



CONTACT INFORMATION
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The following file is part of the Walter E. Heinrichs, Jr. Mining Collection

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Drill hole No. 1 - DIXIE MINE - 306-68

Drill run	Core recovered	Total depth	
2'	1.6'	2.0'	2-19-69
3'	1.8'	5.0'	
1'	1.0'	6.0'	
1'	0.8'	7.0'	
2'	2.0'	9.0'	
2'	1.5'	11.0'	
6'	6.0'	17.0'	2-20-69
5'	5.0'	22.0'	
5'	5.0'	27.0'	
3'	3.0'	30.0'	
10'	10.0'	40.0'	2-21-69
7'	6.5'	47.0'	
3'	2.5'	50.0'	
10'	10.0'	60.0'	
10'	10.0'	70.0'	2-22-69
10'	10.0'	80.0'	

	Drilled	Total Drilled	Recovered
Wednesday	3' feet	110 feet	3.0 feet
Feb 26	10	120	10
	10	140	4.5
Thursday	9	149	9
Feb 27	8	157	8
	1	158	1
	2.5	160.5	2.5
Friday	8.5	169	8.5
Feb 28	5.0	174	5.0
	6.0	180	6.0
Saturday	6	186	6.0
March	9	195	9
	4.5	199.5	4.5
	5.5	205	5.5
	4	209	4
	4	213	4
Sunday	5	218	5
March 2	2.5	220.5	2.5
	9	229.5	9.0
	10	239.5	10.0
	7.5	247.0	7.5
	3	250.0	3.0

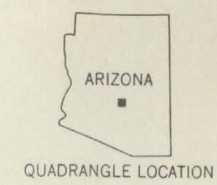
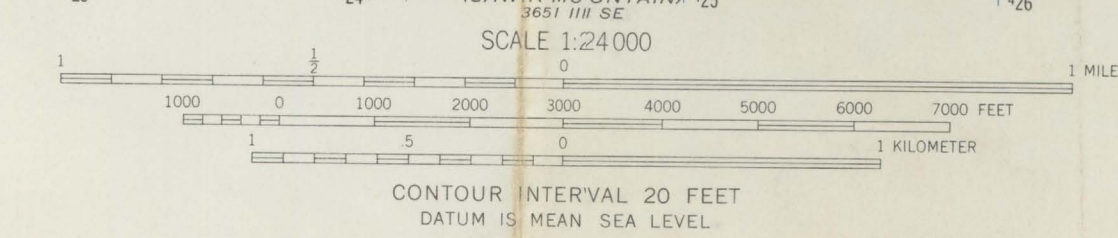
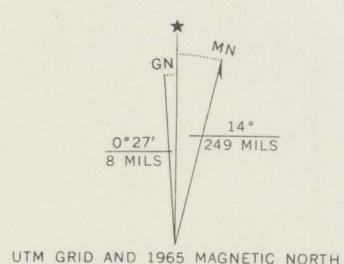
Monday	Drilled	Total Drilled	Core Recovered	
March 3	3 -	250 -	3	
	7 -	257 -	7	
	10 -	267 -	7	
	8 -	275 -	8	
	<u>5 -</u>	275 -	5	
	33			
Tuesday				Total Core
March 4	8	288	8	
	5	293	5	
	<u>7</u>	300	4	297
	20			
		3' CORE LOST		
		297 - 300		
Wednesday				
March 5	8	308	8	305
	3.5	311.5	2.5	307.5
	<u>8.5</u>	320	8.5	316
Thursday				
March 6	4.5	324.5	4.5	320.5
	5.5	330	5.5	326
	3	333	2.5	328.5
	7	340	6	334.5
Friday				
March 7	9	349	9	343.5
	9	358	9	352.5
Saturday				
March 8	2.5	360.5	2.5	355
	8	368.5	8	363
	1.5	370	1.5	364.5
Sunday				
March 9	5	375	5	369.5
	5	380	5	374.5
	10	390	10	384.5
	10	400	10	394.5

Monday
March 10

Drilled		Total Drilled	Core Recov.	Total core
10	-	410	-10	- 409.5



Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Topography by photogrammetric methods from aerial
photographs taken 1962. Field checked 1965
Polyconic projection. 1927 North American datum
10,000-foot grid based on Arizona coordinate system, central zone
1000-meter Universal Transverse Mercator grid ticks,
zone 12, shown in blue



ROAD CLASSIFICATION
Light-duty ————— Unimproved dirt —————

MC DOWELL PEAK, ARIZ.
NE/4 CAMELBACK 15' QUADRANGLE
N3337.5-W11145/7.5

1965
AMS 3651 III NE-SERIES V898

Date.....
20 FEB 1969

1309 HT

VALUES
Latest Quotation

1 oz. Gold.....
1 oz. Silver.....
1 lb. Copper.....
1 lb. Lead.....
1 lb. Zinc.....

THIS CERTIFIES
Samples submitted for assay
contain as follows:

HEINRICH GEO. CO
P.O. BOX 5671
TUCSON
AZ. 85703

Phone: 253-4001

815 NORTH FIRST STREET

Arizona Assay Office

Phoenix, Arizona 85001
P. O. BOX 1148

Short Ton	2000 Lbs.
Short Ton Unit	20 Lbs.
Long Ton	2240 Lbs.
Long Ton Unit	22.4 Lbs.

[illegible]Charges \$ **6.50**

ANDY CHUKA. PRINT

Assayer.

JACK STONE REG. NO. 5479



Date.....20 FEB 1969

Date: _____

VALUES
Latest Quotation

Phone: 253-4001

Short Ton	2000 Lbs.
Short Ton Unit	20 Lbs.
Long Ton	2240 Lbs.
Long Ton Unit	22.4 Lbs.

THIS CERTIFIES
Samples submitted for assay
contain as follows:

815 NORTH FIRST STREET

Phoenix, Arizona 85001
P. O. BOX 1148

[illegible]

JACK STONE, REG. NO. 5479

Charges \$ 6.50

Assayer:

ANDY CHUKA, PRINT

JACK STONE REG. NO. 5479

Shop No. **612**
File No. **1310 HE**

Arizona Assay Office

815 NORTH FIRST STREET
Phone: 253-4001

Short Ton	2000 Lbs.
Short Ton Unit	20 Lbs.
Long Ton	2240 Lbs.
Long Ton Unit	22.4 Lbs.

Samples submitted for assay contain as follows:

W: 0: #306

[illegible]

Assayer:--

ANDY CHUKA. PRINT

JACK STONE REG. NO. 5479

Shop No. 613
File No. 1310 HE
VALUES
Latest Quotation

1 oz. Gold.....
1 oz. Silver.....
1 lb. Copper.....
1 lb. Lead.....
1 lb. Zinc.....

THIS CERTIFIES
Samples submitted for assay
contain as follows:

W.O. #306

MARKS

#613

111-20.51

10

TRACE

0.030

300 DTP

PERCENTAGE

TOTAL VALUE
PER TON
of Gold & Silver

VALUE
PER TON

GOLD
PER TON
Ozs. 100ths

VALUE
PER TON

SILVER
PER TON
Ozs. Tenths

REMARKS

Short Ton 2000 Lbs.
Short Ton Unit 20 Lbs.
Long Ton 2240 Lbs.
Long Ton Unit 22.4 Lbs.

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

HEINRICH GEO. CO
TUCSON
AZ.

Phoenix, Arizona 85001
P. O. BOX 1148

Charges \$

Assayer.....

JACK STONE REG. NO. 5479

ANDY CHUKA, PRINT



ANDY CHUKA, PRINT

Date.....22 FEB 1969

Phoenix, Arizona 85001
P. O. BOX 1148

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

HEINRICH GEO. CO
TUCSON

A 2.

W.O.# 306

Short Ton	2000 Lbs.
Short Ton Unit	20 Lbs.
Long Ton	2240 Lbs.
Long Ton Unit	22.4 Lbs.

THIS CERTIFIES
Samples submitted for assay
contain as follows:

[illegible]

Charges \$.....

Assayer.

JACK STONE REG. NO. 5479

ANDY CHUKA, PRINT

Date.....24 FEB 1969

Phoenix, Arizona 85001
P. O. BOX 1148

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

HEINRICH GEO. CO
TUCSON
AZ

W.O.# 306

Short Ton	2000 Lbs.
Short Ton Unit	20 Lbs.
Long Ton	2240 Lbs.
Long Ton Unit	22.4 Lbs.

THIS CERTIFIES
Samples submitted for assay
contain as follows:

[illegible]

Charges \$.

Assayer.

JACK STONE REG. NO. 5479

ANDY CHUKA, PRINT

ANDY CHUKA, PRINT

Date 2/27/68

File No.

VALUES
Latest Quotation

1 oz. Gold.....
1 oz. Silver.....
1 lb. Copper.....
1 lb. Lead.....
1 lb. Zinc.....

THIS CERTIFIES

Samples submitted for assay contain as follows:

Phoenix, Arizona 85001
P. O. BOX 1148

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

Heinrich Groesbeek Co -

Short Ton 2000 Lbs.
Short Ton Unit 20 Lbs.
Long Ton 2240 Lbs.
Long Ton Unit 22.4 Lbs.

[illegible]

Charges \$.

ANDY CHUKA. PRINT

Assayer.

JACK STONE REG. NO. 5479

Date..2/27/69

Phoenix, Arizona 85001
P. O. BOX 1148

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

Heinrich Geoporation Co

Short Ton	2000 Lbs.
Short Ton Unit	20 Lbs.
Long Ton	2240 Lbs.
Long Ton Unit	22.4 Lbs.

THIS CERTIFIES
Samples submitted for assay
contain as follows:

[illegible]

Charges \$-

Assayer.

JACK STONE REG. NO. 5479

ANDY CHUKA, PRINT

Date 7/28/69

Phoenix, Arizona 85001
P. O. BOX 1148

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

Phone: 253-4001
Leannich Geo. Co.

VALUES
Latest Quotation

1 oz. Gold.....
1 oz. Silver.....
1 lb. Copper.....
1 lb. Lead.....
1 lb. Zinc.....

THIS CERTIFIES
Samples submitted for assay
contain as follows:

Short Ton	2000 Lbs.
Short Ton Unit	20 Lbs.
Long Ton	2240 Lbs.
Long Ton Unit	22.4 Lbs.

[illegible]

BOX 5671 TUCSON, ARIZONA 85703

Phone: (AREA 602) 623-0578

Charges \$-

ANDY CHUKA. PRINT

Assayer.

JACK STONE REG. NO. 5479

Date... 2/28/69

Phoenix, Arizona 85001
P. O. BOX 1148

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

Henrick Geo. Co.
Phone: 253-4001

VALUES
Latest Quotation

1 oz. Gold.....	Latest Quotation
1 oz. Silver.....	
1 lb. Copper.....	
1 lb. Lead.....	
1 lb. Zinc.....	

Short Ton	2000 Lbs.
Short Ton Unit	20 Lbs.
Long Ton	2240 Lbs.
Long Ton Unit	22.4 Lbs.

THIS CERTIFIES
Samples submitted for assay
contain as follows:

[illegible]

Charges \$.....

Assayer.

JACK STONE REG. NO. 5479

ANDY CHUKA, PRINT

Date 2/1/69

Phoenix, Arizona 85001
P. O. BOX 1148

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

Phone: 253-4001
Fennick Geo Co.

Short Ton	2000 Lbs.
Short Ton Unit	20 Lbs.
Long Ton	2240 Lbs.
Long Ton Unit	22.4 Lbs.

VALUES
Latest Quotation

1 oz. Gold.....
1 oz. Silver.....
1 lb. Copper.....
1 lb. Lead.....
1 lb. Zinc.....

THIS CERTIFIES
Samples submitted for assay
contain as follows:

[illegible]

Charges \$.....

Assayer..

JACK STONE REG. NO. 5479

ANDY CHUKA, PRINT

Shop No. 628
File No.

Date 3 March 1969

VALUES
Latest Quotation

1 oz. Gold.....
1 oz. Silver.....
1 lb. Copper.....
1 lb. Lead.....
1 lb. Zinc.....

THIS CERTIFIES
Samples submitted for assay
contain as follows:

W.O.#306

Arizona Assay Office

815 NORTH FIRST STREET

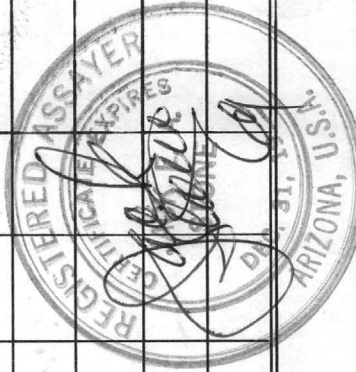
Phone: 253-4001

HEINRICH GEO. CO
TUCSON AZ. 85703

Phoenix, Arizona 85001
P. O. BOX 1148

Short Ton 2000 Lbs.
Short Ton Unit 20 Lbs.
Long Ton 2240 Lbs.
Long Ton Unit 22.4 Lbs.

MARKS	SILVER PER TON Ozs. Tenths	VALUE PER TON	GOLD PER TON Ozs. 100ths	VALUE PER TON	TOTAL VALUE PER TON of Gold & Silver	PERCENTAGE		REMARKS
						COPPER		
628 170'-180'	.40		TRACE			0.01		
629 180'-190'	.40		NIL			0.01		
630 190'-200'	.40		NIL			0.01		
631 200'-209'	.40		TRACE			0.01		
632 209'-218.5'	.40		NIL			0.01		
633 218.5'-228'	.40		NIL			0.005		
634 228'-238'	.40		NIL			0.005		
635 238'-246.5'	.40		NIL			0.005		



Charges \$.....

Assayer.....

JACK STONE REG. NO. 5479

Shop No. 638
File No.

Date: 3 March 1969

Phoenix, Arizona 85001
P. O. BOX 1148

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

Short Ton 2000 Lbs.
Short Ton Unit 20 Lbs.
Long Ton 2240 Lbs.
Long Ton Unit 22.4 Lbs.

VALUES Latest Quotation

1 oz. Gold.....
1 oz. Silver.....
1 lb. Copper.....
1 lb. Lead.....
1 lb. Zinc.....

THIS CERTIFIES

Samples submitted for assay
contain as follows:

HEINRICH GEO. CO
TUCSON AZ. 85703

W.O.#306

MARKS	SILVER PER TON		VALUE PER TON	GOLD PER TON		VALUE PER TON	TOTAL VALUE PER TON of Gold & Silver	PERCENTAGE		REMARKS
	Ozs.	Tenths		Ozs.	100ths					
628	170	.180			TRACE				0.01	
629	190	.190			NIL				0.01	
630	190	.200			NIL				0.01	
631	200	.209			TRACE				0.01	
632	209	.218.5			NIL				0.01	
633	218.5	.228			NIL				0.005	
634	228	.238			NIL				0.005	
635	238	.246.5			NIL				0.005	



Charges \$.....

Assayer.....

JACK STONE REG. NO. 5479

Date 5 March 1969

File No.

VALUES

Latest Quotation

1 oz. Gold.....

1 oz. Silver.....

1 lb. Copper.....

1 lb lead

1 lb Zinc

THIS CERTIFIES

Samples submitted for assay contain as follows:

Phoenix, Arizona 85001

P. O. BOX 1148

Short Ton 2000 Lbs.

Short Ton Unit 20 Lbs.

Long Ton 2240 Lbs.

Long Ton Unit 22.4 Lbs.

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

HEINRICH GED. CO
TUCSON AZ. 85703

MARKS	SILVER PER TON		VALUE PER TON	GOLD PER TON		VALUE PER TON	TOTAL VALUE PER TON of Gold & Silver	PERCENTAGE	REMARKS
	Ozs.	Tenths		Ozs.	100ths				
# 636	246.5	.40		NIL		0.005			
# 637	254.5	.40		NIL		0.01			
# 638	264	.40		NIL		0.005			
# 639	273.5	.40		NIL		0.005			

Charges \$.....

Assayer.

JACK STONE REG. NO. 5479

ANDY CHUKA, PRINT

Date...5 March 1969

File No.

VALUES

Latest Quotation

1 oz. Gold.....

1 oz. Silver.....

1 lb. Copper.....

1 lb. Lead.....

1 lb. Zinc.....

THIS CERTIFIES

Samples submitted for assay contain as follows:

Date...5 March 1969

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

HEINRICH GEO. CO.
TUCSON AZ. 85703

Phoenix, Arizona 85001

P. O. BOX 1148

Short Ton 2000 Lbs.

Short Ton Unit 20 Lbs.

Long Ton 2240 Lbs.

Long Ton Unit 22.4 Lbs.

[illegible]

Charges \$.....

Assayer.

ANDY CHUKA, PRINT

JACK STONE REG. NO. 5479

Date... 6 March 1969

File No.

Phoenix, Arizona 85001

VALUES
Latest Quotation

1 oz. Gold.....
1 oz. Silver.....
1 lb. Copper.....
1 lb. Lead.....
1 lb. Zinc.....

THIS CERTIFIES

Samples submitted for assay contain as follows:

Short Ton	2000 Lbs.
Short Ton Unit	20 Lbs.
Long Ton	2240 Lbs.
Long Ton Unit	22.4 Lbs.

815 NORTH FIRST STREET

Phone: 253-4001

HEINRICH GEO. CO
TUCSON ARIZONA

W.O.# 306

Arizona Assay Office

[illegible]

Charges \$.....

Assayer.

JACK STONE REG. NO. 5479

ANDY CHUKA, PRINT

Date...6 March 1969

File No.

VALUES

Latest Quotation

1 oz. Gold.....

1 oz. Silver.....

1 lb. Copper.....

1 lb. Lead.....

1 lb. Zinc.....

THIS CERTIFIES

Samples submitted for assay contain as follows:

W.O.# 306

HEINRICH GEO. CO
TUCSON ARIZONA

815 NORTH FIRST STREET

Phone: 253-4001

Arizona Assay Office

Phoenix, Arizona 85001

P. O. BOX 1148

Short Ton 2000 Lbs.

Short Ton Unit 20 Lbs.

Long Ton 2240 Lbs.

Long Ton Unit 22.4 Lbs.

[illegible]

Charges \$.....

Assayer.

JACK STONE REG. NO. 5479

ANDY CHUKA. PRINT

Date...7 March 1969

File No.

Phoenix, Arizona 85001
P. O. BOX 1148

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

HEINRICH GEO. CO.

THIS CERTIFIES

Samples submitted for assay contain as follows:

Short Ton	2000 Lbs.
Short Ton Unit	20 Lbs.
Long Ton	2240 Lbs.
Long Ton Unit	22.4 Lbs.

[illegible]

Charges \$.....

Assayer.

JACK STONE REG. NO. 5479

ANDY CHUKA, PRINT

Date...7 March 1969

File No.

VALUES
Latest Quotation

1 oz. Gold.....
1 oz. Silver.....
1 lb. Copper.....
1 lb. Lead.....
1 lb. Zinc.....

THIS CERTIFIES

Samples submitted for assay contain as follows:

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

HEINRICH GEO. CO.

Phoenix, Arizona 85001
P. O. BOX 1148

Short Ton	2000 Lbs.
Short Ton Unit	20 Lbs.
Long Ton	2240 Lbs.
Long Ton Unit	22.4 Lbs.

[illegible]

Charges \$.....

Assayer..

ANDY CHUKA, PRINT

JACK STONE REG. NO. 5479

Date:

File No. _____

VALUES
Latest Quotation

1 oz. Gold.....
1 oz. Silver.....
1 lb. Copper.....
1 lb. Lead.....
1 lb. Zinc.....

THIS CERTIFIES

Samples submitted for assay contain as follows:

W.O.# 306

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

HEINRICH GEO. CO
TUCSON ARIZONA

Phoenix, Arizona 85001
P. O. BOX 1148

Short Ton	2000 Lbs.
Short Ton Unit	20 Lbs.
Long Ton	2240 Lbs.
Long Ton Unit	22.4 Lbs.

[illegible]

Charges \$.....

Assayer.

JACK STONE REG. NO. 5479

ANDY CHUKA, PRINT

Date: 8 March 1969

Phoenix, Arizona 85001
P. O. BOX 1148

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

HEINRICH GEO. CO.
TUCSON ARIZONA

Short Ton	2000 Lbs.
Short Ton Unit	20 Lbs.
Long Ton	2240 Lbs.
Long Ton Unit	22.4 Lbs.

THIS CERTIFIES

Samples submitted for assay contain as follows:

W.O.# 306

[illegible]

Charges \$-

Assayer:

ANDY CHUKA, PRINT

JACK STONE REG. NO. 5479

646

File No.

Phoenix, Arizona 85001
P. O. BOX 1148

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

HEINRICH GEO. CO
TUCSON ARIZONA

Short Ton	2000 Lbs.
Short Ton Unit	20 Lbs.
Long Ton	2240 Lbs.
Long Ton Unit	22.4 Lbs.

THIS CERTIFIES

Samples submitted for assay contain as follows:

VALUES

Latest Quotation

1 oz. Gold.....
1 oz. Silver.....
1 lb. Copper.....
1 lb. Lead.....
1 lb. Zinc.....

[illegible]

Charges \$-

Assayer.

ANDY CHUKA, PRINT

JACK STONE REG. NO. 5479

Date.....10 March 1989

Phoenix, Arizona 85001
P. O. BOX 1148

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

Short Ton	2000 Lbs.
Short Ton Unit	20 Lbs.
Long Ton	2240 Lbs.
Long Ton Unit	22.4 Lbs.

HEINRICH GEO. CO
TUCSON ARIZONA

THIS CERTIFIES

Samples submitted for assay contain as follows:

VALUES
Latest Quotation

1 oz. Gold.....
1 oz. Silver.....
1 lb. Copper.....
1 lb. Lead.....
1 lb. Zinc.....

[illegible]

Charges \$.....

Assayer.....

ANDY CHUKA, PRINT

JACK STONE REG. NO. 5479

Shop No. 647-653
File No. 1308 HTE
Latest Quotation

Date 13 MARCH 1969

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

1 oz. Gold.....
1 oz. Silver.....
1 lb. Copper.....
1 lb. Lead.....
1 lb. Zinc.....

THIS CERTIFIES
Samples submitted for assay
contain as follows:

Phoenix, Arizona 85001
P. O. BOX 1148

Short Ton 2000 Lbs.
Short Ton Unit 20 Lbs.
Long Ton 2240 Lbs.
Long Ton Unit 22.4 Lbs.

HEINRICH GEO. CO
TUCSON ARIZONA

MARKS	SILVER		VALUE PER TON	GOLD		VALUE PER TON	TOTAL VALUE PER TON of Gold & Silver	PERCENTAGE	REMARKS
	Ozs.	Tenths		Ozs.	100ths				
#647	348.51	357.51	.40	.005	.005	0.015	0.015	COPPER	
#648	357.51	367.51	.40	.008	.008	0.015	0.015		
#649	367.51	377.51	.30	NIL	NIL	0.005	0.005		
#650	377.51	387.51	.30	NIL	NIL	0.01	0.01		
#651	387.51	397.1	.30	NIL	NIL	0.01	0.01		
#652	397.1		.30	TRACE		0.01	0.01		

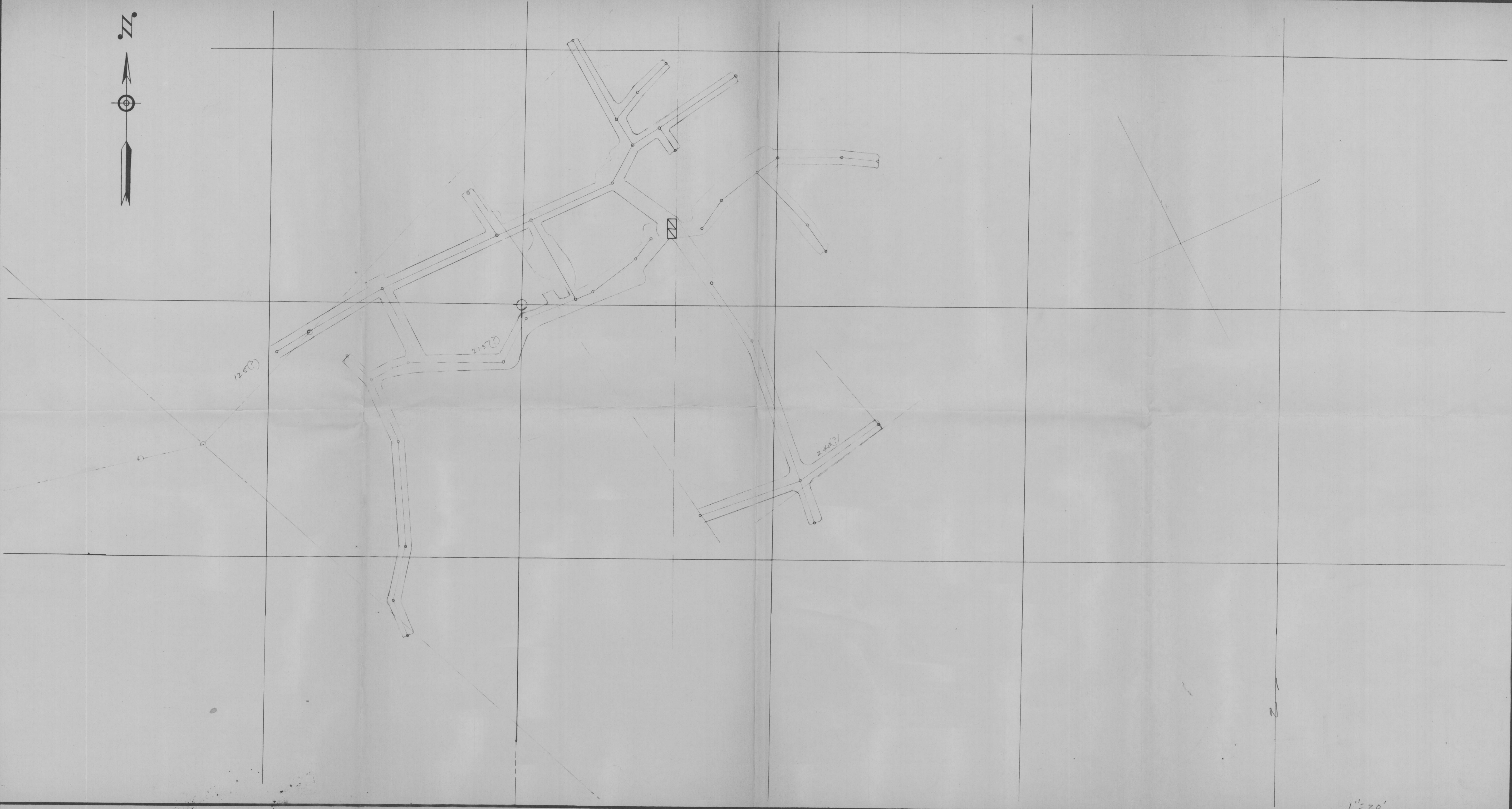


Charges \$.....

Assayer.....

JACK STONE REG. NO. 5479

ANDY CHUKA, PRINT



1'' = 20'





HEINRICHS GEOEXPLORATION COMPANY
POST OFFICE BOX 5671 TUCSON, ARIZONA, 85703
PHONE: 602/623-0578 CABLE: GEOEX, TUCSON

DIRECTION N 35° W HOLE NO. 1
INCLINATION 25° PROPERTY Dixie Mine, Sec 30, T4N, R6E
STARTED 19 Feb 1969 LOCATION 180' E of Dixie shaft
COMPLETED 10 Mar 1969 COLLAR COORD: N _____ E _____
DEPTH 0-80 COLLAR ELEVATION _____
DATE 17 Mar 1969 NOTES BY Cooley SHEET 1 OF 5

SCALE: 1" = 10'
DATE 17 Mar 1969

LITH- OLOGY	MIN- ERAL	ROCK TYPE - GEOLOGY	SURV.	% CORE RECV'D	CORE ASSAYS			
					SECT.	Ag	Pb	Cu
				86%	0-11	0.1	Tr	0.025
10		gtz - sericite schist weathered						
				100%	11-20 5'	0.1	Tr	0.03
20								
					20 5'-30	0.1	Tr	0.03
30								
		gray-green (chloritic)		100%	30-40	0.1	Tr	0.03
40		gtz - sericite, limonite stained, altered soft, weathered						
		Py in gtz. weathering effects		97%	40-50	0.1	Tr	0.04
50		Py in gtz, alteration decreasing		83%				
		pyrite in gtz more than in sericite, less than 1%			50-60	0.1	Tr	0.035
60		limonite stains in fractures						
				100%	60-70	0.1	Tr	0.015
70								
					70-80	0.1	Tr	0.035
80								

**HEINRICHS
GEOEX**

geophysical engineers

HEINRICH'S GEOEXPLORATION COMPANY

POST OFFICE BOX 5671

PHONE: 602/623-0578

TUCSON, ARIZONA 85703

CABLE: GEOEX, TUCSON

DIRECTION _____ HOLE NO. _____

INCLINATION _____ PROPERTY _____

STARTED _____ LOCATION _____

COMPLETED _____ COLLAR COORD: N _____ E _____

DEPTH 80 - 160 COLLAR ELEVATION _____

SCALE: _____ DEPTH 80 - 160 COLLAR ELEVATION _____

DATE _____ NOTES BY _____ SHEET 2 OF 5

1170	MIN			0005	0005 100000
------	-----	--	--	------	-------------

LITH- OLOGY	MIN- ERAL	ROCK TYPE - GEOLOGY	SURV.	% CORE RECV'D	CORE ASSAYS			
					SECT.	Ag	Pb	Cu
		Core fresher, limonite in planes & fractures decreasing			80-89.5'	0.1	11.1	0.03
					89.5-99	0.1	7.7	0.035
		broken, soft (8") clayey			99-108	0.1	7.7	0.035
					108-117	0.1	0.007	0.035
				100%	117-126.5	0.1	7.7	0.04
					126.5-141	0.10	7.7	0.065
		4"-2-5% py in qtz Slight brecciation		85%	141-150.5	0.80	7.7	0.35
		6" band - 5 to 10% py, tetrahedrite			150.5-160	0.50	7.7	0.07
		Biotite & red stain						



HEINRICH'S GEOEXPLORATION COMPANY
POST OFFICE BOX 5871 TUCSON, ARIZONA, 85703
PHONE: 602/623-0578 CABLE: GEOEX, TUCSON

DIRECTION _____ HOLE NO. _____
INCLINATION _____ PROPERTY _____
STARTED _____ LOCATION _____
COMPLETED _____ COLLAR COORD: N _____ E _____
DEPTH 160-240 COLLAR ELEVATION _____
DATE _____ NOTES BY _____ SHEET 3 OF 5

LITH- OLOGY	MIN- ERAL	ROCK TYPE - GEOLOGY	SURV.	% CORE RECV'D	CORE ASSAYS			
					SECT.	Ag	Au	Cu
	160	160-168 black, fine grained, biotite, some epidote Py \pm 1%			160-170	0.5	nil	0.075
	170				170-180	0.4	Tr	0.01
	180	6" chloritic zone			180-190	0.4	nil	0.01
	190				190-200	0.4	nil	0.01
	200	3" clear qtz.		100%	200-209	0.4	Tr	0.01
	210				209-218.5	0.4	nil	0.01
	220	222-230 - fine grained chlorite-biotite schist, epidote, py \pm 1%			218.5-228	0.4	nil	0.005
	230	qtz-sericite schist			228-238	0.4	nil	0.005
	240							



HEINRICH'S GEOEXPLORATION COMPANY
POST OFFICE BOX 5671 TUCSON, ARIZONA, 85703
PHONE: 602/623-0578 CABLE: GEOEX, TUCSON

DIRECTION _____ HOLE NO. _____
INCLINATION _____ PROPERTY _____
STARTED _____ LOCATION _____
COMPLETED _____ COLLAR COORD: N _____ E _____
DEPTH 240-320 COLLAR ELEVATION _____
DATE _____ NOTES BY _____ SHEET 4 OF 5

LITH- OLOGY	MIN- ERAL	240	ROCK TYPE - GEOLOGY	SURV.	% CORE RECV'D	SECT.	CORE ASSAYS	Ag	As	Cu			
			246.5 to 250, very broken, talcy			238-246.5		0.4	n.i.	0.005			
		250				246.5-254.5		0.4	n.i.	0.005			
		260	257-1/4" py vein		70%	254.5-264		0.4	n.i.	0.1			
		270				264-273.5							
		280	273 to 278.5 several 1-2" zones of sericite		100%	273.5-282.5							
		290				282.5-292							
		300			45%	292-302							
		310	307 to 310 - breccia & gouge		75%	302-311							
		320	311 to 322 chlorite-sericite schist, fine grained red brown Fe & Mn Oxides in frac. planes,			311-320.5							



SCALE: _____ DEPTH 320-404 (bottom) COLLAR ELEVATION _____
DATE _____ NOTES BY _____ SHEET 5 OF 5

[illegible]

200 400 600 800 1000

00 200 400 600 800 1000

Shaft 245'

80

125

Bornite

215

Silicious
Gneiss.

Distorted

Quartzite.

Pyrite

Much Limonite in
veins and breccia.

ORE ZONE.

Quartz &
Schist

Green stone
Gneiss.

ORE ZONE.

Thin Sericite Schist.

Break represents interval
of 1,600 feet

Schist

Pink
Granite

Igneous
Contact

Break

Break

CROSS SECTION - N. 45° E.

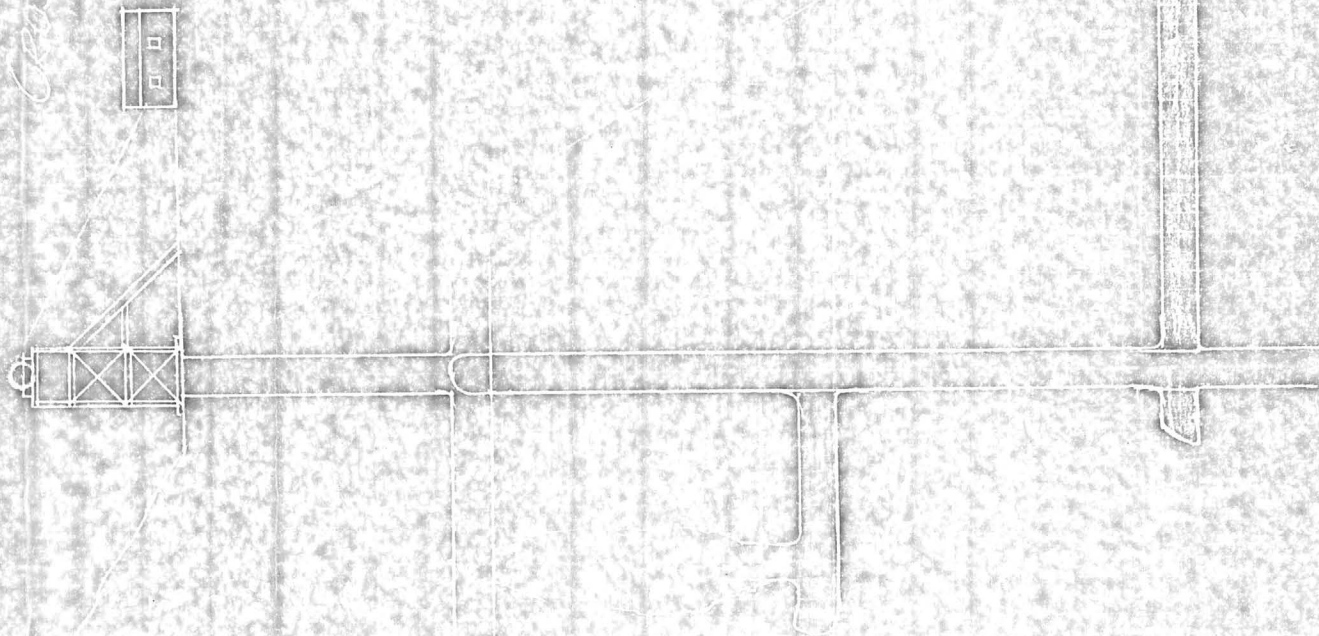
SCALE

1" = 40 FT.

ADIT

125

215



Tag No.	Depth	Tag No	Depth
611	0-11	639	X 273.5 - 282.5
612	11-20.5	640	282.5 - 292
613	20.5-30	641	292 - 302
614	30 - 40	642	302 - 311
615	40 - 50	643	✓ X 311 - 320.5
X 616 ✓	50 - 60	644	320.5 - 329
617	60-70	645	329 - 339
618	70-80	646	339 - 348.5
X 619 ✓	80-89.5	647	348.5 - 357.5
620	89.5-99	648	X 357.5 - 367.5
621	99-108	649	367.5 - 377.5
622	108-117.5	650	377.5 - 387.5
X 623 ✓	117.5-126.5	851	387.5 - 397
X 624 ✓	126.5-141		X 397 - 310?
X 625 ✓	141-150.5		
X 626 ✓	150.5-160		
627	160-170		
628	170-180		
629	180-190		
X 630 ✓	190-200		
631	200-209		
632	209-218.5		
633	218.5-228		
X 634 ✓	228-238		
635	238-246.5		
636	246.5-254.5		
X 637 ✓	254.5-264		
638	264-273.5		

Assay log

DD #1 Dixie Mine

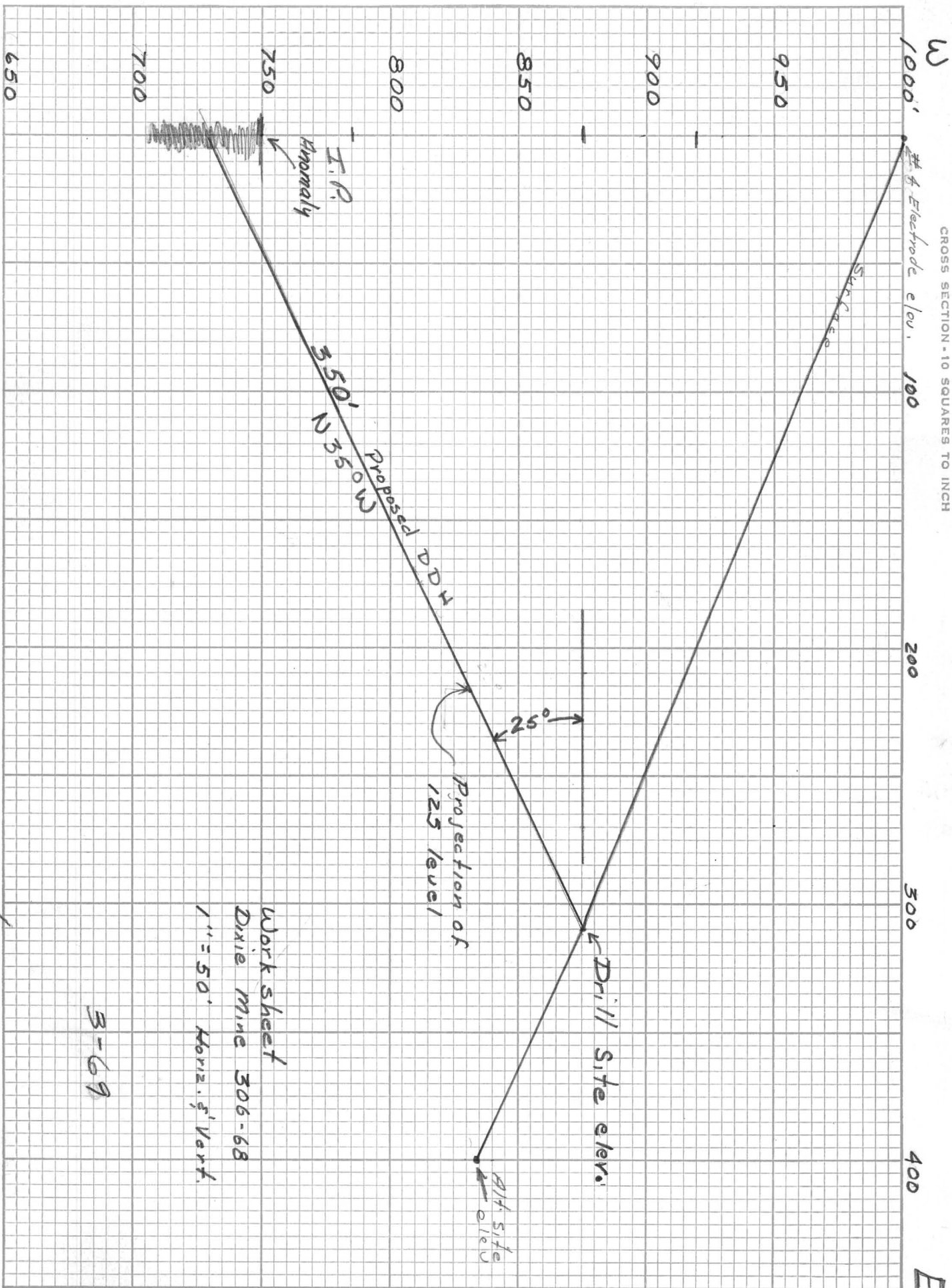
306-68

Depth	Date	Recovery	Section	Silver oz./ton	Gold oz./ton	Copper %	Assay Tag No.
0-11'	19 Feb 1969	86%	0-11'	0.10	Trace	0.035	611
15-20'	20 Feb 1969	100%	11-20.5'	0.10	Trace	0.030	612
25-30'			20.5-30'	0.10	Trace	0.030	613
30-40'			30-40'	0.10	Trace	0.03	614
40-50'	21 Feb 1969	82%	40-50'	0.10	Trace	0.040	615
50-60'			50-60'	0.10 $< 0.0005\%$	Trace < 0.005	0.035 0.35%	x 616
60-70'	22 Feb 1969	100%	60-70'	0.10	Trace	0.015	617
70-80'			70-80'	0.10	Trace	0.035	618
80-89.5'			80-89.5'	0.10 $< 0.0005\%$	Nil < 0.005	0.03 0.15%	x 619
89.5-99.0'	25 Feb 1969		89.5-99.0'	0.10	Trace	0.035	620
99-108'			99-108'	0.10	Trace	0.035	621
108-117'	26 Feb 1969		108-117'	0.10	0.007	0.035	622
117-126.5'		100%	117-126.5'	0.10 $< 0.0005\%$	Trace < 0.005	0.04 0.18%	x 623
130'							

Depth	date	Recovery	Section	Silver oz/ton	Gold oz/ton	Copper %	Assay tag No.
130							
130		100%	126-141	0.10 ^{<0.0005%}	Trace ^{<0.005}	0.065 ^{2.8%}	X 624
140							
150	27 Feb 1969	45%	144-150 1/2	0.80 ^{0.003%}	Trace ^{<0.005}	0.35 ^{3.0%}	X vein projection 625
150		100%	150 1/2-160	0.50 ^{0.001%}	Trace ^{<0.005}	0.07 ^{0.75}	X 626
160							
170	28 Feb 1969		160-170	0.50	Nil	0.075	627
180			170-180	0.40	Trace	0.01	628
190			180-190	0.40	Nil	0.01	629
200	1 Mar 1969	100%	190-200	0.40 ^{<0.0005%}	Nil ^{<0.005}	0.01 ^{0.15}	X 630
210			200-209	0.40	Trace	0.01	631
220			209-218 1/2	0.40	Nil	0.01	632
230	2 Mar 1969		218 1/2-228	0.40	Nil	0.005	633
240			228-238	0.40 ^{0.0005%}	Nil ^{<0.005}	0.005 ^{0.25}	X 634
250			238-248 1/2	0.40	Nil	0.005	635
260	3 Mar 1969	100%	248 1/2-254 1/2	0.40 ^{<0.0005%}	Nil ^{<0.005}	0.10 ^{<0.005% 1.3%}	X 637

Depth	date	Recovery	section	Silver oz/ton	Gold oz/ton	Copper %	Assay Tag NI
270	3 Mar 1969	70%	264-273	0.40 ^{<0.0005%}	Nil ^{<0.005%}	0.01 ^{13%}	x 637
		100%	264-273	0.40	Nil	0.005	638
280	4 Mar 1969	100%	273-285	0.40 ^{<0.0005%}	Nil ^{<0.005%}	0.005 ^{0.35%}	x 639
290			285-292	0.20	Nil	0.005	640
300		45%	292-302	0.20	Nil	0.005	641
310		75%	302-311	0.20	Nil	0.005	642
320			311-320	^{<0.0005%}	^{<0.005}	^{0.120%}	x 643
			320-329	0.20	Nil	0.005	
330	6 Mar 1969	100%	329-339	0.30	Tr	0.015	644
		85%	339-348				645
340		100%	348-357	0.30	Tr	0.005	646
350		100%	357-367	0.40	0.005	0.015	647
360	8 Mar 1969		367-375	^{<0.0005%}	^{<0.005}	^{0.110%}	x 648
370		100%	375-387	0.40	0.008	0.015	
380	9 Mar 1969		387-397	0.30	Nil	0.005	649
		100%	397-407	0.30	Nil	0.01	650
390							

Depth	Recovery	section	Silver oz/ton	Gold oz/ton	Copper %	Assay Tgt No.
400		3875-397	0.30	Nil	0.01	851
		397-404	0.30 <0.0005%	Trace <0.005%	0.01 0.55% X	852
		Bottom Hole 404'				



Rocky Mountain Geochemical Corporation

2050 EAST 14TH STREET
TUCSON, ARIZONA 85719

Phone 622-5702
Area Code: 602

CERTIFICATE OF ANALYSES

Date April 5, 1969

Page 1 of 1

Client Heinrich's Geoexploration
808 West Grant Road
P.O. Box 5671
Tucson, Arizona

Report on: 4 Samples

Submitted by: Heinrich's Geoexploration

Date Received: March 28, 1969

Analysis: Copper, Gold & Silver

Remarks: Analyses determined by atomic absorption.

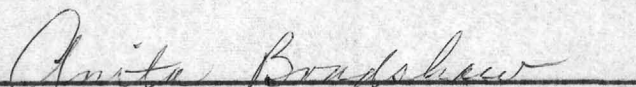
RMGC Job No. 69-5-28T

Heinrich's Job No. 306-68

cc: Enclosed
RMGC--Salt Lake
file

<u>Sample No.</u>	<u>ppm Copper</u>	<u>ppm Gold</u>	<u>ppm Silver</u>
624	635	-0.1	5
625	+1000 = 0.35%	1.0	16
626	680	-0.1	7
637	660	-0.1	3

By


Anita Bradshaw

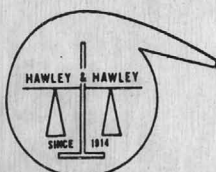
All values are reported in parts per million unless specified otherwise. A minus sign (-) is to be read "less than" and a plus sign (+) "greater than." Values in parenthesis are estimates. This analytical report is the confidential property of the above mentioned client and for the protection of this client and ourselves we reserve the right to forbid publication or reproduction of this report or any part thereof without written permission.

ND = Non Detected

1 ppm = 0.0001%

1 Troy oz./ton = 34.28 ppm

% Mo. x 1.6683 = %MoS₂



Registered Assayers

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.

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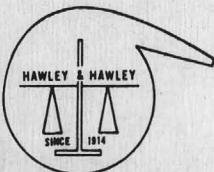
TUCSON, ARIZONA 85703

THE SOUTHWEST'S LEADING ASSAYERS AND REPRESENTATIVES

Branch Representatives at Buyer's Plants:

Phelps Dodge Corp., Douglas, Arizona; ASARCO, El Paso, Amarillo, Texas and Hayden, Arizona

IDENTIFICATION	Gold ozs.	Silver ozs.	Lead %	Copper %	Zinc %	Mo. %		
<u>ELEMENT:</u>	Sample #616	50-60'	Sample #619	30-39.5			Sample #616	Sample #619
Silver	< 0.0005%		< 0.0005%		Nickel *		< 0.01	< 0.01
Aluminum	8.5		7.0		Phosphorus *		< 0.1	< 0.1
Arsenic *	< 0.01		< 0.01		Lead		< 0.01	< 0.01
Boron	0.05		0.04		Rubidium *		< 0.1	< 0.1
Barium	0.4		0.45		Antimony		< 0.01	< 0.01
Beryllium *	< 0.0001		< 0.0001		Silicon		33.00	29.00
Bismuth *	< 0.001		< 0.001		Tin *		< 0.001	< 0.001
Calcium	1.5		0.45		Strontium *		< 0.001	< 0.001
Cadmium *	< 0.01		< 0.01		Tantalum *		< 0.1	< 0.1
Cerium *	< 0.01		< 0.01		Tellurium *		< 0.01	< 0.01
Cobalt *	< 0.001		< 0.001		Thorium *		< 0.1	< 0.1
Chromium	0.003		0.002		Titanium		4.0	3.3
Cesium *	< 0.5		< 0.5		Thallium *		< 0.01	< 0.01
Copper	0.35		0.15		Uranium *		< 0.1	< 0.1
Iron	6.8		4.5		Vanadium		0.008	0.01
Gallium *	< 0.01		< 0.01		Tungsten *		< 0.1	< 0.1
Germanium *	< 0.001		< 0.001		Zinc *		< 0.01	< 0.01
Indium *	< 0.001		< 0.001		Zirconium		0.23	0.19
Potassium *	< 1.0		< 1.0		Gold *		< 0.005	< 0.005
Lithium *	< 0.01		< 0.01		Rare Earths		Nil	Nil
Magnesium	2.5		1.8					
Manganese	0.12		0.10					
Molybdenum *	< 0.001		< 0.001					
Sodium *	< 0.01		< 0.01		* Not detected			
Niobium *	< 0.03		< 0.03					
Mr. D. Cooley HEINRICHS GEOEXPLORATION P. O. Box 5671 Tucson, Arizona 85703				REMARKS: P.O. 1149 Research Spectrograph Page 1		Analysis Cert. By		
CC:						Preparation \$		
ADD:						Analysis \$		
CITY:								
ADD:								
CITY:								
ACC:	HEINRICHS GEOEXPLORATION COMPANY			Date Spl. Received	1/18/69	Date Compl.	3/27/69	TUC 342534
								\$



Registered Assayers

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.

1700 WEST GRANT ROAD - TELEPHONE 622-4836 - POST OFFICE BOX 5934

TUCSON, ARIZONA 85703

THE SOUTHWEST'S LEADING ASSAYERS AND REPRESENTATIVES

Branch Representatives at Buyer's Plants:

Phelps Dodge Corp., Douglas, Arizona; ASARCO, El Paso, Amarillo, Texas and Hayden, Arizona

IDENTIFICATION	Gold ozs.	Silver ozs.	Lead %	Copper %	Zinc %	Mo. %		
<u>ELEMENT:</u>	Sample #623	117.5 to 126.5	Sample #624	126.5 to 141	<u>ELEMENT:</u>		Sample #623	Sample #624
Silver	< 0.0005%		< 0.0005%		Nickel *		< 0.01	< 0.01
Aluminum	7.5		8.5		Phosphorus *		< 0.1	< 0.1
Arsenic *	< 0.01		< 0.01		Lead		< 0.01	< 0.01
Boron	0.015		0.015		Rubidium *		< 0.1	< 0.1
Barium	0.10		0.10		Antimony		< 0.01	< 0.01
Beryllium *	< 0.0001		< 0.0001		Silicon		30.00	35.00
Bismuth *	< 0.001		< 0.001		Tin *		< 0.001	< 0.001
Calcium	0.85		0.43		Strontium *		< 0.001	< 0.001
Cadmium *	< 0.01		< 0.01		Tantalum *		< 0.1	< 0.1
Cerium *	< 0.01		< 0.01		Tellurium *		< 0.01	< 0.01
Cobalt *	< 0.001		< 0.001		Thorium *		< 0.1	< 0.1
Chromium	< 0.001		< 0.001		Titanium		3.5	4.2
Cesium *	< 0.5		< 0.5		Thallium *		< 0.01	< 0.01
Copper	0.18		2.8		Uranium *		< 0.1	< 0.1
Iron	6.1		6.5		Vanadium		0.015	0.005
Gallium *	< 0.01		< 0.01		Tungsten *		< 0.1	< 0.1
Germanium *	< 0.001		< 0.001		Zinc *		< 0.01	< 0.01
Indium *	< 0.001		< 0.001		Zirconium		0.20	0.08
Potassium *	< 1.0		< 1.0		Gold *		< 0.005	< 0.005
Lithium *	< 0.01		< 0.01		Rare Earths		Nil	Nil
Magnesium	2.3		2.4					
Manganese	0.20		0.18					
Sodium *	< 0.01		< 0.01					
Niobium *	< 0.03		< 0.03		* Not detected			
Molybdenum *	< 0.001		< 0.001					

CC: Mr. D. Cooley
ADD: HEINRICHS GEOEXPLORATION
CITY: P. O. Box 5671
ADD: Tucson, Arizona 85703
CITY:

REMARKS:

Page 2

Analysis Cert. By

Preparation \$

Analysis \$

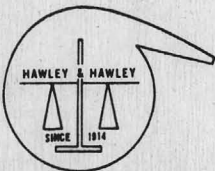
ACC: HEINRICHS GEOEXPLORATION COMPANY

Date Spl.
Received 3/18/69

Date
Compl. 3/27/69

TUC 342534

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ASSAYERS AND CHEMISTS, INC.

1700 WEST GRANT ROAD - TELEPHONE 622-4836 - POST OFFICE BOX 5934

TUCSON, ARIZONA 85703

THE SOUTHWEST'S LEADING ASSAYERS AND REPRESENTATIVES

Branch Representatives at Buyer's Plants:

Phelps Dodge Corp., Douglas, Arizona; ASARCO, El Paso, Amarillo, Texas and Hayden, Arizona

IDENTIFICATION	Gold ozs.	Silver ozs.	Lead %	Copper %	Zinc %	Mo. %		
<u>ELEMENTS:</u>	Sample #625	Sample #626	Sample #626	Sample #626	Sample #625	Sample #625	Sample #625	Sample #626
Silver	0.003%	0.001%	0.001%	Nickel *	< 0.01	< 0.01	< 0.01	< 0.01
Aluminum	4.8	7.5	7.5	Phosphorus *	< 0.1	< 0.1	< 0.1	< 0.1
Arsenic *	< 0.01	< 0.01	< 0.01	Lead	0.04	0.02	0.02	0.02
Boron	0.01	0.12	0.12	Rubidium *	< 0.1	< 0.1	< 0.1	< 0.1
Barium	0.15	0.30	0.30	Antimony	0.85	0.30	0.30	0.30
Beryllium *	< 0.0001	< 0.0001	< 0.0001	Silicon	28.00	27.00	27.00	27.00
Bismuth *	< 0.001	< 0.001	< 0.001	Tin *	< 0.001	< 0.001	< 0.001	< 0.001
Calcium	0.50	0.8	0.8	Strontium *	< 0.001	< 0.001	< 0.001	< 0.001
Cadmium *	< 0.01	< 0.01	< 0.01	Tantalum *	< 0.1	< 0.1	< 0.1	< 0.1
Cerium *	< 0.01	< 0.01	< 0.01	Tellurium *	< 0.01	< 0.01	< 0.01	< 0.01
Cobalt *	< 0.001	< 0.001	< 0.001	Thorium *	< 0.1	< 0.1	< 0.1	< 0.1
Chromium	0.002	0.004	0.004	Titanium	1.8	2.0	2.0	2.0
Cesium *	< 0.5	< 0.5	< 0.5	Thallium *	< 0.01	< 0.01	< 0.01	< 0.01
Copper	3.0	0.75	0.75	Uranium *	< 0.1	< 0.1	< 0.1	< 0.1
Iron	2.2	4.4	4.4	Vanadium	0.003	0.005	0.005	0.005
Gallium *	< 0.01	< 0.01	< 0.01	Tungsten *	< 0.1	< 0.1	< 0.1	< 0.1
Germanium *	< 0.001	< 0.001	< 0.001	Zinc *	< 0.01	< 0.01	< 0.01	< 0.01
Indium *	< 0.001	< 0.001	< 0.001	Zirconium	0.06	0.22	0.22	0.22
Potassium *	< 1.0	< 1.0	< 1.0	Gold *	< 0.005	< 0.005	< 0.005	< 0.005
Lithium *	< 0.01	< 0.01	< 0.01	Rare Earths	Nil	Nil	Nil	Nil
Magnesium	0.35	2.7	2.7					
Manganese	0.08	0.80	0.80					
Sodium *	< 0.01	< 0.01	< 0.01					
Niobium *	< 0.03	< 0.03	< 0.03					
Molybdenum *	< 0.001	< 0.001	< 0.001					

CC:
ADD:
CITY:
ADD:
CITY:

REMARKS:

Analysis Cert. By

Page 3

Preparation \$
Analysis \$

ACC: HEINRICHS GEOEXPLORATION COMPANY

Date Spl. Received 3/18/69

Date Compl. 3/27/69

TUC 342534

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Registered Assayers

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.

1700 WEST GRANT ROAD - TELEPHONE 622-4836 - POST OFFICE BOX 5934

TUCSON, ARIZONA 85703

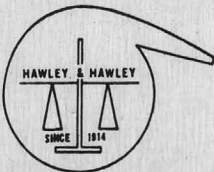
THE SOUTHWEST'S LEADING ASSAYERS AND REPRESENTATIVES

Branch Representatives at Buyer's Plants:

Phelps Dodge Corp., Douglas, Arizona; ASARCO, El Paso, Amarillo, Texas and Hayden, Arizona

IDENTIFICATION	Gold ozs.	Silver ozs.	Lead %	Copper %	Zinc %	Mo. %		
	Sample #630	190-200	Sample #634	220-230			Sample #630	Sample #634
<u>ELEMENTS:</u>			<u>ELEMENTS:</u>					
Silver	< 0.0005%		< 0.0005%	Nickel *		< 0.01		< 0.01
Aluminum	3.1		9.4	Phosphorus		< 0.1*		0.12
Arsenic *	< 0.01		< 0.01	Lead		< 0.01		0.055
Boron	0.085		0.03	Rubidium *		< 0.1		< 0.1
Barium	0.2		0.35	Antimony		< 0.01		< 0.01
Beryllium *	< 0.0001		< 0.0001	Silicon		24.00		23.00
Bismuth *	< 0.001		< 0.001	Tin *		< 0.001		< 0.001
Calcium	0.3		2.75	Strontium *		< 0.001		< 0.001
Cadmium *	< 0.01		< 0.01	Tantalum *		< 0.1		< 0.1
Cerium *	< 0.01		< 0.01	Tellurium *		< 0.01		< 0.01
Cobalt	< 0.001		< 0.001*	Thorium *		< 0.1		< 0.1
Chromium	0.001		< 0.001	Titanium		1.1		4.6
Cesium *	< 0.5		< 0.5	Thallium *		< 0.01		< 0.01
Copper	0.15		0.25	Uranium *		< 0.1		< 0.1
Iron	1.1		9.0	Vanadium		0.003		0.02
Gallium *	< 0.01		< 0.01	Tungsten *		< 0.1		< 0.1
Germanium *	< 0.001		< 0.001	Zinc		< 0.01		< 0.01
Indium *	< 0.001		< 0.001	Zirconium		0.10		0.18
Potassium *	< 1.0		< 1.0	Gold *		< 0.005		< 0.005
Lithium *	< 0.01		< 0.01	Rare Earths		Nil		Nil
Magnesium	0.45		3.3					
Manganese	0.08		0.2					
Sodium *	< 0.01		< 0.01	* Not detected				
Niobium *	< 0.03		< 0.03					
Molybdenum *	< 0.001		< 0.001					

CC:	REMARKS:	Analysis Cert. By
ADD:		
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CITY:	Page 4	Preparation \$
		Analysis \$
ACC: HEINRICH'S GEOEXPLORATION COMPANY	Date Spl. Received 3/18/69	Date Compl. 3/27/69
		TUC 342534
		\$



Registered Assayers

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.

1700 WEST GRANT ROAD - TELEPHONE 622-4836 - POST OFFICE BOX 5934

TUCSON, ARIZONA 85703

THE SOUTHWEST'S LEADING ASSAYERS AND REPRESENTATIVES

Branch Representatives at Buyer's Plants:

Phelps Dodge Corp., Douglas, Arizona; ASARCO, El Paso, Amarillo, Texas and Hayden, Arizona

IDENTIFICATION	Gold ozs.	Silver ozs.	Lead %	Copper %	Zinc %	Mo. %		
<u>ELEMENTS:</u>	Sample #637	254.5- 264	Sample #639	273.5- 282.5	<u>ELEMENTS:</u>		Sample #637	Sample #639
Silver	< 0.0005%		< 0.0005%	Nickel *		< 0.01		< 0.01
Aluminum	5.8		7.0	Phosphorus *		< 0.1		< 0.1
Arsenic *	< 0.01		< 0.01	Lead		0.06		0.02
Boron	0.075		0.06	Rubidium *		< 0.1		< 0.1
Barium	0.30		0.23	Antimony		< 0.01		< 0.01
Beryllium *	< 0.0001		< 0.0001	Silicon		24.00		23.00
Bismuth *	< 0.001		< 0.001	Tin *		< 0.001		< 0.001
Calcium	0.3		0.28	Strontium		< 0.001		< 0.001 *
Cadmium *	< 0.01		< 0.01	Tantalum *		< 0.1		< 0.1
Cerium *	< 0.01		< 0.01	Tellurium *		< 0.01		< 0.01
Cobalt *	< 0.001		< 0.001	Thorium *		< 0.1		< 0.1
Chromium	0.001		0.002	Titanium		2.0		3.5
Cesium *	< 0.5		< 0.5	Thallium *		< 0.01		< 0.01
Copper	1.3		0.35	Uranium *		< 0.1		< 0.1
Iron	2.8		1.2	Vanadium		0.008		0.005
Gallium *	< 0.01		< 0.01	Tungsten *		< 0.1		< 0.1
Germanium *	< 0.001		< 0.001	Zinc *		< 0.01		< 0.01
Indium *	< 0.001		< 0.001	Zirconium		0.20		0.63
Potassium *	< 1.0		< 1.0	Gold *		< 0.005		< 0.005
Lithium *	< 0.01		< 0.01	Rare Earths		Nil		Nil
Magnesium	0.85		1.0					
Manganese	0.10		0.07					
Sodium *	< 0.01		< 0.01	* Not detected				
Niobium *	< 0.03		< 0.03					
Molybdenum *	< 0.001		< 0.001					

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REMARKS:

Analysis Cert. By

Page 5

Preparation \$
Analysis \$

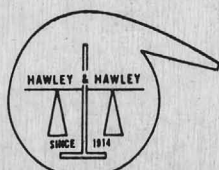
ACC: HEINRICH'S GEOEXPLORATION COMPANY

Date Spl.
Received 3/18/69

Date
Compl. 3/27/69

TUC 342534

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HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.

1700 WEST GRANT ROAD - TELEPHONE 622-4836 - POST OFFICE BOX 5934

TUCSON, ARIZONA 85703

THE SOUTHWEST'S LEADING ASSAYERS AND REPRESENTATIVES

Branch Representatives at Buyer's Plants:

Phelps Dodge Corp., Douglas, Arizona; ASARCO, El Paso, Amarillo, Texas and Hayden, Arizona

IDENTIFICATION	Gold ozs.	Silver ozs.	Lead %	Copper %	Zinc %	Mo. %		
<u>ELEMENTS:</u>	Sample 311-3205 #643		Sample 3575-3675 #648	<u>ELEMENTS:</u>		Sample #643		Sample #645
Silver	< 0.0005%	< 0.0005%	Nickel *	< 0.01	< 0.01			
Aluminum	10.0	3.3	Phosphorus *	< 0.1	< 0.1			
Arsenic *	< 0.01	< 0.01	Lead	< 0.01	< 0.01			
Boron	< 0.001	0.055	Rubidium *	< 0.1	< 0.1			
Barium	0.15	< 0.1	Antimony	< 0.01	< 0.01			
Beryllium *	< 0.0001	< 0.0001	Silicon	27.00	24.00			
Bismuth *	< 0.001	< 0.001	Tin *	< 0.001	< 0.001			
Calcium	2.20	6.2	Strontium *	< 0.001	< 0.001			
Cadmium *	< 0.01	< 0.01	Tantalum *	< 0.1	< 0.1			
Cerium *	< 0.01	< 0.01	Tellurium *	< 0.01	< 0.01			
Cobalt *	< 0.001	< 0.001	Thorium *	< 0.1	< 0.1			
Chromium	0.002	0.001	Titanium	4.5	1.3			
Cesium *	< 0.5	< 0.5	Thallium *	< 0.01	< 0.01			
Copper	0.20	0.10	Uranium *	< 0.1	< 0.1			
Iron	10.4	5.5	Vanadium	0.025	0.01			
Gallium *	< 0.01	< 0.01	Tungsten *	< 0.1	< 0.1			
Germanium *	< 0.001	< 0.001	Zinc	< 0.01	< 0.01			
Indium *	< 0.001	< 0.001	Zirconium	0.16	0.11			
Potassium *	< 1.0	< 1.0	Gold *	< 0.005	< 0.005			
Lithium *	< 0.01	< 0.01	Rare Earths	Nil	Nil			
Magnesium	3.4	1.3						
Manganese	0.18	0.09						
Sodium *	< 0.01	< 0.01						
Niobium *	< 0.03	< 0.03	* Not detected					
Molybdenum *	< 0.001	< 0.001						

CC:
ADD:
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REMARKS:

Analysis Cert. By

Page 6

Preparation \$
Analysis \$

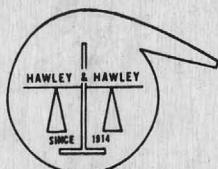
ACC: HEINRICHS GEOEXPLORATION COMPANY

Date Spl.
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Date
Compl. 3/27/69

TUC 342534

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Registered Assayers

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.

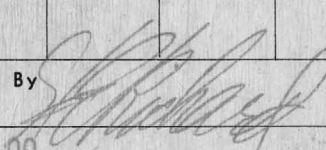
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TUCSON, ARIZONA 85703

THE SOUTHWEST'S LEADING ASSAYERS AND REPRESENTATIVES

Branch Representatives at Buyer's Plants:

Phelps Dodge Corp., Douglas, Arizona; ASARCO, El Paso, Amarillo, Texas and Hayden, Arizona

IDENTIFICATION	Gold ozs.	Silver ozs.	Lead %	Copper %	Zinc %	Mo. %		
<u>ELEMENTS:</u>	Sample #852	397-310			<u>ELEMENTS:</u>		Sample #852	
Silver	< 0.0005%				Nickel *	< 0.01		
Aluminum	7.2				Phosphorus *	< 0.1		
Arsenic *	< 0.01				Lead	0.01		
Boron	0.05				Rubidium *	< 0.1		
Barium	0.18				Antimony	< 0.01		
Beryllium *	< 0.0001				Silicon	29.00		
Bismuth *	< 0.001				Tin *	< 0.001		
Calcium	0.07				Strontium *	< 0.001		
Cadmium *	< 0.01				Tantalum *	< 0.1		
Cerium *	< 0.01				Tellurium *	< 0.01		
Cobalt *	< 0.001				Thorium *	< 0.1		
Chromium	0.001				Titanium	3.2		
Cesium *	< 0.5				Thallium *	< 0.01		
Copper	0.55				Uranium *	< 0.1		
Iron	0.5				Vanadium	0.005		
Gallium *	< 0.01				Tungsten *	< 0.1		
Germanium *	< 0.001				Zinc *	< 0.01		
Indium *	< 0.001				Zirconium	0.30		
Potassium *	< 1.0				Gold*	< 0.005		
Lithium *	< 0.01				Rare Earths	N11		
Magnesium	2.0							
Manganese	0.11							
Sodium *	< 0.01				* Not detected			
Niobium *	< 0.03							
Molybdenum *	< 0.001							
CC: Mr. D. Cooley ADD: HEINRICHS GEOEXPLORATION CITY: P. O. Box 5671 Tucson, Arizona 85703				REMARKS: P. O. #1149 Research Spectrographs @\$20.00 30% discount given Page 7		Analysis Cert. By 		
ACC: HEINRICHS GEOEXPLORATION COMPANY				Date Spl. Received 3/18/69	Date Compl. 3/27/69	TUC 342534	Preparation \$	
							Analysis \$	182.00
							\$	182.00

Diamond Drilling Project
Dixie Mine
Maricopa County
Arizona

for

N. A. M.

April 1969

DIAMOND DRILLING PROJECT

DIXIE MINE

MARICOPA COUNTY, ARIZONA

For

NORTH AMERICAN MINES INC.

APRIL 1969

By

HEINRICHS GEOEXPLORATION COMPANY

P. O. Box 5671 Tucson, Arizona 85703

Phone: 623-0578 Area Code: 602

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ARIZONA ASSAY OFFICE	
HAMLEY & HAMLEY	
ROCKY MOUNTAIN GEOCHEMICAL CORPORATION	
ASSAY COMPARISON LIST	
POCKET	
DRILL HOLE LOCATION AND PROFILE W/ASSAY LOG	

INTRODUCTION

At the request of Mr. Q. A. Shaw, President of North American Mines, a drill hole on the Dixie property was spotted to test the mineralization in the vicinity of the mine and specifically to confirm the cause of the extremely weak I. P. anomaly located between 2.5 and 4.0 on I. P. line 1. (Refer to GEOEX report, I. P. and Geochemical Survey, Geology, Reconnaissance, and Claim Examination of the Dixie Mining Area, Dixie Mining District, Maricopa County, Arizona, January 1969.) GEOEX was also responsible for selecting the drilling company and for supervision of drilling, core handling and assaying.

CONCLUSIONS AND RECOMMENDATIONS

All of the core, except in the first forty (40) feet, contains some pyrite, mostly less than one percent but very locally in greater percentages which is sufficient to account for the I. P. anomalism. The rock is a quartz-sericite schist with minor chlorite-biotite zones and a few clear quartz veinlets. Limonite staining is essentially confined to the near surface portion except right at the bottom of the hole. At about one hundred fifty (150) feet the hole apparently crossed the extension of the vein that the Dixie Mine workings exploited. Core recovery was poor there in spite of the fact that it was anticipated and values increased somewhat in this area.

The assay and spectographic analysis results do not indicate the presence of a large porphyry type of ore body able to sustain an open pit operation. However, more drilling might develop a small underground operation such as has been the history of the Dixie Mine.

OPERATIONS AND PROCEDURES

The drill site was selected on the following basis: Topography and accessibility to reduce the costs of road and drill pad preparation, keeping the hole depth five hundred (500) feet or less, maximum information across beds of schist and sampling the mineralized zone and the I. P. anomaly. If the site had been placed further east, a fault may have been encountered and to cross the fault at a depth where it would not interfere with the drilling would have necessitated a drill hole greatly in excess of five hundred (500) feet. The hole was drilled at a 25° angle from the horizontal on a bearing of N 35° W for a total of four hundred four (404) feet. The bottom of the hole is two hundred seventy-five (275) feet below the surface. The core appears to have crossed the planes of schistosity normal to the dip and within 1-2° of being normal to the strike. There is no obvious deviation along the hole, therefore it should be relatively accurately plotted.

The core was boxed, split and delivered to the assay office by GEOEX personnel daily. GEOEX personnel involved were R. Palmer and M. Critchley under the supervision of D. B. Cooley. The drilling company was Boyles Brothers Drilling Company from the Sunnyslope, Arizona office and the assaying was done by Arizona Assay in Phoenix. At selected depth intervals, the assay pulps were quartered and half was sent to Hawley & Hawley of Tucson for spectographic analysis. The spectographic analysis were expected to be check assays but because of the limitations of the technique and discrepancies of possibly significant magnitude between the reported copper values, it was decided to send the rest of the pulps of selected samples to Rocky Mountain Geochemical Corporation for check assays. These results (see appendix) correlate quite well with the original assays from Arizona Assay Office and emphasize the very semi-quantitative nature of spectrographic work in general.

Respectfully submitted,

HEINRICHS GEOEXPLORATION COMPANY

Donald B Cooley

Donald B. Cooley

Geologist

APPROVED:

HEINRICHS GEOEXPLORATION COMPANY

Walter E. Heinrichs, Jr.

President



Shop No. 611
File No. 1309 HE

VALUES
Latest Quotation

1 oz. Gold.....
1 oz. Silver.....
1 lb. Copper.....
1 lb. Lead.....
1 lb. Zinc.....

THIS CERTIFIES
Samples submitted for assay
contain as follows:

Date 20 FEB 1989

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

HEINRICH GEOLOGICAL

P.O. BOX 5671

TUCSON

AZ. 85703

W.O.# 308

Phoenix, Arizona 85001

P. O. BOX 1148


Short Ton 2000 Lbs.

Short Ton Unit 20 Lbs.

Long Ton 2240 Lbs.

Long Ton Unit 22.4 Lbs.

MARKS	SILVER PER TON		VALUE PER TON	GOLD PER TON		VALUE PER TON	TOTAL VALUE PER TON of Gold & Silver	PERCENTAGE		REMARKS
	Ozs.	Tenths		Ozs.	100ths			COPPER		
# 611	0'-11'	.10		TRACE				0.035		
#612	11'-20.5'	.10		TRACE				0.030		
#613	20.5'-30'	.10		TRACE				0.030		
#614	30'-40'	.10		TRACE				0.030		
#615	40'-50'	.10		TRACE				0.040		
#616	50-60	.10		TRACE				0.35		
#617	60'-70'	.10		TRACE				0.15		
# 618	70'-80'	.10		TRACE				0.035		
# 619	80'-89.5'	.10		NIL				0.03		
# 620	89.5'-99'	.10		TRACE				0.035		
# 621	99'-108'	.10		TRACE				0.035		
# 622	108' - 117.5'	.10		.007				0.035		
# 623	117.5'-126.5'	.10		TRACE				0.04		
# 624	125.5'-141'	.10		TRACE				0.065		
# 625	141'-150.5'	.80		TRACE				0.35		





PAGE #1
Charges \$.....INVOICE # 1309 H-E.....

Assayer.....

JACK STONE REG. NO. 5479

1000

Shop No. 611
File No. 1309 HE
Date 20 FEB 1969

Arizona Assay Office

Phoenix, Arizona 85001
P. O. BOX 1148

815 NORTH FIRST STREET

Phone: 253-4001

HEINRICH GEO. CO
TUCSON AZ. 85703

Short Ton 2000 Lbs.
Short Ton Unit 20 Lbs.
Long Ton 2240 Lbs.
Long Ton Unit 22.4 Lbs.

VALUES

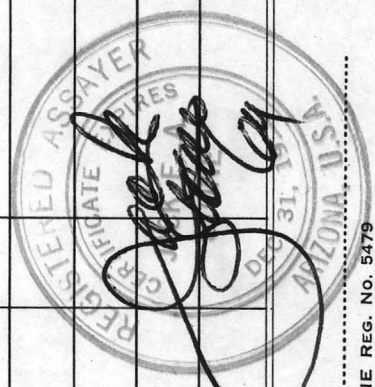
1 oz. Gold.....
1 oz. Silver.....
1 lb. Copper.....
1 lb. Lead.....
1 lb. Zinc.....

THIS CERTIFIES

Samples submitted for assay
contain as follows:

W.O.#306

MARKS	SILVER PER TON Ozs. Tenths	VALUE PER TON	GOLD PER TON Ozs. 1/100ths	VALUE PER TON	TOTAL VALUE PER TON of Gold & Silver	PERCENTAGE		REMARKS
						COPPER		
# 626 150.5'-160'	.50		TRACE			9.07	(0.07)	
# 627 160'-170'	.50		NIL			0.075		
# 628 170'-180'	.40		TRACE			0.01		
# 629 180'-190'	.40		NIL			0.01		
# 630 190'-200'	.40		NIL			0.01		
# 631 200'-209	.40		TRACE			0.01		
# 632 209'-218.5'	.40		NIL			0.01		
# 633 218.5'-228'	.40		NIL			0.005		
# 634 228'-238'	.40		TRACE			0.005		
# 635 238'-246.5'	.40		NIL			0.005		
# 636 246.5'-254.5'	.40		NIL			0.005		
# 637 254.5'-264	.40		NIL			0.01		
# 638 264'-273.5'	.40		NIL			0.005		
# 639 273.5'-282.5'	.40		NIL			0.005		
# 640 282.5'-292'	.20		NIL			0.005		
# 641-292'-302'	.20		NIL			0.005		



Charges \$PAGE # 2
INVOICE # 1309 HE
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Assayer.....

JACK STONE REG. NO. 5479

Shop No. 611
File No. 1309 HE

Date **20 FEB 1969**

Phoenix, Arizona 85001
P. O. BOX 1148

Arizona Assay Office

815 NORTH FIRST STREET

Phone: 253-4001

HEINRICH GEO. CO
TUCSON AZ. 85703

Short Ton	2000 Lbs.
Short Ton Unit	20 Lbs.
Long Ton	2240 Lbs.
Long Ton Unit	22.4 Lbs.

W.O.# 306

THIS CERTIFIES
Samples submitted for assay
contain as follows:

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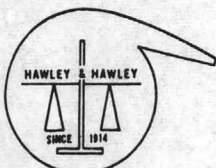
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Assayer:

ANDY CHUKA, PRINT

JACK STONE REG. NO. 5479



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TUCSON, ARIZONA 85703

THE SOUTHWEST'S LEADING ASSAYERS AND REPRESENTATIVES

Branch Representatives at Buyer's Plants:

Phelps Dodge Corp., Douglas, Arizona; ASARCO, El Paso, Amarillo, Texas and Hayden, Arizona

IDENTIFICATION	Gold Oz.	Silver Oz.	Lead %	Copper %	Zinc %	Mn %		
<u>ELEMENT:</u>	Sample #616		Sample #619		<u>ELEMENT:</u>		Sample #616	Sample #619
Silver	< 0.0005%	< 0.0005%	Nickel *	< 0.01	< 0.01			
Aluminum	8.5	7.0	Phosphorus *	< 0.1	< 0.1			
Arsenic *	< 0.01	< 0.01	Lead	< 0.01	< 0.01			
Boron	0.05	0.04	Rubidium *	< 0.1	< 0.1			
Barium	0.4	0.45	Antimony	< 0.01	< 0.01			
Beryllium *	< 0.0001	< 0.0001	Silicon	33.00	29.00			
Bismuth *	< 0.001	< 0.001	Tin *	< 0.001	< 0.001			
Calcium	1.5	0.45	Strontium *	< 0.001	< 0.001			
Cadmium *	< 0.01	< 0.01	Tantalum *	< 0.1	< 0.1			
Cerium *	< 0.01	< 0.01	Tellurium *	< 0.01	< 0.01			
Cobalt *	< 0.001	< 0.001	Thorium *	< 0.01	< 0.01			
Chromium	0.003	0.002	Titanium	4.0	3.3			
Cesium *	< 0.5	< 0.5	Thallium *	< 0.01	< 0.01			
Copper	0.35	0.15	Uranium *	< 0.1	< 0.1			
Iron	6.8	4.5	Vanadium	0.008	0.01			
Gallium *	< 0.01	< 0.01	Tungsten *	< 0.1	< 0.1			
Germanium *	< 0.001	< 0.001	Zinc *	< 0.01	< 0.01			
Indium *	< 0.001	< 0.001	Zirconium	0.23	0.19			
Potassium *	< 1.0	< 1.0	Gold *	< 0.005	< 0.005			
Lithium *	< 0.01	< 0.01	Rare Earths	Nil	Nil			
Magnesium	2.5	1.8						
Manganese	0.12	0.10						
Molybdenum *	< 0.001	< 0.001						
Sodium *	< 0.01	< 0.01	* Not detected					
Niobium *	< 0.03	< 0.03						

CC: Mr. D. Cooley
ADD: HEINRICHS GEOEXPLORATION
CITY: P. O. Box 5671
Tucson, Arizona 85703
ADD:
CITY:

REMARKS:
P.O. 1149
Research
Spectrograph
Page 1

Analysis Cert. By

Preparation \$
Analysis \$

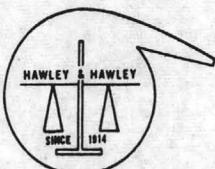
ACC: HEINRICHS GEOEXPLORATION COMPANY

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Registered Assayers

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.

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TUCSON, ARIZONA 85703

THE SOUTHWEST'S LEADING ASSAYERS AND REPRESENTATIVES

Branch Representatives at Buyer's Plants:

Phelps Dodge Corp., Douglas, Arizona; ASARCO, El Paso, Amarillo, Texas and Hayden, Arizona

IDENTIFICATION	Gold ozs.	Silver ozs.	Lead %	Copper %	Zinc %	Mo %		
ELEMENT:	Sample #623		Sample #624	ELEMENT:		Sample #623		Sample #624
Silver	< 0.0005%	< 0.0005%	Nickel *	< 0.01	< 0.01			
Aluminum	7.5	8.5	Phosphorus *	< 0.1	< 0.1			
Arsenic *	< 0.01	< 0.01	Lead	< 0.01	< 0.01			
Boron	0.015	0.015	Rubidium *	< 0.1	< 0.1			
Barium	0.10	0.10	Antimony	< 0.01	< 0.01			
Beryllium *	< 0.0001	< 0.0001	Silicon	30.00	35.00			
Bismuth *	< 0.001	< 0.001	Tin *	< 0.001	< 0.001			
Calcium	0.85	0.43	Strontium *	< 0.001	< 0.001			
Cadmium *	< 0.01	< 0.01	Tantalum *	< 0.1	< 0.1			
Cerium *	< 0.01	< 0.01	Tellurium *	< 0.01	< 0.01			
Cobalt *	< 0.001	< 0.001	Thorium *	< 0.01	< 0.01			
Chromium	< 0.001	< 0.001	Titanium	3.5	4.2			
Cesium *	< 0.5	< 0.5	Thallium *	< 0.01	< 0.01			
Copper	0.18	2.8	Uranium *	< 0.1	< 0.1			
Iron	6.1	6.5	Vanadium	0.015	0.005			
Gallium *	< 0.01	< 0.01	Tungsten *	< 0.1	< 0.1			
Germanium *	< 0.001	< 0.001	Zinc *	< 0.01	< 0.01			
Indium *	< 0.001	< 0.001	Zirconium	0.20	0.08			
Potassium *	< 1.0	< 1.0	Gold *	< 0.005	< 0.005			
Lithium *	< 0.01	< 0.01	Rare Earths	Nil	Nil			
Magnesium	2.3	2.4						
Manganese	0.20	0.18						
Sodium *	< 0.01	< 0.01						
Niobium *	< 0.03	< 0.03	* Not detected					
Molybdenum *	< 0.001	< 0.001						

CC: Mr. D. Cooley
ADD: HEINRICHS GEOEXPLORATION
CITY: P. O. Box 5671
ADD: Tucson, Arizona 85703
CITY:

REMARKS:

Page 2

Analysis Cert. By

Preparation \$

Analysis \$

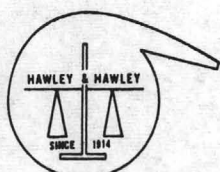
ACC: HEINRICHS GEOEXPLORATION COMPANY

Date Spl. Received 3/18/69

Date Compl. 3/27/69

TUC 342534

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Registered Assayers

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.

1700 WEST GRANT ROAD - TELEPHONE 622-4836 - POST OFFICE BOX 5934

TUCSON, ARIZONA 85703

THE SOUTHWEST'S LEADING ASSAYERS AND REPRESENTATIVES

Branch Representatives at Buyer's Plants:
Phelps Dodge Corp., Douglas, Arizona; ASARCO, El Paso, Amarillo, Texas and Hayden, Arizona

IDENTIFICATION	Gold Ozs.	Silver Ozs.	Lead %	Copper %	Zinc %	Mg %
ELEMENTS:	Sample #625	Sample #626	ELEMENTS:	Sample #625	Sample #626	
Silver	0.003%	0.001%	Nickel *	< 0.01	< 0.01	
Aluminum	4.8	7.5	Phosphorus *	< 0.1	< 0.1	
Arsenic *	< 0.01	< 0.01	Lead	0.04	0.02	
Boron	0.01	0.12	Rubidium *	< 0.1	< 0.1	
Barium	0.15	0.30	Antimony	0.85	0.30	
Beryllium *	< 0.0001	< 0.0001	Silicon	28.00	27.00	
Bismuth *	< 0.001	< 0.001	Tin *	< 0.001	< 0.001	
Calcium	0.50	0.8	Strontium *	< 0.001	< 0.001	
Cadmium *	< 0.01	< 0.01	Tantalum *	< 0.1	< 0.1	
Cerium *	< 0.01	< 0.01	Tellurium *	< 0.01	< 0.01	
Cobalt *	< 0.001	< 0.001	Thorium *	< 0.01	< 0.01	
Chromium	0.002	0.004	Titanium	1.8	2.0	
Cesium *	< 0.5	< 0.5	Thallium *	< 0.01	< 0.01	
Copper	3.0	0.75	Uranium *	< 0.1	< 0.1	
Iron	2.2	4.4	Vanadium	0.003	0.005	
Gallium *	< 0.01	< 0.01	Tungsten *	< 0.1	< 0.1	
Germanium *	< 0.001	< 0.001	Zinc *	< 0.01	< 0.01	
Indium *	< 0.001	< 0.001	Zirconium	0.06	0.22	
Potassium *	< 1.0	< 1.0	Gold *	< 0.005	< 0.005	
Lithium *	< 0.01	< 0.01	Rare Earths	Nil	Nil	
Magnesium	0.35	2.7				
Manganese	0.08	0.80				
Sodium *	< 0.01	< 0.01				
Niobium *	< 0.03	< 0.03				
Molybdenum *	< 0.001	< 0.001				

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REMARKS:

Analysis Cert. By

Page 3

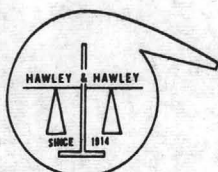
Preparation \$
Analysis \$

ACC: HEINRICHS GEOEXPLORATION COMPANY

Date Spl. Received 3/18/69 Date Compl. 3/27/69

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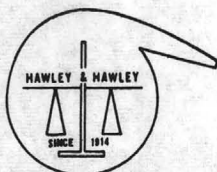
TUCSON, ARIZONA 85703

THE SOUTHWEST'S LEADING ASSAYERS AND REPRESENTATIVES

Branch Representatives at Buyer's Plants:

Phelps Dodge Corp., Douglas, Arizona; ASARCO, El Paso, Amarillo, Texas and Hayden, Arizona

IDENTIFICATION	Gold OZS	Silver OZS	Lead %	Copper %	Zinc %	Mo. %		
	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX		
	Sample #630		Sample #634				Sample #630	Sample #634
<u>ELEMENTS:</u>				<u>ELEMENTS:</u>				
Silver *	< 0.0005%		< 0.0005%	Nickel *			< 0.01	< 0.01
Aluminum	3.1		9.4	Phosphorus			< 0.1*	0.12
Arsenic *	< 0.01		< 0.01	Lead			< 0.01	0.055
Boron	0.085		0.03	Rubidium *			< 0.1	< 0.1
Barium	0.2		0.35	Antimony			< 0.01	< 0.01
Beryllium *	< 0.0001		< 0.0001	Silicon			24.00	23.00
Bismuth *	< 0.001		< 0.001	Tin *			< 0.001	< 0.001
Calcium	0.3		2.75	Strontium *			< 0.001	< 0.001
Cadmium *	< 0.01		< 0.01	Tantalum *			< 0.1	< 0.1
Cerium *	< 0.01		< 0.01	Tellurium *			< 0.01	< 0.01
Cobalt	< 0.001		< 0.001*	Thorium *			< 0.1	< 0.1
Chromium	0.001		< 0.001	Titanium			1.1	4.6
Cesium *	< 0.5		< 0.5	Thallium *			< 0.01	< 0.01
Copper	0.15		0.25	Uranium *			< 0.1	< 0.1
Iron	1.1		9.0	Vanadium			0.003	0.02
Gallium *	< 0.01		< 0.01	Tungsten *			< 0.1	< 0.1
Germanium *	< 0.001		< 0.001	Zinc			< 0.01	< 0.01
Indium *	< 0.001		< 0.001	Zirconium			0.10	0.18
Potassium *	< 1.0		< 1.0	Gold *			< 0.005	< 0.005
Lithium *	< 0.01		< 0.01	Rare Earths			Nil	Nil
Magnesium	0.45		3.3					
Manganese	0.08		0.2					
Sodium *	< 0.01		< 0.01	* Not detected				
Niobium *	< 0.03		< 0.03					
Molybdenum *	< 0.001		< 0.001					
CC: ADD: CITY: ADD: CITY:				REMARKS: Page 4	Analysis Cert. By Preparation \$ Analysis \$			
ACC: HEINRICHS GEOEXPLORATION COMPANY				Date Spl. Received 3/18/69	Date Compl. 3/27/69	TUC 342534 \$		



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TUCSON, ARIZONA 85703

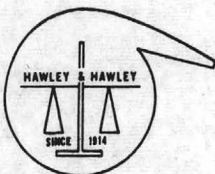
THE SOUTHWEST'S LEADING ASSAYERS AND REPRESENTATIVES

Branch Representatives at Buyer's Plants:

Phelps Dodge Corp., Douglas, Arizona; ASARCO, El Paso, Amarillo, Texas and Hayden, Arizona

IDENTIFICATION	Gold OZS.	Silver OZS.	Lead %	Copper %	Zinc %	Mg %		
ELEMENTS:	Sample #637		Sample #639	ELEMENTS:			Sample #637	Sample #639
Silver	< 0.0005%		< 0.0005%	Nickel *			< 0.01	< 0.01
Aluminum	5.8		7.0	Phosphorus *			< 0.1	< 0.1
Arsenic *	< 0.01		< 0.01	Lead			0.06	0.02
Boron	0.075		0.06	Rubidium *			< 0.1	< 0.1
Barium	0.30		0.23	Antimony			< 0.01	< 0.01
Beryllium *	< 0.0001		< 0.0001	Silicon			24.00	23.00
Bismuth *	< 0.001		< 0.001	Tin *			< 0.001	< 0.001
Calcium	0.3		0.28	Strontium			< 0.001	< 0.001 *
Cadmium *	< 0.01		< 0.01	Tantalum *			< 0.1	< 0.1
Cerium *	< 0.01		< 0.01	Tellurium *			< 0.01	< 0.01
Cobalt *	< 0.001	*	< 0.001	Thorium *			< 0.1	< 0.1
Chromium	0.001		0.002	Titanium			2.0	3.5
Cesium *	< 0.5		< 0.5	Thallium *			< 0.01	< 0.01
Copper	1.3		0.35	Uranium *			< 0.1	< 0.1
Iron	2.8		1.2	Vanadium			0.008	0.005
Gallium *	< 0.01		< 0.01	Tungsten *			< 0.1	< 0.1
Germanium *	< 0.001		< 0.001	Zinc *			< 0.01	< 0.01
Indium *	< 0.001		< 0.001	Zirconium			0.20	0.63
Potassium *	< 1.0		< 1.0	Gold *			< 0.005	< 0.005
Lithium *	< 0.01		< 0.01	Rare Earths			Nil	Nil
Magnesium	0.85		1.0					
Manganese	0.10		0.07					
Sodium *	< 0.01		< 0.01	* Not detected				
Niobium *	< 0.03		< 0.03					
Molybdenum *	< 0.001		< 0.001					

CC:	REMARKS:	Analysis Cert. By
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	Page 5	
		Preparation \$
		Analysis \$
ACC:	Date Spl. Received 3/18/69	Date Compl. 3/27/69
HEINRICHS GEOEXPLORATION COMPANY		TUC 342534
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Registered Assayers

HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.

1700 WEST GRANT ROAD - TELEPHONE 622-4836 - POST OFFICE BOX 5934

TUCSON, ARIZONA 85703

THE SOUTHWEST'S LEADING ASSAYERS AND REPRESENTATIVES

Branch Representatives at Buyer's Plants:

Phelps Dodge Corp., Douglas, Arizona; ASARCO, El Paso, Amarillo, Texas and Hayden, Arizona

IDENTIFICATION	Gold Ozs.	Silver Ozs.	Lead %	Copper %	Zinc %	Mg. %		
<u>ELEMENTS;</u>	Sample #643		Sample #643	^{8 Dec}	<u>ELEMENTS:</u>		Sample #643	Sample #645
Silver	< 0.0005%		< 0.0005%		Nickel *		< 0.01	< 0.01
Aluminum	10.0		3.3		Phosphorus *		< 0.1	< 0.1
Arsenic *	< 0.01		< 0.01		Lead		< 0.01	< 0.01
Boron	< 0.001		0.055		Rubidium *		< 0.1	< 0.1
Barium	0.15		< 0.1		Antimony		< 0.01	< 0.01
Beryllium *	< 0.0001		< 0.0001		Silicon		27.00	24.00
Bismuth *	< 0.001		< 0.001		Tin *		< 0.001	< 0.001
Calcium	2.20		6.2		Strontium *		< 0.001	< 0.001
Cadmium *	< 0.01		< 0.01		Tantalum *		< 0.1	< 0.1
Cerium *	< 0.01		< 0.01		Tellurium *		< 0.01	< 0.01
Cobalt *	< 0.001		< 0.001		Thorium *		< 0.1	< 0.1
Chromium	0.002		0.001		Titanium		4.5	1.3
Cesium *	< 0.5		< 0.5		Thallium *		< 0.01	< 0.01
Copper	0.20		0.10		Uranium *		< 0.1	< 0.1
Iron	10.4		5.5		Vanadium		0.025	0.01
Gallium *	< 0.01		< 0.01		Tungsten *		< 0.1	< 0.1
Germanium *	< 0.001		< 0.001		Zinc *		< 0.01	< 0.01
Indium *	< 0.001		< 0.001		Zirconium		0.16	0.11
Potassium *	< 1.0		< 1.0		Gold *		< 0.005	< 0.005
Lithium *	< 0.01		< 0.01		Rare Earths		Nil	Nil
Magnesium	3.4		1.3					
Manganese	0.18		0.09					
Sodium *	< 0.01		< 0.01					
Niobium *	< 0.03		< 0.03		* Not detected			
Molybdenum *	< 0.001		< 0.001					

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REMARKS:

Analysis Cert. By

Page 6

Preparation \$
Analysis \$

ACC: HEINRICHS GEOEXPLORATION COMPANY

Date Spl.
Received 3/18/69

Date
Compl. 3/27/69

TUC 342534

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HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.

1700 WEST GRANT ROAD - TELEPHONE 622-4836 - POST OFFICE BOX 5934

TUCSON, ARIZONA 85703

THE SOUTHWEST'S LEADING ASSAYERS AND REPRESENTATIVES

Branch Representatives at Buyer's Plants:

Phelps Dodge Corp., Douglas, Arizona; ASARCO, El Paso, Amarillo, Texas and Hayden, Arizona

IDENTIFICATION		Gold ozs	Silver ozs	Lead %	Copper %	Zinc %	Mg %			
<u>ELEMENTS:</u>		Sample #852						Sample #852		
Silver	<	0.0005%						Nickel *	<	0.01
Aluminum		7.2						Phosphorus *	<	0.1
Arsenic *	<	0.01						Lead		0.01
Boron		0.05						Rubidium *	<	0.1
Barium		0.18						Antimony	<	0.01
Beryllium *	<	0.0001						Silicon		29.00
Bismuth *	<	0.001						Tin *	<	0.001
Calcium		0.07						Strontium *	<	0.001
Cadmium *	<	0.01						Tantalum *	<	0.1
Cerium *	<	0.01						Tellurium *	<	0.01
Cobalt *	<	0.001						Thorium *	<	0.1
Chromium		0.001						Titanium		3.2
Cesium *	<	0.5						Thallium *	<	0.01
Copper		0.55						Uranium *	<	0.1
Iron		10.5						Vanadium		0.005
Gallium *	<	0.01						Tungsten *	<	0.1
Germanium *	<	0.001						Zinc *	<	0.01
Indium *	<	0.001						Zirconium		0.30
Potassium *	<	1.0						Gold*	<	0.005
Lithium *	<	0.01						Rare Earths		Nil
Magnesium		2.0								
Manganese		0.11								
Sodium *	<	0.01								
Niobium *	<	0.03								
Molybdenum *	<	0.001								



Rocky Mountain Geochemical Corporation

2050 EAST 14TH STREET
TUCSON, ARIZONA 85719

Phone 622-5702
Area Code: 602

CERTIFICATE OF ANALYSES

Date April 5, 1969

Page 1 of 1

Client Heinrich's Geoexploration
808 West Grant Road
P.O. Box 5671
Tucson, Arizona

Report on: 4 Samples

Submitted by: Heinrich's Geoexploration

Date Received: March 28, 1969

Analysis: Copper, Gold & Silver

Remarks: Analyses determined by atomic absorption.

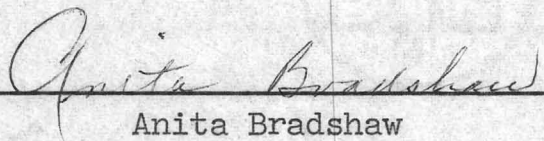
RMGC Job No. 69-5-28T

Heinrich's Job No. 306-68

cc: Enclosed
RMGC--Salt Lake
file

<u>Sample No.</u>	<u>ppm Copper</u>	<u>ppm Gold</u>	<u>ppm Silver</u>
624	635	-0.1	5
625	+1000 = 0.35%	1.0	16
626	680	-0.1	7
637	660	-0.1	3

By


Anita Bradshaw

All values are reported in parts per million unless specified otherwise. A minus sign (-) is to be read "less than" and a plus sign (+) "greater than." Values in parenthesis are estimates. This analytical report is the confidential property of the above mentioned client and for the protection of this client and ourselves we reserve the right to forbid publication or reproduction of this report or any part thereof without written permission.

ND = Non Detected

1 ppm = 0.0001%

1 Troy oz./ton = 34.28 ppm

% Mo. x 1.6683 = %MoS₂



HEINRICH'S GEOEXPLORATION COMPANY
POST OFFICE BOX 5871 TUCSON, ARIZONA, 85703
PHONE: 602/623-0578 CABLE: GEOEX, TUCSON

DIRECTION N 35° W HOLE NO. 1
INCLINATION 25° PROPERTY Dixie Mine Sec 30, T4N, R 6 E
STARTED 19 February 1969 LOCATION 180' E of Dixie Shaft
COMPLETED 10 March 1969 COLLAR COORD: N E
SCALE: 1" = 10' DEPTH 0-80 COLLAR ELEVATION
DATE 17 March NOTES BY D.B. Cooley SHEET 1 OF 5

LITH- OLOGY	MIN- ERAL	ROCK TYPE - GEOLOGY	SURV.	% CORE RECV'D	SECT.	Ag	Au	Cu
	0							
	10	Qtz. - sericite schist weathered		86%	0-11'	0.1	Tr	0.035
	20			100%	11'-20.5'	0.1	Tr	0.03
	30				20.5'-30'	0.1	Tr	0.03
		---gray-green (chloritic)		100%	30'-40'	0.1	Tr	0.03
	40	----qtz. - sericite, limonite stained, altered soft, weathered		99%	40'-50'	0.1	Tr	0.04
		---py. in qtz. --- py. in qtz., weathering effects decreasing		83%	50'-60'	0.1	Tr	0.035
	60	pyrite in qtz. more than in sericite, less than 1% Limonite stains in fractures		100%	60'-70'	0.1	Tr	0.015
	70				70'-80'	0.1	Tr	0.035
	80							



HEINRICH'S GEOEXPLORATION COMPANY
POST OFFICE BOX 5871 TUCSON, ARIZONA 85703
PHONE: 602/623-0578 CABLE: GEOEX, TUCSON

DIRECTION N 35° W HOLE NO. 1
INCLINATION 25° PROPERTY Dixie Mine, Sec 30, T 4 N, R 6 E
STARTED 19 February 1969 LOCATION 180' E of Dixie shaft
COMPLETED 10 March 1969 COLLAR COORD: N E
SCALE: 1" = 10' DEPTH 80' - 160' COLLAR ELEVATION
DATE 17 March 1969 NOTES BY D.B. Cooley SHEET 2 OF 5

LITH- OLOGY	MIN- ERAL	ROCK TYPE - GEOLOGY	% CORE SURV.	RECV'D	CORE ASSAYS			
					SECT.	Ag	Au	Cu
		Core fresher, limonite in planes and fractures decreasing			80'-88.5'	0.1	11.1	0.03
					88.5'-99'	0.1	Tr	0.035
		---broken, soft (8") clayey			99'-108'	0.1	Tr	0.035
					108'-117'	0.1	0.007	0.035
			100%		117'-126.5'	0.1	Tr	0.04
					126.5'-141'	0.10	Tr	0.065
		---4" - 2-5% py. in qtz slight brecciation	45%		141'-150.5'	0.80	Tr	0.35
		---6" band - 5 to 10% py., tetrahedrite (trace)			150.5'-160'	0.50	Tr	0.07
		---Biotite and Redstain						



HEINRICH'S GEOEXPLORATION COMPANY
POST OFFICE BOX 5671
TUCSON, ARIZONA, 85703
PHONE: 602/623-0578
CABLE: GEOEX, TUCSON

DIRECTION N 35° W HOLE NO. 1
INCLINATION 25° PROPERTY Dixie Mine, Sec 30, T 4 N, R 6 E
STARTED 19 February 1969 LOCATION 180' E of Dixie Shaft
COMPLETED 10 March 1969 COLLAR COORD: N E
SCALE: 1" = 10' DEPTH 160'-240' COLLAR ELEVATION
DATE 17 March 1969 NOTES BY D.B. Cooley SHEET 3 OF 5

LITH- OLOGY	MIN- ERAL	160	ROCK TYPE - GEOLOGY	SURV.	% CORE RECV'D	SECT.	Ag	As	Cu
		160-168	black, fine grained, biotite, some epidote py. ± 1%			160'-170'	0.5	Ni/	0.075
		170				170'-180'	0.4	Tr	0.01
		180				180'-190'	0.4	Ni/	0.01
		---6" chloritic zone				190'-200'	0.4	Ni/	0.01
		190				200'-210'	0.4	Tr	0.01
		200	---3" clear qtz.		100%	210'-220'	0.4	Ni/	0.01
		210				220'-230'	0.4	Ni/	0.01
		220	---222 to 230 - fine grained chlorite-biotite schist, epidote, py ± 1%			230'-240'	0.4	Ni/	0.005
		230	qtz. - sericite schist			240'-250'	0.4	Ni/	0.005
		240							

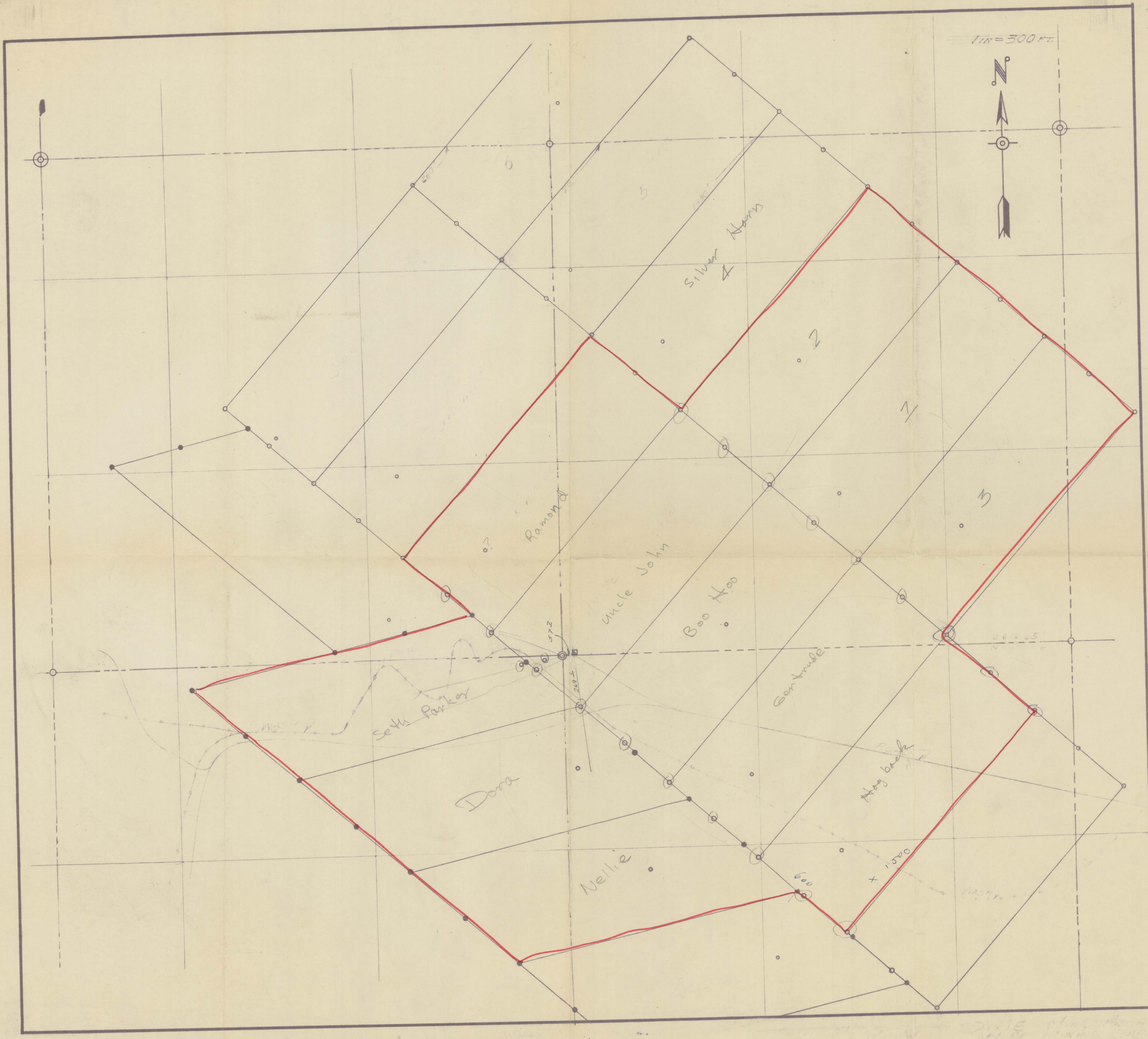


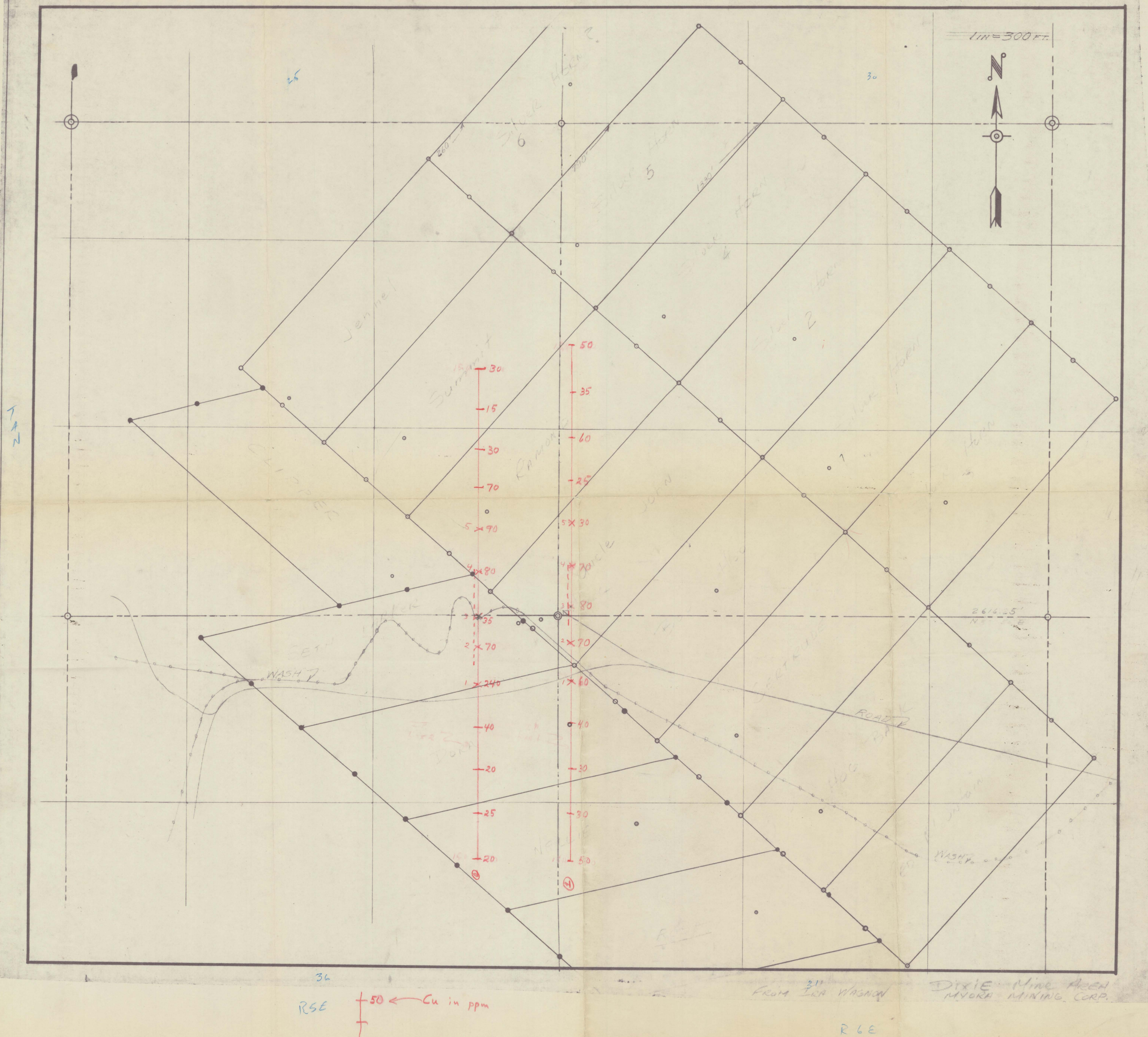
HEINRICH'S GEOEXPLORATION COMPANY POST OFFICE BOX 5671 TUCSON, ARIZONA, 85703 PHONE: 602/623-0578 CABLE: GEOEX, TUCSON

DIRECTION N 35° W HOLE NO. 1
 INCLINATION 25° PROPERTY Dixie Mine, Sec 30, T 4 N, R 6 E
 STARTED 19 February 1969 LOCATION 180' E of Dixie Shaft
 COMPLETED 10 March 1969 COLLAR COORD: N E
 SCALE: 1" = 10' DEPTH 240-320' COLLAR ELEVATION
 DATE 17 March 1969 NOTES BY D.B. Cooley SHEET 4 OF 5

LITH- OLOGY	MIN- ERAL	240	ROCK TYPE - GEOLOGY	SURV.	% CORE RECV'D	SECT.	Ag	Hu	Cu
			---246.5 to 250, very broken, talcy			246.5-246.5'	0.1	Ni/1	0.005
		250				246.5-254.5'	0.4	Ni/1	0.005
			----257 - 1/4" py. vein			254.5-264'	0.1	Ni/1	0.1
		260			70%	264'-273.5'	0.4	Ni/1	0.005
			---273-278.5 several 1"-2" zones of sericite			273.5-282.5'	0.4	Ni/1	0.005
		280			100%	282.5-292'	0.2	Ni/1	0.005
						292'-302'	0.2	Ni/1	0.005
		300			45%	302'-311'	0.2	Ni/1	0.005
			307-310 breccia & gougy			311'-320.5'	0.2	Ni/1	0.005
		310			75%				
			---311-322 Chlorite-sericite schist, fine grained red brown Fe & mn oxides in Frac. planes						
		320							

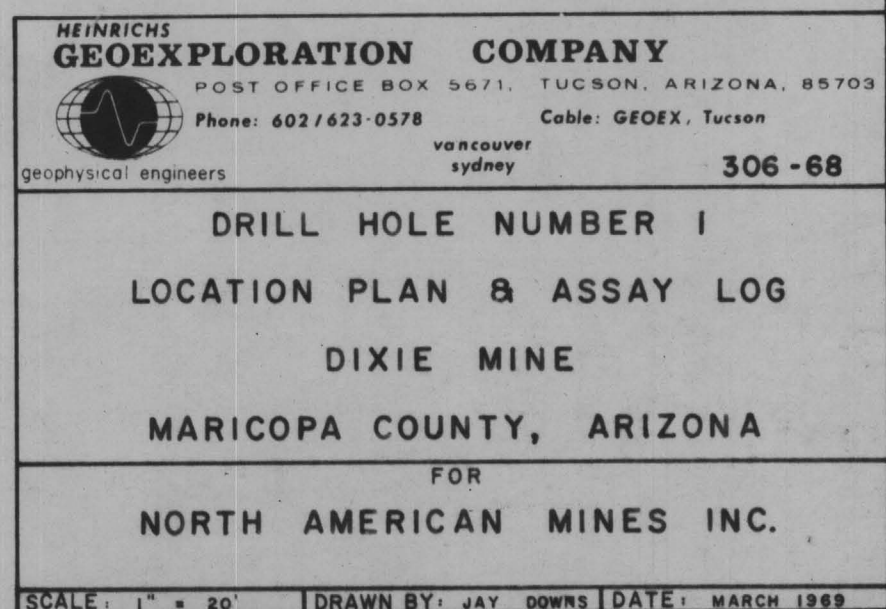
1 in = 300 ft.





ASSAY COMPARISON LIST

SAMPLE NUMBER	DEPTH	ARIZONA ASSAY OFFICE			HAWLEY & HAWLEY (Spectographic)			ROCKY MOUNTAIN GEOCHEMICAL CORP.		
		Ag oz/t	Au oz/t	Cu %	Ag %	Au %	Cu %	Ag ppm	Au ppm	Cu %
616	50-60'	0.10	Trace	0.35	< 0.0005	< 0.005	0.35			
619	80-89.5'	0.10	N11	0.03	< 0.0005	< 0.005	0.15			
623	117.5-126.5'	0.10	0.002	0.035	< 0.0005	< 0.005	0.18			
624	126.5-141'	0.10	Trace	0.065	< 0.0005	< 0.005	2.8	< 0.1	5	0.0635
625	141-150.5'	0.80	Trace	0.35	0.003	< 0.005	3.0	1.0	16	0.35
626	150.5-160'	0.50	Trace	0.07	0.001	< 0.005	0.75	< 0.1	7	0.068
630	190-200'	0.40	N11	0.01	< 0.0005	< 0.005	0.15			
634	228-238'	0.40	N11	0.005	< 0.0005	< 0.005	0.25			
637	254.5-264'	0.40	N11	0.01	< 0.0005	< 0.005	1.3	< 0.1	3	0.066
639	273.5-282.5'	0.40	N11	0.005	< 0.0005	< 0.005	0.35			
643	311-320.5'	0.20	N11	0.005	0.0005	< 0.005	0.10			
648	357.5-367.5	0.4	0.008	0.015	0.005	< 0.005	0.2			
852	397-404'	0.3	Trace	0.01	0.0005	< 0.005	0.55			



INP. AND GEOCHEMICAL SURVEY, GEOLOGY
RECONNAISSANCE, AND CLAIM EXAMINATION

OF THE

DIXIE MINE AREA
DIXIE MINING DISTRICT
MARICOPA COUNTY, ARIZONA

#368-69 for
North American Mines, Inc.

INDUCED POLARIZATION AND GEOCHEMICAL SURVEY,
GEOLOGY RECONNAISSANCE, AND CLAIM EXAMINATION
of the
DIXIE MINE AREA
DIXIE MINING DISTRICT
MARICOPA COUNTY, ARIZONA

For
North American Mines, Inc.

January 1969

By
Heinrichs Geoexploration Company
P. O. Box 5671 Tucson, Arizona 85703
Phone: 623-0578 Area Code: 602

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GENERAL LOCATION	
INTRODUCTION	1
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BASIS OF THE INDUCED POLARIZATION METHOD	1a
IN MAP POCKET: (Total 4 pieces)	
Induced Polarization and Geochemical Survey Location and Interpretation Plan	
Composite Claim Map	
Sectional Data Sheets	
Line 1	
Line 2	

GENERAL LOCATION
of
DIXIE MINE AREA
for
NORTH AMERICAN MINES INC.

ARIZONA



HEINRICH
GEOEXPLORATION COMPANY



GEOPHYSICAL
ENGINEERS

BOX 5671 TUCSON, ARIZONA 85703
PH: 602/623-0578 CABLE: GEDEX, TUCSON

SYDNEY

VANCOUVER

INTRODUCTION

At the request of Mr. Quincy A. Shaw of North American Mines, Inc., Heinrichs Geoexploration Company conducted an induced polarization and geochemical survey along with reconnaissance geology and claim examination, over parts of the Dixie Mine Area, Dixie Mining District, Maricopa County, Arizona, during the interim January 6 - 8, 1969.

Two induced polarization (I.P.) lines were surveyed, consisting of one four sending dipole electrode spread each. This gives a total surface coverage of 6,000 feet between extreme receiving electrodes, of which 3,500 feet represents subsurface plotted data at a separation between sending and receiving dipoles of three dipole lengths. Lines 1 and 2 are oriented north-south and spaced 500 feet apart with a 250 foot dipole spacing.

The selection of a 250 foot dipole spacing was to give detailed information from about 50 to 300 feet below surface.

The induced polarization measurements were made with the dual frequency technique, on a dipole-dipole electrode configuration. Frequencies used were 0.1 and 3.0 hertz. Equipment used for this work was a Geoex Mark 7 sender and a Mark 3 receiver.

Geochemical samples were taken at each induced polarization

station on both lines which gave a total of 26 samples.

These soil samples were tested for copper and silver content.

The data are presented on sectional data sheets, one for each line, showing resistivity, percent frequency effect (PFE), and metallic conduction factor (MCF), contoured in section with self potential (SP) and soil sample copper content in profile form. An induced polarization and geochemical survey location and interpretation plan is also included.

Heinrichs personnel involved in the field work were Donald B. Cooley, project chief, Ronald Palmer, crew chief, assisted by Michael Critchley and William Rasmussen; interpretation, compilation and report by William Rasmussen, Chris Ludwig, and the Geoex Tucson staff.

CONCLUSIONS AND RECOMMENDATIONS

The weak sulfide indications encountered could represent occurrences of some conceivable economic significance, however, the initial suggestion provided by this very small sample of subsurface information, does not seem to relate, directly at any rate, to immediate major sulfide concentration. Regionally nearby, or at considerably greater depth, there could be an indirect relationship with something more important, but much greater effort would be needed to test for such possibilities. If such were contemplated, broad reconnaissance photo and ground geology, geochemistry and perhaps magnetics would be the most constructive preliminary approach for this type of investigation.

Very weak induced polarization anomalism was seen on both Lines 1 and 2 and appears to correlate with the general vicinity of the known mineralization and its apparent strike projection to the west.

The I.P. anomalism appears to be coming from a restricted source, particularly on Line 2 where the majority of the response seems to originate from within about 250 feet of the surface. The source may extend somewhat deeper on Line, however.

The very weak strength of the I.P. response suggests that

the total integrated average sulfide content across the interpreted anomalous zones is less than 1% by volume. However, as is likely the case, the source could be in several very narrow-high sulfide pods from which the effect has been diluted with the country rock by the 250 foot dipole and station spacing needed to obtain the desired penetration.

Geochemically, there is a broad weak copper soil anomaly correlating with the I.P. anomaly on Line 1. On Line 2, however, the copper anomalism shows as two minor highs on either side of the I.P. anomalism. The one-station geochemical indication of strong copper near electrode 1, Line 2, may be affected by contamination from some shallow prospect pits nearby and additional sampling on a closer grid in that vicinity would be necessary to verify it.

The silver geochemistry was quite negative. One part per million silver (1 PPM) was seen at stations 0.0 N/S Line 1 and 2.5 N, Line 2; the rest all being less than 1 PPM.

The self potential measurements taken in conjunction with the I.P. show only minor background variations. This implies a lack of significant quantities of actively oxidizing interconnected sulfides within several hundred feet of the surface.

Geologically, the mine is in an area of schist which is quite siliceous in nature and which in general strikes N 65 E and dips 60° - 80° to the southeast. The dump shows much

pyrite, usually associated with quartz. Mineralization in this type of environment tends to be spotty and irregularly spaced in all dimensions along the zone of interest. The size of the bodies is often quite small and not necessarily interconnected.

An access tunnel, from the gully, that connects to the vertical shaft has some chalcantite (copper sulfate), minor chalcopyrite, tetrahedrite and other similar copper minerals in it. Inclined shafts apparently lead to lower levels but are full of water to about 15 feet below the tunnel level. No other indication of mineralization was seen in the area other than a couple of minor iron stained zones.

In conclusion, it appears that the I.P. and copper geochemistry can crudely outline the zone of interest and we recommend that the zone be prospected further along strike on roughly the same line and station spacing. Since the anomalism on Line 2 to the west of Line 1 is somewhat weaker and smaller than that on Line 1, it is recommended that most work be concentrated to the east of Line 1.

The work to date has not outlined a well defined target and no drilling based solely on the geophysical-geochemical results is recommended now. Hopefully, the additional work along the strike of the zone of interest will disclose a stronger and better defined target than that already seen over the known workings.

Along with additional geophysics and geochemistry, some consideration should be given to dewatering the underground workings to sample and map the mineralization in more detail.

If drilling is done at the present stage, we recommend that it be concentrated near the workings since the strongest I.P. response was seen there and the area is of fairly easy access. At this time, the drilling could help determine the depth persistence and width of the mineralization below and laterally from the present level of development. Any available maps of the underground workings and mineralization would greatly aid in optimizing the location of this drilling.

The claim corners and location monuments all seem to be in place but only two claim notices could be found so the survey area could not be positively related to the entire claim group. Claim notices were found for Myora 12 and Dice Mine #5, dated 9 June 1958 by Adolph Romo. The maps furnished us do not identify these claims. So the only positive identification we have at present as to our location on the ground is the section corner just west of the main shaft at the Dixie Mine, the topography, and the surface evidence of mine workings. If any encouragement is developed by further work, the claims should be identified on the ground by marking all posts and reposting fresh location notices.

Composite plan maps, scale 1"=1000' and scale 1"=300'

have been constructed using information furnished Geoex as to claim locations. Without proper tie data these may be rather inaccurate, as the positive location of the claims on the ground has not been made. Filing of geophysical, geological, and geochemical reports for assessment work purposes may be somewhat difficult because of this. One day in the field with the claim locator and one of our men hopefully could resolve this problem.

INTERPRETATION

Line 1

This line shows a very weak I.P. anomaly beginning near 1.25 S and extending north to about 2.5 N. The Dixie Mine shaft is located approximately at 0.5 S on this line, which is close to the southern edge of the anomaly. The polarizing material has a fairly high resistivity relative to its surroundings below a depth of approximately 100 feet making it a difficult target to detect.

Self potentials show only background variations along the line which implies no sizeable zone of interconnected oxidizing sulfides within several hundred feet of surface.

Soil samples taken at the I.P. stations were tested for copper and silver and showed a slight anomaly in copper over the center of the line. This correlates with the I.P. results fairly well.

Line 2

This line shows a very weak I.P. anomaly from 3.75 S to 2.5 N. This may be due to a horizontally extended body that is near surface. The anomaly might also be due to several limited depth dipping bodies. The latter case would correlate better with the surface geology. Whatever the cause of the anomaly, it appears to be mostly within 250 feet of surface.

Only background variations are seen in the self potentials.

Soil samples showed two copper anomalies along the line.

One is small and centered over the number five electrode while the other appears several times larger with its center over the number one electrode. Neither of these anomalies seem to correlate with the induced polarization anomaly, however, they are located on either side of the I.P. anomaly.

The analysis for silver was non-diagnostic.


Respectfully submitted,

HEINRICHS GEOEXPLORATION COMPANY



Chris S Ludwig
Sr. Geophysicist

APPROVED:



Walter C. Ewalerich Jr.
President & General Manager



January 21, 1969
Tucson, Arizona

R 5 E R 6 E

T
4
N

T
4
N

- LOCATION MONUMENT
- + SECTION OR 1/4 CORNER

— SECTION LINE
— RANGE LINE

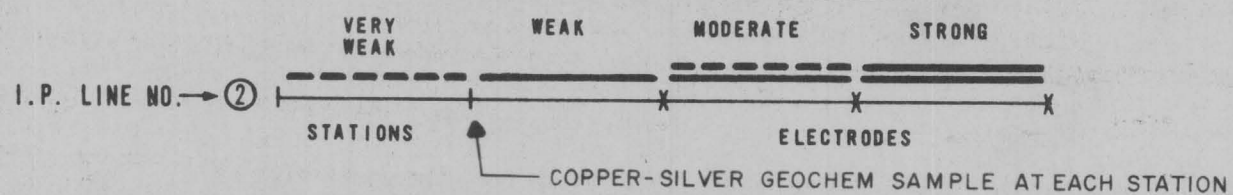
FROM 1" = 300' PLAN

CLAIM BOUNDARY

FROM SKETCH MAP (NO SCALE)

NOTE: ALL INFORMATION ON THIS MAP TAKEN FROM
MAPS FURNISHED BY MYORA MINING CORP.

RELATIVE ANOMALY STRENGTH



NOTE: CLAIM LOCATIONS & BOUNDARIES FURNISHED
BY NORTH AMERICAN MINES INC. AND MYORA
MINING CORP. & NOT INDEPENDENTLY
VERIFIED BY GEOEX.
LOCATION OF GEOPHYSICS DONE BY COMPASS
& CHAIN METHODS & TIED HORIZONTALLY TO
SECTION CORNER.

W. H. Heinrich, Jr.
69



R 5 E R 6 E

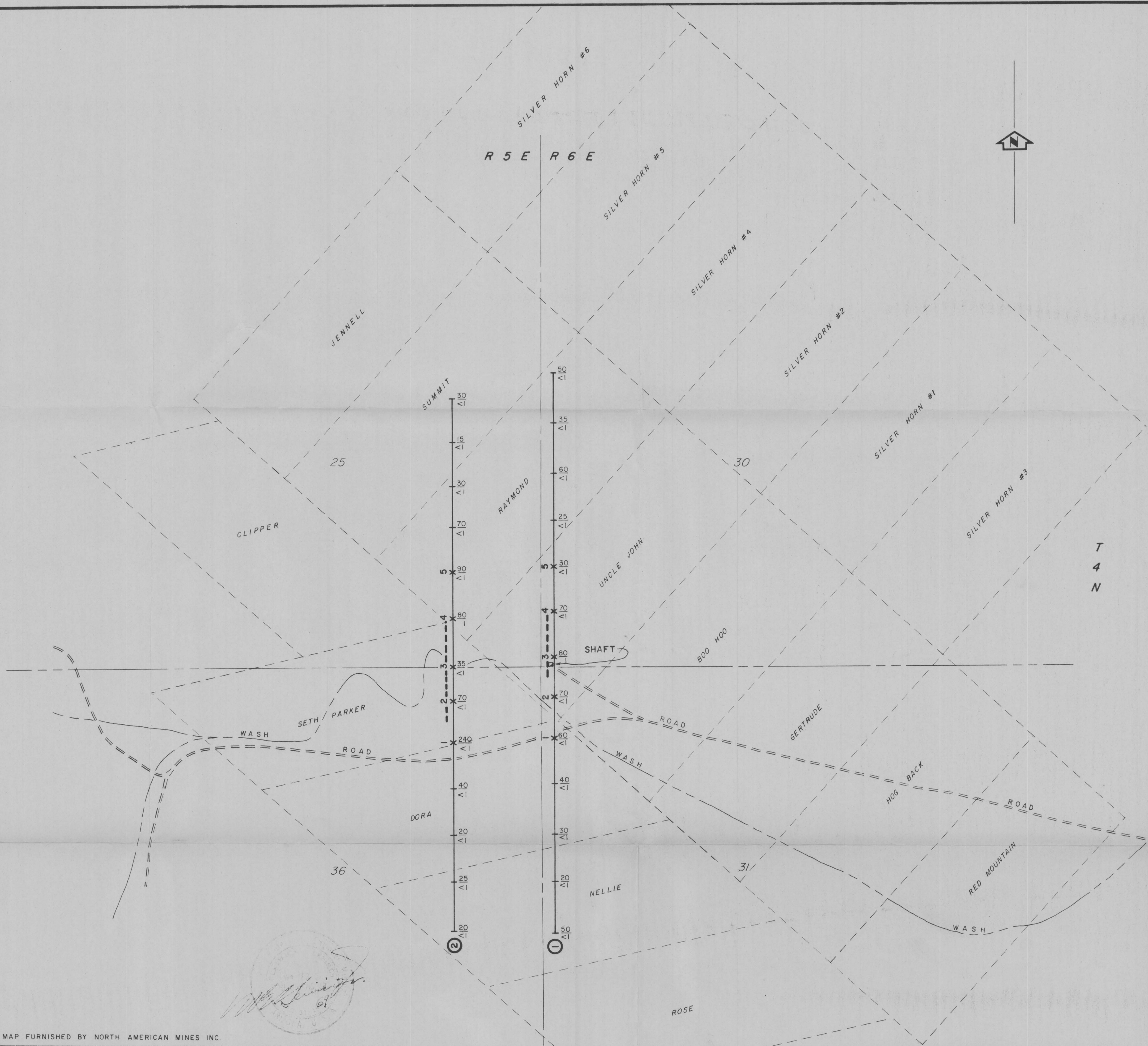
JOB NO. B306-68

HEINRICH
GEOEXPLORATION COMPANY
POST OFFICE BOX 5671, TUCSON, ARIZONA, 85703
Phone: 602/623-0578 Cable: GEOEX, Tucson
geophysical engineers vancouver sydney

COMPOSITE CLAIM MAP
DIXIE MINE AREA
MARICOPA COUNTY, ARIZONA

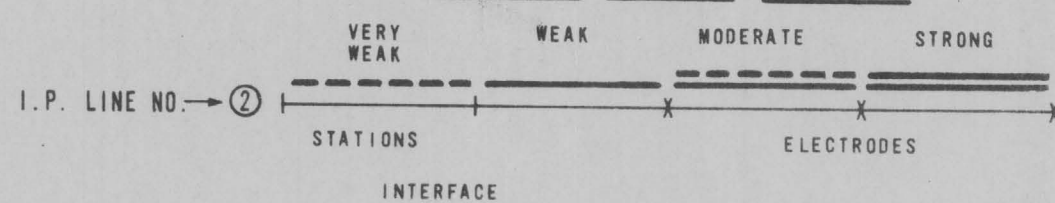
FOR
NORTH AMERICAN MINES, INC.

SCALE 1" = 1000' DRAWN BY H.R.M. DATE JAN. 1969



BASE MAP FURNISHED BY NORTH AMERICAN MINES INC.

RELATIVE ANOMALY STRENGTH



- SECTION LINE
- RANGE LINE
- SECTION NUMBER
- CLAIM LINE
- COPPER } GEOCHEM. IN PPM
- SILVER }

NOTE: CLAIM LOCATIONS & BOUNDARIES FURNISHED BY NORTH AMERICAN MINES INC. AND MYORA MINING CORP & NOT INDEPENDENTLY VERIFIED BY GEOEX.
LOCATION OF GEOPHYSICS DONE BY COMPASS & CHAIN METHODS & TIED HORIZONTALLY TO SECTION CORNER.

HEINRICH'S GEOEXPLORATION COMPANY
POST OFFICE BOX 5671, TUCSON, ARIZONA, 85703
Phone: 602/623-0578 Cable: GEOEX, Tucson
geophysical engineers vancouver sydney 306-68

INDUCED POLARIZATION LOCATION AND INTERPRETATION PLAN
DIXIE MINE AREA
MARICOPA COUNTY, ARIZONA

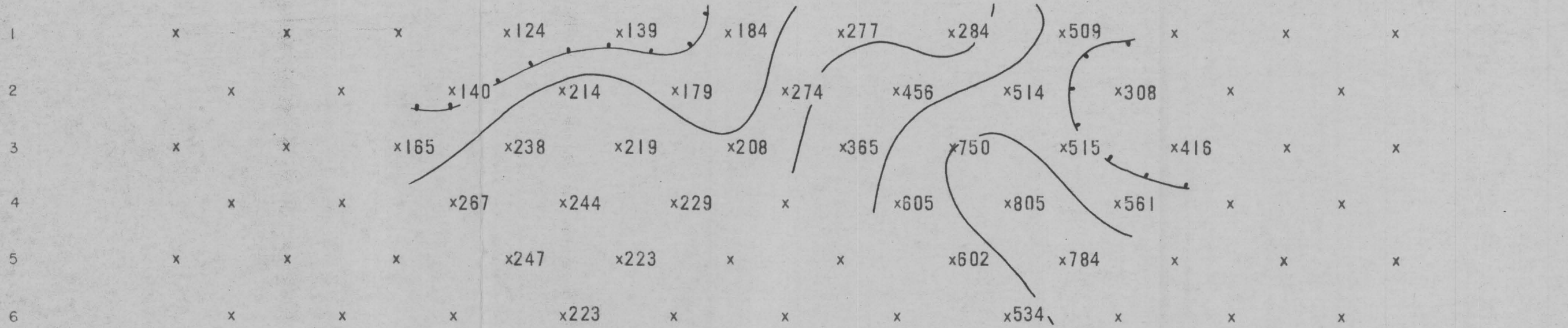
FOR
NORTH AMERICAN MINES INC.

SCALE: 1" = 300' DRAWN BY: JAY DOWNS DATE: JAN 1969

SPREAD 1

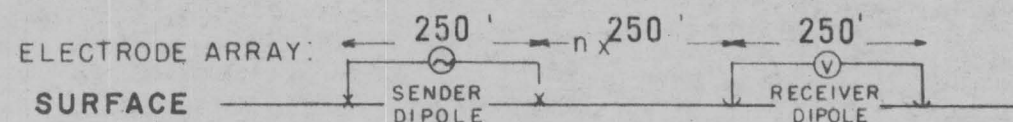
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Interval between sender & receiver dipoles



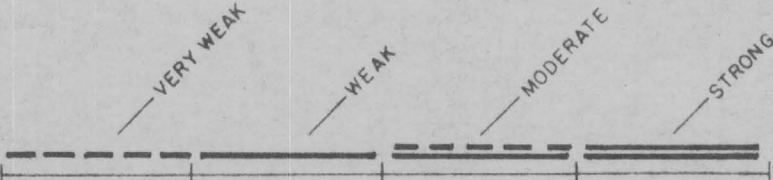
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CONTOUR INTERVAL LOGARITHMIC
SENDER FREQUENCY: 0.10 c.p.s.

EXPLANATION

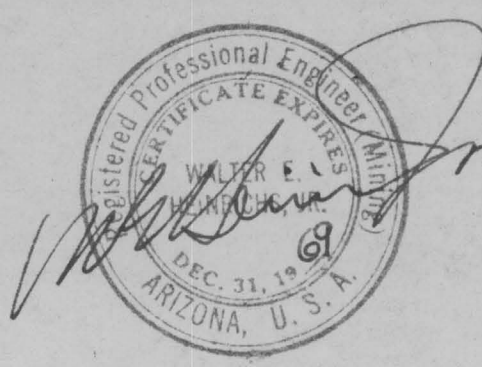


PLOT POINT 'x'

RELATIVE ANOMALY STRENGTH



LOOKING WEST



DIXIE MINE AREA

SECTIONAL DATA SHEET

LINE NO. 1 (SPREAD 1)

INDUCED POLARIZATION TRAVERSE

HEINRICH'S GEOEXPLORATION COMPANY

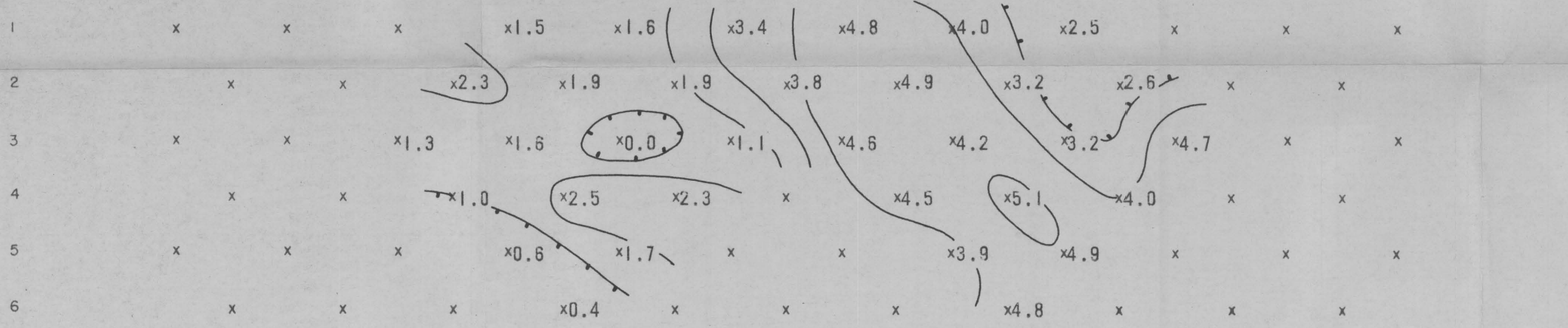
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FOR

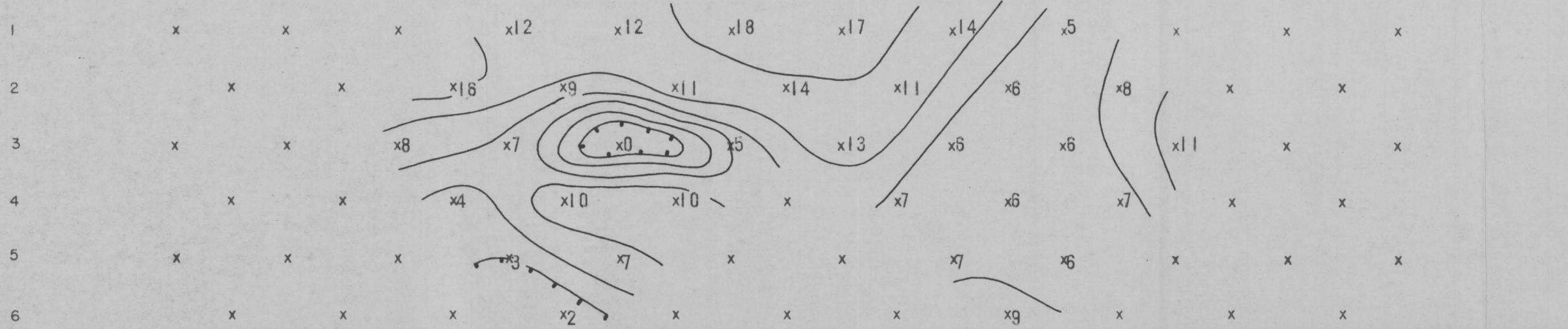
NORTH AMERICAN MINES INC.

SURFACE EXISTING SHAFT SURFACE

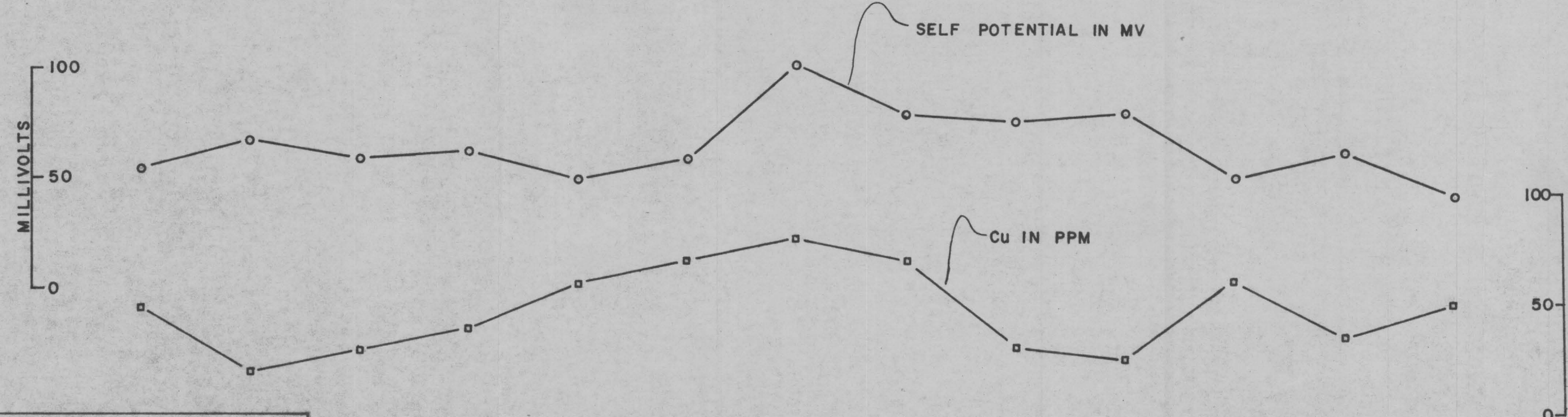


PERCENT FREQUENCY EFFECT (PFE) IN UNITS OF PERCENT
CONTOUR INTERVAL CONSTANT
SENDER FREQUENCIES: 0.10 & 3.0 c.p.s.

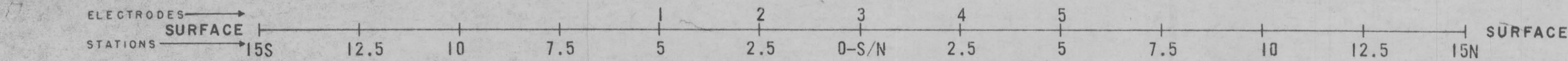
SURFACE SURFACE



APPARENT "METALLIC CONDUCTION" FACTOR (MCF) IN UNITS OF PFE x 1000
($MCF = \frac{PFE \times 1000}{\rho_{dc} \times 2\pi}$)
CONTOUR INTERVAL LOGARITHMIC

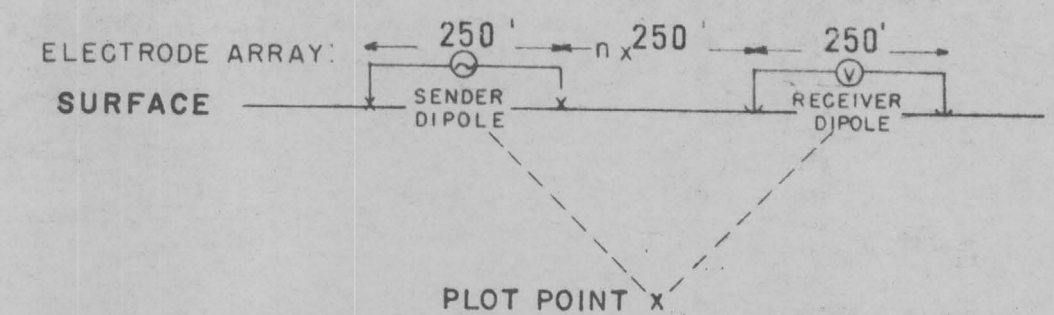


SPREAD 1

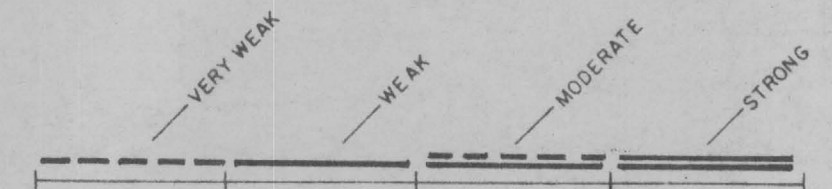


APPARENT RESISTIVITY (ρ_{DC})
IN UNITS OF OHM FEET (2T)
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SENDER FREQUENCY: 0.10 C.P.S.

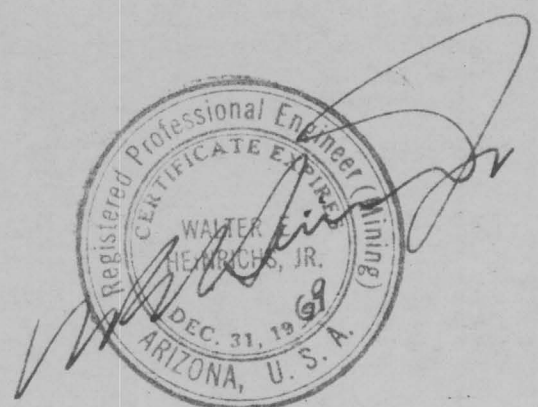
EXPLANATION



RELATIVE ANOMALY STRENGTH



LOOKING WEST



DIXIE MINE AREA

SECTIONAL DATA SHEET

LINE NO. 2 (SPREAD 1)

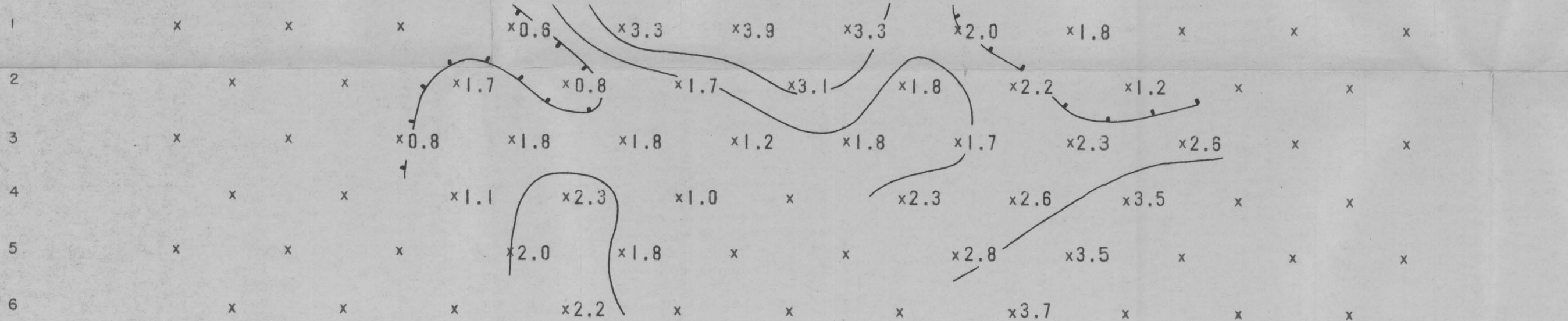
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HEINRICH'S GEOEXPLORATION COMPANY

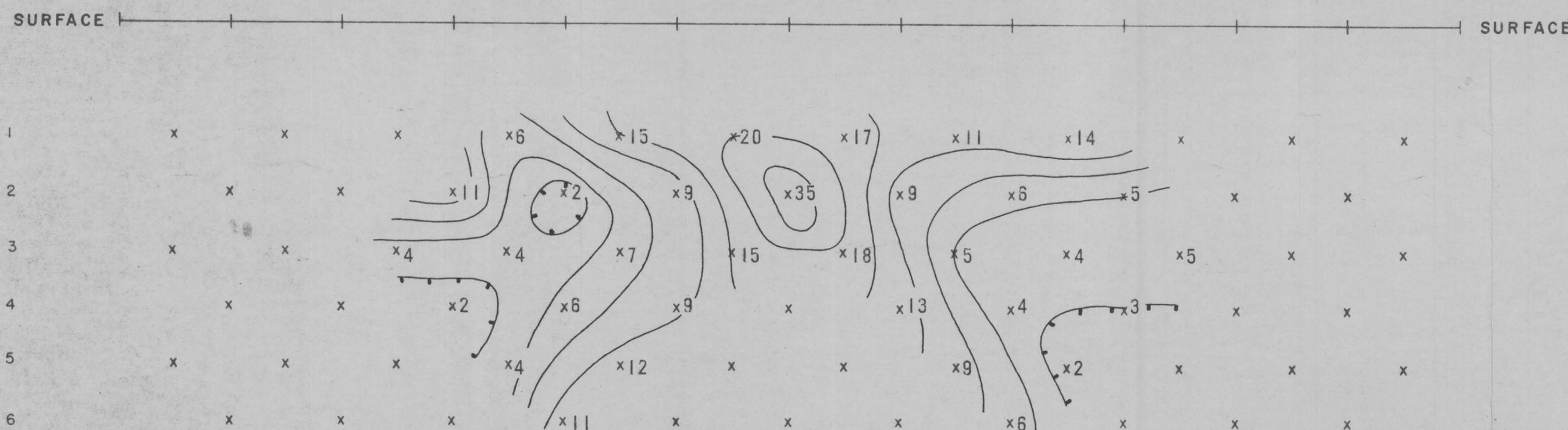
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FOR

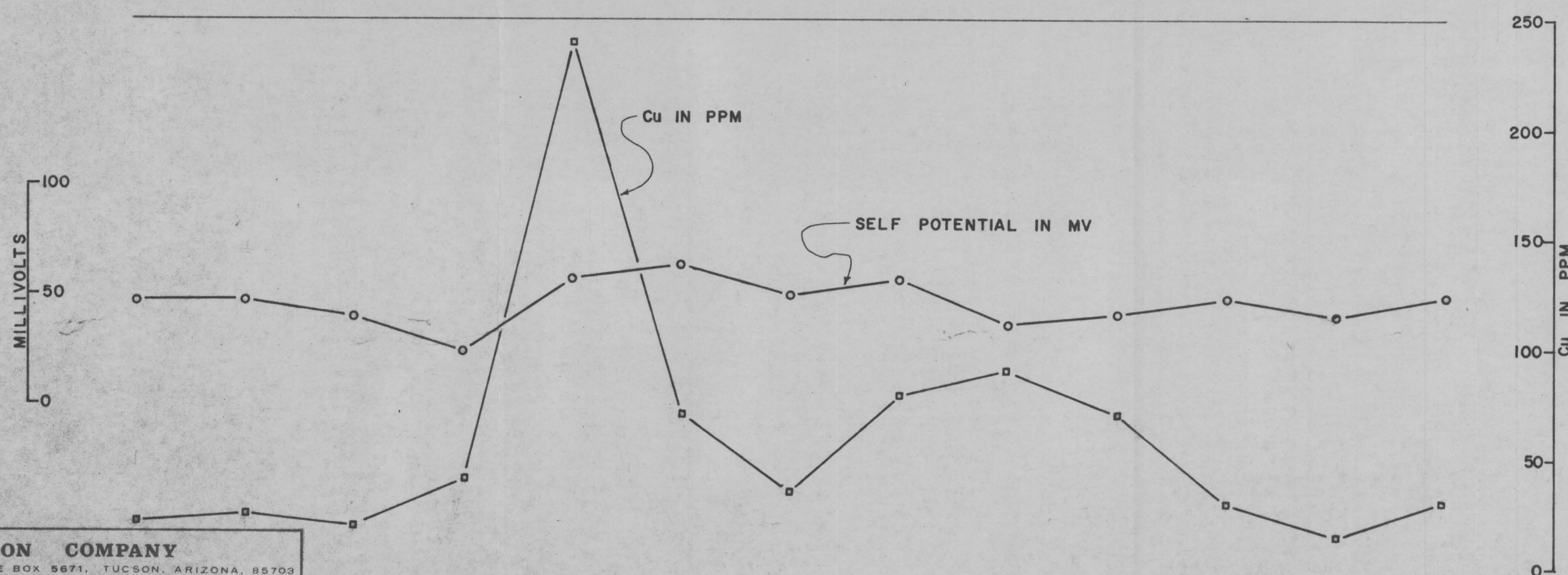
NORTH AMERICAN MINES INC.



PERCENT FREQUENCY EFFECT (PFE)
CONTOUR INTERVAL CONSTANT
SENDER FREQUENCIES: 0.10 & 3.0 C.P.S.



APPARENT "METALLIC CONDUCTION" FACTOR (MCF)
(MCF = $\frac{PFE \times 1000}{\rho_{DC} \times \frac{2T}{\pi}}$)
CONTOUR INTERVAL LOGARITHMIC



JOB B306-68

LINE 2

SPREAD 1

LOOKING W

DATE 1/8/69

A= 250

CENTER 0.0

LABEL S/N

FREQ. 3.0

COUPLING Yes

9 Jan 69
RC



HEINRICHS GEOEXPLORATION CO.

PROJECT

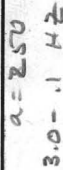
306-68

I. P. RECEIVER NOTES

LINE 2 HALF 5 SP: 1 DATE 1-8

PAGE

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I. P. RECEIVER NOTES

PROJECT

HALF 5 SP / DATE 1-8

PAGE

[illegible]



HEINRICH'S GEOEXPLORATION CO.

PROJECT

NAM 306

I. P. SENDER NOTES

LINE 2

HALF 5

SP.

DATE

1/8/61

PAGE

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COMMENTS:

FREQUENCIES 3.0 0.10

SENDER NO. 13671-5

OPERATOR B. Rasmussen

RECEIVER NO. 10661-R

OPERATOR R. Palmer



HEINRICHS GEOEXPLOR.
I.P. RECEIVER NOTES

PROJECT LINE 2

WAM - 306-68

HALF N SP. 1 DATE 1-8

PAGE

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HEINRICHS GEOEXPLORATION CO.

PROJECT

WFM 306-68

I. P. RECEIVER NOTES

HALF 2 SP. 1 DATE 1-8

DATE 1-8[illegible]



HEINRICH'S GEOEXPLORATION CO.

PROJECT

NAM 306

I. P. SENDER NOTES

LINE 2

HALF N

SP. 1

DATE 1/9/19

PAGE

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COMMENTS:

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OPERATOR R. Palmer

RECEIVER NO. 10661-R

OPERATOR B. Rasmussen

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258.0	267.5	29.64	291.5	64.80	10.90	145.0	105.5	36.85	8.018	DCA	48.66	57.11	25.59	5.685	26.13	37.99	19.21	4.709	99.7	
251.0	259.0	28.50	283.0	63.90	10.80	144.5	105.0	36.30	7.960	AC1	48.00	56.30	25.10	5.600	26.00	37.70	18.90	4.620	100.0	
251.0	259.0	28.50	283.0	63.90	10.80	144.5	105.0	36.30	7.960	AC2	48.00	56.30	25.10	5.600	26.00	37.70	18.90	4.620	100.0	
251.0	259.0	28.50	283.0	63.90	10.80	144.5	105.0	36.30	7.960	ACA	48.00	56.30	25.10	5.600	26.00	37.70	18.90	4.620	100.0	
194.1	201.2	89.20	219.3	195.0	82.00	109.1	317.5	277.2	120.6	RHO	146.4	429.6	385.0	149.7	196.6	571.5	505.9	198.4	1.003	DC CAL
3.1	3.6	4.3	3.3	1.7	1.2	.6	.8	1.8	1.0	PFE	1.7	1.8	2.3	1.8	.8	1.1	2.0	2.2	1.003	AC CAL
16	18	48	15	9	15	6	2	7	9	MCF	11	4	6	12	4	2	4	11		
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265	262	305	246	691	139	178	128	489	126	DC	752	744	458	122	720	810	603	169	106	RIGHT
267	261	305	245	679	149	178	127	500	124		770	752	438	116	719	795	578	163	104	SIDE
266	261	306	246	690	139	178	128	488	125		744	745	458	123	721	810	/	169	106	
267	262	306	245	678	148	178	127	501	124		772	755	438	115	719	796	585	164	104	
266	262	307	246	679	139		128	489	125		742	746	459	123	721	810	595	169	106	
		306	245	677	148		127	501	124		777	755	437	115	719	797	584	164	104	
				690	140			488	125		742	745	460	123	721	809	594	169		
				679	147			501			776	754	437	115		797	585	164		
																	595			
532	523	610	491	1370	288	356	255	989	250	DC	1522	1496	896	238	1439	1605	1181	332	210	
533	522	611	491	1369	288	356	255	988	249	SUMS	1514	1497	896	239	1440	1605	1180	332	210	
533	523	612	491	1368	287	356	255	989	249		1516	1500	896	238	1440	1606	1179	333	210	
533	524	613	491	1287	287		255	990	249		1514	1501	897	238	1440	1606	1178	333	210	
		613	491	1286	287		255	990	249		1519	1501	896	238	1440	1607	1179	333	210	
				1367	288			989	249		1519	1500	897	238	1440	1606	1180	333		
				1369	287			989			1518	1499	897	238		1606		333		
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
266.4	261.5	30.59	245.5	67.26	14.37	178.0	127.5	49.46	12.46	DCA	75.87	74.96	44.82	11.91	71.99	80.29	58.97	16.64	105.0	
258.0	255.0	30.40	243.0	67.90	14.30	177.0	126.0	49.10	12.30	AC1	75.70	74.00	44.10	11.70	70.90	78.30	57.50	16.20	106.0	
258.0	255.0	30.30	243.0	67.90	14.20	176.0	126.0	49.10	12.30	AC2	75.70	74.00	44.10	11.70	70.80	78.40	57.50	16.20	106.0	
258.0	255.0	30.35	243.0	67.90	14.25	176.5	126.0	49.10	12.30	ACA	75.70	74.00	44.10	11.70	70.85	78.35	57.50	16.20	106.0	
190.3	186.8	87.40	175.4	172.2	102.7	127.1	364.3	353.3	178.0	RHO	216.8	535.4	640.3	297.7	514.2	1147.0	1474.4	665.4	.952	DC CAL
4.2	3.5	1.8	2.0	1.8	1.8	2.2	1.7	2.3		PFE	1.2	2.3	2.6	2.8	2.6	3.5	3.5	3.7	1.010	AC CAL
22	19	20	11	18	14	6	5	13		MCF	5	4	4	9	5	3	2	6		

JOB B306-68

LINE 1

SPREAD 1

LOOKING W

DATE 1/7/69

A= 250

CENTER 0.0

LABEL S/W

FREQ. 3.0

COUPLING Yes

IGNORE Decimals in DC

9 Jan 69
pc


$$a = 250'$$

PAGE

HEINRICHS GEOEXPLORATION CO.

PROJECT

N.A.M - 306-68

I. P. RECEIVER NOTES

ENT

HAIR 5 SP

DATE 1-7-69

[illegible]



HEINRICHS GEOEXPLORATION CO.

PROJECT N.A.M. 306-68

I . P . RECEIVER NOTES

HALF 5 SP. 1 DATE

[illegible]



HEINRICH'S GEOEXPLORATION CO.

PROJECT

NAM 306

PAGE

I. P. SENDER NOTES

LINE 1 HALF 5 SP. 1 DATE 1/2/49

SEND	45	34	45	23	34	45	12	23	34	45
RECEIVE	→	→	→	→	→	→	→	→	→	→
RANGE										
VOLTAGE	320	380	320	300	380	320	160	300	380	320
CURRENT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
SEND	1-2	2-3	34	4-5	1-2	2-3	3-4	4-5		Cal.
RECEIVE	→	→	→	→	→	→	→	→	→	1-2
RANGE										
VOLTAGE	160	300	380	320	160	300	380	320		160
CURRENT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0

COMMENTS:

FREQUENCIES 3.0 0.10

SENDER NO. 13671-5

OPERATOR B. Rasmussen

RECEIVER NO. 10661-R

OPERATOR R. Palmer


$$a = 250$$

3.0-1042

HEINRICHS GEOEXPLORATION CO.

PROJECT

I.P. RECEIVER NOTES

LINE

HALF $\frac{1}{2}$ SP

DATE 1-7

PAGE

[illegible]



I.P. RECEIVER NOTES

PROJECT

ENI

HALF

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SP

DATE 1-7

PAGE

[illegible]



HEINRICH'S GEOEXPLORATION CO.

PROJECT

NAM 30L

I. P. SENDER NOTES

LINE 1

HALF N SP. 1

DATE 1/7/68

PAGE

2

SEND	1-2	2-3	1-2	3-4	2-3	3-4	4-5	3-4	2-3	1-2
RECEIVE	→	→	→	→	→	→	→	→	→	→
RANGE										
VOLTAGE	160	300	160	375	300	160	320	375	300	160
CURRENT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		Cal.
RECEIVE	→	→	→	→	→	→	→	→	→	4-5
RANGE										
VOLTAGE	320	375	300	160	315	370	300	160		320
CURRENT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0

COMMENTS:

FREQUENCIES 3.0 0.10

SENDER NO. 13671-5

OPERATOR B. Rasmussen

RECEIVER NO. 10661-R

OPERATOR R. Palmer

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376	245	940	185	586	280	1655	724	303	147	DC		466	320	159	845	220	181	940	538	1002	LEFT
375	244	930	186	602	267	1655	710	282	159			466	316	169	855	221	174	945	536	1002	SIDE
		940		594	283	1645	725	302	148			473	320	159	845	219	180	945	517		
		920		603	276	1655	707	283	159			472	318	166	885	220	179	950	522		
		945		595	284	1645	726	303	150			468	319	156	845	220	184	940	520		
		930		600	274	1655	706	283	158			467	319	167	845	221	175	940	554		
		940		588	284		726	303	146			470	318	159	840	219	176	940	542		
		920		602	272		706	283	159			466	318	167	855	220	179	950	530		

751	489	1870	371	1188	547	3310	1434	585	306	DC	932	636	328	1700	441	355	1885	1074	2004	
		1870		1196	550	3300	1435	584	307	SUMS	939	636	328	1700	440	354	1890	1053		
		1860		1197	559	3300	1432	585	307		945	638	325	1730	439	359	1895	1039		
		1865		1198	560	3300	1433	586	309		940	637	322	1730	440	363	1890	1042		
		1875		1195	558	3300	1432	586	308		935	638	323	1690	441	359	1880	1074		
		1870		1188	558		1432	586	304		937	637	326	1685	440	351	1880	1096		
		1860		1190	556		1432	586	305		936	636	326	1695	439	355	1890	1072		

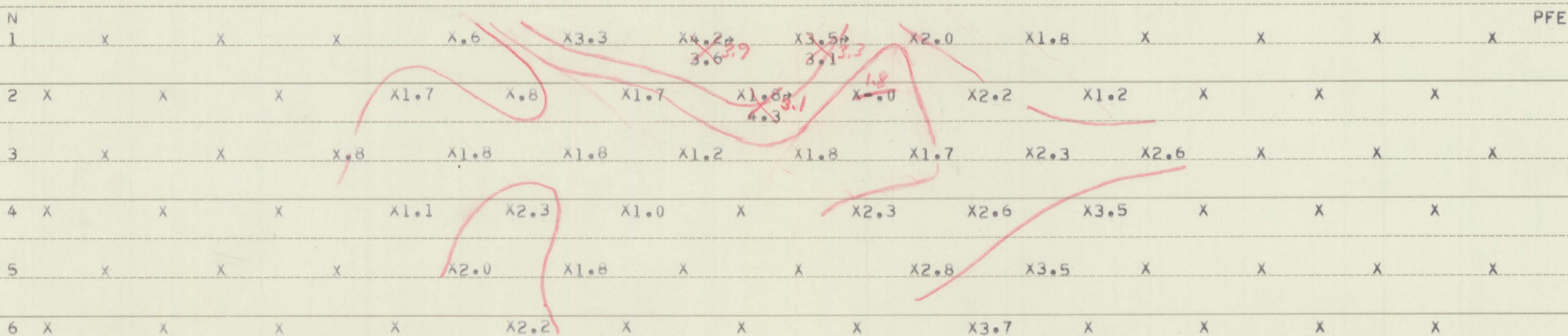
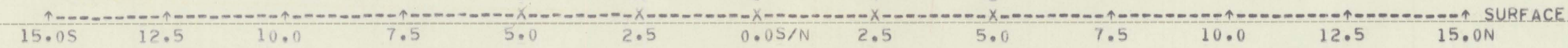
1	1	2	1	2	3	1	2	3	4	N	2	3	4	5	3	4	5	6		
375.5	244.5	93.36	185.5	59.66	27.77	165.1	71.64	29.27	15.33	DCA	46.89	31.84	16.27	8.521	22.00	17.83	9.436	5.321	100.2	
362.0	238.5	90.50	184.0	59.00	27.70	164.0	70.80	29.50	15.10	AC1	46.20	31.60	16.00	8.450	21.90	17.80	9.450	5.340	101.0	
362.0	238.5	90.50	184.0	59.00	27.70	164.0	71.00	29.50	15.10	AC2	46.20	31.60	16.00	8.450	21.90	17.80	9.450	5.340	101.0	
362.0	238.5	90.50	184.0	59.00	27.70	164.0	70.90	29.50	15.10	ACA	46.20	31.60	16.00	8.450	21.90	17.80	9.450	5.340	101.0	
281.1	183.0	279.5	138.8	178.6	207.9	123.6	214.5	219.1	229.5	RHO	140.4	238.3	243.6	223.2	164.7	266.9	247.2	223.1	.998	DC CAL
4.6	3.3	4.0	1.6	1.9	1.1	1.5	1.9	.0	2.3	PFE	2.3	1.6	2.5	1.7	1.3	1.0	.6	.4	1.008	AC CAL
16	18	14	12	11	5	12	9	0	10	MCF	16	7	10	7	8	4	3	2		

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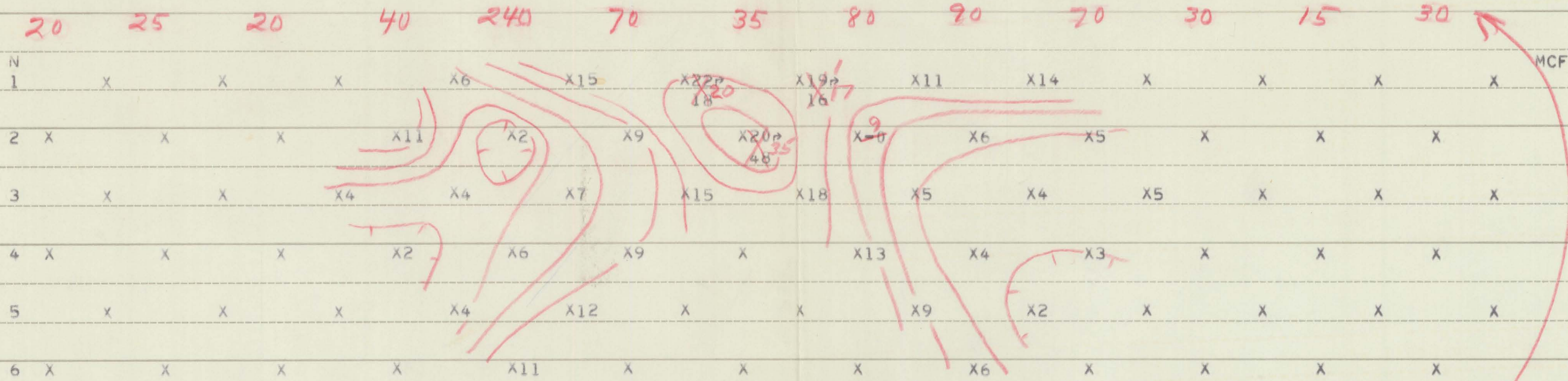
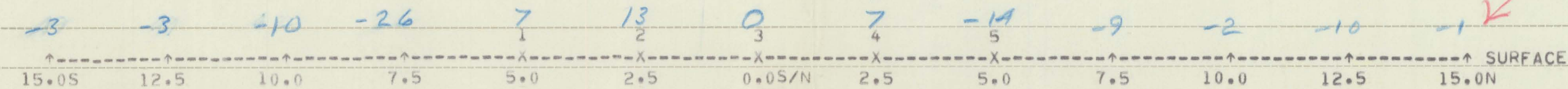
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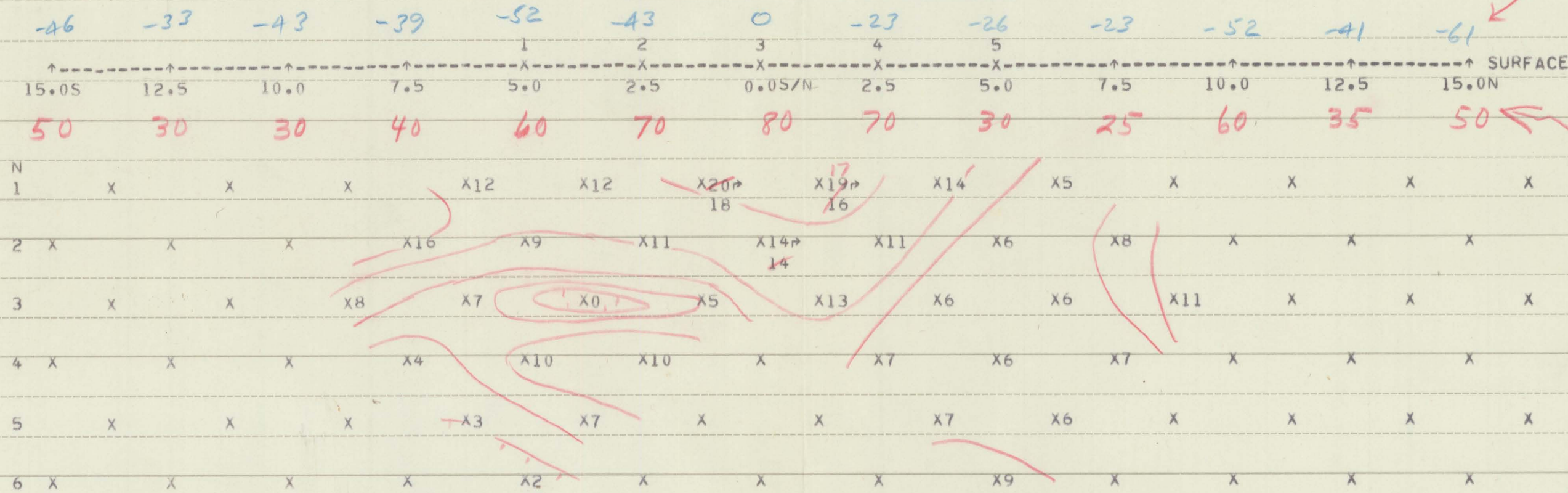
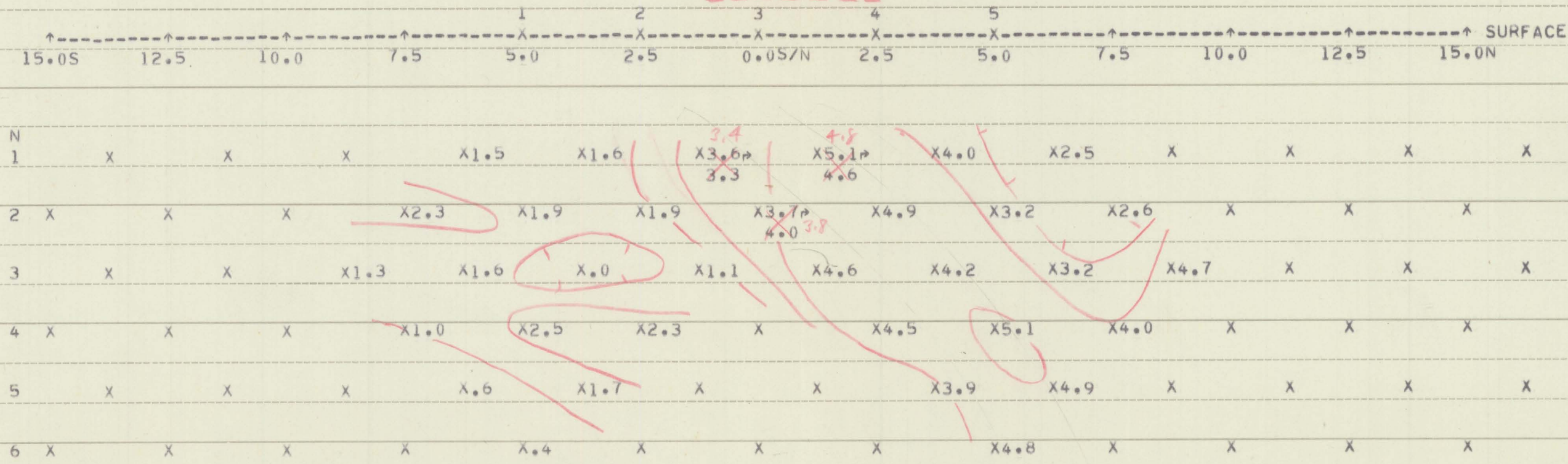
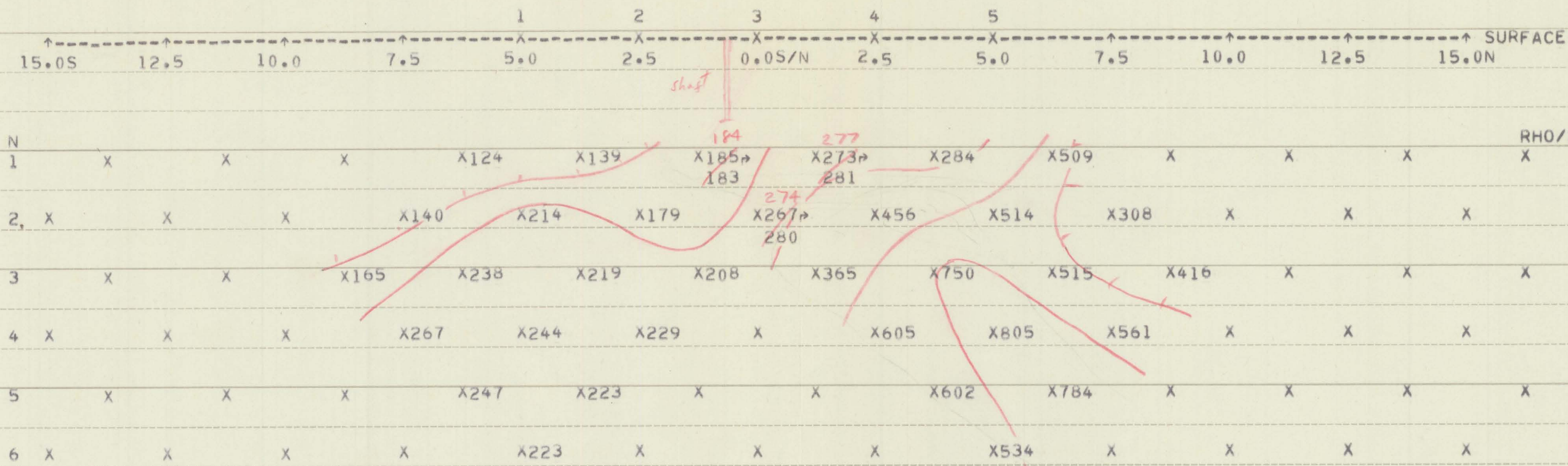
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Cu in ppm

31.12.1955

DIXIE MINE AREA



Cu in ppm

FILE

NORTH AMERICAN MINES

DIXIE MINE AREA

PAT LAND
BROWN
OWNER

FED. LAND

SECT. 35

SECT. 26

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FED. LAND

COUNTY

STATE LAND

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D SETH PARKER
D DORA
D Nellie
D Rose
D Gertrude
D Hog Back
Red Mountain
STAT. LAND

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SECTION 25
T. 4N. R. 5E.

S.W. 1/4
SECTION 30
T. 4N. R. 6E.

N.E. 1/4
SECTION 36
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N.W. 1/4
SECTION 31
T. 4N. R. 6E.

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DIXIE
North American
11/1/1900

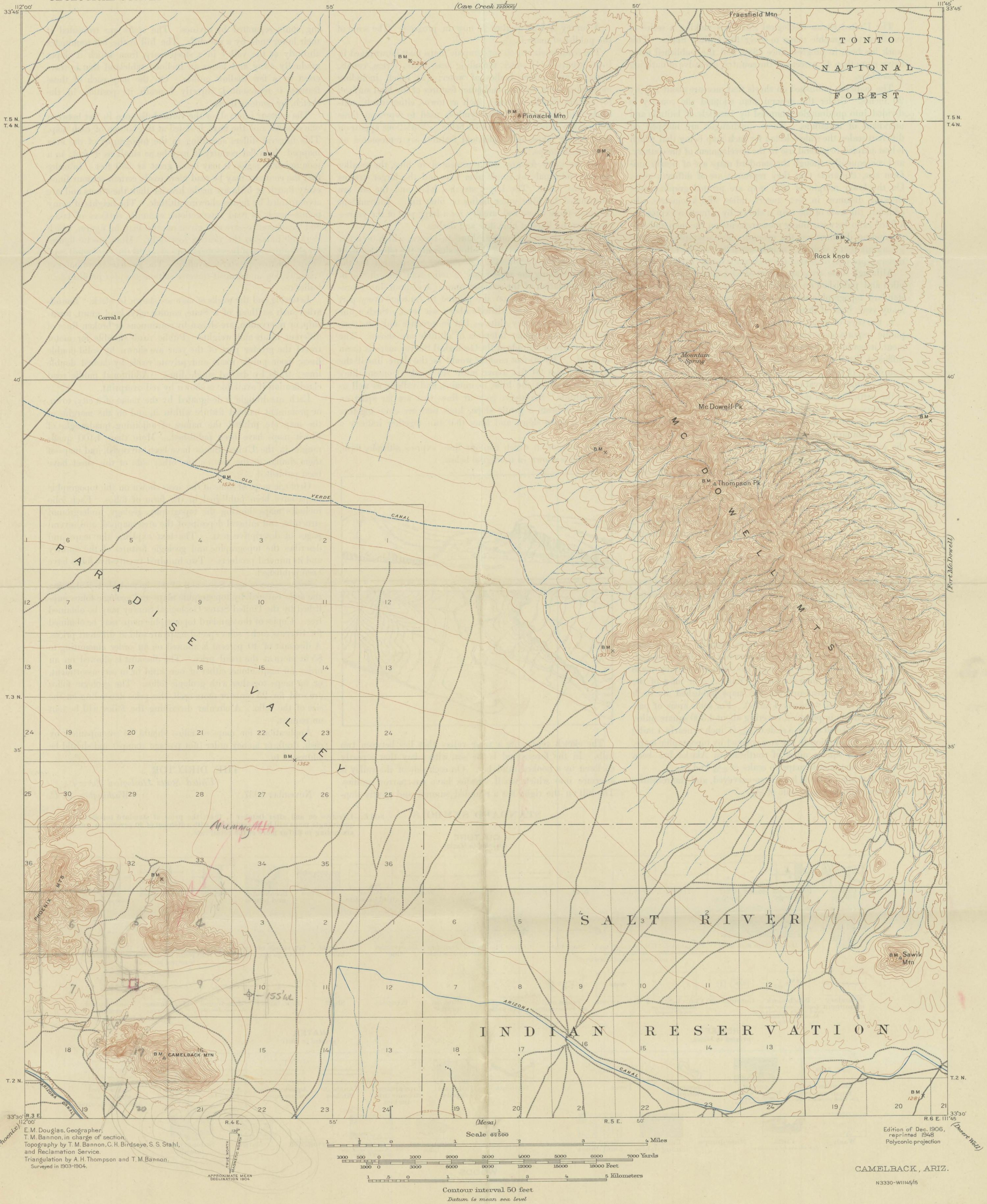


Early of Campbell Good

Dixie Mine

North American Press

Mr. Wagner



THE TOPOGRAPHIC MAPS OF THE UNITED STATES

The United States Geological Survey is making a series of standard topographic maps to cover the United States. This work has been in progress since 1882, and the published maps cover more than 47 percent of the country, exclusive of outlying possessions.

The maps are published on sheets that measure about 16½ by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for each map being that which is best adapted to general use in the development of the country, and consequently, though the standard maps are of nearly uniform size, the areas that they represent are of different sizes. On the lower margin of each map are printed graphic scales showing distances in feet, meters, miles, and kilometers. In addition, the scale of the map is shown by a fraction expressing a fixed ratio between linear measurements on the map and corresponding distances on the ground. For example, the scale $\frac{1}{62,500}$ means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 62,500 of the same units on the earth's surface.

Although some areas are surveyed and some maps are compiled and published on special scales for special purposes, the standard topographic surveys and the resulting maps have for many years been of three types, differentiated as follows:

1. Surveys of areas in which there are problems of great public importance—relating, for example, to mineral development, irrigation, or reclamation of swamp areas—are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{31,000}$ (1 inch=one-half mile) or $\frac{1}{24,000}$ (1 inch=2,000 feet), with a contour interval of 1 to 100 feet, according to the relief of the particular area mapped.

2. Surveys of areas in which there are problems of average public importance, such as most of the basin of the Mississippi and its tributaries, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{62,500}$ (1 inch=nearly 1 mile), with a contour interval of 10 to 100 feet.

3. Surveys of areas in which the problems are of minor public importance, such as much of the mountain or desert region of Arizona or New Mexico, and the high mountain area of the northwest, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{125,000}$ (1 inch=nearly 2 miles) or $\frac{1}{250,000}$ (1 inch=nearly 4 miles), with a contour interval of 20 to 250 feet.

The aerial camera is now being used in mapping. From the information recorded on the photographs, planimetric maps, which show only drainage and culture, have been made for some areas in the United States. By the use of stereoscopic plotting apparatus, aerial photographs are utilized also in the making of the regular topographic maps, which show relief as well as drainage and culture.

A topographic survey of Alaska has been in progress since 1898, and nearly 44 percent of its area has now been mapped. About 15 percent of the Territory has been covered by maps on a scale of $\frac{1}{62,500}$ (1 inch=nearly 8 miles). For most of the remainder of the area surveyed the maps published are on a scale of $\frac{1}{250,000}$ (1 inch=nearly 4 miles). For some areas of particular economic importance, covering about 4,300 square miles, the maps published are on a scale of $\frac{1}{62,500}$ (1 inch=nearly 1 mile) or larger. In addition to the area covered by topographic maps, about 11,300 square miles of southeastern Alaska has been covered by planimetric maps on scales of $\frac{1}{125,000}$ and $\frac{1}{250,000}$.

The Hawaiian Islands have been surveyed, and the resulting maps are published on a scale of $\frac{1}{62,500}$.

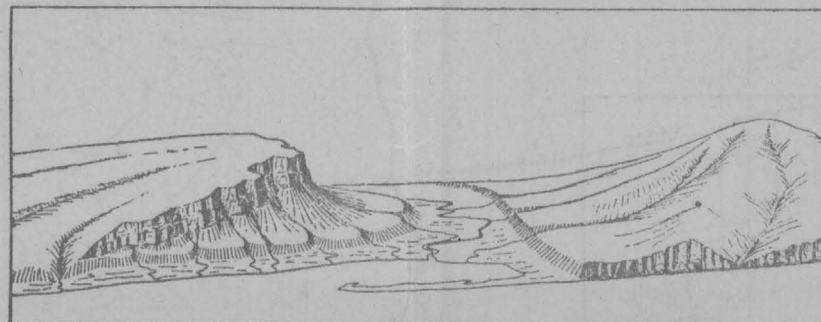
A survey of Puerto Rico is now in progress. The scale of the published maps is $\frac{1}{30,000}$.

The features shown on topographic maps may be arranged in three groups—(1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land surface; (3) culture (works of man), such as towns, cities, roads, railroads, and boundaries. The symbols used to represent these features are shown and explained below. Variations appear on some earlier maps, and additional features are represented on some special maps.

All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger streams by double lines. The larger streams, lakes, and the sea are accentuated by blue water lining or blue tint. Intermittent streams—those whose beds are dry for a large part of the year—are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown, which on a few maps are supplemented by shading showing the effect of light thrown from the northwest across the area represented, for the purpose of giving the appearance of relief and thus aiding in the interpretation of the contour lines. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in practice only the contours at certain regular intervals of altitude are shown. The datum or zero of altitude of the Geological Survey maps is mean sea level. The 20-foot contour would be the shore line if the sea should rise 20 feet above mean sea level. Contour lines show the shape of the hills, mountains, and valleys, as well as their altitude. Successive contour lines that are far apart on the map indicate a gentle slope, lines that are close together indicate a steep slope, and lines that run together indicate a cliff.

The manner in which contour lines express altitude, form, and grade is shown in the figure below.



The sketch represents a river valley that lies between two hills. In the foreground is the sea, with a bay that is partly enclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently sloping

ing spurs separated by ravines. The spurs are truncated at their lower ends by a sea cliff. The hill at the left terminates abruptly at the valley in a steep scarp, from which it slopes gradually away and forms an inclined tableland that is traversed by a few shallow gullies. On the map each of these features is represented, directly beneath its position in the sketch, by contour lines.

The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval differs according to the topography of the area mapped: in a flat country it may be as small as 1 foot; in a mountainous region it may be as great as 250 feet. In order that the contours may be read more easily certain contour lines, every fourth or fifth, are made heavier than the others and are accompanied by figures showing altitude. The heights of many points—such as road intersections, summits, surfaces of lakes, and benchmarks—are also given on the map in figures, which show altitudes to the nearest foot only. More precise figures for the altitudes of benchmarks are given in the Geological Survey's bulletins on spirit leveling. The geodetic coordinates of triangulation and transit-traverse stations are also published in bulletins.

Lettering and the works of man are shown in black. Boundaries, such as those of a State, county, city, land grant, township, or reservation, are shown by continuous or broken lines of different kinds and weights. Public roads suitable for motor travel the greater part of the year are shown by solid double lines; poor public roads and private roads by dashed double lines; trails by dashed single lines. Additional public road classification if available is shown by red overprint.

Each quadrangle is designated by the name of a city, town, or prominent natural feature within it, and on the margins of the map are printed the names of adjoining quadrangles of which maps have been published. More than 4,100 quadrangles in the United States have been surveyed, and maps of them similar to the one on the other side of this sheet have been published.

Geologic maps of some of the areas shown on the topographic maps have been published in the form of folios. Each folio includes maps showing the topography, geology, underground structure, and mineral deposits of the area mapped, and several pages of descriptive text. The text explains the maps and describes the topographic and geologic features of the country and its mineral products. Two hundred twenty-five folios have been published.

Index maps of each State and of Alaska and Hawaii showing the areas covered by topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the standard topographic maps may be obtained for 10 cents each; some special maps are sold at different prices. A discount of 40 percent is allowed on an order amounting to \$5 or more at the retail price. The discount is allowed on an order for maps alone, either of one kind or in any assortment, or for maps together with geologic folios. The geologic folios are sold for 25 cents or more each, the price depending on the size of the folio. A circular describing the folios will be sent on request.

Applications for maps or folios should be accompanied by cash, draft, or money order (not postage stamps) and should be addressed to

THE DIRECTOR,
United States Geological Survey,
Washington, D. C.

November 1937.

STANDARD SYMBOLS

NOTE:—Effective on and after October 1, 1946, the price of standard topographic quadrangle maps will be 20 cents each, with a discount of 20 percent on orders amounting to \$10 or more at the retail rate.

CULTURE (printed in black)														
RELIEF (printed in brown)					WATER (printed in blue)									
WOODS (when shown, printed in green)														

INDUCED POLARIZATION AND GEOCHEMICAL SURVEY,
GEOLOGY RECONNAISSANCE, AND CLAIM EXAMINATION
of the
DIXIE MINE AREA
DIXIE MINING DISTRICT
MARICOPA COUNTY, ARIZONA

For
North American Mines, Inc.

January 1969

By
Heinrichs Geoexploration Company
P. O. Box 5671 Tucson, Arizona 85703
Phone: 623-0578 Area Code: 602

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GENERAL LOCATION	
INTRODUCTION	1
CONCLUSIONS AND RECOMMENDATIONS	3
INTERPRETATION	8
BASIS OF THE INDUCED POLARIZATION METHOD	1a
IN MAP POCKET: (Total 4 pieces)	
Induced Polarization and Geochemical Survey Location and Interpretation Plan	
Composite Claim Map	
Sectional Data Sheets	
Line 1	
Line 2	

INTRODUCTION

At the request of Mr. Quincy A. Shaw of North American Mines, Inc., Heinrichs Geoexploration Company conducted an induced polarization and geochemical survey along with reconnaissance geology and claim examination, over parts of the Dixie Mine Area, Dixie Mining District, Maricopa County, Arizona, during the interim January 6 - 8, 1969.

Two induced polarization (I.P.) lines were surveyed, consisting of one four sending dipole ~~electrode~~ spread each. This gives a total surface coverage of 6,000 feet between extreme receiving electrodes, of which 3,500 feet represents subsurface plotted data at a separation between sending and receiving dipoles of three dipole lengths. Lines 1 and 2 are oriented north-south and spaced 500 feet apart with a 250 foot dipole spacing.

The selection of a 250 foot dipole spacing was to give detailed information from about 50 to 300 feet below surface.

The induced polarization measurements were made with the dual frequency technique, on a dipole-dipole electrode configuration. Frequencies used were 0.1 and 3.0 hertz. Equipment used for this work was a Geocex Mark 7 sender and a Mark 3 receiver.

Geochemical samples were taken at each induced polarization

station on both lines which gave a total of 26 samples.

These soil samples were tested for copper and silver content.

The data are presented on sectional data sheets, one for each line, showing resistivity, percent frequency effect (PFE), and metallic conduction factor (MCF), contoured in section with self potential (SP) and soil sample copper content in profile form. An induced polarization and geochemical survey location and interpretation plan is also included.

Heinrichs personnel involved in the field work were Donald B. Cooley, project chief, Ronald Palmer, crew chief, assisted by Michael Critchley and William Rasmussen; interpretation, compilation and report by William Rasmussen, Chris Ludwig, and the Geocex Tucson staff.

CONCLUSIONS AND RECOMMENDATIONS

The weak sulfide indications encountered could represent occurrences of some conceivable economic significance, however, the initial suggestion provided by this very small sample of subsurface information, does not seem to relate, directly at any rate, to immediate major sulfide concentration. Regionally nearby, or at considerably greater depth, there could be an indirect relationship with something more important, but much greater effort would be needed to test for such possibilities. If such were contemplated, broad reconnaissance photo and ground geology, geochemistry and perhaps magnetics would be the most constructive preliminary approach for this type of investigation.

Very weak induced polarization anomalism was seen on both Lines 1 and 2 and appears to correlate with the general vicinity of the known mineralization and its apparent strike projection to the west.

The I.P. anomalism appears to be coming from a restricted source, particularly on Line 2 where the majority of the response seems to originate from within about 250 feet of the surface. The source may extend somewhat deeper on Line 1, however.

The very weak strength of the I.P. response suggests that

the total integrated average sulfide content across the interpreted anomalous zones is less than 1% by volume. However, as is likely the case, the source could be in several very narrow-high sulfide pods from which the effect has been diluted with the country rock by the 250 foot dipole and station spacing needed to obtain the desired penetration.

Geochemically, there is a broad weak copper soil anomaly correlating with the I.P. anomaly on Line 1. On Line 2, however, the copper anomalism shows as two minor highs on either side of the I.P. anomalism. The one-station geochemical indication of strong copper near electrode 1, Line 2, may be affected by contamination ^{from} some shallow prospect pits nearby and additional sampling on a closer grid in that vicinity would be necessary to verify it.

The silver geochemistry was quite negative. One part per million silver (1 PPM) was seen at stations 0.0 N/S Line 1 and 2.5 N, Line 2; the rest all being less than 1 PPM.

The self potential measurements taken in conjunction with the I.P. show only minor background variations. This implies a lack of significant quantities of actively oxidizing interconnected sulfides within several hundred feet of the surface.

Geologically, the mine is in an area of schist which is quite siliceous in nature and which in general strikes N 65 E and dips 60° - 80° to the southeast. The dump shows much

pyrite, usually associated with quartz. Mineralization in this type of environment tends to be spotty and irregularly spaced in all dimensions along the zone of interest. The size of the bodies is often quite small and not necessarily interconnected.

An access tunnel, from the gully, that connects to the vertical shaft has some chalcantite (copper sulfate), minor chalcopyrite, tetrahedrite and other similar copper minerals in it. Inclined shafts apparently lead to lower levels but are full of water to about 15 feet below the tunnel level. No other indication of mineralization was seen in the area other than a couple of minor iron stained zones.

In conclusion, it appears that the I.P. and copper geochemistry can crudely outline the zone of interest and we recommend that the zone be prospected further along strike on roughly the same line and station spacing. Since the anomalism on Line 2 to the west of Line 1 is somewhat weaker and smaller than that on Line 1, it is recommended that most work be concentrated to the east of Line 1.

The work to date has not outlined a well defined target and no drilling based solely on the geophysical-geochemical results is recommended now. Hopefully, the additional work along the strike of the zone of interest will disclose a stronger and better defined target than that already seen over the known workings.

Along with additional geophysics and geochemistry, some consideration should be given to dewatering the underground workings to sample and map the mineralization in more detail.

If drilling is done at the present stage, we recommend that it be concentrated near the workings since the strongest I.P. response was seen there and the area is of fairly easy access. At this time, the drilling could help determine the depth persistence and width of the mineralization below and laterally from the present level of development. Any available maps of the underground workings and mineralization would greatly aid in optimizing the location of this drilling.

The claim corners and location monuments all seem to be in place but only two claim notices could be found so the survey area could not be positively related to the entire claim group. Claim notices were found for Myora 12 and Dice Mine ~~C~~5, dated 9 June 1958 by Adolph Romo. The maps furnished us do not identify these claims. So the only positive identification we have at present as to our location on the ground is the section corner just west of the main shaft at the Dixie Mine, the topography, and the surface evidence of mine workings. If any encouragement is developed by further work, the claims should be identified on the ground by marking all posts and reposting fresh location notices.

Composite plan maps, scale 1"=1000' and scale 1"=300'

have been constructed using information furnished Geoex as to claim locations. Without proper tie data these may be rather inaccurate, as the positive location of the claims on the ground has not been made. Filing of geophysical, geological, and geochemical reports for assessment work purposes may be somewhat difficult because of this. One day in the field with the claim locator and one of our men hopefully could resolve this problem.

INTERPRETATION

Line 1

This line shows a very weak I.P. anomaly beginning near 1.25 S and extending north to about 2.5 N. The Dixie Mine shaft is located approximately at 0.5 S on this line, which is close to the southern edge of the anomaly. The polarizing material has a fairly high resistivity relative to its surroundings below a depth of approximately 100 feet making it a difficult target to detect.

Self potentials show only background variations along the line which implies no sizeable zone of interconnected oxidizing sulfides within several hundred feet of surface.

Soil samples taken at the I.P. stations were tested for copper and silver and showed a slight anomaly in copper over the center of the line. This correlates with the I.P. results fairly well.

Line 2

This line shows a very weak I.P. anomaly from 3.75 S to 2.5 N. This may be due to a horizontally extended body that is near surface. The anomaly might also be due to several limited depth dipping bodies. The latter case would correlate better with the surface geology. Whatever the cause of the anomaly, it appears to be mostly within 250 feet of surface.

Only background variations are seen in the self potentials.

Soil samples showed two copper anomalies along the line. One is small and centered over the number five electrode while the other appears several times larger with its center over the number one electrode. Neither of these anomalies seem to correlate with the induced polarization anomaly, however, they are located on either side of the INP anomaly.

The analysis for silver was non-diagnostic.

Respectfully submitted,

HEINRICHS GEOEXPLORATION COMPANY

Chris S Ludwig
Sr. Geophysicist

APPROVED:

Walter E. Heinrichs, Jr.
President & General Manager

January 21, 1969
Tucson, Arizona

**DIAMOND DRILLING PROJECT
DIXIE MINE
MARICOPA COUNTY, ARIZONA**

For

NORTH AMERICAN MINES INC.

APRIL 1969

By

**HEINRICHS GEOEXPLORATION COMPANY
P. O. Box 5671 Tucson, Arizona 85703
Phone: 623-0578 Area Code: 602**

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HAMLEY & HAMLEY	
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INTRODUCTION

At the request of Mr. Q. A. Shaw, President of North American Mines, a drill hole on the Dixie property was spotted to test the mineralization in the vicinity of the mine and specifically to confirm the cause of the extremely weak I. P. anomaly located between 2.5 and 4.0 on I. P. line 1. (Refer to GEOEX report, I. P. and Geochemical Survey, Geology, Reconnaissance, and Claim Examination of the Dixie Mining Area, Dixie Mining District, Maricopa County, Arizona, January 1969.) GEOEX was also responsible for selecting the drilling company and for supervision of drilling, core handling and assaying.

CONCLUSIONS AND RECOMMENDATIONS

All of the core, except in the first forty (40) feet, contains some pyrite, mostly less than one percent but very locally in greater percentages which is sufficient to account for the I. P. anomalism. The rock is a quartz-sericite schist with minor chlorite-biotite zones and a few clear quartz veinlets. Limonite staining is essentially confined to the near surface portion except right at the bottom of the hole. At about one hundred fifty (150) feet the hole apparently crossed the extension of the vein that the Dixie Mine workings exploited. Core recovery was poor there in spite of the fact that it was anticipated and values increased somewhat in this area.

The assay and spectographic analysis results do not indicate the presence of a large porphyry type of ore body able to sustain an open pit operation. However, more drilling might develop a small underground operation such as has been the history of the Dixie Mine.

OPERATIONS AND PROCEDURES

The drill site was selected on the following basis: Topography and accessibility to reduce the costs of road and drill pad preparation, keeping the hole depth five hundred (500) feet or less, maximum information across beds of schist and sampling the mineralized zone and the I. P. anomaly. If the site had been placed further east, a fault may have been encountered and to cross the fault at a depth where it would not interfere with the drilling would have necessitated a drill hole greatly in excess of five hundred (500) feet. The hole was drilled at a 25° angle from the horizontal on a bearing of N 35° W for a total of four hundred four (404) feet. The bottom of the hole is two hundred seventy-five (275) feet below the surface. The core appears to have crossed the planes of schistosity normal to the dip and within $1-2^\circ$ of being normal to the strike. There is no obvious deviation along the hole, therefore it should be relatively accurately plotted.

The core was boxed, split and delivered to the assay office by GEOEX personnel daily. GEOEX personnel involved were R. Palmer and M. Critchley under the supervision of D. B. Cooley. The drilling company was Boyles Brothers Drilling Company from the Sunnyslope, Arizona office and the assaying was done by Arizona Assay in Phoenix. At selected depth intervals, the assay pulps were quartered and half was sent to Hawley & Hawley of Tucson for spectographic analysis. The spectographic analysis were expected to be check assays but because of the limitations of the technique and discrepancies of possibly significant magnitude between the reported copper values, it was decided to send the rest of the pulps of selected samples to Rocky Mountain Geochemical Corporation for check assays. These results (see appendix) correlate quite well with the original assays from Arizona Assay Office and emphasize the very semi-quantitative nature of spectographic work in general.

Respectfully submitted,
HEINRICHS GEOEXPLORATION COMPANY

Donald B. Cooley
Geologist

APPROVED:

HEINRICHS GEOEXPLORATION COMPANY

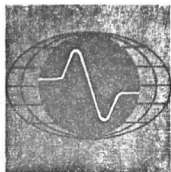
Walter E. Heinrichs, Jr.

President



ASSAY COMPARISON LIST

SAMPLE NUMBER	DEPTH	Ag		Au		Cu		Ag		Au		Cu	
		oz/t	oz/t	oz/t	oz/t	%	%	%	%	ppm	ppm	%	%
616	50-60'	0.10	Trace	0.35	<0.0005	<0.005	0.35	<0.1	5	0.0635			
619	80-89.5'	0.10	N11	0.03	<0.0005	<0.005	0.15	1.0	16	0.35			
623	117.5-126.5'	0.007	0.007	0.035	<0.0005	<0.005	0.18	<0.1	7	0.068			
624	126.5-141'	0.10	Trace	0.065	<0.0005	<0.005	2.8	<0.1	5	0.0635			
625	141-150.5'	0.80	Trace	0.35	0.0003	<0.005	3.0	1.0	16	0.35			
626	150.5-160'	0.50	Trace	0.07	0.001	<0.005	0.75	<0.1	7	0.068			
630	190-200'	0.40	N11	0.01	<0.0005	<0.005	0.15						
634	228-238'	0.40	N11	0.005	<0.0005	<0.005	0.25						
637	254.5-264'	0.40	N11	0.01	<0.0005	<0.005	1.3	<0.1	3	0.066			
639	273.5-282.5'	0.40	N11	0.005	<0.0005	<0.005	0.35						
643	311-320.5'	0.20	N11	0.005	0.0005	<0.005	0.10						
648	357.5-367.5	0.4	0.008	0.015	0.005	<0.005	0.2						
852	397-404'	0.3	Trace	0.01	0.0005	<0.005	0.55						



HEINRICHS GEOEXPLORATION COMPANY

806 WEST GRANT ROAD, TUCSON, ARIZONA, 85703. P.O. BOX 5671. PHONE: (AREA CODE 602) 623-0578

4 April 1969

Mr. Q. A. Shaw, President
North American Mines
60 State Street
Boston, Massachusetts 02109

Dear Mr. Shaw:

Apparently there is a misunderstanding about the status of the Dixie Drilling. We sent the spectographic work out intending to also use it as a check on the assays which is a standard procedure on projects such as this. The spectographic results correspond well in the silver results, and within the limits of the technique with the gold assays. The copper results showed a significant discrepancy such that it was necessary to send some of the same samples out for a check assay to resolve this discrepancy. At this time we are still waiting for the results which should arrive at anytime, but the labs are quite busy at the present time.

The report is rough drafted and only waiting for these assay returns to be completed. When they come to us we will finish the report and make our recommendations and send you the report. At the same time we will send a final billing and copies of all the results and a copy of all of the information to the attorneys unless we hear otherwise from you.

We also sent a letter to Mr. Wagnon yesterday asking him to meet you on April the 8th. By now you have probably received your copy of that letter.

Very truly yours,
HEINRICHS GEOEXPLORATION COMPANY

Donald B. Cooley

Donald B. Cooley
Geologist

DBC/plp P.S. The check assay results just came in and are in the range of the original assays as we suspected they would be. Unfortunately spectrographic analysis is only semi-quantitative at best.

Don

4 April 1969

Mr. W. A. Shaw, President
North American Mines
60 State Street
Boston, Massachusetts 02109

Dear Mr. Shaw:

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Very truly yours,
HEINRICHS GEOEXPLORATION COMPANY

Donald B. Cooley
Geologist

DBC/plp

4 April 1969

Mr. Q. A. Shaw, President
North American Mines
Boston, Massachusetts 02109

Mr. Shaw:

Apparentl

April 3, 1969

Mr. Ira Wagnon
P.O. Box 382
Casa Grande, Arizona

Dear Ira;

Mr. Shaw called today and asked us to pass on the following information:

He will arrive in Tucson Tuesday, 8 April 1969, at 4:34 P.M., flight 221 American Airlines from Chicago. He would like you to meet him, if possible and if not, he will be at the Desert Inn in Tucson. As of now, he intends to leave from Phoenix on the following Friday.

We have not sent out a report on the Dixie as the Spectrographic analysis and the assays are not in good agreement, so we have sent out a few for a check. They should be back this week, we are told.

Very truly yours,
HEINRICHS GEOEXPLORATION COMPANY

Donald B. Cooley
Geologist

DBC/vr

cc: Q. A. Shaw, President
North American Mines, Inc.
60 State Street
Boston, Massachusetts 02109

14 March 1969

Mr. Ira Wagnon
P.O. Box 382
Casa Grande, Arizona

Dear Ira,

We have been asked by Mr. Shaw to carefully look at and log the core American Exploration left there. Also to split and assay the core if it seems worthwhile to do so.

He asked us to get a letter, from you and also signed by your partners that we be authorized to look at the core and work on it. As soon as we receive this authorization we will come up and look at this core.

The drilling at the Dixie stopped at 404' and showed nothing really. The core has just come and I haven't logged it as yet, but the assays are complete.

Hope you are well and we will be seeing you soon.

Very truly yours,
HEINRICHS GEOEXPLORATION COMPANY

Donald B. Cooley

DBC/plp



HEINRICHS GEOEXPLORATION COMPANY

806 WEST GRANT ROAD, TUCSON, ARIZONA, 85703. P.O. BOX 5671. PHONE: (AREA CODE 602) 623-0578

November 4, 1968

Mr. Quincy A. Shaw, Jr.
North American Mines, Inc.
68 State Street
Boston, Mass. 02109

Re: Proposed Mineral Evaluation
Dixie Mine Project, McDowell
Mountains, Maricopa County,
Arizona

Dear Mr. Shaw,

This will confirm our phone conversation of Friday, November 1, 1968 and subsequent phone conversations this morning with Vic Verity, in which Vic advised us of complications in your agreement with the owner of the Dixie property. Therefore, for our mutual understanding and agreement, we propose the following:

Upon receiving an okay from you or Mr. Verity, Geoex will send a mining geologist to the Dixie Mine and vicinity. His assignment will be to locate and identify the major mineralized structure or strivings on the property in order to properly orient a proposed I. P. survey of three lines.

Charges will be at the rate of \$150.00 per man day for the geologist and \$250.00 per crew day for a standard I. P. crew including all the necessary equipment. Vehicle charges will be \$15.00 per day, plus \$0.15 per mile per vehicle. Directly related supplies, communications, living, travel, and other direct job incidentals charged at our cost. Final compilation, interpretation, and report is \$150.00 per Tucson staff day. Based on these rates, total estimated cost of the job as presently planned will be about \$2,000.00, if three I. P. lines are run on 500' dipole spacing as suggested by

Graton Lynch.

November 4, 1968

Excessive weather delay and standby charges are one half the daily rate. Breakdown of our equipment in excess of one hour per day will be made up or not charged.

Others of our technical staff are involved for consultation and supervision or as needed and/or are supplied at our standard rates as requested and mutually agreed upon.

All property permits, brushing, and trespassing - liability and related costs incurred on behalf of client assumed by client. Charges for extra equipment and personnel employed if mutually desired, are extra.

Geoex will save client harmless from all Workmen's Compensation, public liability and property damage liability incurred by Geoex employees.

Preliminary data or copies of rough field plotting sheets are available as work progresses.

Payments are due on presentation and billings may be submitted periodically with the final statement after completion of the final report.

We would like to undertake full management and direction of your continuing exploration program, and respectfully request that you advise us on how you would like to proceed.

Although we worked for you through Graton on many projects through the years we still have little idea of the desired and general scope of your operation.

I am enclosing some recent literature which you may not have that describes our company activities.

In the meantime we will hold off on sending anyone to the field till we hear further from you or Vic. If you would like us to expedite negotiations with the owners in your behalf either directly or through Vic, please let us know. This could be a worthwhile step in our helping to pick up the ball for you.

Sincerely yours,
HEINRICHS GEOEXPLORATION COMPANY

E. Grover Heinrichs
Vice President

EGH/rc

HEINRICHS GEOEXPLORATION COMPANY

November 4, 1968

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68 State Street
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Sincerely yours,
HEINRICHS GEOEXPLORATION COMPANY

E. Grover Heinrichs
Vice President

EGH/rc

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Others of our technical staff are involved for consultation and supervision or as needed and/or are supplied at our standard rates as requested and mutually agreed upon.

All property permits, brushing, and trespassing - liability and related costs incurred on behalf of client assumed by client

RECEIPT FOR CERTIFIED MAIL—30¢

No. 580624 North American Mines	SENT TO <i>Mr. Quincy A. Shaw</i>	POSTMARK OR DATE
	STREET AND NO. <i>60 State Street</i>	
	P. O. STATE, AND ZIP CODE <i>Boston Mass 02109</i>	
EXTRA SERVICES FOR ADDITIONAL FEES		
Shows to whom and date delivered <input checked="" type="checkbox"/> 10¢ fee	Shows to whom, date, and where delivered <input type="checkbox"/> 35¢ fee	Deliver to Addressee Only <input type="checkbox"/> 50¢ fee
POD Form 3800 Mar. 1966 NO INSURANCE COVERAGE PROVIDED—NOT FOR INTERNATIONAL MAIL (See other side)		

Mr. Quincy A. Shaw, President
 North American Mines, Inc.
 60 State Street
 Boston, Mass. 02109

Dear Mr. Shaw,

Enclosed herewith please find an original and two copies of our report "Induced Polarization and Geochemical Survey, Geology Reconnaissance, and Claim Examination of the Dixie Mine Area, Dixie Mining District, Maricopa County, Arizona".

Reproducilbe sepias will follow shortly.

As you can see from the enclosed maps, there are quite a few of the claims that we don't have names for or discovery monument locations. Also, there is considerable doubt as to the true location of some of the outlying claims relative to the other claims and the land net.

For assessment purposes, the work should be shown in relation to the discoveries and boundaries of the claims. Therefore, it will be necessary to at least obtain the location notices for all claims on which the work is to apply. Hopefully they will be detailed enough to correct the map and plot the discoveries. Perhaps the Myora Mining Company has more accurate maps in their possession.

It seems reasonable to us that the burden of supplying these claimsdetails should fall on the Myora Mining Company.

Also, it appears that some of the claims may be on State rather than Federal Land and that a Regional Park may be involved. These problems should be researched to determine the true present status of these claims particularly if further work is contemplated or if you are contractually obligated to file the assessment work.

Mr. Quincy A. Saw
North American Mines, Inc.

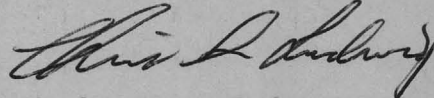
-2-

January 21, 1969

A copy of the two plan maps and this cover letter is being sent to Mr. Verity so that he will also be aware of the problem.

Yours very truly,

HEINRICHS GEOEXPLORATION COMPANY



Chris S. Ludwig
Sr. Geophysicist

CSL/rc

Enclosure 3

cc: Mr. Verity

October 29, 1968

Mr. Quincy A. Shaw, Jr.
North American Mine, Inc.
68 State Street
Boston, Mass. 02109

Dear Mr. Shaw;

Yesterday afternoon we attempted to reach Mr. Lynch through his Mulcahy Lumber Company contact and found that he had suffered a fatal heart attack recently. This was an unexpected shock to all of us who have worked with Mr. Lynch.

The reason we had attempted to contact him was his recent request that we do a few lines of induced polarization at a property in the McDowell Mountains. We felt that an inquiry to you is in order to determine if Mr. Lynch had optioned some ground and committed a geophysical survey as a part of his agreement. We have no details of the job he wanted done but we wanted to be sure that his efforts would not be wasted through an inadvertant default in an agreement of which you were not aware.

We have deactivated Mr. Lynch's request for a field crew and there are no charges accrued on the account. Meanwhile, we will await your instructions, regarding whether a and how we might assist you if desired, immediately or in the future.

Mr. Quincy A. Shaw, Jr.
North American Mine, Inc.

-2-

October 29, 1968

Certainly we all here at Geoex join the group of many in the profession who will profoundly miss his constant optimism and energy in the pursuit of ore.

Respectfully yours,

HEINRICHS GEOEXPLORATION COMPANY

Paul A. Head
Geophysicist

PAH/rc

Rocky Mountain Geochemical Corporation

2050 EAST 14TH STREET
TUCSON, ARIZONA 85719

Phone 622-5702
Area Code: 602

CERTIFICATE OF ANALYSES

Date February 12, 1969

Page 1 of 2

Client Heinrichs Geoexploration Company
808 West Grant Road
Tucson, Arizona

Report on: 26 samples

Submitted by: Heinrichs Geoexploration Company

Date Received: February 11, 1969

Analysis: Gold

Remarks: Gold determined by Atomic Absorption.

Job No. 69-2-35T

cc:Enclosed

RMGC - Salt Lake
file

AB:nlb

*North American Mines
Dixie*

All values are reported in parts per million unless specified otherwise. A minus sign (-) is to be read "less than" and a plus sign (+) "greater than." Values in parenthesis are estimates. This analytical report is the confidential property of the above mentioned client and for the protection of this client and ourselves we reserve the right to forbid publication or reproduction of this report or any part thereof without written permission.

ND = Non Detected

1 ppm = 0.0001%

1 Troy oz./ton = 34.28 ppm

% Mo. x 1.6683 = %MoS₂

<u>Sample No.</u>	<u>ppm Gold</u>	<u>Sample No.</u>	<u>ppm Gold</u>
Line 1-0.0NS	-0.1	Line 2-0.0NS	-0.1
" " 2.5N	-0.1	" " 2.5N	-0.1
" " 2.5S	-0.1	" " 2.5S	-0.1
" " 5.0N	-0.1	" " 5.0N	-0.1
" " 5.0S	-0.1	" " 5.0S	-0.1
" " 7.5N	-0.1	" " 7.5N	-0.1
" " 7.5S	-0.1	" " 7.5S	-0.1
" " 10.0N	-0.1	" " 10.0N	-0.1
" " 10.0S	-0.1	" " 10.0S	-0.1
" " 12.5N	-0.1	" " 12.5N	-0.1
" " 12.5S	-0.1	" " 12.5S	-0.1
" " 15.0N	-0.1	" " 15.0N	-0.1
Line 1-15.0S	-0.1	Line 2-15.0S	-0.1

ROCKY MOUNTAIN GEOCHEMICAL CORPORATION

Tucson, Arizona February 12, 1969

By Anita Bradshaw
Anita Bradshaw

Rocky Mountain Geochemical Corporation

2050 EAST 14TH STREET
TUCSON, ARIZONA 85719

Phone 622-5702
Area Code: 602

CERTIFICATE OF ANALYSES

Date February 12, 1969

Page 1 of 2

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" " 2.5S	-0.1	" " 2.5S	-0.1
" " 5.0N	-0.1	" " 5.0N	-0.1
" " 5.0S	-0.1	" " 5.0S	-0.1
" " 7.5N	-0.1	" " 7.5N	-0.1
" " 7.5S	-0.1	" " 7.5S	-0.1
" " 10.0N	-0.1	" " 10.0N	-0.1
" " 10.0S	-0.1	" " 10.0S	-0.1
" " 12.5N	-0.1	" " 12.5N	-0.1
" " 12.5S	-0.1	" " 12.5S	-0.1
" " 15.0N	-0.1	" " 15.0N	-0.1
Line 1-15.0S	-0.1	Line 2-15.0S	-0.1

ROCKY MOUNTAIN GEOCHEMICAL CORPORATION

Tucson, Arizona

February 12, 1969

By


Anita Bradshaw



HEINRICHS GEOEXPLORATION COMPANY
LAB I.P. & RESISTIVITY DATA & COMPUTATION SHEET
CLIENT North American Mines Project Dixie Mine Area DATE _____
FREQ - AC 3.0 HZ DC .05 HZ

SAMPLE NO.									
GEOLOGIC DESCRIPTION	Green mica Pyrite showing			Dark schist Pyrite showing					
REMARKS									
CALIBRATION	#1	#2	Avg	#1	#2	Avg	#1	#2	Avg
I									
Vdc									
Vac									
DC cal									
AC cal									
Kn									
L, W, T in inches							Cal.		
Vdc	292	301		350	359		193		
	344	338		278	270		193		
	298	305		352	362		193		
	341	335		266	267		193		
Vdc (Avg)	640			627			386		
Vac	31.8			31.6			197.5		
	31.9			31.6			197.5		
Vac (Avg)	63.7			63.2			395.0		
$P_{a/2\pi}$	1.005			2.4	.995		.977		
P.F.E.	2.4	x		1.8	x		-2.3		
MCF									
I	8			8					

VERITY & SMITH
ATTORNEYS AT LAW
SUITE 902 TRANSAMERICA BUILDING
177 NORTH CHURCH AVENUE
TUCSON, ARIZONA 85701

VICTOR H. VERITY
LEO N. SMITH
JAMES E. MUELLER
JOHN C. LACY
NORBERT W. LUDWIG

January 7, 1969

AREA CODE 602
TELEPHONE 622-7446

HEINRICH
GEOEX
GEOPHYSICAL ENGINEERS
TUCSON, ARIZONA



JAN 9 1969

SH

Mr. Grover Heinrichs
Heinrichs Geoexploration Company
P. O. Box 5671
Tucson, Arizona 85703

BOX 5671 TUCSON, ARIZ. 85703

Phone: (AREA 602) 623-0578

Dear Grover:

Confirming our conversation on January 2nd, I enclose Exhibit A to the North American - Myora Lease and Option Agreement. The Exhibit lists 39 unpatented mining claims, but some of them are the names of claims that were located and abandoned and then relocated so I can't tell you exactly how many of the 39 claims are in force. I think you will have to try and figure that out from the maps that you have and the field work.

The commitment of North American is to perform assessment work for the assessment year which began September 1, 1968 and will end September 1, 1969. This is a firm commitment on the part of North American and enough work should be done at the rate of \$100.00 per claim to take care of all of the claims which are in existence.

Very truly yours,


Victor H. Verity

VHV:lf
Enclosure

cc: Mr. Quincy A. Shaw

EXHIBIT A

Exhibit A to Lease and Option Agreement between Myora Mining Corporation and North American Mines, Inc., concerning the following described unpatented lode mining claims situated in the Dixie Mining District, Maricopa County, Arizona. The names of the claims and the book and page of recording in the Recorder's Office of Maricopa County are as follows:

<u>Name of Claim</u>	<u>Docket /Book</u>	<u>Page</u>
Silver Horn #1	42	152
Silver Horn #2	42	153
Silver Horn #3	42	154
Silver Horn #4	42	155
Silver Horn #5	42	156
Silver Horn #6	42	157
Bertha Extension	42	511
Bertha Extension #2	42	512
Aztec #1	3848	15
Aztec #2	3588	324
Aztec #3	3588	325
Aztec #4	3848	17
Aztec #5	3848	16
Surprize #1	3848	18
Supprise #2	3848	19
Surprize #3	3848	20
Surprize #4	3848	21
Surprize #5	3848	22
Surprize #6	3848	23
Surprize #7	3848	24
Red Mountain	4728	56
Myora #1	4728	40
Myora #2	4728	41
Myora #3	4728	42
Myora #4	4728	43
Myora #5	4728	44
Myora #6	4728	45
Myora #7	4728	46
Myora #8	4728	47
Myora #9	4728	48
Myora #10	4728	49
Myora #11	4728	50

32
7
39 = 3900⁰⁰

<u>Name of Claim</u>	<u>Book</u>	<u>Page</u>
Myora #12	4728	51
Myora #13	4728	52
Myora #14	4728	53
Myora #16	4728	54
Wilma #1	3680	489
Wilma #2	3680	490
Wilma #3	3680	491

7

together with all veins, lodes and mineral deposits and mining claims now owned or hereafter acquired by Optionor within Sections 30 and 31, T. 5 N., R. 6 E., and Sections 25 and 36, T. 5 N., R. 5 E., G&SRM, Maricopa County, Arizona, and together with any relocations, amendments, or patents of the above-listed unpatented lode mining claims.

Rocky Mountain Geochemical Corporation

2050 EAST 14TH STREET
TUCSON, ARIZONA 85719

Phone 622-5702
Area Code: 602

CERTIFICATE OF ANALYSES

Date January 15, 1969

Page 1 of 2

Client Heinrichs Geo-Exploration Company
808 West Grant Road
P.O. Box 5671
Tucson, Arizona
ATTENTION: Don Cooley

HEINRICHS
GEOEX
GEOPHYSICAL ENGINEERS
TUCSON, ARIZONA



Report on: 26 samples

JAN 17 1969

Submitted by: Don Cooley

BOX 5671 TUCSON, ARIZONA 85703

Date Received: January 10, 1969

Phone: (AREA 602) 623-0578

Analysis: Silver

Remarks: Silver determined by Atomic Absorption.

Job No. 69-1-29T

cc: Enclosed
RMGC - Salt Lake
file

AB:nlb

All values are reported in parts per million unless specified otherwise. A minus sign (-) is to be read "less than" and a plus sign (+) "greater than." Values in parenthesis are estimates. This analytical report is the confidential property of the above mentioned client and for the protection of this client and ourselves we reserve the right to forbid publication or reproduction of this report or any part thereof without written permission.

ND = Non Detected

1 ppm = 0.0001%

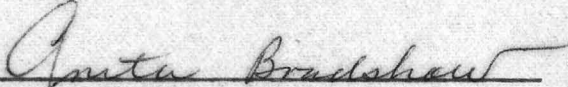
1 Troy oz./ton = 34.28 ppm

% Mo. x 1.6683 = %MoS₂

<u>Sample No.</u>	<u>ppm Silver</u>
Line 1 - 0.ONS	-1
" " 2.5N	-1
" " 2.5S	-1
" " 5.0N	-1
" " 5.0S	-1
" " 7.5N	-1
" " 7.5S	-1
" " 10.0N	-1
" " 10.0S	-1
" " 12.5N	-1
" " 12.5S	-1
" " 15.0N	-1
Line 1 -15.0S	-1
Line 2 - 0.ONS	-1
" " 2.5N	1
" " 2.5S	-1
" " 5.0N	-1
" " 5.0S	-1
" " 7.5N	-1
" " 7.5S	-1
" " 10.0N	-1
" " 10.0S	-1
" " 12.5N	-1
" " 12.5S	-1
" " 15.0N	-1
Line 2 -15.0S	-1

ROCKY MOUNTAIN GEOCHEMICAL CORPORATION
Tucson, Arizona January 15, 1969

By


Anita Bradshaw

Rocky Mountain Geochemical Corporation

2050 EAST 14TH STREET
TUCSON, ARIZONA 85719

Phone 622-5702
Area Code: 602

CERTIFICATE OF ANALYSES

Date January 15, 1969

Page 1 of 2

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1 ppm = 0.0001%

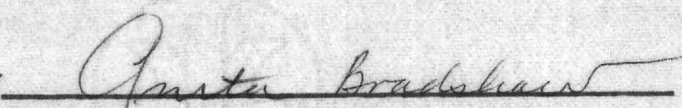
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" " 5.0N	-1
" " 5.0S	-1
" " 7.5N	-1
" " 7.5S	-1
" " 10.0N	-1
" " 10.0S	-1
" " 12.5N	-1
" " 12.5S	-1
" " 15.0N	-1
Line 1 -15.0S	-1
 Line 2 - 0.ONS	 -1
" " 2.5N	1
" " 2.5S	-1
" " 5.0N	-1
" " 5.0S	-1
" " 7.5N	-1
" " 7.5S	-1
" " 10.0N	-1
" " 10.0S	-1
" " 12.5N	-1
" " 12.5S	-1
" " 15.0N	-1
Line 2 -15.0S	-1

ROCKY MOUNTAIN GEOCHEMICAL CORPORATION
Tucson, Arizona January 15, 1969

By


Anita Bradshaw



MEMORANDUM OF
LEASE AND OPTION AGREEMENT

JAN 6 1969

BOX 5671 TUCSON, ARIZONA 85703

Phone: (AREA 602) 623-0578

Under the terms of that certain LEASE AND OPTION AGREEMENT dated December 7, 1968, by and between MYORA MINING CORPORATION, an Arizona corporation, designated as Myora, and NORTH AMERICAN MINES, INC., a Delaware corporation, qualified to do business in Arizona, designated therein as North American, Myora granted a lease with option to purchase to North American of certain mining claims situated in the Dixie Mining District, Maricopa County, Arizona, as more fully described in Exhibit A attached hereto, and Myora assigned to North American that certain Mining Lease and Option recorded in Docket 7291, pages 2 to 8, office of the Recorder of Maricopa County, Arizona, covering certain additional unpatented mining claims in the Dixie Mining District, described as follows:

<u>Claim Name</u>	<u>Book</u>	<u>Docket</u>	<u>Page</u>
Hog Back	40		128
Gertrude	40		134
Boo-Hoo	40		129
Uncle John		953	516-517
Raymond	40		130
Summit	40		127
Clipper	40		133
Seth Parker		969	16
Dora	40		131
Rose	40		132
Nellie		4495	425

North American was granted the exclusive right to enter into and upon all the mining claims collectively referred to as the Property for the purpose of conducting exploration and mining activities, with the right to mine, remove, and sell all minerals, metals, ores and materials of any nature.

The said Lease and Option Agreement between Myora and North American is for a term of twenty (20) years from the

above-mentioned date unless sooner terminated in accordance with the provisions thereof.

A copy of the said Lease and Option Agreement is on file at the office of Myora Mining Corporation, 5625 West Campbell Avenue, Phoenix, Arizona, and the office of Verity & Smith, 902 Transamerica Building, Tucson, Arizona.

Dated this 7th day of December, 1968.

MYORA MINING CORPORATION

ATTEST:

Robert E. Smith
Secretary

By

Robert E. Smith
President

NORTH AMERICAN MINES, INC.

ATTEST:

Margaret Stearns
Secretary

By

Quincy Shaw
President

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

On this the 7th day of December, 1968, before
me, the undersigned Notary Public, personally appeared Robert E. Brutt
Brutt and Richard D. Dunwoody, who acknowledged
themselves to be the President and Secretary of Myora Mining Cor-
poration and that they as such officers executed the foregoing instru-
ment for the purposes therein contained.

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

Louis A. Esnick
Notary Public

My Commission Expires:

My Commission Expires Feb. 9, 1972

COMMONWEALTH
~~STATE~~ OF MASSACHUSETTS)
) ss.
COUNTY OF SUFFOLK)

On this 2nd day of January, 196⁹~~8~~, before
me, the undersigned Notary Public, appeared Quincy A. Shaw
Shaw and Marylou Steeves, known to me to
be the persons whose names are subscribed to the foregoing instruments,
and known to me to be the President and Secretary of North American
Mines, Inc., a Delaware corporation, and acknowledged to me that they
executed said instrument for the purpose and consideration therein con-
tained, and as the act of said corporation.

Given under my hand and seal of office this 2nd day of _____

January, 196⁹.

Michael H. Bee
Notary Public

My Commission Expires:

My Commission Expires June 7, 1970

Rocky Mountain Geochemical Corporation

2050 EAST 14TH STREET
TUCSON, ARIZONA 85719

Phone 622-5702
Area Code: 602

CERTIFICATE OF ANALYSES

Date January 13, 1969

Page 1 of 2

Client Heinrichs Geo-Exploration
808 West Grant Road
P.O. Box 5671
Tucson, Arizona
ATTENTION: Don Cooley

Report on: 26 samples

Submitted by: Don Cooley

Date Received: January 10, 1969

Analysis: Copper

Remarks: Copper determined by Atomic Absorption.

Job No. 69-1-29T

cc: Enclosed

RMGC - Salt Lake
file

AB:nlb

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% Mo. x 1.6683 = %MoS₂

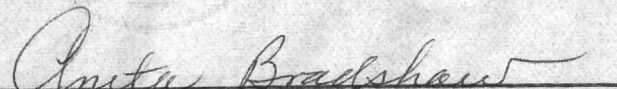
<u>Sample No.</u>	<u>ppm Copper</u>	<u>Sample No.</u>	<u>ppm Copper</u>
Line 1-0.0 NS	80	Line 2-0.0 NS	35
" " 2.5 N	70	" " 2.5 N	80
" " 2.5 S	70	" " 2.5 S	70
" " 5.0 N	30	" " 5.0 N	90
" " 5.0 S	60	" " 5.0 S	240
" " 7.5 N	25	" " 7.5 N	70
" " 7.5 S	40	" " 7.5 S	40
" "10.0 N	60	" "10.0 N	30
" "10.0 S	30	" "10.0 S	20
" "12.5 N	35	" "12.5 N	15
" "12.5 S	30	" "12.5 S	25
" "15.0 N	50	" "15.0 N	30
Line 1-15.0 S	50	Line 2-15.0 S	20

ROCKY MOUNTAIN GEOCHEMICAL CORPORATION

Tucson, Arizona

January 14, 1969

By


 Anita Bradshaw

Rocky Mountain Geochemical Corporation

2050 EAST 14TH STREET
TUCSON, ARIZONA 85719

Phone 622-5702
Area Code: 602

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Page 1 of 2

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" " 5.0 N	30	" " 5.0 N	90
" " 5.0 S	60	" " 5.0 S	240
" " 7.5 N	25	" " 7.5 N	70
" " 7.5 S	40	" " 7.5 S	40
" "10.0 N	60	" "10.0 N	30
" "10.0 S	30	" "10.0 S	20
" "12.5 N	35	" "12.5 N	15
" "12.5 S	30	" "12.5 S	25
" "15.0 N	50	" "15.0 N	30
Line 1-15.0 S	50	Line 2-15.0 S	20

ROCKY MOUNTAIN GEOCHEMICAL CORPORATION

Tucson, Arizona

January 14, 1969

By Anita Bradshaw
Anita Bradshaw

306-68
Ag PPM

Line 1

Line 2

00 1
2.5N -15

S -1

5N -1

S -1

7.5N -1

S -1

10N -1

S -1

12.5N -1

S -1

15N -1

-1

00 1
2.5N 1

S -1

5N -1

S -1

7.5N -1

S -1

10N -1

S -1

12N -1

S -1

15N -1

S -1

NORTH AMERICAN MINES, INC.
60 STATE STREET
BOSTON, MASS. 02109

TELEPHONE
AREA CODE 617
523-8110

HEINRICH
GEOEX
GEOPHYSICAL ENGINEERS
TUCSON, ARIZONA



Air Mail

NOV 6 1968

BOX 5671 TUCSON, ARIZONA 85703

Phone: (AREA 602) 623-0578

November 4, 1968

Mr. Paul A. Head
Geophysicist
Heinrichs Geoexploration Company
806 West Grant Road
Tucson, Arizona 85703

Dear Mr. Head:

Thank you for your kind letter of October 29, 1968.

Before I could answer it, I received a call from
Mr. Grover Heinrichs and I outlined to him our plans.

This is just to acknowledge your letter and good
thoughts about Grat Lynch. His death is a very great loss to
me after 38 years of close association.

Sincerely,

Q. A. Shaw

QAS:G

cc: Mr. Victor Verity
Verity & Smith
Suite 902 - Transamerica Building
177 North Church Avenue
Tucson, Arizona 85701