATES, MEYER & VUCICHEVICH; ETHEL MAY HENDERSON, a married woman dealing with her sole and separate property; and MILDRED P. CLARK, a widow (hereinafter called Plaintiffs), and AMERICAN SMELTING AND REFINING COMPANY, a New Jersey corporation; HAROLD STONE; and JAMES SELL (hereinafter called Defendants).

W I T N E S S E T H:

WHEREAS, Plaintiffs own or control the Lindburgh Nos. 3, 5, 7, 15 and 16, Lindburg No. 1 Extension and Buck #s 1 thru 3 unpatented lode mining claims described in Exhibit A; Defendant American Smelting and Refining Company (hereinafter called ASARCO), is the owner of the LD Nos. 13 thru 21 and Fairview Nos. 3 and 4 unpatented lode mining claims described in Exhibit A; and Mildred P. Clark is the owner and ASARCO is the lessee of the Fairview No. 1, R. Cross and Dark Horse No. 2 unpatented lode mining claims; and

WHEREAS, Plaintiffs and Defendants are desirous of compromising and settling the controversies between them which are the subject of Cause No. C 272415 now pending in the Superior Court of the State of Arizona in and for the County of Maricopa, and of stipulating to the dismissal of said suit with prejudice;

NOW, THEREFORE, in consideration of the mutual promises, the parties agree as follows:

1. The west end lines of the Lindburgh No. 1 Extension and Lindburgh Nos. 15 and 16, and the compromise boundary line between the Lindburgh Nos. 3, 5, 7 and 16, Buck #2, and Fairview Nos. 3 and 4 to the north, and the LD Nos. 13, 14, 15, 16 and 17, Fairview No. 1, R. Cross and Dark Horse No. 2 to the south, shall be established by survey and shall be monumented at the corners, end center points and points of intersection of claim lines as shown in red on the claim situation map attached hereto, prepared by Travis L. Gant and designated drawing No. 73001-E-1a.

2. Said Survey shall be conducted by, and said monuments erected by, Travis L. Gant, Registered Land Surveyor and U. S. Mineral Surveyor. The cost of surveying and monumenting said end line and compromise line as shown shall be paid one-half by Plaintiffs and one-half by Defendants. Monuments shall consist of 2" x 2" wooden posts marked with tags bearing a description of the post.

3. Plaintiffs agree to quitclaim, remise and relinquish to ASARCO all of their right, title and claim in and to the Buck #3 and those portions of the Lindburgh Nos. 3, 5 and 16, and Buck #s 1 and 2 unpatented lode mining claims, as more fully described in Exhibit A hereto, lying and being south of the said compromise line.

4. Defendant ASARCO agrees to quitclaim, remise and relinquish to Plaintiffs Dale L. States, P. Richard Meyer and Rad L. Vucichevich, a co-partnership dba States, Meyer and Vucichevich, Ethel May Henderson as her sole and separate property, and Mildred P. Clark, a widow, as their interests may appear, all its right, title and claim in and to the

LD No. 13 unpatented lode mining claim lying and being north and east of the said compromise line and all portions of the LD Nos. 14, 15, 16 and 17, Fairview No. 1, R. Cross and Dark Horse No. 2 unpatented lode mining claims, all more fully described in Exhibit A hereto, lying and being north of said compromise line, and all right, title and claim in and to the LD Nos. 18 thru 21 unpatented lode mining claims, as more fully described in Exhibit A hereto.

5. ASARCO agrees to quitclaim, remise and relinquish to Arizona Mining Properties, Inc., all its right, title and claim in and to the Fairview Nos. 3 and 4, unpatented lode mining claims located by ASARCO on Sept 17, 1973, the notices of location of which have not yet been recorded.

6. Mildred P. Clark agrees to quitclaim, remise and relinquish to Dale L. States, P. Richard Meyer and Rad L. Vucichevich and Ethel May Henderson, an undivided ~~1/3~~ ⁵ interest in and to that portion of the Fairview No. 1, R. Cross and Dark Horse No. 2 lying and being north of the said compromise line.

7. Upon completion of the above referred to surveying and monumenting of the compromise line, the respective parties shall execute and deliver to the party entitled to receive the same, quitclaim deeds embodying the provision of paragraphs 3, 4, 5 and 6 hereof and describing said compromise line by metes and bounds.

8. Upon delivery of the above described deeds, the Complaint and Counterclaim in Cause No. C 272115, in the Superior Court of Maricopa County, Arizona, shall be dismissed with prejudice, each party to bear its own costs, by stipulation

and order in the form attached hereto as Exhibit B.

IN WITNESS WHEREOF, this Agreement is executed as
of the _____ day of _____, 1973.

APPROVED AS TO FORM:
CHANDLER, TULLAR, UDALL
& RICHMOND
177 North Church, Suite 1110
Tucson, Arizona 85701

ARIZONA MINING PROPERTIES, INC.

By _____
Its

By _____
Attorneys for Plaintiff.
ARIZONA MINING PROPERTIES,
INC.

APPROVED AS TO FORM:
STATES, MEYER & VUCICHEVICH
Suite 2503, First Federal
Savings Building
3003 North Central Avenue
Phoenix, Arizona 85012

Dale L. States

P. Richard Meyer

By _____
Attorneys for Plaintiffs
STATES, MEYER & VUCICHEVICH;
HENDERSON and CLARK

Rad L. Vucichevich
dba STATES, MEYER & VUCICHEVICH

ETHEL MAY HENDERSON

MILDRED P. CLARK

Plaintiffs

APPROVED AS TO FORM:
EVANS, KITCHEL & JENCKES,
P.C.
63 North First Avenue
Phoenix, Arizona 85003

AMERICAN SMELTING & REFINING COMPANY

By _____
Its

By _____
Attorneys for Defendants

Harold Stone

James Sell

Defendants

STATE OF ARIZONA)
COUNTY OF _____) ss.

On this _____ day of _____, 1973, personally appeared before me _____ of ARIZONA MINING PROPERTIES, INC., its _____, who acknowledged that he signed the within instrument as the act and deed of, and for and on behalf of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and seal.

Notary Public

My Commission Expires:

STATE OF ARIZONA)
COUNTY OF MARICOPA) ss.

On this _____ day of _____, 1973, personally appeared DALE L. STATES, one of the parties hereto, who acknowledged before me that he executed the within instrument for the purposes therein stated.

IN WITNESS WHEREOF, I have hereunto set my hand and seal.

Notary Public

My Commission Expires:

STATE OF ARIZONA)
COUNTY OF MARICOPA) ss.

On this _____ day of _____, 1973, personally appeared P. RICHARD MEYER, one of the parties hereto, who acknowledged before me that he executed the within instrument for the purposes therein stated.

IN WITNESS WHEREOF, I have hereunto set my hand and seal.

Notary Public

My Commission Expires:

STATE OF ARIZONA)
COUNTY OF MARICOPA) ss.

On this _____ day of _____, 1973, personally appeared RAD L. VUCICHEVICH, one of the parties hereto, who acknowledged before me that he executed the within instrument for the purposes therein stated.

IN WITNESS WHEREOF, I have hereunto set my hand and seal.

Notary Public

My Commission Expires:

STATE OF ARIZONA)
COUNTY OF _____) ss.

On this _____ day of _____, 1973, personally appeared ETHEL MAY HENDERSON, one of the parties hereto, who

acknowledged before me that she executed the within instrument for the purposes therein stated.

IN WITNESS WHEREOF, I have hereunto set my hand and seal.

Notary Public

My Commission Expires:

STATE OF ARIZONA)
) ss.
COUNTY OF _____)

On this _____ day of _____, 1973, personally appeared MILDRED P. CLARK, one of the parties hereto, who acknowledged before me that she executed the within instrument for the purposes therein stated.

IN WITNESS WHEREOF, I have hereunto set my hand and seal.

Notary Public

My Commission Expires:

STATE OF ARIZONA)
) ss.
COUNTY OF _____)

On this _____ day of _____, 1973, personally appeared before me _____ of AMERICAN SMELTING AND REFINING COMPANY, its _____, who acknowledged that he signed the within instrument as the act and deed of, and for and on behalf of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand

and seal.

Notary Public

My Commission Expires:

STATE OF ARIZONA)
COUNTY OF _____) ss.

On this _____ day of _____, 1973, personally appeared HAROLD STONE, one of the parties hereto, who acknowledged before me that he executed the within instrument for the purposes therein stated.

IN WITNESS WHEREOF, I have hereunto set my hand and seal.

Notary Public

My Commission Expires:

STATE OF ARIZONA)
COUNTY OF _____) ss.

On this _____ day of _____, 1973, personally appeared JAMES SELL, one of the parties hereto, who acknowledged before me that he executed the within instrument for the purposes therein stated.

IN WITNESS WHEREOF, I have hereunto set my hand and seal.

Notary Public

My Commission Expires:

EXHIBIT A
TO
SETTLEMENT AGREEMENT

Records of
Pinal County, Ariz.

	<u>Book of Mines</u>	<u>Page</u>
Lindburgh No. 3	43	151
Lindburgh No. 5	43	153
Lindburgh No. 7	43	155
Lindburgh No. 15	44	489
Lindburgh No. 16	44	492
	<u>Docket</u>	
Lindburg No. 1 Extension	522	287
Buck #1	692	450
Buck #2	692	451
Buck #3	692	452
LD No. 13	688	403
LD No. 14	688	404
LD No. 15	688	405
LD No. 16	688	406
LD No. 17	688	407
LD No. 18	Unrecorded	
LD No. 19	Unrecorded	
LD No. 20	Unrecorded	
LD No. 21	700	171
Amended	700	223
Fairview No. 3	Unrecorded	
Fairview No. 4	Unrecorded	
Fairview No. 1	243	228
Amended	671	915
R. Cross	53	162
Amended	671	917
Dark Horse No. 2	141	270
Amended	671	912

1 IN THE SUPERIOR COURT OF THE STATE OF ARIZONA
2 IN AND FOR THE COUNTY OF MARICOPA

3
4 ARIZONA MINING PROPERTIES, INC.,
a Texas corporation, et al,
5
6 Plaintiffs,

7 vs.

8 AMERICAN SMELTING & REFINING
COMPANY, a New Jersey corporation,
et al,
9
10 Defendants.

NO. C 272415

STIPULATION FOR DISMISSAL
WITH PREJUDICE AND ORDER

11
12 AMERICAN SMELTING AND REFINING COM-
PANY, a New Jersey corporation,
13
14 Counterclaimant.

15 vs.

16 ARIZONA MINING PROPERTIES, INC., a
Texas corporation; DALE L. STATES,
17 P. RICHARD MEYER and RAD L. VUCICHE-
VICH, a co-partnership d/b/a STATES,
MEYER & VUCICHEVICH; ETHEL MAY
18 HENDERSON, a married woman dealing
with her sole and separate property;
19 MILDRED P. CLARK, a widow; ROE COR-
PORATION I through X; and RICHARD
ROE I thru X,
20
21 Counterdefendants.

22 It is hereby stipulated by and between the Plaintiffs
23 and Defendants that the Complaint and the Counterclaim herein be
24 dismissed with prejudice, and that each party bear its own costs.

25 STATES MEYER & VUCICHEVICH

26
27 By _____
P. Richard Meyer
3003 North Central Avenue
Phoenix, Arizona 85012
Attorneys for Plaintiffs STATES,
MEYER, VUCICHEVICH, HENDERSON
and CLARK
28

EVANS, KITCHEL & JENCKES, P.C.
383 NORTH FIRST AVENUE
PHOENIX, ARIZONA 85003

1 CHANDLER, TULLAR, UDALL & RICHMOND

2
3 By _____

4 James L. Richmond
5 177 North Church, Suite 1110
6 Tucson, Arizona 85701
7 Attorneys for Plaintiff ARIZONA MINING
8 PROPERTIES, INC.

9
10 EVANS, KITCHEL & JENCKES, P.C.

11
12 By _____

13 Fred E. Ferguson, Jr.
14 363 North First Avenue
15 Phoenix, Arizona 85003
16 Attorneys for Defendants

17
18 ORDER

19 Pursuant to the foregoing Stipulation, IT IS HEREBY
20 ORDERED that the Complaint and Counterclaim herein be, and the
21 same are, hereby dismissed with prejudice, each party to bear
22 its own costs.

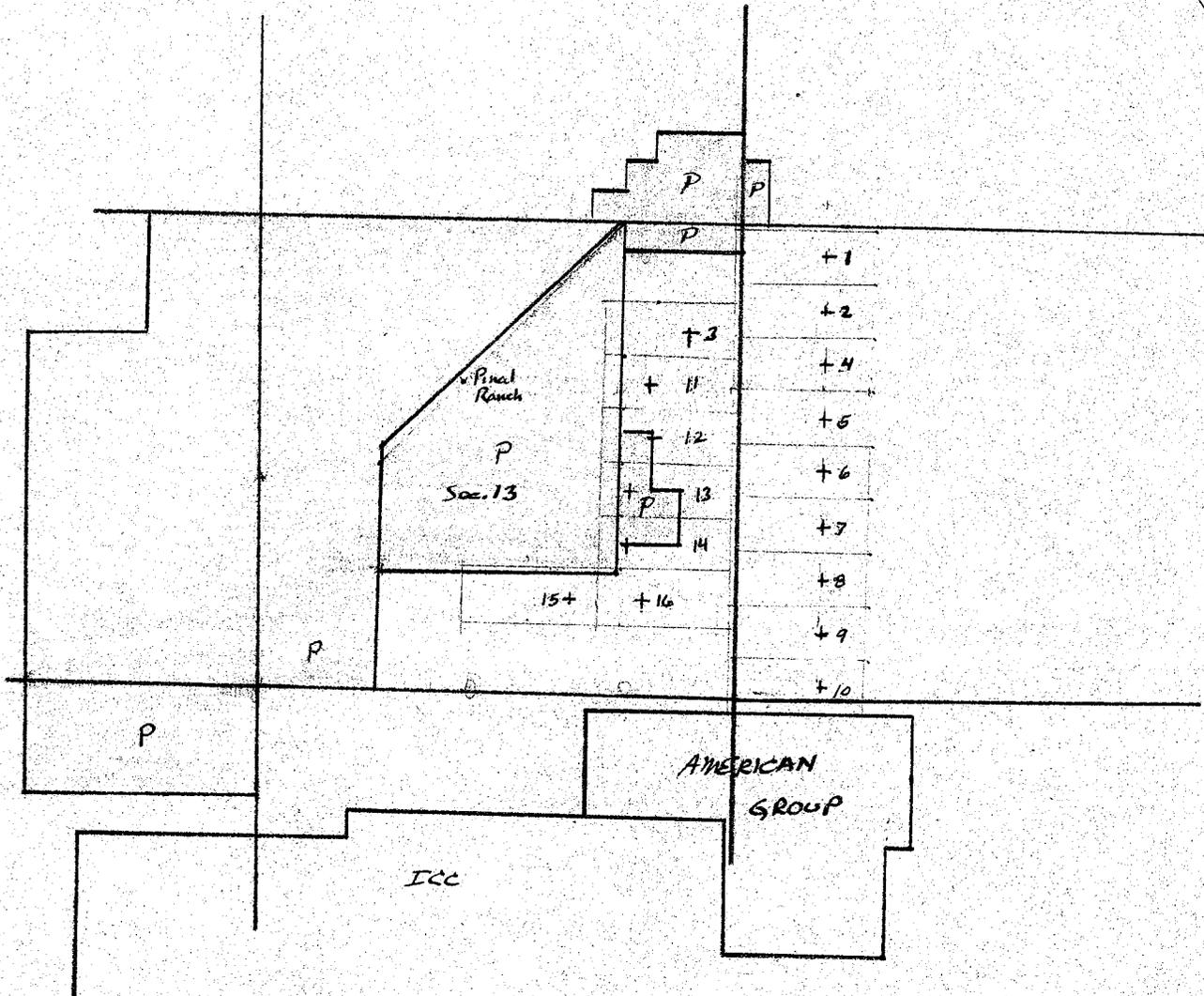
23
24 DONE this _____ day of _____, 1973.

25
26 _____
27 Judge of the Superior Court
28

473-3088

1508 G

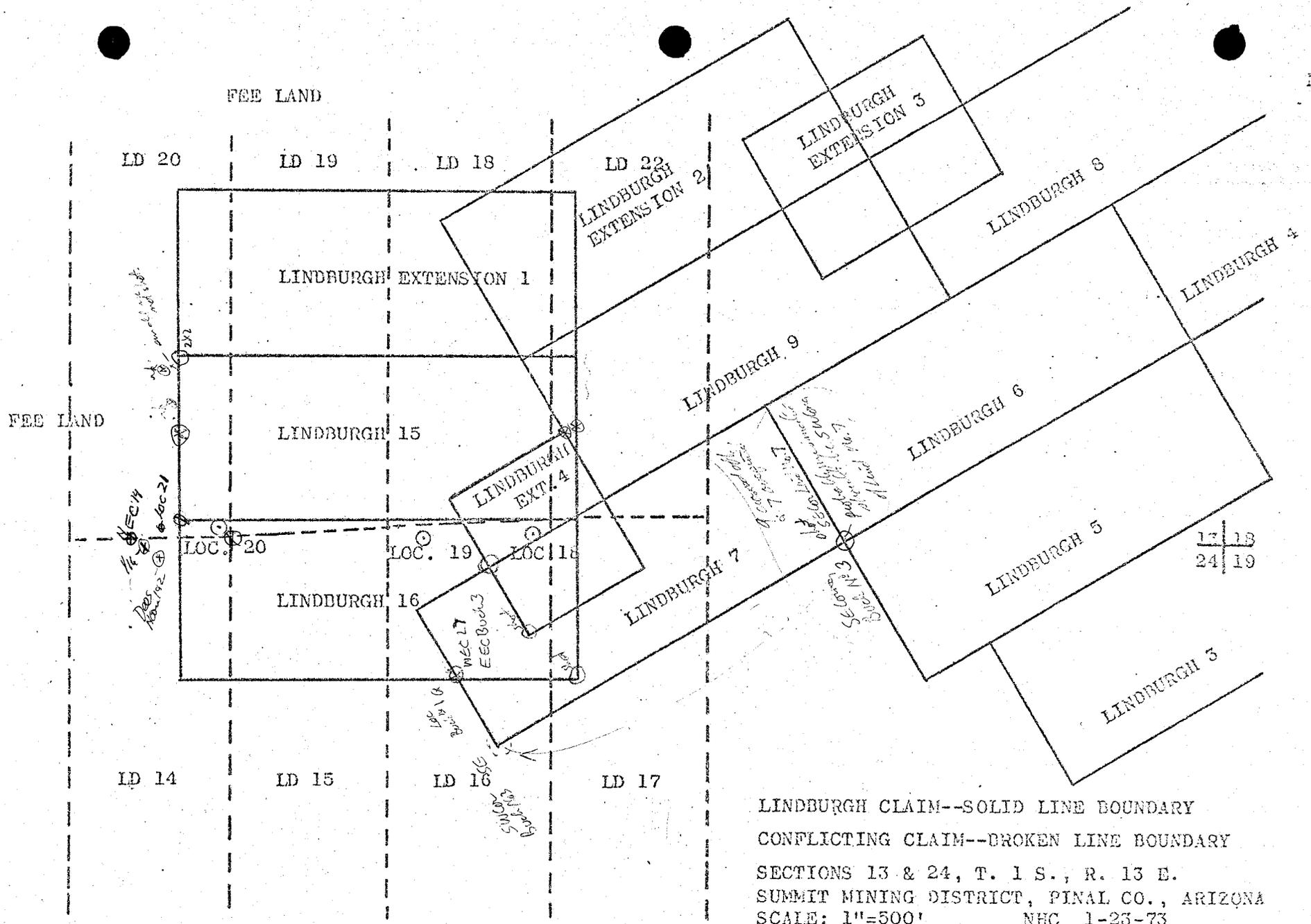
L 17 & 18
EX 154
or 18-1



Lindbergh Claims (No.)

Claim No.	Distance from Rinal Ranch	Direction from Rinal Ranch	Direction of Claim	Location Notice from east & west.	Date
1	3/4 mile	easterly	NE-SW	500 NE; 1000 SW	6 July 1927
2	"	"	"	500 NE; 1000 SW	"
3	3/8 mile	"	"	500 NE; 1000 SW	"
4	3/4 mile	"	"	500 NE; 1000 SW	"
5	"	"	"	500 NE; 1000 SW	"
6	"	"	"	500 NE; 1000 SW	"
7	"	"	"	500 NE; 1000 SW	"
8	"	"	"	500 NE; 1000 SW	"
9	"	"	"	500 NE; 1000 SW	"
10	"	"	"	500 NE; 1000 SW	"
11	1000 ft	"	"	1000 NE; 500 SW	"
12	"	"	"	1000 NE; 500 SW	"
13	Opening	"	"	1200 NE; 300 SW	"
14	"	"	"	1300 NE; 200 SW	"
15	3/4 mile	Southerly	E-W	300 E; 1200 W	21 Feb 1929
16	"	"	"	1000 E; 500 W	"

NORTH

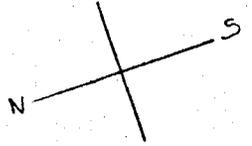
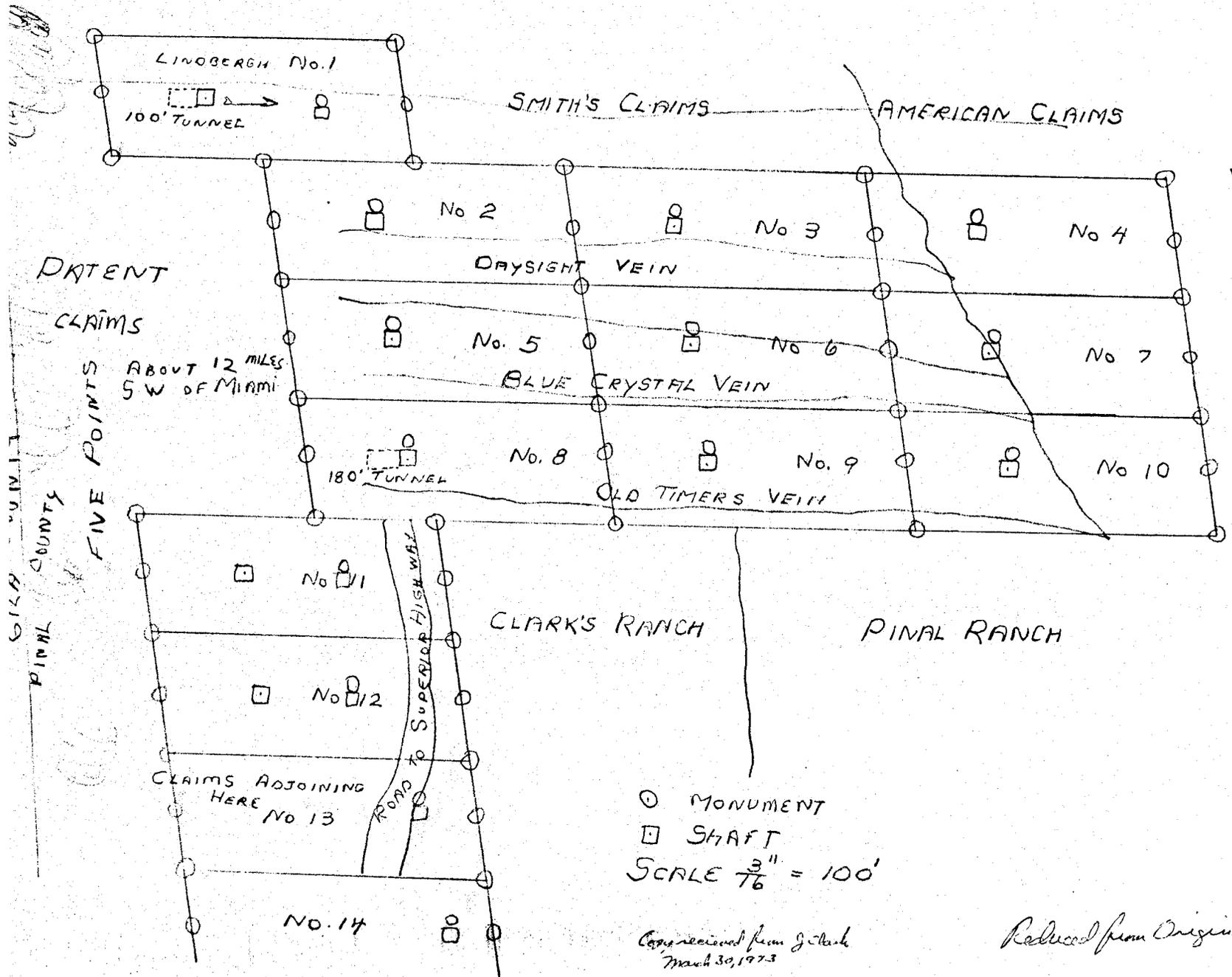


LINDBURGH CLAIM--SOLID LINE BOUNDARY
 CONFLICTING CLAIM--BROKEN LINE BOUNDARY
 SECTIONS 13 & 24, T. 1 S., R. 13 E.
 SUMMIT MINING DISTRICT, PINAL CO., ARIZONA
 SCALE: 1"=500' NHC 1-23-73

17	18
24	19

ABOUT 3 MILES WEST
OF GIBSON

THE LINDBERGH CLAIMS



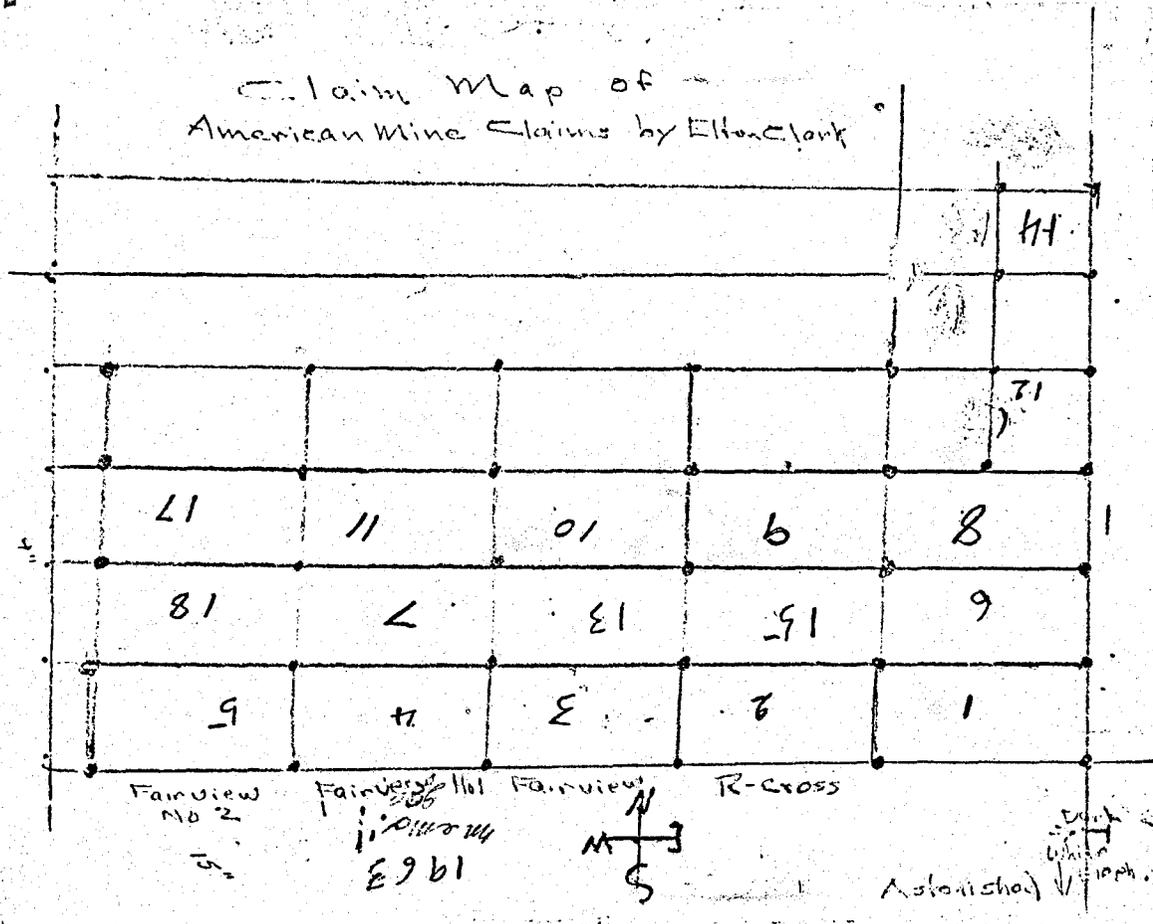
TO EAST
ABOUT 9 MILES FROM
MAGMA COPPER CO

○ MONUMENT
 □ SHAFT
 SCALE $\frac{3}{16}'' = 100'$

Copy received from Gil Clark
 March 30, 1973

Reduced from Original

Claim Map of
American Mine Claims by Elton Clark



AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

June 26, 1973

FILE MEMORANDUM

American Group
Claim Situation Map
Pinal County, Arizona

Mr. T. L. Gant has submitted a sepia of the original and several prints of the American Group of claims as his drawing No. 73001-A-2. A copy will be sent to Mrs. Mildred P. Clark and her son, Mr. John S. Clark, owners of the property.

. This map has been given the ASARCO #2616.

James D. Sell
James D. Sell

JDS:1b

3226 East 46th Street

INVOICE
No. 9535

Phone 624-0049

AMERICAN ANALYTICAL and RESEARCH LABORATORIES

ASSAYERS - CHEMISTS - METALLURGISTS

TUCSON, ARIZONA 85713

SAMPLE SUBMITTED BY American Smelting & Refining Company

DATE July 27, 1973

SAMPLE MARKED

ANALYSIS

CHARGES

AA - 1 --- AA - 8

8 Samples

Geo-Chem Cu, Zn, Mo

\$ 32.00

Geo-Chem Preparation

4.00

Total

\$ 36.00

*Duill Hole AA-1
American Mine Area
Clark Option
Pinal County, Arizona*

A. D. C.

AUG 1 1973

AMERICAN ANALYTICAL and RESEARCH LABORATORIES

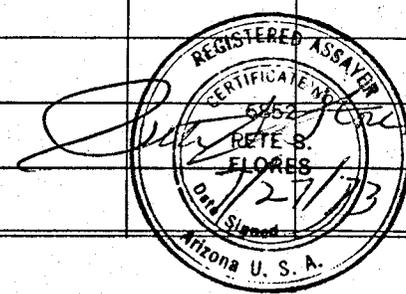
ASSAYERS - CHEMISTS - METALLURGISTS

TUCSON, ARIZONA 85713

SAMPLE SUBMITTED BY American Smelting & Refining Company

DATE July 27, 1973

SAMPLE MARKED	GOLD OZ./TON	SILVER OZ./TON	PPM COPPER	PERCENT LEAD	PPM ZINC	PPM MOLYBDENUM	PERCENT IRON	Depth
AA - 1			36		31	1		0-15
AA - 2			17		20	1		15-30
AA - 3			22		20	1		30-45
AA - 4			11		16	2		45-60
AA - 5			18		23	4		60-75
AA - 6			20		18	2		75-90
AA - 7			17		16	3		90-10
AA - 8			16		12	2		105-12
<i>Drill Hole AA-1 American Mine Area (Clark Option)</i>								
A. D. C.								
AUG 1 1973								



Invoice # 9535

CHARGES \$ 32.00

PURCHASE ORDER

*L.W.D. Exploration + Mining Corp.
R.R. 1 Box 739, Miami Ariz*

No. **2974** *cre of Jim Sells* Req No _____ Date **7-25** 19**73**
 To **ASA, P.C.O.** _____ For **Assessment work.**
 Address **P.O. Box 5747 Tucson Ariz 85703** _____ Date Required _____
 Ship To _____ How Ship _____
 Address _____ Terms _____

QUANTITY		PLEASE SUPPLY ITEMS LISTED BELOW	PRICE	UNIT
ORDERED	RECEIVED			
1		<i>Drilling assessment work</i>		
2		<i>120 feet of 5" hole. @ \$1.50 a foot.</i>	<i>780.00</i>	
3		<i>6 feet of 6" casing cemented in</i>	<i>20.00</i>	
4		<i>total</i>	<i>\$ 800.00</i>	
5		<i>work located section Summit area</i>		
6		<i>Hole # AA-1 0-to 120' feet</i>		
7				
8				
9				
10				
11		<i>Thanks -</i>		
12				
13		<i>Lester K Cox.</i>		
14		<i>president</i>		
15		<i>L.W.D. Exploration</i>		
16				
17				
18		<i>James D Sells</i>		
19		<i>OK for Payment</i>		
20		<i>Clark Oplin - American Mining Dev</i>		
21		<i>MA-0010 521-25</i>		
22		<i>Over Hole AA-1</i>		

IMPORTANT

OUR ORDER NUMBER MUST APPEAR ON ALL INVOICES, PACKAGES, ETC.
 PLEASE NOTIFY US IMMEDIATELY IF YOU ARE UNABLE TO SHIP COMPLETE ORDER BY DATE SPECIFIED.

Please Send

Copies Of Your Invoice With Original Bill Of Lading

Purchasing Agent

(AMENDED LOCATION NOTICE)

LOCATION NOTICE

LODE MINING CLAIM

This mining claim, the name of which is the WHITE ELEPHANT
mining claim, was located by the undersigned John S. or Mildred P. Clark
on the 11TH day of JUNE 1972

This claim is 1500 feet long and 600 feet wide, and the point of
discovery is 400 feet from the SOUTH end and 1100 feet from the NORTH
end of this claim.

The general course of this claim is from NORTH to SOUTH

This claim is situated and located in the Summit
Mining District, in Pinal County, State of Ariz. /and its location monument is situated
in a SOUTH 4° EAST Direction from the standard sec. cor. of secs. 24, 13, 13, 19

~~This is an amended location notice of the White Elephant lode mining claim which was located
and posted by J.E. Clark on the 1st day of October, 1959, and recorded in the office of the
Pinal County Recorder in Book 243 of Mines, at Page 231, on Oct. 1st, 1959 to which reference
is hereby made.~~

This amended location notice is hereby made, posted, and recorded to include any and all
open ground which may exist as of this date within the boundaries of this lode claim as monu-
mented, also to correct errors contained in the description of said lode claim as per
the original notice.

Dated and posted on the ground the day and year first above written.

Witness: Charles W. Foster

For John S. or Mildred P. Clark
by John S. Clark

John S. Clark

I do hereby certify that the within named instrument was recorded at request of Mrs. J. E. Clark
JUN 29 1972 at 8:00am BOOK 671 PAGE 910 OFFICE OF THE COUNTY RECORDER, PINAL COUNTY, ARIZONA
446163 SOPHIE M. SMITH, Pinal County Recorder, by Jean Goodman

Box 730, Rt. 1
Miami, Ariz
85539

(AMENDED LOCATION NOTICE)

LOCATION NOTICE

LODE MINING CLAIM

This mining claim, the name of which is the DARK HORSE
mining claim, was located by the undersigned John S. or Mildred P. Clark

on the 11 TH day of JUNE 1972

This claim is 1500 feet long and 600 feet wide, and the point of
discovery is 350 feet from the SOUTH end and 1150 feet from the NORTH
end of this claim.

The general course of this claim is from NORTH to SOUTH

This claim is situated and located in the _____
Mining District, in Pinal County, State of Ariz. /and its location monument is situated
about 2950 FT

in a ~~SOUTH~~ SOUTH 28° 30' EAST Direction from the standard sec. cor. of secs. 24, 13, 18 & 19

T. 1 S., R. 12 E., S. 14 E., G. 32 P. 1
This is an amended location notice of the Dark Horse lode mining claim which was located
and posted by J.E. Clark on the 22 day of December, 1955, and recorded in the office of the
Pinal County Recorder in Book 141 of Mines, at Page 270, on Dec. 24, 1955, to which reference
is hereby made.

This amended locatiin notice is hereby made, posted, and recorded to include any and all
open ground which may exist as of this date within the boundaries of this lode claim as foru-
mented, also to correct errors contained in the description of said lode claim as per
the original notice.

Dated and posted on the ground the day and year first above written.

Witness: Charles W. Foster

For John S. or Mildred P. Clark
by John S. Clark

John S. Clark

I do hereby certify that the within named instrument was filed for record on
JUN 29 1972 at 8:00 am Book SECRET 671 PAGE 911 Mrs. J. E. Clark
446164 Filed by Jean Goodman

(AMENDED LOCATION NOTICE)

LOCATION NOTICE

LODE MINING CLAIM

This mining claim, the name of which is the DARK HORSE No. 2
mining claim, was located by the undersigned John S. or Mildred P. Clark
on the 6TH day of MAY 1972

This claim is 1500 feet long and 600 feet wide, and the point of
discovery is 400 feet from the SOUTH end and 1100 feet from the NORTH
end of this claim.

The general course of this claim is from NORTH to SOUTH

This claim is situated and located in the Summit
Mining District, in Final County, State of Ariz. /and its location monument is situated
in a ~~SOUTH~~ SOUTH 51°30' EAST Direction from the standard sec. cor. of secs. 24, 13, 18 & 19

T. 1 S. R. 13 & 14 E., G&SRM:
This is an amended location notice of the Dark Horse No. 2 lode mining claim which was located
and posted by J.E. Clark on the 22 day of December, 1955, and recorded in the office of the
Final County Recorder in Book 141 of Mines, at Page 271, on Dec. 24, 1955, to which reference
is hereby made.

This amended location notice is hereby made, posted, and recorded to include any and all
open ground which may exist as of this date within the boundaries of this lode claim as men-
tioned, also to correct errors contained in the description of said lode claim as per
the original notice.

Dated and posted on the ground the day and year first above written.

Witness: Charles W. Foster

For John S. or Mildred P. Clark
by John S. Clark

John S. Clark

I do hereby certify that the within named instrument was recorded at 671 912 Mrs. J. E. Clark
JUN 29 1972 at 8:00am Docket 671 912 FACE Records of Final County, Arizona
WITNESS my hand and official seal this day a year ago said.
446165 SOPHIE M. SMITH, Pinal County Recorder, by Jean Hoodman Deputy

(AMENDED LOCATION NOTICE)

LOCATION NOTICE

LODE MINING CLAIM

This mining claim, the name of which is the ASTONISHED
mining claim, was located by the undersigned John S. or Mildred P. Clark
on the 11TH day of JUNE 1972

This claim is 1500 feet long and 600 feet wide, and the point of
discovery is 350 feet from the NORTH end and 1150 feet from the SOUTH
end of this claim.

The general course of this claim is from NORTH to SOUTH

This claim is situated and located in the Summit
Mining District, in Pinal County, State of Ariz. /and its location monument is situated
in a SOUTH 23° 30' EAST Direction from the standard sec. cor. of secs. 24, 13, 18 & 19

T. 1 S., R. 13 & 14 E., GSSBM:

This is an amended location notice of the Astonished lode mining claim which was located
and posted by J.F. Clark on the 1st day of October 1959, and recorded in the office of the
Pinal County Recorder in Book 243 of Mines, at Page 230, on Oct. 1st 1959, to which reference
is hereby made.

This amended location notice is hereby made, posted, and recorded to include any and all
open ground which may exist as of this date within the boundaries of this lode claim as monu-
mented, also to correct errors contained in the description of said lode claim as per
the original notice.

Dated and posted on the ground the day and year first above written.

Witness: Charles W. Foster

For John S. or Mildred P. Clark
by John S. Clark

John S. Clark

I do hereby certify that the within named instrument was recorded at 4:00 pm on JUN 29 1972 at 8:00 am in DOCKET 671 PAGE 913 by Mrs. J. E. Clark
446166 SOPHIE M. SMITH, Pinal County Recorder, by Jean Goodman deputy

(AMENDED LOCATION NOTICE)

LOCATION NOTICE

LODE MINING CLAIM

This mining claim, the name of which is the FAIRVIEW
mining claim, was located by the undersigned John S. or Mildred P. Clark
on the 8TH day of APRIL 1972

This claim is 1500 feet long and 600 feet wide, and the point of
discovery is 200 feet from the WEST end and 1300 feet from the
EAST end of this claim.

The general course of this claim is from EAST to WEST

This claim is situated and located in the Summit
Mining District, in Pinal County, State of Ariz. /and its location monument is situated
about 1175 FT

in a SOUTH 5°30' EAST Direction from the standard sec. cor. of secs. 24, 13, 18 & 19

T. 1 S. R. 13 & 14 E., G&SRM; mining claim which was located and posted by J. E. Clark
on the first day of October 1959, and recorded in the office of the Pinal County Recorder in Book
249 of Vines, at Page 227, on October First, 1959, to which reference is hereby made.

This amended location notice is hereby made, posted, and recorded to include any and all
open ground which may exist as of this date within the boundaries of this lode claim as
monumented, also to correct errors contained in the description of said lode claim as per
the original notice.

Dated and posted on the ground the day and year first above written.

Witness: Sam Rhodes

For John S. or Mildred P. Clark
by John S. Clark

I do hereby certify that the within named instrument was recorded at request of Mr. J. E. Clark
JUN 29 1972 at 8:00am BOOK 671 PAGE 914 Records of Pinal County, Arizona
Witness my hand and official seal on this day & year aforesaid.
446167 SOPHIE M. SMITH, Pinal County Recorder, Ariz. Jan Goodman Deputy

LOCATION NOTICE

LODE MINING CLAIM

This mining claim, the name of which is the FAIRVIEW No 1
mining claim, was located by the undersigned John S. or Mildred P. Clark
on the 8TH day of APRIL 1972

This claim is 1500 feet long and 600 feet wide, and the point of
discovery is 100 feet from the EAST end and 1100 feet from the WEST
end of this claim.

The general course of this claim is from EAST to WEST

This claim is situated and located in the Summit
Mining District, in Pinal County, State of Ariz. /and its location monument is situated
in a SOUTH 41° WEST Direction from the standard sec. cor. of secs. 24, 23, 18 & 19

T. 1 S., R. 13 E., 14 E., G&SRM:

This is an amended location notice of the fairview No. 1 lode mining claim which was located
and posted by J.E. Clark on the 1st day of October, 1959, and recorded in the office of the
Pinal County Recorder in Book 243 of Mines, at Page 228, on October 1, 1959 to which reference
is hereby made.

This amended location notice is hereby made, posted, and recorded to include any and all
ore ground which may exist as of this date within the boundaries of this lode claim as monu-
mented, also to correct errors contained in the description of said lode claim as per
the original notice.

Dated and posted on the ground the day and year first above written.

Witness Sam Rhodes

For John S. or Mildred P. Clark
by John S. Clark

John S. Clark

I do hereby certify that the within and foregoing was
JUN 29 1972 at 8:10 am DOCKET 671 PAGE 915
446168
Mrs. J. E. Clark
Jean Goodman

(AMENDED LOCATION NOTICE)

LOCATION NOTICE

LODE MINING CLAIM

This mining claim, the name of which is the FAIRVIEW No. 2
mining claim, was located by the undersigned John S. or Mildred P. Clark

on the 8TH day of APRIL 1972

This claim is 1500 feet long and 600 feet wide, and the point of
discovery is 50 feet from the EAST end and 1450 feet from the WEST
end of this claim.

The general course of this claim is from EAST to WEST

This claim is situated and located in the Summit
Mining District, in Pinal County, State of Ariz. /and its location monument is situated
in a SOUTH 7° WEST Direction from the standard sec. cor. of secs. 24, 13, 18 & 19

T. 13 N. R. 13 & 14 E. G&SRM:

This is an amended location notice of the FairView No. 2 lode mining claim which was located
and posted by J.E. Clark on the 1st day of October, 1959, and recorded in the office of the
Pinal County Recorder in Book 243 of Mines, at Page 229, on Oct. 1, 1959, to which reference
is hereby made.

This amended location notice is hereby made, posted, and recorded to include any and all
ore ground which may exist as of this date within the boundaries of this lode claim as monu-
mented, also to correct errors contained in the description of said lode claim as per
the original notice.

Dated and posted on the ground the day and year first above written.

Witness: Sam Rhodes

For John S. or Mildred P. Clark
by John S. Clark

John S. Clark

I do hereby certify that the within named instrument was filed at Pinal County, Arizona
JUN 29 1972 at 8:00am Docket DOCKET 671 PAGE 916
WITNESS my hand and official seal this day and year aforesaid.
446169 SOPHIE M. SMITH, Pinal County Recorder, By Jean Goodman Deputy
Mrs. J. E. Clark

(AMENDED LOCATION NOTICE)

LOCATION NOTICE

LODE MINING CLAIM

This mining claim, the name of which is the R. CROSS
mining claim, was located by the undersigned John S. or Mildred P. Clark
on the 8TH day of APRIL 1972

This claim is 1500 feet long and 600 feet wide, and the point of
discovery is 400 feet from the WEST end and 1100 feet from the EAST
end of this claim.

The general course of this claim is from EAST to WEST

This claim is situated and located in the Summit
Mining District, in Pinal County, State of Ariz. /and its location monument is situated
in a South 27° East Direction from the standard sec. cor. of secs. 24, 13, 18 & 19

T. 1 S. 2, 13 & 14 E., GSESM
This is an amended location notice of the R-Cross lode mining claim which was located
and posted by J.E.Clark on the 27 day of September 1939, and recorded in the office of the
Pinal County Recorder in Book 53 of Mines, at Page 162, on Dec. 21, 1944, to which reference
is hereby made.

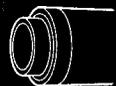
This amended location notice is hereby made, posted, and recorded to include any and all
open ground which may exist as of this date within the boundaries of the lode claim as monu-
mented, also to correct errors contained in the description of said lode claim as per
the original notice.

Dated and posted on the ground the day and year first above written.

Witness: Sam Rhodes

For John S. or Mildred P. Clark
by John S. Clark
John S. Clark

I hereby certify that the within named instrument was recorded at 4:00 pm on JUN 29 1972 at 8:00 am Docket DOCKET 671 PAGE 917
446170
SOPHIE M. SMITH, Pinal County Recorder, by Mrs J. E. Clark
Jean Goodman



WATER SEWAGE IRRIGATION DRAINS
 PROCESS LIQUIDS PHONE & POWER CABLES
 WET & DRY HEATING/COOLING VENTS

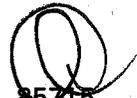
R. M. BARNHILL

Friday 1⁴⁵

L-1 425 ft Tgr

L-2 450 ft
 a 410 TD
 410-450 Tgr

foot velol R Franks, 9/13



Home: 7081 Katchina Court, Tucson, Ariz. 85715
 Phone: 602-885-0366
 Office: 111 W. Osborn Rd., Suite 217, Phoenix, Ariz. 85011
 Phone: 602-264-4494

Front End alignment ✓

so, Howard will
checkup.

Ch all brackets & bring ✓

Switch tires & balance. ✓

Repair inside dome light ✓

Repack wheel bearings ✓

Leak, oil change ✓

Ch & wintering cooling - heating system. ✓

Steam clean engine ✓

Wash inside & out.

Need bolt on right side mirror. ✓

Move gas water can brackets next to col w/
tire inhibitors. ✓

Headlight adj. ✓

AMERICAN ANALYTICAL and RESEARCH LABORATORIES

ASSAYERS · CHEMISTS · METALLURGISTS

TUCSON, ARIZONA 85713

SAMPLE SUBMITTED BY W. D. JELL ; ASARCO Expl - Tucson DATE Sept. 7, 1973

SINGLE ANALYSIS GEOCHEM

VERIFIED ANALYSIS

UMPIRE QUALITY

SAMPLE	Au	Ag	Cu	Pb	Zn	Ox Cu	Fe	INSOL	AL ₂ O ₃	SiO ₂	Mo	S.	
L-1			✓	✓	✓						✓		Returns
L-2			✓	✓	✓						✓		Rejects
L-1A			✓	✓	-						✓		✓ Pulp
Brevolar Exam. Ludburg, drill holes													
L-1	Fresh biotite rich Schultze gr. minor Fe-oxidized streaks or gels as small veinlets(?) No Cu oxide or sulfide noted but cutting from around drill holes.												
L-1A	Fresh biotite rich (diatric phase) of Schultze. One fragment shows wh green elongated feldspar. Cutting in and plastic rock left on bank - 3 pil out of four which had large sample shovelled out of them.												
L-2	Mainly Early Volcanics w/ basal Td schistosity.												
in Saddle	Road cut under Td: sample sample scanned.												
	1) Early Volcanics bleached & spotted w/ mag. diorite.												

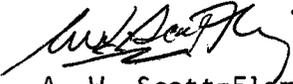
AMERICAN SMELTING AND REFINING COMPANY
TUCSON ARIZONA

August 22, 1974

TO: J. D. Sell
FROM: A. W. Scott-Fleming

Clark Option
Pinal County, Arizona

Attached are the assay results of the 1973-74 assessment work on the Clark Option. Hole AA-1 was deepened from 120 to 230 feet by rotary air hammer by Lester R. Cox of the L.W.D. Exploration and Mining Company on Thursday, August 8, 1974.


A. W. Scott-Fleming

AWS:1b
Attachs.

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

August 6, 1973

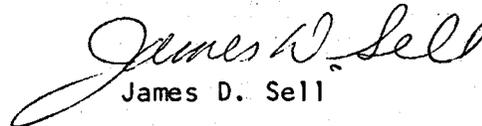
FILE MEMORANDUM

Rotary Sample Assays
Drill Hole AA-1
American Mine Area
Superior East Project
Pinal County, Arizona

ASARCO has completed an assessment drill hole in the American Mine Area (Clark Option) for the 1972-1973 year. The hole was drilled by L. R. Cox of the L. W. D. Exploration and Mining Corporation.

A copy of the drilling invoice is attached.

Also attached is a copy of the geochemical assays for copper, zinc, and molybdenum values in the Tertiary Schultze Granite.


James D. Sell

JDS:lb
Attachs.

cc: RBCrist - w/attachs.

PURCHASE ORDER

L.W.D. Exploration & Mining Corp.
 P.O. Box 739, Miami Ariz

o. 2974 *copy Jim Sells*

Date 7-25 1973

To ASA, P.C.O.

For Assessment work

Address P.O. Box 5747 Tucson Ariz 85703

Date Required _____

Ship To _____

How Ship _____

Address _____

Terms _____

QUANTITY ORDERED	QUANTITY RECEIVED	PLEASE SUPPLY ITEMS LISTED BELOW	PRICE		UNIT
1		Drilling assessment work			
2		120 feet of 5" hole @ \$1.50 a foot	7	20.00	
3		6 feet of 6" casing cemented in		20.00	
4		total	\$	200.00	
5		work located section Summit area			
6		Hole # AA-1 0 to 120 feet			
7					
8					
9					
10					
11		Thanks -			
12					
13					
14		Lester K Cox.			
15		president of			
16		L.W.D. Exploration			
17					
18		James D Sells			
19		OK for Payment			
20		Clark Ophim - American Minerals			
21		MA-0010 521-25			
22		Drill Hole AA-1			

IMPORTANT

ORDER NUMBER MUST APPEAR ON ALL INVOICES, PACKAGES, ETC.
 PLEASE NOTIFY US IMMEDIATELY IF YOU ARE UNABLE TO SHIP COMPLETE ORDER BY DATE SPECIFIED.

Please Send

Copies Of Your Invoice With Original Bill Of Lading

Purchasing Agent

3226 East 46th Street

INVOICE
No. 9535

Phone 624-0049

AMERICAN ANALYTICAL and RESEARCH LABORATORIES

ASSAYERS - CHEMISTS - METALLURGISTS

TUCSON, ARIZONA 85713

SAMPLE SUBMITTED BY American Smelting & Refining Company

DATE July 27, 1973

SAMPLE MARKED	ANALYSIS	CHARGES
<p>AA - 1 — AA - 8 6 Samples</p> <p><i>Drill Hole AA-1 American Mine Area Clark Option Pinal County, Arizona</i></p>	Geo-Chem Cu, Zn, Mo	\$ 32.00
	Geo-Chem Preparation	4.00
	Total	\$ 36.00

A. D. C.

AUG 1 1973

AMERICAN ANALYTICAL and RESEARCH LABORATORIES

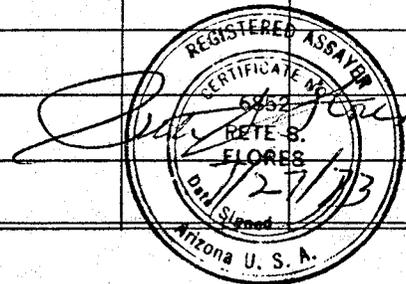
ASSAYERS - CHEMISTS - METALLURGISTS

TUCSON, ARIZONA 85713

SAMPLE SUBMITTED BY American Smelting & Refining Company

DATE July 27, 1973

SAMPLE MARKED	GOLD OZ./TON	SILVER OZ./TON	PPM COPPER	PERCENT LEAD	PPM ZINC	PPM MOLYBDENUM	PERCENT IRON	Depth
AA - 1			36		31	1		0-15
AA - 2			17		20	1		15-30
AA - 3			22		20	1		30-45
AA - 4			11		16	2		45-60
AA - 5			18		23	4		60-75
AA - 6			20		18	2		75-90
AA - 7			17		16	3		90-105
AA - 8			16		12	2		105-120
<i>Drill Hole AA-1</i>			<i>American Mine Area</i>			<i>(Clark Option)</i>		
				A. D. C.				
				AUG 1 1973				



Invoice # 9535

CHARGES \$ 32.00

AMERICAN SMELTING & REFINING CO.
GEOLOGIC LOG

PROPERTY Clark Option
MINING DISTRICT Sutton Summit
COUNTY, STATE Pinal Co., Arizona

DRILL HOLE AA-1
FINAL DEPTH 230 feet.

PAGE 1 of 1
DATE 7-23-73 & 8-2-74.
LOG BY JW Bell

DEPTH		ROCK	MINERALIZATION	ALTERATION	REMARKS
FROM	TO				
Surface	120	Schultz granite	Minor iron oxides	Minor greenish-white clay.	Gouge in sample 75'-90'
					Drilled by L.R. Cox, air-hammer, 5" hole. 6 feet of 6" casing, welded narrow cap. (7-23-73)
120	230	Schultz granite	Minor iron oxides	Minor greenish-white clay.	Increased geochem values 155'-195'
					Drilled by L.R. Cox, air-hammer, 5" hole. (8-2-74).
					See separate AARL report sheets for geochemical analysis of sludge samples.
					Location ± 120 feet NW of declined shaft - terminal entrance of American Mine
					(± 110' E & 700' S of NW section corner of Sec. 19, T15, R14E.)

AMERICAN SMELTING AND REFINING COMPANY
TUCSON ARIZONA

August 6, 1974

TO: W. L. Kurtz

FROM: J. D. Sell

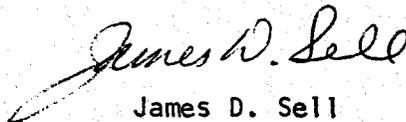
Lindburg-Grayback Claims
Hutton Peak Area
Pinal-Gila Counties, Arizona

Robert Franks of Arizona Mining Company confirmed that Phelps Dodge has, as of July 30, 1974, secured some type of an option on the Lindburg and Grayback claims presently under option by Paul Kayser. Apparently three geologists have been in the area the past several months from the Nevada (Boulder City) exploration unit, headed by Mr. Elmer Winters.

The Longyear rig is shut down at a depth just under 4900 feet and PD has assumed the responsibility until they have looked at the core and decide to terminate the hole or go deeper.

The Lindburg group lies east and north of the ASARCO LD claims and the Clark claims optioned by ASARCO and west of the Crenshaw patent claims owned by Inspiration. The Grayback claims lie east of the Crenshaw patent claims. As far as known, these two groups are not connected.

Inspiration drilled 7 holes on the Grayback claims, three of which were in excess of 950 feet with the deepest at 1556 feet. All seven tested near or through the Pinal schist-Schultze granite contact from the schist side. See the Gibson Mine Area report, J. D. Sell, Sept. 12, 1972, for available info on the Grayback area. Although a few assays and log notes suggested intriguing values and alteration, the overall pattern did not suggest a viable target within the area drilled.


James D. Sell

JDS:1b

AMERICAN SMELTING AND REFINING COMPANY
TUCSON ARIZONA

September 3, 1974

FILE MEMORANDUM

Drill Hole L-2
Arizona Mining Company
Adjacent to Superior East
Project, Pinal Co., Arizona

The deep hole drilled by Arizona Mining Company in the NW1/4 Sec. 24, T1S, R13E, has been terminated at 4860 feet (verbal info., worker). Three holes have been started on the same pad and the contact information gleaned is:

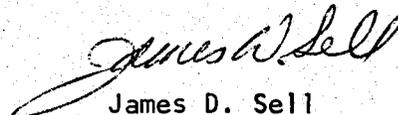
0-410 Dacite
410-450 Earlier Volcanic
450-4860 Schultze Granite

Information gleaned is that the Schultze is the "hardest, barrenest granite I've ever drilled...".

Five samples have been collected and geochemmed from the drill site area. PPM values follow:

<u>Sample</u>	<u>Cu</u>	<u>Pb</u>	<u>Zn</u>	<u>Mo</u>	<u>Comment - Collection date</u>
L-2	10	20	81	7	Cuttings @ 450± in Tcv., Sept. 1973
L-2-2	31	770	59	10	Cuttings @ 900 ft. in Tgr., Jan. 1974
L-2-2A	36	42	44	<1	Sludge from high(?) in hole
L-2-3	26	41	98	<1	Sludge from deep(?) in hole
L-2-4	25	31	95	3	Core chips, fresh Tgr. } Aug. 1974

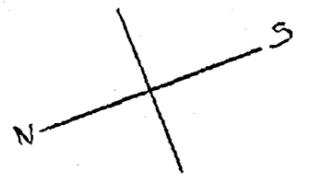
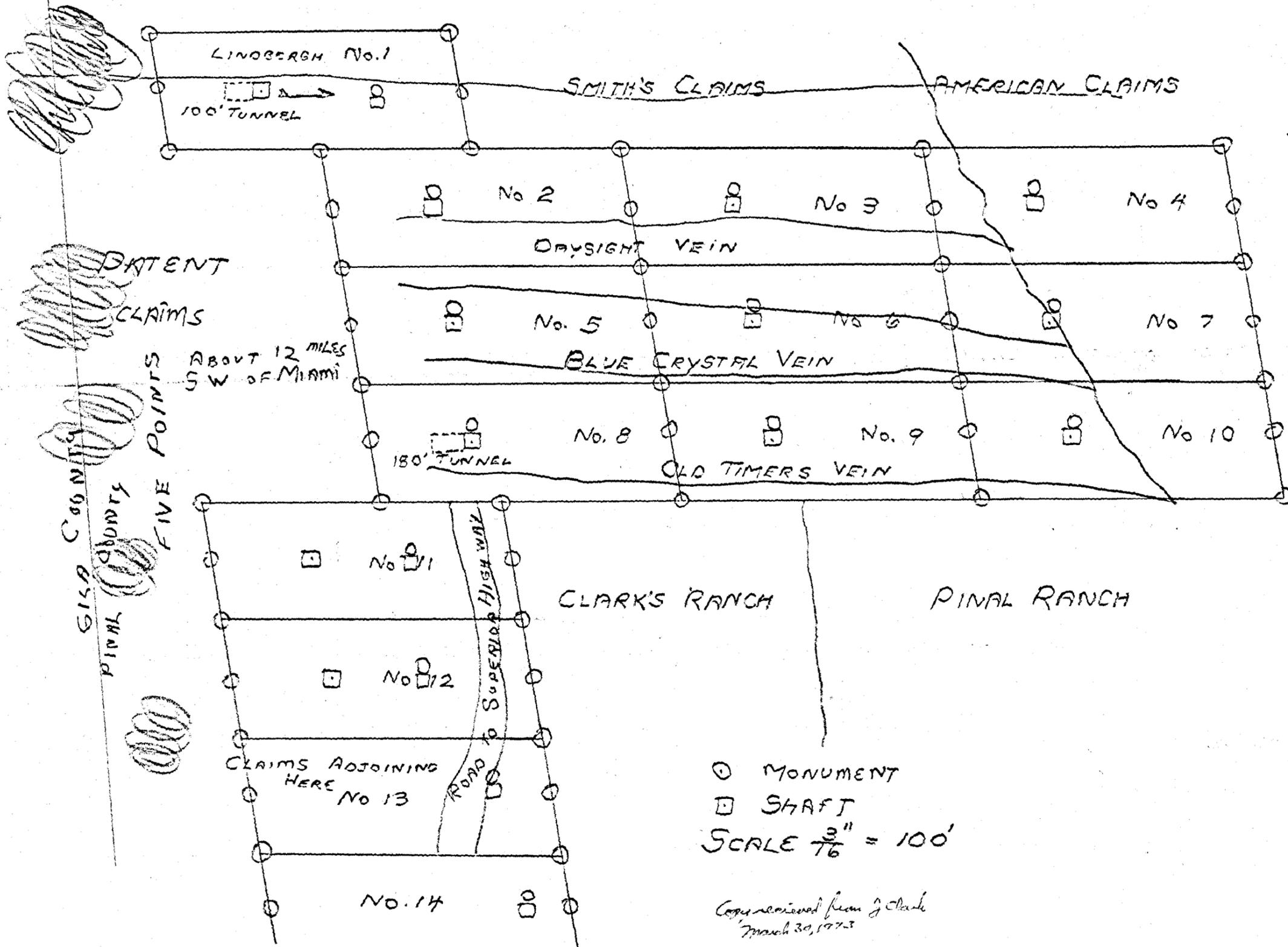
The last four samples of granite chips or cuttings would suggest a confirmation of the rumors of low values by the various workers on the project.


James D. Sell

JDS:1b

THE LINDBERGH CLAIMS

ABOUT 3 MILES WEST
OF GIBSON



TO EAST
ABOUT 9 MILES FROM
MAGMA COOPER CO

PATENT
CLAIMS

ABOUT 12 MILES
SW OF MIAMI

CLAIMS ADJOINING
HERE NO 13

○ MONUMENT
□ SHAFT
SCALE $\frac{3}{16}'' = 100'$

Copy received from J. Clark
March 30, 1973

June 7, 1973

Job No. 73001

Boundary Description

of

"COMPROMISE LINE"

An alignment or boundary established by agreement between two firms having mining interests in Sections 13 and 24, Township 1 South, Range 13 East, and in Sections 18 and 19, Township 1 South, Range 14 East, of the Gila and Salt River Meridian, Pinal County, Arizona said boundary line being more particularly described as follows:

Beginning at the NW corner of the Lindburg No. 1 Extension lode, identical with the Southwest one-sixteenth corner of Sec. 13, T. 1 S., R. 13 E., also referred to as the center of the SW $\frac{1}{4}$ Sec. 13 or as the Northwest Cor. of the SE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 13; thence S. 0° 08' 54" E. along the north-south sixteenth-section line and the westerly end-lines of the Lindburg No. 1 Extension lode, the Lindburg No. 15 lode, and the Lindburg No. 16 lode, a distance of 1318.07 feet to the iron pin marking the West one-sixteenth corner on the south line of Sec. 13, also referred to as the Southwest Cor. of the SE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 13; thence S. 0° 08' 54" E. along the westerly end-line of the Lindburg No. 16 lode a distance of 481.93 feet to the Southwest corner thereof, said corner also being the beginning of the east-west portion of this Compromise Line; thence S. 89° 53' E. paralleling the northerly boundary of the SE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 13, and running along the southerly side-line of the Lindburg No. 16 lode and the northerly end-lines of the LD No. 14 and LD No. 15 lodes a distance of 1330 feet to the point of intersection with the southwesterly end-line of the Lindburg No. 7 lode, from which point the $\frac{1}{4}$ -section cor. of Secs. 13 and 24 bears N. 0° 42' 30" W., 482.0 feet distant; thence S. 31° 47' E. along said southwesterly end-line 224 feet to the most southerly corner of said Lindburg No. 7 lode; thence N. 58° 36' E. along the southeasterly side-line of said Lindburg No. 7 lode a distance of 625 feet to an angle-point in the Compromise Line, said point being at the intersection of the southeasterly side-line of the Lindburg No. 7 lode with the northerly end-line of the LD No. 17 lode, and from which point the $\frac{1}{4}$ -section cor. of Secs. 13 and 24 bears N. 62° 08' 30" W., 743.0 ft. dist.; thence S. 89° 55' 21" E. along the northerly end-lines of the LD No. 17 lode and the LD No. 22 lode a distance of 525 feet to the northeast corner of said LD No. 22 lode, established on the westerly end-line of the Fairview No. 1 lode of the American Group of lode claims; thence S. 89° 55' 21" E., 142 feet to a point 50.0 feet DUE SOUTH of the location monument of the BUCK #2 lode; thence S. 89° 55' 21" E., 1658 feet to the point of intersection of the Compromise Line with the southeasterly side-line of the Lindburg No. 3 lode, from which point the cor. of Secs. 13, 18, 19, and 24 bears N. 44° 42' W., 487.7 feet distant; thence S. 89° 55' 21" E., 1695 feet to the end point of the Compromise Line, which is its point of intersection with the easterly side-line of the Dark Horse No. 2 lode, from which point said cor. of Secs. 13, 18, 19, and 24 bears N. 80° 17' W., 2068.1 ft. dist.



Boundary Description

of

"COMPROMISE LINE"

An alignment or boundary established by agreement between two firms having mining interests in Sections 13 and 24, Township 1 South, Range 13 East, and in Sections 18 and 19, Township 1 South, Range 14 East, of the Gila and Salt River Meridian, Pinal County, Arizona said boundary line being more particularly described as follows:

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OFFICE OF THE SECRETARY

New York, N.Y., March 28, 1974

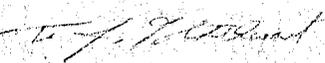
Mr. J. J. Collins

The following is an extract from the minutes of the Advisory Committee Meeting held March 20, 1974:

Exploration Authorization #0050-01
Clark Option
Pinal County, Arizona

Our Clark Option consists of 8 claims adjacent to our Rawhide Project area. Company Geologists believe that we should retain these claims while our exploration in the Superior East-Rawhide areas continues. Second-year payments total \$1,920 and \$1,080 will be needed to complete the assessment work. A supplemental exploration authorization in the amount of \$3,000 is requested for assessment work and 2nd year land payments.

There was approved a supplemental exploration authorization in the amount of \$3,000 for assessment work and 2nd year land payments at the Clark Option, Pinal County, Arizona.



F. J. Goldthwait
Administrative Assistant

EJG:lm
Enc.
FGHamrick w/enc.
HQStringham (2) w/enc.
WLKurtz
ADCoumides w/enc.
JHCourtright
RBCrist
JDSell

AMERICAN SMELTING AND REFINING COMPANY
TUCSON ARIZONA

May 23, 1974

MEMORANDUM FOR: JAMES D. SELL

LINDBERG GROUP
PAUL KYSER
SUPERIOR EAST
MAY 17, 1974

Paul Kyser called and asked if we would be interested in the Lindberg Group.

He has drilled to 4200' - still in granite. Expects to go to 4500' - low cu values.

Prior to any commitment we should look at core.

Told Kyser that we had no great interest in the area but we would like to look at the core.

He will let us know if and when it is available.



R.B. Crist

RBC:vmh



AMERICAN SMELTING AND REFINING COMPANY
EXPLORATION DEPARTMENT
SOUTHWESTERN UNITED STATES DIVISION
P. O. BOX 5747, TUCSON, ARIZONA 85703

R. B. CRIST
PROPERTY MANAGER

November 27, 1974

1150 NORTH 7TH AVENUE
TELEPHONE 602-792-3010

Mr. T.C. Osborne
American Smelting and Refining Co.
120 Broadway
New York, New York 10005

Clark Option
Pinal County, Arizona

Dear Mr. Osborne:

Both Mr. Kurtz and Mr. Sell concur that we should terminate our Clark Option. I have therefore notified Mrs. Mildred P. Clark that we are terminating effective December 1, 1974.

The following factual information has been forwarded to her as required under the Agreement:

1. Claim Map of American Group by the registered mineral surveyor, Travis L. Gant
2. 1974 Affidavit of Labor
3. Log and Assay Data of Drill Hole AA-1.

Would you please execute a Termination Notice to Mrs. Clark based on the following:

"In reference to our Mining Option Agreement dated December 1, 1974, please be advised that the American Smelting and Refining Company hereby cancels and terminates the Agreement in its entirety, such cancellation to be effective as of December 1, 1974."

Sincerely,


R.B. Crist

RBC:vmh
cc: W.L.Kurtz
J.D.Sell 

TAB

Geophysical
↓
Hole Surveys

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

October 3, 1972

Mr. C. K. Moss
ASARCO
Salt Lake City Office

Inspiration I.P.
Rawhide Area
Pinal County, Arizona

Calvin:

Enclosed is an I.P. report by an Inspiration (I think he had one) geophysicist that outlines an I.P. anomaly at plus 3,000' beneath the dacite and Whitetail conglomerate.

Drill hole A0F-1 intersected very weak (less than 0.5% pyrite) mineralization in diabase and Pinal schist.

Any comments on the validity of this "anomaly"? Please return report.

W. L. Kurtz
W. L. Kurtz *W/L*

WLK:lad
Enc.

cc; JHCourtright
JDSeil 

EXPLORATION SERVICES DIVISION

3422 SOUTH 700 WEST
SALT LAKE CITY, UTAH 84119

October 25, 1972

Mr. W. L. Kurtz
Tucson Office

INSPIRATION I. P.
RAWHIDE AREA
PINAL COUNTY, ARIZONA

Dear Bill:

I have been absent from the office for a number of weeks, hence the delay in reply to your letter of October 3.

In his evaluation of the I. P. work, Tom Conto assumes that the source of the response is sulfides within premineral rock at plus 3000' depth. He thereafter develops the comparative favorability for drilling within different portions of the anomaly. He concludes with the recommendation that a new hole, spotted in a more favorable location with respect to I. P. , could expect to encounter at least twice the sulfide concentration as at the locations of previous holes. (Two previous holes did not reach premineral rock, and the question now stands as to how to further test the I. P. indications, i. e. , should an "unsuccessful" hole be deepened or should a hole be spotted at a new location.)

I agree with Conto's logic in regard to his "comparative" evaluation of the data based on the assumption of a source in premineral rock at depth.

However, I question whether the source is actually in the premineral rock. If the drilling decision were mine, I would look first into the possibility of running an I. P. log in one of the holes which has been drilled to determine whether I. P. response of the postmineral rocks would account for the values obtained in the surface surveys.

Yours very truly,



C. K. MOSS

CKM:am
Enc: Conto report

cc: J. H. Courtright
J. D. Sell ✓

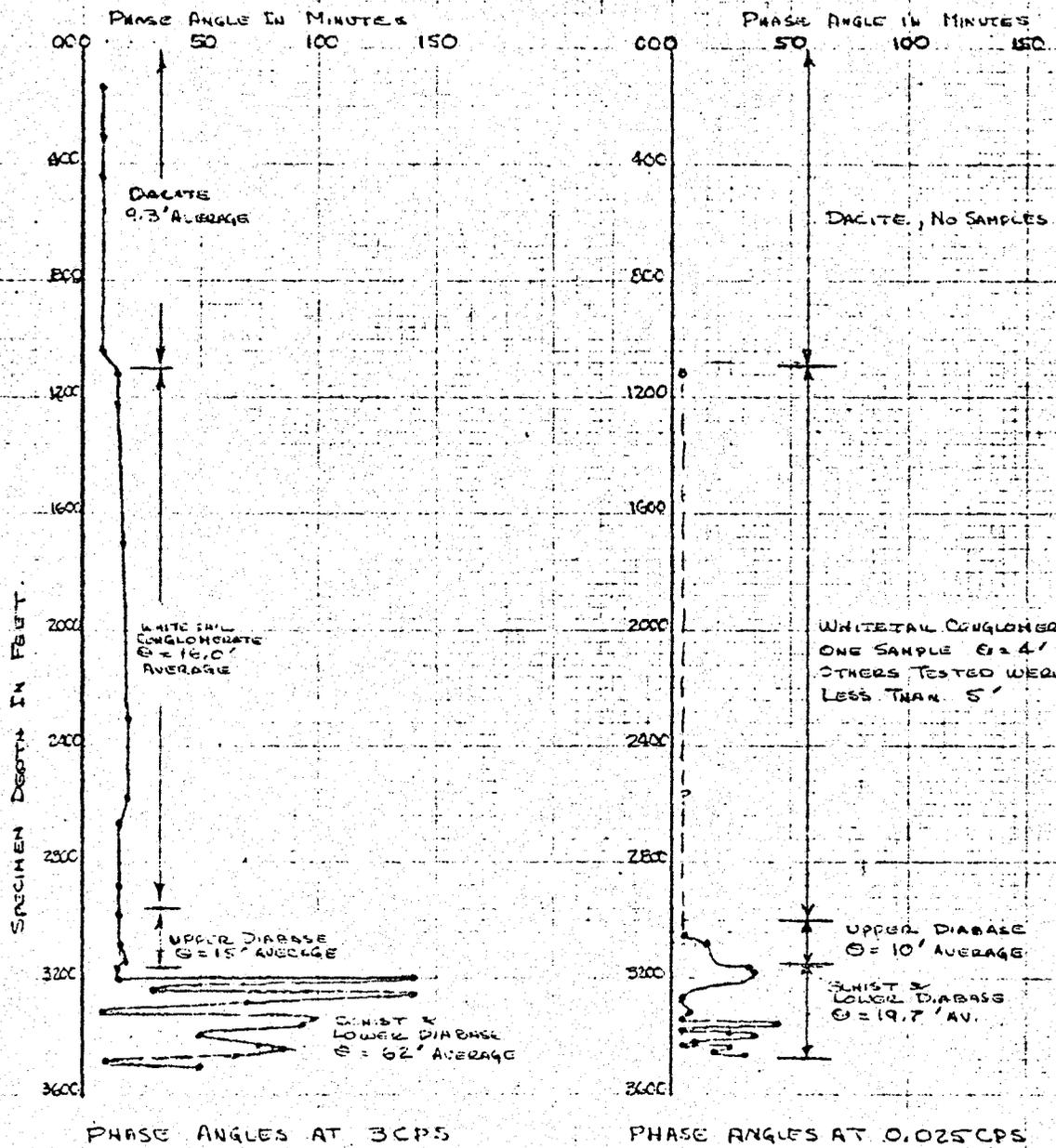


FIG. 4 CORE SAMPLE TESTS ON CORE
FROM
CAK FLAT. No. 1 D.D.H.

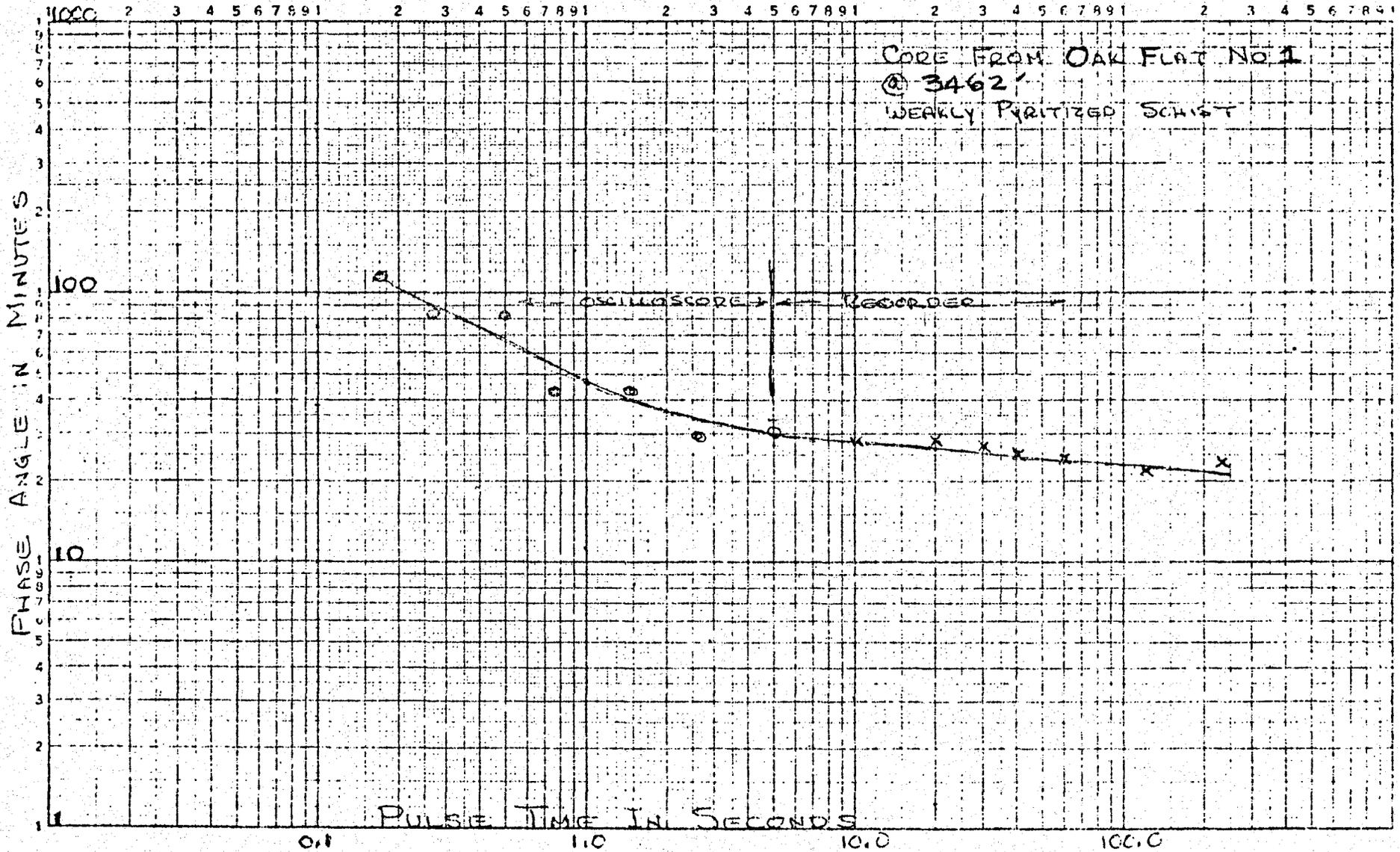


FIG. 5 PHASE ANGLE VS CHARGE TIME - OAK FLAT No 1 CORE



AMERICAN SMELTING AND REFINING COMPANY
SOUTHWESTERN EXPLORATION DIVISION
P. O. BOX 5747, TUCSON, ARIZONA 85703

1150 NORTH 7TH AVENUE
TELEPHONE 602-792-3010

September 4, 1973

ph. 213-426-3921

Mr. Howard Pitt
Eastman Oil Well Survey Co.
P. O. Box 408
Long Beach, California 90801

Dear Howard:

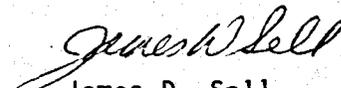
Your computer run survey sheet has arrived and, like you, I say your preliminary results help back up the computer's work.

I have discussed the idea of placing an oriented wedge in that same hole with the Boyles Brothers drill foreman and, though he has done such work in the past, he believes having you there with the Boyles crew as helpers will make the job smoother.

We will probably be moving on in several weeks and plan to core out from under the casing shoe with NC wireline for about ten feet and then place the wedge. Is this procedure OK with you? Also, what time limit can we expect in notifying you? We would call you about the time they are terminating the other hole and they should have the new hole cleaned out in 3-4 days. Would that be sufficient time notification on your part?

Having the drawings will help show how we hope to wedge off also. Should there be any questions, please don't hesitate to call.

Sincerely,


James D. Sell

JDS:lb

P.O. Box 170
Claypool, Ariz 85532
Sept. 19, 1973

Mr. Howard Pitt
Eastman Whipstock, Inc.
P.O. Box 40X
Long Beach, Calif. 90801

Dear Howard:

Today I shipped four cartons containing the
Geolograph & accessory parts to Midland Texas.
The shipment was prepaid & insured for a
total cost of \$26⁷⁵ on Bushill # 906 34223 b,
~~505473~~ → Greyhound Express.

Total time used by the Geolograph was
thirtysix (36) days.

Please bill through the Tucson office for
prompt attention.

Thank you very much for the service.

Sincerely,

James W. B. C.



EASTMAN WHIPSTOCK, INC. PO BOX 14609 HOUSTON, TEXAS 77021 / CABLE ADDRESS: EASTCO

(213) 426-3921
P. O. BOX 408
LONG BEACH, CALIF. 90801

Mr. James Sell
American Smelting And Refining Company
Box. 190
Claypool, Ariz. 85532

Jim:

Got your note about the Star Recorder. Thanks for taking care of getting it shipped in.

I billed you for 30 days, you said you used it 36, the rest were knocked off to cover the cost of shipping it to Midland. The rate on that machine is \$ 4.80 per day, so that makes \$ 28.80 to cover the Greyhound bill (and 2.05 left over for an 8 pack, or maybe just a 7 pack). I didn't make this clear on the bill, it would just confuse some people who put complete "law" in the price book, but I would appreciate it if you would be sure that your bosses know that I did it.

Thanx again for all your help.

Sincerely

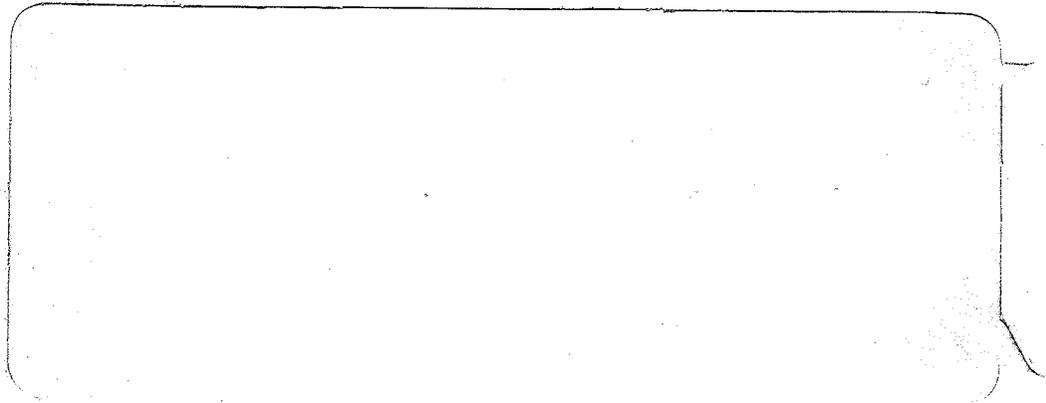
A handwritten signature in cursive script that reads "Howard".

Howard Pitt

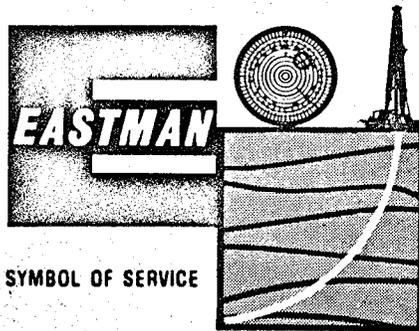
Rawhide Project



A PETROLANE COMPANY



EASTMAN WHIPSTOCK, INC.



**REPORT
of
SUB-SURFACE
DIRECTIONAL
SURVEY**

AMERICAN SMELTING AND REFINING COMPANY
COMPANY

A. I. - 1
WELL NAME

RAWHIDE, ARIZONA
LOCATION

JOB NUMBER

L 8- 4373

TYPE OF SURVEY

DIRECTIONAL GYRO

DATE

23 AUG 1973

SURVEY BY

LONG BEACH

OFFICE

AMERICAN SMELTING AND REFINING COMPANY

WELL NO. A.I.-1
 RAWHIDE, ARIZONA
 ELEVATION 4450

DATE 23 AUG '73

JOB NO. L8-4373

SECTION BEARING N8518W

TRUE NORTH START BEARING USED. FROM INFORMATION FURNISHED BY OPERATOR
 SURVEY BY: EASTMAN-WHIPSTOCK, INC. PAGE 1

<*><*>E<*><*>A<*><*>S<*><*>T<*><*>M<*><*>A<*><*>N<*><*>

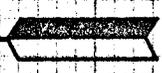
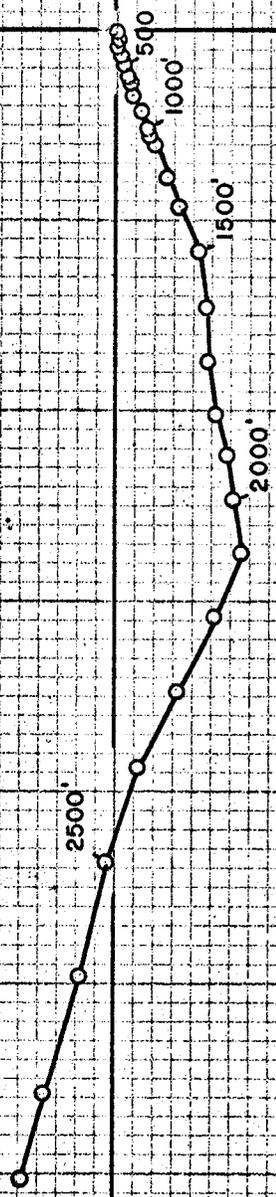
MEAS. DEPTH	DRIFT ANGLE	DRIFT DIR 'N	VERTICAL DEPTH	VERTICAL SUB-SEA	TOTAL SEC 'N	COURSE DEV.	TOTAL COORDINATES	
0			.00	-4450.00	0	.00	.000	.000
100	015	S8100W	100.00	-4350.00	0	.44	.07S	.43W
200	030	N3800W	200.00	-4250.00	1	.87	.62N	.97W
300	030	S7200W	299.99	-4150.01	2	.87	.35N	1.80W
400	030	S8300W	399.99	-4050.01	3	.87	.24N	2.66W
500	045	S6000W	499.98	-3950.02	4	1.31	.41S	3.80W
600	045	S6500W	599.97	-3850.03	5	1.31	.96S	4.98W
700	030	S4800W	699.97	-3750.03	5	.87	1.55S	5.63W
800	045	S7400W	799.96	-3650.04	7	1.31	1.91S	6.89W
900	100	S5800W	899.94	-3550.06	8	1.75	2.83S	8.37W
1000	100	S8200W	999.93	-3450.07	10	1.75	3.08S	10.10W
1100	030	S4500W	1099.92	-3350.08	10	.87	3.69S	10.72W
1200	045	S8300W	1199.92	-3250.08	12	1.31	3.85S	12.02W
1300	215	S7000W	1299.84	-3150.16	15	3.93	5.20S	15.70W
1400	145	S6500W	1399.79	-3050.21	18	3.05	6.49S	18.47W
1500	300	S6900W	1499.65	-2950.35	23	5.23	8.36S	23.36W
1600	325	S8200W	1599.48	-2850.52	28	5.96	9.19S	29.26W
1700	315	S8500W	1699.32	-2750.68	34	5.67	9.69S	34.91W
1800	300	S8200W	1799.18	-2650.82	39	5.23	10.41S	40.09W
1900	250	S7300W	1899.06	-2550.94	44	4.94	11.86S	44.82W
2000	230	S8400W	1998.96	-2451.04	48	4.36	12.32S	49.16W
2100	310	S8200W	2098.81	-2351.19	53	5.52	13.08S	54.63W
2200	430	N6800W	2198.50	-2251.50	61	7.85	10.14S	61.90W
2300	445	N6300W	2298.16	-2151.84	69	8.28	6.39S	69.28W
2400	520	N6400W	2397.72	-2052.28	77	9.29	2.31S	77.63W
2500	600	N7200W	2497.18	-1952.82	87	10.45	.92N	87.57W
2600	655	N7600W	2596.45	-1853.55	99	12.04	3.83N	99.26W
2700	730	N7400W	2695.59	-1754.41	112	13.05	7.43N	111.81W
2768	730	N7400W	2763.01	-1686.99	121	8.88	9.88N	120.34W

CLOSURE 120.74 N 85 18 W

28 STATIONS

STATION AT 2700' WAS WITH TOOL PARTIALLY EMBEDDED IN MUD.
 STATION AT 2768' IS PROJECTED.

DEPTH - 2768'
NORTH - 9.88'
WEST - 120.34'
CLOSURE - 120.74' N 85° 18' W



SCALE
1" = 20'

0' V.D. 0' M.D.

AMERICAN SMELTING AND REFINING COMPANY
A.1.-1

1"=100'

S 85° 18' E

N 85° 18' W

LB-4373

500' V.D. 500' M.D.

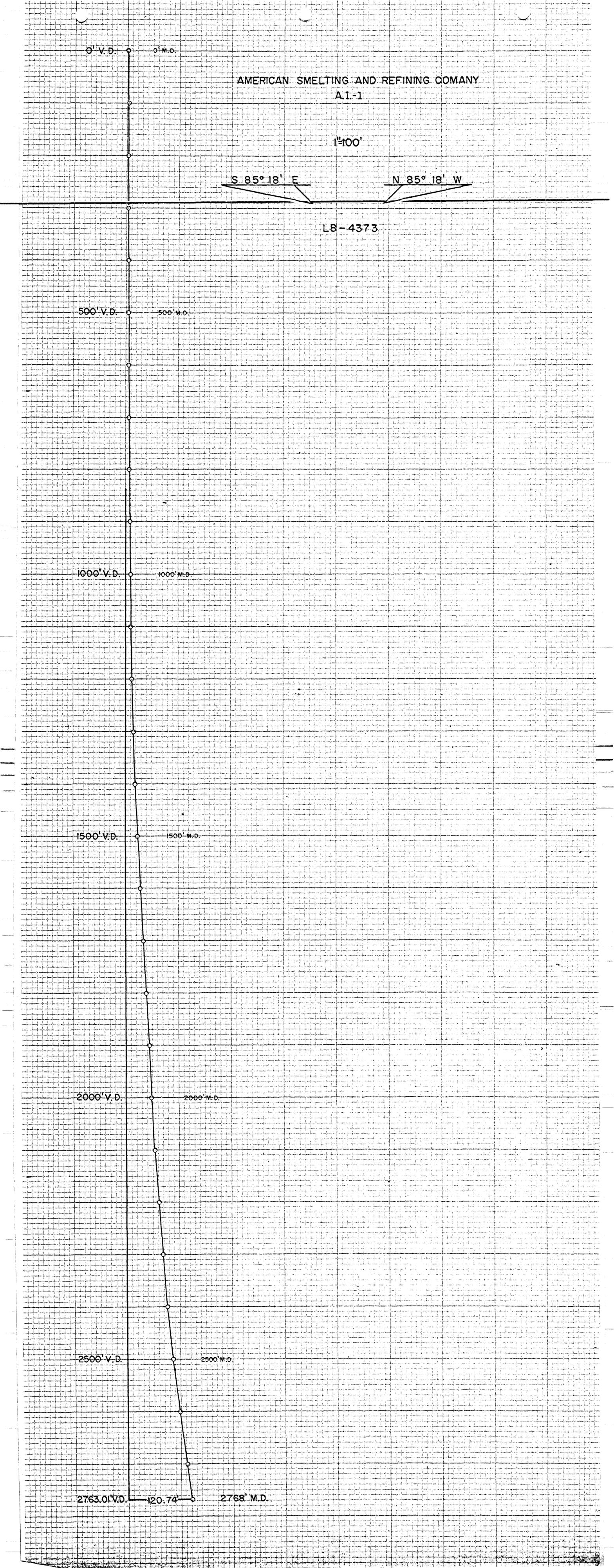
1000' V.D. 1000' M.D.

1500' V.D. 1500' M.D.

2000' V.D. 2000' M.D.

2500' V.D. 2500' M.D.

2763.01' V.D. 120.74' 2768' M.D.



Contact your nearest Eastman Whipstock representative

EASTMAN WHIPSTOCK, INC. — International Division
FOR EXPORT: P.O. BOX 14609, Houston, Texas
Phone: 713-748-2350 Cable: EASTCO

AUSTRALIA, Sale Victoria 3850
Eastman Directional Drilling
(Aust.) Pty., Ltd.
P.O. Box 256
Phone: 2334
Cable: WHIPSTOCK

BRAZIL, Rio de Janeiro
Planejamento e Execucao de
Vendas Ltda.
P.O. Box 1339
Phone: 221-3366/242-5493
Cable: PLANEV

BOLIVIA, La Paz
Equipo Petrolero Ltda.
Casill 1359
Phone: 10977
Cable: EQUIPETROL

CANADA, Calgary, Alberta
Eastman Oil Well Survey Co., Ltd.
Box 5780, Str D
Phone: 263-4161
Cable: WHIPSTOCK

CANADA, Edmonton, Alberta
Eastman Oil Well Survey Co., Ltd.
9705-56th Avenue
Phone: 434-9551
Cable: WHIPSTOCK

COLOMBIA, Bogota
Sudamericana De Perforaciones Y
Servicios, S.A.
Aptdo. Aereo: 7940
Phone: 438-316/414-621
Cable: SUPERISER

DUBAI, Arabian Gulf
P.O. Box 567
Dubai, United Arab Emirates
Arabian Gulf
Phone: 82250

ECUADOR, Quito
Sudamericana De Perforaciones Y
Servicios, S.A.
10 de Agosto 983, 4to. piso
Phone: 237320/236788
Cable: SUPERSER

ENGLAND, Gt. Yarmouth, Norfolk
Eurocenter
North River Road
Phone: 55287/55288
Cable: EASTCO

FORMOSA, Taipei, Taiwan
Elephant Oil Well Supply Co.
P.O. Box 1243
Phone: 379851/379852
Cable: ELEOILWELL, TAIPEI

FRANCE
Turboservice, S.A.
71, rue Guynemer
92-Issy-les-Moulineaux
Phone: 644-6440

GERMANY, Hanover
Eastman International Co. G.M.B.H.
P.O. Box 1160
Phone: 42016/420162
Cable: EASTCO

HOLLAND, Ijmuiden
Whipstock Europa, N.V.
Amperestraat, 29
Phone: 02550-13994

IRAN, Tehran
Iran-Pahnab Industrial Co.
P.O. Box 3222
Phone: 629148/825232
Cable: PAHNABINCO

NIGERIA, Lagos
Whipstock, Nigeria, Ltd.
P.O. Box 4413
Phone: 54065
Telex: 2138

SINGAPORE, 17, Singapore
c/o Sea Supply
Loyang Offshore Base
Kuala Loyang Road
Phone: 372000
Cable: OIASIA-SINGAPORE

TRINIDAD, Port of Spain
34 Sunset Drive
Bayshore
Trinidad, West Indies
Phone: 637-5249

EASTMAN WHIPSTOCK, INC. — Domestic Division
P.O. BOX 14609, Houston, Texas 77021
Phone: 713-748-2350

ABILENE, Texas 79604
P.O. Box 1035
Area Code 915-673-1847

ANCHORAGE, Alaska 99509
P.O. Box 4-1970
Area Code: 907-272-1032

BAKERSFIELD, Calif. 93302
Area Code: 805-327-8681

BILLINGS, Montana 59101
P.O. Box 278
Area Code: 406-252-4572

BROOKHAVEN, Miss. 39601
P.O. Box 43
Area Code: 601-833-7831

CASPER, Wyoming 82601
P.O. Box 1284
Area Code: 307-237-9880

CORPUS CHRISTI, Tex 78404
P.O. Box 4653
Area Code: 512-882-7812

DENVER, Colorado 80202
208 Patterson Building
17th & Welton
Area Code: 303-623-7151

FARMINGTON, N.M. 87401
P.O. Box 1004
Area Code: 505-325-5991

GREAT BEND, Kansas
Area Code: 316-793-9401

HOBBS, N.M. 88240
Area Code: 505-393-2811

HOUMA, Louisiana 70361
Area Code: 504-876-1028

HOUSTON, Texas 77021
P.O. Box 14609
Area Code: 714-748-2350

LAFAYETTE, Louisiana 70501
P.O. Box 51106 O.C.S
Area Code: 318-235-8501

LAKE CHARLES, Louisiana 70601
P.O. Box 5777
Area Code: 318-477-9484

LONG BEACH, Calif. 90801
P.O. Box 408
Area Code: 213-437-7451

MARION, Ohio 43302
P.O. Box 89
Area Code: 614-494-2627

MIDLAND, Texas 79701
P.O. Box 5577
Area Code: 915-563-1133

NEW IBERIA, Louisiana 70560
P.O. Box 1197
Area Code: 318-364-5866

NEW ORLEANS, Louisiana 70174
P.O. Box 6408 Str A
Area Code: 504-367-2711

OKLAHOMA CITY, Okla. 73109
P.O. Box 94938
Area Code: 405-672-1389

PENSACOLA, Florida
Area Code: 904-456-8728

ROOSEVELT, Utah 84066
59 S. 1st St. East
Area Code: 801-789-1905

TYLER, Texas 75705
P.O. Box 3533
Area Code: 214-597-6781

VENTURA, Calif. 93001
P.O. Box 1414
Area Code: 805-643-2553

VERNAL, Utah 84078
P.O. Box 239
Area Code: 801-789-1905

WICHITA FALLS, Texas 76310
P.O. Box 1124
Area Code: 817-692-4631

COMPLETE DIRECTIONAL DRILLING AND SUB-SURFACE SURVEY SERVICES — WORLDWIDE

EASTMAN WHIPSTOCK, INC.

AMERICAN SMELTING AND REFINING COMPANY
TUCSON ARIZONA

December 4, 1973

TO: W. L. Kurtz

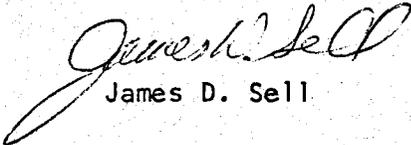
FROM: J. D. Sell

Survey of AI-1 Drill Hole
Rawhide Project
Pinal County, Arizona

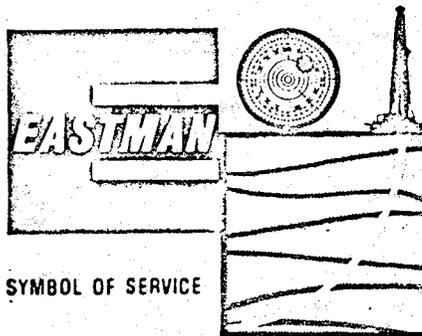
The completed survey of the ASARCO/ICC drill hole AI-1 has been received.

Eastman Whipstock surveyed the rotary hole portion and Parson's Surveying tied into the rotary and surveyed the diamond drilled portion.

As shown on the attached Xerox copies, the hole crossed into and across the southwest corner of LD No. 9, which is essentially the same corner as the reported Stew #1, and terminated in LD No. 1.


James D. Sell

JDS:lb
Attachs.



REPORT
of
SUB-SURFACE
DIRECTIONAL
SURVEY

AMERICAN SMELTING AND REFINING COMPANY

COMPANY

A. I. - 1

WELL NAME

RAWHIDE, ARIZONA

LOCATION

JOB NUMBER

L 8-4373

TYPE OF SURVEY

DIRECTIONAL GYRO

DATE

23 AUG 1973

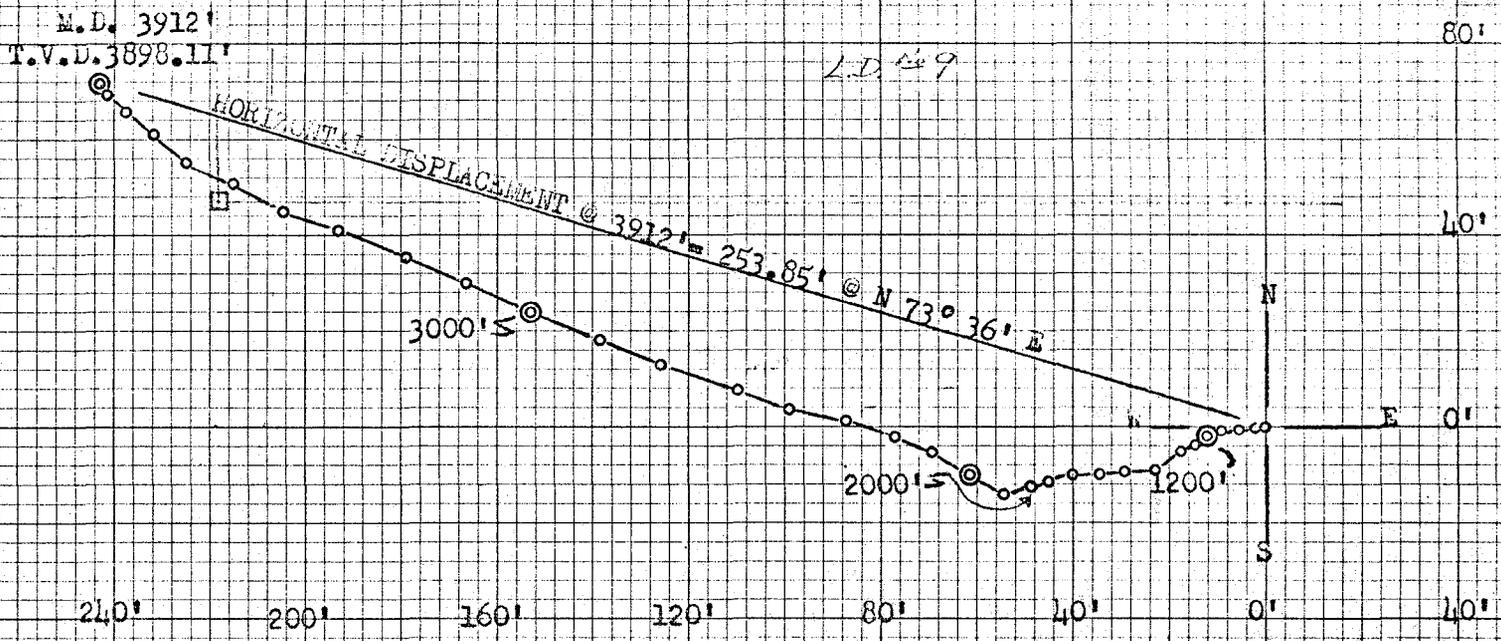
SURVEY BY

LONG BEACH

OFFICE

PERSONS

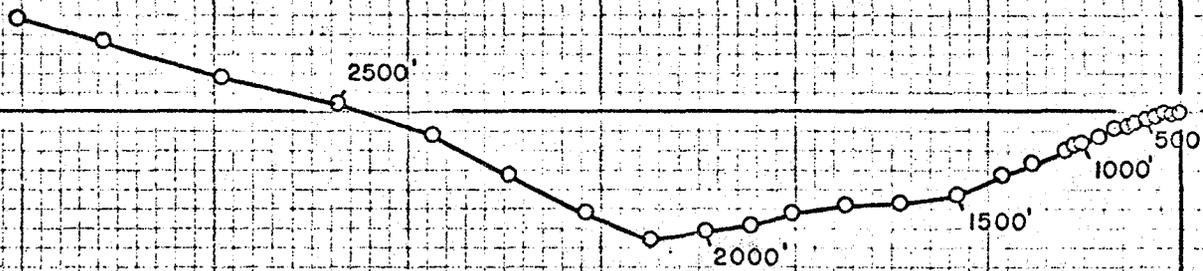
AMERICAN SMELTER AND REFINING CO.
RAWHIDE CORE HOLE NUMBER A.I.-1
GILA COUNTY, ARIZONA
SCALE 1" = 40'
11-20-73





SCALE
1" = 20'

DEPTH - 2768'
NORTH - 9.88'
WEST - 120.34'
CLOSURE - 120.74' N 85° 18' W



1500' V.D.

1500' M.D.

2700' V.D.

112'

2700' M.D.

3000' V.D.

3000' M.D.

2000' V.D.

2000' M.D.

3500' V.D.

3500' M.D.

2500' V.D.

2500' M.D.

3900' V.D.

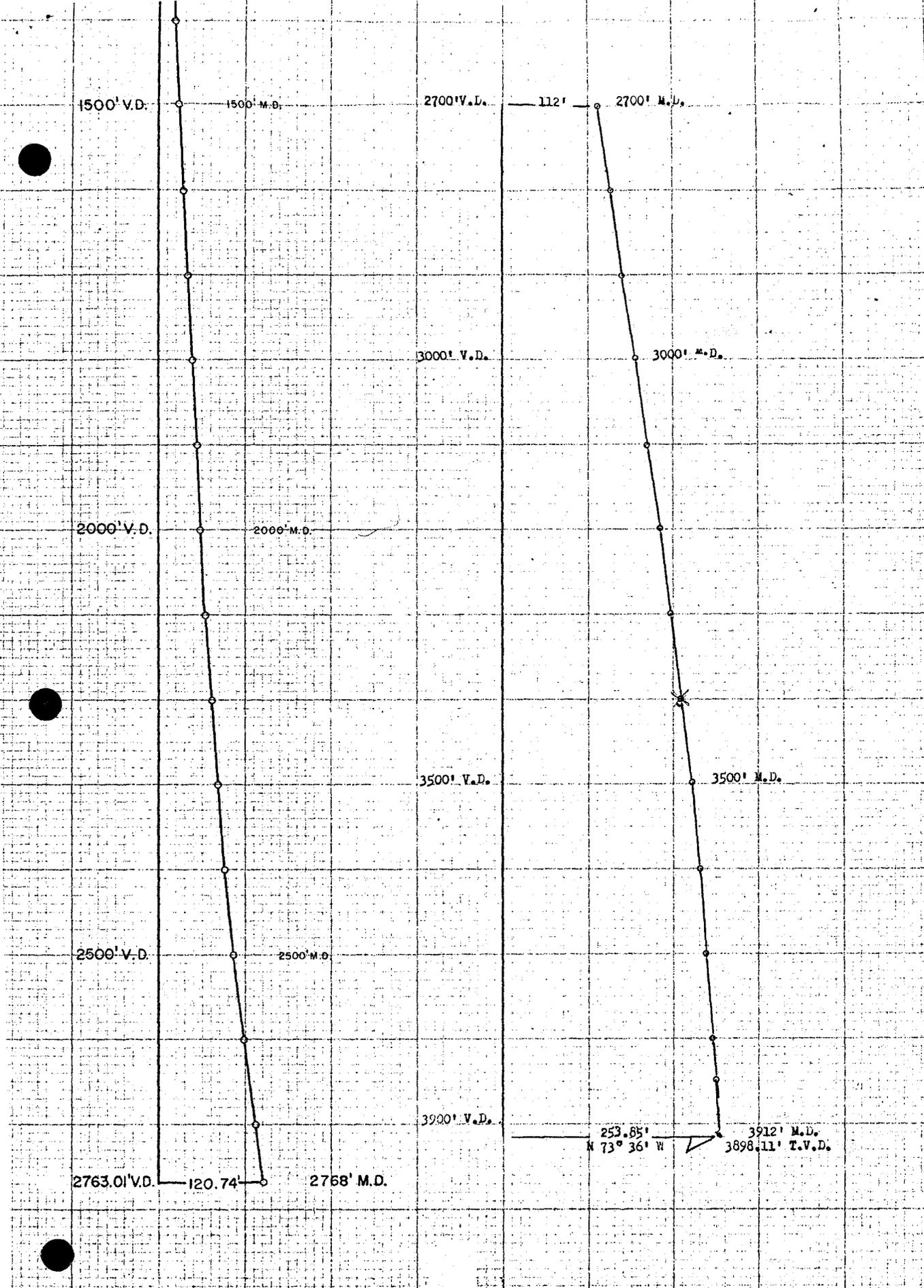
253.85'
N 73° 36' W

3912' M.D.
3898.11' T.V.D.

2763.01' V.D.

120.74'

2768' M.D.



MOLLEN-HAUER
SURVEYING COMPANY

Directional Survey Report
for

CUSTOMER ASARCO INC.

AREA SUPERIOR RAWHIDE **PROSPECT NO.** AI 2

COUNTY PINAL **STATE** ARIZONA

P. O. Box 17376
Tucson, Arizona 85731
Phone [602] 298-2779

9-22-80
NPLU

ASARCO INC.
SUPERIOR RAWHIDE A I-2
PINAL COUNTY, ARIZONA
SCALE 1"= 100' 9-5-80

T.V.D. 3491.18'
M.D. 3525'

1600'

300'

200'

100'

0'

100'

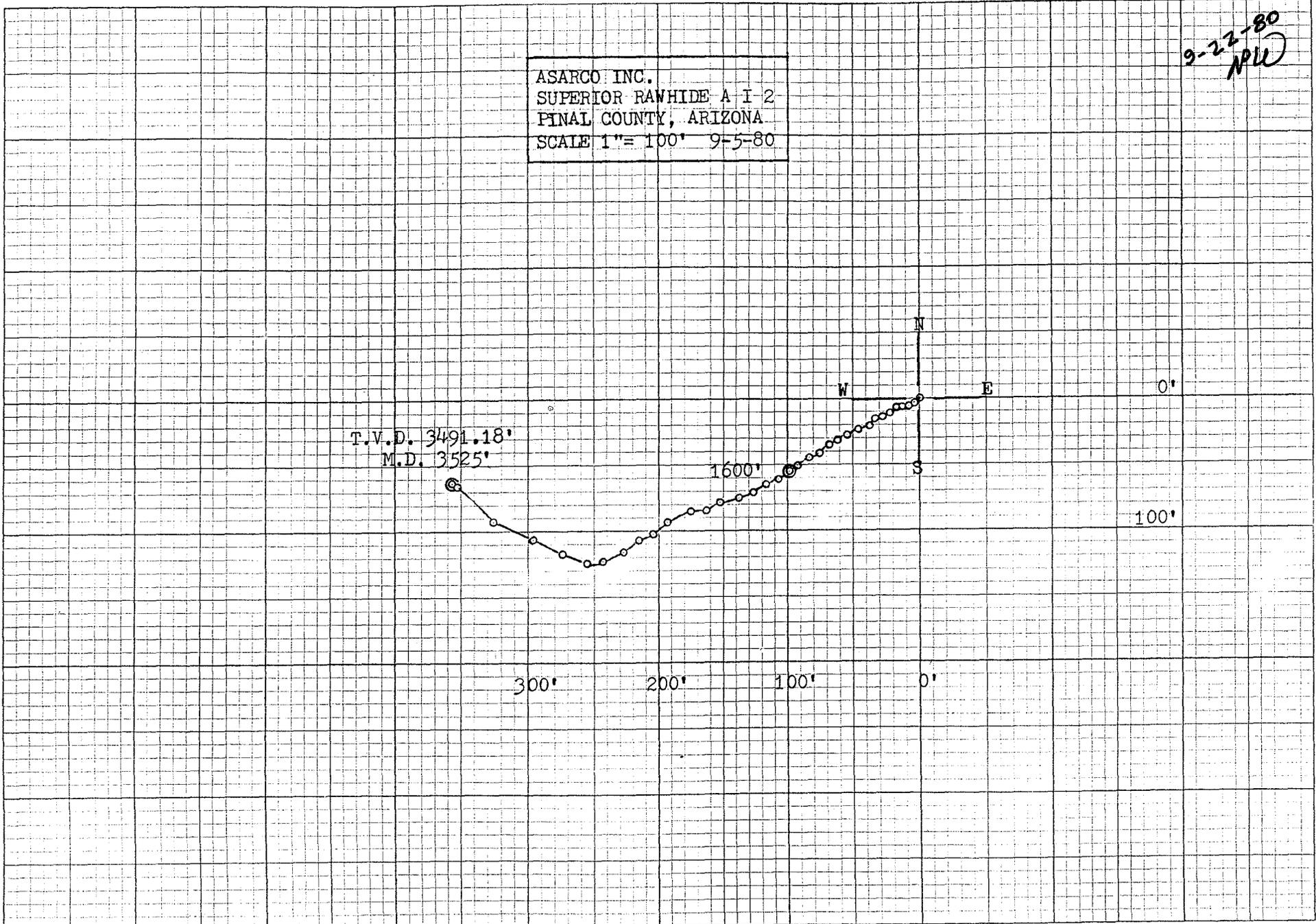
0'

W

E

N

S



MOLLEN-HAUER

COMPANY Dearco Inc

JOB NO. 61840

PAGE 1 OF 2

SURVEYING COMPANY

PROSPECT NO. AI 2

LOCATION Superior Ranch

DATE 9-5-80

STATION NO.	MEASURED DEPTH	COURSE LENGTH	DRIFT ANGLE	VERTICAL DEPTH	TRUE VERTICAL DEPTH	SECTION	COURSE DEVIATION	DRIFT DIRECTION	COORDINATE DIFFERENCES				RECTANGULAR COORDINATES			
									NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
	100	100	1/2	100 00	100 00			S 4 W		87		06		87		06
	200		3/4	99 99	199 99			S 62 W		61		112		148		122
	300		2	99 94	299 93			S 68 W		131		324		279		446
	400		2 1/4	99 92	399 85			S 65 W		166		356		445		802
	500		3 1/4	99 84	499 69			S 62 W		287		539		732		1341
	600		2 3/4	99 88	599 57			S 64 W		210		431		942		1772
	700		3	99 86	699 43			S 67 W		205		482		1147		2254
	800		3	99 86	799 29			S 55 W		300		429		1447		2683
	900		3 1/2	99 81	899 10			S 58 W		324		518		1771		3201
	1000		4 1/4	99 73	998 83			S 64 W		325		666		2096		3867
	1100		4 1/2	99 69	1098 52			S 62 W		368		692		2464		4559
	1200		4 3/4	99 66	1198 18			S 65 W		350		751		2814		5310
	1300		5	99 62	1297 80			S 66 W		355		796		3169		6106
	1400		5	99 62	1397 42			S 65 W		368		790		3537		6896
	1500		4 3/4	99 66	1497 08			S 54 W		487		670		4024		7566
	1600		5 1/4	99 58	1596 66			S 60 W		458		792		4482		8358
	1700		5 1/2	99 54	1696 20			S 57 W		522		804		5004		9162
	1800		5 1/2	99 54	1795 74			S 60 W		479		830		5483		9992
	1900		6	99 45	1895 19			S 59 W		538		896		6021		10888
	2000	100	6 1/2	99 36	1994 55			S 62 W		531		999		6552		11887

MOLLEN-HAUER SURVEYING COMPANY COMPANY Arasco Inc JOB NO. 61840 PAGE 2 OF 2
 PROSPECT NO. AI 2 LOCATION Superior Ranchside DATE 9-5-80

STATION NO.	MEASURED DEPTH	COURSE LENGTH	DRIFT ANGLE	VERTICAL DEPTH		SECTION	COURSE DEVIATION	DRIFT DIRECTION	COORDINATE DIFFERENCES				RECTANGULAR COORDINATES											
									NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST								
	2100	100	6 1/2	99	36			S 62 W			5	31			9	99			70	83			128	86
	2200		7	99	25			S 65 W			5	15			11	05			75	98			139	91
	2300		7 1/4	99	20			S 74 W			3	48			12	13			79	46			152	04
	2400		7 3/4	99	09			S 69 W			4	83			12	59			84	29			164	63
	2500		8 1/2	98	90			S 72 W			4	57			14	06			88	86			178	69
	2600		8 1/4	98	97			S 67 W			5	61			13	21			94	47			191	90
	2700		8 1/2	98	90			S 61 W			7	17			12	93			101	64			204	83
	2800		9 3/4	98	84			S 61 W			7	37			13	30			109	01			218	13
	2900		8	99	03			S 55 W			7	98			11	40			116	99			229	53
	3000		8	99	03			S 69 W			4	99			12	99			121	98			242	52
	3100		8 1/4	98	97			S 84 W			1	50			14	27			123	48			256	79
	3200		11	98	16			N 77 W			4	29			18	59			119	19			275	38
	3300		15 1/2	96	36			N 63 W			12	13			23	81			107	06			289	19
	3400		18	95	11			N 57 W			14	83			25	92			90	23			325	11
	3500	100	20	93	97			N 50 W			21	98			26	20			68	25			351	31
	3525	25	20	23	49			N 45 W			6	05			6	05			62	20			357	36

TAB

Drilling
Reports.

JDS - your file



Inspiration Consolidated Copper Company

INSPIRATION, ARIZONA 85337

RECEIVED

October 5, 1972

OCT 10 1972

S. W. U. S. EXPL. DIV.

W. L. K.

OCT 16 1972

Mr. W. L. Kurtz
American Smelting and Refining Co.
Southwestern Exploration Division
P. O. Box 5747
Tucson, Arizona 85703

Dear Bill:

Enclosed is the following information on the Oak Flat area that you requested during a telephone conversation with Hugh Olmstead:

1. Logs from diamond drill holes No. 1 and 2.
2. Generalized logs for rotary drill holes No. 1 and 2. These holes are logged in large cardboard sheets, and I transferred the pertinent information to the attached sheets.
3. Daily reports for drill hole AOF No. 1. We do not have driller's reports for this hole, but the enclosed daily reports are as good or better.
4. Driller's logs for diamond drill hole AOF No. 2 and rotary drill holes No. 1 and No. 2.
5. A set of 4 small maps and a cross section showing:
 - a.) claim map and drill hole location
 - b.) I.P. contour maps at search depths, 2400 and 3200
 - c.) Geologic map
 - d.) Cross section showing all diamond drill holes
6. Two figures showing results of core test on core from diamond drill hole AOF No. 1.

The daily reports for hole AOF No. 1 and the driller's reports for the other holes are originals, which we would like to have returned when you no longer need them. All other material consists of copies, which you may keep.

Please feel free to call if you need additional information, or if you have any questions regarding the enclosed material.

Sincerely yours,

Rene von Boeck
Asst. Chief Exploration Geologist

RvB/am
Encls.
cc: Mr. H. W. Olmstead

INSPIRATION CONSOLIDATED COPPER COMPANY

GEOLOGICAL DEPARTMENT

DIAMOND DRILL RECORD

HOLE No. OAK FLAT D.D.H. #1
 FROM 705' - 880'
 ELEVATION.....
 COORDINATES.....N.....E
 DIRECTION.....-90.....
 INCLINATION.....-90.....DEPTH.....
 STARTED April 6, 1964.....COMPLETED.....

SECTION	COL.	G E O L O G Y	SURVEY	% CORE RECOV-D	CORE ASSAYS				SLUDGE ASSAYS					
					SECTION	CU.			SECTION	CU.				
				94%										
			710'	100%										
			719'	50%										
			729'	100%										
			730'	100%										
			740'	100%										
			742'	100%										
			745'	100%										
			748'	77%										
			755'	90%										
			765'	100%										
			772'	100%										
			782'	100%										
			792'	100%										
			802'	100%										
			812'	100%										
			822'	100%										
			829'	100%										
			837'	100%										
			844.5'	100%										
			850'	100%										
			860'	100%										
			870'	100%										
			880'											

745'-750' gouge material.

705'-782' Moderately hard cryptocrystalline dacite. Weak to moderately fractured. Fracture planes filled with Calcite deposits, and 2"-10" apart, often more.

782'-812' Firm, compact dacite with phenocrysts upto 1/4" size. Often with angular inclusions of schist (Ps), and diabase - upto max. size of 1/2". Weak fractures present with calcite deposition & water course vugs.

812'-880' solid core upto 4.1' long. Firm c. gr dacite with angular fragments of Db, Ps, qtz, Siltstone upto 1" in size. WK CaCO₃ & Fe(OH)₂ stn (fr) on fracture planes.

837'-844.5' Heavy fracturing; slicken-sides along fracture planes.

Weakly fractured; WK Tr of FeOx stn on fracture surfaces.

INSPIRATION CONSOLIDATED COPPER COMPANY

GEOLOGICAL DEPARTMENT

DIAMOND DRILL RECORD

HOLE No. QAK FLAT DRH #1
 FROM 1405' to 1580'
 ELEVATION.....
 COORDINATES..... N..... E.....
 DIRECTION -90°
 INCLINATION -90° DEPTH.....
 STARTED APRIL 6, 1964 COMPLETED.....

SECTION	COL.	G E O L O G Y	SURVEY	% CORE RECOVERED	CORE ASSAYS				SLUDGE ASSAYS			
					SECTION	CU.			SECTION	CU.		
				100%								
		1411'-1413' Core strongly broken & fractured.	1413'									
				100%								
		1421'-1423' Strongly fractured zone, devp. of chlorite on frac. pla. w/ brn & red FeOx str (-).	1423'									
				100%								
		1429'-1433' Strongly fractured zone. Chlorite & brn FeOx str on frac. pla.	1433'									
				100%								
		9" of gouge material @ 1441.1' to 1442'.	1442'									
		1444.5'-1445' Strongly fractured.	1445'	90%								
				100%								
		1405'-1580' White tail cgl. fragments of Ps, Db, Qtz, with minor amount of Psh, Td, maddio. Sub angular to subrounded, 50% fragment, 50% matrix, maximum size upto 2". Matrix is generally of ferro-mag material brown to green in color; Occ. calcareous material & Fe ₂ O ₃ in matrix.	1455'	50%								
			1457'									
				100%								
			1467'									
		At 1473' core w/gouge material, w/some slickensides devp.	1467'									
				100%								
		1478'-1479.3' shale block (P.sh)	1477'									
				100%								
		1482'-1483' strongly frac. & broken up, slickensides, Fe chlorite & red FeOx str on frac. pla. 1483'-1484.5 str. broken up core	1483'									
				100%								
		1491'-1493' core strongly broken up & fractured	1493'									
				100%								
			1503'									
				100%								
			1512'									
				100%								
		At 1524' hole size reduced to NX-WL.	1524'	(*)								
				100%								
		1524'-1525' broken.	1534'									
		1532'-1534' Largest fragments 3" size. Cased hole.	1534'									
				100%								
			1544'									
				100%								
			1554'									
				100%								
			1564'									
			1573'	88%								

INSPIRATION CONSOLIDATED COPPER COMPANY

GEOLOGICAL DEPARTMENT

DIAMOND DRILL RECORD

HOLE No. OAK FLAT DDH #1
 FROM 1755'-1930'
 ELEVATION.....
 COORDINATES..... N..... E.....
 DIRECTION -90°
 INCLINATION -90° DEPTH.....
 STARTED April 6, 1964 COMPLETED.....

SECTION	COL.	G E O L O G Y	SURVEY	% CORE RECOV-D	CORE ASSAYS				SLUDGE ASSAYS					
					SECTION	CU.			SECTION	CU.				
		Rounded to semi rounded, frag. Maximum 4" of Gran, db, Md qtz. (-) & Ps. Diabase sand, dk green brn to brn.		100%										
		1765' Fragments up to 3" maximum size, mostly Md, Ps & db w/ minor qtz.	1765'	100%										
		1775' core dk green to brown, fragments up to 2" max. size.	1775'	100%										
		1786' variegated db sand, & maroon brown silt; fragments of Ps, Md, qtz. & some quartzite.	1786'	100%										
		1795' sporadic uneven "rhythms" of angular cobbles, and laminated brn sands mainly of db origin. Matrix sometime chloritized.	1795'	100%										
		1805' 1808.3 sand laminated @ 10' & @ 1809 dip upto 40°. Mostly db sand w/ frag. of Pion. sh, db, Ps, & qtz. angular.	1805'	100%										
		1815' 1817'-4" brnglat. (Troy?) overlaying 6" frag. of db. Angular frags. of Pion sh, db, qtz, Ps. Coarse gravelly sand from 1820'-22'	1815'	100%										
		1825' No core except 1/2"; basalt (?). Possibly large fault zone (?)	1825'	0.02%										
		1835' At 1825' weathered erosional discontinuity. Frag. of Ps w/ 1836' calcos vnlts.	1835'	30%										
		1845' Fairly large sub ang. cobbles max. size 5". Db cobble zone 1839-1839.8'. Sandier zone 1840'-41.1'	1845'	100% (+)										
		1855' Fragments of qtz, Ps, in db sand, upto 2" sub angular.	1855'	100%										
		1855'-1858' db sand w/ few streaks to 1/2" of red slicken sided siltier clay.	1855'	100%										
		1865' Good db sand matrix, rounded to sub rounded frags. w/ some medera diorite.	1865'	100%										
		1875' 1878'-1890' db sand w/ dk maroon brown silt to 1".	1875'	100%										
		1885' Sub rounded to rounded frag. More fragments than sand.	1885'	100%										
		1895' 1902-1905 db sand w/ few frags. possibly 3" db clay.	1895'	100%										
		1905' Cementing material dk brn to blackish green mostly db material.	1905'	100%										
		1915' some basalt fragments	1915'	100%										
		1921' 1921'-1923 1/2 basalt fragments.	1921'	100%										

INSPIRATION CONSOLIDATED COPPER COMPANY

GEOLOGICAL DEPARTMENT

DIAMOND DRILL RECORD

HOLE NO. DAK FLAT P.D.H. #1
 FROM 1930' - 2105'
 ELEVATION.....
 COORDINATES..... N..... E.....
 DIRECTION..... 90'
 INCLINATION..... 90' DEPTH.....
 STARTED April 6, 1964 COMPLETED.....

SECTION	COL.	GEOLOGY	SURVEY	% CORE RECOV-D	CORE ASSAYS				SLUDGE ASSAYS					
					SECTION	CU.			SECTION	CU.				
		-1931'	-1931'	100%										
		-1941'	-1941'	63%										
		-1949'	-1949'	100%										
		-1957'	-1957'	100%										
		-1965'	-1965'	100%										
		-1975'	-1975'	100%										
		-1985'	-1985'	100%										
		-1995'	-1995'	100%										
		-2005'	-2005'	100%										
		-2015'	-2015'	100%										
		-2025'	-2025'	100%										
		-2035'	-2035'	100%										
		-2045'	-2045'	100%										
		-2055'	-2055'	100%										
		-2065'	-2065'	100%										
		-2075'	-2075'	100%										
		-2085'	-2085'	100%										
		-2095'	-2095'	100%										
		-2097'	-2097'	100%										
		-2100'	-2100'	100%										

1931'-2106' Dark chloritic diabase sand with subrounded to subangular fragments of qtz, Ps, db, M diorite, maximum size upto 3". Occasional silt bands maroon, red & green color. Few places fragments of db upto 5".

INSPIRATION CONSOLIDATED COPPER COMPANY

GEOLOGICAL DEPARTMENT

DIAMOND DRILL RECORD

HOLE NO. ORR FLAT D#11
 FROM 2005-2980
 ELEVATION _____
 COORDINATES _____ N _____ E
 DIRECTION - 90
 INCLINATION - 90 DEPTH _____
 STARTED April 6, 1964 COMPLETED _____

SECTION	COL.	GEOLOGY	SURVEY	% CORE RECOVERED	CORE ASSAYS				SLUDGE ASSAYS				
					SECTION	CU. PPM			SECTION	CU.			
		2802'-2812' frag. of Ps. db. w/minor frag. of qtz. diorite. in dk green db sand; Ps frag. occ. weakly altered w/calcite vnlts. Native Cu @ 2807' x 2811' on frac. pl. Brn & red Feox stn on frac. few spec. Horn. frag.	2812'	100%			300						
		Mostly frag of Ps & db w/minor frag of qtz & diorite - ground mass of coarse grain db sand. Spec. Horn on frac. Calcite vnlts in Ps. Native Cu @ 2819' & 2822' very weak (few spec.) Brown & red Feox stn on frac. Core moderately broken up.	2822'	100%			40						
		Mostly frag of Ps & db w/minor frag of qtz. Ps & db frag upto 7". Ground mass db sand. Brn & red Feox stn on frac. Spec. Horn. (-) on frac. & as small frag. 2829'-2831' few spec. of Native Cu scattered on some frac. Last 6" strgly broken up.	2832'	100%			80						
		2832'-2846' Mostly db frag with some Ps and minor qtz frag. in dk grn coarse gm db sand. Moderately frac. Core. Wk dk brn & red Feox stn on frac. plus. Few grains of Native Cu in frac. of Ps associated with qtz vnlts.	2842'	100%			40						
		Mostly Ps frag w/some db & minor amount of qtz. Ps don't have any alteration, few calcite vnlts in Ps. Occ. wk Tr of Native Cu on frac. plus. Last 9" strongly brk. w/Native Cu (negligible).	2846'	85%			40						
		Moderately broken up core, frag of Ps & db w/minor qtz. Brn & red Feox stn on frac. some Ps frag. moderately altered. Wk Tr of Native Cu at 2856' along fracture plus. (negligible)	2855'	100%			20						
		2865'-2884' mostly subrounded frag. of Ps, db and Tr of qtz. Core moderately broken up. Reddish-brn Feox stn on some frac. plus. some of frag. upto 4" in size. Few calcite vnlts on Ps - some Ps frag. weakly altered, & occasionally a few blebs of Native Cu along with it. (negligible)	2865'	100%			20						
		Core strongly broken up at 2875'-2877' & 2883'-2884' with some gouge material.	2875'	95%			40						
		2883'-2884'	2883'	100%			40						
		2884'-2895' Sub to subrounded frag of Ps, db & qtz (-) in coarse grain dk grn db sand. Some Ps frag. weakly altered & w/some calcite vnlts. A few pieces of spec Hornite at 2888' w/minor box work showing. Native Cu at 2893' (negligible)	2884'	100%			150						
		Sub to subrounded frag of Ps, db & qtz (+); Maximum size of frag. upto 4". Moderately fractured; minor Feox stn reddish brown on frac. plus; some thin films of calcite deposition on frac. w/occasionally few blebs of Native Cu. 1" gouge zone at 2901'.	2895'	100%			40						
		Mostly sub rounded fragments of db & Ps in coarse db sand. Core moderately broken up w/fractures. Brown-red Feox stn on frac.	2905'	100%			80						
		Sub angular to sub rounded fragments of Ps & db w/coarse brown db sand ground mass. Frag upto 2 1/2". Mostly 1/2" - 1" size. Some fracturing in the core.	2915'	100%			40						
		Sub angular to sub rounded fragments of Ps & db - ground mass mostly db sand w/weak calcareous material in cement. Core moderately fractured. At 2929' some slickensid in frac. pl. some red-brn Feox stn on frac. some Ps frag weakly altered.	2925'	100%			10						
		Diabase - white tail c.g. contact 2939'. contact normal	2935'	100%			20						
		Dark green coarse grained diabase. Moderately fractured up. w/red-brn Feox stn and calcite vnlts in frac. plus. occasionally few blebs of native Cu (negligible) in frac. plus. Most of the hornblende is transformed to biotite & chlorite. At 2947' sharp high angle fault; 2948' 3" gouge - fault	2945'	100%			10						
		Core strongly broken up & fractured. Red-brown Feox stn & calcite deposition on frac. plus. some frac. w/slickensides. Diabase medium grained from 2957'	2952'	100%			10						
		Core ground up. only 3" recovery.	2962'	30%			10						
		3" of broken up core.	2972'	16%									
		Moderately frac. some frac. pl w/slickensides; calcite & Feox. on frac. A few blebs of Native Cu. (negligible)	2974'	100%			20						

INSPIRATION CONSOLIDATED COPPER COMPANY

GEOLOGICAL DEPARTMENT

DIAMOND DRILL RECORD

HOLE NO. OAK FLAT DR#1
 FROM 2980-3155
 ELEVATION.....
 COORDINATES.....N.....E
 DIRECTION 90°
 INCLINATION 20° DEPTH.....
 STARTED April 6, 1969 COMPLETED.....

SECTION	COL.	GEOLOGY	SURVEY	% CORE RECOVERED	CORE ASSAYS		SLUDGE ASSAYS	
					SECTION	CU. PPM	SECTION	CU.
		2981 Moderately fractured medium grained diabase. Strong shear zone 2983-2985'. Core strongly frac. at 2987.5-2988.5'. Few blebs of Nat. Cu on frac. along w/ Feox stn (red), & calcite. 2990-2991 strg. brkn. <u>seldom</u> Fe frag (1)	2981	100%		20		
		2991 Fractured up core - calcite vnlts, red brn Feox stn & occasional strong development of chlorite in frac pls. Most frac. pls. w/ slicken sides. 2998'-3003' strongly brkn. up. A few grains of <u>Nat. Cu</u> along frac. pls.	2991	100%		20		
		3001 3001'-3015' Medium to fine grained diabase moderately fractured. Occasional a few Ps(?) inclusions present. Frac. pls w/ devp. of strong chlorite, calcite & red Feox stn (-). A few grains of <u>Native Cu</u> on frac.	3001	100%		20		
		3007 3007'-3015' Medium to fine grained diabase moderately fractured. Occasional a few Ps(?) inclusions present. Frac. pls w/ devp. of strong chlorite, calcite & red Feox stn (-). A few grains of <u>Native Cu</u> on frac.	3007	100%		Nil		
		3015 strongly fractured & broken up core. chlorite & calcite in frac. pls w/ wk Feox stn red-brn; some slicken sides. 3018'-3022' some shearing. A few inclusions of Ps(?); some times along fractured zone. 3024'-25' some what gouge zone.	3015	100%		10		
		3025 Strongly frac. db w/ inclusions of Ps. Calcite vnlts & Feox stn on frac. At 3034' some what brx.	3025	100%		10		
		3035 Brx diabase w/ inclusion Ps to 3036. More inclusion of Ps to 3040. Sharp db & Ps contact @ 3040'. 3040'-45' brx Ps. Feox vnlts on Ps frac. Most frac. with slickenside & occ. calcite deposition.	3035	100%		Nil		
		3045 Strongly broken up Ps. Ps somewhat silicified. Black Feox vnlts (-) on Ps.	3045	100%		Nil		
		3047 3047.5-3050.3 Air to subler frags of schist w. detrital quartz in interstices. 3050.3-3053.7 Diabase cgl. w. db calcite. db sand in interstices	3047	100%		Nil		
		3055 3053.7-3055.3 Broken Ps detrital grains between frags. (Brd db - 5' detrital contact above inclined at 60°)	3055	100%		Nil		
		3055.3-3062.0 Grayish yw, yellow and orange Feox stn strongly altered brd looking schist	3055	100%		Nil		
		3065 3062.0-3065. Brd db.	3065	100%		Nil		
		3067-3069.5. Alt faulted, chlor. db.	3065	100%		Nil		
		3072-3073. Pulverized diabase (looks like ordinary soil)	3072	100%		Nil		
		3075 (mixed brd db & solid db btwn above measurements)	3075	100%		10		
		3075-3079.5. Solid db w. heavy CaCO3 on frac.	3075	100%		10		
		3079.5-3080 faulted broken chlor db.	3080	100%		20		
		3080-3081 Brd db.	3080	100%		20		
		3081-3087 Solid db w. minor slips	3080	100%		20		
		3087-3090.3 Brd db. w. some kaolinized all frags (white)	3080	100%		Nil		
		3090.3-3092. Solid db. Tr Fe stn at 3094.	3090	100%		Nil		
		3092. Small pale white bleached db.	3090	100%		Nil		
		3092-3096. Brd & fract db.	3090	100%		Nil		
		3096-3096.7. Db gouge, clay	3090	100%		Nil		
		3096.7-3098 Soft chlr db w/ clay gouge.	3090	95%		Nil		
		3098-3100 Brd db w CaCO3 on frac.	3104	100%		20		
		3104 3100-3123 solid dark green diabase w. abun slips and fractures - w/ CaCO3 on frac.	3104	100%		20		
		3113 3113-3115 Some minor diss Fe stn	3113	100%		10		
		3118 3118-3123. Somewhat alt partly kaolinized and chloritized db.	3118	100%		15		
		3123 strongly fractured db; slickenside and CaCO3 on frac. pls.	3123	100%		10		
		3129 strongly fractured - slickenside and CaCO3 on frac. pls. - Some Feox stn brown (-). Prob from broken down Ferro-mag minerals.	3129	100%		Nil		
		3134 very strongly frac. db. Some calcite dep. on frac.	3134	100%		Nil		
		3139 Moderately altered. Some chlorite development.	3139	100%		Nil		
		3145 strongly frac. db. w/ CaCO3 and some Feox stn on frac. 3141 some what gouge zone. 3145' gouge material	3145	100%		Nil		
		3148 Case of hole, showing BX moderately fractured and broken up core some what gouge zone 3155'-3158.5'. Some	3148	100%		Nil		

base sample
w/ some leaching

INSPIRATION CONSOLIDATED COPPER COMPANY

GEOLOGICAL DEPARTMENT

DIAMOND DRILL RECORD

HOLE NO. OAK FLAT DRH #1
 FROM 3155' - 3330'
 ELEVATION.....
 COORDINATES..... N..... E.....
 DIRECTION -90°
 INCLINATION -90° DEPTH 3158 - 3320
 STARTED April 6, 1964 COMPLETED.....

SECTION	COL.	GEOLOGY	SURVEY	% CORE RECOV'D	CORE ASSAYS			SLUDGE ASSAYS			
					SECTION	CU. PPM		SECTION	CU.		
		Calcite deposition & minor brn Fe ₂ O ₃ str on frac.		100%							
	3158 1/2	Moderately fractured - CaCO ₃ on frac. pls. 3162' - somewhat gouge zone. weakly altered, chlorite.	3158 1/2	100%							
	3164'	Moderately fractured db, some calcite vlt in frac. pls. At places development of chlorite, occ. few spec. of FeS ₂ diss. At 3172' 3" of Fe inclusion.	3164'	100%							
	3172'	3172-3173: V. f. gr. dark gn db - wk CaCO ₃ on frac.	3172'	86%		80					
	3173'	Fine grained partly chlor db. - heavy CaCO ₃	3173'	75%		10					
	3180	Ground up core in fault zone.] on frac. Some wky 3180 diss FeS ₂ .	3180			110					
	3182	3180-82 - Db. wk diss FeS ₂ & spechem. - Core partly ground up and lost.		100%		Nil					
	3182-3191	Fine grained fract wky chlor db. Some CaCO ₃ along frac. - wk epidote									
	3191'	3191-3201	3191								
	3191-3201	Coarser grained db in sharp fault contact w. mat. above. Well fractured w. white CaCO ₃ clns throughout. Partly chloritized w. epidote		100%		Nil					
	3201	Med gr db - some chlorite - wk. epidotization	3201			Nil					
	3210	Med gr db - fair chlor on frac. - wk. epidotization white CaCO ₃ on frac.	3210	100%		Nil					
	3216	Med gr db fair chlor. - white CaCO ₃ on frac.	3216	100%		Nil					
	3218	Med gr db fair chlor. - white CaCO ₃ on frac. To diss FeS ₂ .	3218			Nil					
	3225	Med gr db, trichlor on frac. irreg. S.O. ₂ . CaCO ₃ signs w. fair FeS ₂ .	3225	100%		Nil					
	3226	0.2' bed fault zone w. FeS ₂ clusters spec. FeS ₂		100%		Nil					
	3232-3233	12' bed zone w. CaCO ₃ cement. wk S.O. ₂ & FeS ₂ signs	3235								
	3235	DB becomes finer grained below 3233'	3235								
	3235-3240	V. f. gr. db. w. CaCO ₃ signs - small pockets spechem. To MoS ₂ ? wk. signs FeS ₂	3240	100%		20					
	3240	3240-3244' AT 1/2 med gy ser. chlor schist - v. f. g. & v. well laminated. - wk powdery CaCO ₃ on frac.	3240	100%		Nil					
	3241.5		3241.5	100%		Nil					
	3244		3244	100%		Nil					
	3245.5		3245.5	75%		Nil					
	3248	Broken well lam Ps. - CaCO ₃ on frac. - wk chlor.	3248	25%		Nil					
	3249	3248-49 - Ps. wk diss S.O. ₂ blebs w. FeS ₂ Heavy coreless below 3250 - prob steep fault. wk CaCO ₃ on frac.	3249	18%		Nil					
	3255.5	Ps. bvd. down to 583 - abundantly chlor. & ser.	3255.5	100%		Nil					
	3260		3260	100%		Nil					
	3263	Broken ps fairly hard chlor ser Ps. - almost vertically foliated	3263	6%							
	3268	3263-68 - few remnants hard qtz ser Ps. w. wk trace scattered FeS ₂ xls & red stn casts.	3268	100%							
	3269		3269	100%							
	3271	3269-71 - Sleepy lam Ps. - w. wk CaCO ₃ on frac. - wk chlor. Fairly strong ser.	3271	42%							
	3274.5	3271-74.5 - Very well ser chlor Ps. - med it gy color. - wk powdery CaCO ₃ on frac.	3274.5	60%		Nil					
	3276		3276	100%		Nil					
	3278	3276-78 - Highly fractured it gy green vertically foliated Ps. Local fair FeS ₂ on frac. - some v. wk diss FeS ₂ .	3278	100%		20					
	3279	3278-79 - med vertically foliated gray green Ps. 2' FeS ₂ diss	3279	100%		20					
	3282	3282-83 - Same clay	3282	78.2%		Nil					
	3285	3283-85 - Badly fra light gray Ps ser FeS ₂ diss. Schistnally parallel hole.	3285	100%		Nil					
	3287		3287	100%		Nil					
	3290	Faulting bx	3290	100%		Nil					
	3295	Faulting FeS ₂ cubes in gouge.	3295	100%		20					
	3297	At. FeS ₂ , Fe ₂ O ₃	3297	100%		Nil					
	3302		3302	66%		Nil					
	3306	Greenish gray, ser schist. Bx patches Fe ₂ O ₃ frac.	3306	100%		10					
	3315	Schist & clay gouge FeS ₂ (-)	3315	19%		Nil					
	3320		3320	50%		Nil					

db
schist

80
see below

#1
OAK FLAT

INSPIRATION CONSOLIDATED COPPER COMPANY

GEOLOGICAL DEPARTMENT

DIAMOND DRILL RECORD

HOLE NO.
 FROM
 ELEVATION
 COORDINATES N E
 DIRECTION
 INCLINATION VERT. DEPTH 3320 - 3475
 STARTED Apr. 16 1964 COMPLETED Oct 27 1964

SECTION	COL.	GEOLOGY	SURVEY	% CORE RECOVD	CORE ASSAYS			SLUDGE ASSAYS		
					SECTION	CU.	PPM	SECTION	CU.	PPM
		3320	3320			Nil				
				0.0						
		3338 Cr Ox Ser sch. FeOx stain	3338	12%		10				
		3342 Broken to 3347.	3342			20				
		3349 Light gray ser schist.	3349	50%		10				
		3352	3352	100%		10				
		3353 3338-3370 more FeOx stain	3353	100%		Nil				
		3358 Broken Ps	3358	50%		Nil				
		3358 3359 FeOx (-)	3358	20%		Nil				
		3361 Slickensides FeOx. Broken sch.	3361	50%		Nil				
		3365 Crushed alt fault bx. FeOx.	3365	45%		10				
		3371 Crush and af min.	3371	25%		10				
		3373 Broken schist	3373	50%		20				
		3375 Broken schist	3375	50%		40				
		3378 Badly broken gray ser schist.	3378	33%		10				
		3380 " " " "	3380	75%		20				
		3382 Broken weak FeOx	3382	50%		60				
		3388 Pyrite lense.	3388	50%		20				
		3388 Broken crushed Ps Qtz near bottom.	3388	66%		40				
		3389 Light gray Ps	3389	25%		Nil				
		3392 FeOx (-)	3392	100%		Nil				
		3394 FeOx (-)	3394	100%		Nil				
				0.0						
		3404	3404							
		Broken light gray Ps.		10%		Nil				
		3414 FeOx (-)	3414	100%		10				
		3416	3416	100%		10				
		3419 Thin etgs FeOx (-)	3419	100%		Nil				
		3425 FeOx free. Qtz	3425	100%		10				
		Free Ps		100%						
		3430 Light gray ser schist.	3430	100%		Nil				
		FeOx on free		100%		Nil				
		3435 Broken.	3435	100%		Nil				
		3437 FeOx along free.	3437	100%		Nil				
		3440-3441 FeOx zone etgs FeOx Qtz FeOx	3440	100%		20				
		3443	3443	100%		Nil				
		3447 etgs FeOx, Qtz FeOx.	3447	100%		40				
		3450 Quartz lens.	3450	100%		40				
		3450 Weak mineralization	3450	100%		40				
		3450 Light gray ser. schist FeOx near bottom.	3450	100%		100				
		3450	3450	100%		10				
		3456 Ox on free.	3456	100%		20				
		3461 Light gray ser schist	3461	100%		20				
		3466 w/ FeOx	3466	100%		10				
		3469	3469	100%		20				
		3470 Free broken light gray. ser. schist	3470	100%		40				
		3474	3474	25%		40				
		3475	3475	100%		10				
		Sample 3460-3475.								
		Bottom.								
		Revised 12/1/64								
		76 871								
		76								

INSPIRATION CONSOLIDATED COPPER CO.

GEOLOGICAL DEPARTMENT

DIAMOND DRILL RECORD

scale 1" = 200 ft.

HOLE NO. A.O.F. No 32
 FROM SURFACE
 ELEVATION _____
 COORDINATES _____ N _____ E
 DIRECTION _____
 INCLINATION _____ DEPTH _____
 STARTED Aug 31, 1966 COMPLETED Apr. 1967

SECTION	COL.	GEOLOGY	SURVEY	% CORE RECOV-D	CORE ASSAYS				SLUDGE ASSAYS					
					SECTION	CU.			SECTION	CU.				
00		white tail conglomerate. Angular fragments Ps(?) & db(?) Frag. up to 1" Tr. Native Cu., Red-brn FeOx in groundmass												
100		white tail Conglomerate angular fragments with rounded edges groundmass and fragments in about equal amounts Ps(?) & db(?) Fragments up to 1" Traces of native Cu in Ps frag. Red-brn FeOx in groundmass.												
200		2090' W.T. cong. silicified groundmass, small fragments Wk Tr. Native Cu			2374									
300		white tail Conglomerate mostly schist fragments, decreasing diabase fragments Fragments 70%, groundmass 30%												
400		chlorite(s)												
500		3027 well cemented Congl. groundmass 20% Frag. 80% Ps Fragments												
558		Ps(?) large cemented Ps fragments(?) Bottom of Hole												

Hole lost, cemented and deflected
 at 2040' 40' From 2374
 To bottom of hole is that
 of deflected hole

INSPIRATION CONSOLIDATED COPPER CO.
GEOLOGICAL DEPARTMENT
DIAMOND DRILL RECORD

HOLE NO. A OF DD DH 2
 FROM _____
 ELEVATION _____
 COORDINATES _____ N _____ E
 DIRECTION _____
 INCLINATION _____ DEPTH _____
 STARTED _____ COMPLETED _____

1' 20'

SECTION	COL.	GEOLOGY	Sample Number	Footage Core Recovered	SURVEY	% CORE RECOVERED	CORE ASSAYS				SLUDGE ASSAYS								
							SECTION	CU.			SECTION	CU.							
100																			
210																			
220																			
230																			
240																			
250																			
260																			
270																			
280																			
290																			
300																			
310																			
320																			
330																			
340																			
350																			
360																			
370																			

Rotary drill

Rotary Drill

Wk Ben FeOstn in cementing matrix
 white tail congl. Ps & And
 angular frag. well cemented

AAA
 AAA

INSPIRATION CONSOLIDATED COPPER CO.

GEOLOGICAL DEPARTMENT

DIAMOND DRILL RECORD

HOLE NO. A.O.F # 2
 FROM _____
 ELEVATION _____
 COORDINATES _____ N _____ E
 DIRECTION _____
 INCLINATION VERTICAL DEPTH _____
 STARTED _____ COMPLETED _____

SECTION	COL.	GEOLOGY	Sample Number	Footage Log of Core Recovered	SURVEY	% CORE RECOV'D	CORE ASSAYS				SLUDGE ASSAYS									
							SECTION	CU.			SECTION	CU.								
550		Rotary Drill																		
560																				
570																				
580																				
590																				
600																				
610																				
620																				
630																				
640																				
650																				
660																				
670																				
680																				
690																				
700																				
710																				
720																				

MX

White Tail Congl.
 Schist Fragments make
 up most of Congl. Other
 fragments are, diabase
 and few sediments.
 Ground mass appears
 to be derived from
 schist.

White Tail congl.
 Schist & Diabase

Native Copper
 Native Copper
 Native Copper

Schist & db. Frag.
 Large fragments decrease
 in amount
 50% frag. 50% matrix

Large frag. 30%, matrix
 & small frag. 70%

Small Frag. (s)
 db Frag. increase
 5%

Next cut (-)
 Nat. Cu (-)
 db Frag increase
 7%
 Nat. Cu (-)
 Nat. Cu (-)

Next cut (-)

DAK FLAT

HOLE NO. A.O.F.D.D.H # 2

INSPIRATION CONSOLIDATED COPPER CO.

GEOLOGICAL DEPARTMENT

DIAMOND DRILL RECORD

FROM _____
 ELEVATION _____
 COORDINATES _____ N _____ E
 DIRECTION _____
 INCLINATION VERTICAL DEPTH _____
 STARTED _____ COMPLETED _____

1'-20'

SECTION	COL.	GEOLOGY	Sample Number	SURVEY	% CORE RECOVERED	CORE ASSAYS				SLUDGE ASSAYS			
						SECTION	CU.			SECTION	CU.		
		white Tail Conglomerate Ps, dbc & few sed. Fragments, greenish gray ground mass	9	1727	90	9							
730		Tr Cu in frag. Some minor Cu diss in fragments & fractures within the conglomerate	10	1737	100	10							
140		mostly groundmass few large fragments minor Cu in db frag.	46677	1742	100	5	0.12						
			5	1747	100	5							
750		Na Cu in minor amounts few large frag.	10	1757	100	10							
760		Tr Cu	10	1767	100	10							
770		white Tail conglomerate Ps & dbc angular fragments with rounded edges, few small quartz fragments.	10	1777	100	10							
		Minor yw FeOx in matrix to fine grained groundmass derived mainly from basic small frag & 60% groundmass	10	1787	100	10							
170		Nat. Cu (Tr) wk FeOx dark brown	10	1795	100	8							
790		Tr Cu Tr Na Cu in groundmass Tr Na Cu	10	1805	100	10							
180		white tail Congl. Ps & dbc frag. greenish groundmass, no sediments in fragments	10	1815	100	10							
810		wk Tr. FeOx (red)	10	1827	75	12							
820		Tr Na Cu	10	1837	100	10							
1830		Minor Red FeOx (cuprite)	10	1847	100	10							
840		Sharp to semi rounded edges in frag. Ps (S), dbc gray to greenish gray groundmass	10	1856	100	9.5							
		Tr Na Cu Tr Na Cu Na Cu Minor Red FeOx (cuprite?) Fragments	10	1866	100	9.5							
1850		Large (upto 4") Ps Frag. Sharp edges in angular fragments	10	1876	100	10							
870		Nat. Cu Some red FeOx (cuprite?) W.T. congl. Large Ps (S) & dbc frag. rounded edges dark grn-gray groundmass derived from db	10	1886	100	10							
		minor red FeOx (stn)	10	1896	100	10							
1890			10	1896	100	10							
1890		Native Cu	10	1896	100	10							

INSPIRATION CONSOLIDATED COPPER CO.
GEOLOGICAL DEPARTMENT
DIAMOND DRILL RECORD

HOLE NO. A.O.F. DDH # 2
 FROM _____
 ELEVATION _____
 COORDINATES _____ N _____ E
 DIRECTION _____
 INCLINATION VERTICAL DEPTH _____
 STARTED _____ COMPLETED _____

SECTION	COL.	GEOLOGY	Sample Number	Distance	Survey	% CORE RECOVERED	CORE ASSAYS				SLUDGE ASSAYS			
							SECTION	CU.			SECTION	CU.		
10	A	White Tail Conglomerate Ps. & db fragments up to 6in, greenish-gray ground mass derived from db. Frag. have rounded edges. No sed. Frag.		10	1906	100	10							
10	B	Nat. Cu (-)		10	1916	100	10							
20	A	Nat. Cu (-)		10	1926	100	10							
30	A			10	1936	100	10							
40	A			10	1946	100	10							
50	A	Minor Red FeOx stn		10	1955	100	9							
60	A	Minor red FeOx stn. Frag with portion of a vein wt. ZnS, FeOx Frag. 40%, gnd-mass 60%		10	1965	100	10							
70	A	Minor red FeOx stn		10	1975	100	10							
80	A	Minor red FeOx stn.		10	1985	100	10							
90	A	Minor yw & red FeOx stn. Angular Frag w/rounded edges, PS & db frag. db ground mass, no sed. Fragments. PS Frag 40% db Frag. 60%.		10	1994	100	9							
100	A	Minor yw & red FeOx stn		10	2004	100	10							
110	A	Minor yw & red FeOx stn.		10	2014	100	10							
120	A	Wk red FeOx stn Tr Nat. Cu		9	2022	100	8							3-30-67- Hole caving @ 2022. cemented to stop caving
130	A	Wk red FeOx stn		10	2032	100	10							
140	A	Wk red FeOx stn Frag. 40%, ground mass 60%, PS Frag 60% db Frag. 40%, No sediments in Fragments		10	2042	100	10							
150	A	Minor red FeOx stn		10	2052	100	10							
160	A	Nat Cu in Frag. within congl. ground mass 70% Frag. 30%		9	2061	100	9							
170	A	Wk red FeOx stn		10	2071	100	10							

INSPIRATION CONSOLIDATED COPPER CO.

GEOLOGICAL DEPARTMENT

DIAMOND DRILL RECORD

HOLE NO. A.O.F DDH # 2

FROM _____

ELEVATION _____

COORDINATES _____ N _____ E

DIRECTION _____

INCLINATION VERTICAL DEPTH _____

STARTED _____ COMPLETED _____

SECTION	COL.	GEOLOGY	SAMPLE NUMBER	Feet Core	SURVEY	% CORE RECOV-D	CORE ASSAYS				SLUDGE ASSAYS				
							SECTION	CU.	Ag		SECTION	CU.			
50		Fractured Ps Frag. w/ calc. asprite ass. with CaCO ₃		9	2080	100	9								
90		minor red-brn FeOx		10	2090	100	10								
100		70% Frag. upto 6" 30% ground mass, about equal amounts of Ps & diabase		9	2091	100	9								
110		wk yw & red-brn FeOx		10	2109	100	10								
20		Small Frag. Less than 2" 50% Frag. 50% groundmass		11	2120	100	11								
30		FeOx stnd. Arkose Frag.		9	2129	100	9								
140		Red-brn FeOx stnd. groundmass (+)		10	2139	100	10								
50		Red-brn FeOx (w/)		10	2155	62	16								
160		brn FeOx (w/)			2165		10								
170		brn FeOx			2175		10								
180		brn FeOx			2185		10								
190		red-brn FeOx			2192		9								
200		db Frag w/ portion of vein, ZnS, FeOx red-brn FeOx			2203		9								
220		red-brn FeOx (+)			2213		10								
2220		red-brn FeOx (-)	46684		2221		8	355	-						
2230		red-brn FeOx (-)	46683		2230		9	075	TR						
		red-brn FeOx (-)	46682		2239		9	130	-						
		red-brn FeOx (-)	46681					135	TR						

3-28-67 - Hole drilled again to 2130'

INSPIRATION CONSOLIDATED COPPER CO.
 GEOLOGICAL DEPARTMENT
 DIAMOND DRILL RECORD

HOLE NO. A.D.F. # 2 Deflected
 FROM 2370 (depth reached by A.D.F. # 2)
 ELEVATION _____
 COORDINATES _____ N _____ E
 DIRECTION _____
 INCLINATION VERTICAL? DEPTH _____
 STARTED _____ COMPLETED _____

SECTION	COL.	GEOLOGY	Sample Number	Percentage of Core Recovered	SURVEY	% CORE RECOVERED	CORE ASSAYS				SLUDGE ASSAYS			
							SECTION	CU.			SECTION	CU.		
2720		Tr. Nat. Cu	49826		2727	100		0.11						
30		1/2" dacite Fragment			9	2735	100	8						
40					9	2745	90	10						
50					9	2754	100	9						
60					9	2763	100	9						
70		wk brn Feox			9.5	2773	95	10						
80					9	2783	90	10						
90		wk brn Feox			9	2792	100	9						
2800					9	2801	100	9						
10					9.5	2810	100	9						
20					9	2818	100	8						
30					10	2828	100	10						
40					9	2837	100	9						
50					10	2848	90	11						
60		2" dacite Frag.			9	2854	100	8						
70					9	2864	90	10						
80					9	2876	90	10						
90		Nat Cu (-)			9	2884	100	8						
95						2893	100	9						

WHITE TAIL
 CONGLOMERATE
 Ps & db fragments
 Fragments mostly
 small. Few large
 (1/2") schist frag.
 db Frag < 5% of
 Total Frag.

db. Frag 20%
 of Total Frag.
 Pinkish-gray
 Groundmass

Few small thylite
 Frag.
 Most fragments
 < 1.0 in. Few
 large (up to
 2") Ps. Frag.
 db Frag about
 20% of total
 Frag.
 Mix of db &
 Ps. groundmass

Few dacite &
 thylite Frag.

INSPIRATION CONSOLIDATED COPPER CO.

GEOLOGICAL DEPARTMENT

DIAMOND DRILL RECORD

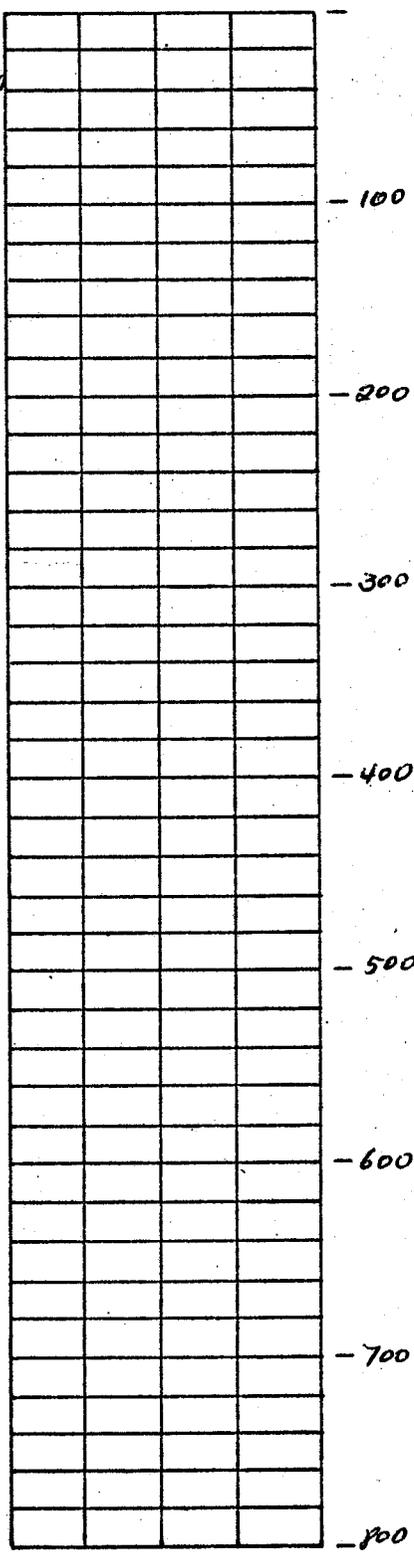
HOLE NO. A.O.F # 2 Deflected
 FROM 2370 (depth reached by A.O.F. #2)
 ELEVATION: _____
 COORDINATES _____ N _____ E
 DIRECTION _____
 INCLINATION VERTICAL? DEPTH _____
 STARTED _____ COMPLETED _____

SECTION	COL.	GEOLOGY	SAMPLE NUMBER	PERCENTAGE OF CORE	SURVEY	% CORE RECOVERED	CORE ASSAYS				SLUDGE ASSAYS			
							SECTION	CU.			SECTION	CU.		
28.75		White Tail Congl. Ps(+) & db. <20% Fragments. Mixed db & Ps groundmass Few. Rhyolite Frag. 80% Frag. are smaller than 2"	8	2902	90	9								
10			9	2911	100	9								
20			9	2920	100	9								
30			8	2928	100	8								
40			9	2937	100	8								
50	minor redish-brn Fleox		White Tail Congl. Pinal schist make up 80% of Total Fragments up to 1 foot long. 20% Fragments made up of diabase. Fragments 70%, groundmass 30% Clayish. greenish gray, groundmass Most Fragments have sharp edges	9	2945	100	8							
60				9	2954	100	9							
70			9	2964	90	10								
80			9	2972	100	8								
90			9	2982	90	10								
100		9	2993	81	11									
110	chlorite(+) fault)	Rock crushed at Fault rounded edges on small fragments	9	3003	90	10								
120			9.5	3013	95	10								
130		9	3021	100	8									
140	contact?	3027 well cemented conglomerate, ground mass about 20% Frag 50% mainly schist, sharp edges	9	3029	100	8								
150			9.5	3038	100	9								
160			3039 Pinal schist broken and well cemented, large continuous schist fragments	3048	90	9								
170			3054	0	10	Not Recovered								
			Bottom of Hole											

PROJECT OAK FLAT ICC Co. Area Summit District Pinal County, Ariz.
 Hole No. RD No 2 Scale 1"=100ft Date Aug. 31, 1970 to Nov. 23, 1970
 Coordinates _____ Elevation _____

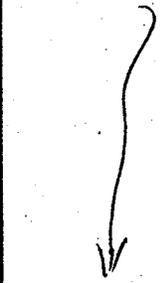
ROCK TYPE _____ ASSAYS

Dacite with
no mineralization



ROCK TYPE _____ ASSAYS

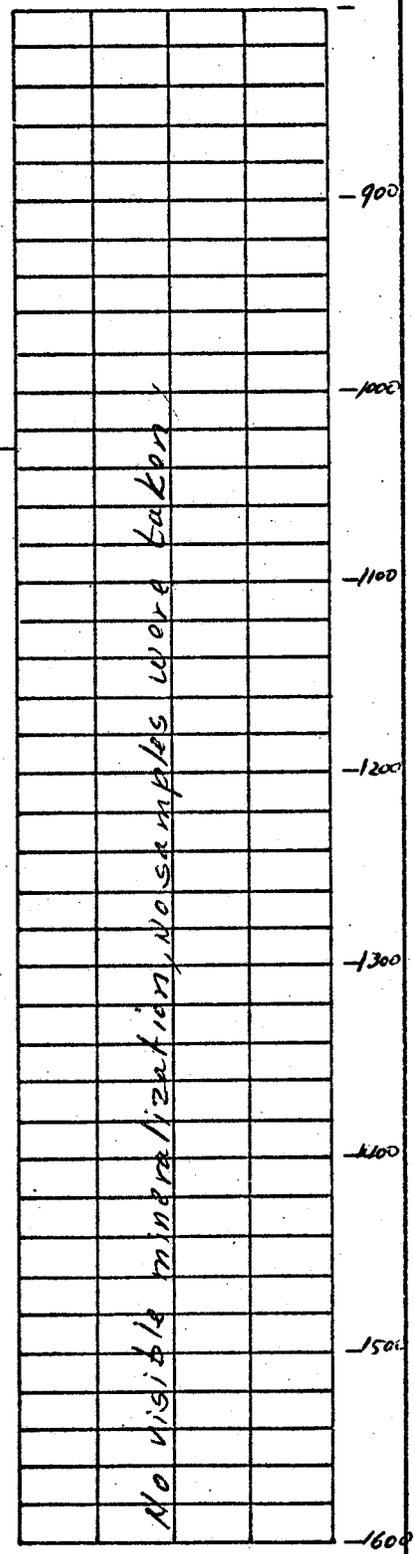
Dacite



some vitrophyre frag.
1030

White Tail
Conglomerate
mostly schist
fragments in
dark groundmass

Few granite
fragments



No visible mineralization, no samples were taken

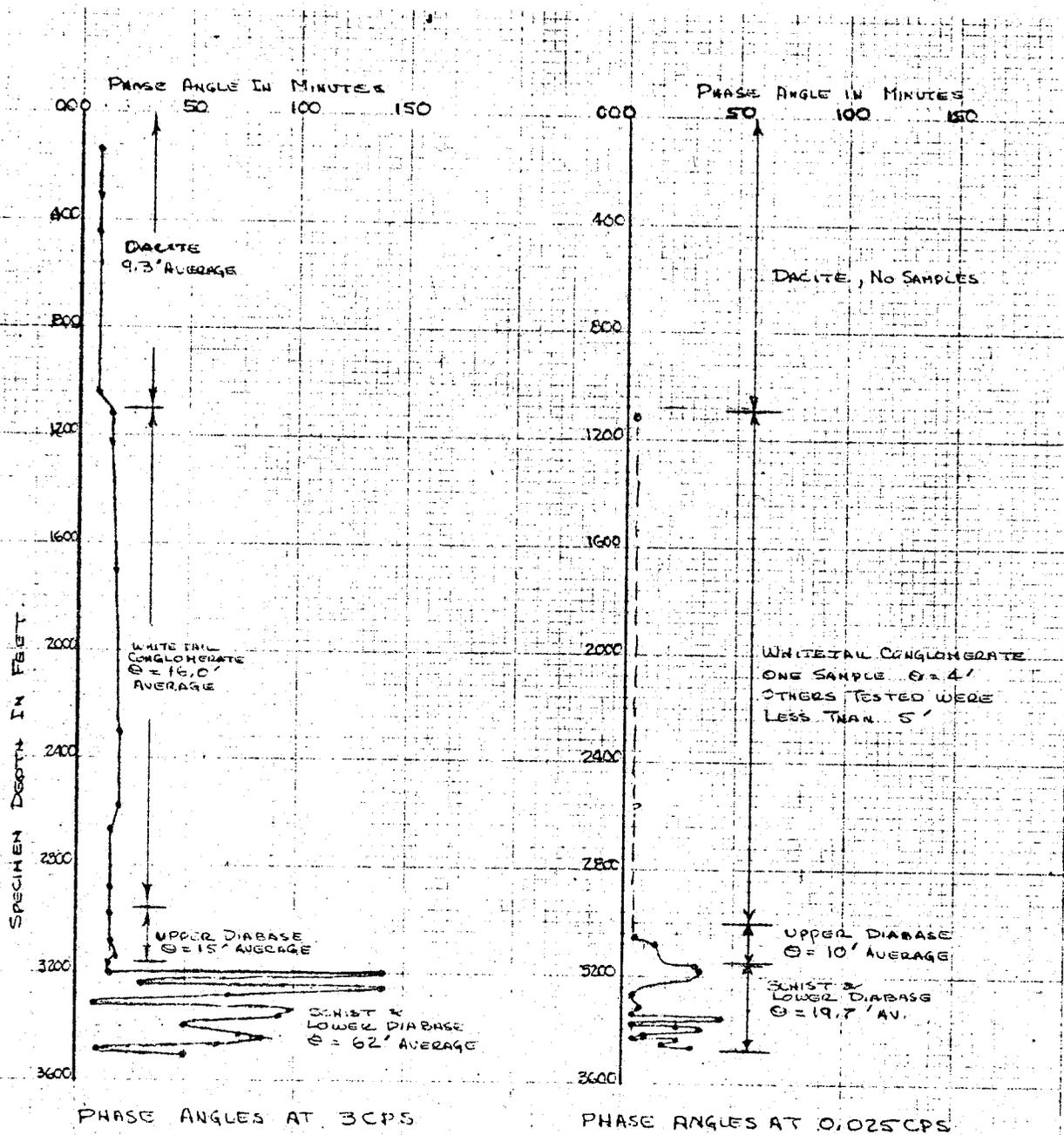


FIG. 4 CORE SAMPLE TESTS ON CORE FROM OAK FLAT. No. 1 D.D.H.

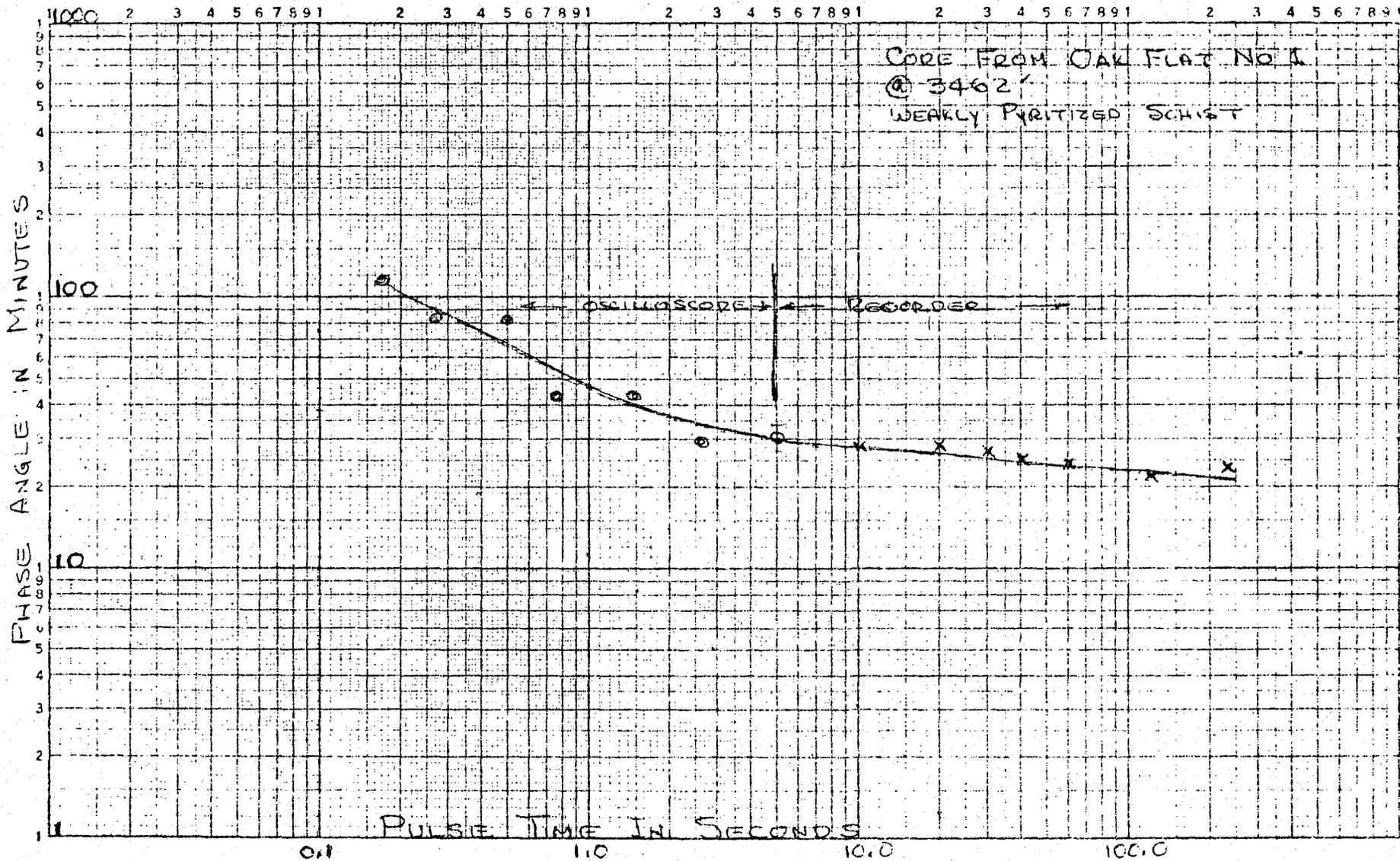


FIG. 5 PHASE ANGLE VS CHARGE TIME - OAK FLAT NO 1 CORE

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

April 17, 1973

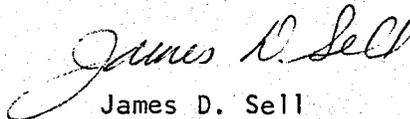
FILE MEMORANDUM

Daily Drill Data - Unit Contacts
AOF (American Oak Flat) Series
Inspiration Consolidated Copper
Company
Rawhide Project Area
Pinal County, Arizona

Attached is the data secured from the drillers' logs of holes drilled by various contractors for ICC on their holes in the joint venture Rawhide Project area. Mr. Norm Whaley transcribed the drillers' notes into the present log form.

Table One lists the data on each hole based on the type of drill and the rock units encountered, with the size of the hole, the shifts, footage, and feet per shift.

Although each hole was apparently plagued with numerous problems, the rotary drilled holes progressed at a much higher foot-per-shift rate than did the diamond drill holes.


James D. Sell

JDS:1b
Attachs.

cc: HLCrittendon

TABLE ONE

<u>Hole #</u>	<u>Drill Type</u>	<u>Rock Unit</u>	<u>Depth</u>	<u>Size</u>	<u>Shifts to Depth</u>		<u>Footage</u>	<u>Ft/Shift</u>	<u>Remarks*</u>
A0F-1	DDH	Dacite	0-1106	NCWL	77	1106	1106	14.4	
	DDH	Whitetail	1106-1524	NCWL	62	1524	418	6.7	
	DDH	Whitetail	1524-2939	NXWL	117	2939	1415	12.1	
	DDH	Diabase	2939-3150	NXWL	17	3150	211	12.4	Does not include 16 shifts of fishing.
	DDH	Diabase	3150-3237	BXWL	7	3237	87	12.4	
	DDH	Schist	<u>3237-3475</u>	BXWL	<u>35</u>	<u>3475</u>	<u>238</u>	<u>6.8</u>	
	DDH Total		0-3475		315	3475	3475	11.0	
A0F-2	Rotary	Dacite	0-800	5"-4-3/4"	18	800	800	44.4	
	Rotary	Whitetail	<u>800-1581</u>	4-3/4"	<u>42</u>	<u>1581</u>	<u>781</u>	<u>18.6</u>	Some spot cores.
	Rotary Subtotal		0-1581		60	1581	1581	26.4	
	DDH	Whitetail	<u>1581-2993</u>	NXWL	<u>117</u>	<u>2993</u>	<u>1412</u>	<u>12.1</u>	Does not include 23 shifts of fishing.
	DDH Subtotal		<u>1581-2993</u>		<u>117</u>	<u>2993</u>	<u>1412</u>	<u>12.1</u>	
	Total		0-2993		177	2993	2993	16.9	
A0F-3	Rotary	Dacite	0-122	No time information available.					

TABLE ONE - Cont'd.

Hole #	Drill Type	Rock Unit	Depth	Size	Shifts to Depth	Footage	Ft/Shift	Remarks*	
A0F-4	Rotary	Dacite	<u>0-864</u>	5-3/4"-5"	<u>20</u>	<u>864</u>	<u>43.2</u>		
	Rotary Total		0-864		20	864	43.2		
A0F-5	Rotary	Dacite	0-1040	6-1/2"	14	1040	74.3		
	Rotary	Whitetail	1040-1685	6-1/2"	32	645	20.2	Does not include 25 shifts for equip. change-over.	
	Rotary	Whitetail	<u>1685-1755</u>	6-1/4"	<u>7</u>	<u>70</u>	<u>10.0</u>		
	Rotary Total		0-1755		53	1755	33.1		
Totals of all drilling:									
	Rotary	Td-Tw	1755		133	4200	31.6	*All drilling had numerous problems.	
	DDH	Td-Tw-db-sc	3475		432	4887	11.3		

ICC'S OAK FLAT PROJECT
 DRILL HOLE AOF NO.1 DIAMOND DRILL - SPRAGE & HENWOOD

(AOF = American Oak Flat)

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION
			HOURS	SHIFTS			
<i>Moved on</i> 4-08-64	<i>4-06-64</i> 0-44	94.0	5.08	2(?)	No detail. <i>40 ft. of 4" flesh casing set.</i>	Not Noted.	Brownish, broken -- No other I.D. Dacite
4-09-64	44-94 147						
4-10-64	194	47.0	8.5	2	Repairs 3-1/2 hrs. Reaming to cover broken ground with NC casing. <i>194' of 4" flesh.</i>	"	Dacite (Rec. range: 76%-100%)
4-11-64	194	-0-	-0-	1(?)	Casing, reaming, and mixing mud. Note on shift report reads, "No report for 4-13-64 reaming".	5-5/8"	
4-14-64	200	6(?)	(?)	2	Casing, pulling, and rerunning 200' of casing.	5-5/8"	
4-15-64	229	29.0	5+	2	Make up string, mixing mud, cementing hole after lost circulation.	NC	Dacite (Rec. range: 43%-100%)
4-16-64	254	25.0	6.5	2	Drilling cement & cleaning Hole, mixing mud, and fueling & repairs.	CN (NC?)	Not mentioned (Rec. range: 0%-80%)
4-17-64	304	50.0	11.5	2	Running rods. Hole condition good. Loss of core attributed to grinding.	↑	Not mentioned (Rec. range: 17%-60%)
4-18-64	354	50.0	9.5	2	Running rods, cleaning & maintenance of rig.	↓	Not mentioned (Rec. range: 18%-74%)
4-20-64	378	24.0	5.5	2	Repairs on core barrel head & rig. Running rods. Hole condition good.	NC	Not mentioned (Rec. range: 8%-64%)
4-21-64	424	46.0	14.2	3	Running rods, mixing mud, hydraulic system problems.	NC (2-11/16" core)	Not mentioned (Rec. range: 67%-96%)
4-22-64	431	7.0	1.5	3	Cementing hole twice to regain circulation, mixing mud, drilling cement, and running rods.	↑	Not mentioned (Rec. range: 94% for one run)
4-23-64	450	19.0	7.0	3	Waiting for cement to set, washing cement, changing bit, mixing mud & running rods.	↓	Not mentioned (Rec. range: 100%)
4-24-64	477	27.0	6.0	2	Hauling water, conditioning hole, and running rods.	↑	Not mentioned (Rec. range: 100%)
4-25-64	520	43.0	11.5	3	Repairing core barrel head, rig maintenance, running rods. Circulation range: 50%-100%.	↓	Not mentioned (Rec. range: 100%)
4-26-64	534	14.0	5.0	1	Water in fuel, establishing return circulation, running rods.	↓	Not mentioned (Rec. range: 100%)
4-27-64	562	28.0	6.5	2	Establishing return circulation, servicing rig, running rods.	↓	Not mentioned (Rec. range: 100%)
4-28-64	595	33.0	11.0	2	Running rods & mixing mud. Circulation poor.	NC	Not mentioned (Rec. range: 100%)

ICC'S OAK FLAT PROJECT
 DRILL HOLE AOF NO.1 DIAMOND DRILL - SPRAGE & HENWOOD

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION
			HOURS	SHIFTS			
4-29-64	624	29.0	7.0	2	Establishing return circulation, mixing mud in 5 loads of water, and running rods.	NC (2-11/16" core)	Dacite (Rec. range: 100%)
4-30-64	634	10.0	2.0+(?)	2	Establishing return circulation, mixing mud, and running rods.	↑	Not mentioned (Rec. range: 100%)
5-01-64	649	15.0	4.0	1	Mixing mud and running rods. Four loads of water.	↓ CN (NC?)	Not mentioned
5-02-64	662	13.0	3.5	1	Establishing return circulation, running rods, and servicing rig.	NC	Not mentioned (Rec. range: 100%)
5-04-64	674	12.0	4.0	1	Washing hole to clear lost circulation materials and running rods.	↑	Not mentioned (Rec. range: 100%)
5-05-64	674	-0-	-0-	1	Treating hole for lost circulation--then washing it out. Minor rig repairs.	↓	---
5-06-64	688	14.0	4.0	1	Treating hole for lost circulation and mixing mud.	NC	Not mentioned (Rec. range: 100%)
5-07-64	700	12.0	4.5	1	Establishing return circulation, mixing mud. Pulling and breaking down drill string.	NC	Not mentioned (rec. range: 100%)
5-08-64	700	-0-	-0-	1	Making up NCWL string and converting to WL operation.	NCWL	---
5-09-64	719	19.0	2.0	1	Pulling rods and repairing retriever mechanism. No return circulation.	↑	Dacite (Rec. range: 100%)
5-11-64	729	10.0	1.0	1	Establishing return circulation, mixing mud, and repairing wireline.	↑	Not mentioned (Dropped core - Rec.: 5%)
5-12-64	740	11.0	3.5	2	Treating hole and establishing return circulation, attempting to recover core, and repairing wireline.	↑	Rec. 10 ft. core on following shift.
5-13-64	765	25.0	6.0	3	Wireline repair, running rods, mixing mud, and repairing mud pump.	↑	Dacite (Rec. range: 77%-100%)
5-14-64	812	47.0	7.0	3	Wireline and rig repair and running rods. Poor and no return circulation.	↑	Not mentioned (Rec. range: 90%-100%)
5-15-64	812	-0-	-0-	0	Wireline and rig repair and running rods.	↑	Not mentioned (Red. range: 90%=100%)
5-16-64	850	38.0	6.8	3	Wireline repair and replacing some rods in drill string, and mixing mud.	↑	Dacite (Rec. range: 100%)
5-18-64	860	10.0	1.5	1	Recovering dropped core and running rods. No circulation.	↓	Not mentioned (Rec. range: 100%)
5-19-64	898	38.0	6.0	2	Wireline repair, rig repair, and running rods. Poor circulation.	NCWL	Not mentioned (Rec. range: 100%)

ICC'S OAK FLAT PROJECT
 DRILL HOLE AOF NO.1 DIAMOND DRILL - SPRAGE & HENWOOD

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION
			HOURS	SHIFTS			
5-20-64	919	21.0	3.5	2	Wireline repair, running rods, and mixing mud.	NCWL ↑ ↓ NCWL	Dacite (Rec. range: 100%)
5-21-64	935	16.0	3.0	2	Rig repair, hauling water, mixing mud, and circulating.		Not mentioned (Rec. range: 100%)
5-22-64	935	-0-	-0-	1	Water truck out of service		----
5-25-64	935	-0-	-0-	1	Water truck and rig repair, hauling water, and mixing mud.		----
5-26-64	975	40.0	8.5	2	Hauling water, conditioning mud, and mud pump repair. Poor to no return.		Not mentioned (Rec. range: 90%-100%)
5-27-64	1005	30.0	8.5	2	Hauling water, mixing mud, waiting for driller.		Dacite Not mentioned (Rec. range: 100%)
5-28-64	1025	20.0	4.0	2	Running rods, rig repairs, hauling water, and mixing mud. Six loads of water.		1025*---- Vitrophyre (Rec. range: 100%)
5-29-64	1048	23.0	6.0-	2	Mechanical problems with water truck. Drilling with no return circulation.		Not mentioned (Rec. range: 100%)
5-30-64	1076	28.0	9.0	3	Hauling water (8 loads), mixing mud, running rods. Driller notes 30 mins. to 1 hr. needed to drill one foot.		Black porphyritic vitrophyre logged 1058'-1071' (Rec. range: 100%)
5-31-64	1086	10.0	2.0	1	Running rods and problems with water truck. No return circulation.		Vitrophyre Not mentioned
6-01-64	1106	20.0	5.0	2	Hauling 3 loads of water, mixing mud and working on equipment.		1086*---- tuff Vitrophyre w/incl. logged 1106*---- (Rec. range: 100%)
6-02-64	1134	28.0	12.0	2	Bit changing & hauling water. No circulation.		Whitetail Not mentioned
6-03-64	1161	27.0	10.5	3(?)	Rig repair and hauling water & water truck repair. No circulation.		Conglomerate (Rec. range: 100%) cgl well cemented as logged (Rec. range: 100%)
6-04-64	1181	20.0	2.0	3	Mechanical problems with water truck and mud pump. Using grease in hole.		Not mentioned (Rec. range: 100%)
6-05-64	1200	19.0	7.0	3	Running rods. Problems with water truck, and hauling water and mixing mud.		Not mentioned (Rec. range: 78%-100%)
6-08-64	1241	41.0	7.5	2	Mechanical repairs on rig and mud pump, and running rods.		Not mentioned (Rec. range: 100%)
6-09-64	1259	18.0	6.0	3	Conditioning hole to establish circulation, repairing mud pump & improving road.	Whitetail logged 1251'-59' (Rec. range: 100%)	
6-10-64	1259	-0-	-0-	2	Pump repair and road improvement.	----	
6-11-64	1259	-0-	-0-	1	Rig engine failure and repair.	----	
6-13-64	1303	44.0	7.0	2	Fishing after twist-off. Mechanical problems with rig.	Whitetail cgl logged 1259'-1300'	

ICC'S OAK FLAT PROJECT
 DRILL HOLE AOF NO.1 DIAMOND DRILL - SPRAGE & HENWOOD

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION
			HOURS	SHIFTS			
7-15-64	1692	47.0	15.5	3	Running rods and rig repair. Poor circulation (15%-40% return).	NXWL ↑ ↓ NXWL	Whitetail cgl w/Nat Cu (Rec. range: 34%-100%)
7-16-64	1755	63.0	15.5	3	Running rods, changing bit, and washing hole. Poor return circulation (5%-10% return).		Whitetail cgl w/Nat Cu at 1704-24' (Rec. range: 60%-100%)
7-17-64	1825	70.0	16.0	3	Running rods and dumping core. Poor circulation (5%-10% return).		Whitetail cgl w/tr Nat Cu-1765'-86' (Rec. range: 100%)
7-18-64	1895	70.0	11.5	3	Running rods to recover core runs. Poor return circulation.		Whitetail cgl - noted as sandy. Frngs db & ss. (Rec. range: 2%-100%)
7-20-64	1931	36.0	5.0*	2	Rig and road repair. Lost all circulation return @ 1898 ft.		Whitetail cgl (Rec. range: 100%)
7-21-64	1957	26.0	6.0±	3	Rig and road repair, conditioning hole, and pumping water. Poor return circ. (0%-5%).		Whitetail cgl (Rec. range: 63%-100%)
7-22-64	2015	58.0	9.0±	2	Rig and road repair. Poor return circ. (very little - 40%).		Whitetail cgl w/Nat Cu noted 1965'-75' (Rec. range: 100%)
7-23-64	2049	34.0	7.0±	2	Rig servicing and modifying water system.		Whitetail cgl (Rec. range: 100%)
7-24-64	2097	48.0	8.5	3	Rig and road repair and running rods. Poor return circ. (5%-30%).		Whitetail cgl (Rec. range: 100%)
7-25-64	2097	-0-	-0-	3	Rig repair and conditioning hole.		
7-26-64	2097	-0-	-0-	1	Washing and conditioning hole.		
7-27-64	2097	-0-	-0-	2	Running rods and conditioning hole.		
7-28-64	2131	34.0	9.0±	3	Rig and road repair, conditioning hole, and cleaning mud pits. Circulation return 0%-10%.		Whitetail cgl (Rec. range: 100%)
7-29-64	2160	29.0	11.5(?)	3	Changing bit, mixing mud, running rods, and repairing mud pump. No return circ.		Whitetail cgl. (Rec. range: 100%)
7-30-64	2215	55.0	14.5(?)	3	Running rods. No return circ.		Whitetail cgl. (Rec. range: 2%-100%)
7-31-64	2250	35.0	8-14(?)	3	Running rods. No driller on one shift. No return circ.		Whitetail cgl. (Rec. range: 90%-100%)
8-01-64	2280	30.0	6-9(?)	2	Repairing mud pump and a late driller. No return circ.		Whitetail cgl (Rec. range: 100%)
8-03-64	2306	26.0	8-12.5(?)	2	Working on road, running rods, and rig servicing.		Whitetail cgl (Rec. range: 40%-100%)

ICC'S OAK FLAT PROJECT
 DRILL HOLE AOF NO.1 DIAMOND DRILL - SPRAGE & HENWOOD

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION
			HOURS	SHIFTS			
8-31-64	2700	1.0	2.0	2	Rig repair. Return circ: Tr.	NXWL	Whitetail cgl (Rec. range: 100%)
9-01-64							
9-07-64	2700	-0-	-0-		Rebuilding engine on rig.		
9-08-64	2712	12.0	4-6(?)	2	Rebuilding engine on rig and conditioning hole. Return circ: 10%		Whitetail cgl w/some Nat Cu and vns of py noted 2702'-2712'. (All rec: 100%)
9-09-64					(No shift reports for 10-13 Sept. incl.)		
9-13-64	2712	-0-	-0-	?	Engine repair and road work.		
9-14-64	2772	60.0	10-14(?)	2	None noted. Return circ: 40%		Whitetail cgl (Rec. range: 100%)
9-15-64	2832	60.0	13-22(?)	3	None noted. Return circ: 40%-50%.		Whitetail cgl w/trs Nat Cu noted 2792'-2802' & 2822'-2832' (All rec: 100%)
9-16-64	2845	13.0	4-5.5(?)	2	Rig repair and pulling rods.		Whitetail cgl (Rec. range: 100%)
9-21-64	2855	10.0	2-3(?)	1	Rig repair and conditioning hole. Return circ: 20%.		Whitetail cgl (Rec. range: 100%)
9-22-64	2895	40.0	10-14(?)	3	Changing transmission. Return circ: 0%-15%.		Whitetail cgl w/sct'd trs Nat Cu (Rec. range: 65%-100%)
9-23-64	2915	20.0	4.0	3	Rig repair (transmission & clutch on engine). Running rods & conditioning hole.		Whitetail cgl. Trs Nat Cu 2905-15'. (All rec: 100%)
9-24-64	2915	-0-	-0-	1	Waiting for clutch parts.		Whitetail Cgl.
9-25-64	2952	37.0	7-11(?)	2	Running rods and conditioning hole. Return circ: 0%-5%.	2939*----	Whitetail cgl to 2938.9'. Diabase Diabase below this. Hole making water at end of day. Clay zones logged 2947'-2950'. (Rec. range: 100%)
9-26-64	2981	29.0	3.0	1	Waiting on bit and running rods. No return circ.		Diabase (Rec. range: 3%-100%)
9-27-64	3035	54.0	15-21(?)	3	None noted. No return circ.		Diabase. Nat Cu on frags logged. (Rec. range: 80%-100%)
9-28-64	3064	29.0	9-11(?)	2	Conditioning hole. Return circ: 10%.	NXWL	Diabase to 3036'-3040'. Schist & Diabase: 3040'-3064'. (Rec. range: 100%)

ICC'S OAK FLAT PROJECT
DRILL HOLE AOF NO.1 DIAMOND DRILL - SPRAGE & HENWOOD

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION
			HOURS	SHIFTS			
9-29-64	3113	49.0	13-17(?)	3	Rig repair. No return circ.	NXWL	Schist: 3064'-3075' Diabase: 3075'-3096' Clay zone: 3096'-3098' (Rec range: 100%)
9-30-64	3140	27.0	11-15(?)	3	Running rods & changing bit. No return circ.		Diabase(?) (Rec. range: 100%) Diabase (Rec. range: 100%)
10-01-64	3150	10.0	5-7(?)	3	Rig servicing. Twist-off at 1410' and fishing. No return circ.		
10-02-64							
10-09-64	3150	-0-	-0-	16	Fishing and reducing hole to BXWL	NXWL	
10-10-64	3182	32.0	13-17(?)	3	Running rods and changing bit. Return circ: 70%-95%.	BXWL	Diabase (schist incls @ 3172') (Rec. range: 57%-100%) Diabase (Rec. range: 100%) Diabase (Rec. range: 100%)
10-11-64	3201	19.0	5-7(?)	1	None noted. Return circ: 90%.		
10-12-64	3222	21.0	13.0	2	Running rods. Return circ: 60%-90%.		Diabase 3237*----- Pinal Schist
10-13-64	3253	31.0	15-17(?)	3	Running rods, drilling cave, and rig repair. Return circ: 80%-100%.		Diabase w/trs Cu, hm, py, and some clay to 3240'. Schist from 3240'-3253'. Schist (Rec. range: 8%-100%)
10-14-64	3268	15.0	6-8.5(?)	3	Running rods, changing bit, drilling cave, and repairing rig. Return circ: 70%-75%.		Schist (Rec. range: 62%-100%)
10-15-64	3287	19.0	14-18(?)	3	Drilling cave, some wedging, and pulling rods. Return circ: 50%-75%.		Quartz and Schist w/some clay. Some of the quartz rept'd to have st py on frags. Driller feels hole is making water. (Rec. range: 19%-100%)
10-16-64	3318	31.0		3	Drilling cave, running rods, and some wedging. Return circ: 70%-90%.		Clay from 3315'-3320'. (Rec. range: 50%) No core recovered below this.
10-17-64	3338	20.0	6-8(?)	2	Running rods, rig repair and fishing for rods below twist-off at 2767'. Return circ: 50%-80%.		
10-18-64	3338	-0-	-0-	2	Extending frame (?) of drill rig and fishing for twisted off drill rods.		
10-19-64	3351.5	13.5	6-7(?)	2	Running rods and servicing rig. Return circ: 100%.	BXWL	Schist w/intercepts of clay. (Rec. range: 13%-100%)

ICC'S OAK FLAT PROJECT
 DRILL HOLE AOF NO.1 DIAMOND DRILL - SPRAGE & HENWOOD

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION
			HOURS	SHIFTS			
10-20-64	3379.5	28.0	13-18(?)	3	None noted. Runs are all extremely short. Return circ: 75%-100%.	BXWL ↑	Schist w/minor qtz and clay (Rec. range: 17%-100%)
10-21-64	3404	24.5	8-12(?)	3	Running rods, bit change, rig repair, and some wedging. Return circ: 75%-80%.		Schist (Rec. range: 25%-100%)
10-22-64	3435	31.0	11-14.5(?)	3	Running rods, bit change, and rig repair. Return circ: 50%-80%.	↓ BXWL	Schist. Localized Fe ox & trs Nat Cu & py (Rec: 10%-100%)
10-23-64	3470	35.0	13-17(?)	3	Running rods. Return circ: 50%-90%.		Schist. Localized Fe ox, qtz, and trs Nat Cu (Rec: 100%)
10-24-64	3470	-0-	-0-	3	Drilling cave, running rods, attempting to clear core barrel, and rig and road repair.	Pinal Schist	Core not pulled. Schist (Rec. range: 100%)
10-25-64	3470	-0-	-0-	1	Attempting to drill out ca 200' of cave in hole.		
10-26-64	3474	4.0	1.0	1	Drilling cave in hole.		
10-27-64 BOTTOM	3475	1.0	1.0	1	Pulling rods. Return circ: 90%.		

*Formational Units and Contact Footages verbal from ICC (JDS)

SUMMARY FROM DRILLERS' SHIFT
 REPORTS WITH NOTATIONS ON
 FORMATION BY SAMPLER.

NPW--12/12/72

ICC'S OAK FLAT PROJECT
 DRILL HOLE AOF NO. 2 ROTARY - DIAMOND DRILL - BOYLES BROS.

(AOF = American Oak Flat)

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION
			HOURS	SHIFTS			
Miscellaneous notes on cover sheet of packet of shift reports:							
"Information from Joe Roberts on 6-6-68 via telephone -- Re Oak Flat #2 Hole"							
"History of Hole -- Casing stuck 320 ft. down from collar, and there exists 1500-1600 ft. of it. 3-1/2" casing probably goes from 320 ft. down to 1820-1920 ft."							
"H ₂ O table at 770 ft."							
"There is 10 ft. of 5" casing cemented in on collar. Used hammer drill from top down to ± 753 ft. -- indicated in drillers logs."							
8-30-66	0.0	0.0	0.0	1	Moved rig to site and brought in water truck.		
8-31-66	10.0	10.0	3.0	1	Set up rig and collared hole.	7-7/8"	Not mentioned
9-02-66	153.0	143.0	8.0	1	None		Dacite**
9-03-66	213.0	60.0	6.0	1	Service and repair of rig.		
9-06-66	258.0	45.0	4.0	1	Equipment repair.		
9-08-66	438.0	180.0	10.0	1	Equipment repair 2 hrs.		
9-09-66	513.0	75.0	12.0	1			
9-10-66	573.0	60.0	7.0	1	Service equipment.		
9-12-66	618.0	45.0	4.0	1	No water truck. Access road problem.		
9-13-66	618.0	0.0	0.0	1	No access to drill rig.		
						7-7/8(?) 5" (?)	
9-14-66	693.0	75.0	7.0	1	Dropped rods.	(Air Hammer)	
9-15-66	693.0	0.0	0.0	1	Fishing for rods.		
9-16-66	693.0	0.0	0.0	1	Fishing for and recovering rods.		Dacite
9-17-66	753.0	60.0	8.0	1	None.		----765*
9-19-66	770.0	17.0	?	1	Hit water @ 754' -- Problems clearing hole. Conversion to mud. Bit change @ 753'.	5" (?) 5" Roblt	Vitrophyre
9-20-66	770.0	0.0	0.0	1	Rig repair and continued conversion to mud.		
9-21-66	770.0	0.0	0.0	1	Waiting for equipment, mixing mud, and try to establish circ.		
9-22-66	790.0	20.0	3.0	1	Mixing mud & standby. Return circ. ca. 50%. Bit change @ 790'.	5"	Vitrophyre no tuff? ----800**
9-23-66	830.0	40.0	7.0	1	Mixing mud.		Whitetail cgl
9-24-66	870.0	40.0	8.0	1	None. Bit change @ 870'.		
9-26-66	900.0	30.0	8.0*	1	*Made 5 ft. spot-core run in 4.5 hrs. (This time included in the 8 hrs. drilling time).	5"	Not mentioned -- 5 ft. core run. (Rec. 100%)

ICC'S OAK FLAT PROJECT
 DRILL HOLE AOF NO: 2 ROTARY - DIAMOND DRILL - BOYLES BROS.

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION
			HOURS	SHIFTS			
9-27-66	945.0	45.0	7.0	1	Bit change @ 945'.	5"	Not mentioned.
9-28-66	980.0	35.0	5.0	1	Rig repair and Service.		Whitetail cgl
9-29-66	1021.0	41.0	4.0	1	Rig repair & mixing mud.		Not mentioned -- 5 ft. core
9-30-66	1040.0	19.0	7.0*	1	*Made 5 ft. spot-core run in 4 hrs. (This time included in the 7 hrs. drilling time.) Bit change @ 1026'.		run from 1021'-1026' (Rec. 100%) Not mentioned
10-01-66	1060.0	20.0	6.0	1	Washing rig.	5"	Not mentioned
10-03-66	1095.0	35.0	8.0	1	Bit change @ 1080'.		
10-06-66	1150.0	55.0	9.0	1	Equipment repair (1 hr.). Mixing mud (1 hr.).	4-3/4"	Not mentioned -- 4 ft. core
10-07-66	1150.0	0.0	0.0	1	Rig repair.		
10-08-66	1165.0	15.0	6.0	1	Rig repair. Bit change @ 1150'.	4-3/4"	Not mentioned -- 5 ft. spot- core run. 1300-1305
10-10-66	1190.0	25.0	8.0	1	None.		
10-11-66	1190.0	0.0	0.0	1	Lost 30 ft. of string in hole.		
10-12-66	1190.0	0.0	0.0	1	Fishing.		
10-13-66	1190.0	0.0	0.0	1	Fishing (6 hrs.). Equip. repair (2 hrs.).		
10-14-66	1194.0	4.0	4.0*	1	*Made 4 ft. spot-core run. (Drilling time shown at left.)		
10-15-66	1225.0	31.0	8.0	1	Bit change @ 1194'.		
10-17-66	1248.0	23.0	8.0	1	Bit change @ 1248'.		
10-18-66	1279.0	31.0	8.0	1	None		
10-19-66	1300.0	21.0	8.0	1	Bit change @ 1300'.		
10-20-66	1305.0	5.0	8.0*	1	*Made spot-core run. Problems with cave and core barrel.		
10-21-66	1339.0	34.0	8.0	1	Reamed 5 ft. of core hole.	Not mentioned -- 5 ft. spot- core run.	
10-24-66	1360.0	21.0	8.0	1	Bit change @ 1360'.		
10-25-66	1397.0	37.0	8.0	1	Bit change @ 1397'.	Not mentioned -- 5 ft. spot- core run.	
10-26-66	1402.0	5.0	7.0*	1	*Made 5 ft. spot-core run. Rig repair (1 hr).		
10-27-66	1421.0	19.0	5.0	1	Equipment repair.	4-3/4"	Not mentioned -- 5 ft. spot- core run. 1495-1500
10-28-66	1442.0	21.0	8.0	1	Bit change @ 1442'.		
10-29-66	1460.0	18.0	4.0	1	Mixing & conditioning mud. Driller states matrix of cgl has been going into sol.- no formation solids dispersion. (?)		
10-31-66	1495.0	35.0	8.0	1	Bit change @ 1495'.	4-3/4"	Not mentioned -- 5 ft. spot- core run. 1495-1500
11-01-66	1500.0	5.0	8.0*	1	*Made 5 ft. spot-core run.		

ICC'S OAK FLAT PROJECT
 DRILL HOLE AOF NO. 2 ROTARY - DIAMOND DRILL - BOYLES BROS.

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION
			HOURS	SHIFTS			
11-02-66	1525.0	25.0	8.0	1	Reamed core hole.	4-3/4"	Not mentioned.
11-03-66	1550.0	25.0	8.0	1	Bit change @ 1550'.	↑	Whitetail cgl
11-07-66	1584.0	34.0	8.0	1	Bit change @ 1584'	4-3/4"	
11-08-66		0.0	0.0	1	No access to rig -- heavy rain.		
11-09-66		0.0	0.0	1	Laying down rods.		
11-10-66		0.0	0.0	1	Trip to Phoenix for bushings.		
11-11-66		0.0	0.0	1	Ran 600 ft. of casing in hole.		
11-12-66		0.0	0.0	1	Ran 980 ft. of casing (12 hr.).		
11-13-66		0.0	0.0	1	Equipment repair.		
11-15-66		0.0	0.0	1	Made up 1600 ft. NXWL rods and conditioned hole.		
11-16-66	1582.0	0.0	0.0	1	Drilled inside casing to seat it & servicing equipment. First NXWL bit on @ 1581'.	NXWL	
11-17-66	1592.0	10.0	8.0	1	None	↑	
11-18-66	1601.0	9.0	3.0	1	Equipment repair (5 hrs.)		Not mentioned (Rec: 100%)
11-19-66	1614.5	13.5	5.0	1	Removing warped rods in string (3 hrs.).		Not mentioned (Rec: 100%)
11-21-66	1632.5	18.0	8.0	1	None. Two runs during shift.		Cgl (Rec: 100%)
11-22-66	1652.5	20.0	8.0	1	None. Two runs during shift.		↑
11-23-66	1672.5	20.0	8.0	1	None. Two runs during shift.		
11-24-66	1692.5	20.0	8.0	1	None. Two runs during shift.		↓
11-25-66	1698.8	6.3	8.0*	1	*Bit change @ 1693.1. Minor circ. loss.		
11-26-66	1715.0	16.2	8.0	1	None. Four runs during shift. Circ. return ca. 90%.		Cgl (Rec: 100%)
11-28-66	1735.0	20.0	8.0	1	None. Three runs during shift.		Cgl (Rec: 98%)
11-29-66	1753.8	18.8	8.0	1	None. Three runs during shift.		Cgl (Rec: 100%)
11-30-66	1775.6	21.8	8.0	1	None. Four runs during shift.		Cgl (Rec: 100%)
12-01-66	1791.8	16.2	8.0*	1	*Wireline cable broke 390' down hole. Three runs during shift.		Cgl (Rec: 100%)
12-02-66	1800.9	9.1	4.0	1	Equipment repair (3 hrs.). Mixing mud (1 hr.). Two runs during shift.		Cgl (Rec: 100%)
12-03-66	1815.8	14.9	8.0*	1	*Problem w/core barrel -- time shown includes beginning of rod pull. Two runs during shift.		Cgl
12-05-66	1815.8	0.0	0.0	1	Running rods and cementing hole.		NXWL

ICC'S OAK FLAT PROJECT
DRILL HOLE AOF NO: 2 ROTARY - DIAMOND DRILL - BOYLES BROS.

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION
			HOURS	SHIFTS			
12-06-66	1815.8	0.0	0.0	1	Washing out cement which had not set. Drilled out plug. Bit change @ 1815.8'.	NXWL	Whitetail Cgl
12-07-66	1835.9	20.1	8.0	1	Problem w/mismatched core tube. Three runs during shift.	↑ ↓	(Rec: 90%)
12-08-66	1861.1	25.2	8.0	1	None. Four runs during shift.		(Rec: 100%+)
12-09-66	1880.6	19.5	8.0	1	None. Three runs during shift.		(Rec: 92%)
12-10-66	1897.1	16.5	7.0	1	Equipment repair (1 hr.). Three runs during shift.		(Rec: 89%)
12-12-66	1898.1	1.0	5.0	1	Problem with core barrel. Equipment servicing. Bit change @ 1898.1'.		(Rec: 100%)
12-13-66	1915.2	17.1	8.0	1	None. Three runs during shift. Five ft. of cave rept'd. in hole.		(Rec: 99%)
12-14-66	1933.1	17.9	8.0*	1	*Servicing equip. included in time shown at left. Three runs during shift.		(Rec: 100%)
12-15-66	1954.5	21.4	8.0	1	None. Three runs during shift.		(Rec: 100%)
12-16-66	1981.9	27.4	8.0	1	None. Three runs during shift.		(Rec: 100%)
12-17-66	1999.9	18.0	8.0	1	None. Two runs during shift. Changed mud.		(Rec: 100%)
12-18-66	2016.6	16.7	8.0	1	None. Three runs during shift.		(Rec: 100%)
12-19-66	2024.9	8.3	8.0*	1	*Time shown at left includes problems encountered when shoe came unscrewed and two breaks in the wireline cable. Two runs during shift.		(Rec: 100%)
12-20-66	2035.2	10.3	5.0	1	Equipment repair (3 hrs.).		(Rec: 100%)
12-21-66	2043.9	8.7	8.0*	1	*Bit change @ 2036.2'. Two runs during shift.	(Rec: 100%)	
12-22-66	2061.0	17.1	8.0	1	None. Three runs during shift.	(Rec: 100%)	
12-23-66	2075.0	14.0	8.0	1	None. Four runs during shift.	(Rec: 100%)	
12-27-66	2075.0	0.0	0.0	1	No road access to rig.		
12-28-66	2081.2	6.2	3.0	1	Achieving access to rig & thawing out hoses (5 hrs.). One run during shift.	(Rec: 100%)	
12-29-66	2092.0	10.8	8.0	1	None. Three runs during shift.	(Rec: 100%)	
12-30-66	2103.0	11.0	8.0	1	None. Four runs during shift.	(Rec: 100%)	
12-31-66	2112.8	9.8	8.0	1	None. Mixed new mud & adjusted clutches on sandline & kelly hoists. Three runs during shift.	NXWL	Cgl (Rec: 100%)

ICC'S OAK FLAT PROJECT
DRILL HOLE AOF NO. 2 ROTARY - DIAMOND DRILL - BOYLES BROS.

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION	
			HOURS	SHIFTS				
1-03-67	2132.0	19.2	8.0	1	None. Three runs during shift.	NXWL	Whitetail	
1-04-67	2148.0	16.0	8.0	1	None. Bit change @ 2148.0'.		Cgl (Rec: 100%)	
1-05-67	2155.0	7.0	8.0*	2	*Drilling & washing cave. One run during 1st shift.		Cgl (Rec: 66%)	
1-06-67	2179.0	24.0	16.0*	2	*None noted. Three runs during 1st shift. Unknown number on 2nd shift.		Cgl (Rec: 100% on 1st shift)	
1-07-67	2198.2	19.2	16.0*	2	*None noted. Number of runs not noted.		Not mentioned	
1-09-67	2214.6	16.4	16.0*	2	*None noted. Light failure on 2nd shift. Three runs made on 2nd shift. First shift spent 3 hrs. thawing equipment.		Cgl (Rec: 100% on 2nd shift)	
1-10-67	2225.2	10.6	8.0*	1	*None noted. Driller mentions equip. failure.		Cgl (Rec: 100%)	
1-11-67	2253.0	27.8	?	?	Shift report(s) missing.			
1-12-67	2264.0	11.0	8.0*	2	*First shift driller notes problems w/caving. Second (8 hr.) shift twisted off rods & spent bal. of time fishing.		Not mentioned	
1-13-67	2264.0	0.0	0.0	23	Fishing rods and drilling cave to top of core barrel. Hole had caved up to 1560'.			
1-25-67	2264.0	0.0	0.0	23	Fishing rods and drilling cave to top of core barrel. Hole had caved up to 1560'.			
1-26-67	Unknown	0.0	16.0*	2	*Drillers' notes read: "Mixed mud...drilled 10' of steel -- Deflected hole & drilled 3' of new hole!"			
1-27-67	Unknown	0.0	16.0*	2	*Drilled cave from 2096'-2112'. Hole still caving.			
1-28-67	2261.1	9.1	8.0	2	Drilling cave from 2112'-2252' (9 hours).			
1-30-67	2274.4	13.3	11.0*	2	*Lost circ. & mixing new mud (1 hr.). Pulled rods and put on diamond bit (? hrs.). Put rods back in hole and drilled cave from 1914'-2074' (8 hrs.).			
1-31-67	2281.9	7.5	6.0	2(?)	Equipment repair (2 hrs.). Drilled & washed 200' to bottom and mixed mud (8 hrs.).			
2-01-67	2295.5-2335.5	40.0	18.0(?)	3-4(?)	Four shift reports this day. No accounting for interval 2281.9-2295.5'. Repair core barrel, run rods & mix mud.			(Rec: 100%)
2-02-67	2355.5	20.0	7.0	3	Bit change @ 2335.5'. Drilled 40 ft. of cave & mixed mud. Seven runs in two of the three shifts.	NXWL	Cgl (Rec: 100%)	

ICC'S OAK FLAT PROJECT
 DRILL HOLE AOF NO: 2 ROTARY - DIAMOND DRILL - BOYLES BROS.

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION
			HOURS	SHIFTS			
No shift reports for period from 2-3-67 to 4-7-67 inclusive. Note on cover sheet of packet of shift reports reads: "Period in which hole was lost and redrilled after wedging it."							
4-08-67	2348-2382	34.0	16.0*	2	*Some problems with core barrel. Total of seven core runs made.	NXWL ↑ ↓ NXWL	Whitetail Conglomerate Not identified - described as hard and broken.
4-10-67	2406.0	24.0	15.0*	2	*Equipment repair and running rods. Total of five core runs made. Shift report states that bit went on at 2298 (did driller mean 2398?).		Not identified - described as muddy and broken.
4-11-67	2444.0	38.0	16.0*	2	*Total of seven core runs made.		Not identified - described as hard and broken. (Rec: 100%)
4-12-67	2461.0	17.0	10.0	2	Equipment repair, mixing mud, and problems with weather. Total of four core runs made.		Described as hard and broken (Rec: 100%).
4-13-67	2471.0	10.0	13.5	2	Equipment repair, bit change (at 2468?), drilling some cave at 2043' and 2228'. Total of five core runs made.		Described as hard in spots and broken (Rec: 100%).
4-14-67	2511.0	40.0	16.0	2	Driller mentions hole is squeezing some. Total of nine runs made.		Described as broken and muddy, and hard and broken.
4-15-67	2547.0	36.0	8.0+*	2	*No drilling time shown on 1st shift report. Both drillers mention trouble with a tight hole. Total of six runs made.		Described as broken (Rec: 100%).
4-17-67	2577.0	30.0	15.0	2	First shift driller mentions that hole is tight. Mixed a barrel of diesel with mud. Rigged a third line on draw works.		Described as badly broken, and hard and broken (Rec: 82%-100%).
4-18-67	2616.0	39.0	16.0	2	One report notes that cutting is slow. Total of six core runs made.		Cgl - described as hard and broken (Rec: 100%).
4-19-67	2653.0	37.0	16.0	2	Minor equipment repair (No time?). Total of six core runs made.		Described as muddy and broken (Rec: 100%).
4-20-67	2690.0	37.0	16.0	2	Both drillers note as tight, mixing diesel and Con Det. Total of six core runs made.	Not identified. Described as broken (Rec: 100%).	

ICC'S OAK FLAT PROJECT
 DRILL HOLE AOF NO. 2 ROTARY - DIAMOND DRILL - BOYLES BROS.

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION
			HOURS	SHIFTS			
4-21-67	2714.0	24.0	8.0+*	2	*No time distribution noted on one shift report. Total of five core runs made.	NXWL ↑ ↓ NXWL	Whitetail Conglomerate Described as badly broken (Rec: 100%)
4-22-67	2716.0	2.0	6.0*	2	*Time doubtful. Hole tight and only one run made. Mixed fresh mud and changed bit (run from 2468'-2716').		Described as broken (Rec: 100%)
4-24-67	2727.0	11.0	?	2	No time distribution given. Drilled some cave from 2054'-2716' on 1st shift. Second shift made four core runs.		Described as badly broken (Rec: 100%)
4-25-67	2764.0	37.0	16.0*	2	*Hole caving some. Total of eight core runs made.		Described as badly broken (Rec: 94%-100%)
4-26-67	2798.0	34.0	16.0*	2	*Total of eight core runs made.		Cgl - described as broken (Rec: 100%)
4-27-67	2830.0	32.0	14.0	2	Hole tight with some cave. Some equipment repair.		Described as hard and broken (Rec: 100%)
4-28-67	2859.0	29.0	16.0*		*Hole tight and caving at bottom. Some equipment repair (no distribution of time). Total of six core runs made.		Described as broken and muddy and very hard (Rec: 88%-100%)
4-29-67	2866.0	7.0	?	2	Bit change (@ 2866'?), running rods, and problem with cave below 2072'. Only one core run made.		Not identified. Described as broken (Rec: 100%)
5-01-67	2866.0	0.0	0.0	2	Drilling and washing from 2300'-2866'. Hole tight.		
5-02-67	2880.0	14.0	8.0(?)	2	Problems with tight hole, cave, and core barrel. Three runs made during second shift.		Described as broken (Rec: 100%)
5-03-67	2906.0	26.0	14.0	2	Equipment repair, tight hole, and some cave. Total of six core runs made.		Described as broken and muddy (Rec: 100%)
5-04-67	2931.0	25.0	15.0	2	Cutting slowly. Some problems with mud pump. Total of six core runs made.		Described as broken (Rec: 100%)
5-05-67	2965.0	34.0	16.0*	2	*Includes drilling 10 ft. of cave. Total of five core runs made.		Described as muddy and broken (Rec: 100%)
5-06-67	2988.0	23.0	16.0	2	Drilling described as slow. Total of six core runs made.		Described as very hard and broken, and muddy and broken (Rec: 100%)

ICC'S OAK FLAT PROJECT
 DRILL HOLE AOF NO. 2 ROTARY - DIAMOND DRILL - BOYLES BROS.

Page 8 of 8 Pages

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION
			HOURS	SHIFTS			
5-08-67	2993.0	5.0	6.0	1(?)	Mixing mud. Hole tight. Total of two core runs made.	NXWL	Described as broken. Whitetail Conglomerate**

J. D. Sell indicates TD = 3058 ft. Packet contains no further information.

NPW 1-15-73

**Formation Unit and Contacts verbal from ICC (JDS)

**Geology log reports.

3039 Ps (?) Large cemented Ps fragments (?)

3058 Bottom of Hole

(AOF = American Oak Flat)

ICC'S OAK FLAT PROJECT
DRILL HOLE AOF NO. 3 ROTARY - L.R. COX DRILLING CO.

1968 Assessment Year

Verbally reported by ICC to be 122 feet deep and terminating
in Tertiary Dacite. Drilled in 1968(?) (JDS)

(AOF = American Oak Flat)

ICC'S OAK FLAT PROJECT
DRILL HOLE AOF NO. 4 ROTARY - L.A. DRILLING COMPANY (RIG No. 2)

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION
			HOURS	SHIFTS			
8-20-69	0-50	50.0	?	1	Move onto location, set head pipe and flange, and cement in place.	AIR HAMMER	Dacite*
8-21-69	170	120.0	?	1	None noted.		Not identified. Described as soft & damp from 36'-42'. Described as soft & moist from 147'-163'. Few damp clay seams. Described as hard & dry.
8-22-69	280	110.0	?	1	None noted.		Not noted.
8-25-69	330	50.0	?	1	Service rig. No time distribution.		Described as very hard & dry. Solid rock.
8-26-69	390	60.0	?	1	None noted.		Described as hard & dry.
8-27-69	450	60.0	?	1	None noted.		Described as hard & dry. Lighter color of red.
8-28-69	510	60.0	?	1	None noted.		
8-29-69	570	60.0	?	1	None noted.		
8-30-69	620	50.0	?	1	None noted.		
8-31-69	670	50.0	?	1	None noted.		
9-02-69	710	40.0	?	1	None noted.		
9-03-69	750	40.0	?	1	None noted.		
9-04-69	790	40.0	?	1	None noted.		Described as soft 782'-787'. No cave - clean hole. Not identified. Described as hard & dry. Formation change noted at 846'. Described as soft & damp-with boulders-wet & muddy at 853'. No samples below 853'. Dacite*
9-05-69	840	50.0	?	1	None noted.		
9-06-69	864	24.0	?	1	None noted.		
9-07-69	864	0.0	?	1	Loss of circ. and inability to clear hole.		5-1/2"
9-08-69		0.0	?	1	Conversion from air hammer to 5-1/2" roller bit. Continued loss of circ.		
9-09-69		0.0	?	1	Almost total loss of circ. Pull bit and meas. depth to fluid level. Water reported standing at 762'.		
9-10-69		0.0	0.0	1	Standby -- waiting for pump test.		
9-11-69	864	0.0	0.0	1	Move off of property -- clean up site -- cap hole with 4" cap -- job completed.		

*Formation Unit and Contacts Verbal from ICC (JDS).

NPW 1-17-73

(AOF = American Oak Flat)

ICC'S OAK FLAT PROJECT
 DRILL HOLE AOF NO. 5 ROTARY - J.O. BARNES DRILLING COMPANY

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION
			HOURS	SHIFTS			
8-31-70	0-10	10.0	?	1	Rig up, set 10 ft. of 8" conductor pipe and cement in. Connections made for air hammer.	9-7/8"	Not mentioned
9-01-70	159	149.0	10.5	1	Running rods (Trip in and out of hole).	6-1/2" ↑ AIR HAMMER ↓ 6-1/2"	Dacite* ↑ Dacite ----1040* Whitetail Cgl ↓ Not mentioned
9-02-70	305	146.0	10.5-11.0	1	Running rods (Trip in and out of hole).		
9-03-70	305	0.0	0.0	1	Equipment repair.		
9-09-70	420	115.0	11.0-11.5	1	Running rods (Trip in and out of hole).		
9-10-70	440	20.0	?	1	Wet hole -- attempting to clear it.		
9-11-70	520	80.0	9.0(?)	1	Running rods and cleaning hole at end of day. Initiate use of foam.		
9-12-70	600	80.0	9.0(?)	1	Running rods and cleaning hole at end of day. Rained out.		
9-13-70	690	90.0	9.0(?)	1	Time not detailed. Shift report same.		
9-14-70	795	105.0	9.0(?)	1	Time not detailed. Shift report same.		
9-15-70	855	60.0	9.0(?)	1	Time not detailed. Shift report same.		
9-16-70	915	60.0	8.5	1	Running rods and cleaning hole at end of day.		
9-17-70	985	70.0	8.5	1	Running rods and cleaning hole at end of day.		
9-18-70	1020	35.0	6.0	1	Running rods and clearing hole at both beginning and end of day.		
9-19-70	1060	40.0	7.0	1	Running rods and clearing hole at both beginning and end of day.		
9-21-70	1100	40.0	6.5	1	Running rods and clearing hole at both beginning and end of day.		
9-22-70	1130	30.0	2.0	1	Running into hole and clearing on trip to bottom (7.5 hrs). Trip out (2 hrs.).		
9-23-70	1183	53.0	5.0	1	Running rods and clearing hole: (2.5 hrs.) going into hole. Pulling rods to unplug air hammer. Change over to 1200 cfm air compressor.		
9-24-70	1183	0.0	0.0	1	Attempting to clear hole (9 hrs.). Air hammer failure - trip out.		
10-13-70	1183	0.0	0.0	2 (12 hrs.ea.)	Used 6 gals. foam - trip in to clean hole - round trip for plug bit - back in hole - clean out to bottom by 1900 hrs.	Not mentioned	

ICC'S OAK FLAT PROJECT
 DRILL HOLE AOF NO. 5 ROTARY - J.O. BARNES DRILLING COMPANY

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION
			HOURS	SHIFTS			
10-14-70	1183	0.0	0.0	2	Used 10 gals. Quik-Foam. Cleaning out drill pipe - trip out - trip in w/hammer. Start @ 0300 hrs.	6-1/2"	Not mentioned
10-15-70	1241	58.0	18.5(?)	2	Service rig. Cleaning hole - on bottom ca. 1230 hrs. Two shifts used 12.5 gals. Quik-Foam.	↑	Whitetail Cgl
10-16-70	1410	169.0	24.0(?)	2	Service rig while drilling. Some circ. to clear hole. Used 11 gals. Quik-Foam.		
10-17-70		0.0	0.0	2	Attempting to clear hole and establish circulation.		
10-19-70		0.0	0.0	2)	Attempting to clear hole and establish circulation.		
10-20-70		0.0	0.0	2)			
10-21-70		0.0	0.0	2	Rigged air lines for IR Compressor - rig up mist pump. Picked up fill at 1266'.		
10-22-70		0.0	0.0	1	Used 13 gals Quik-Foam & 10 sks. Quik-Gel. Trip out - prepare to ream 12-1/2" hole. Hole filled to 1266'.		
10-23-70		0.0	0.0	1	Wait on mud pits.		
10-24-70		0.0	0.0	1	Drilled out surface pipe - preparing to mix mud.		
10-26-70		0.0	0.0	1	Reaming and setting surface pipe and rig repair.		
10-30-70- 11-07-70 11-08-70		0.0	0.0	9	Equipment repair and bringing in tanks, chemicals, mud, etc. for con.		
11-09-70- 11-16-70	1410	0.0	0.0	16	Working on mud tanks and line. Started mixing mud. Mixing mud, chemicals, and lost circ. material, hauling water, and trying to establish circulation. (Exceptionally large quantities of these materials were used.)	↓	Not mentioned
11-17-70	1488	78.0	15.0	2 (12 hrs. ea.)	Cleaning hole and running rods. New bit in hole.		
11-18-70	1576	88.0	24.0	2	None noted.		
11-19-70	1685	109.0	18.0	2	Service rig, equipment repair. Bit change @ 1595'		

ICC'S OAK FLAT PROJECT
 DRILL HOLE AOF NO. 5 ROTARY - J.O. BARNES DRILLING COMPANY

DATE	DEPTH AT END OF DAY	FOOTAGE	DRILLING		DELAYS	HOLE SIZE	FORMATION
			HOURS	SHIFTS			
11-20-70	1726	41.0	16.5	2	Running rods during trips in and out of hole.	6-1/4"	Not mentioned
11-21-70	1730	4.0	1.5	2	Mixing mud, hauling water, and reaming to bottom. Bit change @ 1726'.	↕	Whitetail Cgl
11-22-70	1755	25.0	12.0(?)	2	Mixing mud, attempting to regain lost circ., running rods, and standing back joints of drill pipe.		
11-23-70	1755	0.0	0.0	1	Servicing rig and laying down all drill pipe.	6-1/4"	Not mentioned
BOTTOM							Whitetail Cgl*

Driller's note reads: Still losing circulation - Hydro head standing @ 450'. No trouble drilling - just a constant loss that took mud gradually - hole clean - no fill or connection trouble. No...fill after cleaning out cavity @ 1266' to 1280'. Congl. sealed off - standing...well.

NPW 1-18-73

*Formation Unit and Contact Footage verbal from ICC (JDS)

TO

JAS

FROM

SUBJECT

(aspiration)

DATE

/ /

MESSAGE

I-2 (ASAPCO MAT) = 122' location hdr

was originally called ADF-3

RH-1; RH-2 originally ADF-4; ADF-5

SIGNED

REPLY

SIGNED

DATE

/ /

ICC Mill Holes
Superior East Map Changes

Map
2271

Change I-1 to AOF-1

0-1106 Td

1106-2939 Tw

2939-3237 PE dl.

3237-3475 PE DC.

Change I-2 to AOF-3

0-122 Td

Change I-3 to AOF-2

0-800 Td

800-3058 Tw

2258

Change I-4 to AOF-4

0-⁸⁶⁴835 Td

by log diller.

Change I-5 to AOF-5

0-1040 Td

1040-1755 Tw

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

October 26, 1970

TO: W. E. Saegart

FROM: J. D. Sell

Re: Superior East Drilling
ICC (Barnes) Rig
Pinal County, Arizona

On Friday, October 23, 1970, I talked with Hugh Olmstead, Chief Exploration Geologist for Inspiration Consolidated Copper Company, on the possible allowance of letting Howard Crittendon observe the drilling techniques of ICC's present attempt in drilling on the Dacite Plateau. Hugh was agreeable to this and requests Howard to check in with him first (Miami phone 473-2411, Ext. 366).

The hole (in SE 1/4, Sec. 24, T 1 S, R 13 E) east of Hutton Peak is being drilled by the J. O. Barnes Drilling Company of Casa Grande. I had previously talked with J. O. Barnes, and Tom Brock (drilling foreman) and they were agreeable (subject to ICC's approval) to allow this oversee of drilling techniques.

The hole had been taken down to 1183 feet by a small rig and at that depth a change was made to a large rig capable of taking the hole to a planned depth of 3500 feet. However, they are apparently in the Whitetail Conglomerate and have not yet been able to reach 1183 with the new rig. Apparently, using high pressure air, they have created a caving-hole situation and are removing much material but not making any depth. The rig is now "down" to correct the situation and Hugh suggests it will be Wednesday (28th) or Thursday (29th) before normal drilling resumes.

Perhaps Howard should keep in touch with Hugh or J. O. in order to decide on the best days for observing progress.

J. D. Sell
J. D. Sell

JDS:mw

cc: H. L. Crittendon

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

December 2, 1970

TO: J. D. Sell

FROM: H. L. Crittendon

Re: Drilling - Dacite Plateau

For the record, I would like to report on the observations made during my visit to Inspiration's drill hole near Hutton Peak (J. D. Sell memo October 26) and subsequent talks with Tom Brock of Barnes' Drilling Company.

This hole was drilled with a 6-1/4" hammer drill to a depth of 1,410 feet. Water was encountered at about 400 feet and foam was used successfully to approximately 1,350 feet. Their large 3-stage high-pressure compressor broke down for two days and drilling was then resumed with considerable difficulty. Brock claims that this two-day shut-down was the source of their difficulty because the conglomerate, which was encountered at about 1,150 feet, became unstable and sloughed. Brock stated that the first 200 feet of the conglomerate drilled well until the compressor broke down.

When I arrived at the job site on November 11, they were trying to obtain circulation with a medium-viscosity mud with a very high content of lost circulation material. About 12,000 gals. were pumped down that morning with no return. A few days later circulation was obtained and drilling was continued until the hole was bottomed at 1,710 feet, when circulation was again lost. At least (probably much more) 60,000 gals. of lost circulation material was pumped into this hole.

Barnes was working on a day rate with a modified trailer-mounted Franks rig. Hugh Olmstead had approached Barnes about continuing the hole (after 1,410 feet) on a footage basis but Barnes refused. The hole was definitely stopped because the money appropriated for this hole by Inspiration was used up.

There are as many different opinions on how to drill in this area as there are drillers. Most of the drill people I have talked to claim that air drilling should be switched to mud drilling before the Whitetail is encountered and some claim the mud drilling should be commenced from the surface. My own thoughts (at present) are that the large trailer mounted rotary rigs are not the answer to drilling in this area. The reasons for this are that air drilling is not practical much below the water table and

Mr. J. D. Sell

-2-

December 2, 1970

mud drilling is slow and expensive. These rigs are usually on a day rate at about \$50/hr plus bits, muds, and other incidentals. Mud rotary drilling in the dacite will probably not exceed 150 feet per day. This will put the cost per foot drilled (at very best) around \$10. I believe these holes would be bottomed cheaper by air drilling as deep as possible with a smaller rotary rig, then casing the hole and moving a large diamond drill (such as a CP-50) and continuing with NC size core and reduce as necessary. Boyles has this equipment available and have experience in the area. I believe they should be contacted if and when we become serious about drilling in the area.

H. L. Crittendon

H. L. Crittendon

HLC:mw

cc: W. E. Saegart
W. L. Kurtz

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

February 7, 1972

FILE MEMORANDUM

Native Copper
Inspiration Drill Holes
Superior East Project
Pinal County, Arizona

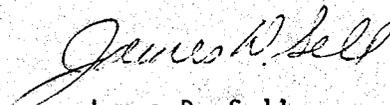
Verbal comment (2-6-72) from W. E. Saegart, who talked with Pat Ryan (Anaconda geophysicist on job during Inspiration drilling):

^{ADF-1}
Southern Inspiration hole, I-1, in Section 35, T1S, R13E, contained very sparse native copper in Whitetail core.

^{I-4 ADF-2 ?}
Northern Inspiration hole, I-4, in Section 24, T1S, R13E, had visible native copper in Whitetail core. Assays reported of \pm 0.2% copper.

Both holes were cored from the surface. Hole I-1 intercepted Whitetail from 1105-2939, then entered Precambrian schist and diabase, unaltered and unmineralized, to depth of 3475. Hole I-4 was, verbally by Boyles Brothers, cored to 3000 ending in Whitetail. Based on adjacent "Barnes" hole I-5, it is suspected that top of Whitetail would be around 1100 feet in depth. Thus, some 1900 feet of Whitetail have been cored in the hole.

As noted previously, Inspiration has drilled four holes in a line along the projected southern edge of the Schultze granite. Their present claim holdings contain the last three holes drilled and supports continued interest in the area.


James D. Sell

JDS:lad

cc: WLKurtz

FILE



Inspiration Consolidated Copper Company

INSPIRATION, ARIZONA 85537

Rawhide

August 21, 1973

Mr. James D. Sells
American Smelting &
Refining Company
Tucson, Arizona

Dear Jim:

AI-1

A Stadia Survey of the drill hole collar, in the northwest portion of the Crook claims, places it 421 feet in a S48°39'E direction from triangulation station 26.

I trust this data will be adequate for your needs.

Sincerely yours,

Rene von Boeck

Rene von Boeck
Assistant Chief Exploration Geologist

RvB/am

cc: Mr. H. W. Olmstead

AMERICAN SMELTING AND REFINING COMPANY
TUCSON ARIZONA

August 22, 1974

TO: J. D. Sell

FROM: A. W. Scott-Fleming

Rawhide Project
Pinal County, Arizona

The following cores have been skeletonized from the Rawhide Project and are presently stored at our Claypool warehouse.

Hole AI-1

<u>Box #</u>	<u>From</u>	<u>To</u>	<u>Box #</u>	<u>From</u>	<u>To</u>
1	2802	2804-	4	3405	3407-
	2851	2853- <i>correct set</i>		3451	3453-
	2904	2906 <i>not in log</i>		3503	3505-
	2956	2958-		3555	3557-
	3001	3003- <i>correct set</i>		3604	3606-
2	3043	3045 <i>not in log 3050-3040</i>	5	3657	3659-
	3054	3056-		3705	3707-
	3103	3105-		3754	3756-
	3155	3157-		3807	3809-
	3180	3182-		3854	3856-
3	3206	3208-	6	3902	3904-
	3252	3254-		3956	3958-
	3300	3302-		3967	T.D.
	3338	3340-			
	3356	3358-			



A. W. Scott-Fleming

AWS:1b

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

September 6, 1973

TO: W. L. Kurtz

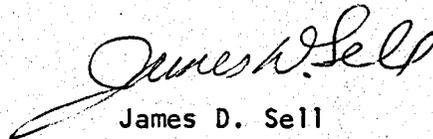
FROM: J. D. Sell

Daily Drill Data
Drill Hole AI-1
Rotary Drilling
ASARCO/ICC Joint Venture
Rawhide Project
Pinal County, Arizona

Attached is a daily log of the rotary drilling on drill hole AI-1. The information shown is the date, depth at end of the day, footage drilled during the day, the number of hours charged to drilling and the number of shifts involved, explanation of delays, size of hole, and the geological units encountered.

Compiled from this data is a breakdown of the shifts and footage by a) depth, using approximate 1000-foot intervals; b) by bit size; and c) by rock unit, 1) with all down time included, and 2) excluding down time.

These figures are in the same format for comparison of drill holes A-1, A-2, A-4, and A-5 rotary drilling.


James D. Sell

JDS:1b
Attachs.

ASARCO/ICC Joint Venture Hole AI-1
 Drill Rig: J.O. Barnes Howard-Turner Drill Master
 Air: 2 - JOY WB-102 Compressors w/JOY 02-1500 Booster.

<u>Date</u>	<u>Depth at End of Day</u>	<u>Footage</u>	<u>Drilling</u>		<u>Delays</u>	<u>Hole Size</u>	<u>Formation</u>
			<u>Hours</u>	<u>Shifts*</u>			
<u>1973</u>							
7/16	--	--	--	-	Moving on location.		
7/17	--	--	--	-	Rigging up.	— 0 —	— 0 —
7/18	25	25	8	3	Completing rigging. Drilling pilot hole - reaming w/15".	15"	
7/19	25	--	--	3	Set 20 feet of 12-3/4" surface casing & cemented same.	— 25 —	
7/20	263	238	11	3	Worked on hammer & drilling head.		
7/21	505	242	16	3	Hard drilling; changed out hammer; bit change @ 386 ft.		
7/22	938	433	11	3	Water at 762 ft. Low fuel supply - compression down. Tripped.		
7/23	1092	154	7	3	Hammer plugged twice; compressor repair.	9"	Dacite
7/24	1179	87	5	3	Tripping; hammer plugged twice.		
7/25	1287	108	7-1/2	3	Hammer plugged; winch truck repair; moved casing.		
7/26	1287	--	--	3	Cleaned hole; running 7" OD casing in hole.		
7/27	1287	--	--	3	Set casing at 1282 feet; 35 sacks cement.	— 1287 —	
7/28	1287	--	--	2-1/4	Remounted casing head; changed out tools.	6-1/4"	
7/29	1312	25	12	3	Completed change out; drilled plug out.		
7/30	1479	167	14	3	Tripped; bit change @ 1357 ft. (Hole reduction)	— 1357 —	— 1565 —

7/31	1905	426	20	3	Cleaned hole; clutch & airhead repair. Bit change @ 1905'.		
8/01	2139	234	19	3	Worked on air head.	6"	Earlier Volcanics
8/02	2272	133	14	3	Compressor oil low; one compressor down.		—2250—
8/03	2550	278	19-1/2	3	Tripping; bit change @ 2377'; reaming.	—2377—	
8/04	2766	216	14	3	Tripping; bit changes @ 2570' & 2766'; reaming.		
8/05	--	--	--	3	Standby for fuel for compressors.		
8/06	2312	--	--	2-1/2	8 hrs. standby; repair work; tripped; bit plugged; fill-up.		
8/07	2312	--	--	3	Hole fill-up problems; unable to make connection on clean-up.		
8/08	2312	--	--	3	Clean-up; converting to mud; mixing, etc.	5-5/8"	Whitetail Conglomerate
8/09	2342	--	--	3	Mixing mud; equip. repair; washing & reaming.		
8/10	2718	--	--	3	Repair work; washing & reaming.		
8/11	2768	2	1	3	Cleaning hole; washing & reaming; laying down; preparing to case.		
8/12	2768	--	--	3	Running casing to 2768' & cementing w/44 sacks.	—2768—	—2768—

Total Depth

DRILL HOLE AI-1
Rotary Drilling

Drilling time by depth brackets, including down time.

<u>Depth</u>	<u>Size</u>	<u>Shifts</u>	<u>Days</u>	<u>Footage</u>	<u>Ft/Shift</u>	<u>Delays</u>
0-938	15"-9"	13	5	938	72.2	Surf. casing (3), water, compress.
938-1905	9", 6-1/4", 6"	26-1/4	9	967	36.8	7" Casing (11-1/2), plugged hammers.
<u>1905-2768</u>	<u>6" - 5-5/8"</u>	<u>35-1/2</u>	<u>12</u>	<u>863</u>	<u>24.3</u>	Comp. standby (4); hole-fillup (16-1/2), 4" casing (3).
0-2768		74-3/4	26	2768	37.0	

Drilling time by bit size, including down time.

<u>Bit Size</u>	<u>Depth</u>	<u>Shifts to Depth</u>	<u>Footage</u>	<u>Ft/Shift</u>
15"-9"	1287	26	1287	49.5
6-1/4"-6"-5-5/8"	2768	48-1/2	2768	30.5

Note: Installation of 7" casing required 11-1/2 shifts. These were distributed 6 & 5-1/2 between the two categories above.

Drilling time by rock unit.

<u>Rock Unit</u>	<u>Depth</u>	<u>Shifts to Depth</u>	<u>Footage</u>	<u>Ft/Shift W/Downtime</u>	<u>Ft/Shift Excluding Downtime</u>
Dacite	0-1565	36-3/4*	1565	42.6	62.0
Earlier Volcanics	1565-2250	8-1/2	2272	83.2	83.2
Whitetail Cgl.	2250-2768	29-1/2**	2768	16.8	82.7

* 11-1/2 shifts involved in placing 7" casing.

** 23-1/2 shifts involved in standby, hole-cleanup, & placing 4" casing.

AMERICAN SMELTING AND REFINING COMPANY
TUCSON ARIZONA

December 13, 1973

TO: W. L. Kurtz

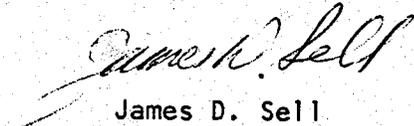
FROM: J. D. Sell

Daily Drill Data - Unit Contacts
Drill Hole AI-1
Core Rig CP-50
Rawhide Project
Pinal County, Arizona

Attached is the daily log of coring by Boyles Brothers on drill hole AI-1. The information shown is the date, depth of hole at end of day, the footage cut during the day, the hours charged to drilling, the number of shifts involved, short comments on the delays, the size of core, the geologic units, and the contact footages.

Compiled from this daily data is a breakdown of the shifts and footage by a) depth bracket based on Boyles footage rate contract, and b) by geologic units encountered.

The poor overall footage per shift was mechanical problems on the coring machines, which necessitated changing motors, servo mechanisms, and finally the entire rig.


James D. Sell

JDS:1b
Attachs.

DRILL HOLE AI-1, RAWHIDE PROJECT
Boyles Brothers, CP-50

<u>Date</u>	<u>Depth at End of Day</u>	<u>Footage</u>	<u>Drilling</u>		<u>Delays</u>	<u>Hole Size</u>	<u>Formation</u>
			<u>Hours</u>	<u>Shifts*</u>			
<u>1973</u>							
9/25							
9/29	0	--	--	-	Moving rig, setting up, cleaning hole, etc.		
10/01	2800	--	--	3	Drilling, plug out of 4" casing at 2768; washing 6' of sand cave; rotary @ 2800'.	2800	2800
10/02	2805	5	1	3	Washing sand & cased 32' of hole, rock bit to clean, & cemented		
10/03	2805	--	--	3	Junk iron in hole, cleaned, cemented, cleaned.		
10/04	2809	4	8	3	Cementing and standby.		Whitetail Cgl.
10/05	2809	--	--	3	Cementing, set time, checked cement, cemented again.		
10/06	2809	--	--	3	Waiting on cement to set.		(M-1A type Slide Block)
10/07	2809	--	--	-			
10/08	2810	1	1	3	Drilled 202 ft. of cement.		
10/09	2850	40	11	3	Built doghouse. Pulled for bit change @ 2820.		
10/10	2931	81	24	3		NC	
10/11	3014	83	24	3			
10/12	3032	18	12	3	Put new motor on drill -- old one making water in oil. Bit change @ 3015.		
10/13	3052	20	6	2	10 hrs. equip. repair (hydraulic pump)		3046
10/14	3052	--	--	-			Schist-Granite Breccia Slide Block (A-2 type)
10/15	3072	20	6	2	10 hrs. equip. repair (servo mech.). Hydraulic system heating.		
10/16	3091	19	6	3	12 hrs. replaced hydraulic pump & rotation motor.		

10/17	3149	58	24	3	
10/18	3212	63	24	3	
10/19	3240	28	16	3	Pulling rods for mismatch. Bit change @ 3240.
10/20	3262	22	22	3	Completed bit change. High torque building up.
10/21	3262	--	--	-	
10/22	3272	10	6	3	7 hrs. equip. repair & cleaning; 11 hrs. mix mud.
10/23	3272	--	--	3	7 hrs. equip. repair & standby; change from NC to NX.
10/24	3328	56	15	3	9 hrs. running NX rods.
10/25	3358	30	16	3	8 hrs. mixing & circulating new mud.
10/26	3382	24	7	3	17 hrs. fishing. Rods parted 150 ft. from bottom.
10/27	3382	--	--	3	24 hrs. fishing & mechanical repairs (engine heating).
10/28	3382	--	--	-	
10/29	3382	--	--	2	16 hrs. mechanical repairs.
10/30	3382	--	--	1	8 hrs. mechanical repairs.
10/31	3382	--	--	2	16 hrs. mechanical repair (changed out rig).
11/01	3392	10	8	2	8 hrs. mechanical repair.
11/02	3412	20	9	2	7 hrs. equip. repair (motor oil being diluted).
11/03	3412	--	--	1	8 hrs. equip. repair.
11/04	3412	--	--	-	
11/05	3417	5	2	2	14 hrs. equip. repair (still diluting oil).
11/06	3439	22	7	3	17 hrs. equip. repair.

3272
↑
↓

NX

3238
↑
↓

Pinal
Schist
and
Aplites

11/07	3449	10	4	3	20 hrs. equip. repair.
11/08	3462	13	6	3	12 hrs. equip. repair.
11/09	3479	17	10	3	9 hrs. equip. repair; 5 hrs. bit change @ 3479.
11/10	3532	53	21	3	3 hrs. equip. repair.
11/11	3532	--	--	-	
11/12	3592	60	24	3	
11/13	3652	60	23	3	1 hr. equip. repair.
11/14	3694	42	16	3	8 hrs. bit change @ 3671.
11/15	3760	66	24	3	
11/16	3813	53	18	3	6 hrs. for bit change @ 3790.
11/17	3877	64	24	3	
11/18	3877	--	--	-	
11/19	3909	32	24	3	
11/20	3942	33	16	3	6 hrs. bit change @ 3912; 2 hrs. surveying hole.
11/21	3967	25	8	2	8 hrs. pulling rods; end of hole.
11/22					Tearing down and moving.

3967

3967

DRILL HOLE AI-1

Drilling Time, by Footage Brackets, including down time.

<u>Depth</u>	<u>Size</u>	<u>Shifts</u>	<u>Days</u>	<u>Footage*</u>	<u>Ft./Shift</u>	<u>Delays</u>
2800-3000	NC	29	9-2/3	189	6.5	Iron junk in hole, clean, cement; 1 bit.
3000-3272	NC	27	9-2/3	283	10.5	New motor, servo system, & other equip. repair; 2 bits.
3272-3500	NX	39	16	227	5.8	Mechanical repairs; new rig; cont. repair; 1 bit.
<u>3500-3967</u>	NX	<u>28</u>	<u>9-2/3</u>	<u>468</u>	<u>16.7</u>	Minor repair; hole survey; 3 bits.
2800-3967		123	45	1167	9.5	

*Footage taken to shift nearest final depth.

Drilling Time, by Rock Unit, including down time.

<u>Rock Unit</u>	<u>Depth</u>	<u>Size</u>	<u>Shifts to Depth</u>	<u>Footage</u>	<u>Ft./Shift</u>	
Whitetail Cgl. (M-1A type slide block)	2800-3046	NC	34	3052	252	7.41
Sc-gr slide block (A-2 type)	3046-3238	NC	15	3240	188	12.5
Pinal Schist w/Aplite	3238-3272	NC	7	3272	32	4.6
Pinal Schist w/Aplite	<u>3272-3967</u>	NX	<u>67</u>	3967	<u>695</u>	<u>10.4</u>
	2800-3967		123		1167	9.5

AMERICAN SMELTING AND REFINING COMPANY
TUCSON ARIZONA

January 7, 1974

TO: W. L. Kurtz

FROM: J. D. Sell

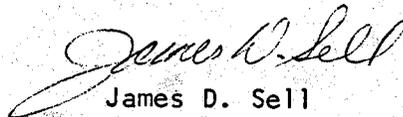
Assay Results
Drill Hole AI-1
Rawhide Project
Pinal County, Arizona

Attached is a list of samples and corresponding assays run by atomic absorption by the American Analytical and Research Laboratories. The sample numbers have the prefix of AI-1.

All samples are of split core and were run for copper, lead, zinc, and moly.

The upper 289 feet of sulfide intercept in predominantly Pinal Schist averaged 1381 ppm Cu (0.14%) with a low of 399 ppm Cu and a high of 2200 ppm Cu, 9 ppm Pb, 52 ppm Zn, and 31 ppm Mo. At the base of the above intercept is a high angled fault. The 438 feet of sulfide intercept below and including the fault averaged 990 ppm Cu (0.10%) with a low of 46 ppm Cu and a high of 2100 ppm Cu, 18 ppm Pb, 57 ppm Zn, and 21 ppm Mo; again mainly in Pinal Schist.

Overall the sulfide Pinal Schist intercept of 727 feet averaged 1145 ppm Cu (0.11%), 14 ppm Pb, 55 ppm Zn, and 25 ppm Mo.


James D. Sell

JDS:lb
Attach.

ATOMIC ABSORPTION ASSAYS (P.P.M.) OF CORE HOLE AI-1
RAWHIDE PROJECT

<u>Assay Numbers</u>	<u>Footage Intervals</u>	<u>Ft.</u>	<u>Cu</u>	<u>Pb</u>	<u>Zn</u>	<u>Mo</u>
Slide Block (M-1A Type) in Whitetail Conglomerate (Oxidized):						
1	2440-2500 ---	10	637	8	47	9
2	2890-2900 ---	10	988	12	53	18
3	2940-2950 ---	10	664	9	32	13
4	2990-3000 ---	10	498	11	30	11
5	3030-3040 ---	10	<u>171</u>	<u>10</u>	<u>22</u>	<u>5</u>
	Average		592 ppm	10 ppm	37 ppm	11 ppm
Brecciated Granite-Schist Slide Block (A-2 Type) (Oxidized):						
6	3090-3100 ---	10	372	5	15	18
7	3140-3150 ---	10	266	9	39	45
8	3195-3205 ---	10	<u>227</u>	<u>16</u>	<u>33</u>	<u>23</u>
	Average		288 ppm	10 ppm	29 ppm	28 ppm
Bedrock of Pinal Schist with Minor Aplite (Sulfide):						
9	3240-3250	10	1085	11	42	22
21	3250-3262	12	1675	18	65	22
22	3262-3265	3	1256	13	77	18
23	3265-3272	7	1229	17	53	27
24	3272-3280	8	1350	4	54	23
25	3280-3290	10	1395	7	49	26
10	3290-3300	10	1500	11	42	39
11	3300-3310	10	1771	4	42	21
26	3310-3320	10	1095	11	54	20
27	3320-3328	8	1160	5	48	11
28	3328-3338	10	523	8	20	10
29	3338-3346	8	399	15	22	3
30	3346-3360	14	1540	11	45	20
31	3360-3370	10	750	4	44	20
32	3370-3388	18	1820	3	65	95
33	3388-3400	12	705	9	47	13
12	3400-3410	10	1577	18	60	50
13	3410-3419	9	1419	4	44	20
14	3419-3427	8	2200*	10	50	95
34	3427-3434	7	1160	7	70	10

<u>Assay Numbers</u>	<u>Footage Intervals</u>	<u>Ft.</u>	<u>Cu</u>	<u>Pb</u>	<u>Zn</u>	<u>Mo</u>
35	3434-3444	10	1220	10	64	12
36	3444-3453	9	990	8	38	74
37	3453-3461	8	1256	5	47	12
38	3461-3469	8	2100*	8	68	10
39	3469-3479	10	2200*	5	54	49
40	3479-3487	8	2000*	4	67	12
65	3487-3498	11	1311	7	63	18
15	3498-3519	21	1838	6	61	45
16	3519-3529	10	619	17	45	9
	hi-angled fault					
41	3529-3532	3	978	78	76	7
42	3532-3542	10	1798	48	73	14
17	3542-3552	10	585	34	48	14
18	3552-3562	10	710	24	45	84
43	3562-3572	10	1505	22	71	12
44	3572-3583	11	1152	18	61	65
45	3583-3598	15	648	20	45	17
46	3598-3608	10	46	25	26	2
47	3608-3628	20	1358	22	50	19
48	3628-3636	8	860	19	38	26
49	3636-3652	16	705	17	26	3
50	3652-3662	10	1408	24	62	63
51	3662-3672	10	2000*	13	56	112
19	3672-3687	15	1900*	18	54	20
20	3687-3701	14	808	20	107	12
52	3701-3710	9	860	18	60	49
53	3710-3725	15	1109	25	85	19
54	3725-3740	15	1453	10	66	34
55	3740-3757	17	908	12	48	9
56	3757-3775	18	1070	8	66	7
57	3775-3792	17	457	9	50	7
58	3792-3812	20	683	12	76	10
59	3812-3821	9	2100*	35	81	11
60	3821-3832	11	1073	20	73	6
61	3832-3846	14	1150	21	61	18
62	3846-3867	21	1013	23	51	6
63	3867-3888	21	644	14	50	44
64	3888-3909	21	769	15	36	16
66	3909-3925	16	1165	9	62	17
67	3925-3942	17	539	14	51	5
68	3942-3958	16	737	4	50	13
69	3958-3967	9	641	6	40	9

*Signifies original value given in percent. Converted to P.P.M.

<u>Assay Numbers</u>	<u>Footage Intervals</u>	<u>Ft.</u>	<u>Cu</u>	<u>Pb</u>	<u>Zn</u>	<u>Mo</u>
--------------------------	------------------------------	------------	-----------	-----------	-----------	-----------

Summary of Weighted Values in Sulfide Intercepts:

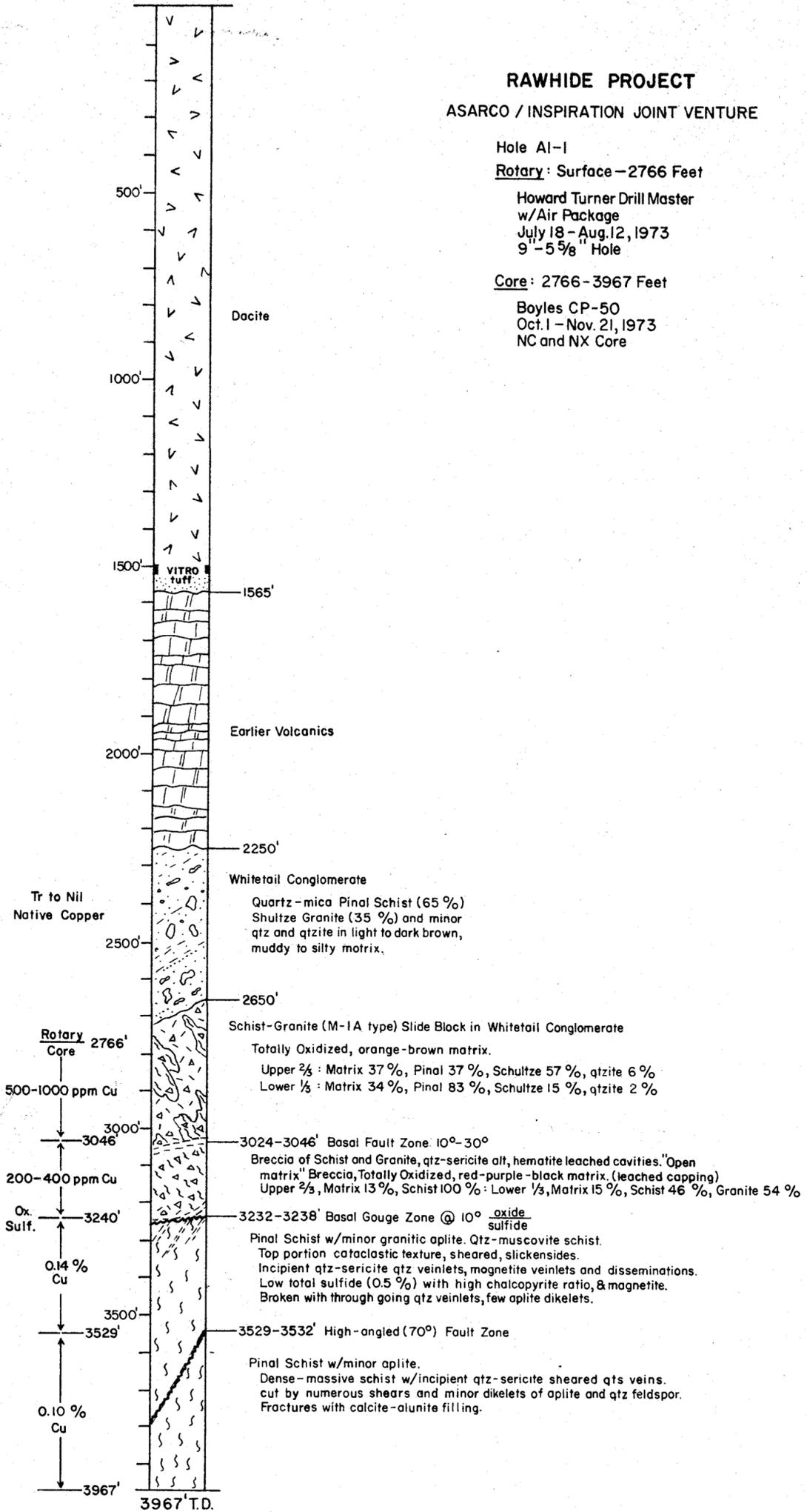
	3240-3529	289	1381 or 0.14%	9	52	31
	<u>3529-3967</u>	<u>438</u>	990 or 0.10%	18	57	21
	3240-3967	727	1145 or 0.11%	14	55	25

AI-1
Collar Elev. 4630'

RAWHIDE PROJECT
ASARCO / INSPIRATION JOINT VENTURE

Hole AI-1
Rotary: Surface - 2766 Feet
Howard Turner Drill Master
w/Air Package
July 18 - Aug. 12, 1973
9" - 5 5/8" Hole

Core: 2766 - 3967 Feet
Boyles CP-50
Oct. 1 - Nov. 21, 1973
NC and NX Core



Summary of Weighted Averages in Sulfide Intercept:

3240-3529', 289 feet @ 1381 ppm Cu, 9 ppm Pb, 52 ppm Zn, and 31 ppm Mo.

3529-3967', 438 feet @ 990 ppm Cu, 18 ppm Pb, 57 ppm Zn, and 21 ppm Mo.

3240-3967', 727 feet @ 1145 ppm Cu, 14 ppm Pb, 55 ppm Zn, and 25 ppm Mo.

NOTE: Individual assays for the hole are found in Assay Report dated Jan. 7, 1974.

T 1 S, R 13 E.
SE 1/4 SW 1/4 NE 1/4 of Sec. 23

GRAPHIC LOG & ASSAY RESULTS
of
DRILL HOLE AI-1
RAWHIDE PROJECT
(ASARCO / ICC Joint Venture)
Pinal County, Arizona

SCALE: 1" = 300'
JDS Jan. 8, 1974 MVK 2700

3441 East Milber St.

Phone 889-5787

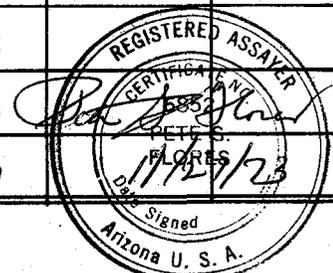
AMERICAN ANALYTICAL and RESEARCH LABORATORIES

ASSAYERS - CHEMISTS - METALLURGISTS

TUCSON, ARIZONA 85714

SAMPLE SUBMITTED BY American Smelting & Refining CompanyDATE November 27, 1973

SAMPLE MARKED	GOLD OZ./TON	SILVER OZ./TON	PPM COPPER	PPM LEAD	PPM ZINC	PPM MOLYBDENUM	PERCENT IRON
AT-1-21			1675	18	65	22	
22			1256	13	77	18	
23			1229	17	53	27	
24			1350	4	54	23	
25			1395	7	49	26	
26			1095	11	54	20	
27			1160	5	48	11	
28			523	8	20	10	
29			399	15	22	3	
30			1540	11	45	20	
31			750	4	44	20	
32			1820	3	65	95	
33			705	9	47	13	
34			1160	7	70	10	
35			1220	10	64	12	
36			990	8	38	74	
37			1256	5	47	12	
38			(2100) 2000+	8	68	10	
39			(2200) 2000+	5	54	49	
40			(2000) 2000+	4	67	12	
65			1311	7	63	18	
66			1165	9	62	17	
67			539	14	51	5	
68			737	4	50	13	
69			641	6	40	9	



Invoice # 10091

CHARGES \$ 125.00

ASSAYER - CHEMIST

AMERICAN ANALYTICAL and RESEARCH LABORATORIES

ASSAYERS - CHEMISTS - METALLURGISTS

TUCSON, ARIZONA 85713

SAMPLE SUBMITTED BY

JD Sell %ASARCO Tucson

DATE

Nov. 15, '73

SINGLE ANALYSIS

VERIFIED ANALYSIS

UMPIRE QUALITY

GEOCHEM

SAMPLE	Au	Ag	<i>%</i> Cu	Pb	Zn	Ox Cu	Fe	INSOL	AL ₂ O ₃	SiO ₂	Mo	S.	
<i>AI-1</i>			<i>0.069</i>	<i>8</i>	<i>47</i>						<i>9</i>		<i>2840-50 Ox M-1A</i>
<i>-2</i>			<i>0.099</i>	<i>12</i>	<i>53</i>						<i>18</i>		<i>2890-2900</i>
<i>-3</i>			<i>0.066</i>	<i>9</i>	<i>32</i>						<i>13</i>		<i>2940-50</i>
<i>-4</i>			<i>0.050</i>	<i>11</i>	<i>30</i>						<i>11</i>		<i>2990-3000</i>
<i>-5</i>			<i>0.017</i>	<i>10</i>	<i>22</i>						<i>5</i>		<i>3030-3040</i> <i>Transit Ox</i>
<i>-6</i>			<i>0.037</i>	<i>5</i>	<i>15</i>						<i>18</i>		<i>3090-3100</i> <i>Ox A-2</i>
<i>-7</i>			<i>0.027</i>	<i>9</i>	<i>39</i>						<i>45</i>		<i>3180-3150</i>
<i>-8</i>			<i>0.023</i>	<i>16</i>	<i>33</i>						<i>23</i>		<i>3195-3205</i>
<i>-9</i>			<i>0.109</i>	<i>11</i>	<i>42</i>						<i>22</i>		<i>3240-3250</i> <i>Sulf.</i>
<i>-10</i>		<i>0.16</i>	<i>0.150</i>	<i>11</i>	<i>42</i>						<i>39</i>		<i>3290-3300</i>
<i>-11</i>		<i>0.171</i>	<i>0.178</i>	<i>4</i>	<i>42</i>						<i>21</i>		<i>3300-3310</i>
<i>-12</i>			<i>0.158</i>	<i>18</i>	<i>60</i>						<i>50</i>		<i>3400-3410</i>
<i>-13</i>			<i>0.142</i>	<i>4</i>	<i>44</i>						<i>20</i>		<i>3410-3419</i>
<i>-14</i>			<i>0.22</i>	<i>10</i>	<i>50</i>						<i>95</i>		<i>3419-3427</i>
<i>-15</i>			<i>0.184</i>	<i>6</i>	<i>61</i>						<i>45</i>		<i>3498-3519</i>
<i>-16</i>			<i>0.062</i>	<i>17</i>	<i>45</i>						<i>9</i>		<i>3519-3529</i>
<i>-17</i>			<i>0.059</i>	<i>34</i>	<i>48</i>						<i>14</i>		<i>3542-3552</i> <i>Transit</i>
<i>-18</i>			<i>0.071</i>	<i>24</i>	<i>45</i>						<i>84</i>		<i>3552-3562</i>
<i>-19</i>			<i>0.19</i>	<i>18</i>	<i>54</i>						<i>20</i>		<i>3672-3687</i>
<i>-20</i>			<i>0.081</i>	<i>20</i>	<i>67</i>						<i>12</i>		<i>3687-3701</i>

AMERICAN ANALYTICAL and RESEARCH LABORATORIES

ASSAYERS • CHEMISTS • METALLURGISTS

TUCSON, ARIZONA 85713

SAMPLE SUBMITTED BY

J. W. Sell *ASARCO, Tucson* DATE *Nov. 21, 73*

SINGLE ANALYSIS

VERIFIED ANALYSIS

UMPIRE QUALITY

GEOCHEM

SAMPLE	Au	Ag	Cu	Pb	Zn	Ox Cu	Fe	INSOL	Al ₂ O ₃	SiO ₂	Mo	S.	
<i>AI-1-21</i>			<i>1675</i>	<i>18</i>	<i>65</i>						<i>22</i>		<i>3250-62</i>
<i>-22</i>			<i>1256</i>	<i>13</i>	<i>71</i>						<i>18</i>		<i>3262-65</i>
<i>-23</i>			<i>1229</i>	<i>17</i>	<i>53</i>						<i>27</i>		<i>3265-72</i>
<i>-24</i>			<i>1350</i>	<i>4</i>	<i>54</i>						<i>23</i>		<i>3272-80</i>
<i>-25</i>			<i>1395</i>	<i>7</i>	<i>49</i>						<i>26</i>		<u><i>3280-90</i></u>
<i>-26</i>			<i>1095</i>	<i>11</i>	<i>54</i>						<i>20</i>		<i>3310-20</i>
<i>-27</i>			<i>1160</i>	<i>5</i>	<i>48</i>						<i>11</i>		<i>3320-28</i>
<i>-28</i>			<i>523</i>	<i>8</i>	<i>20</i>						<i>10</i>		<i>3328-38</i>
<i>-29</i>			<i>399</i>	<i>15</i>	<i>22</i>						<i>3</i>		<i>3338-46</i>
<i>-30</i>			<i>1540</i>	<i>11</i>	<i>45</i>						<i>20</i>		<i>3346-60</i>
<i>-31</i>			<i>5750</i>	<i>4</i>	<i>44</i>						<i>20</i>		<i>3360-70</i>
<i>-32</i>			<i>1020</i>	<i>3</i>	<i>65</i>						<i>95</i>		<i>3370-88</i>
<i>-33</i>			<i>705</i>	<i>9</i>	<i>47</i>						<i>13</i>		<u><i>3388-3400</i></u>
<i>-34</i>			<i>1160</i>	<i>7</i>	<i>70</i>						<i>18</i>		<i>3427-34</i>
<i>-35</i>			<i>1220</i>	<i>10</i>	<i>64</i>						<i>12</i>		<i>3434-44</i>
<i>-36</i>			<i>990</i>	<i>8</i>	<i>38</i>						<i>74</i>		<i>3444-53</i>
<i>-37</i>			<i>1256</i>	<i>5</i>	<i>47</i>						<i>12</i>		<i>3453-61</i>
<i>-38</i>			<i>0.21</i>	<i>8</i>	<i>68</i>						<i>10</i>		<i>3461-69</i>
<i>-39</i>			<i>0.22</i>	<i>5</i>	<i>54</i>						<i>49</i>		<i>3469-79</i>
<i>AI-1-40</i>			<i>0.20</i>	<i>4</i>	<i>67</i>						<i>12</i>		<i>3479-87</i>

AMERICAN ANALYTICAL and RESEARCH LABORATORIES

ASSAYERS - CHEMISTS - METALLURGISTS

TUCSON, ARIZONA 85713

SAMPLE SUBMITTED BY

J.D. Seel, % ASARCO Tucson

DATE

SINGLE ANALYSIS

VERIFIED ANALYSIS

UMPIRE QUALITY

GEOCHEM

SAMPLE	AU	AG	CU	PB	ZN	OX CU	FE	INSOL	AL ₂ O ₃	SI O ₂	MO	S.	
<i>AI-1-41</i>			978	78	76						7		3529-32
<i>-42</i>			1798	48	73						14		<u>3532-42</u>
<i>-43</i>			1505	22	71						12		3562-72
<i>-44</i>			1152	18	61						65		3572-83
<i>-45</i>			648	20	45						17		3583-98
<i>-46</i>			46	25	26						2		3598-3608
<i>-47</i>			1358	22	50						19		3608-28
<i>-48</i>			860	19	38						26		3628-36
<i>-49</i>			705	17	26						3		3636-52
<i>-50</i>			1408	24	62						63		3652-62
<i>-51</i>			0.20 ⁰⁷ %	13	56						112		<u>3662-3672</u>
<i>-52</i>			860	18	60						49		3701-3710
<i>-53</i>			1109	25	85						19		3710-25
<i>-54</i>			1453	10	66						34		3725-40
<i>-55</i>			908	12	42						9		3740-57
<i>-56</i>			1070	8	66						7		3757-75
<i>-57</i>			457	9	50						7		3775-92
<i>-58</i>			683	12	76						10		3792-3812
<i>-59</i>			0.20 ⁰⁷ %	35	81						11		3812-21
<i>-60</i>			1073	20	73						6		3821-32
<i>-61</i>			1150	21	61						18		3832-46
<i>-62</i>			1013	23	51						6		3846-67

-63

644 14 50

44

3867-88

AI-1-64

769 15 36

16

3888-3909

AMERICAN SMELTING AND REFINING COMPANY
TUCSON ARIZONA

March 19, 1974

TO: W. L. Kurtz

FROM: J. D. Sell

Drill Hole AI-1
Rotary and Core Drilling Costs
ASARCO/ICC Joint Venture
Rawhide Project
Pinal County, Arizona

Rotary drilling was initiated on July 15, 1973 and terminated on August 12, 1973. Drilling was performed by the J. O. Barnes Drilling Company using a Howard-Turner Drill Master with an air package (2 Joy WB-102 compressors and a Joy 02-1500 booster) supplied by Air Equipment, Inc. of Bakersfield, California. The rotary hole was cased at 2766 feet with 4" casing.

Core drilling was performed by Boyles Brothers using a CP-50 machine and coring 1201 feet of NC and NX from 2766 feet to the terminal depth of 3967 feet.

The distribution of costs as given below follows the outline as given in the Cost Summaries memorandum of October 2, 1972, with slight modification.

Distribution of Costs:

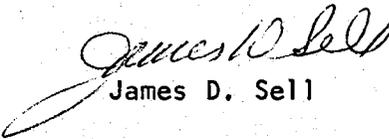
Rotary Drilling 2766 ft.; Core Drilling 1201 ft.; Total 3967 ft.

Drilling Charges:

			<u>\$/ft.</u>	<u>\$/ft.</u>	<u>%</u>	<u>%</u>
A. Direct Drilling						
Rotary	\$86,300.67		31.20		56.2	
Core	<u>37,400.14</u>	\$123,700.81	<u>31.14</u>	31.18	<u>24.3</u>	80.5
B. Site Preparation						
Rotary	\$ 2,939.55		1.06		1.9	
Core	<u>147.20</u>	3,086.75	<u>0.12</u>	0.78	<u>0.1</u>	2.0
C. Field Administration						
1. Supervision & Geology						
Rotary	\$ 1,834.94		0.66		1.2	
Core	<u>1,215.73</u>	3,050.67	<u>1.01</u>	0.77	<u>0.8</u>	2.0
2. Sample Prep. & Assay						
Rotary	\$ 604.78		0.22		0.4	
Core	<u>2,119.73</u>	2,724.51	<u>1.76</u>	0.69	<u>1.4</u>	1.8
3. Miscellaneous						
Rotary	\$ 834.63		0.30		0.5	
Core	<u>838.94</u>	<u>1,673.57</u>	<u>0.70</u>	<u>0.42</u>	<u>0.6</u>	<u>1.1</u>
Drilling Charges Sub-Total		\$134,236.31		33.84		87.4

Project Charges:

D. General Administration	\$ 4,251.98	1.07	2.7
E. Legal Fees	1,796.83	0.45	1.2
F. Drill Road Access	12,799.81	3.23	8.3
G. Claim Work - Surveying	<u>560.60</u>	<u>0.14</u>	<u>0.4</u>
Project Charges Sub-Total	<u>19,409.22</u>	<u>4.89</u>	<u>12.6</u>
Total Expenditures:	\$153,645.53	\$38.73	100.0%


James D. Sell

JDS:1b

File AI-1

10/20/00 to 1/1/01

Account No.	Item	Nov 72	March 73 (Revised)	May 73	July 73	Aug 73	Sept 73	Nov 73	Jan 74
502-48	Mineral Prop., Option Pay. - Other	80.00	-	-	-	-	-	-	-
507-10	Staking Claims - Salaries	995.00	113.00	113.00	113.00	113.00	154.00	154.00	154.00
507-20	- Supplies	1.60	7.84	7.84	7.84	179.94	179.94	179.94	179.94
507-25	- Services		4.00	4.00	4.00	4.00	4.00	4.00	4.00
507-29	- Traveling	202.52	21.20	21.20	21.20	21.20	28.70	28.70	28.70
507-35	- Add. Labor Expense	134.23	13.73	13.73	13.73	13.73	21.12	21.12	21.12
507-40	- Taxes	38.74	8.29	8.29	8.29	14.62	14.62	14.62	14.62
521-10	Surface Drilling - Salaries				110.00	1842.00	1842.00	3492.33	3492.33
521-15	- Wages	105.75	-	-	-	-	-	-	-
521-20	- Supplies	6,168.69	6,167.19	6,167.19	8,794.24	13,185.46	13,227.24	14,468.29	15,494.72
521-25	- Services					63,439.43	65,820.63*	99,782.24	100,297.52
521-29	- Traveling				112.45	338.20	338.20	607.10	643.40
521-34	- Freight				6.60	2638.19	2645.62	2645.62	2645.62
521-35	- Add. Labor Expense				183.92	293.28	293.28	573.69	573.69
521-40	- Taxes	6.51	-	-	114.75	258.42	263.99	312.78	353.53
530-10	Geology - Salaries	205.00	205.00	420.00	794.00	7255.00	1382.00	1946.00	2175.00
530-20	- Supplies				4.20	4.20	4.20	4.20	4.20
530-29	- Traveling	37.80	36.70	36.70	53.50	107.25	107.25	119.90	119.90
530-35	- Add. Labor Expense	24.98	24.98	64.20	117.69	170.02	185.49	251.13	323.98
540-10	Sampling, Assaying, Laboratory - Salaries			66.00	141.00	364.00	366.00	1486.01	1486.01
540-20	- Supplies					164.22	164.22	168.42	191.42
540-25	- Services							455.90	586.85
540-29	- Traveling				7.50	7.50	7.50	195.70	195.70
540-35	- Add. Labor Expense			13.01	21.93	60.63	60.63	257.89	257.89
540-40	- Taxes					6.43	6.43	6.64	6.64
550-25	Geophysics - Services								195.00
570-10	Engineering - Salaries					135.00	135.00	135.00	195.00
570-20	- Supplies								
570-29	- Traveling								
570-35	- Add. Labor Expense					23.22	23.22	23.22	23.22
580-10	Construction, Temporary - Salaries				4582.98	15,727.37	15,727.37	15,727.37	15827.79
580-25	- Services								38.168
580-29	- Traveling								8.10
580-35	- Add. Labor Expense								
610-10	Field Administration - Salaries								11.99
610-20	- Supplies							205.00	205.00
610-25	- Services				10.47	10.47	10.47	10.47	10.47
610-29	- Traveling				304.20	640.61	640.61	1396.81	1396.81
610-30	- Communications						4.00	4.00	4.00
610-35	- Add. Labor Expense				78.40	181.33	182.13	265.87	265.87
610-40	- Taxes								23.59
620-10	General Administration - Salaries		317.00	640.00	640.00	640.00	640.00	683.00	795.00
620-15	- Wages							12.80	12.80
620-20	- Supplies	2.94	20.48	20.48	22.48	24.38	25.10	27.01	30.53
620-25	- Services			1694.00	1694.00	1694.00	1694.00	1698.00	1698.00
620-29	- Traveling		41.55	41.55	41.55	41.55	41.55	41.55	41.55
620-30	- Communications							57.28	57.28
620-35	- Add. Labor Expense		56.03	114.93	114.93	114.93	114.93	123.32	146.46
620-40	- Taxes	249.36	247.29	247.31	248.26	260.73	263.52	332.67	335.69
620-48	- Other	100.00	-	-	-	-	-	-	-
641-49	Distributable Accounts - Autos	351.82	39.34	98.30	337.79	1268.00	1394.90	2765.18	2931.50
Authorized Expended		8,704.94	7,323.64	9,791.73	19,705.32	105,244 ⁷³	108,107 ³⁰	150,902 ⁷⁵	153,645 ⁵³
Balance Unexpended							*Plus minus 1831.29 Construction 38.40		

A 521-10 3692.33
 $- 1842.00 - JO$
 1850.33 Bay

521-20 $15,494.72$
 $- 13,227.26 - JO$
 $2,267.46$ Bay

521-25 $100,297.52$
 $- 65,820.63 - JO * + 1869.69 = 67,690.32$
 $34,476.89$ Bay $- 1869.69 = 32,607.20$

1831.29
 38.40

521-29 643.40
 $- 338.20 - JO$
 305.20 Bay

521-34 2645.62 all JO

521-35 573.69
 $- 293.28 JO$
 280.41 Bay

521-40 353.53
 $- 263.99 JO$
 89.54 Bay

JO	$84,430.98$	$+ 1869.69 =$	$86,300.67$
Boys	$39,269.83$	$- 1869.69 =$	$37,400.14$
	$123,700.81$		$123,700.81$

B 580-10 28.68 all Bay

580-25 15,827.79
- 15,727.37 00
100.42 Bay

580-29 8.10 all Bay

go ~~15,827.79~~ 15,727.37
Bayles ~~147.20~~ 147.20

15,974.99 15,874.57

580-35 11.99 all go

go ~~15,874.57~~
2927.56 Site & move in
Bayles 2,939.55 Sump clean up
Project 12,799.81 (road)
~~15,874.57~~
15,886.54

36.10
30
77.10
~~88.00~~
95.00
95.75
2927.54

C-3 530-10

2175.00
- 1382.00 JO
793.00 Bay

530-20

4.20 all JO

530-29

119.90
- 107.25 JO
12.65 Bay

530-35

323.98
- 185.49 JO
138.49 Bay

550-25

195.00 all Bay

610-10

135.00 JO
70.00 Bay.

610-29

3.00 JO
1.00 Bay

~~610-35~~

~~20.00 JO
10.00 Bay~~

~~610-35~~

610-35

18.00 JO
5.59 Bay

JO
Boyles

1,834.94
1,215.73
3,050.67

C-R 540-10

1486.01
- 366.00 *go*
1,120.01 *Bay*

540-20

191.42
- 164.22 *go*
27.20 *Bay*

540-25

586.85 *all Bay*

540-29

195.70
- 7.50 *go*
188.20 *Bay*

540-35

257.89
- 60.63 *go*
197.26 *Bay*

540-40

6.64
- 6.43 *go*
0.21 *Bay*

go
Bay

604.78
2,119.73
2,724.51

C-~~3~~ 610-20 10.47 all 20

610-25 1396.81
- 640.61 20
756.20 Bay

610-30 265.87
- 183.13 20
82.74 Bay

610-40 0.42 all 20

20 834.63
Bayes 838.94
1,673.57

C ~~4~~ 507-10 154.00 ~~507-20~~ Project.

507-20 179.94

507-25 4.00

507-29 28.70

507-35 21.12

507-40 14.62

570-10 135.00

570-35 23.22

560.60

Project

D. 620-10 795.00
- 640.00 *Jo*
155.00 *Boyl*

620-15 12.80 *all Boyl*

620-20 ~~30.53~~
- 25.10 *Jo*
5.43 *Boyl*

620-35 146.46
- 114.93 *Jo*
31.53 *Boyl*

620-40 335.69
- 263.52 *Jo*
72.17 *Boyl*

641-49 2931.50
- 1396.90 *Jo*
1534.60 *Boyl*

Jo 2,440.45
Boyls 1,811.53
4,251.98

E

620-25

1698.00

Project

620-29

41.55

620-30

57.28

1796.83

Project

Rawhide AI-1

July 14, 1973 thru Aug 12 30 Barnes
 Sept 25 thru Nov 22 Bayles

hours
 W & K
 sheet

Est.
 Unexpended

	Aug 1972	Start of thinking	
	Sept 1972	Looking at claims, looking at Roadwork	137,800
	Oct 1972	Boundary line claim staking	136,900
-	Nov 1972	Location work on N.	132,100
	Dec 1972	Location of papers on N	131,500
	Jan 1973	located 10 men on No W; Travis work.	125,500
	Feb 1973	Minor relax.; T Gent, Road started in	115,300
-	March 1973	Roadwork stopped short - road graded	141,800
	April 1973		
-	May 1973	No additional work, drill site selected	138,400
-	June 1973	Road building & drill site prep.	133,400
-	July 1973	30 Barnes Minor 91 Prod.	93,200
-	Aug 1973	30 Barnes completion, Hole secured	6,000
-	Sept 1973	Bayle Brothers Assaying Photo	29,000
	Oct 1973	Bayles Assaying Photo	5,000
-	Nov 1973	Bayles Assaying	- 14,500
	Dec 1973	Assaying. Heronicks Hole Sec.	- 16,500
-	Jan 1974	Thru sec.	
	Feb 1974	Road work amend	



AMERICAN SMELTING AND REFINING COMPANY
SOUTHWESTERN EXPLORATION DIVISION
P. O. BOX 5747, TUCSON, ARIZONA 85703

1150 NORTH 7TH AVENUE
TELEPHONE 602-792-3010

May 15, 1975

Mr. Hugh W. Olmstead
Chief Exploration Geologist
Inspiration Consolidated Copper Company
P.O. Box 66
Inspiration, Arizona 85537

Dear Hugh:

A brief summary of our work on the Rawhide Project follows:

Drill hole AI-1 was collared July 18, 1973 and completed at a depth of 3967 feet on Nov. 21, 1973. The attached index map shows the location of the drill hole. The attached graphic log gives a short description of the rock types, structures, alteration, mineralization, and assays.

A breakdown of Asarco project expenses are:

Drilling, Drill Site, Roads	\$145,936.68
Supervision	18,642.40
Land, Legal, Claims, Misc.	<u>2,104.38</u>
Total	\$166,683.46

Asarco has to spend an additional \$333,316.54 by 1 June 1980 to earn its 45% interest.

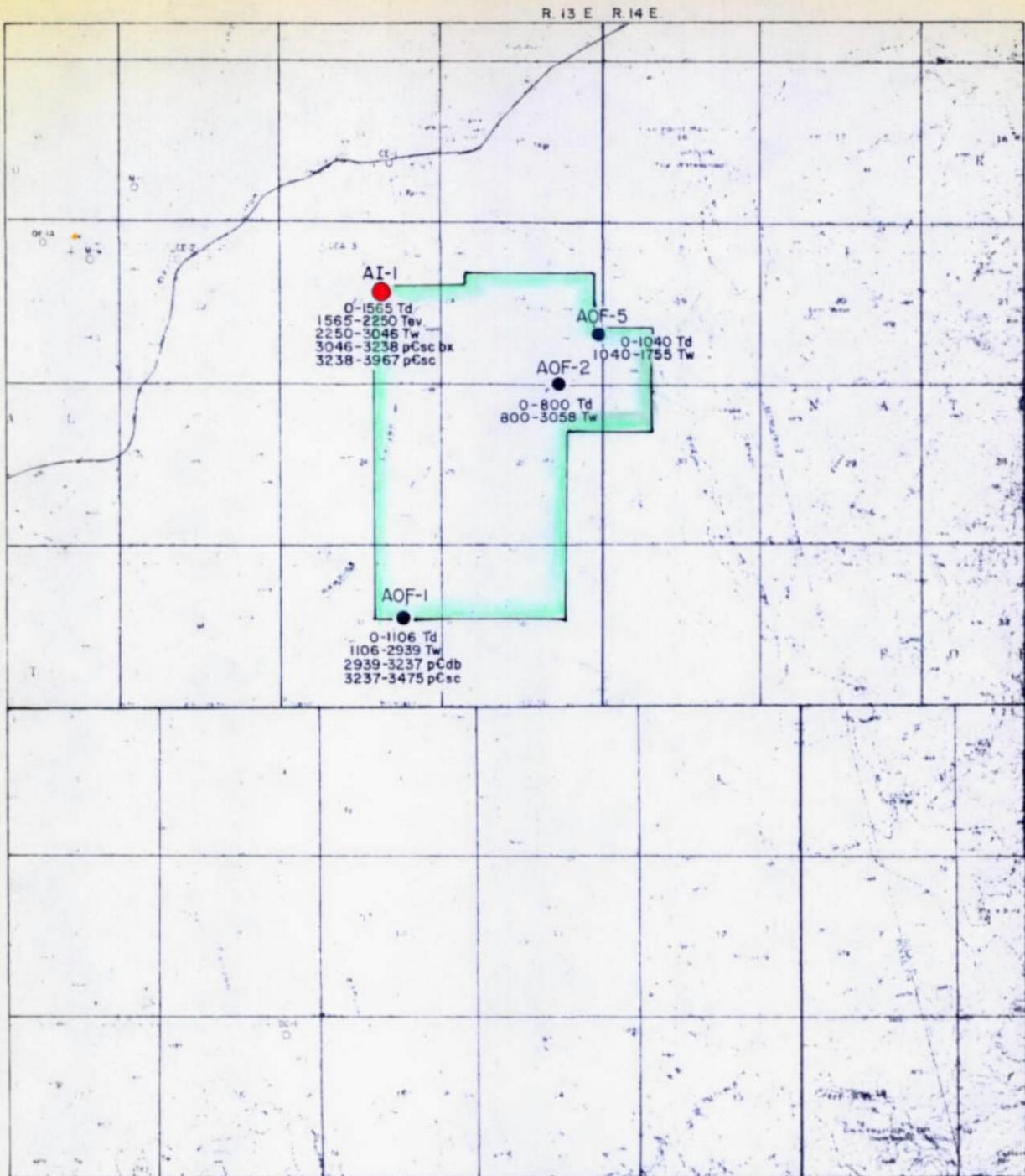
The core from AI-1 is stored in Claypool and is available for inspection at any time.

Very truly yours,

W. L. Kurtz
Manager of Exploration

WLK:lb
Atts.

cc: JDSell
RBCrist



EXPLANATION

- Previous drill hole
- ASARCO drill hole
- AOF-1 (hole designation)
- 3475 pCsc
- ↙ Rock type
- ↘ Bottom hole depth
- AI
- ⊕ Proposed drill site

POST-MINERAL ROCK UNIT

- Td - Dacite
- Tev - Early volcanics
- Tw - Whitetail

PRE-MINERAL ROCK UNIT

- Tqm - Quartz Monzonite
- Tgr - Granite
- TPn - Naco limestone
- Me - Escabrosa limestone
- Dm - Martin lms
- pCt - Troy qtz
- pCdb - Diabase
- pCsc - Schist



TO ACCOMPANY	<i>LETTER</i>
DATED	<i>5/15/75</i>
BY	<i>W. K. KURTZ</i>

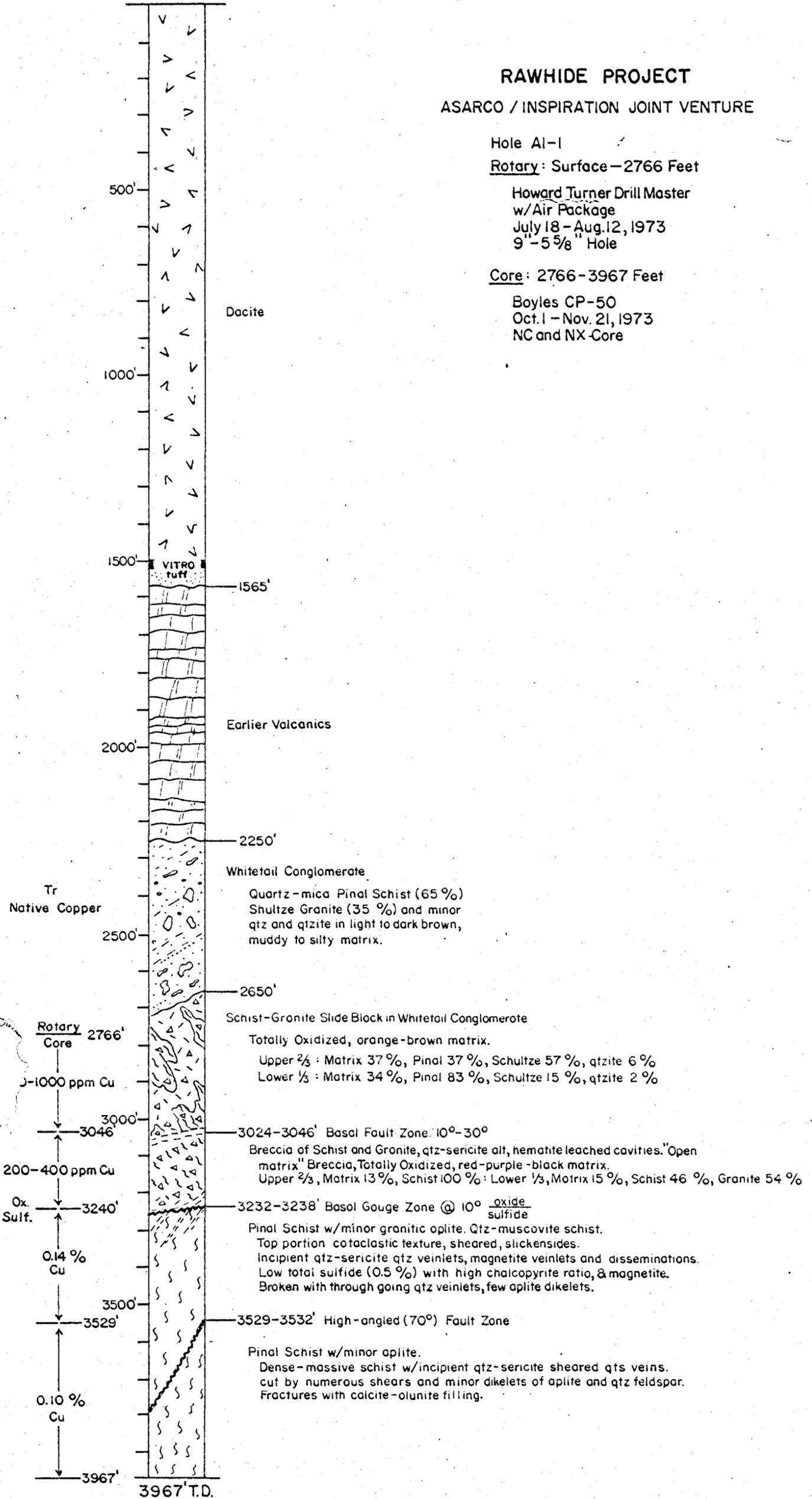
ASARCO - ICC
 Joint Venture
RAWHIDE PROJECT
 GILA & PINAL COUNTY, ARIZONA
 SCALE: 1" = 1 mile
 J.D.S.

AI-1
Collar Elev. 4630'

RAWHIDE PROJECT
ASARCO / INSPIRATION JOINT VENTURE

Hole AI-1
Rotary: Surface - 2766 Feet
Howard Turner Drill Master
w/Air Package
July 18 - Aug. 12, 1973
9" - 5 5/8" Hole

Core: 2766 - 3967 Feet
Boyles CP-50
Oct. 1 - Nov. 21, 1973
NC and NX-Core



Summary of Weighted Averages in Sulfide Intercept:

- 3240-3529', 289 feet @ 1381 ppm Cu, 9 ppm Pb, 52 ppm Zn, and 31 ppm Mo.
- 3529-3967', 438 feet @ 990 ppm Cu, 18 ppm Pb, 57 ppm Zn, and 21 ppm Mo.
- 3240-3967', 727 feet @ 1145 ppm Cu, 14 ppm Pb, 55 ppm Zn, and 25 ppm Mo.

T 1 S, R 13 E.
SE 1/4 SW 1/4 NE 1/4 of Sec. 23

GRAPHIC LOG & ASSAY RESULTS
of
DRILL HOLE AI-1
RAWHIDE PROJECT
(ASARCO / ICC Joint Venture)
Pinal County, Arizona

TO ACCOMPANY <i>LETTER</i>
DATED <i>5/15/75</i>
BY <i>W. L. KURTZ</i>

SCALE: 1" = 300'



JOY MACHINERY COMPANY

707 BOYD BOULEVARD
P. O. DRAWER 489
LaPORTE, INDIANA 46350
Phone: (219) 362-2191

A-7-80
RW

April 1, 1980

Mr. N. P. Whaley
ASARCO, Incorporated
P. O. Box 5747
Tucson, AZ 85703

Dear Mr. Whaley:

Jack Lloyd advises you had called concerning the applicable charges for moving Vern England's rig from Florence to Superior East. I agree that it seems appropriate to apply only the \$1,500 mobilization charge according to your Order T-133-0.

Yours truly,

JOY MANUFACTURING COMPANY

J. H. Koontz, General Manager
Drill Division
Joy Machinery Company

JHK:js

cc: JDS ✓

PURCHASE ORDER

ASARCO Incorporated
~~American Smelting and Refining Co.~~

DATE April 23, 1980

ORDER NO. T-194-0

TUCSON OFFICE
P. O. BOX 5747

1150 NORTH 7TH AVENUE
TUCSON, ARIZONA 85703

REQUISITION NO.

PLANT JOB NO.
APPROPRIATION NO.

To: Bryant Construction Company
843 Spray Street
Superior, Arizona 85273

FINAL DESTINATION — PLEASE NOTE CONSIGNMENT BELOW

DATE REQUIRED AT DESTINATION:

CONSIGNMENT — SELLER WILL SHIP TO

SHIPPING INTERVAL PROMISED

SELLER WILL SHIP BEFORE:

POINT OF SHIPMENT

TERMS:

F.O.B. POINT

--- RENDER BILLS AS PER ATTACHED SHIPPING INSTRUCTIONS ---

SHIP VIA

QUANTITY	UNIT	SPECIFICATIONS	ITEM NO.	UNIT PRICE
		<p>Bryant Construction Company (CONTRACTOR) will construct access roads and drill sites at ASARCO Incorporated's (ASARCO's) Rawhide Project, Pinal County, Arizona. Alignment and character of roads and locations and character of drill sites will be specified by ASARCO's representative(s) at the jobsite.</p> <p>Payment for work performed will be in accordance with CONTRACTOR's letter of proposal/rate schedule dated April 16, 1980, a copy of which is attached and constitutes a part of this order.</p> <p>All of CONTRACTOR's equipment will be operated and maintained by CONTRACTOR. It is understood by both parties to this order that CONTRACTOR will perform all work in a diligent and workmanlike manner, in accordance with recognized standard practices, and will carry all jobs to completion without interruption of work schedule. ASARCO will not be charged for delays caused by failure of CONTRACTOR's equipment and/or personnel.</p> <p>CONTRACTOR and his personnel will make every effort to minimize disturbance of the natural environment.</p> <p>CONTRACTOR's attention is called to Clause Eleven (11) on the reverse of this order. Before entering upon ASARCO's property to perform this work, CONTRACTOR will submit acceptable evidence of compliance with the Workmen's Compensation Laws of the State of Arizona, and, on ASARCO's standard insurance form, acceptable evidence of other required insurance.</p>		

ACCEPTED FOR: Bryant Construction Company

By: _____
Title _____



IMPORTANT

Attached Acknowledgment Card must be completed and returned promptly.

Orig: Bryant Construction Company
cc: Bryant Construction Company, for acceptance
TCBenavidez, FTGraybeal, CDNewton, JDSell,
and to Asst. Dir. File

PLEASE ENTER OUR ORDER FOR THE ITEMS SPECIFIED ABOVE, SUBJECT TO ALL INSTRUCTIONS AND PROVISIONS ON REVERSE SIDE.

/s/ F. T. Graybeal

Manager, Southwestern Exploration Div.

BRYANT CONSTRUCTION COMPANY
843 SPRAY STREET
SUPERIOR, AZ. 85273

April 16, 1980

A-23-80
NPW

ASARCO Incorporated
Southwestern Exploration Division
P.O. Box 5747
Tucson, Arizona 85703

Mr. N. P. Whaley,

Bryant Construction Company will provide the following equipment and labor at a flat rate of \$890.00 per day:

- One 160 CFM Compressor
- One 600 Compressor
- One Pickup
- All Drilling and Blasting Equipment
- Three Equipment Operators

Bryant Construction Company will provide the following equipment and labor at a flat rate of \$550.00 per day

- One 160 CFM Compressor
- One Pickup
- All Drilling and Blasting Equipment
- Two Equipment Operators

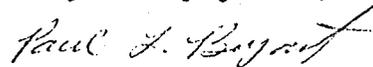
Following is a list of equipment rates operated and maintained by Contractor:

- | | |
|----------------------|------------------|
| D8H Dozer and Ripper | \$92.00 per hour |
| Hough Loader | \$42.50 per hour |
| Backhoe Loader | \$35.00 per hour |
| 12 Yard Dump Truck | \$40.00 per hour |

Dynamite, fuse, and primers will be supplied by Contractor and billed to ASARCO plus 10%.

Workmen's Compensation Insurance Policy No. 91903-5
General Comprehensive Liability Insurance
Continental Casualty Company Policy No. 005-30-19-75

Very truly yours,



Paul T. Bryant

PURCHASE ORDER

ASARCO Incorporated

~~ASARCO'S EXPLORATION AND REFINING CO.~~

DATE
April 28, 1980

ORDER NO.
T-278-0

TUCSON OFFICE
P. O. BOX 5747

1150 NORTH 7TH AVENUE
TUCSON, ARIZONA 85703

REQUISITION NO.

PLANT JOB NO.

APPROPRIATION NO.

To:
Joy Manufacturing Company
P. O. Drawer 489
La Porte, Indiana 46350

FINAL DESTINATION -- PLEASE NOTE CONSIGNMENT BELOW

CONSIGNMENT -- SELLER WILL SHIP TO

--- RENDER BILLS AS PER ATTACHED SHIPPING INSTRUCTIONS ---

SHIP VIA

DATE REQUIRED AT DESTINATION:

SHIPPING INTERVAL PROMISED SELLER WILL SHIP BEFORE:

POINT OF SHIPMENT TERMS:

F.O.B. POINT

QUANTITY	UNIT	SPECIFICATIONS	ITEM NO.	UNIT PRICE
		<p>Joy Manufacturing Company (CONTRACTOR) will drill an exploration hole(s) at ASARCO Incorporated's (ASARCO's) Rawhide Project, Pinal County, Arizona, the location(s) and depth(s) of which will be specified by ASARCO's representative(s) at the job-site. Payment for work performed will be in accordance with CONTRACTOR's letter of proposal dated April 21, 1980, a copy of which is attached and constitutes a part of this order.</p> <p>CONTRACTOR will provide a drill and water truck complete with crews and ancillary equipment.</p> <p>Mobilization of CONTRACTOR's equipment has already taken place.</p> <p>It is understood by both parties to this order that CONTRACTOR will perform all work in a diligent and workmanlike manner and in accordance with recognized standard drilling practices. ASARCO will not be charged for delays caused by failure of CONTRACTOR's equipment or personnel.</p> <p>CONTRACTOR and his personnel will make every effort to minimize disturbance of the natural environment, and drill crews will establish and maintain sanitation systems which are acceptable to ASARCO and which comply with standards set by any government agency whether federal, state, county, or municipal which has jurisdiction over the site area.</p> <p>CONTRACTOR's attention is called to Clause Eleven (11) on the reverse of this order. Before entering upon ASARCO's property to perform this work, CONTRACTOR will submit acceptable evidence of compliance with the Workmen's Compensation Laws of the State of Arizona, and, on ASARCO's standard insurance form, acceptable evidence of other required insurance.</p>		

ACCEPTED FOR: Joy Manufacturing Company

By: _____ Title

IMPORTANT

Attached Acknowledgment Card must be completed and returned promptly.

Orig: Joy Manufacturing Company
cc: Joy Manufacturing Company, for acceptance
TCBenavidez, FTGraybeal, CDNewton, JDSell,
NPWhaley, Acctg. Dept., File

PLEASE ENTER OUR ORDER FOR THE ITEMS SPECIFIED ABOVE, SUBJECT TO ALL INSTRUCTIONS AND PROVISIONS ON REVERSE SIDE.

/s/ F. T. Graybeal
Manager, Southwestern Exploration Division



JOY MACHINERY COMPANY

707 BOYD BOULEVARD
P. O. DRAWER 489
LaPORTE, INDIANA 46350
Phone: (219) 362-2191

April 21, 1980

A-25-80
NPK

Mr. N. P. Whaley
ASARCO Incorporated
P. O. Box 5747
Tucson, AZ 85703

Dear Mr. Whaley:

This is a confirming quotation for any work done on your Rawhide Project which is adjacent to Superior East. Invoices will be marked with a new purchase order number which you will send us. Contrary to what I advised by phone, we will handle both Superior East and Rawhide under our current contract name, "Asarco Superior #4." This should not affect your record keeping in any way. We ask only that you advise us at the start of a hole whether it is Rawhide or Superior East. We are advised that hole AI-2, which Vern England started 3/26/80, is part of Rawhide.

Mobilization \$1,500.00

Demobilization \$1,500.00

*Core Drilling	<u>NC Wire Line</u>	<u>NX Wire Line</u>	<u>BX Wire Line</u>
0 to 500 feet	\$16.90/ft.	\$15.40/ft.	\$15.20/ft.
500 to 1000 feet	\$17.30/ft.	\$15.80/ft.	\$15.60/ft.
1000 to 1500 feet	\$17.90/ft.	\$16.40/ft.	\$16.20/ft.
1500 to 2000 feet	\$18.80/ft.	\$17.30/ft.	\$17.10/ft.
2000 to 2500 feet	\$20.10/ft.	\$18.60/ft.	\$18.40/ft.
2500 to 3000 feet	\$21.90/ft.	\$20.40/ft.	\$20.20/ft.
3000 to 3500 feet	-	\$22.80/ft.	\$22.60/ft.
3500 to 4000 feet	-	\$25.90/ft.	\$25.70/ft.
4000 to 4500 feet	-	\$29.90/ft.	\$29.70/ft.
4500 to 5000 feet	-	\$35.00/ft.	\$34.80/ft.
5000 to 5500 feet	-	-	\$41.00/ft.
5500 to 6000 feet	-	-	\$48.60/ft.

Setting and Pulling Casing \$40.00/hour + materials used

April 21, 1980

Casing Ordered Left in Place	NC- \$9.00/foot NX- \$8.00/foot BX- \$6.50/foot
Casing Lost through Normal Drilling Operations	At 70% of list price
Cementing and/or Plugging Drill Holes	\$40.00/hour + materials used
Reaming, if necessary	\$40.00/hour + materials used
Re-entering Previously Drilled Holes (includes time positioning drill over existing hole and until core bit starts on solid bottom of existing hole. Also, any time required to resolve problems with rotary contractor's casing)	\$50.00/hour + materials used
Moving Between Holes	\$13.00/man hour
Standby Time for your convenience	\$24.00/hour
Diamond Bit Loss in Excess of \$2.00/foot	At Actual Cost
Drilling Mud and Mud Additives	At Jobsite Cost + 20%
Survey	\$40.00/hour + ASARCO supplies instrument
Weather-treated Core Boxes which hold ten feet of core	\$2.00 each
Water Truck Rental	\$550.00/month + 55¢ per mile
Water Truck Driver, if required	\$1,850.00/month

Mr. N. P. Whaley
ASARCO, Incorporated

-3-

April 21, 1980

*Bad Rock Clause at depths below 3,500 feet - If footage drilled per shift (excluding chargeable time) times the appropriate footage rate drops below \$320 per eight-hour shift revenue for five or more consecutive shifts, drilling prices will revert from a per-foot rate to an hourly rate of \$40.00 per hour plus bit and other in-hole supplies at actual cost.

If Joy should elect to invoke the above bad rock clause, it is understood by both parties that it will be only under conditions of around-the-clock operation by competent drilling crews. ASARCO will be notified by mail or telephone before any hourly charges are accrued under this clause, and ASARCO reserves the right to terminate the drilling at any time after such notification.

**Subject to change, if necessary, to reflect severe gasoline price increases.

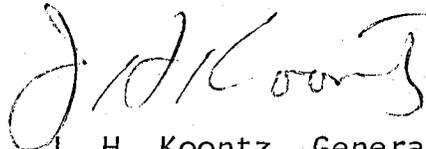
The above prices and conditions will remain firm through December 25, 1980. At that time, we request the opportunity to review performance and request a price increase if necessary.

We understand ASARCO will build and maintain access roads, level drill sites, dig mud pits and provide water, on surface, free of cost to Joy.

Also, from this point on, we will provide separate invoices for each rig on multi-rig jobs as you requested.

Yours truly,

JOY MANUFACTURING COMPANY



J. H. Koontz, General Manager
Drill Division
Joy Machinery Company

JHK:js

August 14, 1981

TO: W. D. Payne

FROM: J. D. Sell

Assay Results
AI-2
Rawhide Project
Pinal-Gila Counties, Arizona

Drill hole AI-2 is located some 2500 feet south of AI-1 (Rawhide) and 2100 feet east-northeast of A-13 (Superior East).

Hole AI-2 penetrated the Tertiary Whitetail Conglomerate at a depth of 2616 feet. The first bedrock unit is highly oxidized, brecciated and gougy Precambrian Pinal Schist. The oxidized portion graded into sulfides at 2701 feet. Copper values in both schist units average 0.01% copper. Red hematite and black specularite are disseminated throughout with minor vein occurrences. Added quartz-sericite averages 15 to 20 percent of the rock in the oxidized portion and increases to 60-70 percent in the sulfide portion.

It is probable that the block from 2616 feet to 2748-1/2 feet is a moved block similar to the A-2 slide block characteristics, being a leached capping type brecciated unit.

A basal fault is logged between 2748-1/2-2794 feet, composed of sulfides (py-some cp) and quartz-specularite in a +60% quartz-sericite mass. Flattish breccia, gouge zones, and rubble occur through the zone.

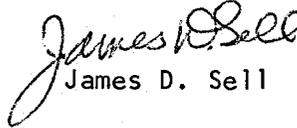
Below the basal fault, the sulfides continue to 2805 feet where oxidized schist again appears. Breccia zones are common along steep fractures and steep alteration bands of quartz-sericite. Pyrite, quartz, specularite are all common along with a few thin chalcocite veins. Partial oxidation reappears around 2871 feet and sulfides at 2940 feet. Noticeable moly appears in smoky quartz just above the sulfide zone and continues for some 150 feet with assay returns averaging 0.007% Mo. A zone of 0.012% Mo was also assayed just below the basal fault in oxidized bedrock.

The sulfides became partially oxidized below 3030 feet and remained partially oxidized to the terminal depth of 3612 feet.

Numerous crushed and brecciated zones with steep dips are often the site of increased quartz-sericite alteration bands which occur throughout. The best mineralization extends from 2850 feet to 3160 feet or 310 feet averaging 0.37% copper and 0.005% Mo. Within this zones is 80 feet of 0.66% copper and 0.005% Mo. Weak K-spar veining is also noted to start below the best mineralization and extend to the terminal depth.

August 14, 1981

The hole was entirely within Pinal Schist. Attached is a synopsis of the rock type, depth, and values of copper-moly. Also attached is a listing of the assay sample numbers with rock unit and footage along with copper-moly values. The Mountain States Research & Development assay certificates are also attached.

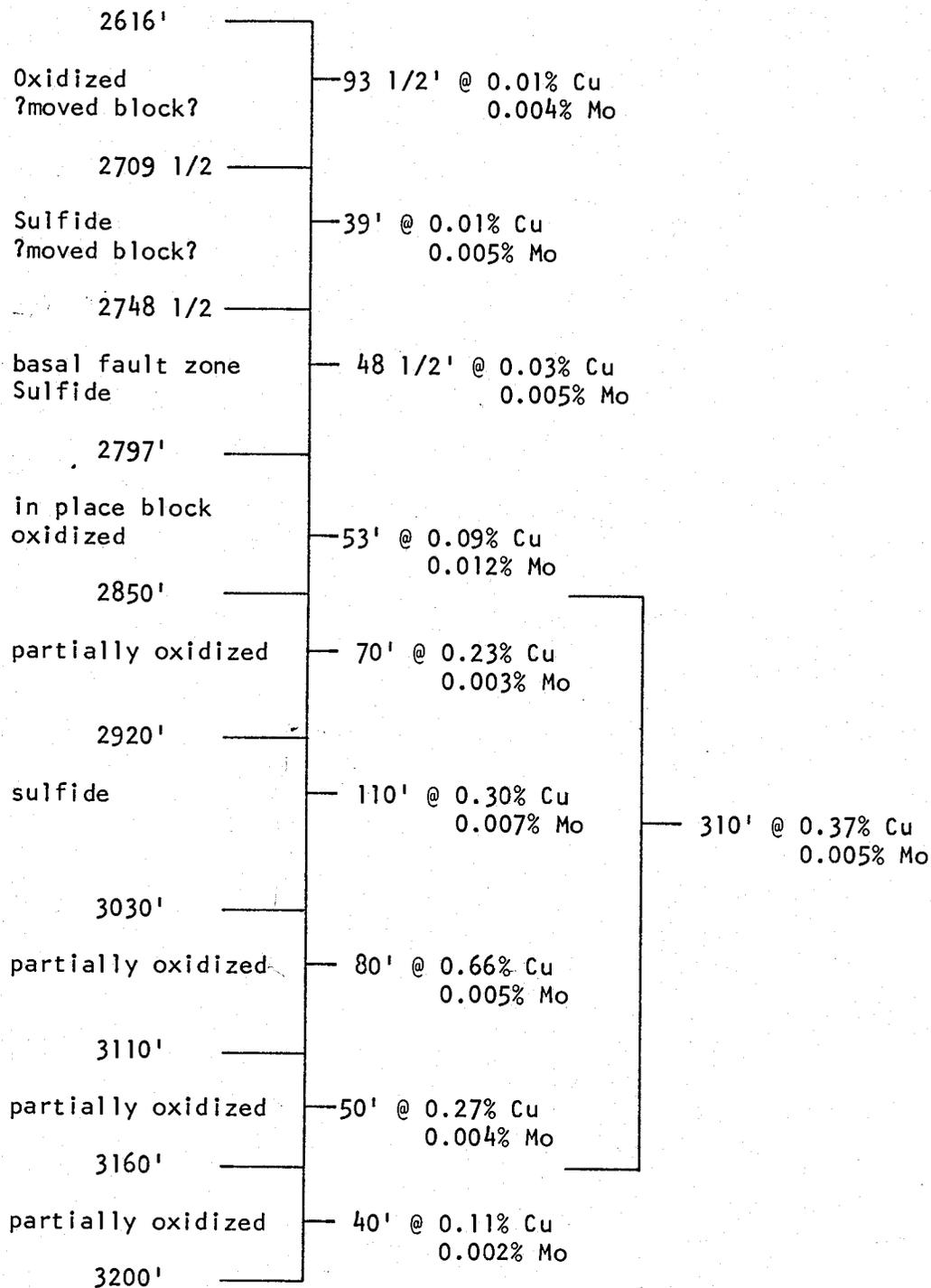

James D. Sell

JDS:rr

Atts: Graphic Log & Assay Results, #2700-A
MSR & D Assay Certificates
Rock Type-Footage-Assay Numbers

DRILL HOLE AI-2

All samples in Pinal Schist host.



Other sampled areas in partially oxidized Pinal Schist host.

- 3290'-3320' = 30' @ 0.07% Cu
- 3394 1/2' - 3415 1/2' = 21' @ 0.08% Cu
- 3491 1/2' - 3521' = 29 1/2' @ 0.05% Cu
- 3585'-3612' = 27' @ 0.19% Cu

Gold values in the 310 foot zone approximates 0.001 oz/ton while the silver values based on available assays is 0.016 oz/ton.

UNIT	ASSAY NUMBER	FOOTAGE	FEET	% Cu	% Mo
Tw	-	-2616	-	-	-
ox. pi	1	2616-2621	5	0.036	0.003
"	2	2621-2631	10	0.022	0.004
"	3	2631-2641	10	0.013	0.003
"	4	2641-2651	10	0.018	0.004
"	5	2651-2661	10	0.016	0.004
"	6	2661-2671	10	0.006	0.004
"	7	2671-2681	10	0.009	0.004
"	8	2681-2691	10	0.011	0.004
"	9	2691-2701	10	0.012	0.005
ox. pi	10	2701-2709 1/2	8-1/2	0.008	0.005
sulf. pi	11	2709-1/2-2720	10-1/2	0.006	0.005
"	12	2720-2730	10	0.014	0.006
"	13	2730-2740	10	0.008	0.004
"	14	2740-2748 1/2	8-1/2	0.009	0.007
"	15	2748-1/2-2758	9-1/2	0.013	0.005
"	16	2758-2768	10	0.022	0.005
"	17	2768-2775	7	0.024	0.004
"	-	2775-2776	1	0.025	0.004
"		No Core Recov.		Assigned	Assigned
"	18	2776-2787	11	0.036	0.004
"	19	2787-2797	10	0.028	0.005
sulf. pi	20	2797-2805	8	0.022	0.006
ox. pi	21	2805-2815	10	0.077	0.018
"	22	2815-2824	9	0.070	0.011
"	-	2824-2825	1	0.07	0.010
"		No Core Recov.		Assigned	Assigned
"	23	2825-2831-1/2	6-1/2	0.38	0.030
ox. pi	24	2831-1/2-2840	8-1/2	0.026	0.005
"	25	2840-2850	10	0.038	0.004
part ox. pi	26	2850-2860	10	0.115	0.005
"	27	2860-2871	11	0.780	0.003
"	28	2871-2881	10	0.155	0.003
"	29	2881-2891	10	0.144	0.003
"	30	2891-2901	10	0.112	0.003
"	31	2901-2910	9	0.078	0.002
"	32	2910-2920	10	0.154	0.003
"	33	2920-2930	10	0.34	0.006
part ox. pi	34	2930-2940	10	0.37	0.006
sulf. pi	35	2940-2950	10	0.28	0.002
"	36	2950-2960	10	0.47	0.003
"	37	2960-2970	10	0.32	0.009
"	38	2970-2980	10	0.20	0.004
"	39	2980-2990	10	0.41	0.008
"	40	2990-3000	10	0.29	0.001
"	41	3000-3010	10	0.27	0.006
"	42	3010-3020	10	0.128	0.024
"	43	3020-3030	10	0.243	0.004
sulf. pi	44	3030-3040	10	0.81	0.002
part ox. pi	45	3040-3050	10	0.52	0.001
"	46	3050-3060	10	0.45	0.003

UNIT	ASSAY NUMBER	FOOTAGE	FEET	% Cu	% Mo
part ox. pi	47	3060-3070	10	0.42	0.021
"	48	3070-3080	10	0.45	0.002
"	49	3080-3090	10	0.72	0.005
part ox. pi	50	3090-3100	10	0.37	0.001
"	51	3100-3110	10	1.54	0.003
"	52	3110-3120	10	0.143	0.004
"	53	3120-3130	10	0.340	0.007
"	54	3130-3140	10	0.184	0.003
"	55	3140-3150	10	0.460	0.003
"	56	3150-3160	10	0.227	0.001
"	57	3160-3170	10	0.154	0.001
"	58	3170-3180	10	0.137	0.003
"	59	3180-3190	10	0.115	0.002
"	60	3190-3200	10	0.053	0.002
"	Note:	3200-3290	90'	Interval not sampled.	
"	61	3290-3300	10	0.039	0.004
"	62	3300-3310	10	0.055	0.002
"	63	3310-3320	10	0.107	0.022
"	Note:	3320-3394-1/2	74-1/2'	Interval not sampled.	
"	64	3394-1/2-3404	9-1/2	0.069	0.002
"	65	3404-3407	3	0.251	0.006
"	66	3407-3415-1/2	8-1/2	0.042	0.004
"	Note:	3415-1/2-3491 1/2	76'	Interval not sampled.	
"	67	3491-1/2-3502	10-1/2	0.027	0.002
"	68	3502-3511	9	0.055	0.001
"	69	3511-3521	10	0.061	0.001
"	Note:	3521-3585	64'	Interval not sampled.	
"	70	3585-3593-1/2	8-1/2	0.146	0.003
"	71	3593-1/2-3604	10-1/2	0.126	0.001
"	72	3604-3607-1/2	3-1/2	0.253	0.001
part ox. pi	73	3607-1/2-3612	4-1/2	0.390	0.001

TOTAL DEPTH

mountain states research & development

CERTIFICATE OF ASSAY



Certificate No. 511

Object No. B-31

Date 6/18/81

Date	Sample No.	Ft.	Footage		Au	Ag	Cu	Mo
			From	To	Oz/T	Oz/T	%	%
15793	AI-2-1	5	2616	2621	0.002	N.D.	0.036	0.003
15794	AI-2-2	10	2621	2631	N.D.	N.D.	0.022	0.004
15795	AI-2-3	10	2631	2641	0.001	N.D.	0.013	0.003
15796	AI-2-4	10	2641	2651	---	---	0.018	0.004
15797	AI-2-5	10	2651	2661	---	---	0.016	0.004
15798	AI-2-6	10	2661	2671	---	---	0.006	0.004
15799	AI-2-7	10	2671	2681	---	---	0.009	0.004
15800	AI-2-8	10	2681	2691	---	---	0.011	0.004
15801	AI-2-9	10	2691	2701	0.001	N.D.	0.012	0.005
15802	AI-2-10		2701	2709 1/2	N.D.	0.02	0.008	0.005
15803	AI-2-11		2709 1/2	2720	0.001	0.04	0.006	0.005
15804	AI-2-12		2720	2730	0.001	N.D.	0.014	0.006
15805	AI-2-13		2730	2740	0.001	0.02	0.008	0.004
15806	AI-2-14		2740	2748 1/2	0.001	N.D.	0.009	0.007
15807	AI-2-15		2748 1/2	2758	0.001	0.02	0.013	0.005
15808	AI-2-16		2758	2768	0.001	0.03	0.022	0.005
15809	AI-2-17		2768	2775	0.001	N.D.	0.024	0.004
15810	AI-2-18		2775 2776	2787	0.001	0.08	0.036	0.004
15811	AI-2-19		2787	2797	0.001	0.03	0.028	0.005
15812	AI-2-20		2797	2805	0.001	0.04	0.022	0.006
15813	AI-2-21		2805	2815	0.001	0.04	0.077	0.018
15814	AI-2-22		2815	2824	0.001	0.04	0.070	0.011
15815	AI-2-23		2825	2831 1/2	0.001	0.06	0.38	0.030
15816	AI-2-24		2831 1/2	2840	0.001	N.D.	0.026	0.005

OXIDIZED
SULFIDE

SULFIDE
OXIDIZED

Total Charge \$ 455.50 @ 111.50 SAMPLE PREP
344.00 ASSAYS

F. H. Tinsall
Chief Chemist

mountain states research & development
CERTIFICATE OF ASSAY

Certificate No. 512

Project No. B-31

Date 6/19/81

OXIDIZED
 PARTIALLY OXIDIZED
 SULFIDE

Date	Sample No.	Footage		Au	Ag	Cu	Mo
		From	To	Oz/T	Oz/T	%	%
15817	AI-2-25	2840	2850	0.001	0.05	0.038	0.004
15818	AI-2-26	2850	2860	0.001	0.03	0.115	0.005
15819	AI-2-27	2860	2871	0.001	0.09	0.78	0.003
15820	AI-2-28	2871	2881	N.D.	N.D.	0.155	0.003
15821	AI-2-29	2881	2891	N.D.	N.D.	0.144	0.003
15822	AI-2-30	2891	2901	N.D.	N.D.	0.112	0.003
15823	AI-2-31	2901	2910	N.D.	N.D.	0.078	0.002
15824	AI-2-32	2910	2920	0.001	0.02	0.154	0.003
15825	AI-2-33	2920	2930	0.001	0.03	0.34	0.006
15826	AI-2-34	2930	2940	0.001	0.04	0.37	0.006
15827	AI-2-35	2940	2950	0.001	N.D.	0.28	0.002
15828	AI-2-36	2950	2960	0.001	N.D.	0.47	0.003
15829	AI-2-37	2960	2970	0.002	N.D.	0.32	0.009
15830	AI-2-38	2970	2980	0.001	N.D.	0.20	0.004

15836	AI-2-39	2980	2990	---	---	0.41	0.008
15837	AI-2-40	2990	3000	---	---	0.29	0.001
15838	AI-2-41	3000	3010	---	---	0.27	0.006
15839	AI-2-42	3010	3020	---	---	0.128	0.024
15840	AI-2-43	3020	3030	---	---	0.243	0.004

Chief Chemist

Total Charge \$ 455.50
 # 111.50 SAMPLE PREP
 344.00 ASSAYS

mountain states research & development

CERTIFICATE OF ASSAY

Certificate No. 513

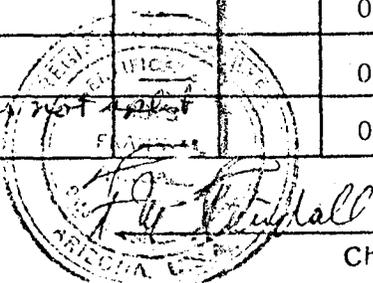
Project No. B-31

Date 6/18/81

PARTIALLY CRUSHED

Date	Sample No.	Footage		Au	Ag	Cu	Mo
		From	To	Oz/T	Oz/T	%	%
15841	AI-2-44	3030	3040	0.001	N.D.	0.81	0.002
15842	AI-2-45	3040	3050	0.001	N.D.	0.52	0.001
15843	AI-2-46	3050	3060	0.001	N.D.	0.45	0.003
15844	AI-2-47	3060	3070	0.001	N.D.	0.42	0.021
15845	AI-2-48	3070	3080	0.001	0.02	0.45	0.002
15846	AI-2-49	3080	3090	0.001	N.D.	0.72	0.005
15847	AI-2-50	3090	3100	0.001	0.02	0.37	0.001
15848	AI-2-51	3100	3110	---	---	1.54	0.003
15849	AI-2-52	3110	3120	---	---	0.143	0.004
15850	AI-2-53	3120	3130	---	---	0.34	0.007
15851	AI-2-54	3130	3140	---	---	0.184	0.003
15852	AI-2-55	3140	3150	---	---	0.46	0.003
15853	AI-2-56	3150	3160	---	---	0.227	0.001
15854	AI-2-57	3160	3170	---	---	0.154	0.001
15855	AI-2-58	3170	3180	---	---	0.137	0.003
15856	AI-2-59	3180	3190	---	---	0.115	0.002
15857	AI-2-60	3190	3200	---	---	0.053	0.002
15859	AI-2-61	<i>Low grade interval from 3200 to 3290 was not split</i>		0.001	N.D.	0.039	0.004
15860	AI-2-62	3300	3310	0.001	N.D.	0.055	0.002
15861	AI-2-63	3310	3320	0.001	0.03	0.107	0.022
15862	AI-2-64	<i>Low grade interval from 3320 to 3394 1/2 was not split.</i>		---	---	0.069	0.002
15863	AI-2-65	3404	3407	---	---	0.251	0.006
15864	AI-2-66	3407	3415 1/2	---	---	0.042	0.004
15865	AI-2-67	<i>Low grade interval from 3415 1/2 to 3491 1/2 was not split.</i>		---	---	0.027	0.002

Total Charge \$ 111.50 SAMPLE PREP.
272.00 ASSAYS
383.50



Chief Chemist

mountain states research & development
CERTIFICATE OF ASSAY

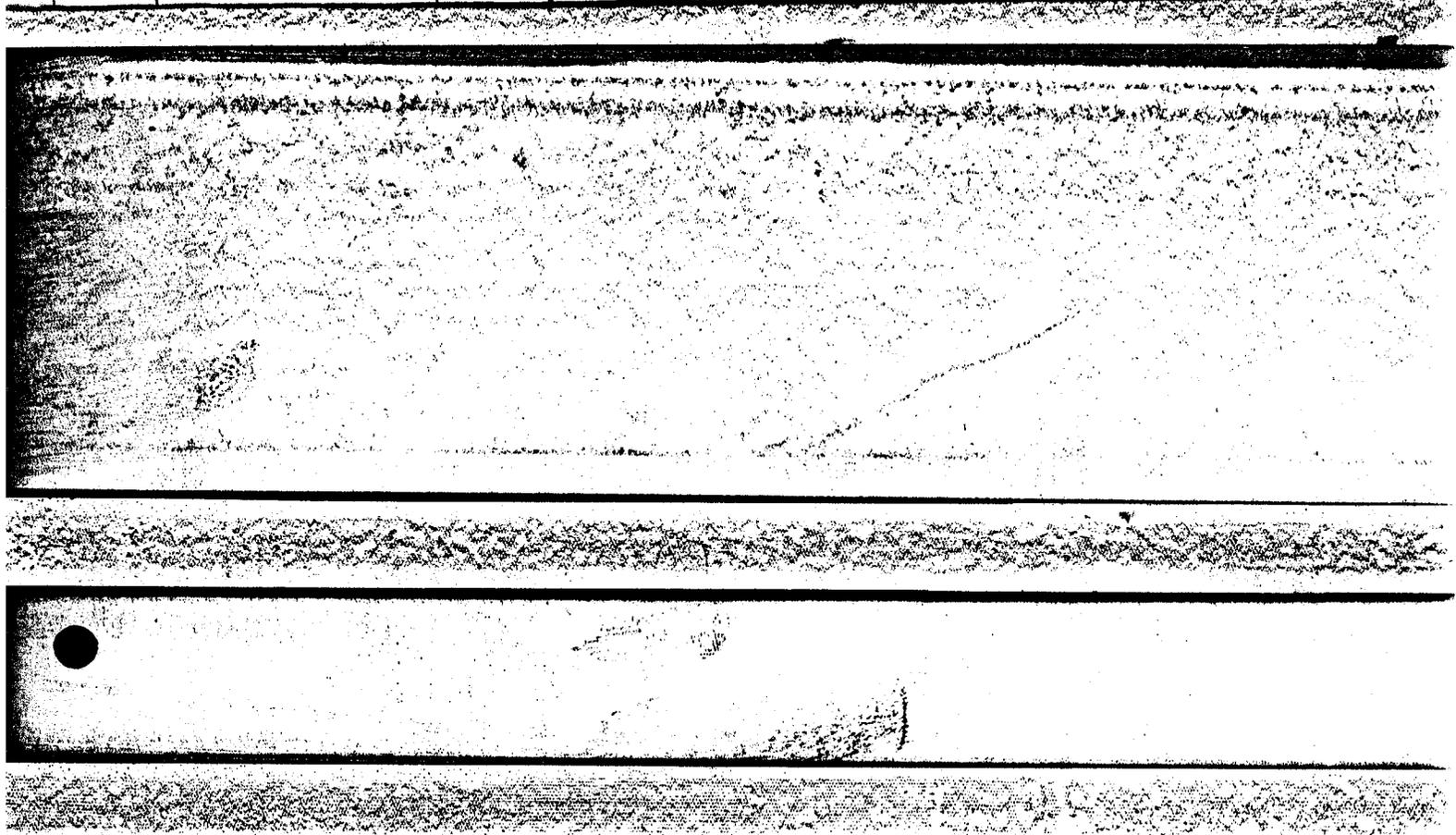
Certificate No. 514

Project No. B-31

Date 6/19/81

PARTIALLY OXIDIZED

Date	Sample No.	Footage		Au		Ag		Cu		Mo
		From	To	Oz/T		Oz/T		%		%
15866	AI-2-68	3502	3511	---		---		0.055		0.001
15867	AI-2-69	3511	3521	---		---		0.061		0.001
15868	AI-2-70	<i>Low grade interval from 3521 to 3585 was not split</i>		0.001		N.D.		0.146		0.003
15869	AI-2-71	3573 1/2	3604	0.001		0.03		0.126		0.001
15870	AI-2-72	3604	3607 1/2	0.001		N.D.		0.253		0.001
15871	AI-2-73	3607 1/2	3612	0.001		N.D.		0.39		0.001
	<i>Total Depth</i>									



ASARCO DRILL HOLE AI-2

AI-2
Collar Elev. 4715'

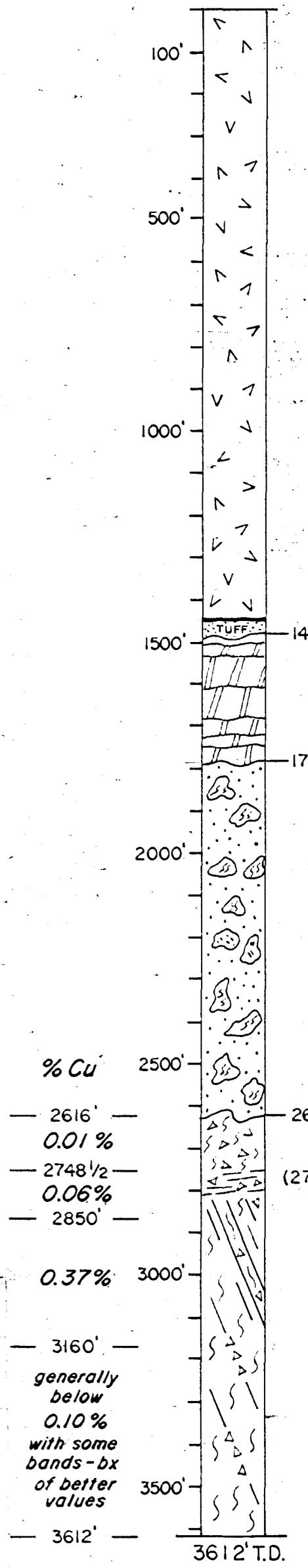
Surface — 3' — (6 1/4" RB)

CORE:
3' — 1961' NC
1961' — 2831 1/2' NX
2831 1/2' — 3612' BX

Joy Manufacturing Co.
Joy-22, HD.

Surface — 3612'
April 1, 1980 — Sept. 8 1980

NOTE: Casing left in hole
4" : Surface — 3' (w/cap)
NX: 1600' — 1961' (361')
BX: 2420 1/2' — 2831 1/2'
(411' including 5' NXE
core barrel, bit, & shell)



DACITE

EARLIER VOLCANICS

Andesite basalt flows with oxidized tops, some reddish, some
autobrecciated & gas bubbles.

WHITETAIL CONGLOMERATE

1"-3" clasts of pre-Tw, subangular, set in matrix of sand
and grit of same.

- 1780' - 1859' M: 30% red brown to gray brown.
ACP: 99% sc (15% alt.), tr db, tr pCgr.
- 1859' - 2140' M: 30% light grey green to med. brown.
ACP: 70 sc, 30 db, tr dsq, gr.
- 2140' - 2322' M: 25% greenish brown to lgt. med. brown.
ACP: 60 sc, 35 db, 5 dsq.
- 2322' - 2603' M: 35%, brick red to adobe brown.
ACP: 87 sc, 12 db, 1 pCgr, tr dsq.
- 2603' - 2616' M: 55%, reddish brown.
ACP: 99 sc, 1 pCgr.

PINAL SCHIST, oxidized, hematite-specularite, steep
breccias, sulfides below 2709'. A-2 Type 2B

(2748 1/2' - 2794') Basal Fault Zone @ flattish bx angles; sulfides.

PINAL SCHIST, oxidized to partially oxidized to 2920',
sulfides to 3030, remainder partially oxidized. Better
quartz-sericite alteration bands in better mineral zones.
Breccias, steep angles throughout. Weak K-spar veining
extends from 3150 to end of hole.

% Cu
— 2616' —
0.01 %
— 2748 1/2' —
0.06 %
— 2850' —
0.37 %
— 3160' —
generally
below
0.10 %
with some
bands - bx
of better
values
— 3612' —

NOTE: Individual assays are found in
Assay Report dated Aug. 14, 1981.

T. I. S. R. 13 E.

SW 1/4 NE 1/4 SW 1/4 SE 1/4 of Sec. 23

GRAPHIC LOG & ASSAY RESULTS

of
DRILL HOLE AI-2
RAWHIDE PROJECT
PINAL COUNTY, ARIZONA

SCALE 1" = 300'

J.D. Sell

June 1981

MVK-2700 A.

mountain states research & development
 CERTIFICATE OF ASSAY



Rec
6/24/81

Certificate No. 511

Project No. B-31

Date 6/18/81

OXIDIZED
SULFIDE
SULFIDE
OXIDIZED

Date	Sample No.	Ft.	Footage		Au	Ag	Cu	Mo
			From	To	Oz/T	Oz/T	%	%
15793	AI-2-1	5	2614	2621	0.002	N.D.	0.036	0.003
15794	AI-2-2	10	2621	2631	N.D.	N.D.	0.022	0.004
15795	AI-2-3	10	2631	2641	0.001	N.D.	0.013	0.003
15796	AI-2-4	10	2641	2651	---	---	0.018	0.004
15797	AI-2-5	10	2651	2661	---	---	0.016	0.004
15798	AI-2-6	10	2661	2671	---	---	0.006	0.004
15799	AI-2-7	10	2671	2681	---	---	0.009	0.004
15800	AI-2-8	10	2681	2691	---	---	0.011	0.004
15801	AI-2-9	10	2691	2701	0.001	N.D.	0.012	0.005
15802	AI-2-10		2701	2709 1/2	N.D.	0.02	0.008	0.005
15803	AI-2-11		2709 1/2	2720	0.001	0.04	0.006	0.005
15804	AI-2-12		2720	2730	0.001	N.D.	0.014	0.006
15805	AI-2-13		2730	2740	0.001	0.02	0.008	0.004
15806	AI-2-14		2740	2748 1/2	0.001	N.D.	0.009	0.007
15807	AI-2-15		2748 1/2	2758	0.001	0.02	0.013	0.005
15808	AI-2-16		2758	2768	0.001	0.03	0.022	0.005
15809	AI-2-17		2768	2775	0.001	N.D.	0.024	0.004
No Core Recovered 2775-2776			2776					
15810	AI-2-18		2776	2787	0.001	0.08	0.036	0.004
15811	AI-2-19		2787	2797	0.001	0.03	0.028	0.005
15812	AI-2-20		2797	2805	0.001	0.04	0.022	0.006
15813	AI-2-21		2805	2815	0.001	0.04	0.077	0.018
15814	AI-2-22		2815	2824	0.001	0.04	0.070	0.011
No Core Recovered 2824-2825			2825					
15815	AI-2-23		2825	2831 1/2	0.001	0.06	0.38	0.030
15816	AI-2-24		2831 1/2	2840	0.001	N.D.	0.026	0.005

Total Charge \$ 455.50
 @ 111.50 SAMPLE PREP
 344.00 ASSAYS

F. M. Tindall
 Chief Chemist

mountain states research & development

CERTIFICATE OF ASSAY

Certificate No. 512

Project No. B-31

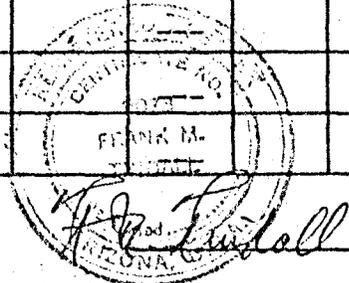
Date 6/19/81

OXIDIZED
 PARTIALLY OXIDIZED
 SULFIDE

Date	Sample No.	Footage		Au	Ag	Cu	Mo
		From	To	Oz/T	Oz/T	%	%
15817	AI-2-25	2840	2850	0.001	0.05	0.038	0.004
15818	AI-2-26	2850	2860	0.001	0.03	0.115	0.005
15819	AI-2-27	2860	2871	0.001	0.09	0.78	0.003
15820	AI-2-28	2871	2881	N.D.	N.D.	0.155	0.003
15821	AI-2-29	2881	2891	N.D.	N.D.	0.144	0.003
15822	AI-2-30	2891	2901	N.D.	N.D.	0.112	0.003
15823	AI-2-31	2901	2910	N.D.	N.D.	0.078	0.002
15824	AI-2-32	2910	2920	0.001	0.02	0.154	0.003
15825	AI-2-33	2920	2930	0.001	0.03	0.34	0.006
15826	AI-2-34	2930	2940	0.001	0.04	0.37	0.006
15827	AI-2-35	2940	2950	0.001	N.D.	0.28	0.002
15828	AI-2-36	2950	2960	0.001	N.D.	0.47	0.003
15829	AI-2-37	2960	2970	0.002	N.D.	0.32	0.009
15830	AI-2-38	2970	2980	0.001	N.D.	0.20	0.004

15836	AI-2-39	2980	2990	---	---	0.41	0.008
15837	AI-2-40	2990	3000	---	---	0.29	0.001
15838	AI-2-41	3000	3010	---	---	0.27	0.006
15839	AI-2-42	3010	3020	---	---	0.128	0.024
15840	AI-2-43	3020	3030	---	---	0.243	0.004

Total Charge \$ 455.50
 * 111.50 SAMPLE PREP
 344.00 ASSAYS


 FRANK M. [Signature]
 CHIEF CHEMIST

Chief Chemist

mountain states research & development
CERTIFICATE OF ASSAY

Certificate No. 513

Project No. B-31

Date 6/18/81

PARTIALLY OXIDIZED

Date	Sample No.	Footage		Au	Ag	Cu	Mo
		From	To	Oz/T	Oz/T	%	%
15841	AI-2-44	3030	3040	0.001	N.D.	0.81	0.002
15842	AI-2-45	3040	3050	0.001	N.D.	0.52	0.001
15843	AI-2-46	3050	3060	0.001	N.D.	0.45	0.003
15844	AI-2-47	3060	3070	0.001	N.D.	0.42	0.021
15845	AI-2-48	3070	3080	0.001	0.02	0.45	0.002
15846	AI-2-49	3080	3090	0.001	N.D.	0.72	0.005
15847	AI-2-50	3090	3100	0.001	0.02	0.37	0.001
15848	AI-2-51	3100	3110	---	---	1.54	0.003
15849	AI-2-52	3110	3120	---	---	0.143	0.004
15850	AI-2-53	3120	3130	---	---	0.34	0.007
15851	AI-2-54	3130	3140	---	---	0.184	0.003
15852	AI-2-55	3140	3150	---	---	0.46	0.003
15853	AI-2-56	3150	3160	---	---	0.227	0.001
15854	AI-2-57	3160	3170	---	---	0.154	0.001
15855	AI-2-58	3170	3180	---	---	0.137	0.003
15856	AI-2-59	3180	3190	---	---	0.115	0.002
15857	AI-2-60	3190	3200	---	---	0.053	0.002
15859	AI-2-61	<i>Low grade interval from 3200 to 3290 was not split</i>		0.001	N.D.	0.039	0.004
		3290	3300				
15860	AI-2-62	3300	3310	0.001	N.D.	0.055	0.002
15861	AI-2-63	3310	3320	0.001	0.03	0.107	0.022
15862	AI-2-64	<i>Low grade interval from 3320 to 3394 1/2 was not split.</i>		---	---	0.069	0.002
		3394 1/2	3404				
15863	AI-2-65	3404	3407	---	---	0.251	0.006
15864	AI-2-66	3407	3415 1/2	---	---	0.042	0.004
15865	AI-2-67	<i>Low grade interval from 3415 1/2 to 3491 1/2 was not split.</i>		---	---	0.027	0.002
		3491 1/2	3502				

Total Charge \$ 111.50 SAMPLE PREP.
272.00 ASSAYS
383.50



Chief Chemist

mountain states research & development

CERTIFICATE OF ASSAY

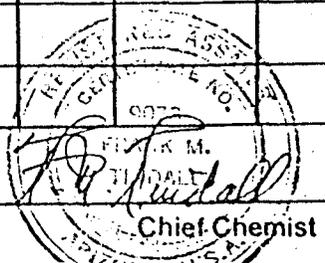
Certificate No. 514

Project No. B-31

Date 6/19/81

Date	Sample No.			Au		Ag		Cu		Mo
				Oz/T		Oz/T		%		%
15866	AI-2-68	3502	3511	---		---		0.055		0.001
15867	AI-2-69	3511	3521	---		---		0.061		0.001
15868	AI-2-70	<i>Low grade interval from 3521 3585 was not split</i>		0.001		N.D.		0.146		0.003
15869	AI-2-71	3593 1/2	3604	0.001		0.03		0.126		0.001
15870	AI-2-72	3604	3607 1/2	0.001		N.D.		0.253		0.001
15871	AI-2-73	3607 1/2	3612	0.001		N.D.		0.39		0.001
		<i>Total Depth.</i>								
16064	A-14-46			---		---		0.030		0.001
16065	A-14-47			---		---		0.050		0.001
16066	A-14-48			---		---		0.060		0.013
16067	A-14-49			---		---		0.025		0.003
16068	A-14-50			---		---		0.042		0.001
16069	A-14-51			0.001		N.D.		0.037		0.001
16070	A-14-52			0.001		0.04		0.32		0.002
16071	A-14-53			0.001		N.D.		0.029		0.001
16072	A-14-54			0.001		N.D.		0.016		0.001
16073	A-14-55			0.001		0.05		0.027		0.001
16074	A-14-56			0.001		0.03		0.027		0.001
16075	A-14-57			0.001		N.D.		0.024		0.001
16076	A-14-58			0.001		N.D.		0.039		0.002
16077	A-14-59			---		---		0.168		0.003

Total Charge \$ 102.30 SAMPLE PREP.
256.00 ASSAYS
358.30


 F.P. Tustall
 Chief Chemist

AI-2 Assay

Unit	Assay Number	Footage	Feet	% Cu	Cum	% Mo	Cum
Tw	-	-2614	-	-	-	-	-
Ox. pi	1	2614-2621	5	0.036	0.18	0.003	0.015
"	2	2621-2631	10	0.022	0.22	0.004	0.040
"	3	2631-2641	10	0.013	0.13	0.003	0.030
"	4	2641-2651	10	0.018	0.18	0.004	0.040
"	5	2651-2661	10	0.016	0.16	0.004	0.040
"	6	2661-2671	10	0.006	0.06	0.004	0.040
"	7	2671-2681	10	0.009	0.09	0.004	0.040
"	8	2681-2691	10	0.011	0.11	0.004	0.040
"	9	2691-2701	10	0.012	0.12	0.005	0.050
Ox. pi.	10	2701-2709 1/2	8 1/2	0.008	0.068	0.005	0.043
subf. pi	11	2709 1/2-2720	10 1/2	0.006	0.063	0.005	0.053
"	12	2720-2730	10	0.014	0.140	0.006	0.060
"	13	2730-2740	10	0.008	0.080	0.004	0.040
"	14	2740-2748 1/2	8 1/2	0.009	0.077	0.007	0.060
"	15	2748 1/2-2758	9 1/2	0.013	0.124	0.005	0.048
"	16	2758-2768	10	0.022	0.220	0.005	0.050
"	17	2768-2775	7	0.024	0.168	0.004	0.028
"	-	No Core Recov. 2775-2776	1	0.025	0.025	0.004	0.004
"	18	2776-2787	11	0.036	0.396	0.004	0.041
"	19	2787-2797	10	0.028	0.280	0.005	0.050
subf. pi	20	2797-2805	8	0.022	0.176	0.006	0.048
Ox. pi	21	2805-2815	10	0.077	0.770	0.018	0.180
"	22	2815-2824	9	0.070	0.630	0.011	0.099
"	-	No. Core Recov. 2824-2825	1	0.070	0.070	0.011	0.010
"	23	2825-2831 1/2	6 1/2	0.38	2.47	0.030	0.195

$$\frac{1.318}{93 1/2} = 0.01$$

$$\frac{0.378}{93 1/2} = 0.004$$

$$\frac{0.360}{39} = 0.01$$

$$\frac{0.213}{39} = 0.005$$

$$\frac{1.213}{48.5} = 0.03$$

$$\frac{0.224}{48 1/2} = 0.005$$

In-Place

Base/Flt Zone



Unit	Assay Number	Footage	Feet	% Cu	Cum	% Mo	Cum
ox. pi	24	2831 1/2 - 2840	8 1/2	0.026	0.221	0.005	0.043
"	25	2840 - 2850	10	0.038	0.380	0.004	0.040
aut. ox. pi	26	2850 - 2860	10	0.115	1.150	0.005	0.050
aut. pi	27	2860 - 2871	11	0.780	8.58	0.003	0.033
aut. ox. pi	28	2871 - 2881	10	0.155	1.55	0.003	0.030
aut. pi	29	2881 - 2891	10	0.144	1.44	0.003	0.030
"	30	2891 - 2901	10	0.112	1.12	0.003	0.030
"	31	2901 - 2910	9	0.078	0.702	0.002	0.018
"	32	2910 - 2920	10	0.154	1.54	0.003	0.030
"	33	2920 - 2930	10	0.34	3.40	0.006	0.060
aut. ox. pi	34	2930 - 2940	10	0.37	3.70	0.006	0.060
self. pi	35	2940 - 2950	10	0.28	2.80	0.002	0.020
"	36	2950 - 2960	10	0.47	4.70	0.003	0.030
"	37	2960 - 2970	10	0.32	3.20	0.009	0.090
"	38	2970 - 2980	10	0.20	2.00	0.004	0.040
"	39	2980 - 2990	10	0.41	4.10	0.008	0.080
"	40	2990 - 3000	10	0.29	2.90	0.001	0.010
"	41	3000 - 3010	10	0.27	2.70	0.006	0.060
"	42	3010 - 3020	10	0.128	1.28	0.024	0.240
"	43	3020 - 3030	10	0.243	2.43	0.004	0.040
self. pi	44	3030 - 3040	10	0.81	8.10	0.002	0.020
aut. ox. pi	45	3040 - 3050	10	0.52	5.20	0.001	0.010
"	46	3050 - 3060	10	0.45	4.50	0.003	0.030
"	47	3060 - 3070	10	0.42	4.20	0.021	0.210
"	48	3070 - 3080	10	0.45	4.50	0.002	0.020
"	49	3080 - 3090	10	0.72	7.20	0.005	0.050

$\frac{16.06}{70} = 0.23$

$\frac{0.221}{70} = 0.003$

$\frac{33.21}{110} = 0.30$

$\frac{0.73}{110} = 0.007$

$\frac{1.211}{310} = 0.004$
 Cu Mo ratio = 77

$\frac{52.80}{80} = 0.66$

$\frac{0.58}{80} = 0.007$

Unit	Assay Number	Footage	Feet	% Cu	Calcu	% Mo	
part. ex. pi	50	3090-3100	10	0.37	3.70	0.001	0.010
"	51	3100-3110	10	1.54	15.40	0.003	0.030
"	52	3110-3120	10	0.143	1.43	0.004	0.040
"	53	3120-3130	10	0.340	3.40	0.007	0.070
"	54	3130-3140	10	0.184	1.84	0.003	0.030
"	55	3140-3150	10	0.460	4.60	0.003	0.030
"	56	3150-3160	10	0.227	2.27	0.001	0.019
"	57	3160-3170	10	0.154	1.54	0.001	0.010
"	58	3170-3180	10	0.137	1.37	0.003	0.030
"	59	3180-3190	10	0.115	1.15	0.002	0.020
"	60	3190-3200	10	0.053	0.53	0.002	0.020
"	Note:	3200-3290	90	Interval Not Sampled.		0.002 est.	
"	61	3290-3300	10	0.039	0.39	0.004	0.040
"	62	3300-3310 3300-3310	10	0.055	0.55	0.002	0.020
"	63	3310-3320	10	0.107	1.07	0.022	0.220
"	Note:	3320-3394 1/2	74 1/2	Interval not sampled		0.002 est.	
"	64	3394 1/2-3404	9 1/2	0.069	0.656	0.002	0.019
"	65	3404-3407	3	0.251	0.753	0.006	0.018
"	66	3407-3415 1/2	8 1/2	0.042	0.357	0.004	0.034
"	Note:	3415 1/2-3491 1/2	76	Interval Not Sampled		0.002 est.	

11.54/310 = 0.37

13.54/50 = 0.27

4.59/40 = 0.11

0.18/50 = 0.004

0.080/40 = 0.002

0.28/30 = 0.009

0.071/21 = 0.003

Unit	Assay Number	Footage	Feet	% Cu	% Mo		
put. ox. pi	67	349 1/2 - 3502	10 1/2	0.027	0.284		0.002
"	68	3502 - 3511	9	0.055	0.495	$\frac{1.389}{29 1/2} = 0.047$	0.001
"	69	3511 - 3521	10	0.061	0.610		0.001
"	Note.	3521 - 3585	64	Interval Not Sampled.			0.001 est.
"	70	3585 - 3593 1/2	8 1/2	0.146	1.241		0.003
"	71	3593 1/2 - 3604	10 1/2	0.126	1.323	$\frac{5.205}{27} = 0.193$	0.001
"	72	3604 - 3607 1/2	3 1/2	0.253	0.886		0.001
put. ox. pi	73	3607 1/2 - 3612	4 1/2	0.390	1.755		0.001
		Total Depth					

$\frac{0.040}{29 1/2} = 0.001$

$\frac{0.044}{27} = 0.0016$

Unit	Assay Number	Footage	Feet	Au	Ag	Cumulative
	26	2850-	10	0.001	0.03	0.30
			11	0.001	0.09	0.99
			10	^{0.0005} ND	ND ^{0.0005}	0.05
			10	ND	ND	0.05
	30		10	ND	ND	0.05
			9	ND	ND	0.045
			10	0.001	0.02	0.20
			10	0.001	0.03	0.30
			10	0.001	0.04	0.40
			10	0.001	ND	0.05
			10	0.001	ND	0.05
			10	0.002	ND	0.05
			10	0.001	ND	0.05
			10	-	-	
	40		10	-	-	
			10	-	-	
			10	-	-	
			10	-	-	
			10	0.001	ND	0.05
			10	0.001	ND	0.05
			10	0.001	ND	0.05
			10	0.001	ND	0.05
			10	0.001	0.02	0.20
			10	0.001	ND	0.05
	50		10	0.001	0.02	0.20
	51	- 3110	10	-	-	
	52 53 54 55 56	3110 - 3160	50			

3.235 / 100 = 0.016317
Ag

3.785 / 310 = 0.012

ASARCO

JDS

RAWHIDE

EA-0041

Exploration Department
Southwestern United States Division

James D. Sell
Manager

June 10, 1982

Mr. Hugh W. Olmstead
Chief Exploration Geologist
Inspiration Consolidated Copper Company
P. O. Box 66
Inspiration, Arizona 85537

Dear Hugh:

A brief summary of our work on the Rawhide project since our letter of May 15, 1975 is as follows:

The second drill hole, AI-2, was collared on April 1, 1980 and completed on September 8, 1980 by Joy Manufacturing Company to a depth of 3612 feet. The attached index map shows the location of the drill hole in relation to the previous drilling in the tract. Also attached is the graphic log which gives a short description of the rock types, structures, alteration, mineralization, and assays.

A breakdown, through April 1982, of Asarco project expenses since the start of the project is given on the attached accounting sheets which can be broken into the following components:

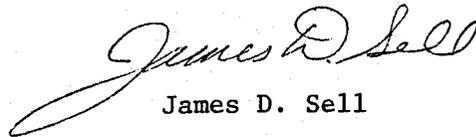
Roads, Drill Sites, Drilling, Assaying, & Geophysical	\$276,256.45
Supervision	20,642.40
Land, Legal, Claims, Miscellaneous	<u>3,479.67</u>
Total	\$300,378.52

Asarco has to spend an additional \$199,621.48 by June 1, 1983, under the present agreement, to earn its 45% interest.

Mr. Hugh W. Olmstead
June 10, 1982
Page 2

As you know, the assessment work which was done off the Rawhide claims but for the benefit of the claim block has not been charged as part of the Rawhide project expenditures.

Sincerely,



James D. Sell

JDS/cg

Attachments: Property Map 2562-A
Graphic Log #2700 of AI-2 drill hole
MSR&D Assay Certificates #511 thru #514
Accounting sheets thru April 1982

cc: ICC (3 copies of attachments)
FTGraybeal (w/attachments)
RBCrist (w/attachments)
WLKurtz (w/o attachments)

August 14, 1981

RECEIVED

SEP 24 1981

S. W. U. S. EXPL. DIV.

TO: W. D. Payne

FROM: J. D. Sell

Assay Results
AI-2
Rawhide Project
Pinal-Gila Counties, Arizona

Drill hole AI-2 is located some 2500 feet south of AI-1 (Rawhide) and 2100 feet east-northeast of A-13 (Superior East).

Hole AI-2 penetrated the Tertiary Whitetail Conglomerate at a depth of 2616 feet. The first bedrock unit is highly oxidized, brecciated and gougy Precambrian Pinal Schist. The oxidized portion graded into sulfides at 2701 feet. Copper values in both schist units average 0.01% copper. Red hematite and black specularite are disseminated throughout with minor vein occurrences. Added quartz-sericite averages 15 to 20 percent of the rock in the oxidized portion and increases to 60-70 percent in the sulfide portion.

It is probable that the block from 2616 feet to 2748-1/2 feet is a moved block similar to the A-2 slide block characteristics, being a leached capping type brecciated unit.

A basal fault is logged between 2748-1/2-2794 feet, composed of sulfides (py-some cp) and quartz-specularite in a +60% quartz-sericite mass. Flattish breccia, gouge zones, and rubble occur through the zone.

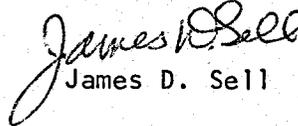
Below the basal fault, the sulfides continue to 2805 feet where oxidized schist again appears. Breccia zones are common along steep fractures and steep alteration bands of quartz-sericite. Pyrite, quartz, specularite are all common along with a few thin chalcocite veins. Partial oxidation reappears around 2871 feet and sulfides at 2940 feet. Noticeable moly appears in smoky quartz just above the sulfide zone and continues for some 150 feet with assay returns averaging 0.007% Mo. A zone of 0.012% Mo was also assayed just below the basal fault in oxidized bedrock.

The sulfides became partially oxidized below 3030 feet and remained partially oxidized to the terminal depth of 3612 feet.

Numerous crushed and brecciated zones with steep dips are often the site of increased quartz-sericite alteration bands which occur throughout. The best mineralization extends from 2850 feet to 3160 feet or 310 feet averaging 0.37% copper and 0.005% Mo. Within this zones is 80 feet of 0.66% copper and 0.005% Mo. Weak K-spar veining is also noted to start below the best mineralization and extend to the terminal depth.

August 14, 1981

The hole was entirely within Pinal Schist. Attached is a synopsis of the rock type, depth, and values of copper-moly. Also attached is a listing of the assay sample numbers with rock unit and footage along with copper-moly values. The Mountain States Research & Development assay certificates are also attached.

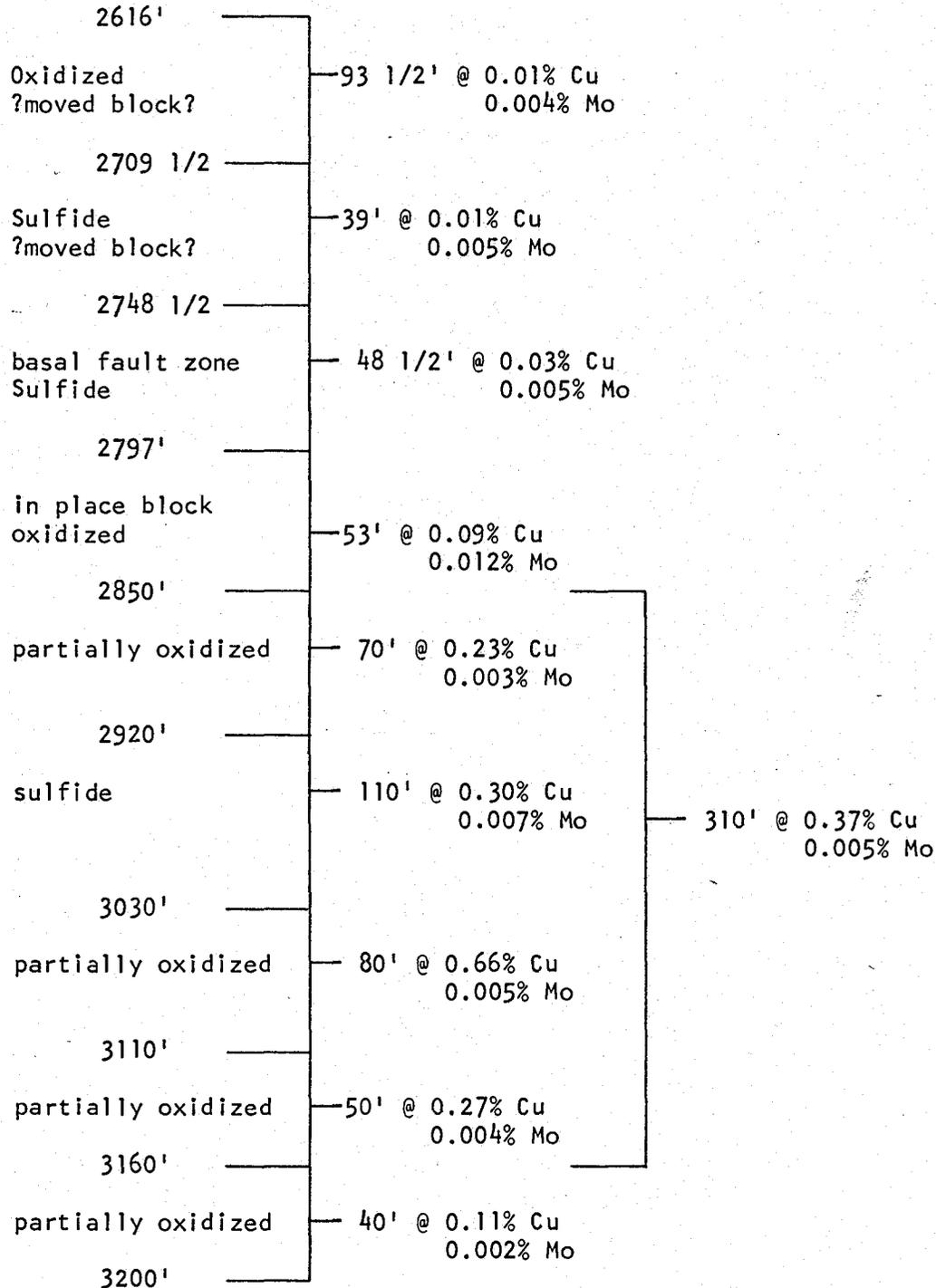

James D. Sell

JDS:rr

Atts: Graphic Log & Assay Results, #2700-A
MSR & D Assay Certificates
Rock Type-Footage-Assay Numbers

DRILL HOLE AI-2

All samples in Pinal Schist host.



Other sampled areas in partially oxidized Pinal Schist host.

3290'-3320' = 30' @ 0.07% Cu

3394 1/2' - 3415 1/2' = 21' @ 0.08% Cu

3491 1/2' - 3521' = 29 1/2' @ 0.05% Cu

3585'-3612' = 27' @ 0.19% Cu

Gold values in the 310 foot zone approximates 0.001 oz/ton while the silver values based on available assays is 0.016 oz/ton.

AI-2 ASSAYS

UNIT	ASSAY NUMBER	FOOTAGE	FEET	% Cu	% Mo
Tw	-	-2616	-	-	-
ox. pi	1	2616-2621	5	0.036	0.003
"	2	2621-2631	10	0.022	0.004
"	3	2631-2641	10	0.013	0.003
"	4	2641-2651	10	0.018	0.004
"	5	2651-2661	10	0.016	0.004
"	6	2661-2671	10	0.006	0.004
"	7	2671-2681	10	0.009	0.004
"	8	2681-2691	10	0.011	0.004
"	9	2691-2701	10	0.012	0.005
ox. pi	10	2701-2709 1/2	8-1/2	0.008	0.005
sulf. pi	11	2709-1/2-2720	10-1/2	0.006	0.005
"	12	2720-2730	10	0.014	0.006
"	13	2730-2740	10	0.008	0.004
"	14	2740-2748 1/2	8-1/2	0.009	0.007
"	15	2748-1/2-2758	9-1/2	0.013	0.005
"	16	2758-2768	10	0.022	0.005
"	17	2768-2775	7	0.024	0.004
"	-	2775-2776	1	0.025	0.004
"	18	No Core Recov.		Assigned	Assigned
"		2776-2787	11	0.036	0.004
"	19	2787-2797	10	0.028	0.005
sulf. pi	20	2797-2805	8	0.022	0.006
ox. pi	21	2805-2815	10	0.077	0.018
"	22	2815-2824	9	0.070	0.011
"	-	2824-2825	1	0.07	0.010
"	23	No Core Recov.		Assigned	Assigned
"		2825-2831-1/2	6-1/2	0.38	0.030
ox. pi	24	2831-1/2-2840	8-1/2	0.026	0.005
"	25	2840-2850	10	0.038	0.004
part ox. pi	26	2850-2860	10	0.115	0.005
"	27	2860-2871	11	0.780	0.003
"	28	2871-2881	10	0.155	0.003
"	29	2881-2891	10	0.144	0.003
"	30	2891-2901	10	0.112	0.003
"	31	2901-2910	9	0.078	0.002
"	32	2910-2920	10	0.154	0.003
"	33	2920-2930	10	0.34	0.006
part ox. pi	34	2930-2940	10	0.37	0.006
sulf. pi	35	2940-2950	10	0.28	0.002
"	36	2950-2960	10	0.47	0.003
"	37	2960-2970	10	0.32	0.009
"	38	2970-2980	10	0.20	0.004
"	39	2980-2990	10	0.41	0.008
"	40	2990-3000	10	0.29	0.001
"	41	3000-3010	10	0.27	0.006
"	42	3010-3020	10	0.128	0.024
"	43	3020-3030	10	0.243	0.004
sulf. pi	44	3030-3040	10	0.81	0.002
part ox. pi	45	3040-3050	10	0.52	0.001
"	46	3050-3060	10	0.45	0.003

UNIT	ASSAY NUMBER	FOOTAGE	FEET	% Cu	% Mo
part ox. pi	47	3060-3070	10	0.42	0.021
"	48	3070-3080	10	0.45	0.002
"	49	3080-3090	10	0.72	0.005
part ox. pi	50	3090-3100	10	0.37	0.001
"	51	3100-3110	10	1.54	0.003
"	52	3110-3120	10	0.143	0.004
"	53	3120-3130	10	0.340	0.007
"	54	3130-3140	10	0.184	0.003
"	55	3140-3150	10	0.460	0.003
"	56	3150-3160	10	0.227	0.001
"	57	3160-3170	10	0.154	0.001
"	58	3170-3180	10	0.137	0.003
"	59	3180-3190	10	0.115	0.002
"	60	3190-3200	10	0.053	0.002
"	Note:	3200-3290	90'	Interval not sampled.	
"	61	3290-3300	10	0.039	0.004
"	62	3300-3310	10	0.055	0.002
"	63	3310-3320	10	0.107	0.022
"	Note:	3320-3394-1/2	74-1/2'	Interval not sampled.	
"	64	3394-1/2-3404	9-1/2	0.069	0.002
"	65	3404-3407	3	0.251	0.006
"	66	3407-3415-1/2	8-1/2	0.042	0.004
"	Note:	3415-1/2-3491 1/2	76'	Interval not sampled.	
"	67	3491-1/2-3502	10-1/2	0.027	0.002
"	68	3502-3511	9	0.055	0.001
"	69	3511-3521	10	0.061	0.001
"	Note:	3521-3585	64'	Interval not sampled.	
"	70	3585-3593-1/2	8-1/2	0.146	0.003
"	71	3593-1/2-3604	10-1/2	0.126	0.001
"	72	3604-3607-1/2	3-1/2	0.253	0.001
part ox. pi	73	3607-1/2-3612	4-1/2	0.390	0.001

TOTAL DEPTH

ASARCO DRILL HOLE AI-2

AI-2
Collar Elev. 4715'

CORE: Surface — 3' — (6¼"RB)
3' — 1961' NC
1961' — 2831½' NX
2831½' — 3612' BX

Joy Manufacturing Co.

Joy-22, HD.

Surface — 3612'

April 1, 1980 — Sept. 8 1980

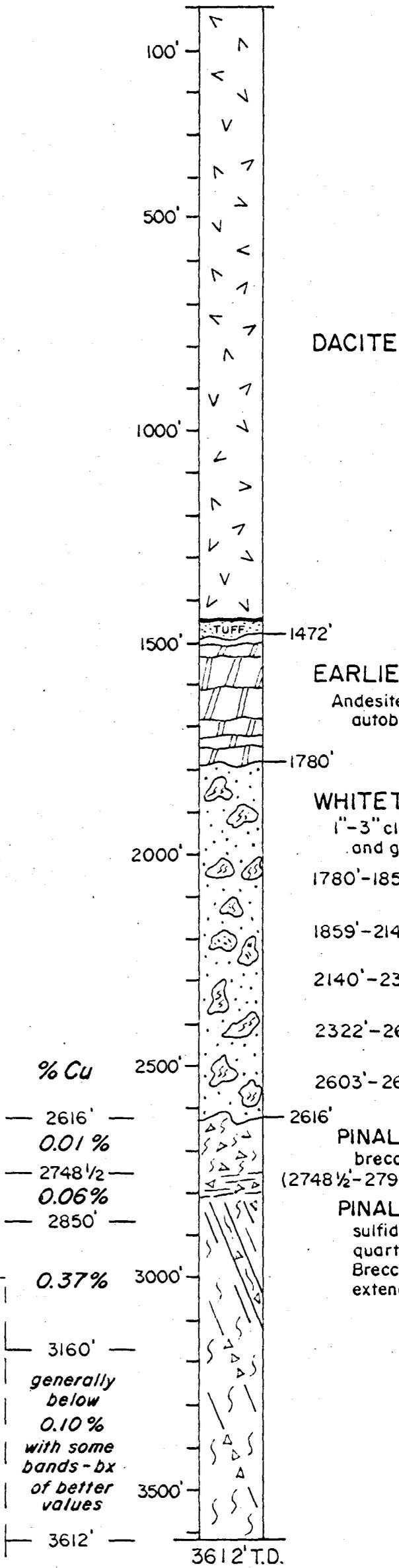
NOTE: Casing left in hole

4" : Surface — 3' (w/cap)

NX: 1600' — 1961' (361')

BX: 2420½' — 2831½'

(411' including 5' NXE core barrel, bit, & shell)



NOTE: Individual assays are found in Assay Report dated Aug. 14, 1981.

T. 1 S. R. 13 E.

SW¼ NE¼ SW¼ SE¼ of Sec. 23

GRAPHIC LOG & ASSAY RESULTS

of

DRILL HOLE AI-2

RAWHIDE PROJECT

PINAL COUNTY, ARIZONA

SCALE 1" = 300'

J.D.Sell

June 1981

MVK-2700 A