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

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James Doyle Sell Mining Collection

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JHC Office

MIS-1.1

AMERICAN SMELTING AND REFINING COMPANY
Sahuarita Arizona

J. E. K.

June 13, 1966

J. H. C.

JUN 14 1966

MEMORANDUM TO MR. P. A. LEWIS, Superintendent

JUN 14 1966

MR. FEK, WES
READ AND RETURN
PREPARE ANSWERS HANDLE
FILE INITIALS W.E.S.
JUL 14 1966

Re: Monthly Report on Diamond Drilling

SUMMARY - DISCUSSION

The total footage drilled during May amounted to 3,647.4 feet. Four holes, 2SX-18 Ext., 2SX-32, 2SX-33 and 2SX-35 were completed. Drilling commenced on holes 2SX-34 and 2SX-36.

Drilling ceased on the North San Xavier ore body with the completion of hole 2SX-18 Ext.

Interspaced drilling is now in progress on the southern segment of Tract 2 of the San Xavier Indian Reservation adjacent to the Mission property. This interspaced drilling will define the narrow near surface northwest trading tactite zone at the eastern boundary of this mineralized area.

2SX-18 Ext., located on the east central portion of the North San Xavier ore body, was extended to delineate, if possible, the mineralized zone at depth. Low grade mineralization was encountered to a depth of 2000.0 feet below which unaltered and unmineralized granite was penetrated.

2SX-32, situated on the southern boundary of Tract 2, continued in a long run of moderate ore grade material which began at bedrock. No mineralization of any importance was encountered below the initial moderate grade run.

2SX-33, also positioned on the south boundary of Tract 2, did not penetrate any ore runs of significance.

2SX-34, again located on the south boundary of Tract 2, encountered a moderate run of low ore grade material at modest depth and two short moderate to high grade runs at considerable depth.

2SX-35, situated on the south boundary of Tract 2, penetrated moderate grade ore material just below bedrock and essentially continued in this grade material to 752.7 feet below which only traces of copper mineralization were encountered.

2SX-36, also positioned on the south boundary of Tract 2, had encountered only one very short low ore grade run just below bedrock by the end of the month.

GEOLOGIC LOG OF HOLES

2SX-18 Ext. continued in weak to sparsely mineralized arkosic argillite to 1950.0 feet where the rock graded into an altered sparsely mineralized pebble conglomerate. At 1994.6 feet, a strong low angle 35-foot fault zone was penetrated with fragments of paleozoic marble and tactite in the upper 15 feet and brecciated granite in the lower 20 feet. The unaltered and unmineralized Sierrita granite was encountered below this fault zone. The above low angle fault represents the basement thrust fault which terminates the Mission ore body at depth and as such proves that the North San Xavier ore body is part of the same thrust plate as the Mission ore body.

The hole bottomed in the Sierrita granite at 2065.5 feet.

The other dispatches, N&E, found the outcrop - original drill pad - X 124 to 638 - did not penetrate fault.

Note: E-W Sec. 374,750 North removed from report and sent to NY on 1/8/69. Also Plan map of May 1966

2SX-32 continued in moderately mineralized, possibly paleozoic, argillite with pods of epidote tactite to 410.5 feet below which a moderate grading to weakly mineralized brown siliceous tactite was encountered. At 501.0 feet, weakly mineralized pale green hornfels, with pods of tactite to 610.0 feet, was encountered. Below a 17.5 foot pre-mineral fault zone at 690.5 feet, a strongly serpentine altered marble was penetrated. The hole bottomed in barren tactite at 777.0 feet. This rock type was encountered below the serpentine altered marble at 756.7 feet.

2SX-33 continued in weakly mineralized arkosic grading to conglomeritic argillite to 524.0 feet where an altered contact with weakly mineralized paleozoics was encountered. The hole bottomed in the argillite member of the paleozoics at 777.8 feet.

2SX-34 encountered, at bedrock, a weakly mineralized argillite and with the exception of a 117.7 foot zone at 419.0 feet of moderately mineralized, epidote and occasionally garnet altered argillite, continued in this rock type to 680.0 feet. At 680.0 feet, pale green hornfels with local pods of tactite was penetrated. The hole remained in this weak to moderately mineralized hornfels at 810.9 feet where it stood at the end of the month.

2SX-35 penetrated weak to sparsely mineralized argillite at bedrock. Below 251.7 feet, the above argillite became moderately mineralized and contained epidote, chlorite and some garnet alteration. At 313.3 feet, all remnants of argillite disappeared in a 105.0 foot zone of massive chlorite and serpentine with occasional massive magnetite, copper mineralization graded to strong in the last 30 feet of this zone. At 420.0 feet, moderately mineralized argillite with epidote, chlorite and garnet alteration was again encountered. The hole continued in this rock type to 513.2 feet where the garnet, chlorite and epidote alteration essentially disappeared and the mineralization became weak. Paleozoic hornfels was penetrated at 646.5 feet. Only the upper 50.0 feet of this hornfels was strongly mineralized. Below there, no significant mineralization was encountered. At 952.0 feet, conglomeritic argillite was penetrated and the hole bottomed in that rock type at 971.8 feet.

2SX-36 encountered a weakly mineralized altered pebble conglomerate at bedrock and continued in that rock type to 448.5 feet where weakly mineralized brown medium grained tactite was penetrated. The tactite graded to weakly mineralized hornfels and continued in that rock type to 590.0 feet where the hole stood at the end of the month.

Sections illustrating drilling progress for May, a list of abbreviations utilized on cross sections, a tabulation of ore intercepts for the month, and plan maps with hole locations and proposed drill holes are attached.

D K Hall

D. K. HALL
Geologist

DKH:vnt
attachs

DIAMOND DRILLING - MISSION UNIT

May, 1966

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu Depth	Intersections Interval	Average Total	% Cu N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
2SX-18Ext.	3101.9	374,765	759,963	1698.3-1709.8	11.5	.76	Nil	370.2	2065.5	2065.5
2SX-32	3188.4	366,002	764,277	387.5- 471.9	84.4	.62	Nil			
				616.6- 627.8	11.2	.40	Nil			
				665.2- 676.6	11.4	.45	Nil			
				707.6- 717.7	10.1	.40	Nil	389.5	777.0	777.0
2SX-33	3185.0	365,996	764,565	524.0- 534.2	10.2	.66	Nil			
				725.4- 735.5	10.1	3.28	Nil	515.0	777.8	777.8
2SX-34	3192.0	366,014	764,009	419.0- 536.7	117.7	.49	Nil			
				718.0- 744.3	26.3	.53	Nil			
				786.4- 797.2	10.8	1.41	Nil	810.9	810.9	
2SX-35	3193.6	365,880	764,280	244.3- 497.4	253.1	.61	Nil			
				526.5- 537.4	10.9	.66	Nil			
				553.4- 563.5	10.1	.45	Nil			
				605.2- 719.4	114.2	.79	Nil			
				740.4- 752.7	12.3	.41	Nil	971.8	971.8	971.8
2SX-36	3183.6	366,128	764,423	235.7- 247.2	11.5	.49	Nil	590.0	590.0	
					715.8			3,647.4		

EXPLANATION OF ABBREVIATIONS ON SECTIONS

Cal. Cgl.	- Caliche Conglomerate (Overburden)
Arg.	- Argillite
Cgl.	- Conglomerate
Tc.	- Tactite
Hf.	- Hornfels
Mb.	- Marble
C. Arg.	- Calcareous Argillite
N.S.	- Non Sulfide
T.D.	- Total Depth
And.	- Andesite
Br.	- Breccia
Mp.	- Metaporphyry
Gyp.	- Gypsum
Gr.	- Granite

DIAMOND DRILLING - MISSION UNIT

June, 1966

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+0.40% Cu Depth	Intersections Interval	Average Total	% Cu N. S.	Feet Drilled During Month	Depth End of Month	Final Depth
2SX-34	3,192.0	366,014	764,009	807.8-828.2	20.4	1.10	Nil			
				912.0-924.9	12.9	1.06	Nil	147.8	958.7	958.7
2SX-36	3,183.6	366,128	764,423	No	Ore	Runs		220.0	810.0	810.0
2SX-37	3,192.5	365,862	764,141	228.1-238.5	10.4	.43	.05			
				261.8-273.0	11.2	.42	Nil			
				772.4-782.7	10.3	.71	Nil			
				816.8-849.1	32.3	1.21	Nil	887.1	887.1	887.1
2SX-38	3,182.1	365,869	764,566	295.3-419.5	124.2	.66	Nil			
				538.5-548.8	10.3	.41	Nil	800.4	800.4	800.4
2SX-39	3,196.5	365,618	764,280	240.6-266.2	25.6	.77	Nil	541.1	541.1	541.1
2SX-40	3,192.8	365,496	764,281	319.0-392.8	73.8	.57	Nil			
				420.9-431.4	10.5	.44	Nil	583.0	583.0	583.0
2SX-41	3,181.7	365,870	764,714	No	Ore	Runs		456.2	456.2	456.2
2SX-42	3,190.8	366,249	763,996	352.2-559.6	207.4	.96	Nil	628.3	628.3	
2SX-43	3,188.2	366,122	764,131	214.0-439.1	225.6	.56	Nil	439.1	439.1	
2SX-44	3,217.2	365,502	762,984	No	Ore	Runs		232.9	232.9	
					774.9			4,935.9		

J. H. C.

JUL 13 1965

DIAMOND DRILLING - MISSION UNIT

June, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-134	3064.7	361,347	766,772	No Ore Runs				76.9	1,286.8	1,286.8
M-135	3187.1	364,910	764,949	No Ore Runs				454.9	454.9	
						June Total Mission		531.8		
2SX-1	3183.1	365,034	764,856	436.1-671.1	235.0	.84	Nil			
				787.0-800.1	13.1	1.08	Nil	465.8	883.0	883.0
2SX-2	3188.9	365,334	764,708	445.2-699.7	254.5	.71	Nil			
				821.2-875.5	54.3	.83	Nil	1,060.2	1,060.2	1,060.2
2SX-3	3193.7	365,195	764,702	381.4-533.1	151.7	.73	Nil			
				560.0-640.3	80.3	.57	Nil			
				693.7-770.8	77.1	.65	Nil	868.6	868.6	868.6
2SX-4	3183.3	365,649	764,708	No Ore Runs				567.1	567.1	
						June Total San Xavier		2,961.7		
						GRAND TOTAL JUNE		3,493.5		

567.1

2,926.4

DIAMOND DRILLING - MISSION UNIT

May, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	± 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-132	3081.6	361,389	767,007	724.7-856.6	131.9	1.20	Nil			
				869.3-882.7	13.4	.68	Nil			
				909.3-925.2	15.9	.98	Nil			
				1032.0-1048.5	16.5	.53	Nil			
				1136.9-1226.0	89.1	1.13	Nil	935.6	1,305.6	1,305.6
M-133	3189.4	364,320	765,568	279.6-414.5	134.9	.47 Cu .26 Zn	Nil	473.1	705.1	705.6
M-134	3064.7	361,347	766,772	436.5-700.8	264.3	.60	Nil			
				758.0-1058.8	300.8	.97	Nil	1,209.9	1,209.9	-
SX-1	3183.1	365,034	764,857	No Ore Runs				417.2	417.2	-
						Total Footage May, 1965		3,035.8		

DIAMOND DRILLING - MISSION UNIT

April, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	± 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-128	3194.7	364,329	764,969	No Ore Intercepts				163.6	795.6	795.6
M-129	3200.5	364,004	765,223	453.8-470.4	16.6	1.96	Nil	520.7	925.7	925.7
M-130	3203.5	364,017	764,971	495.7-505.7	10.0	0.81	Nil			
				538.6-582.3	43.7	3.73 Cu	Nil			
						5.97 Zn	Nil	804.6	804.6	804.6
M-131	3183.6	364,781	765,075	286.5-433.3	146.8	1.60 Cu	Nil			
						1.00 Zn	Nil			
				519.0-532.6	13.6	0.64 Cu	Nil	801.3	801.3	801.3
M-132	3081.6	361,389	767,007	No Ore Intercepts				370.0	370.0	
M-133*	3190.0	364,325	765,575	No Ore Intercepts				232.5	232.5	

Total Footage, April, 1965 2,892.7 Feet

3035.8
2926.4
7954.9

* Approx. Elevation & Coordinates

J.H.C.
MAY 10 1965

DIAMOND DRILLING - MISSION UNIT

March, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-126	3121.8	361,137	766,602	613.2-627.8 1098.8-1158.2	14.6 59.4	0.69 0.79	Nil Nil	1,282.7	1,465.8	1,465.8
M-127	3190.4	364,626	764,944	280.9-373.2 438.5-472.5	92.3 34.0	0.99 2.22	Nil Nil	743.0	743.0	743.0
M-128	3194.7	364,329	764,969	208.1-296.9 415.0-425.3 491.7-502.7	88.8 10.3 11.0	0.48 0.40 0.44	(Delayed) Nil Nil	632.0	632.0	
M-129	3200.5	364,004	765,223	223.8-250.2	26.4	0.52	(Delayed)	405.0	405.0	

Total Footage, March, 1965 3,062.7

Feb 2739.3

Jan 2389.0

Qtr 8191.0

8 holes for Qtr.

☐ monthly rpt.

— qtr. "

DIAMOND DRILLING - MISSION UNIT

February, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total		% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-123	3181.6	364,629	765,445	285.0-314.3	29.3	0.76		Nil			
				482.6-492.8	10.2	0.77		Nil	665.4	665.4	665.4
M-124	3165.8	361,124	766,798	464.9-697.9	233.0	0.76		Nil			
				722.9-744.0	21.1	0.63		Nil			
				896.0-945.5	49.5	2.03		Nil			
				982.8-1015.6	32.9	0.98		Nil			
				1069.4-1079.4	~~10.0~~	~~0.42~~		Nil			
				1154.4-1347.2	192.8	1.18		Nil	1,165.4	1,405.0	1,405.0
									239 / 1404		
M-125	3184.6	364,625	765,209	348.6-358.9	~~10.3~~	~~0.44~~		Nil			
				437.1-471.7	34.6	1.27	Zn	Nil			
				570.8-630.9	60.1	2.14	2.12	Nil	725.4	725.4	725.4
M-126 *	3115.0	361,200	766,600	No Ore Assays Reported					183.1	183.1	

Total Footage, February, 1965 2,739.3

* Approx. Coords & Elev.

J. H. C.

FEB -8 1965

DIAMOND DRILLING - MISSION UNIT

~~Dec.~~ January

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-120	3189.2	364,327	765,446	No Ore Intercepts This Month				35.3	744.4	744.4
M-121	3189.2	361,223	767,238	1098.5-1113.0	14.5	0.50	Nil	967.5	1,494.6	1,494.6
				1167.7-1212.7	45.0	0.61	Nil			
				1237.9-1283.2	45.3	0.66	Nil			
M-122	3191.4	364,181	765,577	281.2-403.4	122.2	1.15	Nil	1,146.6	1,146.6	1,146.6
				491.7-569.8	78.1	3.24 Zn.	Nil			
				519.6-562.6	43.0	4.01	Nil			
M-124 *	3162.0	361,180	766,800	No Ore Assays Reported				239.6	239.6	
					Total Footage, January, 1965			2,389.0		

* Approx. Coords & Elev.

~~month~~

J. H. C.
JAN 8 1965

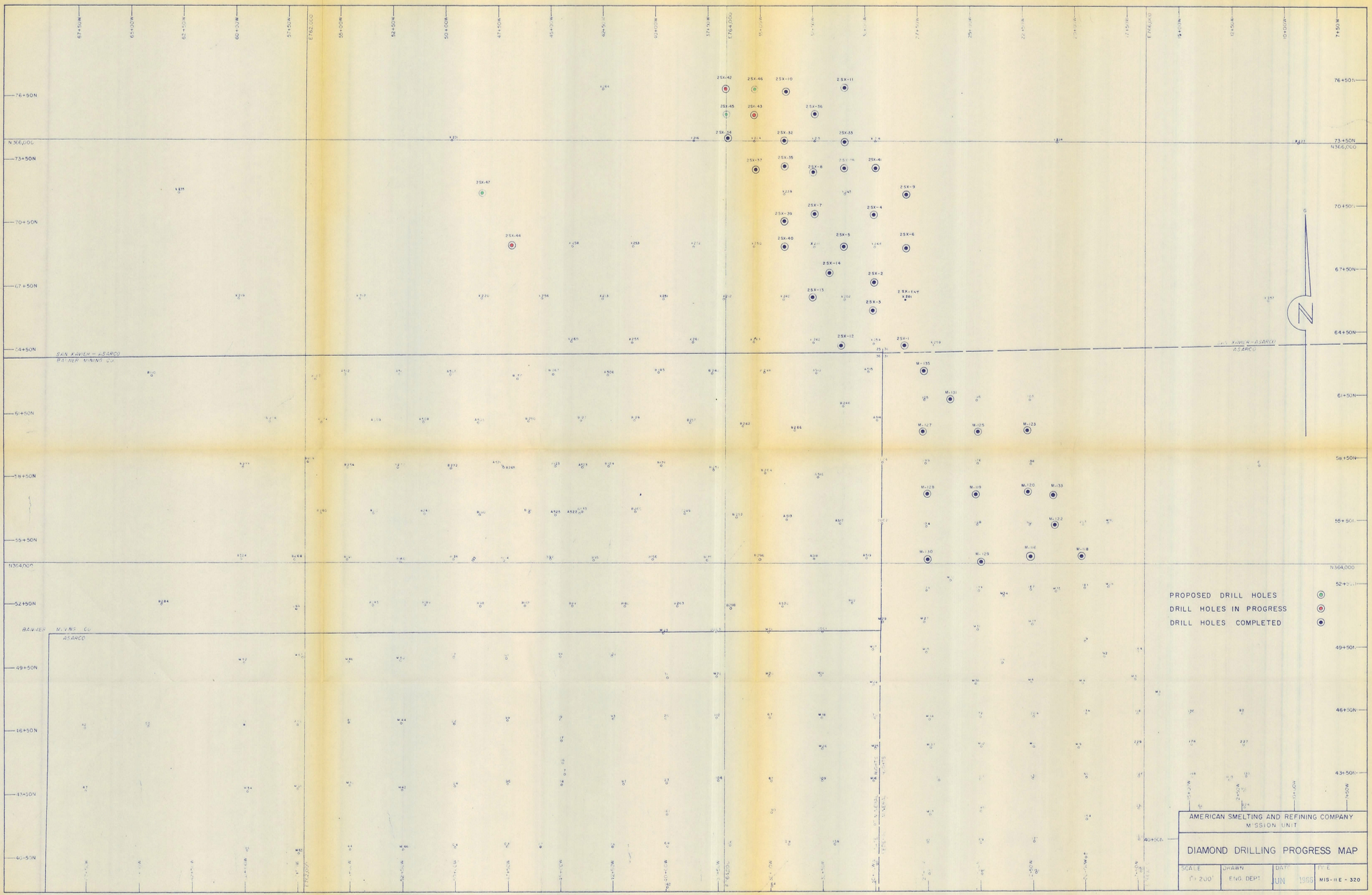
DIAMOND DRILLING - MISSION UNIT

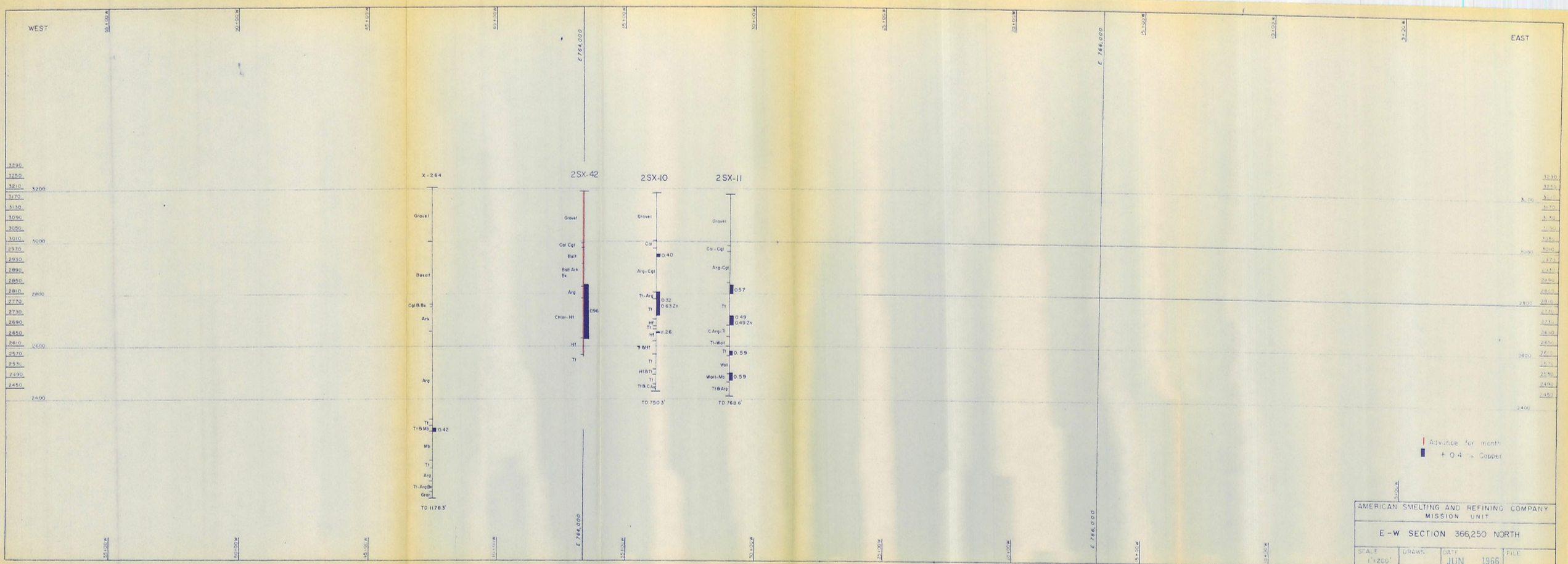
~~JANUARY 1, 1965~~
December

Hole Nos	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average % Cu. Total	Average % Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-117	3205.7	360,961	766,998	645.1-664.2	19.1	.50	0.0			
				678.4-745.9	67.5	.88	0.0			
				866.6-878.2	11.6	.44	0.0			
				955.2-1317.5	362.3	.85	0.0	800.5	1368.0	1368.0
M-119	3194.3	364,325	765,198	269.5-292.8	23.3	.32 Cu	0.0			
						1.07 Zn	0.0			
				390.7-436.0	45.3	.75	0.0			
				642.2-654.3	12.1	.63 Cu	0.0			
						2.40 Zn	0.0			
				667.1-691.0	23.9	1.14	0.0	707.3	822.3	822.3
M-120	3189.2	364,326	765,445	290.0-327.2	37.2	.78 Cu	0.0			
						.45 Zn	0.0			
				355.5-422.3	66.8	.79 Cu	0.0			
						.14 Zn	0.0			
				464.3-502.7	38.4	.59	0.0			
				536.8-588.9	52.1	1.12	0.0	709.1	709.1	
M-121	3189.2	361,223	767,238	No Ore Runs				527.1	527.1	
						Total for Dec. 1964		2,744.0		
								527		
								2217		
								S.A.A.		
								2217		

800
707
1507
2500
2468
6475

7 holes comp


PROPOSED DRILL HOLES
DRILL HOLES IN PROGRESS
DRILL HOLES COMPLETED
SAN XAVIER - ASARCO
BANNER MINING CO.
ASARCO
N
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
DIAMOND DRILLING PROGRESS MAP
SCALE 1" = 200'
DRAWN ENG. DEPT.
DATE JUN 1966
FILE MIS-IIE-320


WEST
EAST
E 764,000
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3290
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2450
3200
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2800
2600
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X-264
Gravel
Basalt
Cgl & Bx
Ark
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Grgn
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2SX-42
Gravel
Cal Cgl
Balt
Balt Ark Bx
Arg
Chlor-Hf
0.96
Hf
Tt
2SX-10
Gravel
Cgl
0.40
Arg-Cgl
Tt-Arg
0.32
0.63 Zn
Tt
Hf
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Hf
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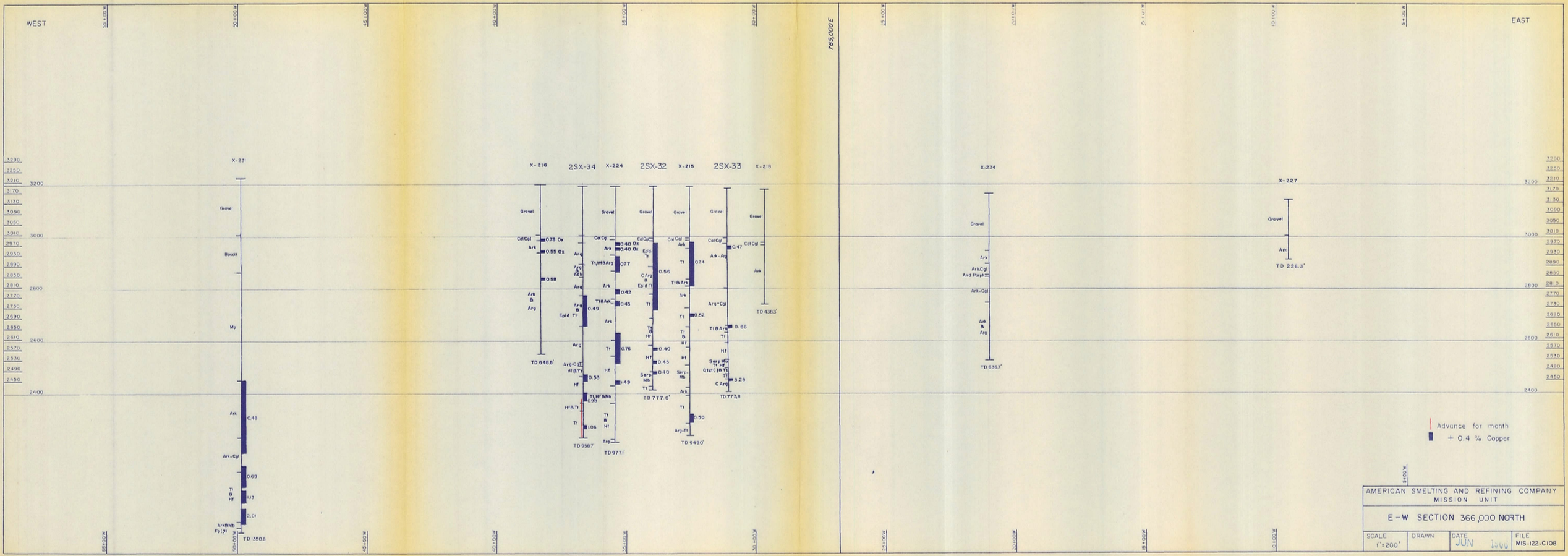
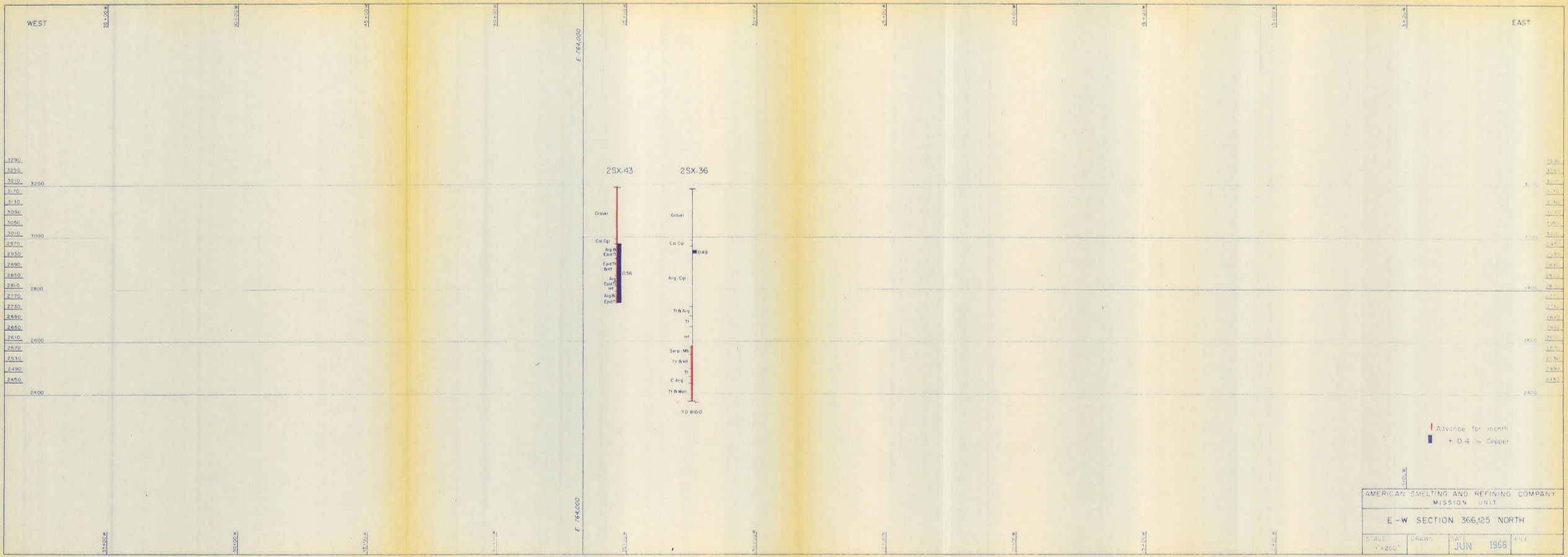
Tt & Hf
Tt
Hf (& Tt)
Tt
Tt & C Arg
TD 750.3'
2SX-11
Gravel
Cal-Cgl
Arg-Cgl
0.57
Tt
0.49
0.49 Zn
C Arg-Tt
Tt-Wall
Tt
0.59
Wall
Wall-Mb
0.59
Tt & Arg
TD 768.6'
Advance for month
+ 0.4 % Copper
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 366,250 NORTH
SCALE
1"=200'
DRAWN
DATE
JUN 1966
FILE


WEST
EAST
765,000 E
X-231
X-216
2SX-34
X-224
2SX-32
X-215
2SX-33
X-218
X-234
X-227
Gravel
Basalt
Mp
Ark
Ark-Cgl
Ark & Arg
Arg
Epid Tt
Tt & Hf
Hf
Ark & Mb
Fp(?)
Cal Cgl
Ark-Arg
Arg-Cgl
Ark Cgl And Porph
Serp Mb
C Arg
TD 13506
TD 6488'
TD 958.7'
TD 977.1'
TD 777.0'
TD 949.0'
TD 777.8
TD 438.3'
TD 636.7'
TD 226.3'
Advance for month
+ 0.4 % Copper
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 366,000 NORTH
SCALE 1"=200'
DRAWN
DATE JUN 1990
FILE MIS-122-C108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E 164,000
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3170
3130
3090
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3010
3000
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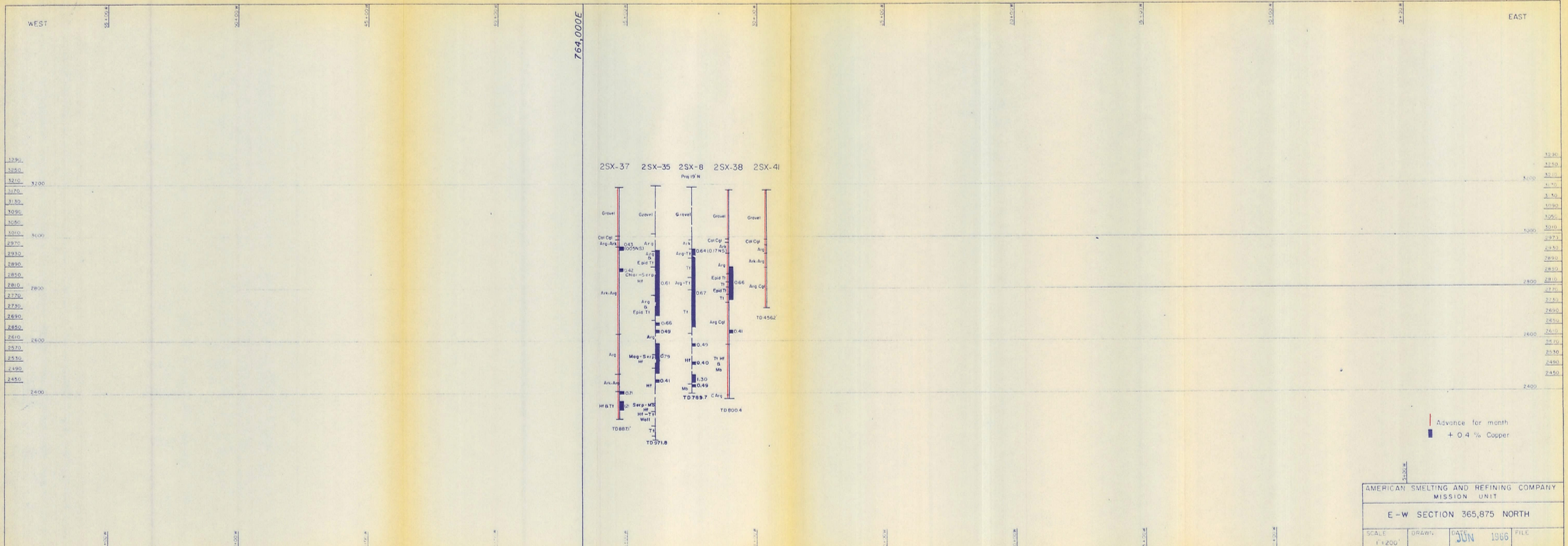
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
2SX-43
2SX-36
Gravel
Col. Cgl.
Arg.&
Epid Tf
Epid Tf
&HT
0.56
Arg
Epid Tf
HT
Arg.&
Epid Tf
Gravel
Col. Cgl.
0.49
Arg. Cgl.
Tf & Arg
Tf
HT
Serp. Mb
Tf & HT
Tf
C Arg
Tf & Wolf
T.D. 8100'
Advance for month
+ 0.4 % Copper
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 366,125 NORTH
SCALE 1"=200'
DRAWN
DATE JUN 1966
FILE



AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT

E-W SECTION 365,875 NORTH

SCALE	DRAWN	DATE	FILE
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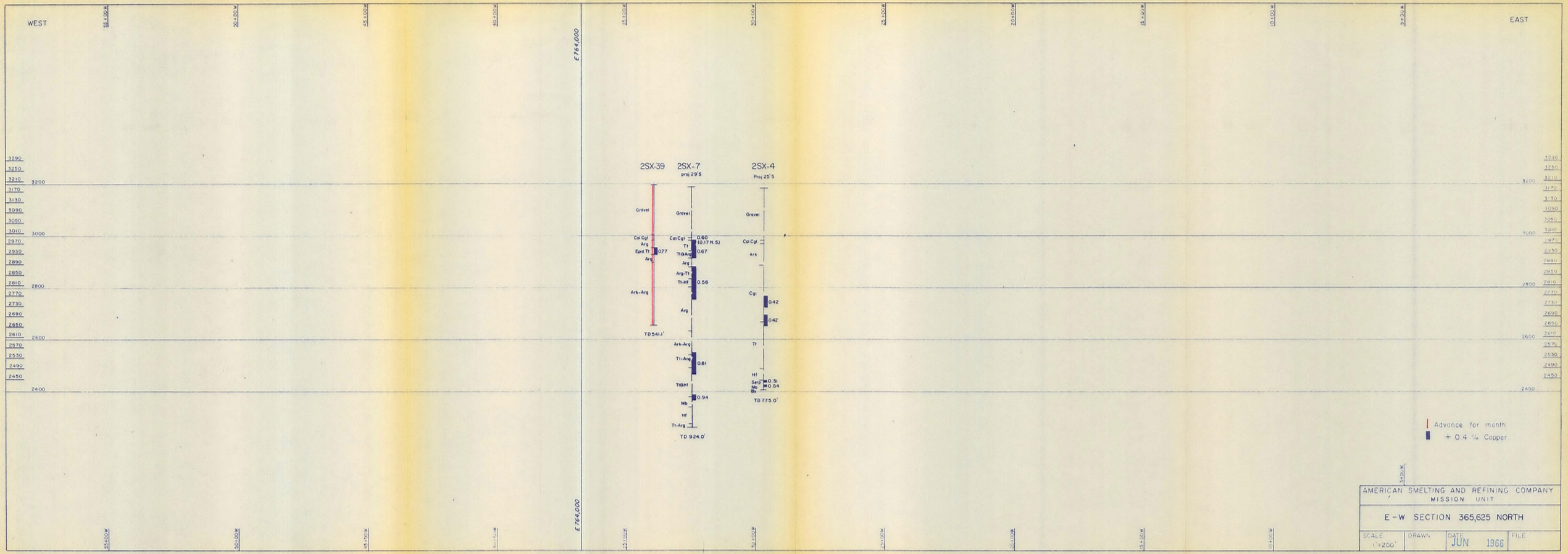
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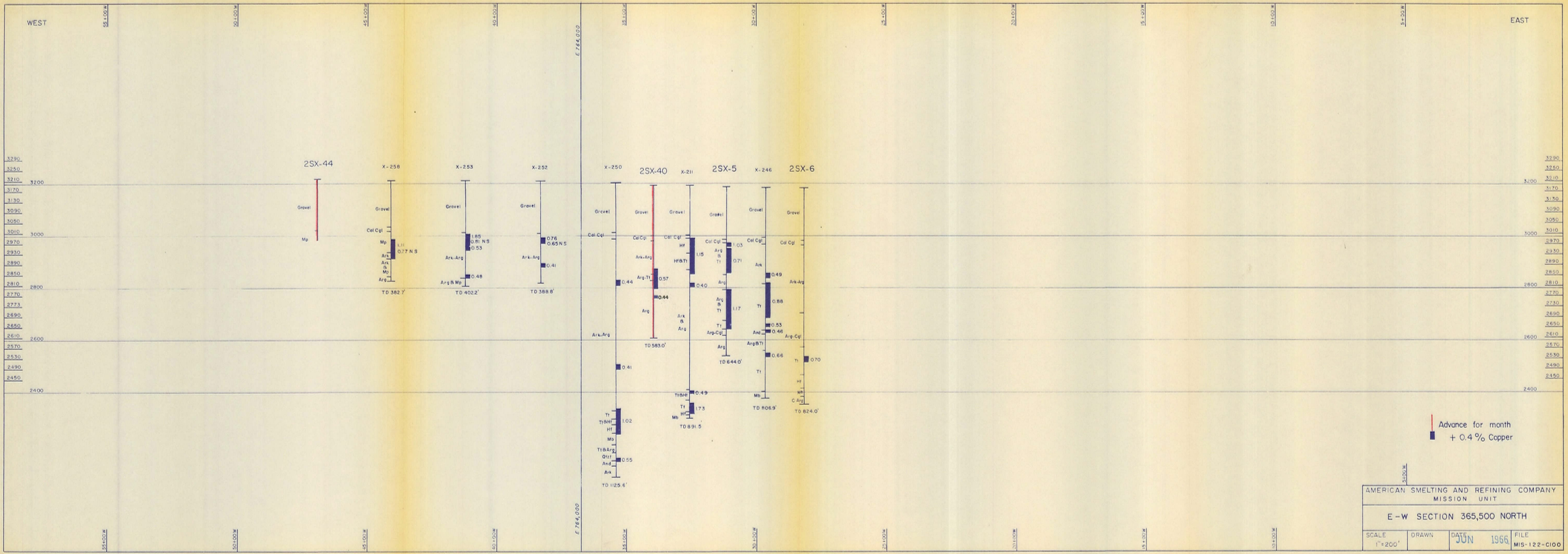
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
2SX-39
Gravel
Col Cgl
Arg
Epd Tt
0.77
Arg
Ark-Arg
TD 541.1'
2SX-7
proj 29'S
Gravel
Col Cgl
0.60
(0.17 N.S)
Tt
Tt&Arg
0.67
Arg
Arg-Tt
Tt-Hf
0.56
Arg
Ark-Arg
Tt-Arg
0.81
Tt&Hf
0.94
Mb
Hf
Tt-Arg
TD 924.0'
2SX-4
Proj 25'S
Gravel
Col Cgl
Ark
Cgl
0.42
0.42
Tt
Hf
Serp
0.51
Mb
0.54
Bx
TD 775.0'
Advance for month
+ 0.4 % Copper
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 365,625 NORTH
SCALE 1"=200'
DRAWN
DATE JUN 1966
FILE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EAST
55+00W
50+00W
45+00W
40+00W
35+00W
30+00W
25+00W
20+00W
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5+00W
E 764,000
3290
3250
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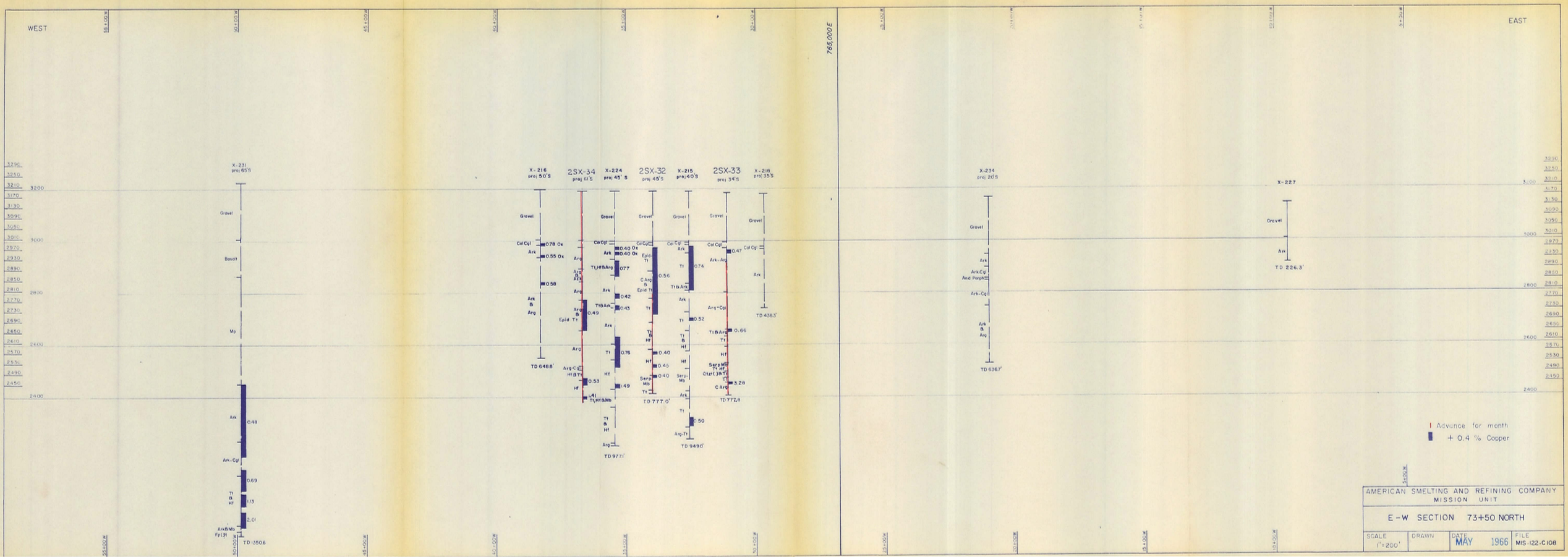
2930
2890
2850
2810
2800
2770
2773
2690
2650
2610
2600
2570
2530
2490
2450
2400
2SX-44
Gravel
Mp
X-258
Gravel
Cal Cgl
Mp
1.11
0.77 N S
Ark
Ark & Mp
Arg
TD 382.7'
X-253
Gravel
1.85
0.81 N S
0.53
Ark-Arg
0.48
Arg & Mp
TD 402.2'
X-252
Gravel
0.76
0.65 N S
Ark-Arg
0.41
TD 388.8'
X-250
Gravel
Cal-Cgl
0.44
Ark-Arg
0.41
Tt
Tt&Hf
1.02
Hf
Mb
Tt&Arg
Qtzt
And
0.55
Ark
TD 1125.6'
2SX-40
Gravel
Cal-Cgl
Ark-Arg
Arg-Tt
0.57
0.44
Arg
TD 583.0'
X-211
Gravel
Cal-Cgl
Hf
1.15
Hf&Tt
0.40
Ark & Arg
Tt&Hf
0.49
Tt
1.73
Hf
Mb
TD 891.5'
2SX-5
Gravel
Cal Cgl
Arg & Tt
1.03
0.71
Arg
Arg & Tt
1.17
Tt
Arg-Cgl
Arg
TD 644.0'
X-246
Gravel
Cal Cgl
Ark
0.49
0.88
Tt
0.53
And
0.46
Arg&Tt
0.66
Tt
Mb
TD 806.9'
2SX-6
Gravel
Cal Cgl
Ark-Arg
Arg-Cgl
Tt
0.70
Hf
Mb
C Arg
TD 824.0'
Advance for month
+ 0.4 % Copper
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 365,500 NORTH
SCALE 1"=200'
DRAWN
DATE JUN 1966
FILE MIS-122-C100


WEST
EAST
785,000E
X-231
proj 65'S
Gravel
Basalt
Mp
Ark
0.48
Ark-Cgl
0.69
Tt & Hf
1.13
2.01
Ark&Mb
Fe(?)
TD 1506
X-216
proj 50'S
Gravel
Col Cgl
0.78 Ox
Ark
0.55 Ox
0.58
Ark & Arg
TD 648'
2SX-34
proj 61'S
Arg
Arg & Ark
Arg & Epid Tt
0.49
Arg-Cgl
Hf&Tt
0.53
Hf
1.41
Tt,Hf&Mb
X-224
proj 45' S
Gravel
Col Cgl
Ark
0.40 Ox
0.40 Ox
Tt,Hf&Arg
0.77
Ark
0.42
Tt&Ark
0.43
Ark
Tt
0.76
Hf
1.49
Tt & Hf
Arg
TD 977'
2SX-32
proj 45'S
Gravel
Col Cgl
Epid Tt
0.56
C Arg & Epid Tt
Tt
Tt & Hf
0.40
Hf
0.45
Serp Mb
0.40
Tt
TD 777.0'
X-215
proj 40'S
Gravel
Col Cgl
Ark
Tt
0.74
Tt&Ark
Ark
Tt
0.52
Tt & Hf
Hf
Serpi Mb
Ark
Tt
0.50
Arg-Tt
TD 949.0'
2SX-33
proj 34'S
Gravel
Col Cgl
0.47
Ark-Arg
Arg-Cgl
Tt&Arg
0.66
Tt
Hf
Serp Mb
Tt, Hf, Qtzt()&Tt
3.28
C Arg
TD 777.8
X-216
proj 35'S
Gravel
Col Cgl
Ark
TD 438.3'
X-234
proj 20'S
Gravel
Ark
Ark Cgl And Porph
Ark-Cgl
Ark & Arg
TD 636.7'
X-227
Gravel
Ark
TD 226.3'
3200
3000
2800
2600
2400
Advance for month
+ 0.4 % Copper
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 73+50 NORTH
SCALE 1"=200'
DRAWN
DATE MAY 1966
FILE MIS-122-C108

DIAMOND DRILLING - MISSION UNIT

MAY, 1966

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
2SX-18Ext.	3101.9	374,765	759,963	1698.3-1709.8	11.5	.76	Nil	370.2	2065.5	2065.5
2SX-32	3188.4	366,002	764,277	387.5-471.9	84.4	.62	Nil			
				616.6-627.8	11.2	.40	Nil			
				665.2-676.6	11.4	.45	Nil			
				707.6-717.7	10.1	.40	Nil	389.5	777.0	777.0
2SX-33	3185.0	365,996	764,565	524.0-534.2	10.2	.66	Nil			
				725.4-735.5	10.1	3.28	Nil	515.0	777.8	777.8
2SX-34	3192.0	366,014	764,009	419.0-536.7	117.7	.49	Nil	810.9	810.9	
2SX-35	3193.6	365,880	764,280	244.3-497.4	253.1	.61	Nil			
				526.5-537.4	10.9	.66	Nil			
				553.4-563.5	10.1	.45	Nil			
				605.2-719.4	114.2	.79	Nil			
				740.4-752.7	12.3	.41	Nil	971.8	971.8	971.8
2SX-36	3183.6	366,128	764,423	235.7-247.2	11.5	.49	Nil	590.0	590.0	
					678.7			3,647.4		

AMERICAN SMELTING AND REFINING COMPANY
Sahuarita Arizona

May 11, 1966

MEMORANDUM TO MR. F. A. LEWIS, Superintendent

Re: Monthly Report on Diamond Drilling

SUMMARY - DISCUSSION

The total footage drilled during April amounted to 3,993.8 feet. Thirteen holes, 1SX-29, 1SX-5 Ext., 1SX-6 Ext., 1SX-15 Ext., 1SX-16 Ext., 1SX-(Ext. X-113), 1SX-(Ext. X-120), 2SX-31, 2SX-(Ext. X-210S), 2SX-(Ext. X-214S), 2SX-(Ext. X-238), and 2SX-(Ext. X-247) were completed. Drilling commenced on holes 2SX-32 and 2SX-33 and the extension of hole 2SX-18.

Delineation of the North San Xavier potential open pit ore body has been completed in all directions and at depth. Two negative scout holes were drilled and three more scout holes were proposed to determine the proper location of dumps and surface plant facilities. The locations of the final three scout holes are outside the boundaries of the leased land and should be drilled if the land is acquired.

Drilling resumed on the southern segment of Tract 2 adjacent to the Mission property late in the month.

1SX-29, located on the southwestern perimeter of the ore zone, bottomed in weakly mineralized quartz monzonite.

1SX-5 Ext., situated on the west central portion of the ore zone, is one of a group of holes that was deepened to establish a maximum pit depth. This extension encountered one moderate low ore grade run.

1SX-6 Ext., located on the west central portion of the potential ore zone and deepened to help establish a maximum pit depth, penetrated one fairly short moderate ore grade run.

1SX-15 Ext., positioned on the central portion of the ore zone and also deepened to help establish a maximum pit depth, encountered a short low ore grade run at or possibly just below maximum pit depth.

1SX-16 Ext., situated on the central portion of the ore zone, encountered a short moderate ore grade run. This hole was also extended to help establish a maximum pit depth.

1SX-(Ext. X-113), positioned on the west central perimeter of the ore zone and deepened to help establish a maximum pit depth, immediately penetrated a modest length of low grade ore.

1SX-(Ext. X-120), located on the central portion of the ore zone, encountered a fairly short moderate grade ore run at maximum pit depth. This hole was deepened to help establish a maximum pit depth.

2SX-(Ext. X-238), situated on the east central segment of the ore zone, penetrated a modest run of low ore grade material just below the potential open pit ore zone.

2SX-(Ext. X-247), located at the east central boundary of the ore zone, encountered a short run of low grade ore at moderate depth.

2SX-18 Ext., positioned in the east central portion of the potential ore zone, continues to encounter modest runs of low to moderate grade material at considerable depth.

2SX-31, located on the eastern edge of the ore zone, penetrated weakly mineralized sediments, but no ore grade material. This hole completed the delineation of all boundaries on the potential open pit ore zone.

2SX-32, situated on the eastern zone of the potential open pit ore found at the southern boundary of Tract 2, encountered moderate ore grade material just below bedrock and continued in this material at the end of the month.

2SX-33, also positioned on the eastern ore zone at the southern boundary of Tract 2, penetrated one very short low ore grade run just below bedrock.

2SX-(Ext. X-210S), located on the E 1/2 of section 24, was extended to give necessary information in the area of proposed surface plant facilities. No significant mineralization was encountered.

2SX-(Ext. X-214S), situated near the center of section 13, was extended to give necessary information on the area proposed for dumps. No significant mineralization was encountered.

GEOLOGIC LOG OF HOLES

1SX-29 continued in weakly mineralized quartz monzonite to 763.4 feet where the hole bottomed.

1SX-5 Ext. was extended in altered and mineralized arkose and argillite. The hole continued in this rock type to 746.0 feet where it bottomed. A 14-foot altered and mineralized breccia dike containing fragments of argillite and quartz monzonite was encountered at 723.0 feet.

1SX-6 Ext. encountered altered cretaceous clastics and continued in this rock type to 832.0 feet where the hole bottomed with the exception of a 21-foot 60 deg. dipping quartz monzonite dike at 769 feet.

1SX-15 Ext. penetrated altered arkose at 623.9 feet. Possible interbedded pyroclastic material and argillite were encountered over a 20-foot zone beginning at 684.5 feet. A 9-foot altered breccia dike containing quartz monzonite, arkose, and argillite fragments was encountered at 720.5 feet. The hole bottomed at 744.0 feet in argillite.

1SX-16 Ext. encountered altered cretaceous clastics at 622.2 feet and continued, except for a 19-foot zone of intrusive felsite porphyry at 665.0 feet, to 741.0 feet where the hole bottomed.

1SX-(Ext. X-113) penetrated sparse grading to weakly mineralized arkose and argillite and bottomed in this rock type at 717.0 feet.

1SX-(Ext. X-120) was extended in sparsely mineralized arkose and argillite and bottomed in this same rock type at 748.0 feet.

2SX-(Ext. X-238) continued in sparse to moderately mineralized arkose and argillite to 814.0 feet where the hole bottomed.

2SX-(Ext. X-247) continued in sparsely mineralized altered clastics and bottomed in this rock type at 725.0 feet.

2SX-18 Ext. encountered strongly altered and sparse to moderately mineralized arkose and argillite at 944.7 feet and continued in this rock type, except for a 60 deg. dipping 35-foot altered intrusive quartz monzonite dike, to 1695.3 where the hole stood at the end of the month.

2SX-31 penetrated weak to sparsely mineralized arkose with occasional argillite zones at 145.0 feet and bottomed in this rock type at 514.0 feet.

2SX-32 encountered an epidote and chlorite rich tactite containing strong pyrite and moderate chalcopyrite mineralization at bedrock. This rock type continued to 303.8 feet where a fine grained strongly altered and mottled, possible paleozoic, argillite with pods of epidote tactite was encountered. This argillite continued to 387.5 feet where the hole stood at the end of the month.

2SX-33 penetrated weakly mineralized arkosic argillite to 262.8 feet where the hole stood at the end of the month.

2SX-(Ext. X-210S) was extended in a weakly altered medium to course grained arkose with interbedded pyroclastic material dipping at 30 deg. to 50 deg. Sparse pyrite mineralization was noted, but only locally traces of chalcopyrite mineralization were evident. The hole bottomed in the arkose at 550.0 feet.

2SX-(Ext. X-210S) encountered an unaltered red conglomerate containing fragments of basalt with interbedded grits and tuffs at 319.3 feet and continued in this rock type to 381.6 feet where a fine grained slightly porphyritic red basalt was penetrated. The basalt continued to 439.0 feet where a weakly altered arkose with interbedded pyroclastic material and traces of pyrite mineralization were encountered. The hole bottomed in the arkose at 504.4 feet.

Sections illustrating drilling progress for April, a list of abbreviations utilized on cross sections, a tabulation of ore intercepts for the month, and plan maps with hole locations and proposed drill holes are attached.

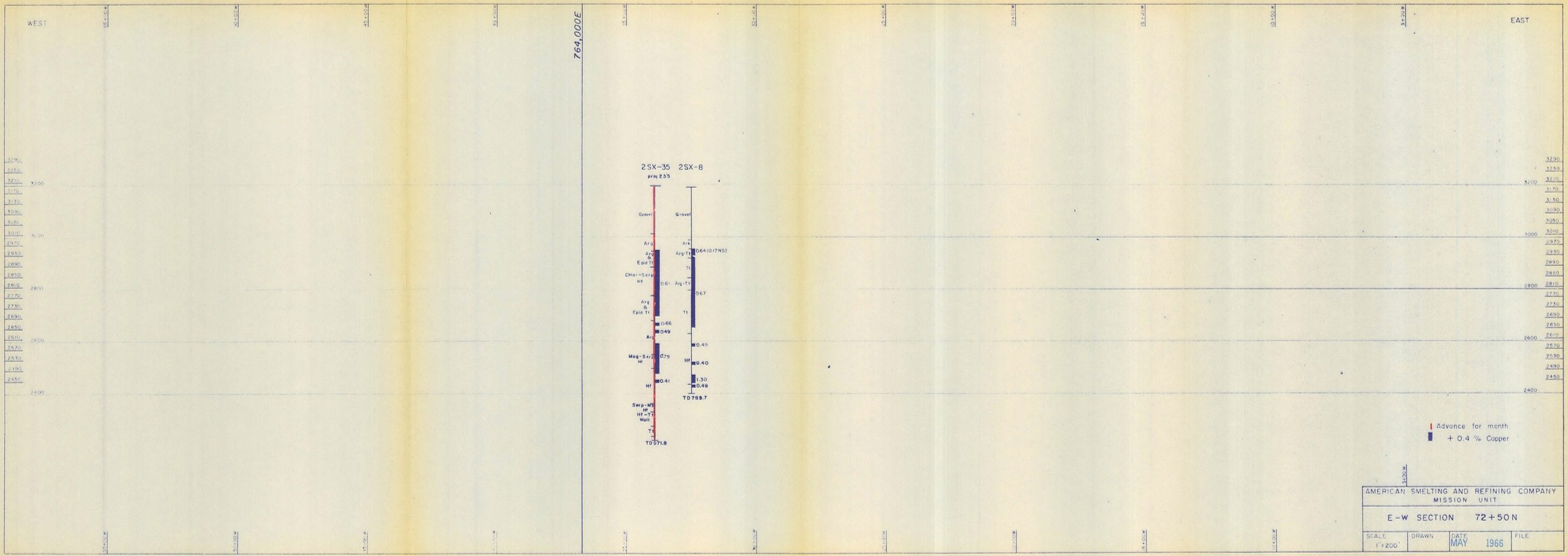
D. K. Hall

D. K. HALL
Geologist

DKH:vut
attachs

EXPLANATION OF ABBREVIATIONS ON SECTIONS

Cal. Cgl.	- Caliche Conglomerate (Overburden)
Arg.	- Argillite
Cgl.	- Conglomerate
Tc.	- Tactite
Hf.	- Hornfels
Mb.	- Marble
C. Arg.	- Calcareous Argillite
N.S.	- Non Sulfide
T.D.	- Total Depth
And.	- Andesite
Bx.	- Breccia
Mp.	- Metaporphyry
Gyp.	- Gypsum
Gr.	- Granite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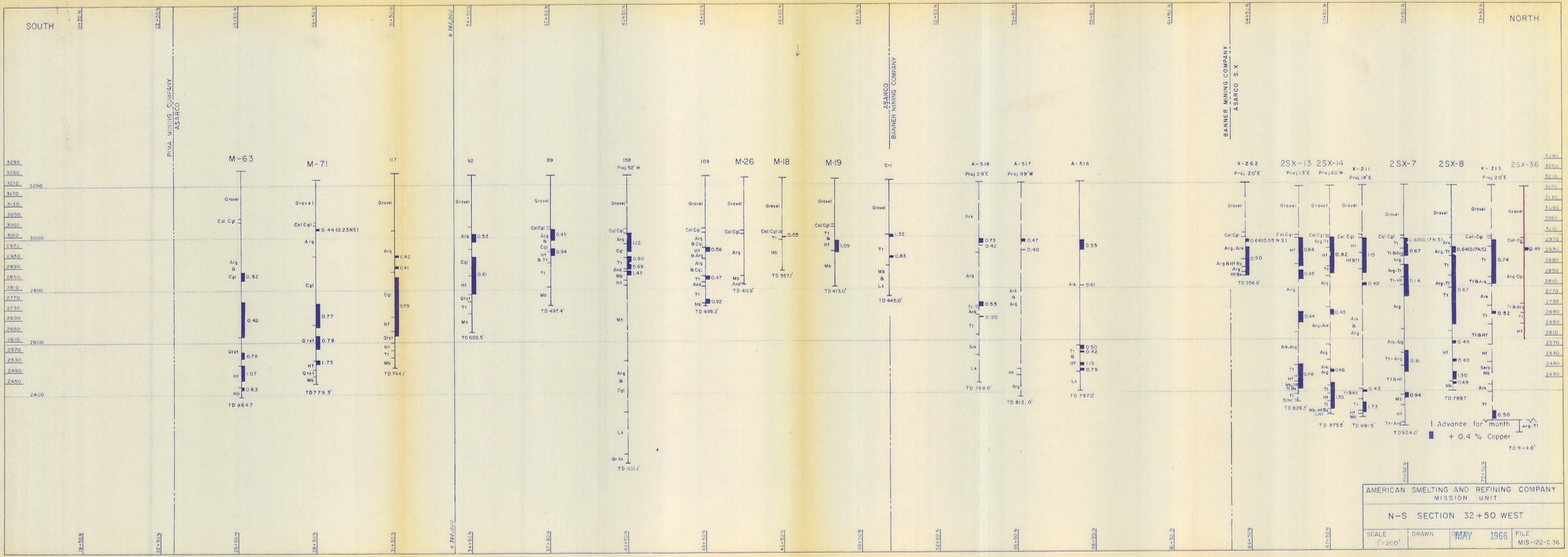
EAST
764,000E
2SX-35
proj 23S
2SX-8
Gravel
Arg
Arg & Epid Tt
Chlor-Serp Hf
0.61
Arg & Epid Tt
0.66
0.49
Arg
Meg-Serp Hf
0.79
0.41
Hf
Serp-MT Hf Hf-Tt Wolt
Tt
TD 971.8
Gravel
Ark
Arg-Tt
0.64 (0.17 NS)
Tt
Arg-Tt
0.67
Tt
0.49
Hf
0.40
1.30
0.49
TD 789.7
3200
3100
3000
2900
2800
2700
2600
2500
2400
Advance for month
+ 0.4 % Copper
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 72+50N
SCALE 1"=200'
DRAWN
DATE MAY 1966
FILE


SOUTH
NORTH
PIMA MINING COMPANY
ASARCO
ASARCO
BANNER MINING COMPANY
BANNER MINING COMPANY
ASARCO S.X.
M-63
M-71
117
92
89
158
Proj 52' W
109
M-26
M-18
M-19
C-1
A-518
Proj 29' E
A-517
Proj 99' W
A-516
X-262
Proj 20' E
2SX-13
Proj 13' E
2SX-14
Proj 60' W
X-211
Proj 18' E
2SX-7
2SX-8
X-215
Proj 20' E
2SX-36
TD 864.7
TD 779.3'
TD 744.1'
TD 602.5'
TD 497.4'
TD 1101.1'
TD 498.2'
TD 411.9'
TD 357.1'
TD 413.0'
TD 445.0'
TD 768.0'
TD 812.0'
TD 797.0'
TD 356.0'
TD 826.2'
TD 875.5'
TD 891.5'
TD 924.0'
TD 789.7
TD 949.0'
Advance for month
+ 0.4 % Copper
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
N-S SECTION 32+50 WEST
SCALE 1"=200'
DRAWN
DATE MAY 1966
FILE MIS-122-C36

AMERICAN SMELTING AND REFINING COMPANY
Sahuarita Arizona

April 11, 1966

J. H. C.

APR 15 1966

MEMORANDUM TO MR. P. A. LEWIS, Superintendent

Re: Monthly Report on Diamond Drilling

SUMMARY - DISCUSSION

The total footage drilled during March amounted to 5,505.3 feet. Nine holes, 1SX-26, 1SX-27, 1SX-28, 2SX-25, 2SX-26, 2SX-27, 2SX-28, 2SX-29 and 2SX-30 were completed while drilling commenced on hole 1SX-29 and the extensions of holes X-238 and X-247.

Drilling on the North San Xavier project is approaching the completion stage with the limits of potential open pit ore having been delineated in all directions. A number of old drill holes remain to be extended in order to satisfactorily establish a maximum pit depth. A small number of holes will be drilled to determine the proper location of dumps and surface plant facilities.

1SX-26, situated on the southern perimeter of the ore zone, bottomed in weakly mineralized quartz monzonite. No ore runs were encountered in this hole.

1SX-27, located on the southern perimeter of the ore body, penetrated a weakly mineralized quartz monzonite stock at shallow depth. Two short runs of low grade ore mineralization were encountered at moderate depth.

1SX-28, positioned on the southern boundary of the ore zone, encountered weakly mineralized quartz monzonite at shallow depths. No ore runs were encountered in this hole.

1SX-29, located on the southwestern perimeter of the ore zone, penetrated modest runs of low grade ore below 380.0 feet. Quartz monzonite was encountered at 697.0 feet. This hole completed the delineation of the potential open pit ore zone in the southern segment of the area.

2SX-25, positioned on the northeastern perimeter of the ore zone, encountered two short runs of low to moderate grade ore at modest depth.

2SX-27, situated on the eastern limit of the potential ore zone, penetrated a number of short widely separated low grade ore runs.

2SX-28, positioned as a scout hole beyond the anticipated eastern limit of the potential ore zone, encountered only weakly mineralized sediments.

2SX-29, located on the eastern perimeter of the ore zone, encountered no significant ore grade material.

2SX-20, situated along the eastern perimeter of the mineralized zone, penetrated two short ore runs at considerable depth.

2SX-(Ext. X-238), positioned in the east-central segment of the ore zone, is being extended to supply necessary information within the potential open pit area. A modest run of ore grade material has been encountered at moderate depth.

Note: Following sections sent to NY on 1/10/69
E-W Section 374,000 North
374,250 N
374,500 N
375,000 N
375,250 N
375,500 N

GEOLOGIC LOG OF HOLES

1SX-26 continued in weakly mineralized quartz monzonite to 435.0 feet where the hole was bottomed.

1SX-27 encountered leached and altered Cretaceous clastics at 130.0 feet and continued in this rock type to 295.3 feet where weak to sparsely mineralized quartz monzonite was penetrated. The hole bottomed in quartz monzonite at 510.0 feet.

1SX-28 penetrated leached and altered Cretaceous clastics at 130.0 feet continuing in this rock type to 330.4 feet where sparsely mineralized quartz monzonite was drilled. The hole bottomed in quartz monzonite at 440.1 feet.

1SX-29 penetrated leached and altered arkose at 5.0 feet and continued in this rock type to 258.6 feet where the Cretaceous sediments assumed an argillite texture. Arkosic argillite persisted to 701.6 feet where weakly mineralized quartz monzonite was encountered. The hole bottomed in quartz monzonite at 763.9 feet.

2SX-25 continued in Cretaceous arkosic-argillite to 724.4 feet where the hole was bottomed.

2SX-26 encountered leached and altered argillite bedrock at 140.3 feet and continued in this rock type to 303.7 feet where the Cretaceous clastics assumed a brecciated shattered texture. Quartz monzonite was drilled at 443.4 feet and the hole bottomed in this monzonite at 506.0 feet.

2SX-27 penetrated arkosic argillite bedrock at 142.0 feet and continued in this rock type to 679.0 feet where the hole was bottomed.

2SX-28 penetrated leached and altered arkosic argillite bedrock at 161.0 feet and continued in this rock type to 406.1 feet where the rock assumed the character of a mixed arkose and pyroclastic breccia. At 505.3 feet arkosic argillite was again encountered and continued to 771.0 feet where the hole bottomed.

2SX-29 encountered leached and altered Cretaceous clastic sediments at 147.5 feet and continued in this rock type to 609.0 feet where the hole bottomed. Two minor intercepts of andesite were encountered in this drill hole.

2SX-30 penetrated leached and altered Cretaceous sediments at 150.2 feet and continued in this rock type to 603.0 feet where the hole was bottomed. Two thin andesite dikes were encountered in this hole.

2SX-(Ext. X-238) encountered sparse to moderately mineralized arkose and argillite from 387.0 feet to 604.0 feet where the hole stood at the end of the month.

2SX-(Ext. X-247) encountered Cretaceous arkosic argillite from 395.9 feet to 442.6 feet. The hole bottomed at 442.6 feet at the end of the month.

Sections illustrating drilling progress for March, a list of abbreviations utilized on cross sections, a tabulation of ore intercepts for the month, and a plan map with hole locations and proposed drill holes are attached.

SAA:vmt

S. A. Anzalone

S. A. ANZALONE, Resident Geologist

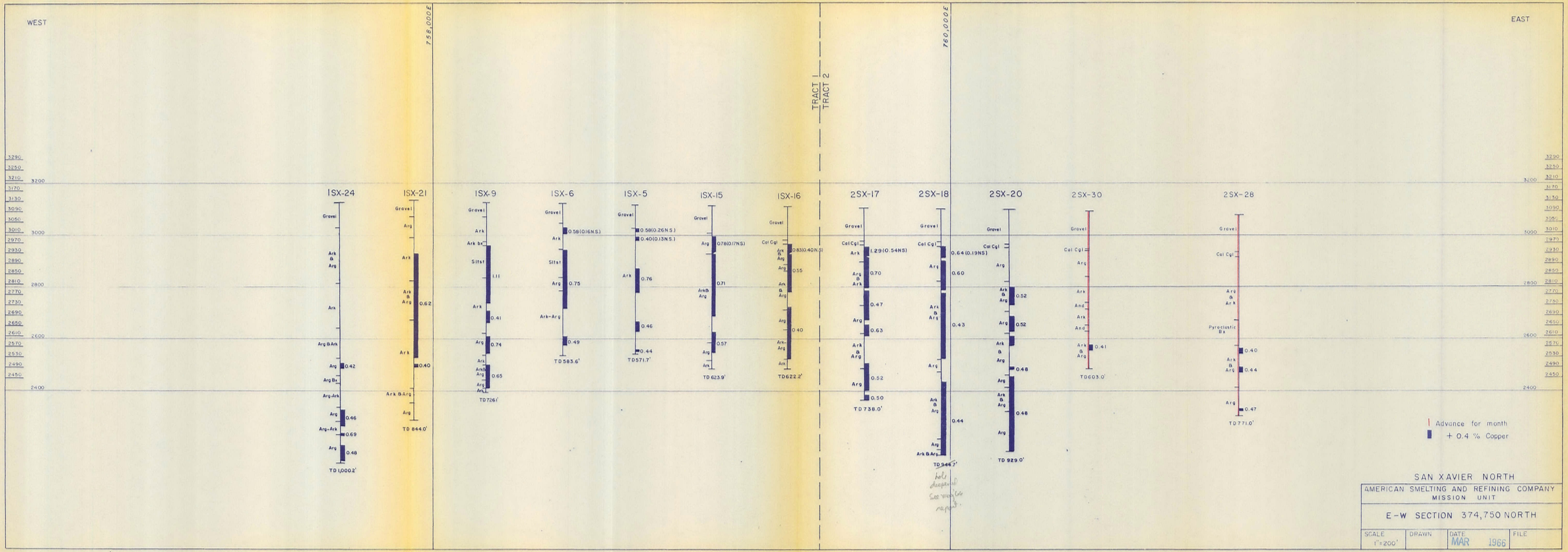
DIAMOND DRILLING - MISSION UNIT

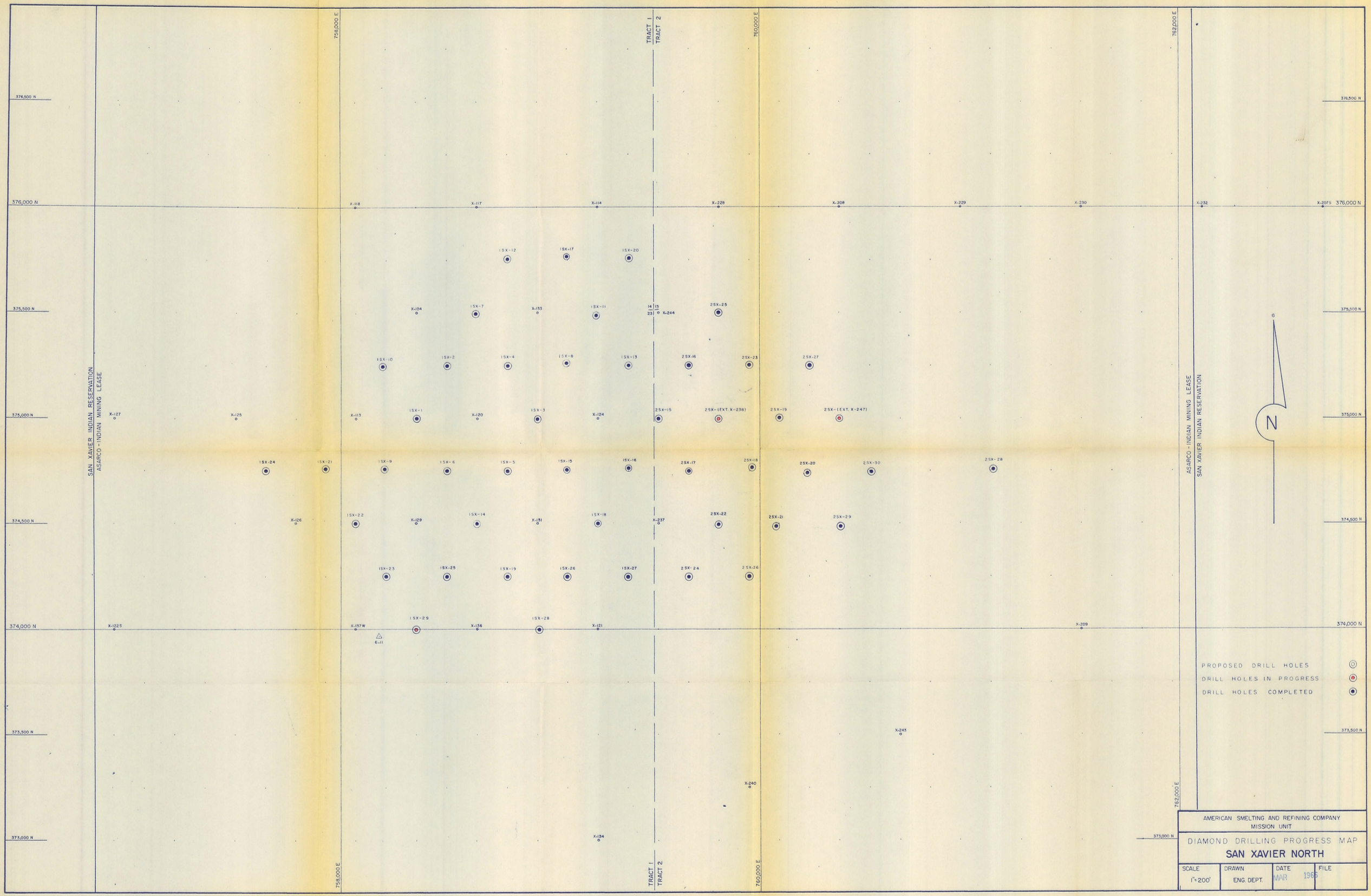
March, 1966

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
TRACT #1										
1SX-26	3,125.6	374,254	759,387	NO ORE RUNS				102.5	435.0	435.0
1SX-27	3,119.8	374,250	759,080	413.4-424.0	10.6	.40	Nil			
				444.0-456.6	12.6	.44	Nil	380.0	510.0	510.0
1SX-28	3,130.9	373,991	758,943	NO ORE RUNS				440.1	440.1	440.1
1SX-29	3,166.7	373,986	758,375	373.6-462.2	88.6	.44	Nil			
				550.3-570.2	19.9	.42	Nil			
				619.2-671.4	52.2	.47	Nil	758.2	758.2	
TRACT #2										
2SX-25	3,085.1	375,508	759,808	343.7-364.3	20.6	.52	Nil			
				401.4-411.4	10.0	.55	Nil	381.8	724.4	724.4
2SX-26	3,112.8	374,273	759,951	NO ORE RUNS				506.0	506.0	506.0
2SX-27	3,088.5	375,248	760,233	215.1-231.0	15.9	.46	Nil			
				260.7-270.7	10.0	.50	Nil			
				341.3-367.5	26.2	.44	Nil			
				543.8-553.8	10.0	.40	Nil	679.0	679.0	679.0
2SX-28	3,079.2	374,759	761,115	513.5-532.9	19.4	.40	Nil			
				588.8-608.2	19.4	.44	Nil			
				746.7-756.7	10.0	.47	Nil	771.0	771.0	771.0
2SX-29	3,098.3	374,485	760,385	516.4-526.6	10.2	.43	Nil			
				536.4-546.4	10.0	.50	Nil	609.0	609.0	609.0
2SX-30	3,092.6	374,742	760,534	512.2-533.4	21.2	.41	Nil	603.0	603.0	603.0
2SX-	3,103.1	375,000	759,804	376.0-387.0	11.0	.45	Nil			
(Ext. X-238)				438.0-564.4	126.4	.47	Nil	228.0	604.0	
2SX (Ext. X-247)	3,092.5	375,000	760,381	NO ORE RUNS				46.7	442.6	

EXPLANATION OF ABBREVIATIONS ON SECTIONS

Cal. Cgl.	- Caliche Conglomarate (Overburden)
Arg.	- Argillite
Cgl.	- Conglomerate
Tt.	- Tactite
Hf.	- Hornfels
Mb.	- Marble
C. Arg.	- Calcareous Argillite
N.S.	- Non Sulfide
T.D.	- Total Depth
And.	- Andesite
Bx.	- Breccia
Mp.	- Metaporphyry
Gyp.	- Gypsum
Gr.	- Granite


WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
3290
3250
3210
3170
3130
3090
3050
3010
2970
2930
2890
2850
2810
2770
2730
2690
2650
2610
2570
2530
2490
2450
3200
3000
2800
2600
2400
ISX-24
Gravel
Ark & Arg
Ark
Arg & Ark
Arg 0.42
Arg Bx
Arg-Ark
Arg 0.46
Arg-Ark 0.69
Arg 0.48
TD 1,000.2'
ISX-21
Gravel
Arg
Ark
Ark & Arg 0.62
Ark
0.40
Ark & Arg
Arg
TD 844.0'
ISX-9
Gravel
Ark
Ark bx
Siltst 1.11
Ark
0.41
Arg 0.74
Ark
Ark & Arg 0.65
Arg
Ark
TD 726'
ISX-6
Gravel
0.58(0.16N.S.)
Ark
Siltst
Arg 0.75
Ark-Arg
0.49
TD 583.6'
ISX-5
Gravel
0.58(0.26N.S.)
0.40(0.13N.S.)
Ark 0.76
0.46
0.44
TD 571.7'
ISX-15
Gravel
Arg 0.78(0.17NS)
Ark & Arg 0.71
0.57
Arg
Ark
TD 623.9'
ISX-16
Gravel
Cal Cgl
Ark & Arg 0.83(0.40N.S.)
Arg 0.55
Ark & Arg
Arg 0.40
Ark-Arg
Ark
TD 622.2'
2SX-17
Gravel
Cal Cgl
Ark 1.29(0.54NS)
Arg & Ark 0.70
0.47
Arg 0.63
Ark & Arg
0.52
Arg
0.50
TD 738.0'
2SX-18
Gravel
Cal Cgl
0.64(0.19NS)
Arg 0.60
Ark & Arg 0.43
Arg
Ark & Arg 0.44
Arg
Ark & Arg
TD 944.7'
hole deepened See map for report
2SX-20
Gravel
Cal Cgl
Arg
Ark & Arg 0.52
Arg 0.52
Ark & Arg
0.48
Arg
Ark & Arg 0.48
Arg
TD 929.0'
2SX-30
Gravel
Cal Cgl
Arg
Ark
And
Ark
And
Ark & Arg 0.41
TD 603.0'
2SX-28
Gravel
Cal Cgl
Arg & Ark
Pyroclastic Bx
0.40
Ark & Arg 0.44
Arg
0.47
TD 771.0'
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 374,750 NORTH
SCALE 1"=200'
DRAWN
DATE MAR 1966
FILE


SAN XAVIER INDIAN RESERVATION
ASARCO - INDIAN MINING LEASE
TRACT 1
TRACT 2
758,000 E
760,000 E
762,000 E
376,500 N
376,000 N
375,500 N
375,000 N
374,500 N
374,000 N
373,500 N
373,000 N
X-118
X-117
X-114
X-228
X-208
X-229
X-250
X-252
X-207S
X-127
X-125
X-113
X-104
X-133
X-244
X-120
X-124
X-126
X-129
X-131
X-237
X-243
X-225
X-137W
X-136
X-121
X-240
X-134
X-209
6-11
15X-12
15X-17
15X-20
15X-7
15X-11
15X-10
15X-2
15X-4
15X-8
15X-13
15X-1
15X-3
15X-24
15X-21
15X-9
15X-6
15X-5
15X-15
15X-16
15X-22
15X-14
15X-18
15X-23
15X-25
15X-19
15X-26
15X-27
15X-29
15X-28
25X-25
25X-16
25X-23
25X-27
25X-15
25X-(EXT. X-238)
25X-19
25X-(EXT. X-247)
25X-17
25X-18
25X-20
25X-30
25X-28
25X-22
25X-21
25X-29
25X-24
25X-26
N
PROPOSED DRILL HOLES
DRILL HOLES IN PROGRESS
DRILL HOLES COMPLETED
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
DIAMOND DRILLING PROGRESS MAP
SAN XAVIER NORTH
SCALE
1"=200'
DRAWN
ENG. DEPT.
DATE
MAR 1966
FILE

DIAMOND DRILLING - MISSION UNIT

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Intervals	Average Total	% Cu. N. S.	Feet Drilled During Month	Depth End of Month	Final Depth
1-SX-29	3,166.7	373,986	758,375	NO ORE RUNS		-		5.2	763.4	763.4
1SX-5 Ext.	3,115.1	374,746	758,781	631.9-676.7	44.8	.44	Nil			
Ext.				734.0-746.0	12.0	.48	Nil	174.3	746.0	746.0
1SX-6 Ext.	3,121.1	374,748	758,502	583.6-613.6	30.0	.59	Nil	248.4	832.0	832.0
1SX-15Ext.	3,113.3	374,758	759,007	684.5-708.5	24.0	.46	Nil	120.1	744.0	744.0
1SX-16Ext.	3,111.0	374,764	759,370	632.3-657.6	25.3	.53	Nil	118.8	741.0	741.0
1SX (Ext.x113)	3,126.8	375,000	758,072	525.2-570.4	45.2	.41	Nil	191.8	717.0	717.0
1SX (Ext.x120)	3,117.7	375,000	758,649	666.4-696.4	30.0	.51	Nil	161.0	748.0	748.0
TRACT #2										
2SX-31	3,083.8	374,998	760,666	NO ORE RUNS				514.0	514.0	514.0
2SX-32	3,186.4	366,002	764,277	215.1-387.5	172.4	.53	Nil	387.5	387.5	-
2SX-33	3,185.0	365,996	764,565	230.0-241.8	11.8	.47	Nil	262.8	262.8	-
2SX-18Ext.	3,101.9	374,765	759,963	1007.9-1076.1	68.2	.50	Nil			
				1098.0-1175.2	77.2	.45	Nil			
				1212.6-1302.8	90.2	.49	Nil			
				1373.5-1514.5	141.0	.41	Nil	750.6	1,695.3	-
2SX (Ext.x210S)	3,060.8	374,000	763,845	NO ORE RUNS				381.8	550.0	550.0
2SX (Ext.x214S)	3,005.7	378,000	761,536	NO ORE RUNS				185.1	504.4	504.4

DIAMOND DRILLING - MISSION UNIT

April, 1966

TRACT #2

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
2SX- (Ext. x 238)	3,103.1	375,000	759,804	714.6-814.0	99.4	.44	Nil	210.0	814.0	814.0
2Sx- (Ext. x 247)	3,092.5	375,000	760,381	486.5-517.5	31.0	.43	Nil	282.4	725.0	725.0
					902.5			3,993.8		

DIAMOND DRILLING - MISSION UNIT

April, 1966

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
TRACT #1										
1-SX-29	3,166.7	373,986	758,375	NO ORE RUNS		-		5.2	763.4	763.4
1SX-5 Ext.	3,115.1	374,746	758,781	631.9-676.7	44.8	.44	Nil			
				734.0-746.0	12.0	.48	Nil	174.3	746.0	746.0
1SX-6 Ext.	3,121.1	374,748	758,502	583.6-613.6	30.0	.59	Nil	248.4	832.0	832.0
1SX-15 Ext.	3,113.3	374,758	759,077	684.5-708.5	24.0	.46	Nil	120.1	744.0	744.0
1SX-16 Ext.	3,111.0	374,764	759,370	632.3-657.6	25.3	.53	Nil	118.8	741.0	741.0
1SX (Ext. x 113)	3,126.8	375,000	758,072	560.0-570.4	10.4	.83	Nil	191.8	717.0	717.0
1Sx (Ext. x 120)	3,117.7	375,000	758,649	666.4-696.4	30.0	.51	Nil	161.0	748.0	748.0
TRACT #2										
2SX-31	3,083.8	374,998	760,666	NO ORE RUNS				514.0	514.0	514.0
2SX-32*	3,190.0	366,000	764,280	ASSAYS NOT AVAILABLE				387.5	387.5	-
2SX-33*	3,185.0	366,000	764,570	ASSAYS NOT AVAILABLE				262.8	262.8	-
2Sx-18 Ext.	3,101.9	374,765	759,963	1007.9-1076.1	68.2	.50	Nil			
				1098.0-1175.2	77.2	.45	Nil			
				1212.6-1302.8	90.2	.49	Nil			
				1373.5-1514.5	141.0	.41	Nil	750.6	1,695.3	-
2Sx- (Ext. x 210S)	3,060.8	374,000	763,845	NO ORE RUNS				381.8	550.0	550.0
2SX (Ext. x 214S)	3,005.7	378,000	761,536	NO ORE RUNS				185.1	504.4	504.4

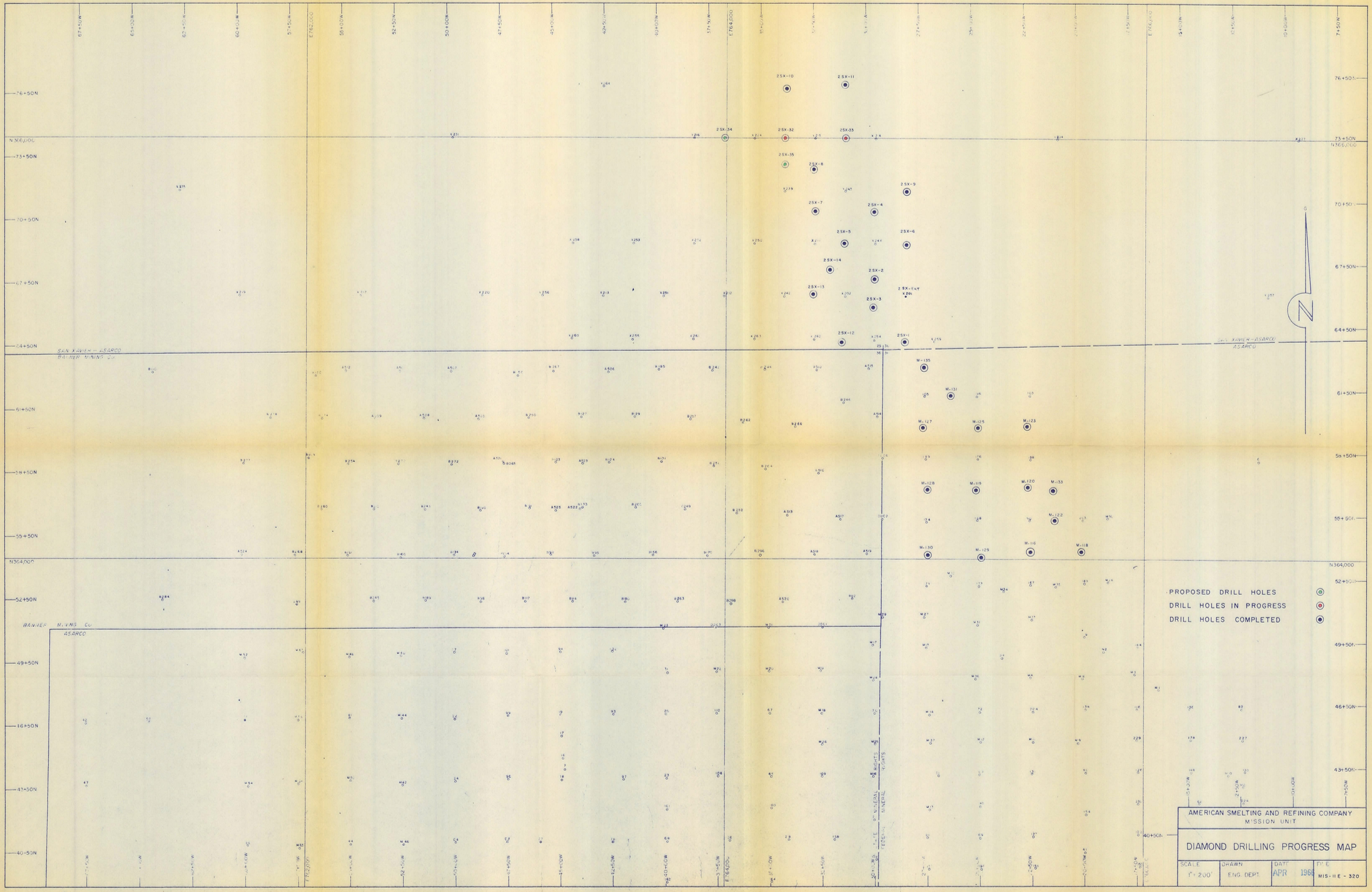
DIAMOND DRILLING - MISSION UNIT

April, 1966

TRACT #2

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
2SX- (Ext. x 238)	3,103.1	375,000	759,804	714.6-814.0	99.4	.44	Nil	210.0	814.0	814.0
2Sx- (Ext. x 247)	3,092.5	375,000	760,381	486.5-517.5	31.0	.43	Nil	282.4	725.0	725.0
					683.5			3,993.8		

* Approx. Coords. & Elev.


PROPOSED DRILL HOLES
DRILL HOLES IN PROGRESS
DRILL HOLES COMPLETED
SAN XAVIER - ASARCO
BANNER MINING CO.
ASARCO
BANNER MINING CO.
ASARCO
N 366,000
N 364,000
E 762,000
E 764,000
E 766,000
E 762,000
E 764,000
76+50N
73+50N
70+50N
67+50N
64+50N
61+50N
58+50N
55+50N
52+50N
49+50N
46+50N
43+50N
40+50N
67+50W
65+00W
62+50W
60+00W
57+50W
55+00W
52+50W
50+00W
47+50W
45+00W
42+50W
40+00W
37+50W
35+00W
32+50W
30+00W
27+50W
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45+00W
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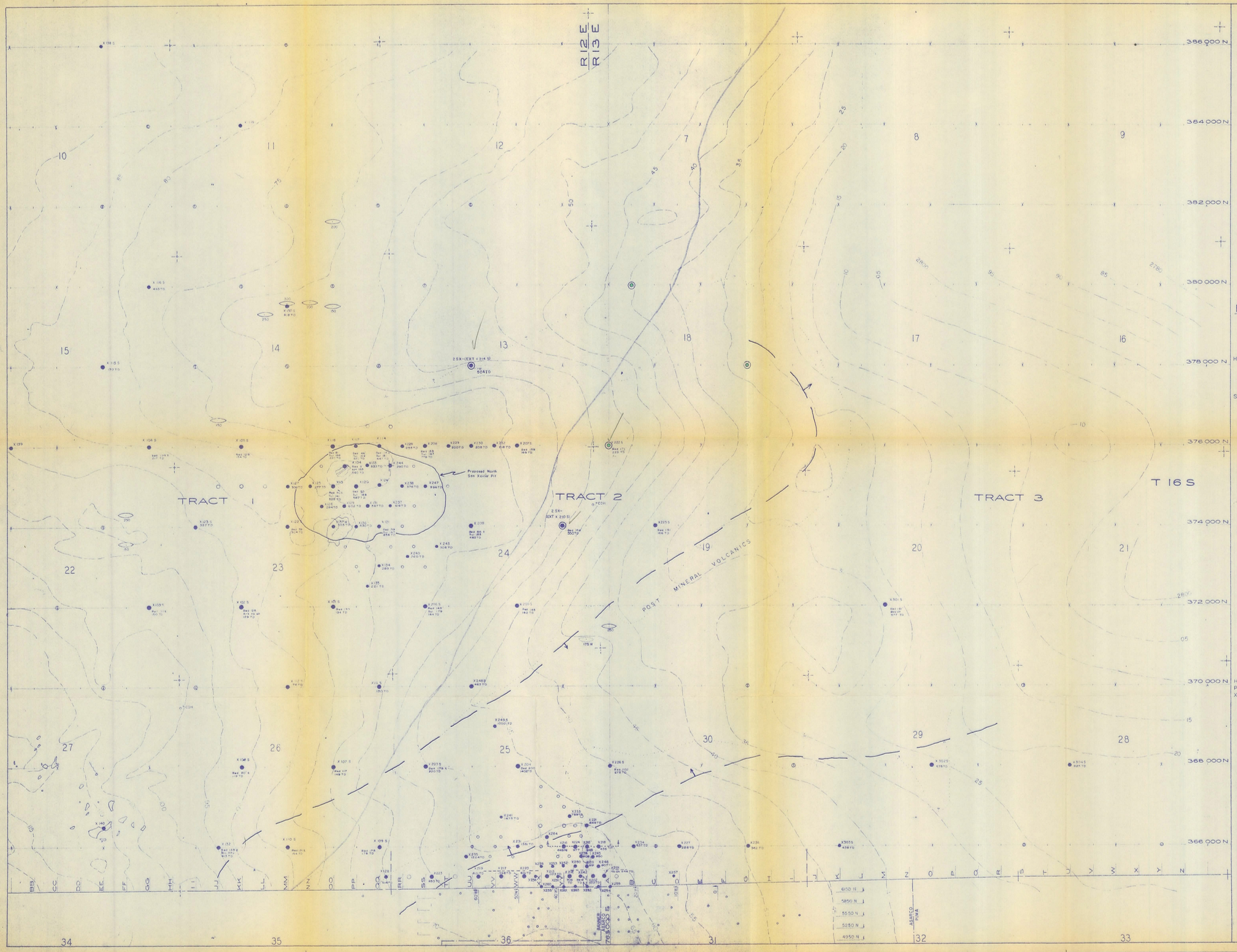
52+50W
55+00W
57+50W
60+00W
62+50W
65+00W
67+50W
25X-10
25X-11
25X-34
25X-32
25X-33
25X-35
25X-8
25X-9
25X-7
25X-4
25X-5
25X-6
25X-14
25X-2
25X-13
25X-3
25X-12
25X-1
M-135
M-131
M-127
M-125
M-123
M-128
M-119
M-120
M-133
M-122
M-130
M-129
M-116
M-118
FEDERAL MINERAL RIGHTS
FEDERAL MINERAL RIGHTS
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
DIAMOND DRILLING PROGRESS MAP
SCALE 1" = 200'
DRAWN ENG. DEPT.
DATE APR 1968
FILE MIS-IIE-320



EXPLANATION

Hole Numbering System On Reservation
Tract I — X101, X102, etc.
Tract II — X201, X202, etc.
Tract III — X301, X302, etc.
Shallow Holes Designated X101S, etc.

Magnetic High (Erwin letter 9-11-57)

Relative Gravity Contours CI 1.05 milligal (Soegart report 12-10-57)

EM Crossover max. depth

EM "Tandem" effect

EM "Edge" effect

Holes Needed to Locate Dumps & Surface Plant Facilities For Proposed North San Xavier Open Pit

Proposed Drill Holes
Drill Holes In Progress
Drill Holes Completed

ASARCO

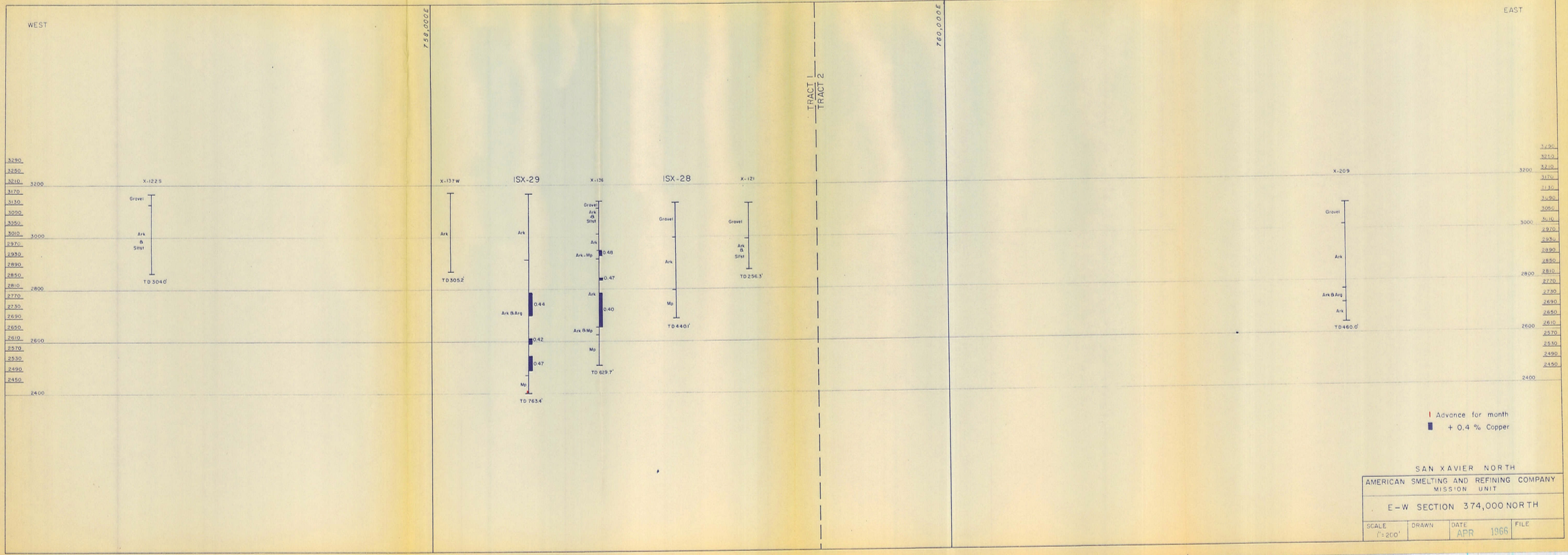
SAN XAVIER PROJECT
Pima County, Arizona

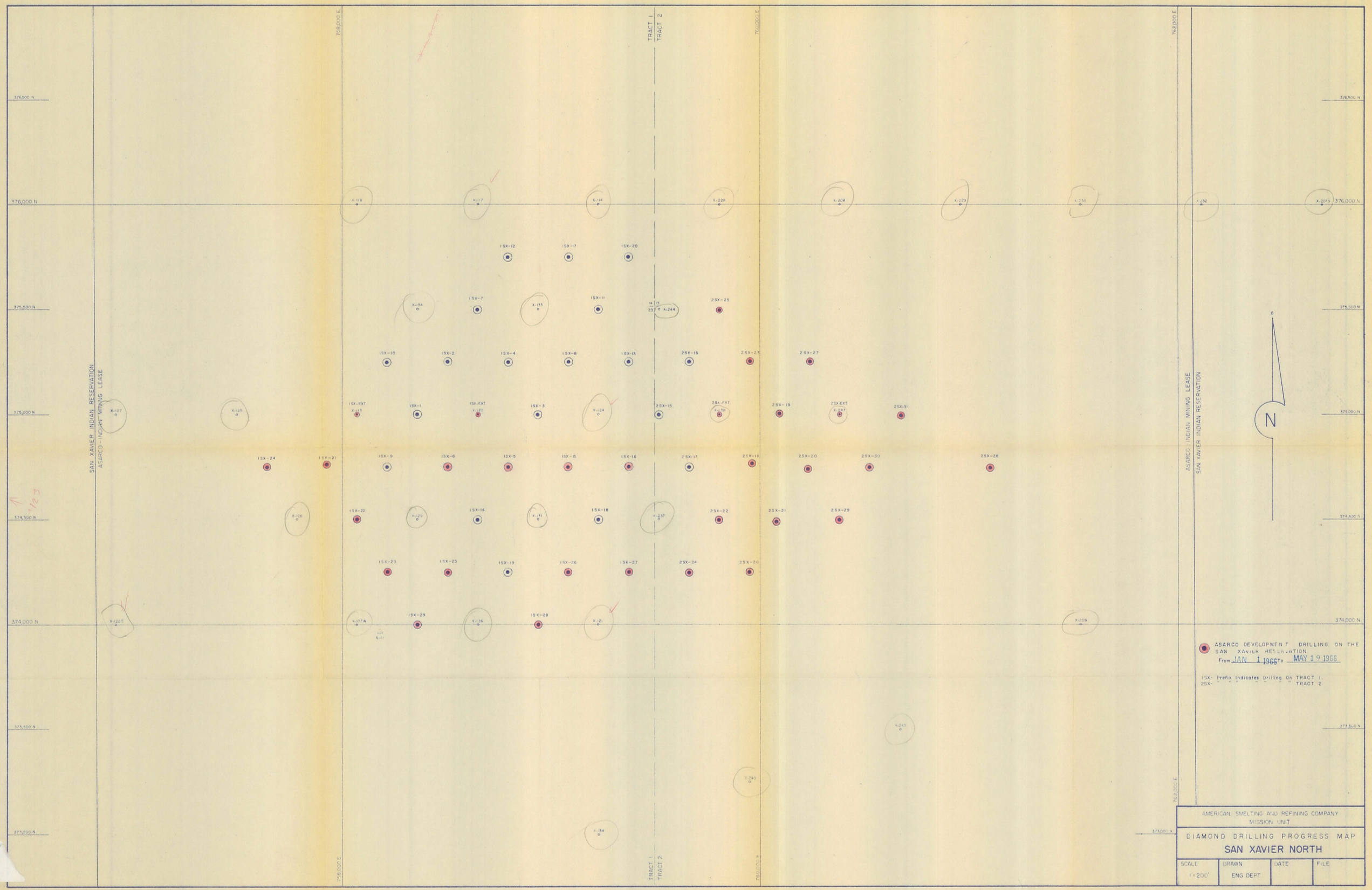
DRILLING MAP

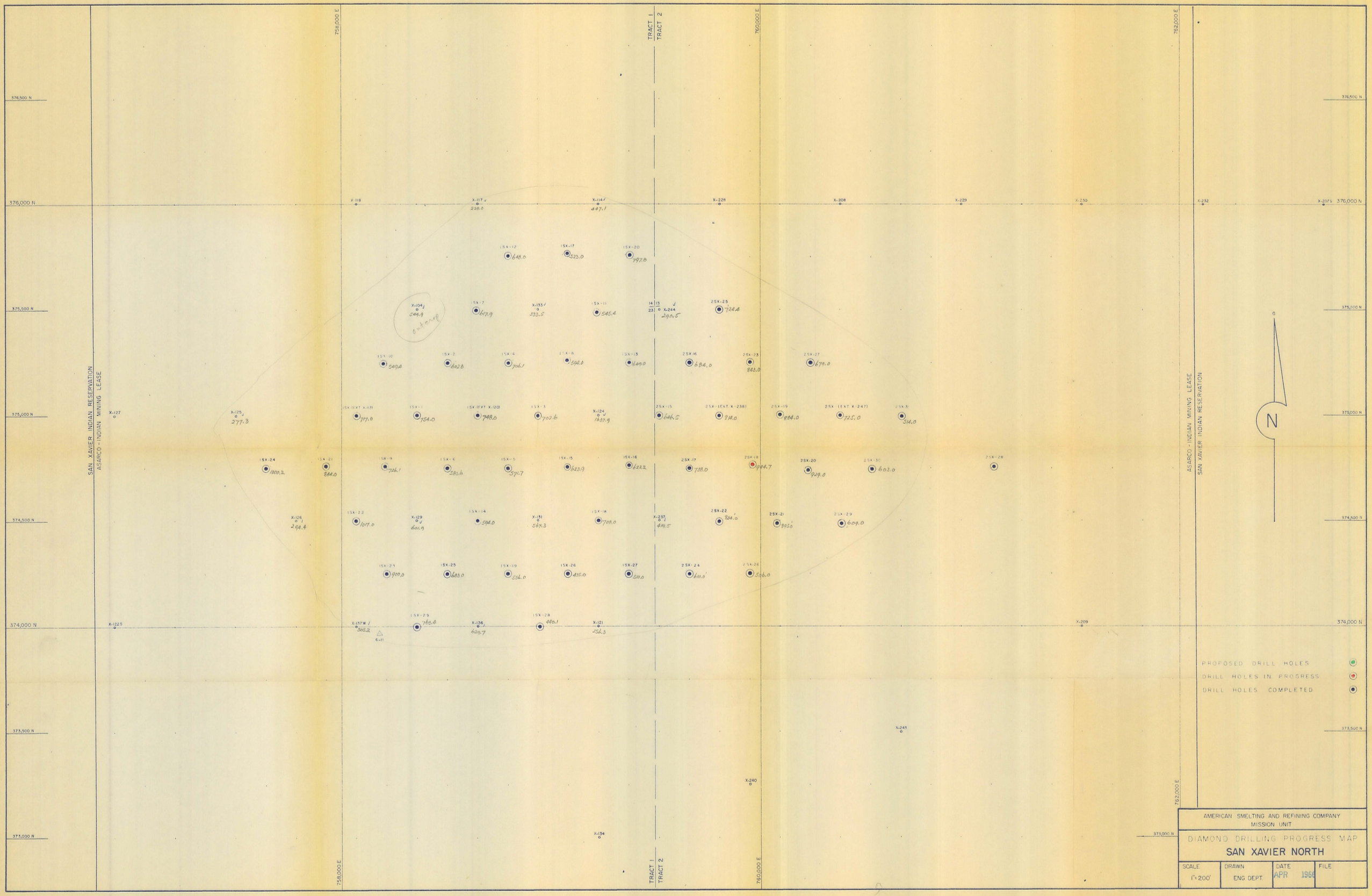
SCALE 1" = 1000'

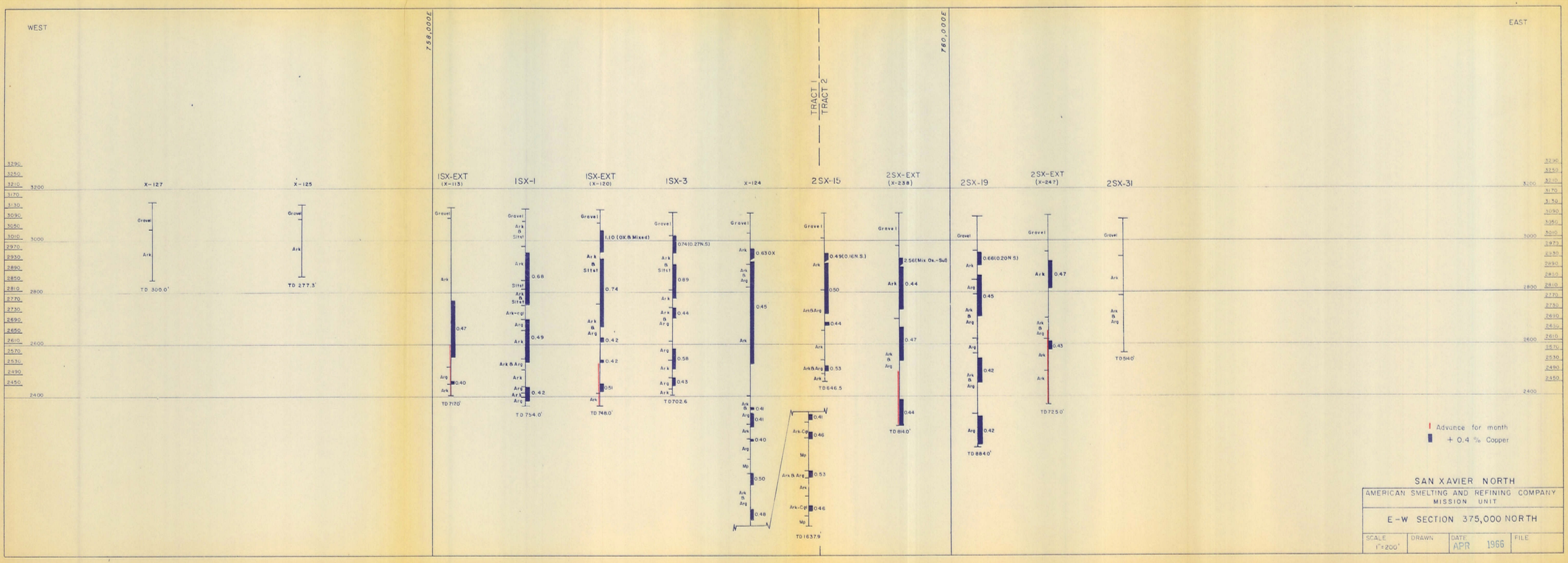
APR 1966

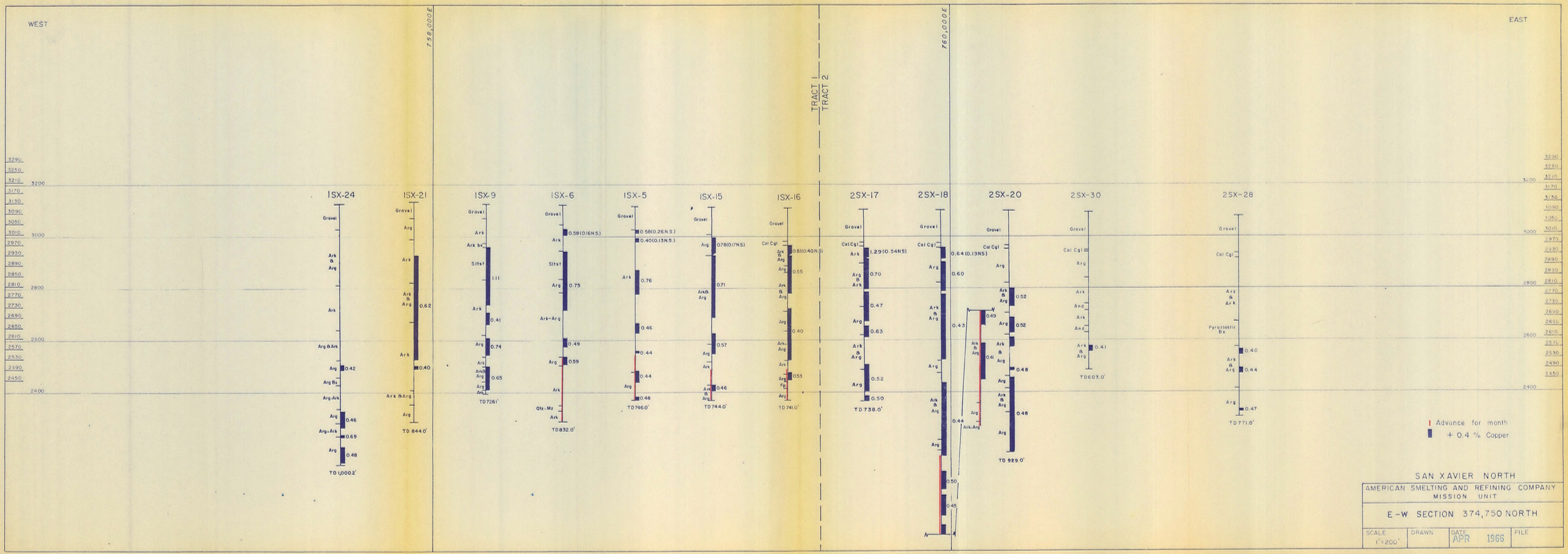
Map No. 1385

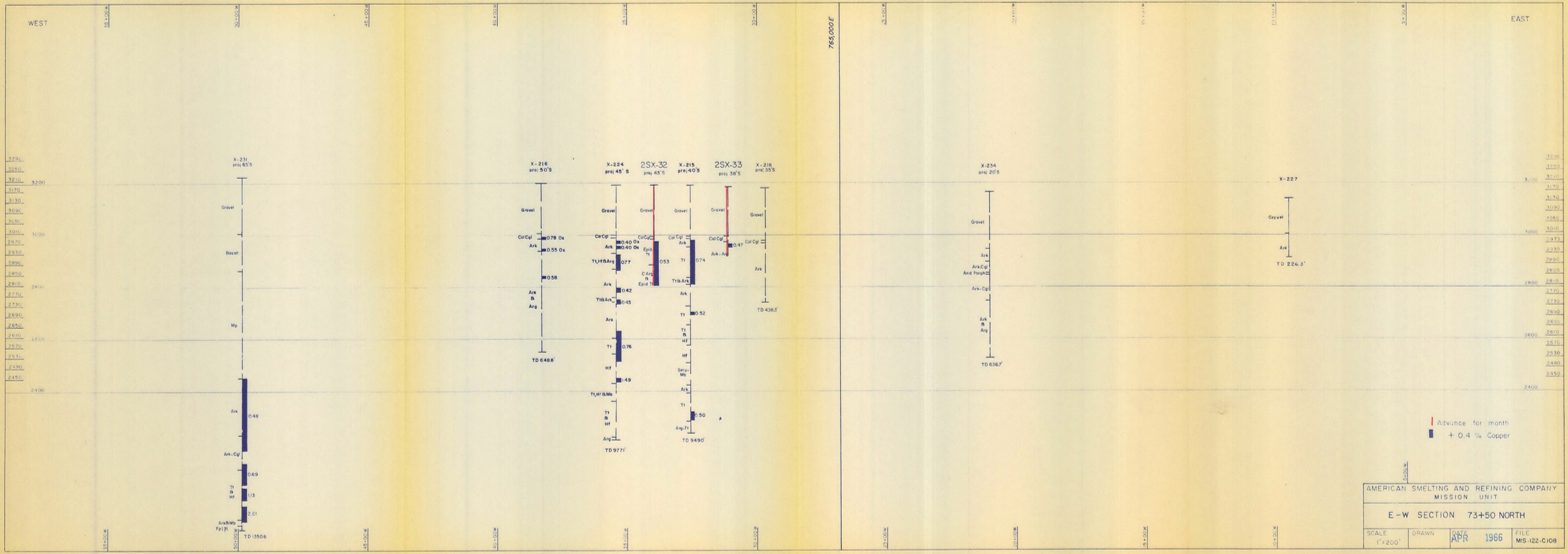

WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
X-122S
Gravel
Ark & Silst
TD 304.0'
X-137W
Ark
TD 305.2'
ISX-29
Ark
Ark & Arg
0.44
0.42
0.47
Mp
TD 763.4'
X-136
Gravel
Ark & Silst
Ark
Ark & Mp
0.48
0.47
Ark
0.40
Ark & Mp
Mp
TD 629.7'
ISX-28
Gravel
Ark
Mp
TD 440.1'
X-121
Gravel
Ark & Silst
TD 256.3'
X-209
Gravel
Ark
Ark & Arg
Ark
TD 460.0'
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 374,000 NORTH
SCALE 1"=200'
DRAWN
DATE APR 1966
FILE

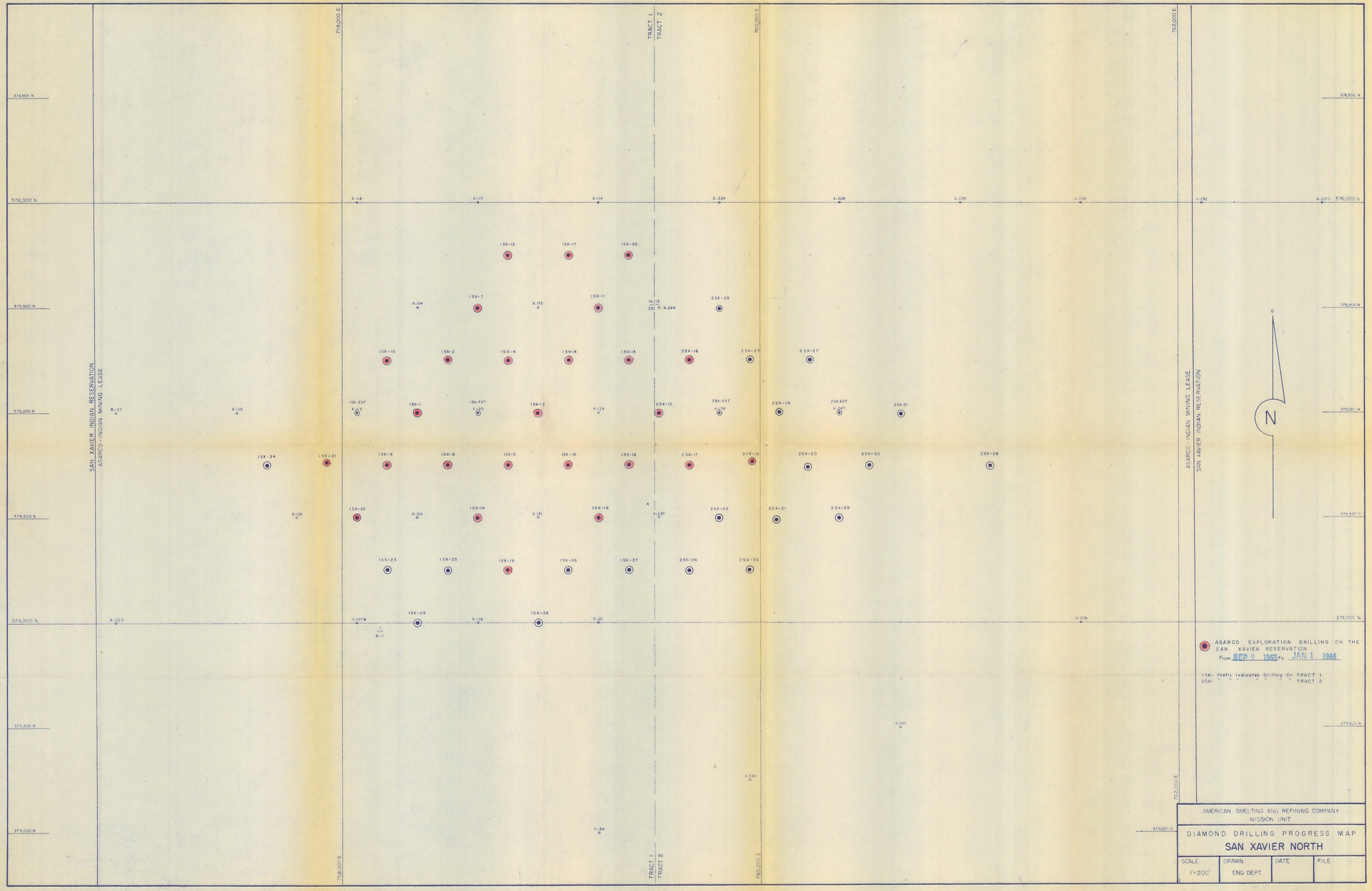

SAN XAVIER INDIAN RESERVATION
ASARCO-INDIAN MINING LEASE
TRACT 1
TRACT 2
758,000 E
760,000 E
762,000 E
376,500 N
376,000 N
375,500 N
375,000 N
374,500 N
374,000 N
373,500 N
373,000 N
N
ASARCO DEVELOPMENT DRILLING ON THE SAN XAVIER RESERVATION.
From JAN 1 1966 To MAY 19 1966
1SX- Prefix Indicates Drilling On TRACT 1.
2SX- " " " " " " TRACT 2
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
DIAMOND DRILLING PROGRESS MAP
SAN XAVIER NORTH
SCALE 1"=200'
DRAWN ENG DEPT.
DATE
FILE


SAN XAVIER INDIAN RESERVATION
ASARCO - INDIAN MINING LEASE
TRACT 1
TRACT 2
758,000 E
760,000 E
762,000 E
376,500 N
376,000 N
375,500 N
375,000 N
374,500 N
374,000 N
373,500 N
373,000 N
N
PROPOSED DRILL HOLES
DRILL HOLES IN PROGRESS
DRILL HOLES COMPLETED
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
DIAMOND DRILLING PROGRESS MAP
SAN XAVIER NORTH
SCALE 1"=200'
DRAWN ENG DEPT.
DATE APR 1966
FILE


WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
3200
3000
2800
2600
2400
X-127
Gravel
Ark
TD 300.0'
X-125
Gravel
Ark
TD 277.3'
1SX-EXT (X-113)
Gravel
Ark
0.47
Arg
0.40
Ark
TD 717.0'
1SX-1
Gravel
Ark & Siltst
Ark
0.68
Siltst
Ark & Siltst
Ark-cgl
Arg
Ark
0.49
Ark & Arg
Ark
Arg
Ark
0.42
Arg
TD 754.0'
1SX-EXT (X-120)
Gravel
1.10 (OX & Mixed)
Ark & Siltst
0.74
Ark & Arg
0.42
0.42
0.51
Ark
TD 748.0'
1SX-3
Gravel
0.74 (0.27N.S.)
Ark & Siltst
0.89
Ark
Ark & Arg
0.44
Arg
0.58
Ark
Arg
0.43
Ark
TD 702.6
X-124
Gravel
Ark
0.63 OX
Ark & Arg
0.45
Ark
Ark & Arg
0.41
0.41
Ark
0.40
Arg
Mo
0.50
Ark & Arg
0.48
N
0.41
Ark-Cgl
0.46
Mo
Ark & Arg
0.53
Ark
Ark-Cgl
0.46
Mo
TD 1637.9'
2SX-15
Gravel
Ark
0.49 (0.16N.S.)
0.50
Ark & Arg
0.44
Ark
Ark & Arg
0.53
Ark
TD 646.5
2SX-EXT (X-238)
Gravel
2.56 (Mix Ox.-Sul)
Ark
0.44
0.47
Ark & Arg
0.44
TD 814.0'
2SX-19
Gravel
Ark
0.66 (0.20N.S.)
Arg
0.45
Ark & Arg
Arg
0.42
Ark & Arg
Arg
0.42
TD 884.0'
2SX-EXT (X-247)
Gravel
Ark
0.47
Ark & Arg
0.43
Ark
Ark
TD 725.0'
2SX-31
Gravel
Ark
Ark & Arg
TD 514.0'
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 375,000 NORTH
SCALE 1"=200'
DRAWN
DATE APR 1966
FILE


WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
1SX-24
Gravel
Ark & Arg
Ark
Arg & Ark
Arg
0.42
Arg Bx
Arg-Ark
0.46
Arg-Ark
0.69
Arg
0.48
TD 1,000.2'
1SX-21
Gravel
Arg
Ark
Ark & Arg
0.62
Ark
0.40
Ark & Arg
Arg
TD 844.0'
1SX-9
Gravel
Ark
Ark bx
Siltst
1.11
Ark
0.41
Arg
0.74
Ark
Ark & Arg
0.65
Arg
Ark
TD 726'
1SX-6
Gravel
0.58(0.16N.S.)
Ark
Siltst
Arg
0.75
Ark-Arg
0.49
Arg
0.59
Ark
Qtz-Mz
Ark
TD 832.0'
1SX-5
Gravel
0.58(0.26N.S.)
0.40(0.13N.S.)
Ark
0.76
0.46
0.44
0.44
Arg
0.48
TD 746.0'
1SX-15
Gravel
Arg
0.78(0.7NS)
Ark & Arg
0.71
0.57
Arg
Ark
Ark & Arg
0.46
TD 744.0'
1SX-16
Gravel
Col Cgl
0.83(0.40N.S.)
Ark & Arg
Arg
0.55
Ark & Arg
Arg
0.40
Ark-Arg
Ark
Arg Fg
0.53
Arg
TD 741.0'
2SX-17
Gravel
Col Cgl
Ark
1.29(0.54NS)
Arg & Ark
0.70
0.47
Arg
0.63
Ark & Arg
0.52
Arg
0.50
TD 738.0'
2SX-18
Gravel
Col Cgl
0.64(0.19NS)
Arg
0.60
Ark & Arg
Arg
Ark & Arg
0.50
0.45
2SX-20
Gravel
Col Cgl
Arg
Ark & Arg
0.52
Arg
0.52
Ark & Arg
0.48
Arg
Ark & Arg
0.48
Arg
TD 929.0'
0.43
0.49
Ark & Arg
0.41
Arg
0.44
Ark-Arg
2SX-30
Gravel
Col Cgl
Arg
Ark
And
Ark
And
Ark & Arg
0.41
TD 603.0'
2SX-28
Gravel
Col Cgl
Arg & Ark
Pyroclastic Bx
Ark & Arg
0.40
0.44
Arg
0.47
TD 771.0'
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 374,750 NORTH
SCALE 1"=200'
DRAWN
DATE APR 1966
FILE


WEST
EAST
765,000E
X-231
proj 65'S
Gravel
Basalt
Mp
Ark
0.48
Ark-Cgl
0.69
Tt & Hf
1.13
2.01
Ark&Mb Fp(?)
TD 13506
X-216
proj 50'S
Gravel
Cal Cgl
0.78 Ox
Ark
0.55 Ox
0.58
Ark & Arg
TD 6488'
X-224
proj 45' S
Gravel
Ca Cgl
0.40 Ox
Ark
0.40 Ox
Tt, Hf & Arg
0.77
Ark
0.42
Tt & Ark
0.43
Ark
Tt
0.76
Hf
1.49
Tt, Hf & Mb
Tt & Hf
Arg
TD 9771'
2SX-32
proj 43'S
Gravel
Cal Cgl
Epid Tt
0.53
C Arg & Epid Tt
X-215
proj 40'S
Gravel
Cal Cgl
Ark
Tt
0.74
Tt & Ark
Ark
Tt
0.52
Tt & Hf
Hf
Serpi-Mp
Ark
Tt
0.50
Arg-Tt
TD 9490'
2SX-33
proj 38'S
Gravel
Cal Cgl
0.47
Ark-Arg
X-218
proj 35'S
Gravel
Cal Cgl
Ark
TD 438.5'
X-234
proj 20'S
Gravel
Ark
Ark Cgl And Porph
Ark-Cgl
Ark & Arg
TD 636.7'
X-227
Gravel
Ark
TD 226.3'
Advance for month
+ 0.4 % Copper
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 73+50 NORTH
SCALE 1"=200'
DRAWN
DATE APR 1966
FILE MIS-122-C108


SAN XAVIER INDIAN RESERVATION
ASARCO - INDIAN MINING LEASE
ASARCO - INDIAN MINING LEASE
SAN XAVIER INDIAN RESERVATION
TRACT 1
TRACT 2
758,000 E
760,000 E
762,000 E
376,500 N
376,000 N
375,500 N
375,000 N
374,500 N
374,000 N
373,500 N
373,000 N
N
ASARCO EXPLORATION DRILLING ON THE SAN XAVIER RESERVATION.
From SEP 9 1965 To JAN 1 1966
15X- Prefix Indicates Drilling On TRACT 1.
25X- " " " " " " " TRACT 2
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
DIAMOND DRILLING PROGRESS MAP
SAN XAVIER NORTH
SCALE 1"=200'
DRAWN ENG DEPT.
DATE
FILE

J.H.C

AMERICAN SMELTING AND REFINING COMPANY
Sahuarita Arizona
March 9, 1966

MEMORANDUM TO MR. P. A. LEWIS, SUPERINTENDENT

Re: Monthly Report on Diamond Drilling

SUMMARY - DISCUSSION

The total footage drilled during February amounted to 4,821.6 feet. Six holes, 1SX24, 1SX-25, 2SX-21, 2SX-22, 2SX-23 and 2SX-24 were completed while drilling commenced on holes 1SX-26, 1SX-27 and 2SX-25.

Drilling to date has established a northern and western limit to the potential open pit ore in the North San Xavier region. The monzonite plug presently being drilled in the southern end of the potential ore zone appears to be a limiting factor in this area. The zone of mineralization is still open to the east, however, the grade also appears to be decreasing in that direction.

1SX-24 encountered a number of modest runs of low grade ore mineralization at considerable depth. This hole appears to delineate the western perimeter of the potential open pit ore zone.

1SX-25 positioned in the southwest sector of the ore zone penetrated a lengthy run of moderate grade copper mineralization at modest depth.

1SX-26 situated in the southern end of the mineralized zone penetrated a weakly mineralized monzonite mass at shallow depths and no ore runs were encountered in this hole.

1SX-27 located on the southern perimeter of the potential ore zone, will test the extent of the weakly mineralized monzonite plug penetrated by a number of other holes in this region.

2SX-21 positioned in the southeast sector of the ore zone penetrated a lengthy run of moderate to low grade copper mineralization. An extensive run of moderate grade mineralization was also encountered in this hole last month.

2SX-22 located in the eastern segment of the ore zone drilled a lengthy run of moderate grade mineralization starting at shallow depths.

2SX-23, drilling in the northeast portion of the ore zone encountered a lengthy run of low grade ore mineralization. Numerous runs of moderate grade intercepts were penetrated over the entire length of the hole.

2SX-24 located in the southern perimeter of the potential ore zone, penetrated weakly mineralized agrillite. At modest depth, the poorly mineralized monzonite was encountered and the hole bottomed in this rocktype at 610.0 feet.

2SX-25 positioned in the northeast sector of the ore zone penetrated sparsely mineralized arkose to a depth of 342.6 feet by the end of the month.

Two holes, 2SX-26 and 2SX-27 are proposed to further check for the possible eastern extension of the ore zone.

1SX-24 continued in weakly mineralized arkose to 509.8 feet where the rock graded to argillite. Sparce to moderately mineralized argillite was encountered at 794.1 feet and persisted to 1,000.2 feet where the hole was bottomed.

1SX-25 penetrated leached and altered arkosic argillite at 5.0 feet and continued in this rocktype to 301.4 feet where moderately mineralized arkose was disclosed. This mineralization persisted to 535.5 feet where mineral values decreased. Weakly mineralized monzonite was encountered at 608.7 feet and the hole bottomed in this monzonite at 683.0 feet.

1SX-26 encountered leached and altered argillite at 150.6 feet and continued in this weakly mineralized rock to 250.5 feet where weakly mineralized monzonite was penetrated. The hole bottomed in monzonite at 435.0 feet.

1SX-27 was drilling gravel overburden at 130.0 feet by the end of the month.

2SX-21 continued in moderately mineralized Cretaceous clastics to 828.1 feet where the mineral content dropped below 0.40% Cu. The hole bottomed in sparsely mineralized arkosic argillite at 895.0 feet.

2SX-22 encountered leached and altered Cretaceous clastics at 125.0 feet and continued in this rocktype to 261.9 feet where a very extensive run of moderate to low grade ore values was encountered, persisting to 753.3 feet. Sparsely mineralized monzonite was drilled at 753.3 feet and the hole bottomed in monzonite at 824.0 feet.

2SX-23, well mineralized argillite bedrock with mixed sulphide and oxide values was penetrated at 125.0 feet. Clean sulphide ore was drilled at 200.5 feet. Arkose was disclosed at 304.9 feet and continued to 508.2 where argillite was encountered. Sparse to moderate copper mineralization was noted over the entire length of the hole which bottomed in argillite at 843.0 feet.

2SX-24 drilled leached and altered argillite bedrock at 125.0 feet and continued in this weakly mineralized rock to 438.4 feet where poorly mineralized monzonite was encountered. The hole bottomed at 610.0 feet in monzonite.

2SX-25 penetrated leached and altered arkose bedrock at 134.2 feet and continued in this rocktype to 342.6 feet where the hole stood at the end of the month.

Sections illustrating drilling progress for February, a list of abbreviations utilized on cross sections, a tabulation of ore intercepts for the month, and a plan map with hole locations and proposed drill holes are attached.

S. A. Anzalone

S. A. ANZALONE, Resident Geologist

SAA:mlc

DIAMOND DRILLING - MISSION UNIT

February, 1966

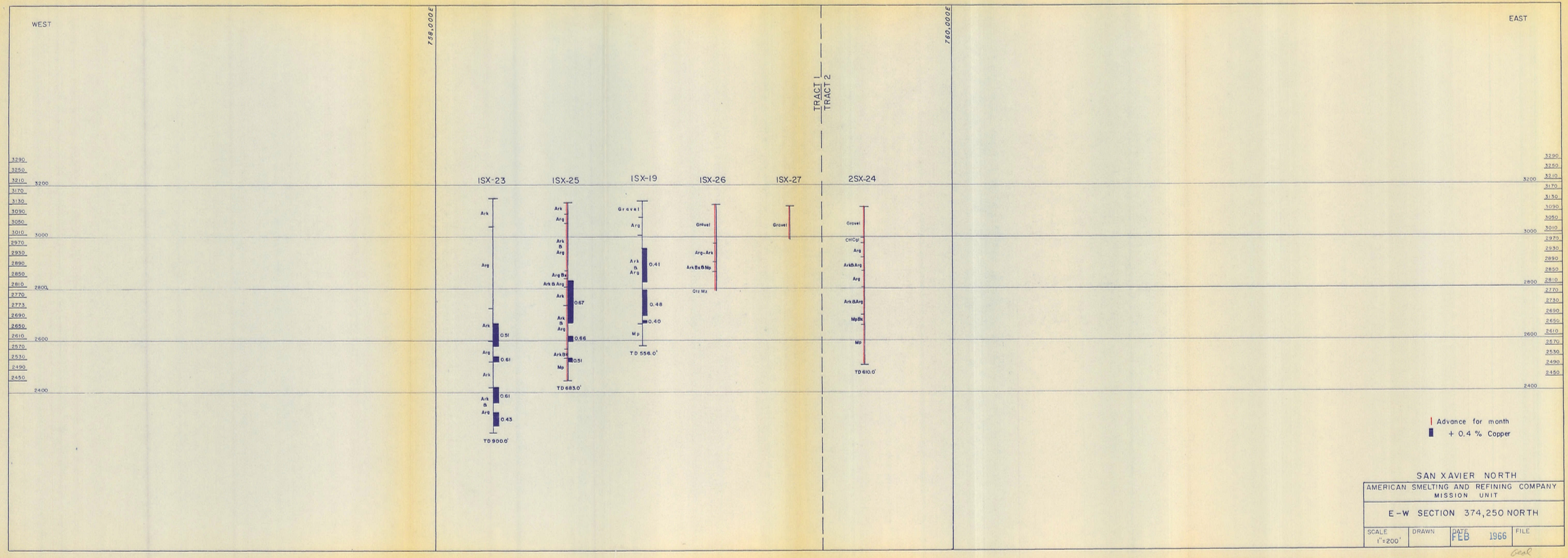
TRACT # 1

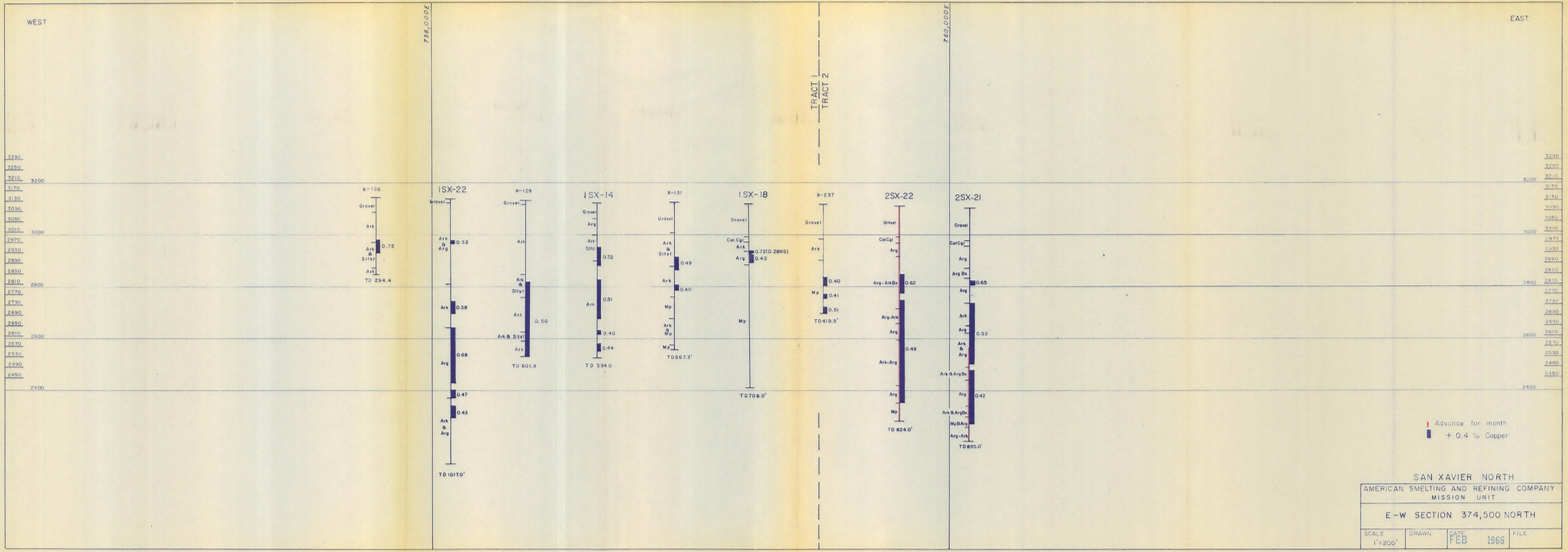
Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
1 SX-24	3,128.0	374,758	757,636	614.9-634.6	19.7	0.42	Nil			
				794.1-855.3	61.2	0.46	Nil			
				932.1-990.3	58.2	0.48	Nil	699.9	1000.2	1000.2
1 SX-25	3,132.6	374,250	758,510	301.4-467.4	166.0	0.67	Nil			
				515.8-535.5	19.7	0.66	Nil	683.0	683.0	683.0
1 SX-26*	3,125.6	374,250	759,080	NO ORE RUNS				332.5	332.5	-
1 SX-27	3,119.8	374,250	759,380	NO ORE RUNS				130.0	130.0	
TRACT # 2										
2 SX-21	3,104.6	374,487	760,077	538.4-600.5	62.1	0.62	Nil			
				610.6-828.1	217.5	0.42	Nil	356.6	895.0	895.0
2 SX-22	3,109.5	374,519	759,807	261.9-332.4	70.5	0.62	Nil			
				361.8-753.3	391.5	0.49	Nil	824.0	824.0	824.0
2 SX-23	3,092.5	375,259	759,952	130.0-200.5	70.5	1.26	0.68			
				200.5-241.0	40.5	0.45	Nil			
				263.2-286.2	23.0	0.51	Nil			
				328.3-374.7	46.4	0.48	Nil			
				417.3-575.6	158.3	0.41	Nil			
				677.0-843.0	166.0	0.50	Nil	843.0	843.0	843.0
2 SX-24	3,117.7	374,262	759,665	NO ORE RUNS				610.0	610.0	610.0
2 SX-25	3,085.1	375,508	759,808	NO ORE RUNS				342.6	342.6	
								4821.6		

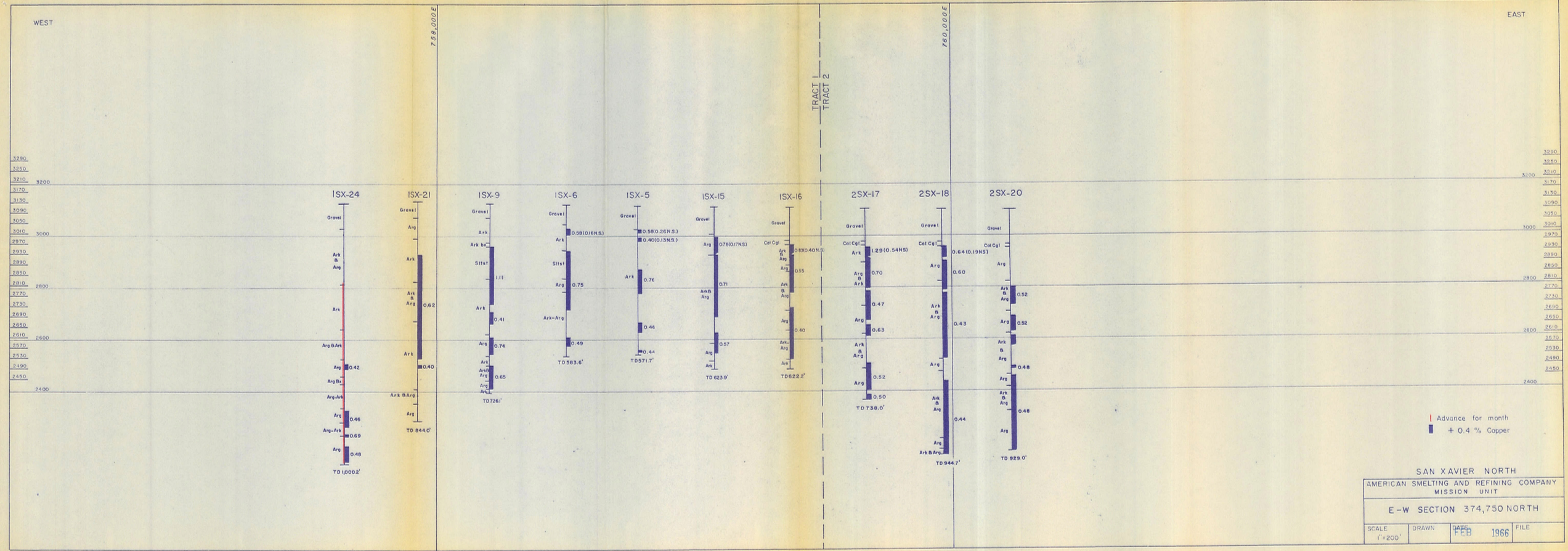
* Approximate Coordinates and Elevations

EXPLANATION OF ABBREVIATIONS ON SECTIONS

Cal. Cgl.	- Caliche Conglomerate (Overburden)
Arg.	- Argillite
Cgl.	- Conglomerate
Tc.	- Tactite
Hf.	- Hornfels
Mb.	- Marble
C. Arg.	- Calcareous Argillite
N.S.	- Non Sulfide
T.D.	- Total Depth
And.	- Andesite
Bx.	- Breccia
Mp.	- Metaporphyry
Gyp.	- Gypsum
Gr.	- Granite


WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
ISX-23
Ark
Arg
Ark
0.51
Arg
0.61
Ark
Ark & Arg
0.61
0.43
TD 900.0'
ISX-25
Ark
Arg
Ark & Arg
Arg Bx
Ark & Arg
Ark
0.67
Ark & Arg
0.66
Ark Bx
0.51
Mp
TD 683.0'
ISX-19
Gravel
Arg
Ark & Arg
0.41
0.48
0.40
Mp
TD 556.0'
ISX-26
Gravel
Arg-Ark
Ark Bx & Mp
Qtz Mz
ISX-27
Gravel
2SX-24
Gravel
Col Cgl
Arg
Ark & Arg
Arg
Ark & Arg
Mp Bx
Mp
TD 610.0'
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 374,250 NORTH
SCALE
1"=200'
DRAWN
DATE
FEB 1966
FILE


WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
X-126
Gravel
Ark
0.75
Ark & Silst
Ark
TD 294.4
1SX-22
Gravel
Ark & Arg
0.52
Ark
0.58
Arg
0.68
0.47
0.43
Ark & Arg
TD 1017.0'
X-129
Gravel
Ark
Ark & Silst
0.50
Ark
Ark & Silst
Ark
TD 601.9
1SX-14
Gravel
Arg
Ark-Silst
0.52
Ark
0.51
0.40
0.44
TD 594.0
X-131
Gravel
Ark & Silst
0.49
Ark
0.40
Mp
Ark & Mp
Mp
TD 567.3'
1SX-18
Gravel
Col Cgl
Ark
0.72(0.28N5)
Arg
0.42
Mp
TD 708.0'
X-237
Gravel
Ark
0.40
Mp
0.41
0.51
TD 419.5'
2SX-22
Gravel
Col Cgl
Arg
Arg-Ark Bx
0.62
Arg-Ark
Arg
0.49
Ark-Arg
Arg
Mp
TD 824.0'
2SX-21
Gravel
Col Cgl
Arg
Arg Bx
0.65
Arg
Ark
Arg
0.53
Ark & Arg
Ark & Arg Bx
Arg
0.42
Ark & Arg Bx
Mp & Arg
Arg-Ark
TD 895.0'
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 374,500 NORTH
SCALE 1"=200'
DRAWN
DATE FEB 1966
FILE


WEST
EAST
728,000E
750,000E
TRACT 1
TRACT 2
3290
3250
3210
3200
3170
3130
3090
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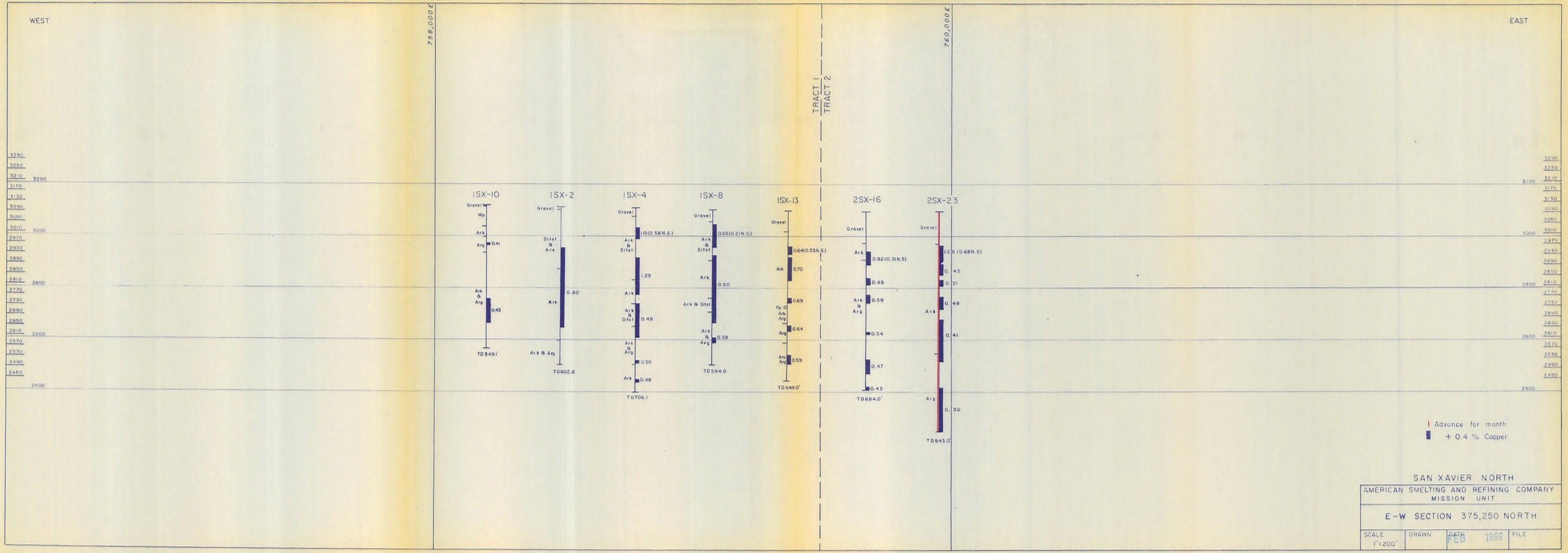
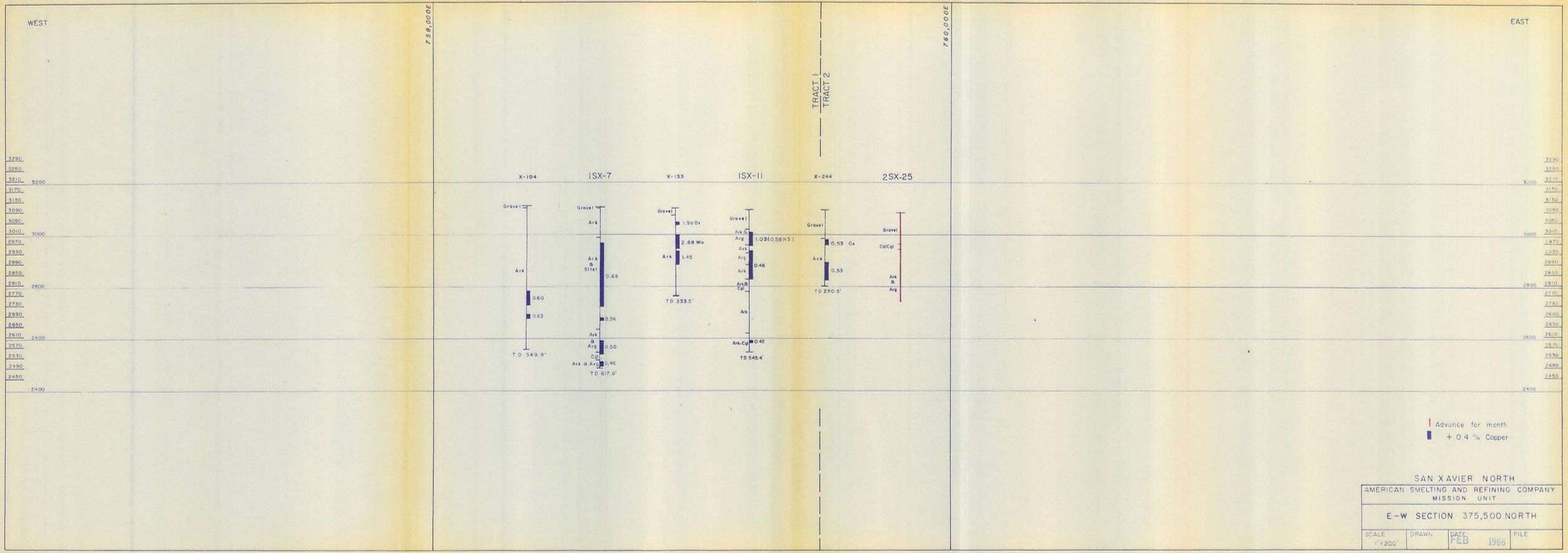
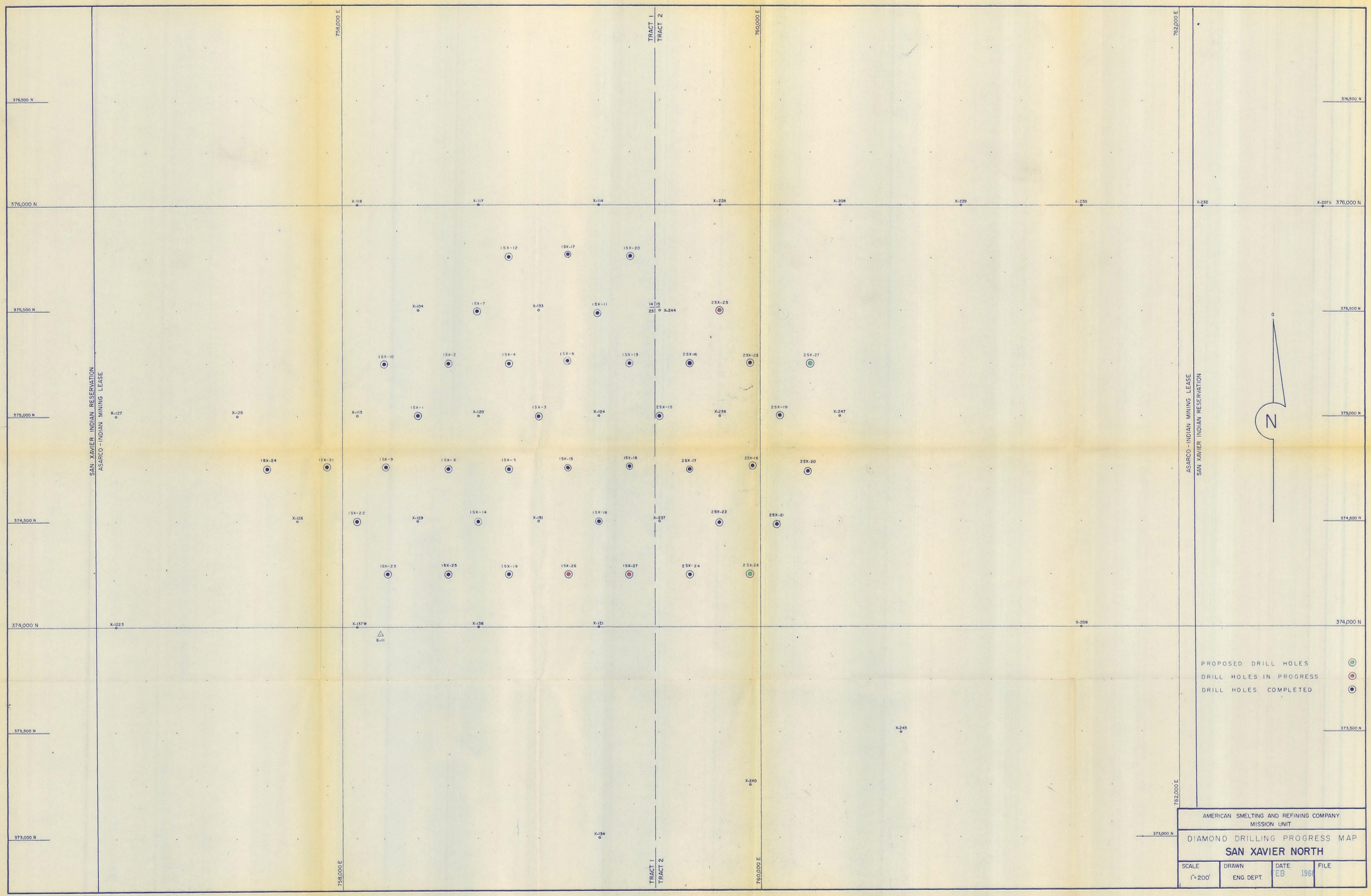
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
ISX-24
Gravel
Ark & Arg
Ark
Arg & Ark
Arg
0.42
Arg & Ark
Arg-Ark
0.46
Arg-Ark
0.69
Arg
0.48
TD 1,000.2'
ISX-21
Gravel
Arg
Ark
Ark & Arg
0.62
Ark
0.40
Ark & Arg
Arg
TD 844.0'
ISX-9
Gravel
Ark
Ark bx
Sltst
1.11
Ark
0.41
Arg
0.74
Ark
Ark/Arg
0.65
Arg
Ark
TD 726.1'
ISX-6
Gravel
0.58(0.16N.S.)
Ark
Sltst
Arg
0.75
Ark-Arg
0.49
TD 583.6'
ISX-5
Gravel
0.58(0.26N.S.)
0.40(0.13N.S.)
Ark
0.76
0.46
0.44
TD 571.7'
ISX-15
Gravel
Arg
0.78(0.17NS)
Ark & Arg
0.71
0.57
Arg
Ark
TD 623.9'
ISX-16
Gravel
Cal Cgl
Ark & Arg
0.83(0.40N.S.)
Arg
0.55
Ark & Arg
Arg
0.40
Ark-Arg
Ark
TD 622.2'
2SX-17
Gravel
Cal Cgl
Ark
1.29(0.54NS)
Arg & Ark
0.70
0.47
Arg
0.63
Ark & Arg
0.52
Arg
0.50
TD 738.0'
2SX-18
Gravel
Cal Cgl
0.64(0.19NS)
Arg
0.60
Ark & Arg
0.43
Arg
Ark & Arg
0.44
Arg
Ark & Arg
TD 944.7'
2SX-20
Gravel
Cal Cgl
Arg
Ark & Arg
0.52
Arg
0.52
Ark & Arg
Arg
0.48
Ark & Arg
0.48
Arg
TD 929.0'
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 374,750 NORTH
SCALE
1" = 200'
DRAWN
DATE
FEB 1966
FILE


WEST
EAST
758,000 E
760,000 E
TRACT 1
TRACT 2
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
1SX-10
Gravel
Mp
Ark
Arg
0.41
Ark & Arg
0.43
TD 549.1'
1SX-2
Gravel
Sltst & Ark
0.80
Ark
Ark & Arg
TD602.8
1SX-4
Gravel
1.15(0.58N.S.)
Ark & Sltst
1.29
Ark
Ark & Sltst
0.49
Ark & Arg
0.50
Ark
0.48
TD706.1
1SX-8
Gravel
0.65(0.21N.S.)
Ark & Sltst
Ark
0.50
Ark & Sltst
Ark & Arg
0.58
TD594.0
1SX-13
Gravel
0.64(0.35N.S.)
Ark
0.70
0.69
Fp
Ark
Arg
0.64
Ark
Arg
0.59
TD649.0'
2SX-16
Gravel
Ark
0.82(0.31N.S)
0.48
Ark & Arg
0.59
0.54
0.47
0.43
TD684.0'
2SX-23
Gravel
1.26 (0.68N.S)
0.45
0.51
Ark
0.48
0.41
Arg
0.50
TD843.0'
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 375,250 NORTH
SCALE 1"=200'
DRAWN
DATE FEB 1966
FILE


WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
X-104
1SX-7
X-133
1SX-11
X-244
2SX-25
Gravel
Ark
0.60
0.63
TD 549.9'
Ark & Sltst
0.68
0.56
Ark & Arg
0.50
Cgl
Ark & Arg
0.46
TD 617.9'
1.9 Ox
2.68 Mix
1.45
TD 333.5'
Ark & Arg
1.03 (0.58 NS)
0.46
Ark & Cgl
Ark-Cgl
0.42
TD 545.4'
0.53 Ox
0.53
TD 290.5'
CalCgl
Ark & Arg
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 375,500 NORTH
SCALE 1"=200'
DRAWN
DATE FEB 1966
FILE


376,500 N
376,000 N
375,500 N
375,000 N
374,500 N
374,000 N
373,500 N
373,000 N
758,000 E
760,000 E
762,000 E
TRACT 1
TRACT 2
SAN XAVIER INDIAN RESERVATION
ASARCO-INDIAN MINING LEASE
X-118
X-117
X-114
X-228
X-208
X-229
X-230
X-232
X-207S
X-104
X-133
X-244
X-127
X-125
X-113
X-120
X-124
X-238
X-247
X-126
X-129
X-131
X-237
X-122S
X-137W
X-136
X-121
X-209
X-243
X-240
X-134
6-11
1SX-1
1SX-2
1SX-3
1SX-4
1SX-5
1SX-6
1SX-7
1SX-8
1SX-9
1SX-10
1SX-11
1SX-12
1SX-13
1SX-14
1SX-15
1SX-16
1SX-17
1SX-18
1SX-19
1SX-20
1SX-21
1SX-22
1SX-23
1SX-24
1SX-25
1SX-26
1SX-27
2SX-15
2SX-16
2SX-17
2SX-18
2SX-19
2SX-20
2SX-21
2SX-22
2SX-23
2SX-24
2SX-25
2SX-26
2SX-27
N
PROPOSED DRILL HOLES
DRILL HOLES IN PROGRESS
DRILL HOLES COMPLETED
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
DIAMOND DRILLING PROGRESS MAP
SAN XAVIER NORTH
SCALE
1"=200'
DRAWN
ENG. DEPT.
DATE
FEB 1966
FILE

J. H. C.

APR 5 1966

DIAMOND DRILLING - MISSION UNIT

March, 1966

TRACT #1

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
1SX-26	3,125.6	374,254	759,387	NO ORE RUNS				102.5	435.0	435.0
1SX-27	3,119.8	374,250	759,080	413.4-424.0	10.6	.40	Nil			
				444.0-456.6	12.6	.44	Nil	380.0	510.0	510.0
1SX-28	3,130.9	373,991	758,943	NO ORE RUNS				440.1	440.1	440.1
1SX-29*	3,166.7	373,985	758,355	373.6-462.2	88.6	.44	Nil			
				550.3-570.2	19.9	.42	Nil			
				619.2-671.4	52.2	.47	Nil	758.2	758.2	
TRACT #2										
2SX-25	3,085.1	375,508	759,808	343.7-364.3	20.6	.52	Nil			
				401.4-411.4	10.0	.55	Nil	381.8	724.4	724.4
2SX-26	3,112.8	374,273	759,951	NO ORE RUNS				506.0	506.0	506.0
2SX-27	3,088.5	375,248	760,233	215.1-231.0	15.9	.46	Nil			
				260.7-270.7	10.0	.50	Nil			
				341.3-367.5	26.2	.44	Nil			
				543.8-553.8	10.0	.40	Nil	679.0	679.0	679.0
2SX-28	3,079.2	374,759	761,115	513.5-532.9	19.4	.40	Nil			
				588.8-608.2	19.4	.44	Nil			
				746.7-756.7	10.0	.47	Nil	771.0	771.0	771.0
2SX-29	3,098.3	374,485	760,385	516.4-526.6	10.2	.43	Nil			
				536.4-546.4	10.0	.50	Nil	609.0	609.0	609.0
2SX-30	3,092.6	374,742	760,534	512.2-533.4	21.2	.41	Nil	603.0	603.0	603.0
2SX-	3,103.1	375,000	759,804	376.0-387.0	11.0	.45	Nil			
(Ext. X-238)				438.0-564.4	126.4	.47	Nil	228.0	604.0	
2SX (Ext. X-247)	3,092.5	375,000	760,381	NO ORE RUNS				46.7	442.6	

* Approximate Coordinates

AMERICAN SMELTING AND REFINING COMPANY
Sahuarita Arizona
February 10, 1966

MEMORANDUM TO MR. P. A. LEWIS, SUPERINTENDENT

Re: Monthly Report on Diamond Drilling

SUMMARY - DISCUSSION

The total footage drilled during January amounted to 4,650.6 feet. Six holes, 1SX-21, 1SX-22, 1SX-23, 2SX-18, 2SX-19 and 2SX-20 were completed while drilling commenced on holes 1SX-24 and 2SX-21.

Drilling during January suggests a western limit to the main body of mineralization in the San Xavier North area. Ore grade material continues to be encountered to the east.

1SX-21, located in the southwest sector of the ore zone bottomed in weakly mineralized argillite. An extensive run of good grade mineralization was penetrated in this hole during the previous month.

1SX-22, positioned in the southwest sector of the potential ore zone encountered a lengthy run of moderate grade copper mineralization at considerable depth.

1SX-23, situated in the southwest corner of the mineralized zone, penetrated a number of moderately mineralized ore grade intercepts at considerable depth. This hole and 1SX-22 suggest that the ore zone plunges to the southwest in this area.

1SX-24, drilling on the western perimeter of the mineralized zone has encountered weak mineralization to 300.0 feet. This hole may delineate the west perimeter of any possible open pit ore body.

2SX-18, encountered two extensive runs of moderate to low grade copper mineralization at shallow depths.

2SX-19, positioned on the eastern edge of the mineralized zone encountered lengthy runs of moderate to low grade ore mineralization at shallow depths.

2SX-20, drilling on the east flank of the potential ore zone penetrated numerous intercepts of moderate to low grade mineralization over the entire length of the hole.

2SX-21, located in the southeast segment of the ore zone has penetrated an extensive run of moderate grade mineralization at modest depths.

GEOLOGIC LOG OF HOLES

1SX-21 continued in Argillite to 844.0 feet where the hole was bottomed.

1SX-22 continued in a well mineralized series of Cretaceous arkoses and argillites to 839.0 feet where sparse mineralization was encountered. The hole bottomed in sparsely mineralized arkose at 1,017.0 feet.

1SX-23 penetrated leached and altered arkose bedrock at 5.0 feet and continued in this rocktype to 109.0 feet where the base of oxidation was noted. Cretaceous clastics were drilled over the remainder of the hole bottoming in arkose at 900.0 feet.

1SX-24 encountered leached and altered arkose bedrock at 97.8 feet and continued in this sparsely mineralized Cretaceous clastic to 300.3 feet.

2SX-18 continued in arkosic argillite to 666.7 feet where a lengthy run of moderately mineralized argillite with occasional arkose facies was penetrated. The hole continued in this clastic series to 944.7 feet where the hole was bottomed.

2SX-19 penetrated leached and altered arkose bedrock at 129.4 feet and continued in moderate to sparsely mineralized Cretaceous clastics over the entire length of the drill hole bottoming in argillite at 884.0 feet.

2SX-20 encountered leached and altered argillite bedrock at 145.8 feet and continued in this rocktype to 279.1 feet where moderately mineralized arkosic argillite was drilled. This Cretaceous clastics series persisted to 929.0 feet where the hole was bottomed.

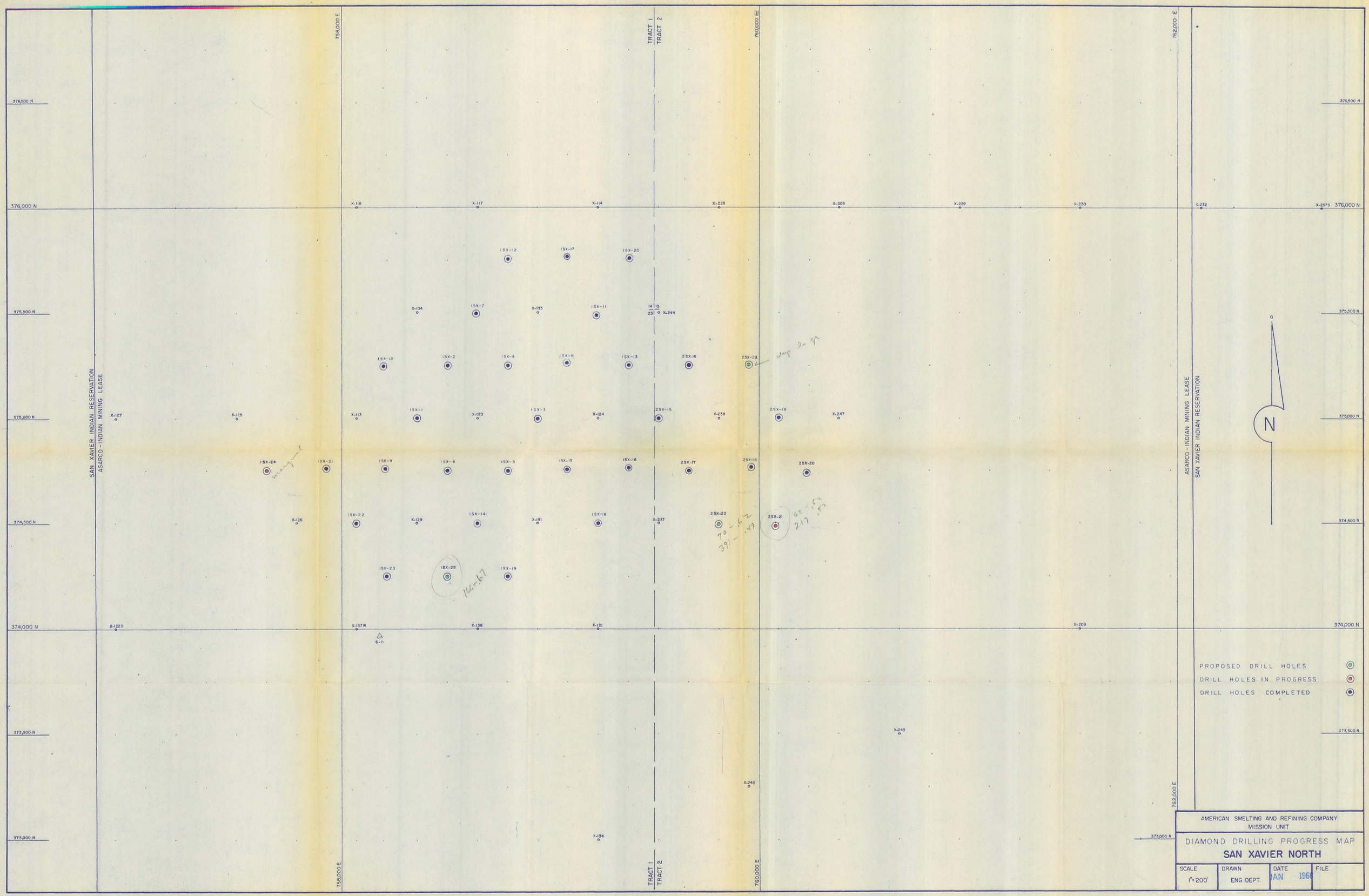
2SX-21 penetrated leached and altered argillite bedrock at 147.1 feet and continued in this rocktype to 230.4 feet where the argillite displayed shattered brecciated characteristics that persisted to 271.0 feet. This appears to have been a very strong low angle fault. Moderately mineralized Cretaceous clastics were drilled below this fault zone to 538.4 feet where the hole stood at the end of the month.

Sections illustrating drilling progress for January, a list of abbreviations utilized on cross sections, a tabulation of ore intercepts for the month, and a plan map with hole locations and proposed drill holes are attached.

S. A. Anzalone

S. A. ANZALONE, Resident Geologist

SAA:mlc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376,000 N
375,500 N
375,000 N
374,500 N
374,000 N
373,500 N
373,000 N
758,000 E
760,000 E
762,000 E
TRACT 1
TRACT 2
SAN XAVIER INDIAN RESERVATION
ASARCO - INDIAN MINING LEASE
ASARCO - INDIAN MINING LEASE
SAN XAVIER INDIAN RESERVATION
N
X-118
X-117
X-114
X-228
X-208
X-229
X-230
X-232
X-207S
1SX-12
1SX-17
1SX-20
X-104
1SX-7
X-133
1SX-11
14
13
23
X-244
1SX-10
1SX-2
1SX-4
1SX-8
1SX-13
2SX-16
2SX-23
X-127
X-125
X-113
1SX-1
X-120
1SX-3
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X-238
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1SX-15
1SX-16
2SX-17
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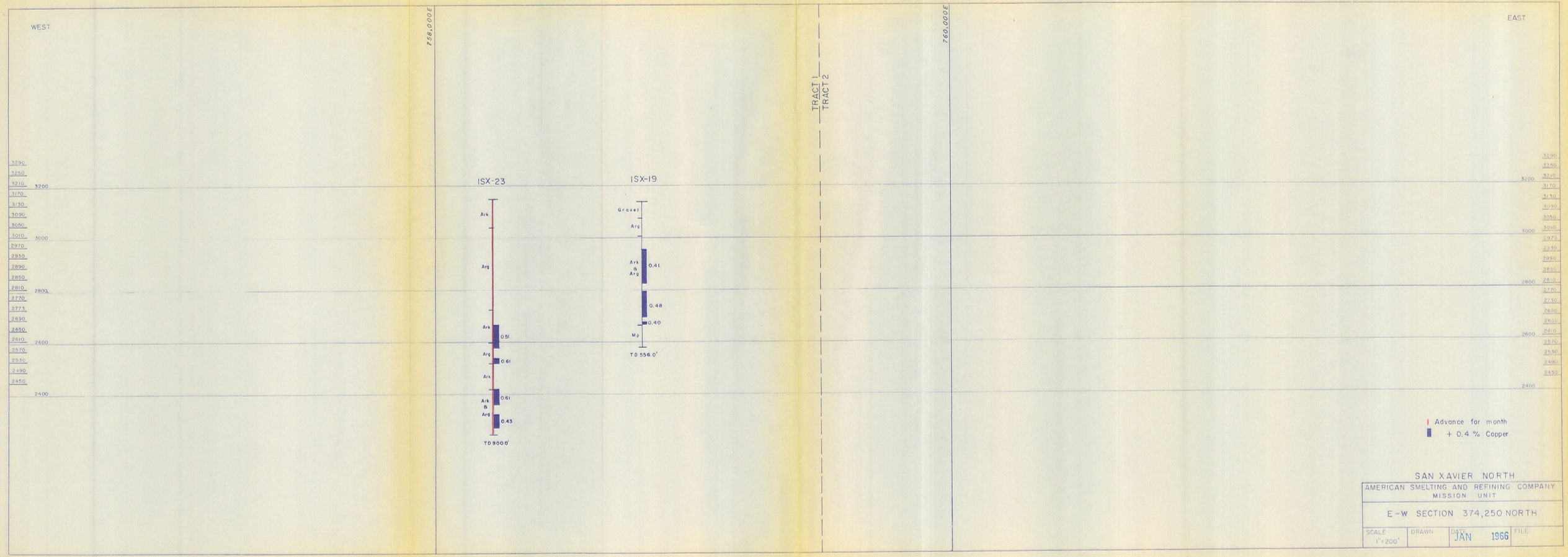
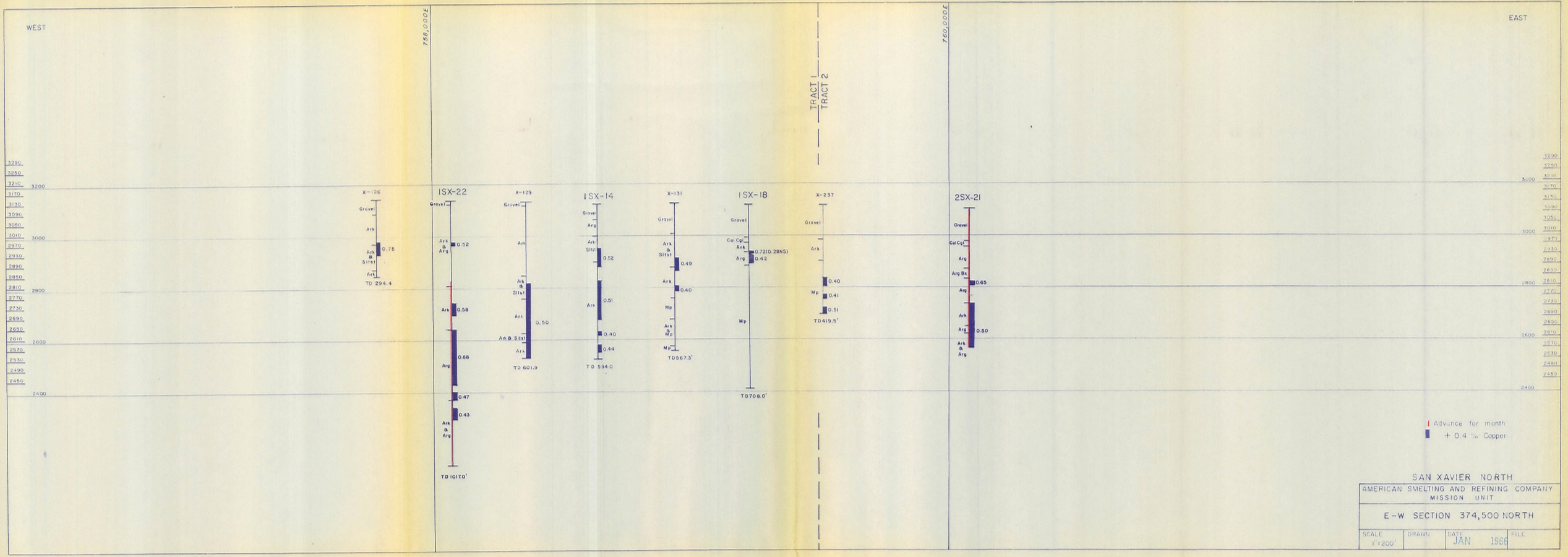
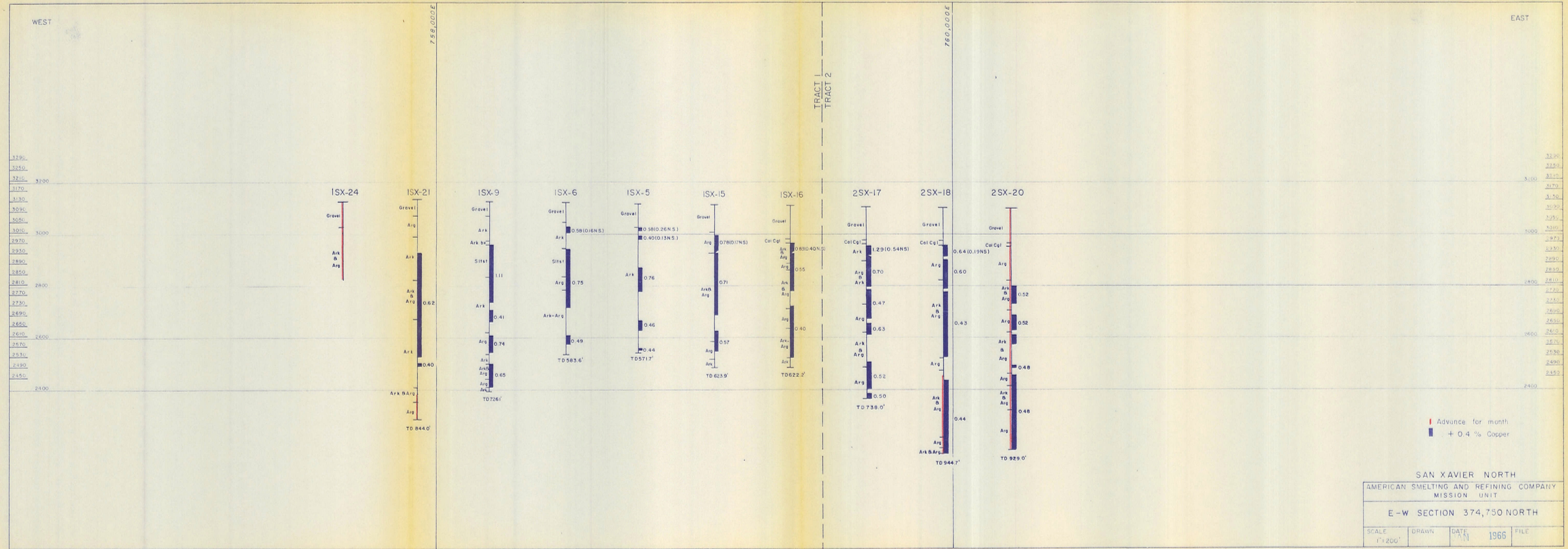
X-237
2SX-22
2SX-21
1SX-23
1SX-25
1SX-19
X-122S
X-137W
X-136
X-121
X-209
6-11
X-243
X-240
X-134
PROPOSED DRILL HOLES
DRILL HOLES IN PROGRESS
DRILL HOLES COMPLETED
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
DIAMOND DRILLING PROGRESS MAP
SAN XAVIER NORTH
SCALE
1"=200'
DRAWN
ENG. DEPT.
DATE
JAN 1966
FILE


WEST
EAST
728,000E
760,000E
TRACT 1
TRACT 2
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
ISX-23
Ark
Arg
Ark
0.51
Arg
0.61
Ark
Ark & Arg
0.61
0.43
TD 900.0'
ISX-19
Gravel
Arg
Ark & Arg
0.41
0.48
0.40
Mp
TD 556.0'
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 374,250 NORTH
SCALE 1"=200'
DRAWN
DATE JAN 1966
FILE


WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
3200
3000
2800
2600
2400
X-126
Gravel
Ark
0.75
Ark & Siltst
Ark
TD 294.4
1SX-22
Gravel
Ark & Arg
0.52
Ark
0.58
Arg
0.68
0.47
0.43
Ark & Arg
TD 1017.0'
X-129
Gravel
Ark
Ark & Siltst
Ark
0.50
Ark & Siltst
Ark
TD 601.9
1SX-14
Gravel
Arg
Ark & Siltst
0.52
Ark
0.51
0.40
0.44
TD 594.0
X-131
Gravel
Ark & Siltst
0.49
Ark
0.40
Mp
Ark & Mp
Mp
TD567.3'
1SX-18
Gravel
Cal Cgl
Ark
0.72(0.28NS)
Arg
0.42
Mp
TD708.0'
X-237
Gravel
Ark
0.40
Mp
0.41
0.51
TD419.5'
2SX-21
Gravel
Cal Cgl
Arg
Arg Bx
0.65
Arg
Ark
Arg
0.50
Ark & Arg
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 374,500 NORTH
SCALE 1"=200'
DRAWN
DATE JAN 1966
FILE


WEST
EAST
758,000E
750,000E
TRACT 1
TRACT 2
3290
3250
3210
3170
3130
3090
3050
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2970
2930
2890
2850
2810
2770
2730
2690
2650
2610
2570
2530
2490
2450
3200
3000
2800
2600
2400
1SX-24
Gravel
Ark & Arg
1SX-21
Gravel
Arg
Ark
Ark & Arg
0.62
Ark
0.40
Ark & Arg
Arg
TD 844.0'
1SX-9
Gravel
Ark
Ark & Sltst
Sltst
1.11
Ark
0.41
Arg
0.74
Ark
Ark & Arg
Arg
Ark
0.65
TD 726'
1SX-6
Gravel
0.58(0.16N.S.)
Ark
Sltst
Arg
0.75
Ark-Arg
0.49
TD 583.6'
1SX-5
Gravel
0.58(0.26N.S.)
0.40(0.13N.S.)
Ark
0.76
0.46
0.44
TD 571.7'
1SX-15
Gravel
Arg
0.78(0.17N.S.)
Ark & Arg
0.71
Arg
0.57
Ark
TD 623.9'
1SX-16
Gravel
Col Cgl
Ark & Arg
0.63(0.40N.S.)
Arg
0.55
Ark & Arg
Arg
0.40
Ark-Arg
Ark
TD 622.2'
2SX-17
Gravel
Col Cgl
Ark
1.29(0.54NS)
Arg & Ark
0.70
0.47
Arg
0.63
Ark & Arg
0.52
Arg
0.50
TD 738.0'
2SX-18
Gravel
Col Cgl
0.64(0.19NS)
Arg
0.60
Ark & Arg
0.43
Arg
Ark & Arg
0.44
Arg
Ark & Arg
TD 944.7'
2SX-20
Gravel
Col Cgl
Arg
Ark & Arg
0.52
Arg
0.52
Ark & Arg
0.48
Arg
Ark & Arg
0.48
Arg
TD 929.0'
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 374,750 NORTH
SCALE 1"=200'
DRAWN
DATE JAN 1966
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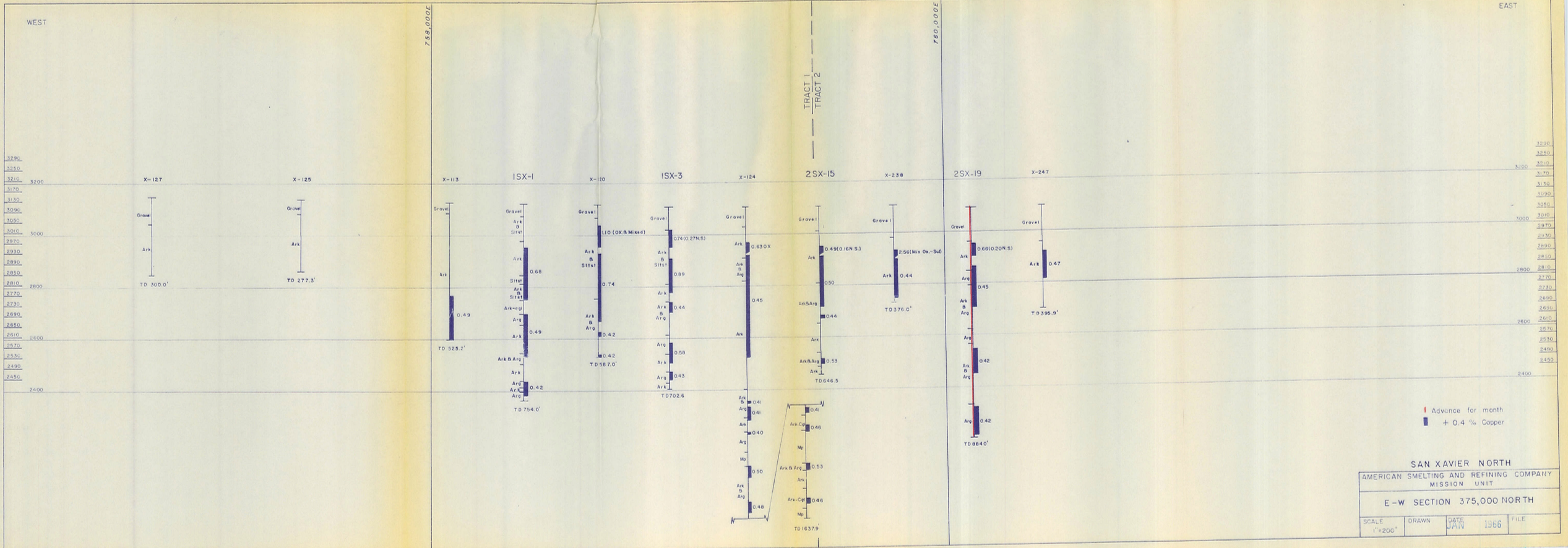
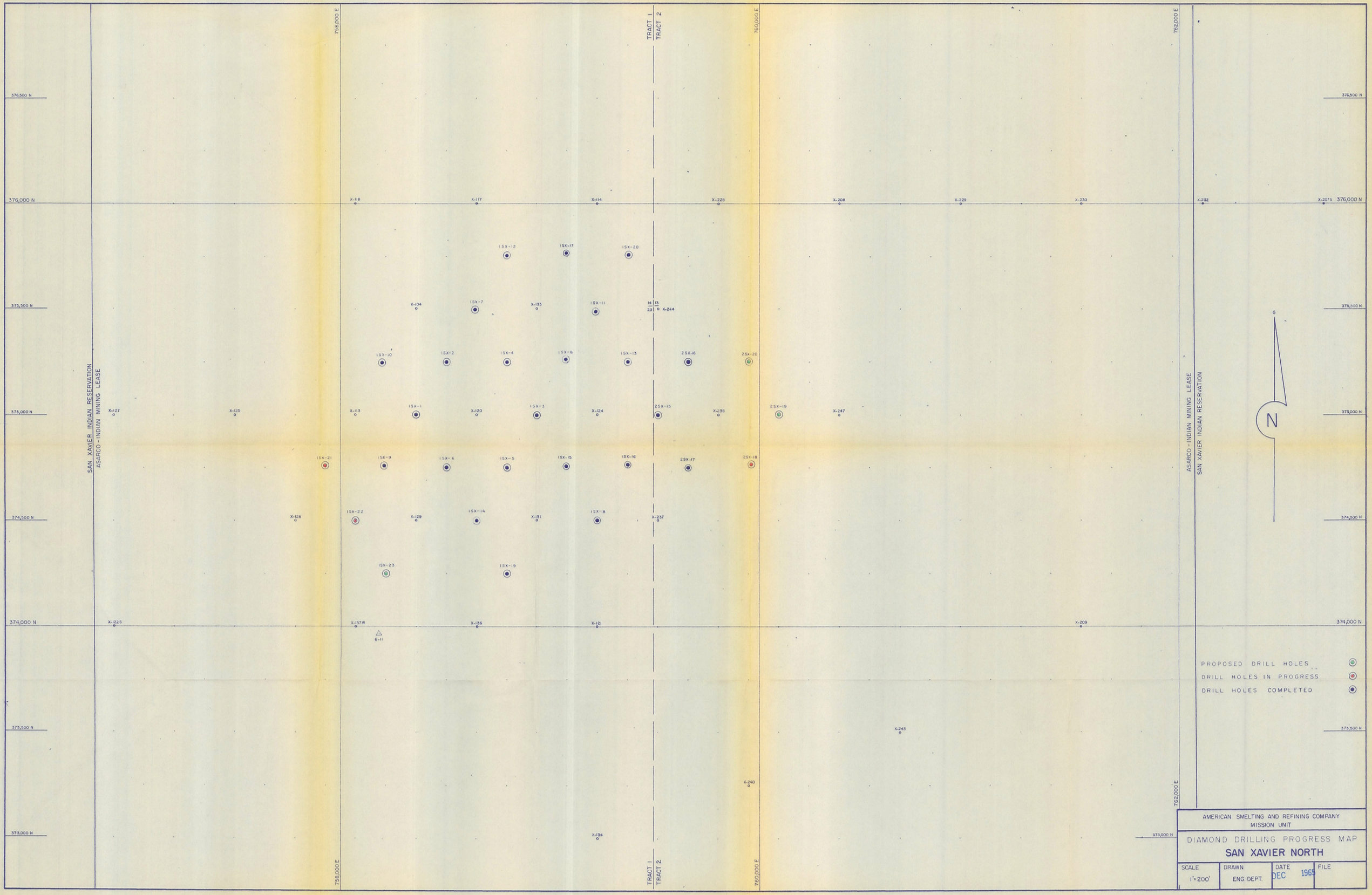

WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
X-127
TD 300.0'
X-125
TD 277.3'
X-113
TD 525.2'
1SX-1
TD 754.0'
X-120
T.D 587.0'
1SX-3
TD702.6
X-124
TD1637.9
2SX-15
TD646.5
X-238
T.D 376.0'
2SX-19
TD 884.0'
X-247
T.D 395.9'
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 375,000 NORTH
SCALE 1"=200'
DRAWN
DATE JAN 1966
FILE


758,000 E
760,000 E
762,000 E
TRACT 1
TRACT 2
376,500 N
376,000 N
375,500 N
375,000 N
374,500 N
374,000 N
373,500 N
373,000 N
SAN XAVIER INDIAN RESERVATION
ASARCO-INDIAN MINING LEASE
X-118
X-117
X-114
X-228
X-208
X-229
X-230
X-232
X-207S
X-104
X-133
X-244
X-127
X-125
X-113
X-120
X-124
X-238
X-247
X-126
X-129
X-131
X-237
X-122S
X-137W
X-136
X-121
X-209
X-243
X-240
X-134
6-11
15X-12
15X-17
15X-20
15X-7
15X-11
15X-10
15X-2
15X-4
15X-8
15X-13
25X-6
25X-20
15X-1
15X-3
25X-15
25X-19
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15X-5
15X-15
15X-16
25X-17
25X-18
15X-22
15X-14
15X-18
15X-23
15X-19
N
PROPOSED DRILL HOLES
DRILL HOLES IN PROGRESS
DRILL HOLES COMPLETED
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
DIAMOND DRILLING PROGRESS MAP
SAN XAVIER NORTH
SCALE
1"=200'
DRAWN
ENG. DEPT.
DATE
DEC 1965
FILE

Feb

DIAMOND DRILLING - MISSION UNIT

TRACT # 1

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
1 SX-24	3,128.0	374,758	757,636	614.9-634.6	19.7	0.42	Nil			
				794.1-855.3	61.2	0.46	Nil			
				932.1-990.3	58.2	0.48	Nil	699.9	1000.2	1000.2
1 SX-25	3,132.6	374,250	758,510	301.4-467.4	166.0	0.67	Nil			
				515.8-535.5	19.7	0.66	Nil	683.0	683.0	683.0
1 SX-26*	3,120.0	759,080	374,250	ASSAYS NOT AVAILABLE				332.5	332.5	-
1 SX-27*	3,120.0	759,370	374,250	ASSAYS NOT AVAILABLE				130.0	130.0	

TRACT # 2

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
2 SX-21	3,104.6	374,487	760,077	538.4-600.5	62.1	0.62	Nil			
				610.6-828.1	217.5	0.42	Nil	356.6	895.0	895.0
2 SX-22	3,109.5	374,519	759,807	261.9-332.4	70.5	0.62	Nil			
				361.8-753.3	391.5	0.49	Nil	824.0	824.0	824.0
2 SX-23	3,092.5	375,259	759,952	130.0-200.5	70.5	1.26	0.68			
				200.5-241.0	40.5	0.45	Nil			
				263.2-286.2	23.0	0.51	Nil			
				328.3-374.7	46.4	0.48	Nil			
				417.3-575.6	158.3	0.41	Nil			
				677.0-843.0	166.0	0.50	Nil	843.0	843.0	843.0
2 SX-24*	3,120.0	374,262	759,665	NO ORE RUNS				610.0	610.0	610.0
2 SX-25*	3,090.0	375,508	759,808	NO ORE RUNS				342.6	342.6	
								4821.6		
								10155.9		
								14,977.5		

25 holes

* Approximate Coordinates and Elevations

AMERICAN SMELTING AND REFINING COMPANY
Sahuarita Arizona
January 10, 1966

J.H.C.
JAN 14 1966

MEMORANDUM TO MR. P. A. LEWIS, SUPERINTENDENT

Re: Monthly Report on Diamond Drilling

SUMMARY - DISCUSSION

The total footage drilled during December amounted to 5,289.8 feet. Seven holes, 1SX-16, 1SX-17, 1SX-18, 1SX-19, 1SX-20, 2SX-16 and 2SX-17 were completed, while drilling commenced on holes 1SX-21, 1SX-22 and 2SX-18.

Drilling during December has established a northern limit to the main body of mineralization in the San Xavier North area. Ore grade material continues to be encountered to the east and southwest.

1SX-16, positioned in the east-central sector of the potential ore zone, encountered a lengthy run of low grade material at considerable depth. Good ore grade mineralization was encountered at relatively shallow depth during the previous month.

1SX-17, located in the northern segment of the ore zone, encountered a short run of low grade mineralization at considerable depth. This hole appears to delineate the northern limit of economic mineralization. The entire drill run in this hole is in the protore category.

1SX-18, drilling in the south central sector of the ore zone, encountered a short run of low grade ore material at shallow depths. Poorly mineralized monzonite was encountered at shallow depths displacing the mineralogically more favorable sediments in the area.

1SX-19, situated in the southern area of the mineralized zone, encountered a lengthy run of low grade ore mineralization. Monzonite was drilled at moderate depth suggesting that we may be approaching a southern limit of the ore zone in the area of this hole.

1SX-20, positioned to further delineate the northern limit of the ore zone, penetrated a number of short, low grade ore intercepts at considerable depth. Shearing and alteration are considerably weaker in this area.

1SX-21, located in the southwest sector of the ore zone, encountered a very extensive run of good ore grade mineralization at modest depth. This hole suggests the possibility of better mineralization being found to the southwest of the main ore zone.

1SX-22 has not reported any ore runs as yet and is still at a shallow depth.

2SX-16, positioned in the northeast area of the ore zone, drilled numerous short to modest runs of moderate grade mineralization over the entire length of the hole.

2SX-17, located in the east-central portion of the ore zone, encountered excellent mineralization at shallow depths. Good mineralization was encountered over the entire length of this hole.

Note: See holes N375, 750 Holes sent to NY on 1/20/69

2SX-18, situated in the eastern sector of the ore zone, penetrated a substantial run of good to moderate grade mineralization at shallow depths.

Three holes, 1SX-23, 2SX-19 and 2SX-20, are proposed to further delineate the limits of the ore zone.

GEOLOGIC LOG OF HOLES

1SX-16 continued in arkose to 622.2 feet where the hole bottomed.

1SX-17 continued in arkosic argillite to 421.0 feet where medium grained arkose was encountered. This arkose persisted to 523.0 feet where the hole bottomed.

1SX-18 penetrated leached and altered arkose bedrock at 147.7 feet and continued in this rock type to 187.2 feet where fine grained weakly mineralized argillite was encountered. At 236.3 feet, weak to sparsely mineralized metaporphyry was drilled and the hole continued in this rock to 708.0 feet where it was bottomed.

1SX-19 drilled leached and altered argillite bedrock at 63.6 feet and continued in this rock to 128.3 feet where the argillite graded to arkosic argillite. The arkosic argillite, with minor facies of argillite, persisted to 472.5 feet where weakly mineralized metaporphyry was disclosed. The hole bottomed in metaporphyry at 556.0 feet.

1SX-20 encountered leached and altered arkosic argillite bedrock at 110.0 feet and continued through alternating sequences of argillite and arkose to 698.7 feet where argillite with minor traces of metaporphyry was drilled. The hole bottomed in sparsely mineralized argillite.

1SX-21 penetrated leached and altered argillite bedrock at 63.5 feet and continued in this rock type to 143.1 feet where arkose was encountered. This well mineralized arkose persisted to 722.6 feet where weakly mineralized argillite was drilled. The hole was drilling in argillite at 747.3 feet by the end of the month.

1SX-22 encountered leached and altered argillite bedrock at 15.0 feet and continued in this rocktype to 185.7 feet where arkose and arkosic argillite was penetrated. This arkose with occasional facies of argillite persisted to 308.3 feet where the hole stood at the end of the month.

2SX-16 drilled leached and altered arkose bedrock at 121.4 feet and continued in this rocktype to 262.8 feet where mineralized argillite was encountered. This argillite with minor arkose facies persisted to 493.5 feet where arkosic argillite was penetrated. Medium grained arkose was disclosed at 670.4 feet and the hole bottomed in arkose at 684.0 feet.

2SX-17 encountered leached and altered arkose bedrock at 140.4 feet and continued in well mineralized arkose to 380.3 feet where argillite was penetrated. The remainder of the hole was alternating sequences of arkose and argillite with the hole bottoming in argillite at 738.0 feet.

28X-18 penetrated leached and altered argillite bedrock at 142.1 feet and continued in well mineralized argillite to 289.4 feet where arkosic argillite was drilled. This mineralized arkosic argillite persisted to 651.2 feet where the hole stood at the end of the month.

Sections illustrating drilling progress for December, a list of abbreviations utilized on cross sections, a tabulation of ore intercepts for the month, and a plan map with hole locations and proposed drill holes are attached.

S. A. Anzalone

S. A. ANZALONE, Resident Geologist

SAA:vnt
attachs

DIAMOND DRILLING - MISSION UNIT

December, 1965
TRACT 1

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
1SX-16	3,111.0	374,764	759,370	386.5-586.7*	200.2	0.40	Nil	25.2	622.2	622.2
1SX-17	3,092.9	375,764	759,078	397.6-421.0	23.4	0.50	Nil	163.8	523.0	523.0
1SX-18	3,117.9	374,507	759,225	178.0-187.2	9.2	0.72	.28			
				187.2-227.5	40.3	0.42	Nil	618.2	708.0	708.0
1SX-19	3,128.8	374,249	758,800	182.0-312.2	130.2	0.41	Nil			
				342.6-442.0	99.4	0.48	Nil			
				459.4-471.3	11.9	0.40	Nil	556.0	556.0	556.0
1SX-20	3,087.5	375,758	759,375	118.9-134.8	15.9	0.58	.12			
				572.5-600.7	28.2	0.44	Nil			
				735.4-745.4	10.0	0.42	Nil			
				780.1-790.1	10.0	0.49	Nil	797.8	797.8	797.8
1SX-21	3,133.7	374,759	757,925	205.4-603.3	379.9	0.62	Nil	747.3	747.3	
1SX-22	3,135.0	374,500	758,070	No Assays Available				308.3	308.3	

* Not reported in report covering November Drilling

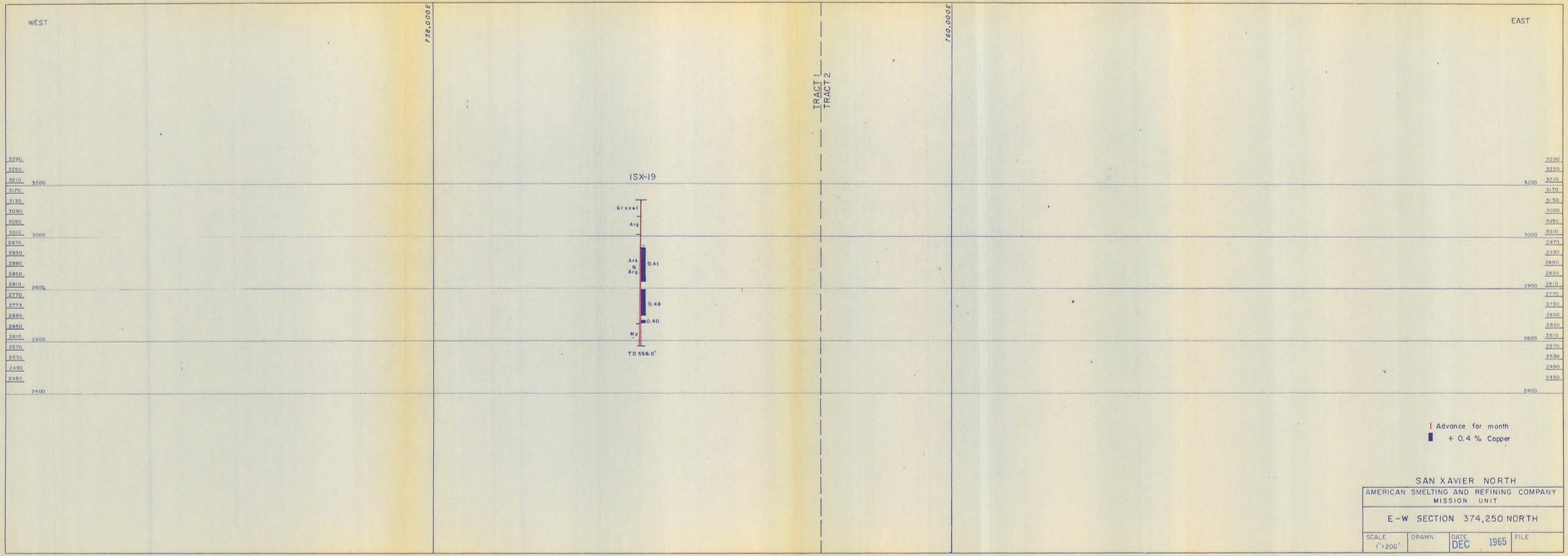
DIAMOND DRILLING - MISSION UNIT

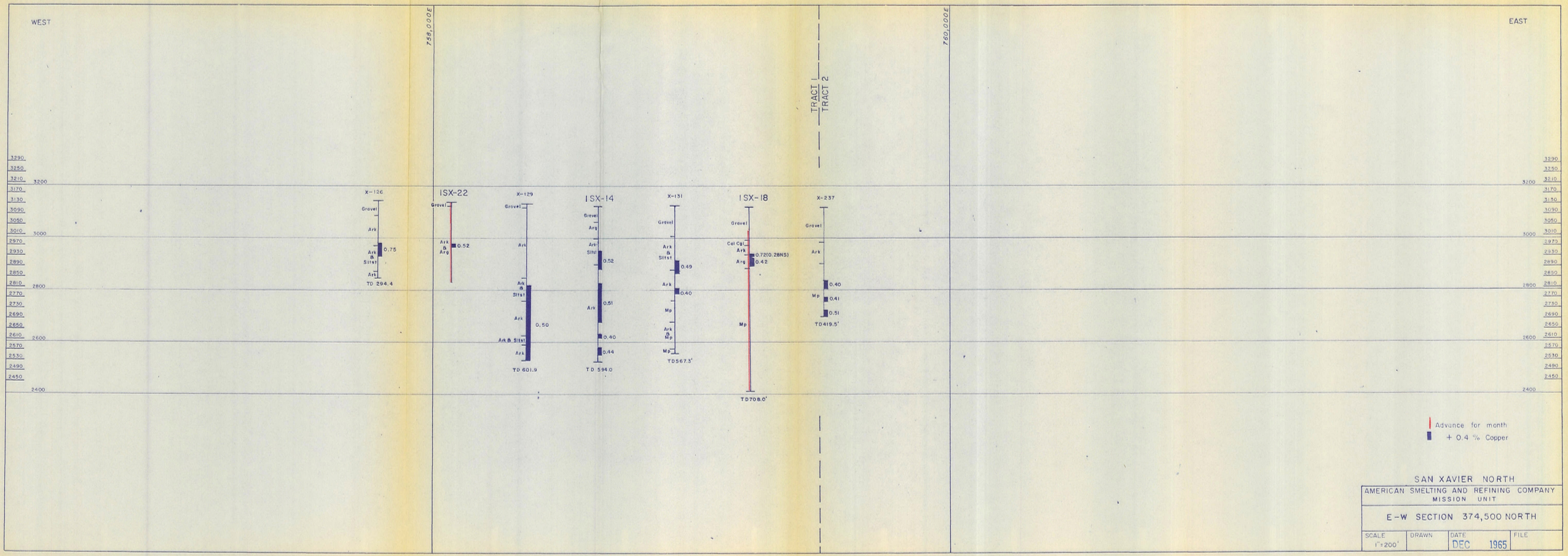
December, 1965
TRACT 2

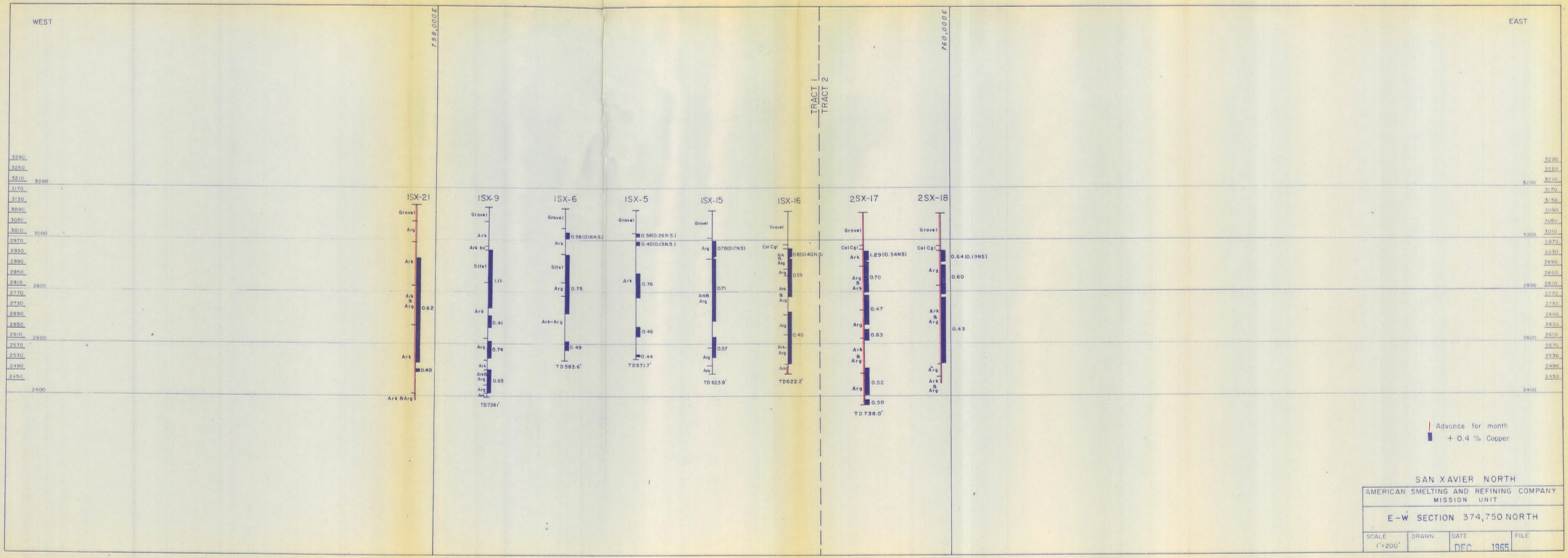
Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
2SX-16	3,093.6	375,254	759,661	152.2-203.8	51.6	0.82	0.31			
				252.4-280.5	28.1	0.48	Nil			
				319.3-350.4	31.1	0.59	Nil			
				462.8-472.9	10.1	0.54	Nil			
				564.8-620.4	55.6	0.47	Nil			
				670.4-684.0	13.6	0.43	Nil	684.0	684.0	684.0
2SX-17	3,107.4	374,755	759,668	150.1-185.3	35.2	1.29	.54			
				185.3-305.6	120.3	0.70	Nil			
				315.8-433.4	117.6	0.47	Nil			
				451.0-493.8	42.8	0.63	Nil			
				589.4-700.6	111.2	0.52	Nil			
				715.4-738.0	22.6	0.50	Nil	738.0	738.0	738.0
2SX-18	3,101.9	374,765	759,963	142.1-188.1	46.0	0.64	0.19			
				198.8-309.4	110.6	0.60	Nil			
				320.3-457.4	137.1	0.45	Nil	651.2	651.2	

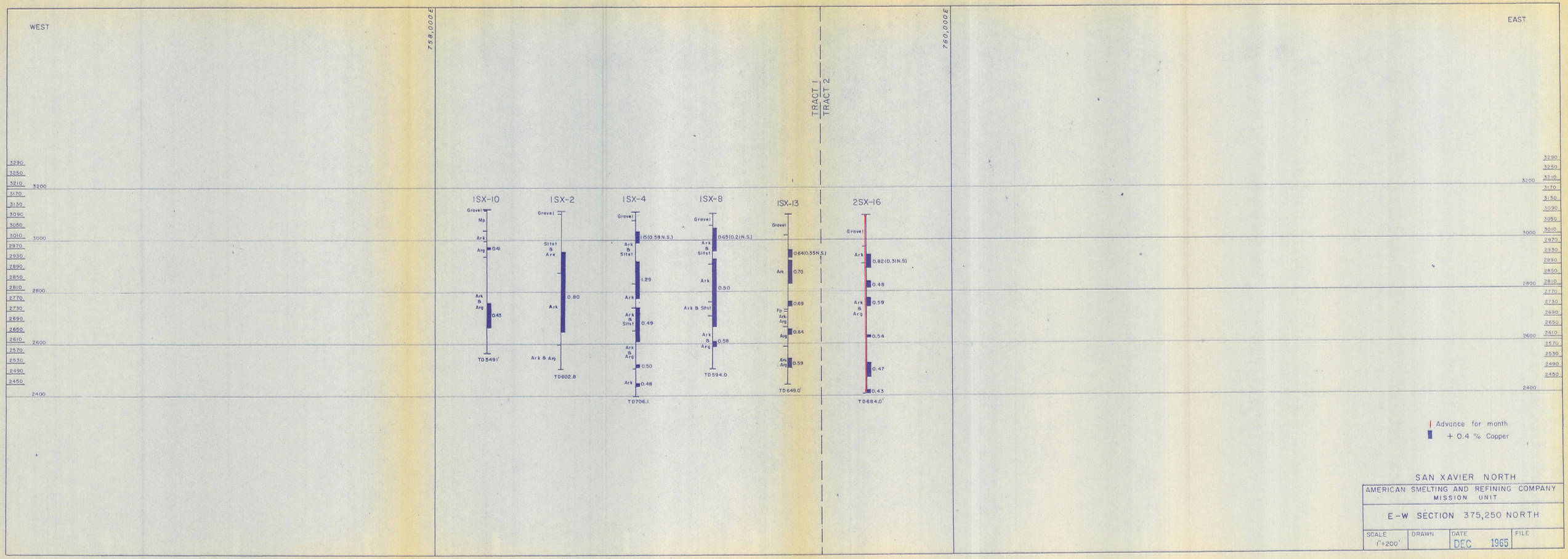
EXPLANATION OF ABBREVIATIONS ON SECTIONS

Cal. Cgl.	- Caliche Conglomerate (Overburden)
Arg.	- Argillite
Cgl.	- Conglomerate
Tc.	- Tactite
Hf.	- Hornfels
Mb.	- Marble
C. Arg.	- Calcareous Argillite
N.S.	- Non Sulfide
T.D.	- Total Depth
And.	- Andesite
Bx.	- Breccia
Mp.	- Metaporphyry
Gyp.	- Gypsum
Gr.	- Granite


WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
1SX-19
Gravel
Arg
Ark & Arg
0.41
0.48
0.40
Mp
TD 556.0'
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 374,250 NORTH
SCALE 1"=200'
DRAWN
DATE DEC 1965
FILE


WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
X-126
Gravel
Ark
Ark & Arg
0.75
Ark & Siltst
Ark
TD 294.4
ISX-22
Gravel
Ark & Arg
0.52
X-129
Gravel
Ark
Ark & Siltst
0.50
Ark
Ark & Siltst
Ark
TD 601.9
ISX-14
Gravel
Arg
Ark-Siltst
0.52
Ark
0.51
0.40
0.44
TD 594.0
X-131
Gravel
Ark & Siltst
0.49
Ark
0.40
Mp
Ark & Mp
Mp
TD 567.3'
ISX-18
Gravel
Cal Cgl
Ark
0.72(0.28NS)
Arg
0.42
Mp
TD 708.0'
X-237
Gravel
Ark
0.40
Mp
0.41
0.51
TD 419.5'
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 374,500 NORTH
SCALE 1"=200'
DRAWN
DATE DEC 1965
FILE


WEST
EAST
759,000E
760,000E
TRACT 1
TRACT 2
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
ISX-21
Gravel
Arg
Ark
Ark & Arg
0.62
Ark
0.40
Ark & Arg
ISX-9
Gravel
Ark
Ark bx
Siltst
1.11
Ark
0.41
Arg
0.74
Ark
Ark & Arg
0.65
Arg
Ark
TD 726'
ISX-6
Gravel
0.58 (0.16 N.S.)
Ark
Siltst
Arg
0.75
Ark-Arg
0.49
TD 583.6'
ISX-5
Gravel
0.58 (0.26 N.S.)
0.40 (0.13 N.S.)
Ark
0.76
0.46
0.44
TD 571.7'
ISX-15
Gravel
Arg
0.78 (0.17 N.S.)
0.71
Ark & Arg
0.57
Arg
Ark
TD 623.9'
ISX-16
Gravel
Cal Cgl
Ark & Arg
0.83 (0.40 N.S.)
Arg
0.55
Ark & Arg
Arg
0.40
Ark-Arg
Ark
TD 622.2'
2SX-17
Gravel
Cal Cgl
Ark
1.29 (0.54 N.S.)
Arg & Ark
0.70
0.47
Arg
0.63
Ark & Arg
0.52
Arg
0.50
TD 738.0'
2SX-18
Gravel
Cal Cgl
0.64 (0.19 N.S.)
Arg
0.60
Ark & Arg
0.43
Arg
Ark & Arg
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 374,750 NORTH
SCALE
1" = 200'
DRAWN
DATE
DEC 1965
FILE


WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
1SX-10
Gravel
Mp
Ark
Arg
0.41
Ark & Arg
0.43
TD 549.1'
1SX-2
Gravel
Sltst & Ark
0.80
Ark
Ark & Arg
TD602.8
1SX-4
Gravel
Ark & Sltst
1.15(0.58 N.S.)
1.29
Ark
Ark & Sltst
0.49
Ark & Arg
0.50
Ark
0.48
TD706.1
1SX-8
Gravel
Ark & Sltst
0.65(0.21 N.S.)
Ark
0.50
Ark & Sltst
Ark & Arg
0.58
TD594.0
1SX-13
Gravel
0.64(0.35 N.S.)
Ark
0.70
0.69
Fp
Ark
Arg
0.64
Ark
Arg
0.59
TD 649.0'
2SX-16
Gravel
Ark
0.82(0.31 N.S.)
0.48
Ark & Arg
0.59
0.54
0.47
0.43
TD684.0'
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 375,250 NORTH
SCALE
1"=200'
DRAWN
DATE
DEC 1965
FILE

Jan

DIAMOND DRILLING - MISSION UNIT

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
TRACT # 1										
1 SX-21	3,133.7	374,759	757,925	NO ORE INTERCEPTS				96.7	844.0	844.0
1 SX-22	3,135.5	374,500	758,070	390.7-440.4	49.7	0.58	Nil	708.7	1,017.0	1,017.0
				491.2-702.4	211.2	0.68	Nil			
				735.7-761.8	26.1	0.47	Nil			
				792.7-839.0	46.3	0.43	Nil			
1 SX-23	3,149.8	374,240	758,222	480.1-570.2	90.1	0.51	Nil	900.0	900.0	900.0
				607.5-627.5	20.0	0.61	Nil			
				725.1-785.5	60.4	0.61	Nil			
				824.9-875.9	51.0	0.43	Nil			
1 SX-24	3,128.0	374,758	757,636	NO ORE INTERCEPTS				300.3	300.3	
TRACT # 2										
2 SX-18	3,101.9	374,765	759,963	320.3-574.2*	253.9	0.43	Nil	293.5	944.7	944.7
				666.7-944.7	278.0	0.44	Nil			
2 SX-19	3,093.1	374,994	760,103	137.5-188.3	50.8	0.66	0.20	884.0	884.0	884.0
				224.4-385.8	161.4	0.45	Nil			
				546.6-640.3	93.7	0.42	Nil			
				768.9-873.9	105.0	0.42	Nil			
2 SX-20	3,098.7	374,739	760,226	299.1-367.0	67.9	0.52	Nil	929.0	929.0	929.0
				412.7-468.8	56.1	0.52	Nil			
				488.8-523.5	34.7	0.43	Nil			
				603.0-613.2	10.2	0.48	Nil			
				643.7-714.2	70.5	0.61	Nil			
2 SX-21	3,104.6	374,487	760,077	280.0-296.9	16.9	0.65	Nil	538.4	538.4	

* Entire run not reported in December Drilling Report.

AMERICAN SMELTING AND REFINING COMPANY
Sahuarita Arizona
December 10, 1965

MEMORANDUM TO MR. P. A. LEWIS, SUPERINTENDENT

Re: Monthly Report on Diamond Drilling

SUMMARY - DISCUSSION

The total footage drilled during November amounted to 4,309.7 feet. Seven holes, 1SX-9, 1SX-10, 1SX-11, 1SX-12, 1SX-13, 1SX-14 and 1SX-15 were completed, while drilling commenced on holes 1SX-16, 1SX-17 and 1SX-18.

Drilling on the San Xavier North project continues to produce lengthy runs of ore grade mineralization. The grade of ore encountered has decreased as the drilling progresses to the east. This decrease was anticipated and the results continue to exceed the over-all expected grade and tonnage for the area.

1SX-9 positioned in the southwest sector of the potential ore zone, penetrated two modest runs of good grade mineralization. This hole has been the most successful hole drilled on the San Xavier North project. Lengthy runs of excellent mineralization were encountered from 165.3 feet to 710.3 feet.

1SX-10 located on the west flank of the ore zone, encountered a modest run of low grade ore mineralization at moderate depth. This hole is apparently near the western limit of the shallow ore zone.

1SX-11 positioned in the northeast area of the mineralized zone, has encountered only short runs of low grade mineralization. Lengthy runs of protore (0.20-0.40) were encountered however.

1SX-12 situated in the north sector of the ore zone, has drilled a number of modest length, low grade ore runs at moderate depth.

1SX-13 located in the east central portion of the mineralized zone, encountered extensive runs of moderate to low grade mineralization. Starting at 134.0 feet, a 409.9 foot run of +0.40 copper was drilled.

1SX-14 positioned in the south central sector of the ore zone, penetrated an extensive run of moderate grade mineralization at relatively shallow depths.

1SX-15 drilling in the central part of the ore zone, encountered a lengthy run of good grade ore mineralization at shallow depths.

1SX-16 located in the southeast portion of the ore zone, penetrated extensive runs of moderate to low grade ore mineralization at shallow depth.

1SX-17 drilled a short high grade ore run at shallow depth. Beyond this the hole appears to be in a protore zone of 0.30 percent copper.

1SX-18 in the southeast sector of the ore zone, had not reached bedrock by the end of the month.

Two holes, 2SX-16 and 2SX-17, are proposed to further delineate the eastern extension of the main ore zone.

GEOLOGIC LOG OF HOLES

1SX-9 continued in argillite to 586.0 feet where arkose was encountered. Arkose was drilled to 619.0 feet where argillite was noted after a 30 degree fault. The argillite persisted to 710.3 feet where poorly mineralized arkose, in gradational contact with the argillite, was penetrated. The hole bottomed in arkose at 726.1 feet.

1SX-10 continued in arkose to 202.4 feet where poorly mineralized argillite was drilled. The argillite persisted to 359.5 feet where arkose was penetrated. The hole bottomed in arkose at 549.4 feet.

1SX-11 continued in arkosic argillite to 266.6 feet where the rock graded into a course grained arkose with occasional conglomeritic facies. This arkose continued to 473.9 feet where conglomeritic argillite was encountered. The hole bottomed in conglomeritic argillite at 545.4 feet.

1SX-12 encountered leached and altered arkose bedrock at 35.0 feet and continued in this rock type to 231.0 feet where fine grained argillite was drilled. The argillite, with occasional arkosic facies, persisted to 354.6 feet where a short sill-like mass of metaporphyry was penetrated. Arkosic argillite was encountered at 371.5 feet and continued to 485.1 feet where argillite was disclosed. This argillite, with minor arkosic horizons persisted to 622.1 feet where arkose was noted. The hole bottomed in arkose at 648.0 feet.

1SX-13 penetrated leached and altered arkose bedrock at 85.0 feet and continued in this rock type to 233.6 feet where arkosic argillite was drilled. The hole encountered a mixture of argillite and arkose over the remainder of its length, bottoming in argillite at 649.0 feet. Minor intercepts of metaporphyry were detected from 391.0 feet to 430.0 feet.

1SX-14 drilled arkosic argillite bedrock at 65.3 feet. The base of oxidation was noted at 165.0 feet. Alternating zones of arkose and argillite were recurrent throughout the length of this hole with the hole bottoming in arkose at 594.0 feet.

1SX-15 encountered leached and altered argillite bedrock at 104.0 feet and continued in a well mineralized run of this argillite to 428.9 feet where arkosic argillite was penetrated. The hole bottomed in arkosic argillite at 623.9 feet.

1SX-16 drilled leached and altered arkose bedrock at 141.0 feet and continued in this rock type to 228.6 feet where moderately mineralized arkosic argillite was encountered. Argillite was penetrated at 386.5 feet and persisted to 463.9 feet where arkosic argillite was again noted. Arkose was drilled at 586.7 feet and the hole bottomed in this rock at 622.2 feet.

1SX-17 penetrated leached and altered arkose bedrock at 70.0 feet and continued in this rock type to 160.5 feet where arkosic argillite was encountered. The hole was drilling arkosic argillite at the end of the month.

1SX-18 was drilling gravel overburden at a depth of 89.8 feet at the end of the month.

Sections illustrating drilling progress for November, a list of abbreviations utilized on cross sections, a tabulation of ore intercepts for the month, and a plan map with hole locations and proposed drill holes are attached.

SAA:vnt
attachs

S. A. Anzalone

S. A. ANZALONE, Resident Geologist

DIAMOND DRILLING - MISSION UNIT

November, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
1SX-9	3,128.0	374,758	758,207	549.7-579.3	29.6	0.90	Nil			
				621.7-710.3	88.6	0.65	Nil	176.4	726.1	726.1
1SX-10	3,118.8	375,246	758,199	359.5-452.4	92.9	0.43	Nil	352.4	549.4	549.4
1SX-11	3,094.6	375,515	759,219	244.4-266.6	22.2	0.54	Nil			
				507.7-517.8	10.1	0.42	Nil	301.0	545.4	545.4
1SX-12	3,097.6	375,758	758,788	187.8-231.0	43.3	0.64	Nil			
				485.1-537.7	52.6	0.43	Nil			
				559.9-571.5	11.6	0.42	Nil			
				585.5-611.7	27.2	0.53	Nil	648.0	648.0	648.0
1SX-13	3,098.3	375,258	759,366	134.0-164.4	30.4	0.64	0.35			
				174.6-263.1	88.5	0.70	Nil			
				332.1-351.9	19.8	0.69	Nil			
				439.4-458.0	18.6	0.64	Nil			
				553.6-584.5	30.9	0.59	Nil			
				*174.6-584.5	409.9	0.41	Nil	649.0	649.0	649.0
1SX-14	3,123.6	374,511	758,638	171.1-242.9	71.8	0.52	Nil			
				297.0-464.9	167.9	0.50	Nil			
				491.7-504.2	12.5	0.40	Nil			
				540.0-569.9	29.9	0.44	Nil			
				*171.1-569.9	398.8	0.43	Nil	594.0	594.0	594.0
1SX-15	3,113.3	374,758	759,077	115.6-182.0	66.4	0.78	0.17			
				182.0-419.8	237.8	0.71	Nil			
				485.3-564.7	79.4	0.57	Nil	623.9	623.9	623.9

DIAMOND DRILLING - MISSION UNIT

November, 1965

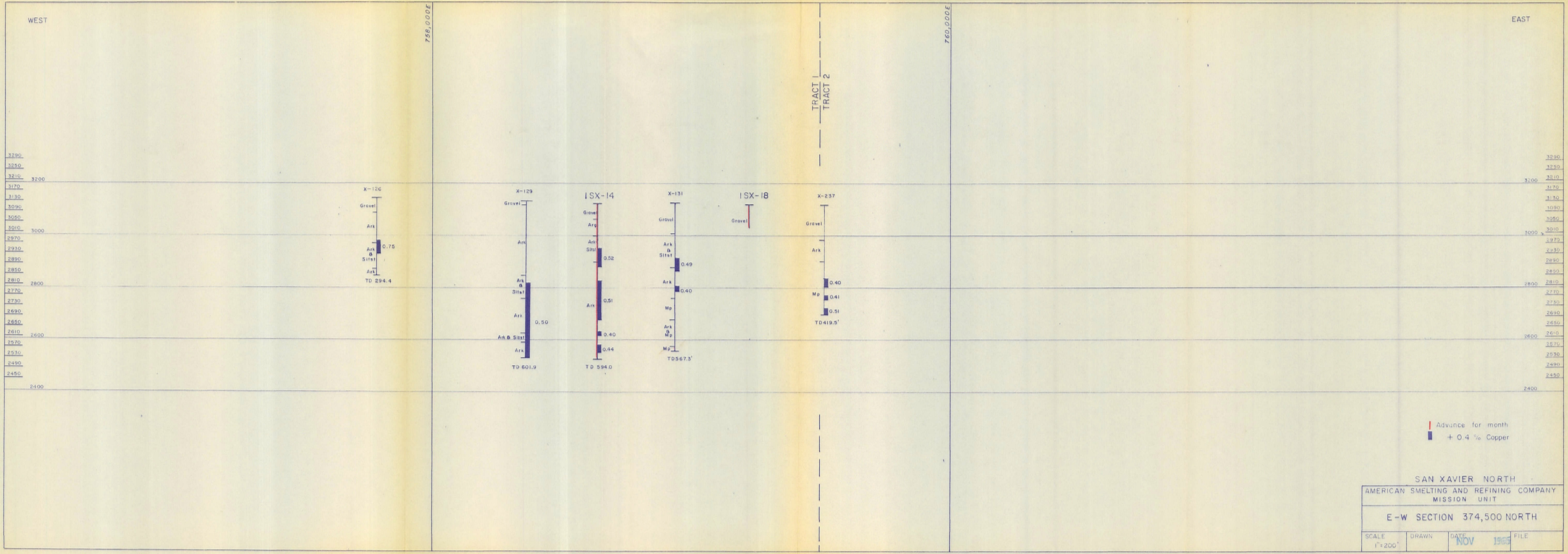
Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
1SX-16	3,111.0	374,764	759,370	141.0-179.5	38.5	0.83	0.40			
				179.5-326.6	147.1	0.54	Nil			
				386.5-586.7	200.2	0.40	Nil	597.0	597.0	
1SX-17	3,092.9	375,764	759,078	160.5-172.5	12.0	2.57	1.19	359.2	359.2	
1SX-18	3,117.9	374,507	759,225	No Ore Runs				89.8	89.8	

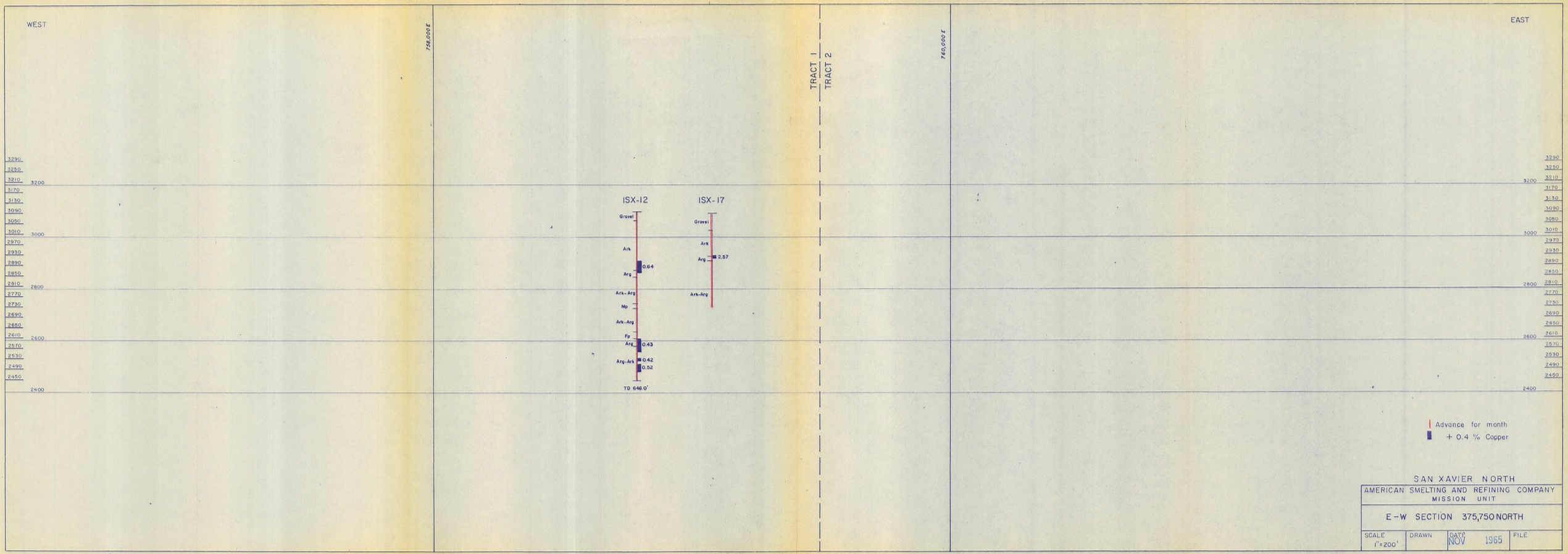
Total Footage November, 1965 4,390.7

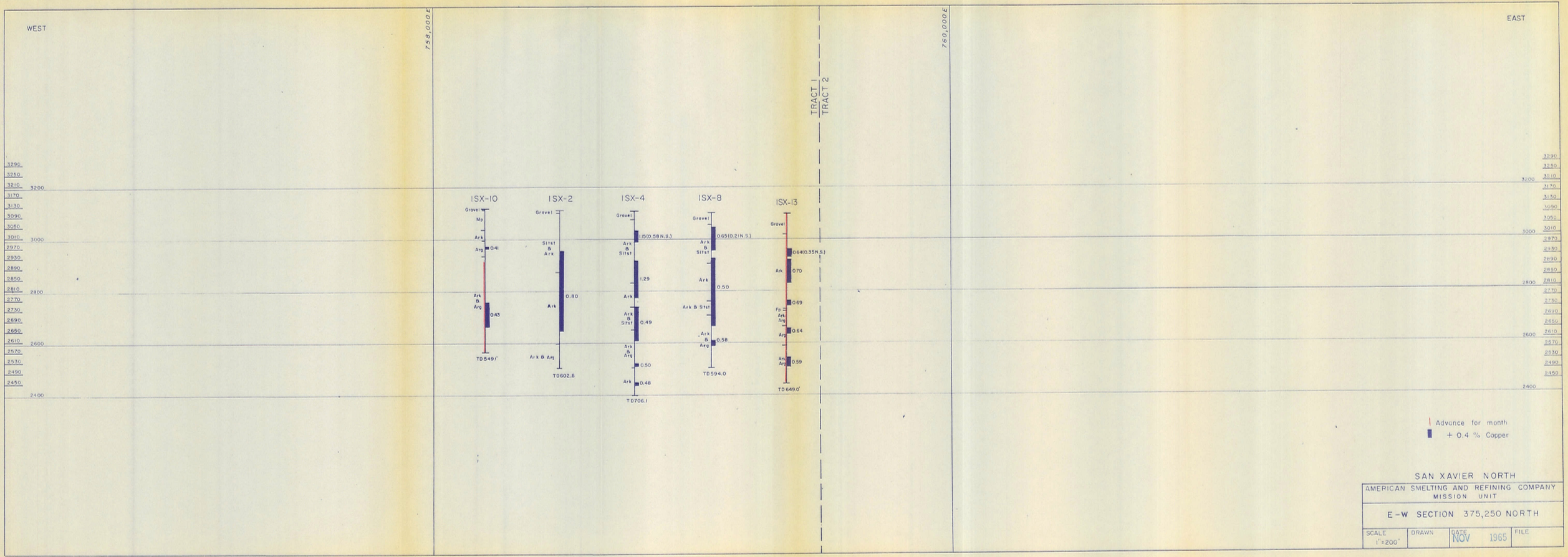
*Composite Illustrating Length of +0.40% Cu Runs

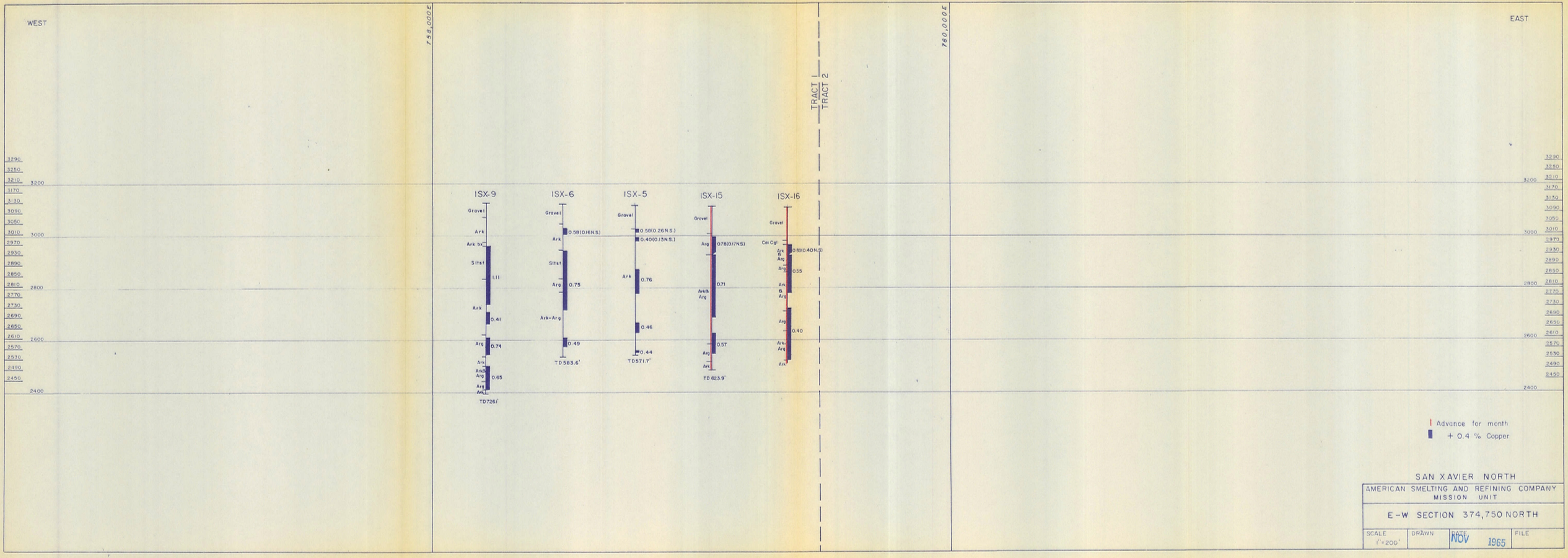
EXPLANATION OF ABBREVIATIONS ON SECTIONS

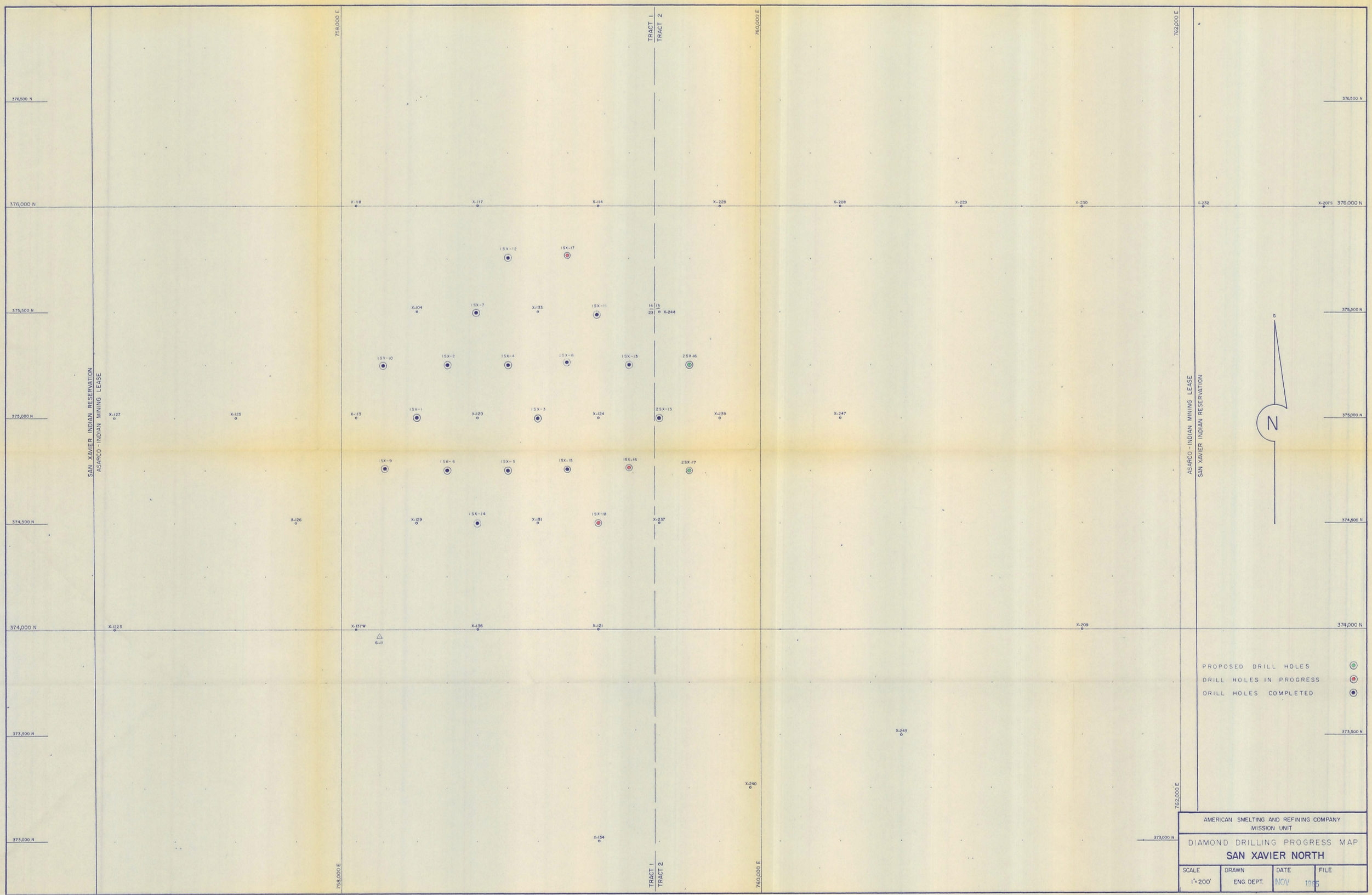
Cal. Cgl.	- Caliche Conglomerate (Overburden)
Arg.	- Argillite
Cgl.	- Conglomerate
Tt.	- Tactite
Hf.	- Hornfels
Mb.	- Marble
C. Arg.	- Calcareous Argillite
N.S.	- Non Sulfide
T.D.	- Total Depth
And.	- Andesite
Bx.	- Breccia
Mp.	- Mataporphyry
Gyp.	- Gypsum
Gr.	- Granite


WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
X-126
Gravel
Ark
Ark & Siltst
0.75
Ark
TD 294.4
X-129
Gravel
Ark
Ark & Siltst
Ark
0.50
Ark & Siltst
Ark
TD 601.9
ISX-14
Gravel
Arg
Ark
Siltst
0.52
0.51
Ark
0.40
0.44
TD 594.0
X-131
Gravel
Ark & Siltst
0.49
Ark
0.40
Mp
Ark & Mp
Mp
TD567.3'
ISX-18
Gravel
X-237
Gravel
Ark
0.40
Mp
0.41
0.51
TD419.5'
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 374,500 NORTH
SCALE 1"=200'
DRAWN
DATE NOV 1965
FILE


WEST
EAST
750,000 E
760,000 E
TRACT 1
TRACT 2
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
ISX-12
Gravel
Ark
Arg
0.64
Ark-Arg
Mp
Ark-Arg
Fp
Arg
0.43
Arg-Ark
0.42
0.52
TD 648.0'
ISX-17
Gravel
Ark
Arg
2.57
Ark-Arg
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 375,750 NORTH
SCALE
1"=200'
DRAWN
DATE
NOV 1965
FILE


WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
ISX-10
Gravel
Mp
Ark
Arg
0.41
Ark & Arg
0.43
TD 549.1'
ISX-2
Gravel
Siltst & Ark
0.80
Ark
Ark & Arg
TD 602.8
ISX-4
Gravel
1.15(0.58 N.S.)
Ark & Siltst
1.29
Ark
Ark & Siltst
0.49
Ark & Arg
0.50
Ark
0.48
TD 706.1
ISX-8
Gravel
0.65(0.21 N.S.)
Ark & Siltst
Ark
0.50
Ark & Siltst
Ark & Arg
0.58
TD 594.0
ISX-13
Gravel
0.64(0.35 N.S.)
Ark
0.70
0.69
Fp
Ark & Arg
Arg
0.64
Ark & Arg
0.59
TD 649.0'
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 375,250 NORTH
SCALE
1"=200'
DRAWN
DATE
NOV 1965
FILE


WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
ISX-9
Gravel
Ark
Ark bx
Sltst
1.11
Ark
0.41
Arg
0.74
Ark
Ark&
Arg
0.65
Arg
Ark
TD726'
ISX-6
Gravel
0.58(0.16N.S.)
Ark
Sltst
Arg
0.75
Ark-Arg
0.49
TD 583.6'
ISX-5
Gravel
0.58(0.26N.S.)
0.40(0.13N.S.)
Ark
0.76
0.46
0.44
TD571.7'
ISX-15
Gravel
Arg
0.78(0.17NS)
Ark&
Arg
0.71
Arg
0.57
Ark
TD 623.9'
ISX-16
Gravel
Cor Cgl
Ark
&
Arg
0.83(0.40N.S)
Arg
0.55
Ark
&
Arg
Arg
0.40
Ark-
Arg
Ark
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 374,750 NORTH
SCALE
1"=200'
DRAWN
DATE
NOV 1965
FILE


376,500 N
376,000 N
375,500 N
375,000 N
374,500 N
374,000 N
373,500 N
373,000 N
758,000 E
760,000 E
762,000 E
TRACT 1
TRACT 2
SAN XAVIER INDIAN RESERVATION
ASARCO - INDIAN MINING LEASE
X-118
X-117
X-114
X-228
X-208
X-229
X-230
X-232
X-207S
X-127
X-125
X-113
X-104
X-133
X-244
X-247
X-238
X-126
X-129
X-131
X-237
X-122S
X-157W
X-136
X-121
X-209
X-243
X-240
X-134
6-11
15X-12
15X-17
15X-7
15X-11
14
13
23
15X-10
15X-2
15X-4
15X-8
15X-13
25X-16
15X-1
15X-3
25X-15
15X-9
15X-6
15X-5
15X-15
15X-16
25X-17
15X-14
15X-18
N
PROPOSED DRILL HOLES
DRILL HOLES IN PROGRESS
DRILL HOLES COMPLETED
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
DIAMOND DRILLING PROGRESS MAP
SAN XAVIER NORTH
SCALE
1"=200'
DRAWN
ENG. DEPT.
DATE
NOV 1965
FILE

DIAMOND DRILLING - MISSION UNIT

December, 1965
TRACT 1

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
1SX-16	3,111.0	374,764	759,370	386.5-586.7*	200.2	0.40	Nil	25.2	622.2	622.2
1SX-17	3,092.9	375,764	759,078	397.6-421.0	23.4	0.50	Nil	163.8	523.0	523.0
1SX-18	3,117.9	374,507	759,225	178.0-187.2	9.2	0.72	.28			
				187.2-227.5	40.3	0.42	Nil	618.2	708.0	708.0
1SX-19	3,128.8	374,249	758,800	182.0-312.2	130.2	0.41	Nil			
				342.6-442.0	99.4	0.48	Nil			
				459.4-471.3	11.9	0.40	Nil	556.0	556.0	556.0
1SX-20	3,087.5	375,758	759,375	118.9-134.8	15.9	0.58	.12			
				572.5-600.7	28.2	0.44	Nil			
				735.4-745.4	10.0	0.42	Nil			
				780.1-790.1	10.0	0.49	Nil	797.8	797.8	797.8
1SX-21	3,133.7	374,759	757,925	205.4-603.3	379.9	0.62	Nil	747.3	747.3	
1SX-22**	3,135.0	374,500	758,070	No Assays Available				308.3	308.3	

2073.
290.6
4709.
4390
14390

* Not reported in report covering November Drilling
** Approximate Coordinates and Elevations

DIAMOND DRILLING - MISSION UNIT

December, 1965
TRACT 2

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
2SX-16	3,093.6	375,254	759,661	152.2-203.8	51.6	0.82	0.31			
				252.4-280.5	28.1	0.48	Nil			
				319.3-350.4	31.1	0.59	Nil			
				462.8-472.9	10.1	0.54	Nil			
				564.8-620.4	55.6	0.47	Nil			
				670.4-684.0	13.6	0.43	Nil	684.0	684.0	684.0
2SX-17	3,107.4	374,755	759,668	150.1-185.3	35.2	1.29	.54			
				185.3-305.6	120.3	0.70	Nil			
				315.8-433.4	117.6	0.47	Nil			
				451.0-493.8	42.8	0.63	Nil			
				589.4-700.6	111.2	0.52	Nil			
				715.4-738.0	22.6	0.50	Nil	738.0	738.0	738.0
2SX-18	3,101.9	374,765	759,963	142.1-188.1	46.0	0.64	0.19			
				198.8-309.4	110.6	0.60	Nil			
				320.3-457.4	137.1	0.45	Nil	651.2	651.2	

2,73

J. H. C.
NOV 17 1965

AMERICAN SMELTING AND REFINING COMPANY
Sahuarita Arizona
November 9, 1965

MEMORANDUM TO MR. P. A. LEWIS, Superintendent

Re: Monthly Report on Diamond Drilling

SUMMARY - DISCUSSION

The total footage drilled during October amounted to 4,709.6 feet. Eight holes, 1SX-2, 1SX-3, 1SX-4, 1SX-5, 1SX-6, 1SX-7, 1SX-8 and 2SX-15 were completed while drilling commenced on holes 1SX-9, 1SX-10 and 1SX-11.

Drilling on the San Xavier North project continues to produce favorable results. A well mineralized central zone has been delineated and moderate grade mineralization continues to be encountered as drilling proceeds out from this nucleus.

1SX-2 bottomed in weakly mineralized argillite. This hole encountered a substantial run of excellent grade ore in the previous month.

1SX-3 positioned in the center of the potential ore zone penetrated a number of runs of good mineralization. These ore penetrations were of modest length and at relatively shallow depth.

1SX-4 located in the central portion of the mineralized zone, encountered a lengthy run of high grade secondary sulphide mineralization at modest depth. This was followed by a long run of low to moderate grade primary sulphides.

1SX-5 positioned in the south central sector of the potential ore zone, encountered a modest run of ore grade mineralization at moderate depths. The hole continued in +0.30% copper for a considerable depth.

1SX-6 located in the southwest area of the mineralized zone encountered a substantial run of moderate grade ore material at shallow depths.

1SX-7 situated in the north west sector of the San Xavier North ore zone, encountered a long run of ore grade mineralization at shallow depths.

1SX-8 drilling in the east central portion of the ore zone penetrated a long run of moderate to low grade ore mineralization.

1SX-9 positioned in the southwest sector of the ore zone encountered a lengthy run of high grade secondary sulphide mineralization at relatively shallow depth. Following this high grade chalcocite zone, the primary mineralization continued, with strong copper values, to considerable depth. The hole was still in ore at the end of the month.

1SX-10 positioned on the west flank of the potential ore zone, has encountered a few short and weakly mineralized runs of ore grade material thus far. This hole is in close proximity to a small porphyry dike and some alteration feature related to this dike may have precluded the formation of any substantial amount of secondary copper sulphides.

1SX-11 located in the northeast segment of the mineralized zone encountered a modest run of low grade ore mineralization at shallow depth. The chalcocite mineralization appears to be diminishing in grade and thickness in this area.

2SX-15 situated in the eastern sector of the ore zone bottomed in weakly mineralized rock after drilling 16.6 feet during the month.

Three holes are proposed for the San Xavier North area. They are, 1SX-12, 1SX-13 and 1SX-14, positioned to extend the limits of the central high grade core of the ore zone.

GEOLOGIC LOG OF HOLES

1SX-2 bottomed in weakly mineralized argillite at a depth of 602.8 feet.

1SX-3 continued in arkose to 128.4 feet where a well mineralized silty facies of this arkosic sequence was penetrated. At 295.5 feet arkose was again encountered. This arkose, with occasional facies of argillite continued to 494.0 feet where moderately mineralized argillite was drilled. Arkose was penetrated at 564.0 ft. and the hole bottomed in this arkose at 702.6 feet.

1SX-4 penetrated leached and altered arkose bedrock at 33.0 feet and continued in this rocktype to 73.5 feet where the rock periodically assumed a siltstone texture. At 189.0 feet this siltstone sequence became strongly mineralized with chalcocite which persisted to 276.2 feet where moderately mineralized arkose was drilled. At 367.0 feet the arkose again displayed siltstone facies continuing to 475.4 feet where arkosic argillite was encountered. The hole bottomed in the arkosic-argillite at 706.1 feet.

1SX-5 encountered leached and altered arkose bedrock at 89.4 feet and continued in this rock to 571.7 feet where the hole was bottomed.

1SX-6 penetrated leached and altered arkose bedrock at 74.7 feet and continued in this rocktype to 178.3 feet where the rock took on argillite characteristics. At 218.6 feet, alternating sequences of arkoses, siltstones and argillites were encountered persisting to 335.3 feet where moderately well mineralized argillite was drilled. Arkose was again disclosed at 402.6 feet and the hole bottomed in this arkose at 583.6 feet.

1SX-7 encountered leached and altered arkose bedrock at 5.0 feet and continued in this rock to 120.3 feet where siltstone facies within the arkose became quite numerous. This well mineralized arkosic-siltstone continued to 469.5 feet where arkosic argillite was penetrated. The hole bottomed in arkosic argillite at 617.9 feet.

1SX-8 drilled leached and altered arkose bedrock at 45.0 feet and continued in this rocktype with occasional zones of siltstone and argillite to 594.0 feet where it was bottomed. The upper three quarters of the hole was moderately mineralized with secondary and primary copper sulphides.

1SX-9 encountered leached and altered arkose bedrock at 53.1 feet and continued in this rocktype to 165.5 feet where strongly mineralized siltstone was drilled. Arkose was again penetrated at 386.6 feet persisting to 507.3 feet where moderately mineralized argillite was disclosed. The hole was in argillite at 549.7 feet at the end of the month.

1SX-10 encountered leached and altered metaporphyry (?) bedrock at 5.0 feet and continued in this rock type to 90.5 feet where poorly mineralized arkose was encountered. The hole was drilling arkose at 197.0 feet at the end of the month.

1SX-11 drilled leached and altered arkosic argillite bedrock at 73.5 feet and continued in this rock type to 244.4 feet where the hole stood at the end of the month.

2SX-15 continued in arkose to 646.5 feet where the hole was bottomed.

Sections illustrating drilling progress for October, a list of abbreviations utilized on cross sections, a tabulation of ore intercepts for the month, and a plan map with hole locations and proposed drill holes are attached.

S. A. Anzalone

S.A. Anzalone, Resident Geologist

SAA:mlc

DIAMOND DRILLING - MISSION UNIT

October, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
1SX-2	3111.1	375,250	758,487		No Ore Intercepts			22.5	602.8	602.8
1SX-3	3108.9	375,002	758,926	89.0-158.3	69.3	0.74	0.27			
				199.9-328.6	128.7	0.89	Nil			
				366.0-404.6	38.6	0.44	Nil			
				512.7-600.8	88.1	0.58	Nil			
				635.3-666.6	31.3	0.43	Nil	606.1	702.6	702.6
1SX-4	3108.4	375,253	758,777	73.5-118.0	44.5	1.15	0.58			
				189.0-331.9	142.9	1.29	Nil			
				367.0-498.1	131.1	0.49	Nil			
				587.1-598.0	10.9	0.50	Nil			
				657.3-669.0	11.7	0.48	Nil	706.1	706.1	706.1
1SX-5	3115.1	374,746	758,781	89.4-100.0	10.6	0.58	0.26			
				122.0-133.4	11.4	0.40	0.13			
				242.0-334.0	92.0	0.76	Nil			
				451.1-481.1	30.0	0.46	Nil	571.7	571.7	571.7
1SX-6	3121.1	374,748	758,502	92.1-115.5	23.4	0.58	0.16			
				178.3-402.6	224.3	0.75	Nil			
				513.2-545.6	32.4	0.49	Nil	583.6	583.6	583.6
1SX-7	3105.9	375,504	758,641	139.4-380.3	240.9	0.68	Nil			
				426.0-436.8	10.8	0.56	Nil			
				512.0-563.6	51.6	0.50	Nil			
				593.8-611.2	17.4	0.46	Nil	617.9	617.9	617.9
1SX-8	3102.2	375,262	759,074	55.0-144.7	89.7	0.66	0.21			
				175.5-305.9	130.4	0.52	Nil			
				322.8-443.6	120.8	0.50	Nil			
				491.3-511.2	19.9	0.58	Nil	594.0	594.0	594.0

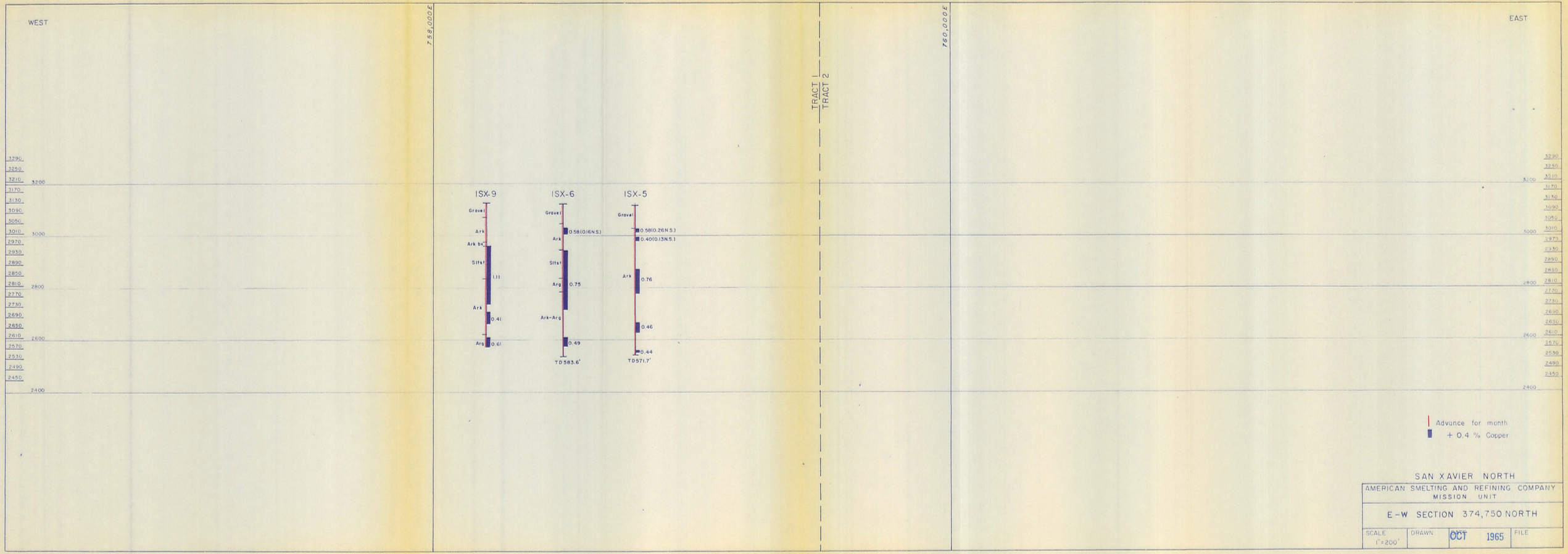
DIAMOND DRILLING - MISSION UNIT

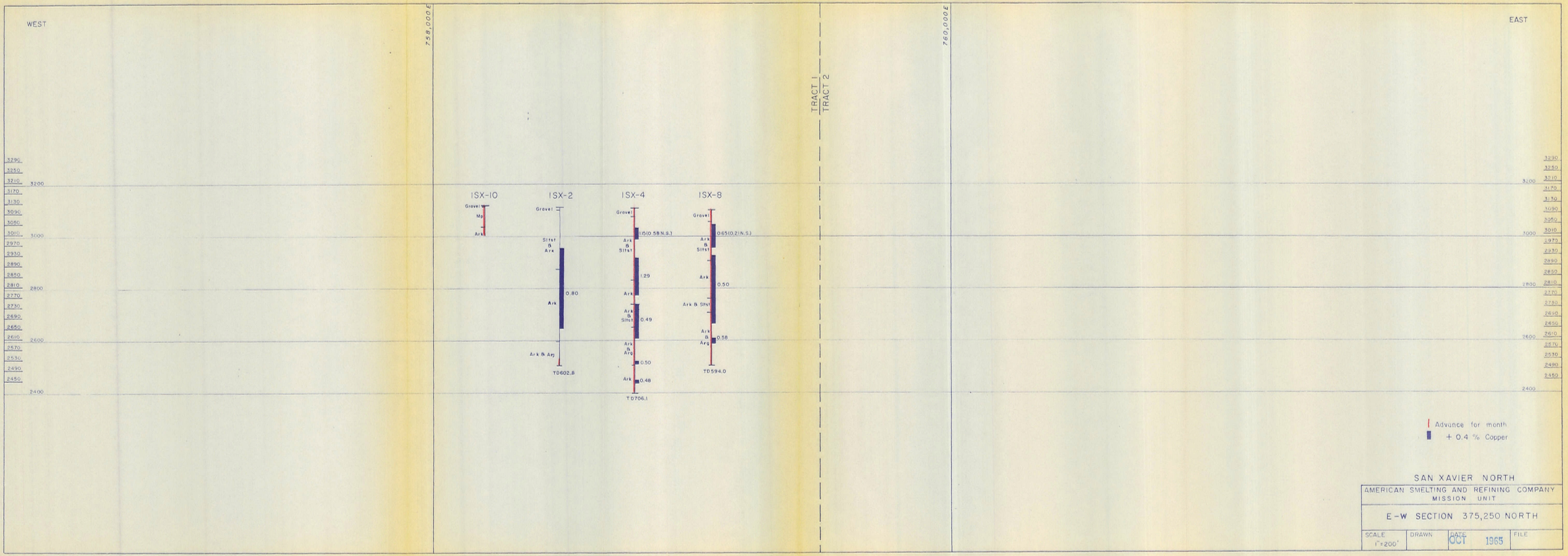
October, 1965

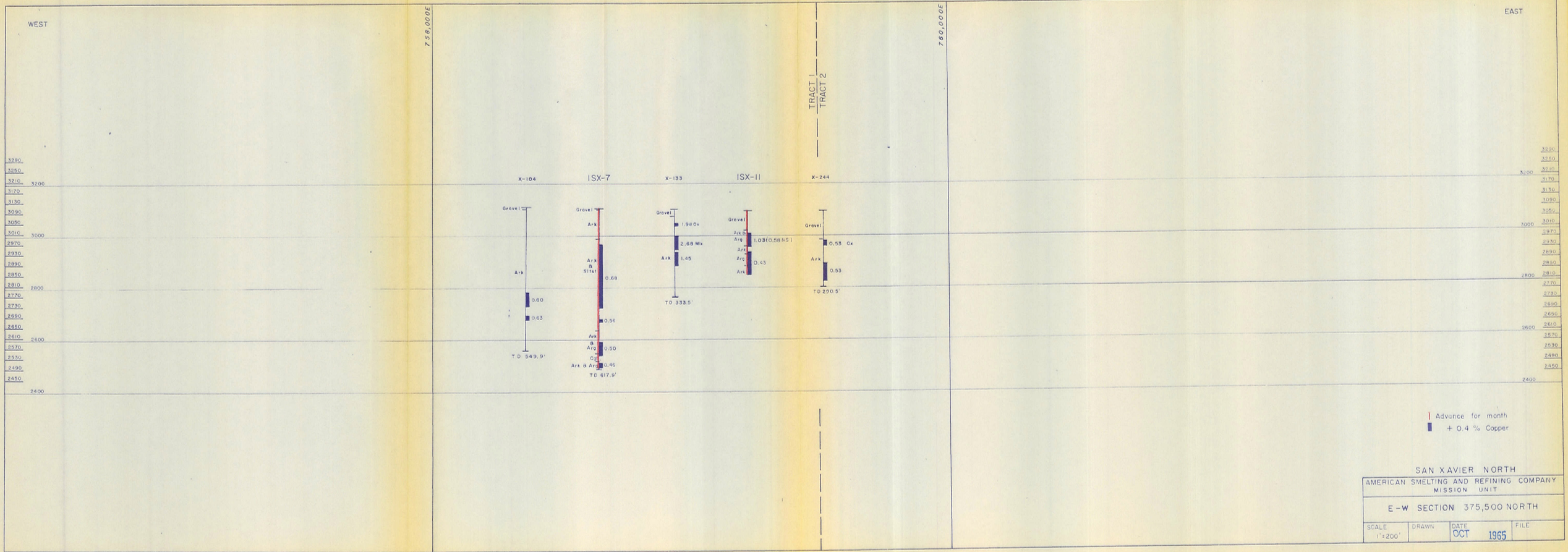
Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
1SX-9	3128.0	374,758	758,207	165.5-386.6	221.1	1.11	Nil			
				415.8-462.6	46.8	0.41	Nil			
				516.5-549.7	33.2	0.61	Nil	549.7	549.7	
1SX-10	3118.8	375,246	758,199		No Ore Runs			197.0	197.0	
1SX-11	3094.6	375,515	759,219	84.5-138.7	54.2	1.03	0.58			
				157.9-244.4	86.5	0.43	Nil	244.4	244.4	
2SX-15	3102.9	375,017	759,511		No Ore Runs			16.6	646.5	646.5

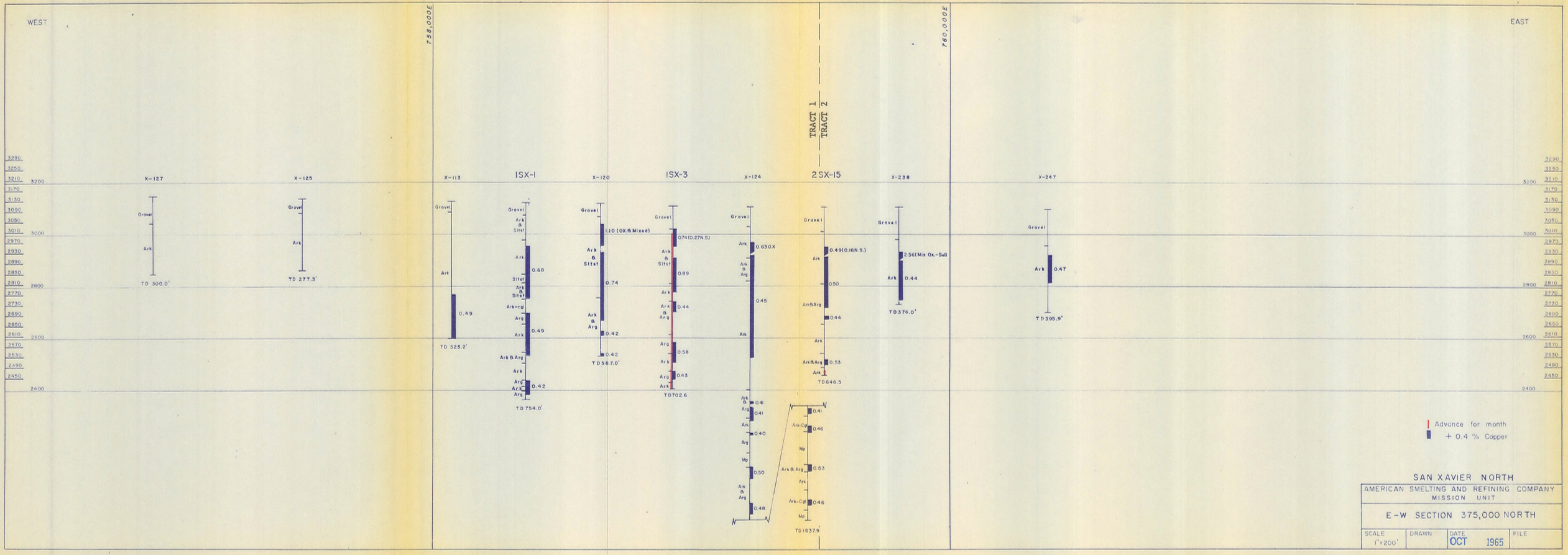
EXPLANATION OF ABBREVIATIONS ON SECTIONS

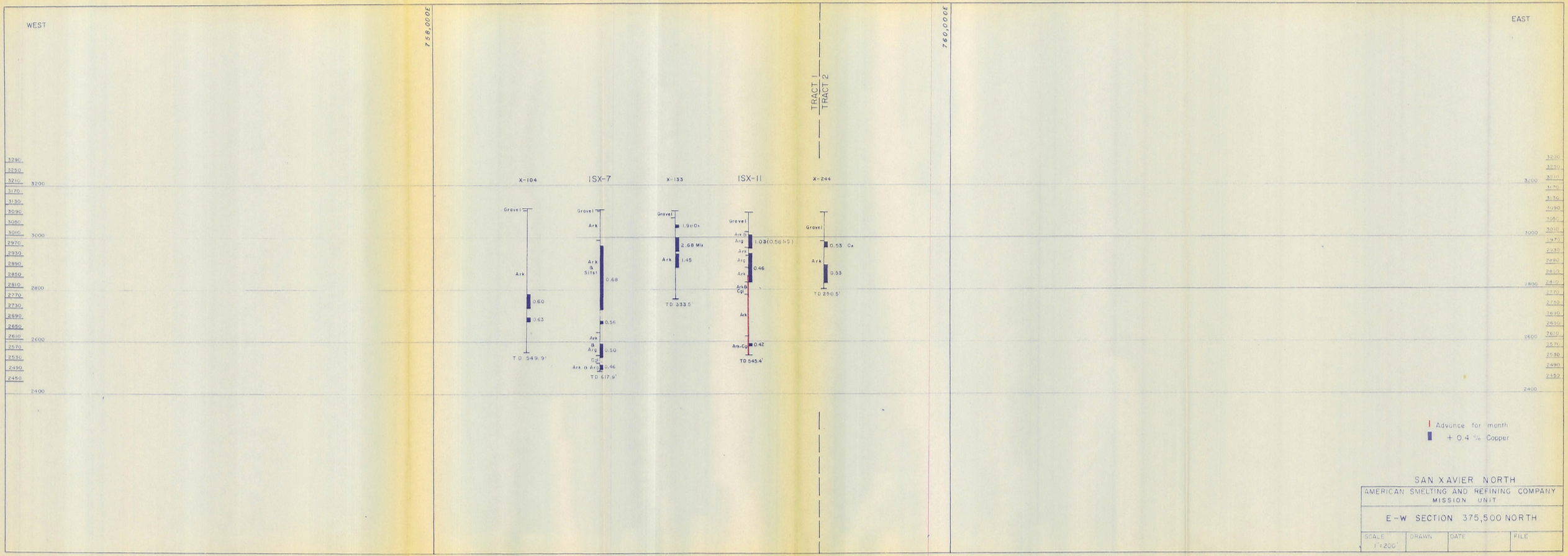
Cal. Cgl.	- Caliche Conglomerate (Overburden)
Arg.	- Argillite
Cgl.	- Conglomerate
Tt.	- Tactite
Hf.	- Hornfels
Mb.	- Marble
C. Arg.	- Calcareous Argillite
N.S.	- Non Sulfide
T.D.	- Total Depth
And.	- Andesite
Bx.	- Breccia
Mp.	- Metaporphyry
Gyp.	- Gypsum
Gr.	- Granite

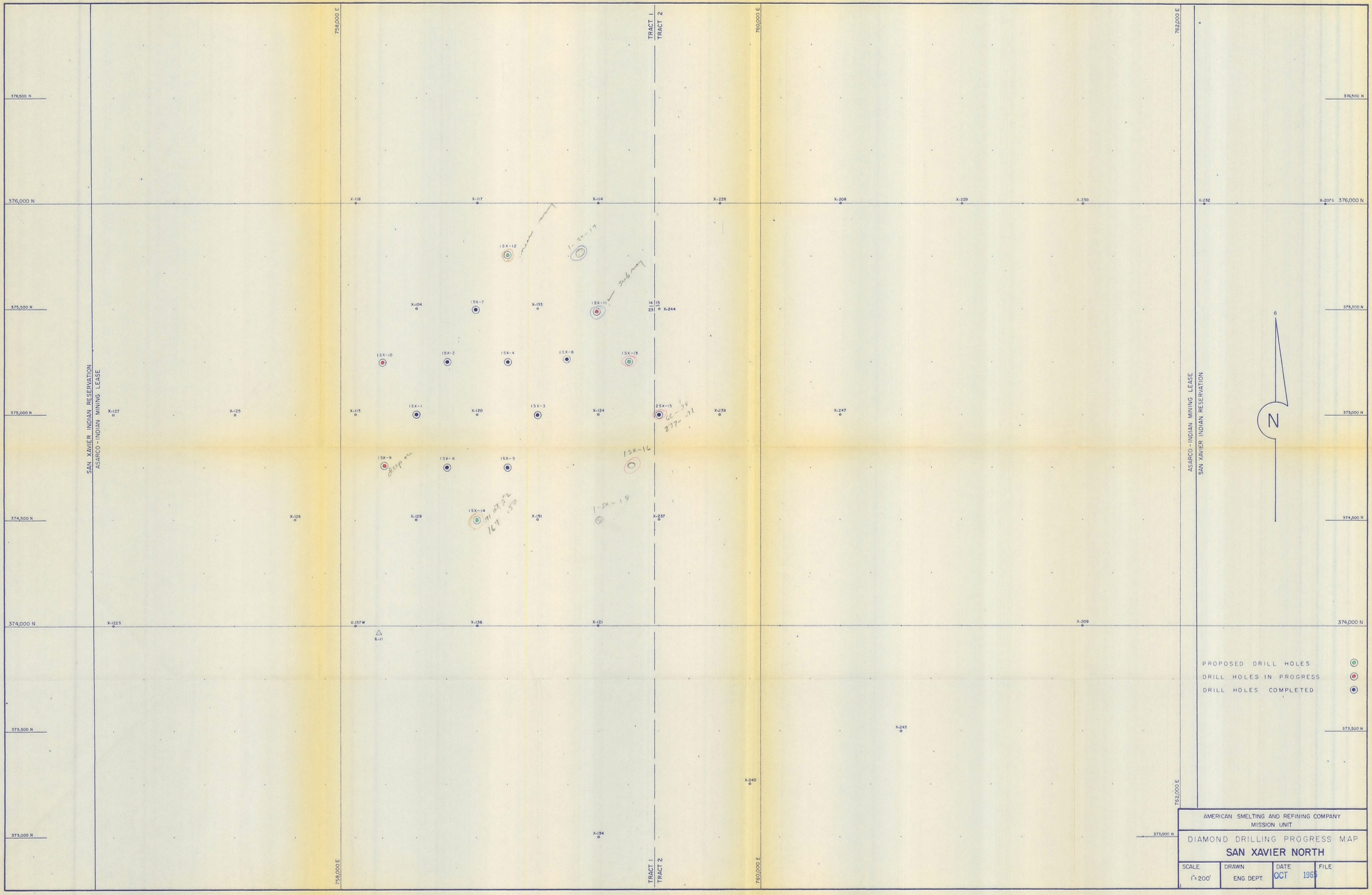

WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
ISX-9
Gravel
Ark
Ark bx
Sltst
1.11
Ark
0.41
Arg
0.61
ISX-6
Gravel
0.58(0.16N.S.)
Ark
Sltst
Arg
0.75
Ark-Arg
0.49
T.D.583.6'
ISX-5
Gravel
0.58(0.26N.S.)
0.40(0.13N.S.)
Ark
0.76
0.46
0.44
T.D.571.7'
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 374,750 NORTH
SCALE
1" = 200'
DRAWN
DATE
OCT 1965
FILE


WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
ISX-10
Gravel
Mp
Ark
ISX-2
Gravel
Sltst & Ark
0.80
Ark
Ark & Arg
TD602.8
ISX-4
Gravel
1.15(0.58 N.S.)
Ark & Sltst
1.29
Ark
Ark & Sltst
0.49
Ark & Arg
0.50
Ark
0.48
TD706.1
ISX-8
Gravel
0.65(0.21 N.S.)
Ark & Sltst
Ark
0.50
Ark & Sltst
Ark & Arg
0.58
TD594.0
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 375,250 NORTH
SCALE
1"=200'
DRAWN
DATE
OCT 1965
FILE


WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
X-104
Gravel
Ark
0.60
0.63
T.D. 549.9'
ISX-7
Gravel
Ark
Ark & Slts
0.68
0.56
Ark & Arg
0.50
Cgl
Ark & Arg
0.46
T.D. 617.9'
X-133
Gravel
1.98 Ox
2.68 Mix
Ark
1.45
T.D. 333.5'
ISX-11
Gravel
Ark & Arg
1.03 (0.58 NS)
Ark
Arg
0.43
Ark
X-244
Gravel
0.53 Ox
Ark
0.53
T.D. 290.5'
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 375,500 NORTH
SCALE 1" = 200'
DRAWN
DATE OCT 1965
FILE


WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
X-127
Gravel
Ark
TD 300.0'
X-125
Gravel
Ark
TD 277.3'
X-113
Gravel
Ark
0.49
TD 525.2'
1SX-1
Gravel
Ark & Sltst
Ark
0.68
Sltst
Ark & Sltst
Ark-cgl
Arg
0.49
Ark
Ark & Arg
Ark
Arg
Ark & Arg
0.42
TD 754.0'
X-120
Gravel
1.10 (OX & Mixed)
Ark & Sltst
0.74
Ark & Arg
0.42
0.42
TD 587.0'
1SX-3
Gravel
0.74 (0.27N.S.)
Ark & Sltst
0.89
Ark
Ark & Arg
0.44
Arg
0.58
Ark
Arg
0.43
Ark
TD 702.6
X-124
Gravel
Ark
0.63 OX
Ark & Arg
0.45
Ark
Ark & Arg
0.41
0.41
Ark
0.40
Arg
Mp
0.50
Ark & Arg
0.48
2SX-15
Gravel
0.49 (0.16N.S.)
Ark
0.50
Ark & Arg
0.44
Ark
Ark & Arg
0.53
Ark
TD 646.5
0.41
Ark-Cgl
0.46
Mp
Ark & Arg
0.53
Ark
Ark-Cgl
0.46
Mp
TD 1637.9
X-238
Gravel
2.56 (Mix Ox.-Sul)
Ark
0.44
TD 376.0'
X-247
Gravel
Ark
0.47
TD 395.9'
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 375,000 NORTH
SCALE 1"=200'
DRAWN
DATE OCT 1965
FILE


WEST
EAST
758,000E
760,000E
TRACT 1
TRACT 2
X-104
ISX-7
X-133
ISX-11
X-244
Gravel
Ark
0.60
0.63
TD 549.9'
Ark & Silst
0.68
0.56
Ark & Arg
0.50
Cgl
Ark & Arg
0.46
TD 617.6'
1.90 Ox
2.68 Mix
1.45
TD 333.5'
Ark & Arg
1.03 (0.56 NS)
0.46
Ark & Cgl
0.42
TD 545.4'
0.53 Ox
0.53
TD 290.5'
3200
3000
2800
2600
2400
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 375,500 NORTH
SCALE 1"=200'
DRAWN
DATE
FILE


376,500 N
376,000 N
375,500 N
375,000 N
374,500 N
374,000 N
373,500 N
373,000 N
759,000 E
760,000 E
762,000 E
TRACT 1
TRACT 2
SAN XAVIER INDIAN RESERVATION
ASARCO-INDIAN MINING LEASE
X-118
X-117
X-114
X-228
X-208
X-229
X-250
X-232
X-207S
X-104
X-133
X-244
X-127
X-125
X-113
X-120
X-124
X-258
X-247
X-126
X-129
X-131
X-237
X-122S
X-137W
X-136
X-121
X-209
X-243
X-240
X-134
1SX-12
1SX-17
1SX-7
1SX-11
14 13
23
1SX-10
1SX-2
1SX-4
1SX-8
1SX-13
1SX-1
1SX-3
2SX-15
1SX-16
1SX-9
1SX-6
1SX-5
1SX-14
1SX-18
6-11
N
PROPOSED DRILL HOLES
DRILL HOLES IN PROGRESS
DRILL HOLES COMPLETED
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
DIAMOND DRILLING PROGRESS MAP
SAN XAVIER NORTH
SCALE 1"=200'
DRAWN ENG. DEPT.
DATE OCT 1965
FILE

J. H. C.
DEC 7 1965

DIAMOND DRILLING - MISSION UNIT

November, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
1SX-9	3,128.0	374,758	758,207	549.7-579.3	29.6	0.90	Nil			
				621.7-710.3	88.6	0.65	Nil	176.4	726.1	726.1
1SX-10	3,118.8	375,246	758,199	359.5-452.4	92.9	0.43	Nil	352.4	549.4	549.4
1SX-11	3,094.6	375,515	759,219	244.4-266.6	22.2	0.54	Nil			
				507.7-517.8	10.1	0.42	Nil	301.0	545.4	545.4
1SX-12	3,097.6	375,758	758,788	187.8-231.0	43.3	0.64	Nil			
				485.1-537.7	52.6	0.43	Nil			
				559.9-571.5	11.6	0.42	Nil			
				585.5-611.7	27.2	0.53	Nil	648.0	648.0	648.0
1SX-13	3,098.3	375,258	759,366	134.0-164.4	30.4	0.64	0.35			
				174.6-263.1	88.5	0.70	Nil			
				332.1-351.9	19.8	0.69	Nil			
				439.4-458.0	18.6	0.64	Nil			
				553.6-584.5	30.9	0.59	Nil			
				*174.6-584.5	409.9	0.41	Nil	649.0	649.0	649.0
1SX-14	3,123.6	374,511	758,638	171.1-242.9	71.8	0.52	Nil			
				297.0-464.9	167.9	0.50	Nil			
				491.7-504.2	12.5	0.40	Nil			
				540.0-569.9	29.9	0.44	Nil			
				*171.1-569.9	398.8	0.43	Nil	594.0	594.0	594.0
1SX-15	3,113.3	374,758	759,077	115.6-182.0	66.4	0.78	0.17			
				182.0-419.8	237.8	0.71	Nil			
				528.9-548.9	20.0	0.87	Nil	623.9	623.9	623.9

DIAMOND DRILLING - MISSION UNIT

November, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
1SX-16	3,111.0	374,764	759,370	141.0-179.5	38.5	0.83	0.40			-
				179.5-326.6	147.1	0.54	Nil			
				386.5-458.7	72.2	0.41	Nil	597.0	597.0	
1SX-17	3,092.9	375,764	759,078	160.5-172.5	12.0	2.57	1.19	359.2	359.2	
1SX-18	3,115.0	374,500	759,220	**	No Ore Runs			89.8	89.8	

Total Footage November, 1965 4,390.7

*Composite Illustrating Length of +0.40% Cu Runs
**Approximate Coordinates and Elevation

DIAMOND DRILLING - MISSION UNIT

October, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
1SX-2	3111.1	375,250	758,487	No Ore Intercepts				22.5	602.8	602.8
1SX-3	3108.9	375,002	758,926	89.0-158.3	69.3	0.74	0.27			
				199.9-328.6	128.7	0.89	Nil			
				366.0-404.6	38.6	0.44	Nil			
				512.7-600.8	88.1	0.58	Nil			
				635.3-666.6	31.3	0.43	Nil	606.1	702.6	702.6
1SX-4	3108.4	375,253	758,777	73.5-118.0	44.5	1.15	0.58			
				189.0-331.9	142.9	1.29	Nil			
				367.0-498.1	131.1	0.49	Nil			
				587.1-598.0	10.9	0.50	Nil			
				657.3-669.0	11.7	0.48	Nil	706.1	706.1	706.1
1SX-5	3115.1	374,746	758,781	89.4-100.0	10.6	0.58	0.26			
				122.0-133.4	11.4	0.40	0.13			
				242.0-334.0	92.0	0.76	Nil			
				451.1-481.1	30.0	0.46	Nil	571.7	571.7	571.7
1SX-6	3121.1	374,748	758,502	92.1-115.5	23.4	0.58	0.16			
				178.3-402.6	224.3	0.75	Nil			
				513.2-545.6	32.4	0.49	Nil	583.6	583.6	583.6
1SX-7	3105.9	375,504	758,641	139.4-380.3	240.9	0.68	Nil			
				426.0-436.8	10.8	0.56	Nil			
				512.0-563.6	51.6	0.50	Nil			
				593.8-611.2	17.4	0.46	Nil	617.9	617.9	617.9
1SX-8	3102.2	375,262	759,074	55.0-144.7	89.7	0.66	0.21			
				175.5-305.9	130.4	0.52	Nil			
				322.8-443.6	120.8	0.50	Nil			
				491.3-511.2	19.9	0.58	Nil	594.0	594.0	594.0
1SX-9	3128.0	374,758	758,207	165.5-386.6	221.1	1.11	Nil	549.7	549.7	
1SX-10	3118.8	375,246	758,199	Assays Not Reported				197.0	197.0	
1SX-11	3094.6	375,515	759,219	Assays Not Reported				244.4	244.4	
2SX-15	3102.9	375,017	759,511	No Ore Runs				16.6	646.5	646.5

4709.6
4390.

DIAMOND DRILLING - MISSION UNIT

September, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
1SX-1	3119.1	375,007	758,367	166.2-374.6	208.4	0.68	Nil			
				427.5-595.9	168.4	0.49	Nil			
				685.2-738.1	52.9	0.42	Nil	754.0	754.0	754.0
1SX-2	3111.1	375,250	758,487	154.3-376.2	221.9	0.89	Nil	580.3	580.3	
1SX-3*	3110.0	375,000	758,937	NO	GRE	INTERCEPTS		96.5	96.5	
2SX-12	3195.2	365,026	764,553	286 603.3-662.0	134 58.7	.56* 2.05	Nil	185.6	703.6	703.6
2SX-13	3188.8	365,260	764,419	198 482.4-523.6	107 41.2	.84* 0.44	Nil			
				681.9-777.7	95.8	0.88	Nil	359.9	826.3	826.3
2SX-14	3187.0	365,374	764,490	198 245.3-350.4**	138 105.1	.82* 0.74	Nil			
				475.4-497.4	22.0	0.45	Nil			
				707.5-718.5	11.0	0.46	Nil			
				756.5-856.5	100.0	1.30	Nil	482.2	875.5	875.5
2SX-15	3102.9	375,017	759,511	149.9-384.3	234.4	0.50	Nil	629.9	629.9	
2SX-EXT (X201)	3188.7	365,250	764,860	628.7-842.4	213.7	1.01	Nil			
				918.3-946.0	27.7	1.29	Nil	421.0	969.3	969.3

September Total San Xavier 3,509.4'

309.5 in 14 holes

3819.9

3737.

3640 in 2 not in ground

1196

1111

total

* APPROX. COORDS & ELEV.

** NOT REPORTED IN AUGUST.

Last Rio.

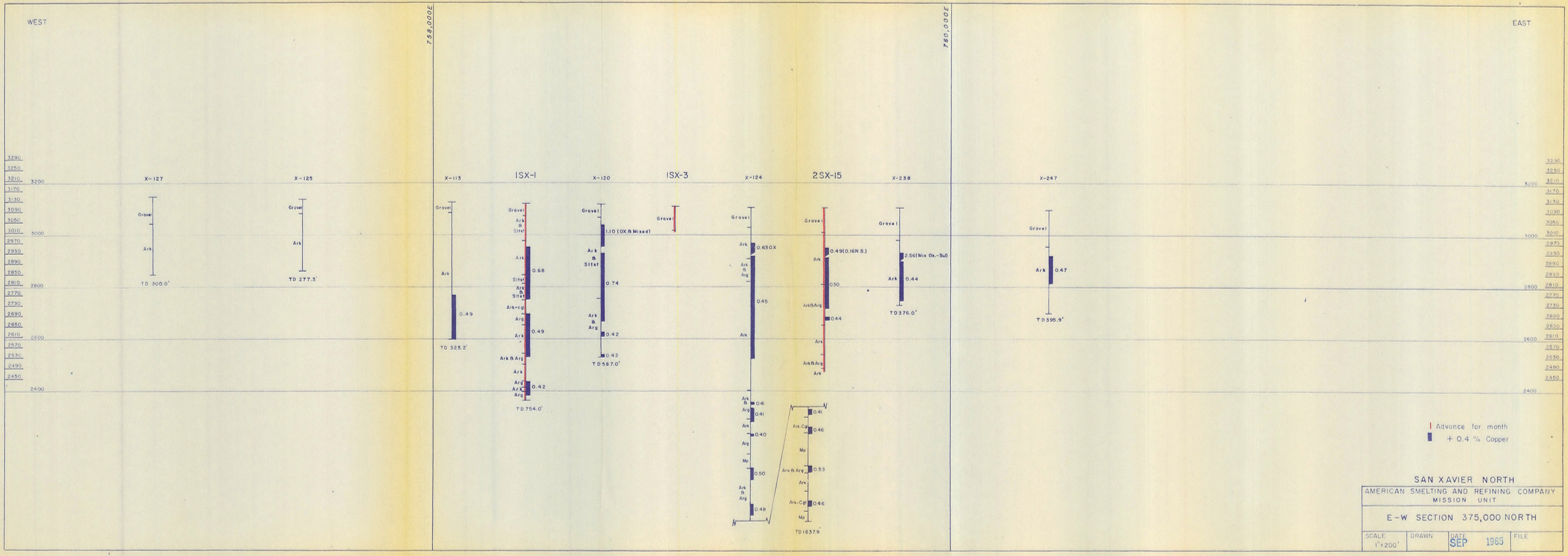
J. H. C.
NOV 9 1965

DIAMOND DRILLING - MISSION UNIT

SAN XAVIER PROJECT
September, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
1SX-1	3119.1	375,007	758,367	166.2-374.6	208.4	0.68	Nil			
				427.5-595.9	168.4	0.49	Nil			
				685.2-738.1	52.9	0.42	Nil	754.0	754.0	754.0
1SX-2	3111.1	375,250	758,487	154.3-453.8	299.5	0.80	Nil	580.3	580.3	
1SX-3*	3110.0	375,000	758,937	No Ore Intercepts				96.5	96.5	
2SX-12	3195.2	365,026	764,553	603.3-662.0	58.7	2.05	Nil	185.6	703.6	703.6
2SX-13	3188.8	365,260	764,419	482.4-523.6	41.2	0.44	Nil			
				681.9-777.7	95.8	0.88	Nil	359.9	826.3	826.3
2SX-14	3187.0	365,374	764,490	245.3-350.4**	105.1	0.74	Nil			
				475.4-497.4	22.0	0.45	Nil			
				707.5-718.5	11.0	0.46	Nil			
				756.5-856.5	100.0	1.30	Nil	482.2	875.5	875.5
2SX-15	3102.9	375,017	759,511	149.9-182.5	32.6	0.49	0.16			
				182.5-384.3	201.8	0.50	Nil	629.9	629.9	
2SX-EXT (X201)	3188.7	265,250	764,860	628.7-842.4	213.7	1.01	Nil			
				918.3-946.0	27.7	1.29	Nil	421.0	969.3	969.3
					September Total San Xavier			3,509.4		

* Approx. Coords. & Elev.
** Not Reported in August.


WEST
EAST
758,000E
760,000E
3290
3250
3210
3200
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3130
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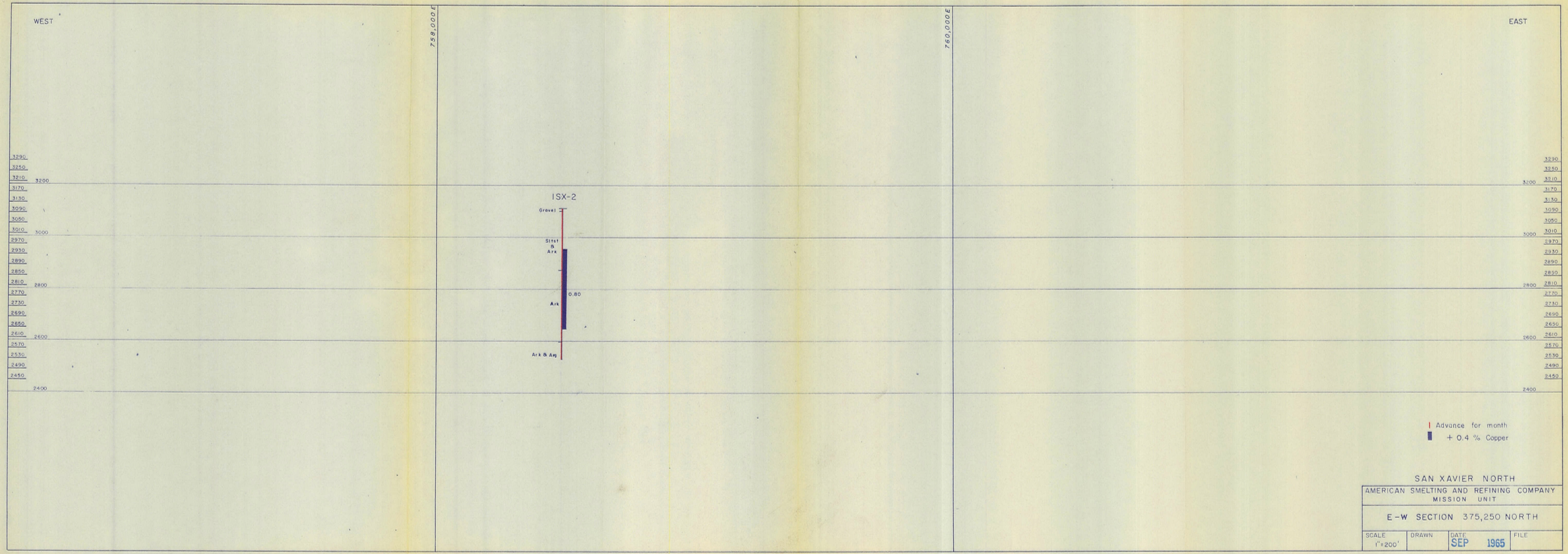
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
X-127
Gravel
Ark
TD 300.0'
X-125
Gravel
Ark
TD 277.3'
X-113
Gravel
Ark
0.49
TD 525.2'
1SX-1
Gravel
Ark & Silt
Ark
0.68
Silt
Ark & Silt
Ark-cgl
Arg
Ark
0.49
Ark & Arg
Ark
Arg
Ark
Arg
0.42
TD 754.0'
X-120
Gravel
1.10 (OX & Mixed)
Ark & Silt
0.74
Ark & Arg
0.42
0.42
TD 587.0'
1SX-3
Gravel
X-124
Gravel
Ark
0.63 OX
Ark & Arg
0.45
Ark
Ark & Arg
0.41
0.41
Ark
0.40
Arg
Mp
0.50
Ark & Arg
0.48
2SX-15
Gravel
0.49 (0.16 N.S.)
Ark
0.50
Ark & Arg
0.44
Ark
Ark & Arg
Ark
0.41
Ark-Cgl
0.46
Mp
Ark & Arg
0.53
Ark
Ark-Cgl
0.46
Mp
TD 1637.9'
X-238
Gravel
2.56 (Mix Ox.-Sul)
Ark
0.44
TD 376.0'
X-247
Gravel
Ark
0.47
TD 395.9'
Advance for month
+ 0.4 % Copper
SAN XAVIER NORTH
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 375,000 NORTH
SCALE 1" = 200'
DRAWN
DATE SEP 1965
FILE

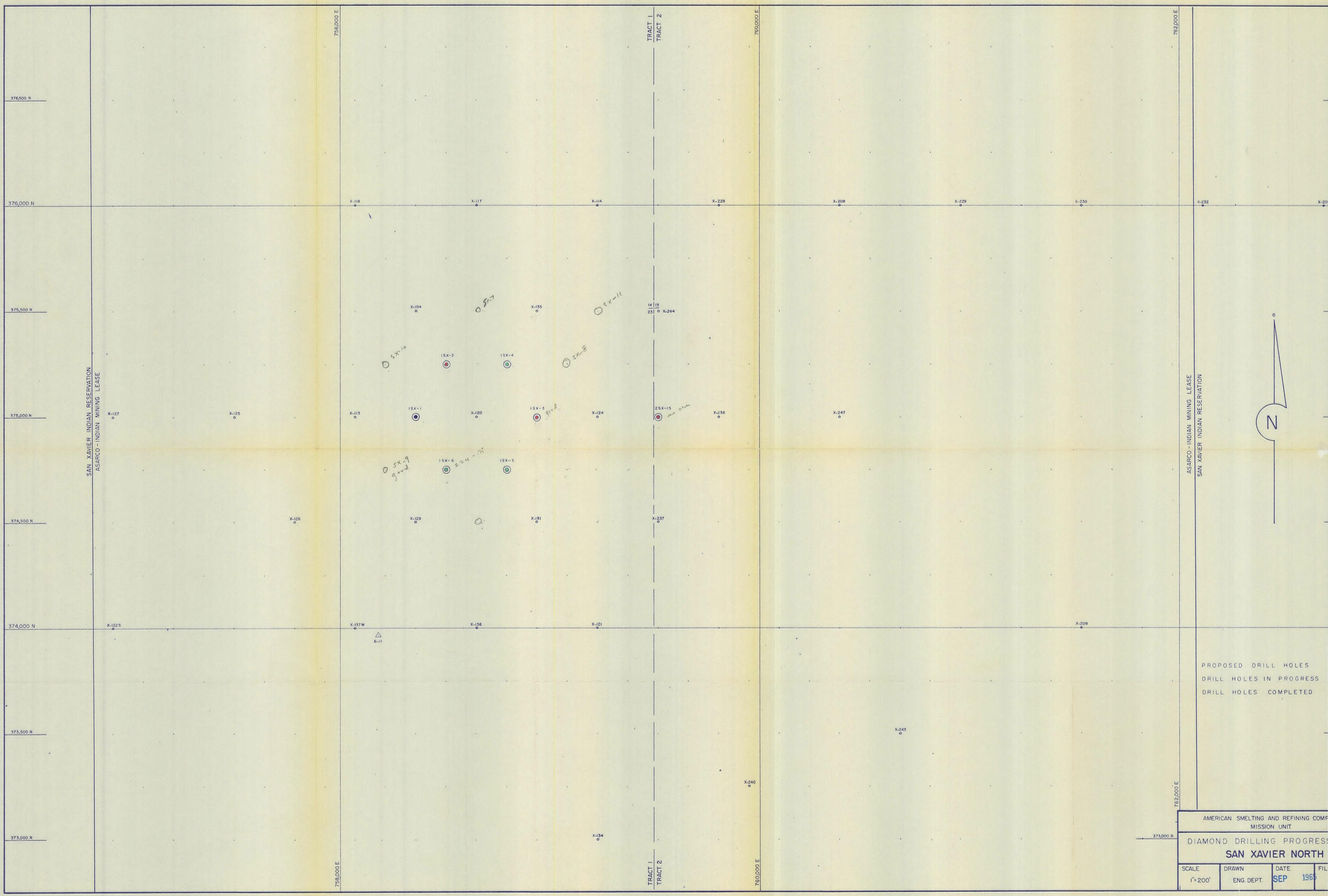


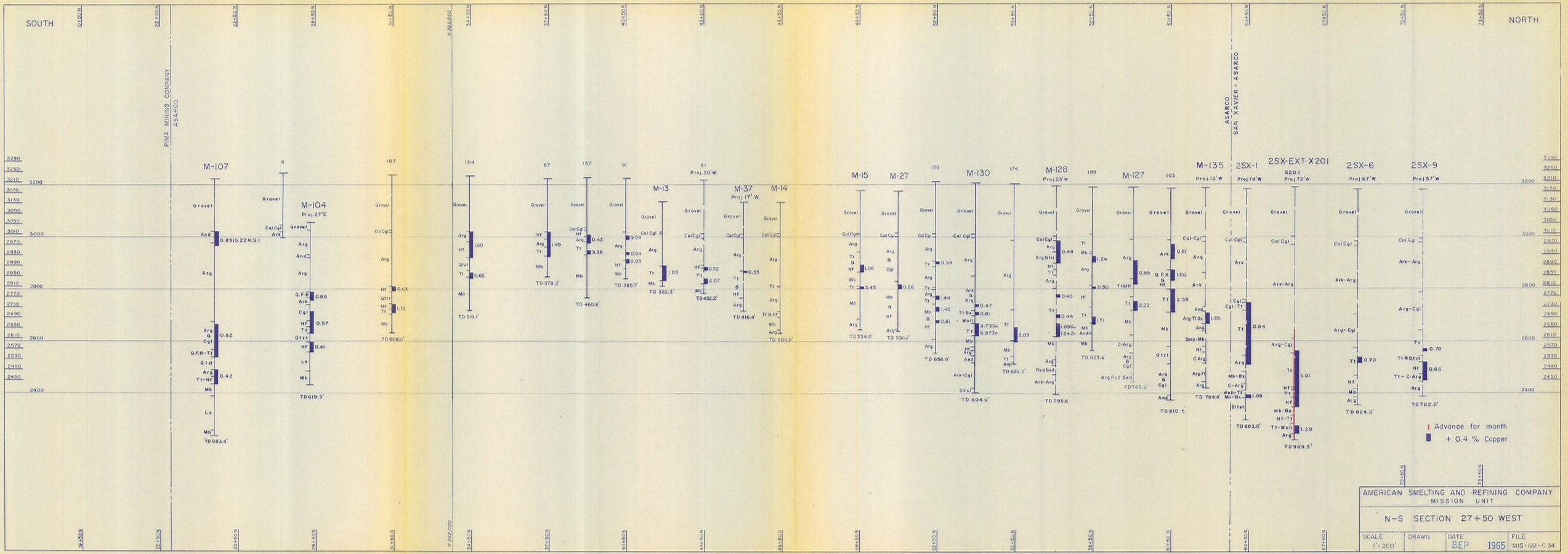
SAN XAVIER NORTH

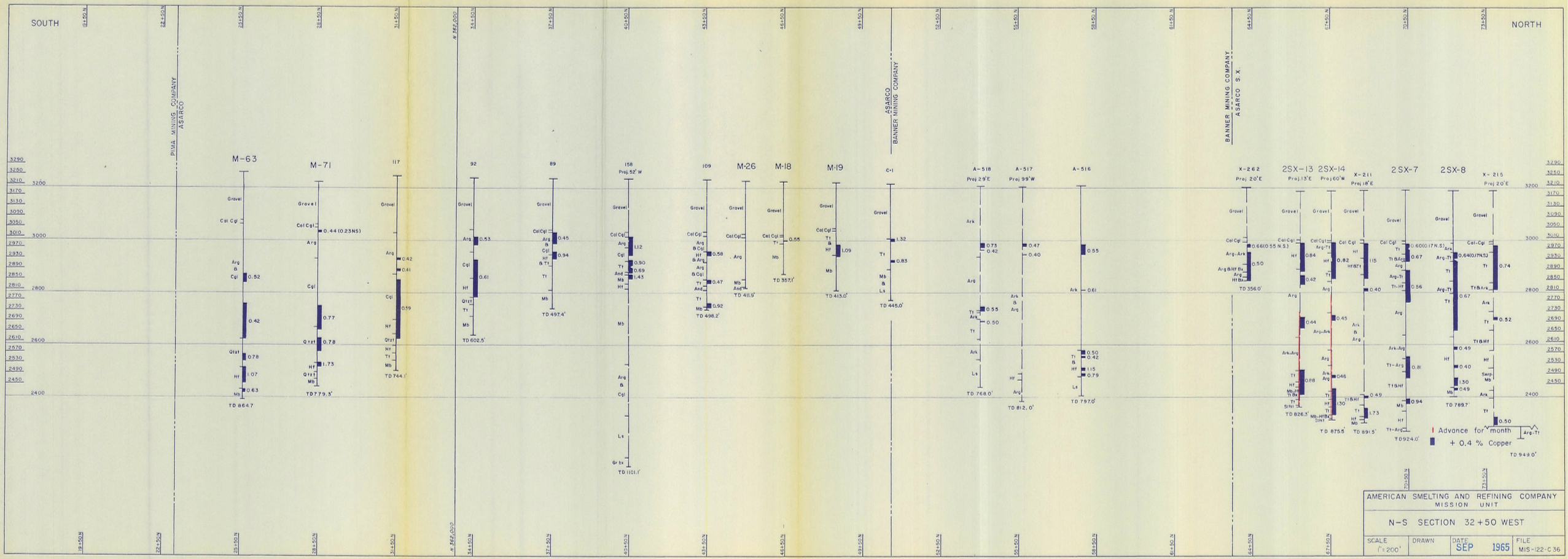
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT

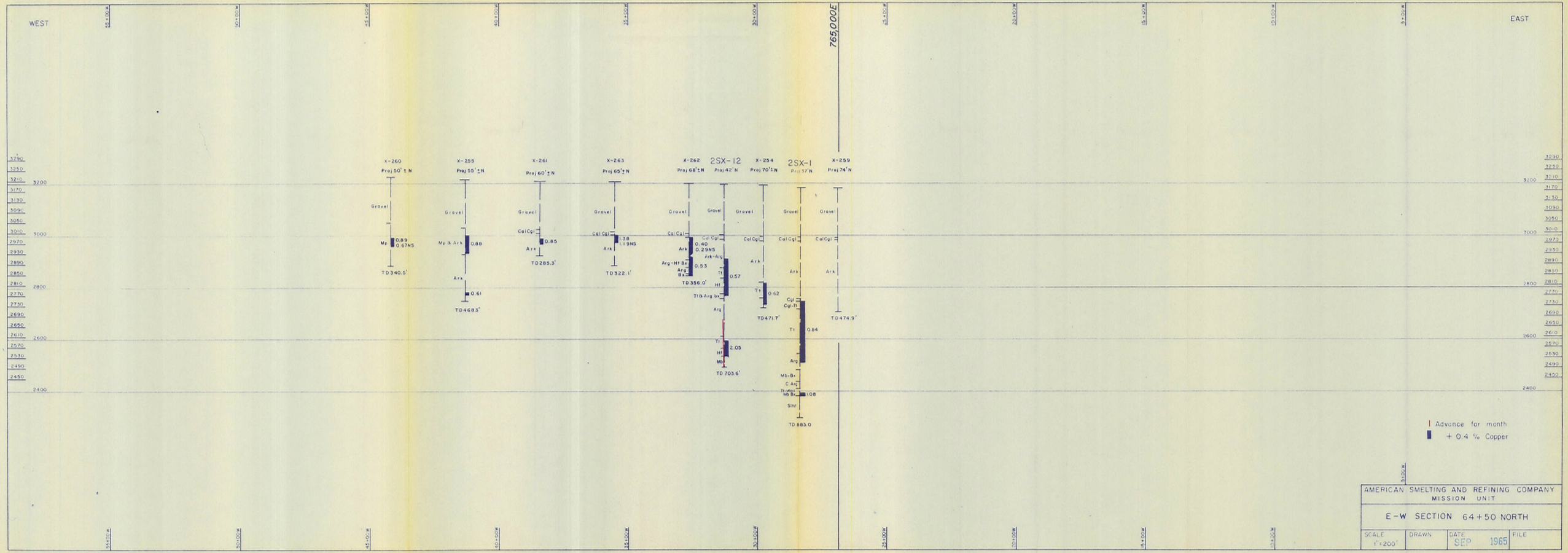
E-W SECTION 375,250 NORTH

SCALE	DRAWN	DATE	FILE
1" = 200'		SEP 1965	


376,500 N
376,000 N
375,500 N
375,000 N
374,500 N
374,000 N
373,500 N
373,000 N
758,000 E
759,000 E
760,000 E
762,000 E
TRACT 1
TRACT 2
SAN XAVIER INDIAN RESERVATION
ASARCO - INDIAN MINING LEASE
X-118
X-117
X-114
X-228
X-208
X-229
X-230
X-232
X-104
X-133
14 13
23
X-244
X-127
X-125
X-113
1SX-1
X-120
1SX-3
X-124
2SX-15
X-238
X-247
1SX-2
1SX-4
1SX-6
1SX-5
X-126
X-129
X-131
X-237
X-122S
X-137W
6-11
X-136
X-121
X-209
X-243
X-240
X-134
N
PROPOSED DRILL HOLES
DRILL HOLES IN PROGRESS
DRILL HOLES COMPLETED
AMERICAN SMELTING AND REFINING COMP
MISSION UNIT
DIAMOND DRILLING PROGRESS
SAN XAVIER NORTH
SCALE
1"=200'
DRAWN
ENG. DEPT.
DATE
SEP 1965

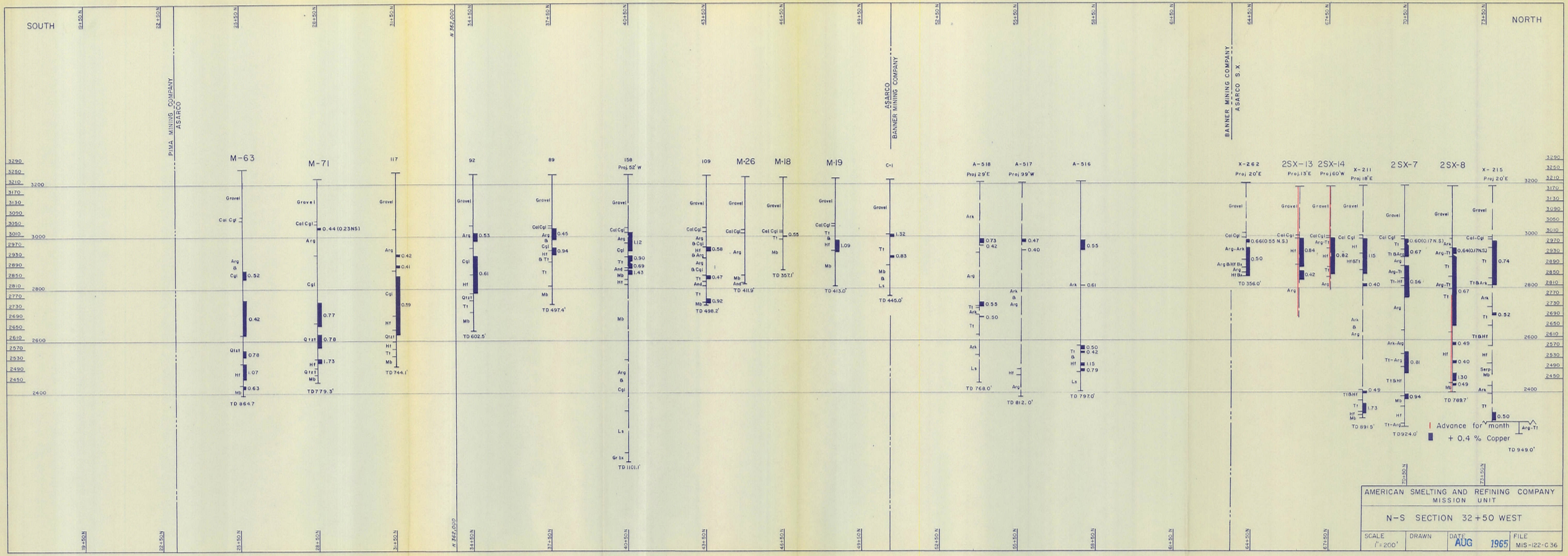

SOUTH
NORTH
PIMA MINING COMPANY
ASARCO
ASARCO
SAN XAVIER - ASARCO
M-107
M-104
Proj. 27'E
M-13
M-37
Proj. 17' W.
M-14
M-15
M-27
M-130
M-128
Proj. 23'W
M-127
M-135
Proj. 12'W
2SX-1
Proj. 79'W
2SX-EXT-X201
X201
Proj. 72'W
2SX-6
Proj. 67'W
2SX-9
Proj. 57'W
Advance for month
+ 0.4 % Copper
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
N-S SECTION 27+50 WEST
SCALE
1" = 200'
DRAWN
DATE
SEP 1965
FILE
MIS-122-C 34

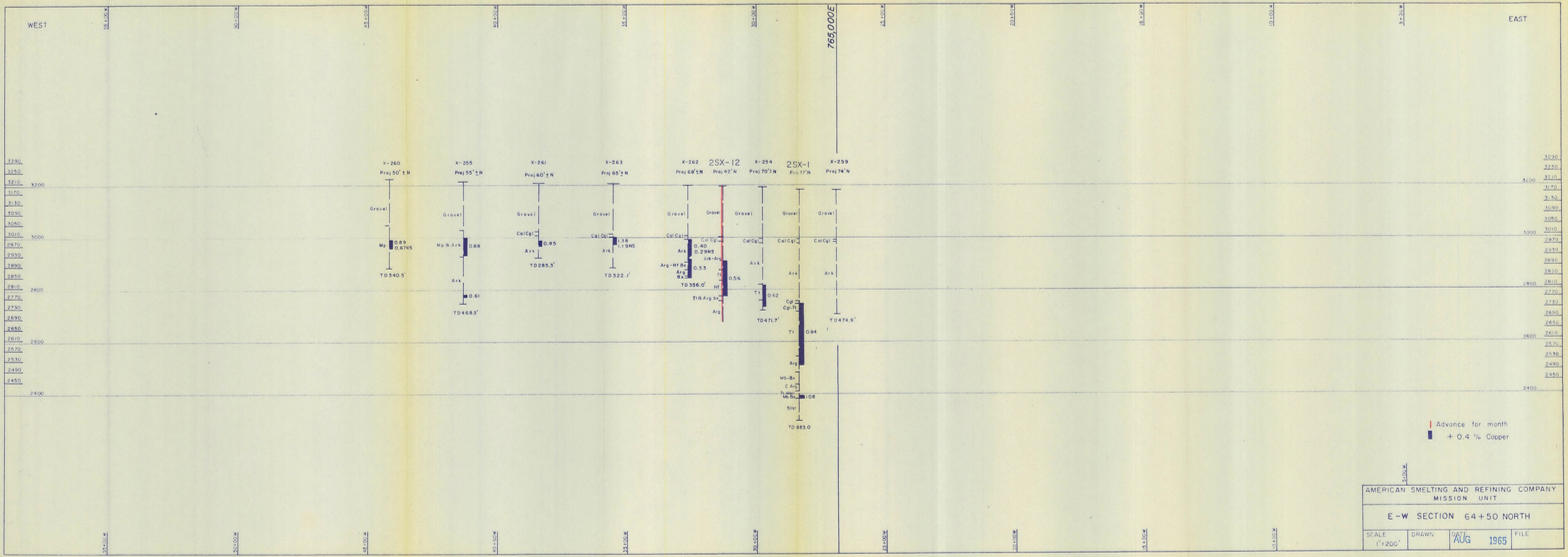

SOUTH
NORTH
PIMA MINING COMPANY
ASARCO
BANNER MINING COMPANY
ASARCO
BANNER MINING COMPANY
ASARCO S. X.
M-63
TD 864.7
M-71
TD 779.3'
117
TD 744.1'
92
TD 602.5'
89
TD 497.4'
158
Proj. 52' W
TD 1101.1'
109
TD 498.2'
M-26
TD 411.9'
M-18
TD 357.1'
M-19
TD 413.0'
C-1
TD 445.0'
A-518
Proj 29' E
TD 768.0'
A-517
Proj 99' W
TD 812.0'
A-516
TD 797.0'
X-262
Proj 20' E
TD 356.0'
2SX-13
Proj. 13' E
TD 826.3'
2SX-14
Proj 60' W
TD 875.5'
X-211
Proj 18' E
TD 891.5'
2SX-7
TD 924.0'
2SX-8
TD 789.7'
X-215
Proj 20' E
TD 949.0'
Advance for month
+ 0.4 % Copper
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
N-S SECTION 32+50 WEST
SCALE 1" = 200'
DRAWN
DATE SEP 1965
FILE MIS-122-C36

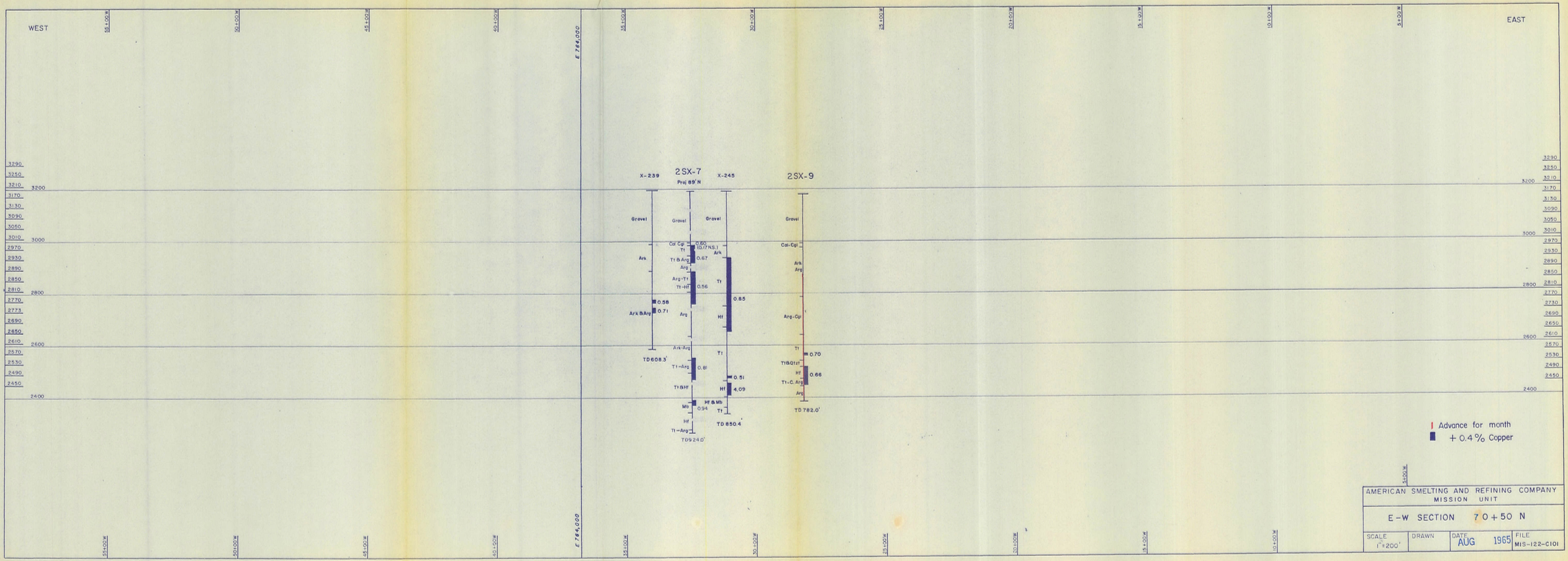

WEST
EAST
765,000E
55+00W
50+00W
45+00W
40+00W
35+00W
30+00W
25+00W
20+00W
15+00W
10+00W
5+00W
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2730
2690
2650
2610
2600
2570
2530
2490
2450
2400
X-260
Proj 50'± N
Gravel
Mp
0.89
0.67NS
TD 340.5'
X-255
Proj 55'± N
Gravel
Mp & Ark
0.88
Ark
0.61
TD 468.3'
X-261
Proj 60'± N
Gravel
Cal Cgl
0.85
Ark
TD 285.3'
X-263
Proj 65'± N
Gravel
Cal Cgl
1.38
1.19NS
Ark
TD 322.1'
X-262
Proj 68'± N
Gravel
Cal Cgl
Ark
0.40
0.29NS
Arg-Hf Bx
Arg
Bx
0.53
TD 356.0'
2SX-12
Proj 42'N
Gravel
Cal Cgl
Ark-Arg
Tl
0.57
Hf
Tl & Arg bx
Arg
Tl
Hf
2.05
Mb
TD 703.6'
X-254
Proj 70'± N
Gravel
Cal Cgl
Ark
Tl
0.62
TD 471.7'
2SX-1
Proj 37'N
Gravel
Cal Cgl
Ark
Cgl
Cgl-Tl
Tl
0.84
Arg
Mb-Bx
C Arg
Tl-Mb
Mb Bx
1.08
Slm
TD 883.0'
X-259
Proj 74'N
Gravel
Cal Cgl
Ark
TD 474.9'
Advance for month
+ 0.4 % Copper
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 64+50 NORTH
SCALE 1"=200'
DRAWN
DATE SEP 1965
FILE

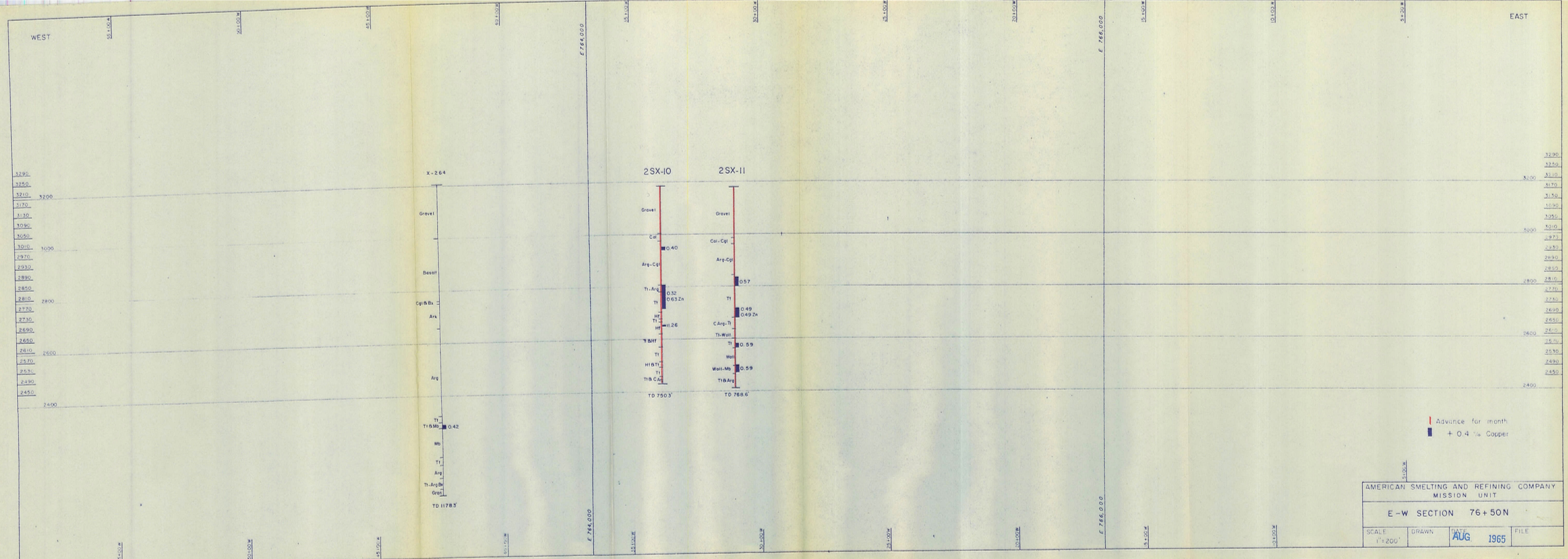
EXPLANATION OF ABBREVIATIONS ON SECTIONS

Cal. Cgl.	- Caliche Conglomerate (Overburden)
Arg.	- Argillite
Cgl.	- Conglomerate
Tt.	- Tactite
Hf.	- Hornfels
Mb.	- Marble
C. Arg.	- Calcareous Argillite
N.S.	- Non Sulfide
T.D.	- Total Depth
And.	- Andesite
Bx.	- Breccia
Mp.	- Metaporphyry
Gyp.	- Gypsum
Gr.	- Granite


SOUTH
NORTH
PIMA MINING COMPANY
ASARCO
BANNER MINING COMPANY
M-63
M-71
117
92
89
158
Proj 52' W
109
M-26
M-18
M-19
C-1
A-518
Proj 29'E
A-517
Proj 99'W
A-516
X-262
Proj 20'E
2SX-13
Proj 13'E
2SX-14
Proj 60'W
X-211
Proj 18'E
2SX-7
2SX-8
X-215
Proj 20'E
TD 8647
TD 779.3'
TD 744.1'
TD 602.5'
TD 497.4'
TD 1101.1'
TD 498.2'
TD 411.9'
TD 357.1'
TD 413.0'
TD 445.0'
TD 768.0'
TD 812.0'
TD 797.0'
TD 356.0'
TD 891.5'
TD 924.0'
TD 789.7'
TD 949.0'
Advance for month
+ 0.4 % Copper
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
N-S SECTION 32+50 WEST
SCALE 1" = 200'
DRAWN
DATE AUG 1965
FILE MIS-122-C36


WEST
EAST
765,000E
X-260
Proj 50' ± N
X-255
Proj 55' ± N
X-261
Proj 60' ± N
X-263
Proj 65' ± N
X-262
Proj 68' ± N
2SX-12
Proj 42' N
X-254
Proj 70' ± N
2SX-1
Proj 37' N
X-259
Proj 74' N
Gravel
Cal Cgl
Ark
Mp
0.89
0.67NS
TD 340.5'
Mp & Ark
0.88
0.61
TD 468.3'
0.85
TD 285.3'
1.38
1.9NS
TD 322.1'
0.40
0.29NS
0.53
Arg-Hf Bx
Arg Bx
TD 356.0'
Ark-Arg
Tl
0.56
Hf
Tl & Arg bx
Arg
0.62
TD 471.7'
Cgl
Cgl-Tl
0.84
Mb-Bx
C Arg
Tl-Wgr
Mb Bx
1.08
Slst
TD 883.0'
TD 474.9'
Advance for month
+ 0.4 % Copper
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 64+50 NORTH
SCALE 1"=200'
DRAWN
DATE AUG 1965
FILE


WEST
EAST
55+00W
50+00W
45+00W
40+00W
35+00W
30+00W
25+00W
20+00W
15+00W
10+00W
5+00W
E 764,000
3290
3250
3210
3200
3170
3130
3090
3050
3010
3000
2970
2930
2890
2850
2810
2800
2770
2773
2690
2650
2610
2600
2570
2530
2490
2450
2400
X-239
2SX-7
Proj 89' N
X-245
2SX-9
Gravel
Ark
Ark & Arg
0.58
0.71
TD 608.3'
Col Cgl
Tt
Tt & Arg
Arg
Arg-Tt
Tt-Hf
Ark-Arg
Tt-Arg
Tt & Hf
Mb
Hf
TD 924.0'
0.60
(0.17 N.S.)
0.67
0.56
0.81
0.94
Ark
Tt
Hf
Hf & Mb
TD 850.4'
0.85
0.51
4.09
Col-Cgl
Arg-Cgl
Tt & Qtzt
Tt-C. Arg
TD 782.0'
0.70
0.66
Advance for month
+ 0.4 % Copper
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 70+50 N
SCALE 1"=200'
DRAWN
DATE AUG 1965
FILE MIS-122-C101


WEST
EAST
E 764,000
E 766,000
3290
3250
3210 3200
3170
3130
3090
3050
3010 3000
2970
2930
2890
2850
2810 2800
2770
2730
2690
2650
2610 2600
2570
2530
2490
2450
2400
X-264
Gravel
Basalt
Cgl & Bx
Ark
Arg
Tt
Tt & Mb
0.42
Mb
Tt
Arg
Tt-Arg Bx
Gran
TD 1178.3'
2SX-10
Gravel
Col
0.40
Arg-Cgl
Tt-Arg
0.32
0.63 Zn
Tt
Ht
Tt
1.26
Ht
Tt & Biff
Tt
Ht & Tt
Tt
Tt & Cgl
TD 750.3'
2SX-11
Gravel
Col-Cgl
Arg-Cgl
0.57
Tt
0.49
0.49 Zn
C Arg-Tt
Tt-Wolf
Tt
0.59
Wolf
Wolf-Mb
0.59
Tt & Arg
TD 768.6'
Advance for month
+ 0.4 % Copper
AMERICAN SMELTING AND REFINING COMPANY
MISSION UNIT
E-W SECTION 76+50N
SCALE 1"=200'
DRAWN
DATE AUG. 1965
FILE

DIAMOND DRILLING - MISSION UNIT

August, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
2SX-8	3188.2	365,856	764,420	260.4-537.8	277.4	0.67	Nil			
				715.7-744.4	28.7	1.30	Nil			
				752.6-763.0	10.4	0.49	Nil	371.4	789.7	789.7
2SX-9	3177.6	365,742	764,868	660.0-731.4	71.4	0.66	Nil	469.6	782.0	782.0
2SX-10	3185.2	366,236	764,286	375.0-462.8	87.8	0.32 Cu	Nil			
						0.63 Zn	Nil	750.3	750.3	750.3
2SX-11	3181.1	366,253	764,566	344.5-377.4	32.9	0.57	Nil			
				460.4-499.1	38.7	0.49 Cu	Nil			
						0.49 Zn				
				596.4-610.5	14.1	0.59	Nil			
				678.5-704.4	25.9	0.59	Nil	768.6	768.6	768.6
2SX-12	3195.2	365.026	764,553	285.7-419.8	134.1	0.56	Nil	518.0	518.0	
2SX-13	3188.8	365,260	764,419	198.4-305.4	107.0	0.84	Nil			
				320.6-353.8	33.2	0.42	Nil	466.4	466.4	
2SX-14	3187.0	365,374	764,490	197.8-335.3	137.5	0.82	Nil	393.3	393.3	

August Total San Xavier Tract 2 3,737.6'

J. H. C.
AUG 5 1965

DIAMOND DRILLING - MISSION UNIT

July, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-135	3187.1	364,910	764,949	480.0-519.6	39.6	1.05	Nil	309.5	764.4	764.4
						July Total Mission		309.5		
2SX-4	3183.3	365,649	764,708	414.0-457.9*	43.9	0.42	Nil			
				488.6-529.1*	40.5	0.42	Nil	207.9	775.0	775.0
2SX-5	3184.5	365,497	764,563	213.7-224.2	10.5	1.03	0.95			
				236.0-325.0	89.0	0.70	Nil			
				391.9-540.1	148.2	1.17	Nil	644.0	644.0	644.0
2SX-6	3182.0	365,492	764,861	645.7-664.7	19.0	0.70	Nil			
				772.5-783.1	10.6	0.54	Nil	824.0	824.0	824.0
2SX-7	3192.2	365,654	764,424	205.3-225.0	19.7	0.60	0.17			
				225.0-275.5	50.5	0.67	Nil			
				308.5-428.2	119.7	0.56	Nil			
				636.2-718.5	82.3	0.81	Nil			
				797.3-818.8	21.5	0.94	Nil	924.0	924.0	924.0
2SX-8**	3185.0	365,840	764,420	232.8-288.0	55.2	0.72	-	418.3	418.3	
2SX-9**	3180.0	365,750	764,860	No Ore Runs				312.4	312.4	
						July Total San Xavier		3,330.6		
						Grand Total July		3,640.1		

*Not reported in June summary
** Approx. Coords & Elevations

DIAMOND DRILLING - MISSION UNIT

J. H. C.

JUL 13 1965

June, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-134	3064.7	361,347	766,772	No Ore Runs				76.9	1,286.8	1,286.8
M-135	3187.1	364,910	764,949	No Ore Runs				454.9	454.9	
						June Total Mission		531.8		
2SX-1	3183.1	365,034	764,856	436.1-671.1	235.0	.84	Nil			
				787.0-800.1	13.1	1.08	Nil	465.8	883.0	883.0
2SX-2	3188.9	365,334	764,708	445.2-699.7	254.5	.71	Nil			
				821.2-875.5	54.3	.83	Nil	1,060.2	1,060.2	1,060.2
2SX-3	3193.7	365,195	764,702	381.4-533.1	151.7	.73	Nil			
				560.0-640.3	80.3	.57	Nil			
				693.7-770.8	77.1	.65	Nil	868.6	868.6	868.6
2SX-4	3183.3	365,649	764,708	No Ore Runs				567.1	567.1	
						June Total San Xavier		2,961.7		
						GRAND TOTAL JUNE		3,493.5		

567.1

2,926.4

DIAMOND DRILLING - MISSION UNIT

May, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	± 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-132	3081.6	361,389	767,007	724.7-856.6	131.9	1.20	Nil			
				869.3-882.7	13.4	.68	Nil			
				909.3-925.2	15.9	.98	Nil			
				1032.0-1048.5	16.5	.53	Nil			
				1136.9-1226.0	89.1	1.13	Nil	935.6	1,305.6	1,305.6
M-133	3189.4	364,320	765,568	279.6-414.5	134.9	.47 Cu .26 Zn	Nil	473.1	705.1	705.6
M-134	3064.7	361,347	766,772	436.5-700.8	264.3	.60	Nil			
				758.0-1058.8	300.8	.97	Nil	1,209.9	1,209.9	-
SX-1	3183.1	365,034	764,857	No Ore Runs				417.2	417.2	-
						Total Footage May, 1965		3,035.8		

DIAMOND DRILLING - MISSION UNIT

April, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	± 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-128	3194.7	364,329	764,969	No Ore Intercepts				163.6	795.6	795.6
M-129	3200.5	364,004	765,223	453.8-470.4	16.6	1.96	Nil	520.7	925.7	925.7
M-130	3203.5	364,017	764,971	495.7-505.7	10.0	0.81	Nil			
				538.6-582.3	43.7	3.73 Cu	Nil			
						5.97 Zn	Nil	804.6	804.6	804.6
M-131	3183.6	364,781	765,075	286.5-433.3	146.8	1.60 Cu	Nil			
						1.00 Zn	Nil			
				519.0-532.6	13.6	0.64 Cu	Nil	801.3	801.3	801.3
M-132	3081.6	361,389	767,007	No Ore Intercepts				370.0	370.0	
M-133*	3190.0	364,325	765,575	No Ore Intercepts				232.5	232.5	

Total Footage, April, 1965 2,892.7 Feet

3035.8
2926.4
7954.9

* Approx. Elevation & Coordinates

J.H.C.
MAY 10 1965

DIAMOND DRILLING - MISSION UNIT

March, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-126	3121.8	361,137	766,602	613.2-627.8 1098.8-1158.2	14.6 59.4	0.69 0.79	Nil Nil	1,282.7	1,465.8	1,465.8
M-127	3190.4	364,626	764,944	280.9-373.2 438.5-472.5	92.3 34.0	0.99 2.22	Nil Nil	743.0	743.0	743.0
M-128	3194.7	364,329	764,969	208.1-296.9 415.0-425.3 491.7-502.7	88.8 10.3 11.0	0.48 0.40 0.44	(Delayed) Nil Nil	632.0	632.0	
M-129	3200.5	364,004	765,223	223.8-250.2	26.4	0.52	(Delayed)	405.0	405.0	

Total Footage, March, 1965 3,062.7

Feb 2739.3

Jan 2389.0

Qtr 8191.0

8 holes for Qtr.

☐ monthly rpt.

— qtr. "

DIAMOND DRILLING - MISSION UNIT

February, 1965

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total		% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-123	3181.6	364,629	765,445	285.0-314.3	29.3	0.76		Nil			
				482.6-492.8	10.2	0.77		Nil	665.4	665.4	665.4
M-124	3165.8	361,124	766,798	464.9-697.9	233.0	0.76		Nil			
				722.9-744.0	21.1	0.63		Nil			
				896.0-945.5	49.5	2.03		Nil			
				982.8-1015.6	32.9	0.98		Nil			
				1069.4-1079.4	~~10.0~~	~~0.42~~		Nil			
				1154.4-1347.2	192.8	1.18		Nil	1,165.4	1,405.0	1,405.0
									239		
									1404		
M-125	3184.6	364,625	765,209	348.6-358.9	~~10.3~~	~~0.44~~		Nil			
				437.1-471.7	34.6	1.27	Zn	Nil			
				570.8-630.9	60.1	2.14	2.12	Nil	725.4	725.4	725.4
M-126 *	3115.0	361,200	766,600	No Ore Assays Reported					183.1	183.1	

Total Footage, February, 1965 2,739.3

* Approx. Coords & Elev.

J. H. C.

FEB -8 1965

DIAMOND DRILLING - MISSION UNIT

~~Dec.~~ January

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-120	3189.2	364,327	765,446	No Ore Intercepts This Month				35.3	744.4	744.4
M-121	3189.2	361,223	767,238	1098.5-1113.0	14.5	0.50	Nil	967.5	1,494.6	1,494.6
				1167.7-1212.7	45.0	0.61	Nil			
				1237.9-1283.2	45.3	0.66	Nil			
M-122	3191.4	364,181	765,577	281.2-403.4	122.2	1.15	Nil	1,146.6	1,146.6	1,146.6
				491.7-569.8	78.1	3.24 Zn.	Nil			
				519.6-562.6	43.0	4.01	Nil			
M-124 *	3162.0	361,180	766,800	No Ore Assays Reported				239.6	239.6	
					Total Footage, January, 1965			2,389.0		

* Approx. Coords & Elev.

~~month~~

J. H. C.
JAN 8 1965

DIAMOND DRILLING - MISSION UNIT

~~JANUARY 1, 1965~~
December

Hole Nos	Ground Elevations	Coordinates North	Coordinates East	0.40% Cu. Depths	Intersections Interval	Average % Cu. Total	Average % Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-117	3205.7	360,961	766,998	645.1-664.2	19.1	.50	0.0			
				678.4-745.9	67.5	.88	0.0			
				866.6-878.2	11.6	.44	0.0			
				955.2-1317.5	362.3	.85	0.0	800.5	1368.0	1368.0
M-119	3194.3	364,325	765,198	269.5-292.8	23.3	.32 Cu	0.0			
						1.07 Zn	0.0			
				390.7-436.0	45.3	.75	0.0			
				642.2-654.3	12.1	.63 Cu	0.0			
						2.40 Zn	0.0			
				667.1-691.0	23.9	1.14	0.0	707.3	822.3	822.3
M-120	3189.2	364,326	765,445	290.0-327.2	37.2	.78 Cu	0.0			
						.45 Zn	0.0			
				355.5-422.3	66.8	.79 Cu	0.0			
						.14 Zn	0.0			
				464.3-502.7	38.4	.59	0.0			
				536.8-588.9	52.1	1.12	0.0	709.1	709.1	
M-121	3189.2	361,223	767,238	No Ore Runs				527.1	527.1	
						Total for Dec. 1964		2,744.0		
								527		
								S.A.A.		
								~~2217~~		

800
707
1507
2500
2468
6475

7 holes comp

J. H. C.

DEC 2 1964

DIAMOND DRILLING - MISSION UNIT

Nov.

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-113	3202.5	360,968	767,248	684.6-694.6	10.0	.47	Nil			
				810.4-833.7	23.3	.55	Nil			
				893.0-903.2	10.2	.42	Nil			
				948.5-958.2	9.7	.42	Nil			
				1011.7-1097.3	85.6	.86	Nil			
				1143.1-1158.1	15.0	2.89	Nil			
				1267.0-1375.2	108.2	1.20	Nil	560.4	1433.0	1433.0
M-116	3197.3	364,027	765,451	253.2-317.7	64.5	.25 Cu .77 Zn	Nil			
				569.3-597.0	27.7	3.05	Nil	745.4	745.4	745.4
M-117	3205.7	360,961	766,998	No Ore Intercepts				567.5	567.5	
M-118	3190.8	364,031	765,702	259.3-333.7	74.4	1.05	Nil	627.0	627.0	627.0
M-119*	3185.0	364,325	765,196	No Ore Intercepts				115.0	115.0	
					Total Footage Drilled			2,615.3 115 2700		

*Approximate Elevation and Coordinates

OP-13A.4

DIAMOND DRILLING - MISSION UNIT

Oct.

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-108	3219.2	361,090	765,234	545.9-734.0	188.1	0.72	NIL	487.8	894.7	894.7
				745.0-773.4	28.4	7.06	NIL			
M-113	3202.5	360,968	767,~~185~~ 248	NO ORE INTERCEPTS				872.6	872.6	
M-114	3137.5	361,190	765,479	591.8-622.1	30.3	0.49	NIL	242.0	810.0	810.0
				658.7-717.7	59.0	1.07	NIL			
M-115	3010.0	361,437	765,766	ASSAYS NOT AVAILABLE				866.0	866.0	866.0

TOTAL FOOTAGE DRILLED 2468.4

DIAMOND DRILLING - MISSION UNIT

September 1964

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-108	3219.2	361,090	765,234	203.0-223.8	20.8	0.78	Nil	406.9	406.9	
M-110	3179.2	361,176	765,739	474.5-495.2	20.7	0.50	Nil			
				953.7-973.4	19.7	0.43	Nil			
				1008.1-1018.3	10.2	0.87	Nil	677.0	1219.6	1219.6
M-112	3139.2	361,770	763,997	188.9-208.2	19.4	0.47	Nil			
				235.2-311.2	76.0	0.55	Nil			
				379.6-456.8	77.2	0.82	Nil			
				473.4-585.3	111.9	0.63	Nil			
				730.7-772.4	41.7	0.55	Nil			
				833.3-843.0	9.7	0.96	Nil	823.1	898.1	898.1
M-114	3137.5	361,190	765,479	No ORE INTERCEPTS				568.0	568.0	

TOTAL FOOTAGE DRILLED 2,475.0'

J.H.C.
SEP 16 1964

DIAMOND DRILLING - MISSION UNIT

August, 1964

(1) Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	(2) + 0.40% Cu. Depth	(3) Intersections Interval	(4) Average Total	(5) % Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-107	3222.4	~~361,464~~ 361,082	~~765,252~~ ~~764,988~~ 764,987	558.5-680.4	121.9	0.82	Nil			
				731.1-780.4	49.5	0.42	Nil	558.3	983.4	983.4
M-109	2971.8	361,464	765,252	207.9-232.6	24.7	0.43	Nil			
				290.6-326.8	36.2	0.57	Nil			
				366.2-377.8	11.6	1.14	Nil			
				571.2-585.0	13.8	0.63	Nil	579.9	604.9	604.9
M-110	3179.2	361,176	765,739	474.5-495.2	20.7	0.50	Nil	542.6	542.6	
M-111	2975.1	361,487	765,471	439.9-471.4	31.5	0.91	Nil			
				532.4-537.0	4.6	3.84	Nil			
				575.4-600.5	25.1	0.71	Nil	720.0	720.0	720.0
M-112	3139.2	361,758*	763,985*	No Ore Intercepts				75.0	75.0	
							Total Footage Drilled	2,475.8		

omit M-112

Round off depths to nearest even foot

* APPROX. coords.

J. H. C.

SEP 16 1964

RECEIVED

AUG - 4 1964

DIAMOND DRILLING - MISSION UNIT

July ~~August~~, 1964

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-105	3164.6	~~361,187~~ 361,082	~~767,001~~ 764,987	713.2-732.0	18.8	0.42	Nil			
				799.5-809.3	9.8	0.40	Nil			
				888.5-1221.3	332.8	0.95	Nil	875.3	1461.0	1461.0
M-106	3211.9	360,950	766,748	699.3-710.8	11.5	0.61	Nil			
				1024.0-1035.6	11.6	0.75	Nil			
				1086.7-1106.1	19.4	0.63	Nil			
				1143.2-1163.5	20.3	0.59	Nil			
				1320.1-1329.6	9.5	0.45	Nil			
				1363.3-1398.1	34.8	0.93	Nil	1019.6	1550.0	1550.0
M-107	3222.4	361,082	764,987	201.0-254.7	53.7	0.89	0.22	425.1	425.1	
M-109	2971.8	361,464	765,252	No Ore Intercepts				25.0	25.0	

Total Footage Drilled 2,345.0
2 475
2 475
7 275.

SAA

J. H. C.
JUL 23 1964

DIAMOND DRILLING - MISSION UNIT

JUNE, 1964

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
✓M-102 S	3064.1	361,456	764,746	391.3-475.3	84.0	0.55	Nil			
				537.4-577.8	52.1	0.56	Nil	267.3	658.6	658.6
✓M-103 S	3106.3	361,196	764,730	416.3-614.1	198.8	0.61	Nil			
				669.2-720.9	51.7	0.90	Nil	785.5	821.5	821.5
✓M-104 S	3057.2	361,457	764,962	264.9-296.9	32.0	0.88	Nil			
				338.3-421.5	83.2	0.57	Nil			
				456.8-494.7	37.9	0.41	Nil	619.3	619.3	619.3
✓M-105 SE	3164.6	361,187	767,001	206.5-221.2	15.7	1.13	0.32	585.7	585.7	
✓M-106 SE	3211.9	360,950	766,748	No Ore Intercepts				530.4	530.4	
						Total Footage Drilled		2,788.2		

S.A.A.

DIAMOND DRILLING - MISSION UNIT

May

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-98 SE	2852.2	361,929	766,082	*207.2 - 225.7	18.5	0.41	Nil			
				267.6 - 278.0	10.4	0.55	Nil	142.4	400.0	400.0
M-99 SE	2853.2	362,000	765,979	374.4 - 390.2	15.8	1.37	Nil	228.1	426.5	426.5
** M-95 NW	3263.0	363,510	760,957	487.9 - 510.6	22.7	0.53	Nil			
				542.2 - 670.2	128.0	1.24	Nil			
				748.5 - 758.5	10.0	0.49	Nil	922.7	922.7	922.7
M-100 SE	2930.6	361,785	766,102	No Ore Intercepts				270.2	270.2	270.2
M-101 W	3287.8	362,613	760,971	405.7 - 412.7	7.0	1.77	Nil			
				432.0 - 441.6	9.6	0.51	Nil			
				470.6 - 501.9	31.3	1.28	Nil			
				606.1 - 615.2	9.1	1.36	Nil			
				615.2 - 637.2	Assays Not Available			637.2	637.2	637.2
M-102 S	3064.1	361,456	764,746	94.3 - 112.7	18.4	0.42	Nil			
				123.8 - 134.3	10.5	0.40	Nil			
				153.4 - 174.4	21.0	0.46	Nil			
				323.6 - 333.8	10.2	0.54	Nil			
				333.8 - 391.3	Assays Not Available			391.3	391.3	
*** M-103 S	3105.0	361,190	764,740	Rotary Drilling only				36.0	36.0	
						Total Footage Drilled		2627.9		

R.E.G

Notes: * Assay not available for last month's report
** M-95 drilled out of sequence
*** M-103 Coordinates and elevation not available and are approximate

MAY 1964

J. H. C.

MAY 5 .. 1964

DIAMOND DRILLING - MISSION UNIT

April

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
✓M-93 SW	3330.8	361,118	761,494	648.0-701.2	53.2	0.44	Nil	101.5	766.2	766.2
✓M-96 SW	3481.5	361,414	760,989	No Ore Intercepts		—	—	1000.5	1085.5	1085.5
✓M-97 SW	3398.5	362,007	760,982	605.2-636.7	32.0	0.80	Nil	665.4	665.4	665.4
✓M-98 SE	2852.2	361,929	766,082	No Ore Intercepts Reported				257.6	257.6	
✓M-99 SE	2853.2	362,000	765,979	No Ore Intercepts Reported				198.4	198.4	
							Total -	2,223.4		

S.A.A.

J. H. C.

APR 7 1964

DIAMOND DRILLING - MISSION UNIT

MARCH, 1964

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-91	3400.2	361,420	761,487	No Ore Intercepts				207.3	779.9	779.9
M-92	3374.5	362,015	761,475	680.9 - 706.4	25.5	0.73	Nil			
				729.8 - 742.4	12.6	0.50	Nil	430.5	839.0	839.0
M-93	3330.8	361,118	761,494	No Ore Intercepts Reported				664.7	664.7	
M-94	3409.3	361,116	761,247	No Ore Intercepts				832.2	832.2	832.2
M-96	3401.5	361,414	760,989	No Ore Intercepts Reported				85.0	85.0	
							Total -	2219.7		

S. A. A.

DIAMOND DRILLING - MISSION UNIT

February, 1964

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-88	3339.2	361,125	761,730	623.0-705.2	82.2	1.00	Nil	182.2	744.0	744.0
M-89	3282.0	362,931	761,219	495.2-515.0	19.8	1.53	Nil	680.3	680.3	680.3
M-90	3367.4	361,722	761,742	637.8-674.6	36.8	0.45	Nil	708.3	708.3	708.3
M-91	3400.2	361,420	761,487	No Ore Intercepts Reported				572.6	572.6	
M-92	3374.5	362,015	761,475	No Ore Intercepts Reported				408.5	408.5	
					Total footage - February, 1964			2,551.9		

S. A. A.

J. H. C.

MAR 10 1964

DIAMOND DRILLING - MISSION UNIT

January, 1964

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-85	3386.2	361,128	761,993	458.0-515.7	67.2	1.72	Nil			
				708.0-789.8	81.8	2.82	Nil	392.6	850.6	850.6
M-86	3383.7	361,427	761,986	311.1-329.2	18.1	0.55	Nil			
				382.6-412.0	29.4	0.50	Nil	619.0	904.0	904.0
M-87	3262.8	363,528	761,206	642.0-705.2	63.2	1.10	Nil	893.6	893.6	893.6
M-88	3339.2	361,125	761,730	352.0-381.5	29.5	0.72	Nil	591.8	591.8	

Total footage - January, 1964 2,497.0

no one intercept of consequence

S.A.A.

2,497
2,552
2,220
7,269

10 complete
11 holes

DIAMOND DRILLING - MISSION UNIT

Dec.

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	≠ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N. S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-82	3335.7	361,135	762,748	532.4-567.0	34.6	2.85	Nil			
				599.1-640.2	41.1	0.42	Nil			
				723.8-813.9	90.1	1.39	Nil	461.2	864.2	864.2
M-83	3385.4	361,126	762,246	516.0-586.8	70.8	1.14	Nil			
				699.0-810.5	111.5	2.22	Nil	242.8	929.6	929.6
M-84	3261.7	363,529	761,458	499.0-544.3	45.3	0.46	Nil			
				583.0-674.4	91.4	0.89	Nil			
				694.3-801.1	106.8	1.06	Nil	878.5	878.5	878.5
M-85	3386.2	361,128	761,993	No Ore Intercepts				458.0		
M-86	3383.7	361,427	761,986	No Ore Intercepts				285.0		

Total Footage - December, 1963 2,325.5
2473.
2620
7418.5

SAA

L.P.E. L.P.E.

DEC 9 1963

DIAMOND DRILLING - MISSION UNIT

November, 1963

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	≠ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N. S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-79	3277.3	362,625	761,471	512.1-538.7	26.6	1.21	Nil	165.1	765.2	765.2
M-80	3380.3	361,725	761,952	No Ore Intercepts				386.8	803.2	803.2
M-81	3338.3	362,029	762,011	288.1-304.3	16.7	0.59	Nil			
				705.0-765.9	60.9	1.05	Nil	831.3	831.3	831.3
M-82*	3340.0	361,140	762,745	No Ore Intercepts				403.0		
M-83	3385.4	361,126	762,246	516.0-586.8	70.8	1.14	Nil	686.8		
					Total Footage - November, 1963			2,473.0		

* Approximate Coordinates and Elevation

S.A.A.

J.H.C.

DEC - 5 1963

J. H. C.
NOV - 5 1963

DIAMOND DRILLING - MISSION UNIT

October, 1963

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	≠ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N. S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-76	3271.7	362,933	761,471	457.2-544.6	87.4	1.13	Nil	82.4	731.0	731.0
M-77	3389.9	361,430	762,240	390.3-493.4	103.1	0.81	Nil	699.6	921.6	921.6
M-78	3267.3	363,220	761,457	438.0-646.6	208.6	1.03	Nil	821.5	821.5	821.5
M-79	3277.3	362,625	761,471	512.1-538.7	26.6	1.21	Nil	600.1	600.1	
M-80	3380.3	361,725	761,952	No Ore Intercepts				416.4	416.4	

Total Footage - October, 1963 2620.0

S.A.A.

J. H. C.

OCT 3 1963

MR. WES

READ AND RETURN

PREPARE ANSWERS HANDLE

FILE ✓ INITIALS

J.W.E.S.

OCT 7 1963

J. H. C.

OCT 3 1963

DIAMOND DRILLING - MISSION UNIT

September, 1963

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	≠ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N. S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-74	3293.4	361,654	763,339	587.9-600.1	12.2	1.46	Nil			
				673.0-724.5	51.5	0.51	Nil			
				766.5-847.2	80.7	0.93	Nil	326.9	914.8	914.8
M-75	3341.9	361,060	762,537	545.9-637.4	91.5	0.85	Nil			
				721.7-820.6	98.9	1.34	Nil			
				847.8-868.8	21.0	0.56	Nil			
				902.0-913.2	11.2	0.53	Nil	483.7	919.0	919.0
M-76	3271.7	362,933	761,471	457.2-544.6	87.4	1.13	Nil	648.6	648.6	
M-77	3389.9	361,430	762,240	No Ore Intercepts				222.0	222.0	
				Total Footage - September 1963				1681.2		

S.A.A

J. H. C.

SEP 6 1963

DIAMOND DRILLING - MISSION UNIT

August, 1963

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	≠ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N. S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-72	3287.3	361,507	762,489	378.8-437.5	58.7	1.00	Nil <			
				801.7-840.1	38.4	1.23	Nil <	724.1	910.0	910.0
M-73	3297.0	361,732	762,235	774.0-781.7	7.7	0.48	Nil	820.6	885.6	885.6
M-74	3293.4	361,654	763,339	280.4-433.6	153.2	0.40	Nil <			
				537.2-555.3	18.1	0.58	Nil	587.9	587.9	
M-75	3341.9	361,060	762,537	No Ore Intercepts				435.3	435.3	

Total Footage - August, 1963 2567.9

SAA

J. H. C.

AUG 2 1963

DIAMOND DRILLING - MISSION UNIT

July, 1963

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	≠ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N. S.	Feet Drilled During Month	Depth End of Month	Final Depth
√M-68	3278.6	361,437	762,743	767.1-857.3	90.2	0.57	Nil	155.2	922.3	922.3
√M-69	3288.2	361,736	762,488	761.7-819.4	57.7	0.83	Nil	462.7	945.4	945.4
√M-70	3281.4	362,334	761,976	672.7-709.5	36.8	0.93	Nil	759.3	759.3	759.3
√M-71	3222.4	361,466	764,488	189.5-194.4	4.9	0.44	0.23			
				473.6-563.9	90.3	0.77	Nil			
				594.8-645.0	50.2	0.78	Nil			
				690.8-701.1	10.3	1.73	Nil	779.3	779.3	779.3
√M-72	3287.3	361,508	762,488	No Ore Intercepts				185.9	185.9	
√M-73	3297.0	361,732	762,235	No Ore Intercepts				65.0	65.0	
				Total Footage — July, 1963				2407.4		

R.E.G

MR. [redacted]

READ AND RETURN

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DIAMOND DRILLING - MISSION UNIT

JUNE, 1963

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
✓ M-66	3282.1	361,737	762,737	310.8-321.6	10.8	0.64	Nil			
				462.0-474.1	12.1	0.72	Nil			
				551.6-562.0	10.4	0.53	Nil			
				677.8-697.0	20.8	1.20 ✓	Nil			
				751.5-914.0	166.5	0.98 ✓	Nil	382.6	951.6	951.6
✓ M-67	3252.8	363,549	761,991	680.1-705.2	25.1	0.63	Nil	343.3	1172.0	1172.0
✓ M-68	3278.6	361,437	762,743	410.7-460.9	50.2	0.99	Nil			
				597.1-607.8	10.7	0.47	Nil	767.1	767.1	
✓ M-69	3288.2	361,736	762,488	395.3-419.3	24.0	0.51	Nil	482.7	482.7	

Total Footage - June, 1963 **1975.7**

S.A.A.

J H C

DIAMOND DRILLING - MISSION UNIT

May

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-55	3279.1	361,155	762,987	616.7-644.5	27.8	0.52	Nil			
				703.5-713.5	10.0	0.45	Nil			
				791.6-819.2	27.6	0.96	Nil			
				860.2-861.2	11.0	2.18	Nil	880.0	880.0	880.0
M-61*	3267.6	361,170	763,993	1000.6-1029.0	28.4	1.18	Nil	Hole Completed in April.		
M-63	3259.0	361,178	764,491	386.3-414.6	28.3	0.52	Nil			
				499.6-637.8	138.2	0.42	Nil			
				692.1-715.4	23.3	0.78	Nil			
				742.6-800.8	58.2	1.07	Nil	26.9	864.7	864.7
M-65	3279.3	362,618	761,974	592.0-750.7	168.8	1.22	Nil	857.8	857.8	857.8
M-66	3282.1	361,737	762,737	310.8-321.6	10.8	0.64	Nil			
				462.0-474.1	12.1	0.72	Nil	569.0	569.0	
M-67	3252.8	363,549	761,991	Assays Not Available				828.7	828.7	
					Total footage - May, 1963			3162.4		

*M-61 Hole Completed in April. This Assay Not Available Until May.

MR. JHC
READ AND ... Keep
PREPARE AN... ANDLE
FILE

K. R.

MAY - 3 1963

DIAMOND DRILLING - MISSION UNIT

April 1963

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-61	3267.6	361,170	763,993	210.8-226.9	16.1	0.94	Nil			
				508.2-554.7	46.3	0.76	Nil			
				580.8-584.9	4.1	2.73	Nil			
				601.2-612.5	11.3	0.48	Nil			
				670.0-682.2	12.2	0.42	Nil			
				715.6-725.1	9.5	0.53	Nil			
				761.0-781.0	20.0	0.53	Nil			
				811.1-832.3	21.2	1.37	Nil			
				919.7-972.2	52.5	0.75	Nil	404.5	1064.5	1064.5
M-62	3283.2	362,338	762,225	229.5-264.2	34.7	0.73	Nil			
				716.0-722.8	6.8	1.32	Nil	240.8	878.0	878.0
M-63	3259.0	361,178	764,491	386.3-414.6	28.3	0.52	Nil			
				499.6-637.8	138.2	0.42	Nil			
				692.1-704.0	11.9	0.51	Nil	837.8	837.8	
M-64	3271.1	361,748	762,987	249.5-262.8	13.3	1.00	Nil			
				416.4-462.3	45.9	1.16	Nil			
				496.6-517.3	20.7	1.16	Nil			
				540.3-552.3	12.0	3.46	Nil			
				605.0-634.4	29.4	0.78	Nil			
				678.0-739.5	61.5	0.93	Nil			
				775.5-834.8	60.9	1.09	Nil	959.0	959.0	959.0
					Total footage April, 1963			2452.1		

SAA

DIAMOND DRILLING - MISSION UNIT

March

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-57 S	3257.2	361,177	764,243	200.0-367.4	167.4	0.67	Nil			
				386.7-436.3	49.6	0.40	Nil			
				505.2-574.7	69.5	0.47	Nil			
				603.1 843.6	240.5	0.89	Nil	588.4	865.8	865.8
M-60 NW	3267.4	362,334	762,725	264.0-287.2	23.2	0.56	Nil			
				352.0-394.0	42.0	1.02	Nil			
				426.2-436.3	10.1	1.74	Nil			
				620.5-646.0	25.5	0.53	Nil			
				654.5-671.0	16.5	0.52	Nil			
				701.0-719.8	18.8	1.35	Nil			
				849.0-883.4	34.4	1.39	Nil	903.2	903.2	903.2
M-61 S	3267.6	361,170	763,993	210.8-226.9	16.1	0.94	Nil			
				508.2-554.7	46.5	0.76	Nil			
				580.8-584.9	4.1	2.73	Nil			
				601.2-612.5	11.3	0.48	Nil	660.0	660.0	
M-62 NW	3283.2	362,338	762,225	229.5-264.2	34.7	0.73	Nil	637.2	637.2	
					Total footage March, 1963			2788.8		

SAA

DIAMOND DRILLING - MISSION UNIT

February 1963

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-53	3282.4	361,444	762,990	387.0-408.6	21.6	0.83	Nil			
				431.0-457.5	26.5	0.65	Nil			
				611.1-647.0	35.9	0.64	Nil			
				763.5-784.7	21.2	1.27	Nil			
				800.1-866.0	65.9	1.04	Nil			
				898.0-934.0	36.0	1.20	Nil	562.6	984.7	984.7
M-57	3257.2	361,177	764,243		Assays Not Available			277.4	277.4	
M-58	3271.5	362,929	761,966	514.5-646.0	131.5	0.81	Nil			
				670.5-700.5	30.0	1.76	Nil	183.0	726.5	726.5
M-59	3280.5	362,335	762,474	630.5-760.7	130.2	0.65	Nil			
				782.3-818.0	35.7	0.78	Nil	915.2	915.2	915.2
M-60	3267.4	362,334	762,725		Assays Not Available			252.6	252.6	
					Total footage - February, 1963			2190.8		

SAA

DIAMOND DRILLING - MISSION UNIT

January, 1963

Hole Nos.	Ground Elevations	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
S M-49	3277.5	361,447	763,239	453.0-495.3	42.3	0.94	Nil			
				518.0-539.5	21.5	0.44	Nil			
				593.2-625.5	32.3	0.96	Nil			
				669.2-805.0	135.8	1.53	Nil			
				871.1-941.5	70.4	1.02	Nil			
				955.1-970.4	15.3	1.38	Nil			
				1072.6-1090.5	17.9	0.68	Nil	754.8	1095.0	1095.0
S M-53	3282.4	361,444	762,990	191.0-422.1	No Ore Runs			422.1	422.1	
N M-54	3269.0	362,913	761,723	433.5-440.5	7.0	0.60	Nil			
				501.4-630.6	129.2	1.14	Nil	253.5	747.9	747.9
N M-56	3266.9	363,227	761,964	478.8-602.0	123.2	0.74	Nil			
				682.7 693.1	10.4	2.08	Nil			
				700.0-709.8	9.8	1.58	Nil	785.0	785.0	785.0
M-58	3271.5	362,929	761,966	190.0-543.5	Assays Not Available			543.5	543.5	

Total footage - January, 1963 2758.9

S.A. ANZALONE

DIAMOND DRILLING – MISSION UNIT

December, 1962

Hole Nos.	Ground Elevation	Coordinates North	Coordinates East	+ 0.40% Cu Depth	Intersections Interval	Average Total	% Cu N. S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-49	3277.5	361,447	763,239	196.0-340.2	Assays Not Available			340.2	340.2	
M-50	3269.0	362,942	762,218	485.5-495.5	10.0	0.54	Nil			
				513.2-523.4	10.2	0.47	Nil			
				583.8-613.7	29.9	1.47	Nil			
				682.6-690.0	7.4	0.90	Nil	806.8	806.8	806.8
M-51	3286.2	361,145	763,231	679.6-686.1	6.5	0.97	Nil			
				713.3-721.0	7.7	1.13	Nil			
				742.6-751.0	8.4	0.64	Nil			
				850.6-866.9	16.3	1.04	Nil			
				886.7-908.0	21.3	0.65	Nil			
				915.9-968.0	52.1	1.15	Nil	637.2	1066.4	1066.4
M-52	3261.0	363.523	761,708	650.3-677.7	27.4	0.71	Nil			
				718.5-742.3	23.8	0.64	Nil			
				802.3-830.7	28.4	0.89	Nil	240.5	873.0	873.0
M-54	3269.0	362,913	761,723	190.0-494.4	Assays Not Available			494.4	494.4	
				Total footage – December, 1962				2519.0		

S.A.A.

DIAMOND DRILLING - MISSION UNIT

November, 1982

Hole Nos.	Ground Elevation	Coordinates North	Coordinates East	+ 0.40% Cu. Intersections Depth	Intersections Interval	Averages % Cu. Total	Averages % Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-47	3271.2	361,149	763,494	460.0-490.6	30.6	0.55	Nil			
				515.0-523.1	8.1	0.42	Nil			
				645.5-663.0	7.5	0.45	Nil			
				706.2-730.4	24.2	0.85	Nil			
				777.5-790.3	12.8	0.89	Nil			
				929.3-998.0	68.7	0.90	Nil			
				1033.4-1050.0	16.6	0.58	Nil	655.1	1115.1	1115.1
M-48	3258.9	363,528	762,208	607.8-614.0	6.2	0.42	Nil			
				644.5-700.0	55.5	0.76	Nil	836.0	836.0	836.0
M-51	3286.2	361,146	763,231	190.0-325.3	No Ore Intersections					
				325.3-429.2	No Assays Available.			429.2	429.2	
M-52	3261.0	363,523	761,708	193.8-468.7	No Ore Intersections					
				468.7-632.5	No Assays Available			632.5	632.5	

Total Footage November 2552.8

DIAMOND DRILLING MISSION UNIT

October, 1962

Hole Nos	Ground Elevation	Coordinates North	Coordinates East	+ 0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N. S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-44	3260.2	363,237	762,462	545.5-565.3	19.8	0.45	Nil			
				586.9-604.2	17.3	0.62	Nil			
				653.6-693.6	40.0	2.12	Nil	283.5	729.1	729.1
M-45	3271.4	361,449	763,489	192.0-204.0	12.0	0.49	0.12			
				208.8-229.2	20.4	0.45	0.14			
				241.3-348.5	107.2	0.58	Nil			
				354.3-370.1	15.8	0.50	Nil			
				393.1-535.4	143.3	0.62	Nil			
				551.0-585.5	34.5	0.88	Nil			
				640.3-645.6	5.3	1.58	Nil			
				672.9-725.0	52.1	1.23	Nil			
				742.1-761.0	18.9	0.91	Nil			
				761.0-780.1	19.1	12.77	Nil			
				816.5-824.4	7.9	1.30	Nil			
				834.8-842.6	7.8	0.53	Nil			
				877.3-894.8	17.5	1.04	Nil	782.0	974.0	974.0
M-46	3266.5	362,642	762,470	306.4-335.5	29.1	1.02	Nil			
				341.5-356.9	15.4	0.58	Nil			
				374.5-380.2	5.7	0.78	Nil			
				596.5-650.5	54.0	0.64	Nil			
				681.2-686.2	5.0	0.96	Nil			
				686.2-815.2	No Assays	Available		815.2	815.2	
M-47	3266.0 (Approx)	361,151 (Approx)	763,414 (Approx)	212.5-220.9	8.4	0.78	0.43			
				220.9-237.8	16.9	0.67	Nil			
				237.8-460.0	No Assays	Available		460.0	460.0	
				Total Footage October, 1962				2340.7		

DIAMOND DRILLING - MISSION UNIT

September 1962

Hole No.	Ground Elevation	Coordinates North	Coordinates East	+0.40% Cu. Depth	Intersections Interval	Average Total	% Cu N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-42	3264.1	362,922	762,464	594.3-645.5	51.2	0.84	Nil			
				654.6-663.8	9.2	2.35	Nil			
				743.5-748.7	5.2	0.80	Nil	941.0	941.0	941.0
M-43	3265.9	361,162	763,743	631.2-641.2	10.0	0.51	Nil			
				747.2-757.2	10.0	0.83	Nil			
				775.5-833.8	58.3	0.890	Nil			
				930.5-955.0	24.5	0.75	Nil			
				990.7-995.0	4.3	0.58	Nil			
				1005.2-1010.0	4.8	1.07	Nil			
				1051.0-1056.4	5.4	1.80	Nil	815.4	1470.4	1470.4
M-44	Not Surveyed	(Approx) 363,235	(Approx) 762,465	No Assays 314.7-445.6				445.6	445.6	445.6
M-45	Not Surveyed	361,451	763,481	No Assays				192.0	192.0	192.0
				Total Footage - Sept 1962				2394.0		

DIAMOND DRILLING - MISSION UNIT

August, 1962

Hole Nos.	Ground Elevation	Coordinates North	Coordinates East	+0.40% Cu. Depth	Intersections Interval	Average % Cu Total	Average % Cu N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-40	3255.2	363,532	762,456	583.1-611.7	28.6	0.96	Nil			
				632.1-644.8	12.7	0.47	Nil			
				651.7-672.7	21.0	0.53	Nil			
				713.5-721.2	7.7	0.66	Nil			
				738.7-788.2	49.5	1.42	Nil	440.8	905.8	905.8
M-41	3262.7	361,457	763,737	434.4-456.4	22.0	0.45	Nil			
				464.3-476.4	12.1	0.50	Nil			
				486.3-540.4	54.1	0.47	Nil			
				713.6-717.7	4.1	1.96	Nil			
				747.3-781.1	33.8	1.69	Nil			
				801.2-879.8	78.6	0.69	Nil			
				909.5-913.2	3.7	0.48	Nil	569.2	992.5	992.5
M-43	3265.9	361,162	763,743	282.9-303.1	20.2	0.46	Nil			
				351.9-465.2	113.3	0.69	Nil			
				510.4-565.5	55.1	0.80	Nil			
				565.5-655.0 - Not Assayed				655.0	655.0	

1605.0
2394.0
2879.4
6938.4

DIAMOND DRILLING - MISSION UNIT

July, 1962

Hole No.	Ground Elevation	Coordinates North	Coordinates East	+0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-36	3140.9	363,427	765,138	199.6-246.6	47.0	1.68	Nil			
				287.3-295.3	8.0	2.28	Nil	195.4	395.0	395.0
M-37	3132.9	363,124	764,791	262.9-269.6	6.7	0.55	Nil	173.6	416.4	416.4
M-38	3256.7	361,463	764,238	255.2-286.6	31.4	0.40	Nil			
				306.8-310.6	3.8	0.42	Nil			
				448.5-545.7	97.2	0.54	Nil			
				564.4-574.3	9.9	1.03	Nil			
				585.7-589.6	3.9	0.77	Nil			
				622.2-659.2	37.0	0.86	Nil			
				694.4-729.6	35.2	1.85	Nil	801.3	801.3	801.3
M-39	3244.5	36[illegible],458	763,455	211.9-224.1	12.2	0.41	0.12			
				234.3-244.0	9.7	0.47	Nil			
				359.2-380.9	21.7	0.50	Nil			
				444.5-463.4	18.6	0.47	Nil			
				514.0-542.1	28.1	0.49	Nil			
				579.7-691.2	111.3	0.54	Nil			
				691.2-756.9	65.7	1.73	Nil			
				774.7-785.4	10.7	0.69	Nil	820.8	820.8	820.8
M-40	3[illegible]	[illegible]	[illegible]	207.4-215.5	8.1	0.46	0.23			
				No Assays 304.9- 465.0				465.0	465.0	
M-41	[illegible]	3[illegible] 457	763 727	205.0-215.5	10.5	0.43	0.25			
				No Assays 2[illegible] - 423.3				423.3	423.3	
						Total Footage July 1962		2879.4		

R. RICHARD
ROOM 809

DIAMOND DRILLING - MISSION UNIT

June, 1962

Hole Nos.	Ground Elevation	Coordinates North	Coordinates East	+0.40% Cu. Depth	Intersections Interval	Average Total	% Cu N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-27	3176.3	363,745	764,938	357.4-373.3	15.9	0.66	Nil	178.8	536.2	536.2
M-28	3191.0	363,890	765,826	No ore intersections				59.1	364.0	364.0
M-29	3211.6	363,718	764,756	250.3-255.3	5.0	1.11	Nil			
				266.7-277.6	10.9	0.43	Nil			
				352.2-361.9	9.7	0.41	Nil			
				380.3-408.4	28.1	2.77	Nil	433.7	433.7	433.7
M-30	3182.9	364,187	765,824	No ore intersections				381.7	381.7	381.7
M-31	3136.1	363,684	765,206	165.1-194.3	29.2	0.52	Nil			
				216.7-246.9	30.2	1.86	Nil	486.2	486.2	486.2
M-32	3205.6	363,917	765,076	344.5-368.5	24.0	2.94	Nil			
				422.5-437.3	14.8	1.17	Nil			
				449.3-453.0	3.7	0.83	Nil	530.2	530.2	[illegible]
M-33	3133.3	363,702	765,464	127.7-160.0	32.3	0.64		337.9	337.9	337.9
M-34	3202.9	363,843	765,327	272.7-282.7	10.0	1.20	Nil			
				304.0-334.1	30.1	0.73	Nil			
				341.0-352.8	11.8	0.49	Nil			
				358.9-370.0	11.1	3.59	Nil	440.2	440.2	440.2
M-35	3197.2	363,868	765,577	209.7-220.2	10.5	0.64	0.23			
				225.0-240.8	15.8	0.54	Nil			
				268.7-303.6	34.9	0.47	Nil			
				331.0-369.0	38.0	1.00	Nil			
				369.0-440.5	Assays not available			440.5	440.5	440.5
M-36	3190.9	363,427	765,198	No Assays Available				199.6		
M-37	3132.9	363,124	764,981	"				242.8		
						Total - June		3790.7		

DIAMOND DRILLING - MISSION UNIT

May, 1962

Hole Nos.	Ground Elevation	Coordinates North	Coordinates East	+0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-19	3221.3	363,464	764,460	364.9-369.6	4.7	1.26	Nil			
				392.5-398.0	5.5	0.54	Nil	70.5	413.0	413.0
M-21	3217.5	363,667	764,206	231.1-257.0	25.9	0.59	Nil			
				275.0-302.6	27.6	0.70	Nil			
				322.8-365.4	42.6	2.41	Nil			
				405.2-409.6	4.4	0.44	Nil			
				428.2-431.7	3.5	0.48	Nil	474.3	474.3	474.3
M-22	3224.4	363,458	763,961	237.8-284.7	46.9	0.62	Nil			
				354.5-393.3	38.8	0.98	Nil	465.0	465.0	465.0
M-23	3224.3	363,664	763,710	203.9-220.6	16.7	0.69	0.47			
				239.0-249.0	10.0	0.44	Nil			
				374.9-384.6	9.7	0.41	Nil			
				482.7-516.3	33.6	0.41	Nil			
				532.6-570.1	37.5	2.49	Nil	621.1	621.1	621.1
M-24	3219.2	363,420	764,709	300.0-308.2	8.2	0.60	Nil	450.4	450.4	450.4
M-25	3224.1	363,120	764,719	221.8-233.0	11.8	0.65	0.40			
				339.8-345.3	5.5	0.54	Nil			
				412.2-484.1	71.9	2.18	Nil	496.4	496.4	496.4
M-26	3228.2	363,117	764,465	No ore-grade intercepts				411.9	411.9	411.9

DIAMOND DRILLING - MISSION UNIT

May, 1962

Hole Nos.	Ground Elevation	Coordinates North	Coordinates East	+0.40% Cu. Depth	Intersections Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End Of Month	Final Depth
M-27	3176.3	363,745	764,938	No ore-grade intercepts.				357.4	357.4	
M-28	3191.0	363,890	765,826	203.8-236.7	32.9	0.43	0.22	304.9	304.9	
				Total Footage - May, 1962				3651.9		

DIAMOND DRILLING - MISSION UNIT

May, 1962

Hole Nos.	Ground Elevation	Coordinates North	Coordinates East	+0.40% Cu. Intersections Depth	Interval	Average Total	% Cu. N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
M-19	3221.3	363,464	764,460	364.9-369.6	4.7	1.26	Nil			
				392.5-398.0	5.5	0.54	Nil	70.5	413.0	413.0
M-21	3217.5	363,667	764,206	231.1-257.0	25.9	0.59	Nil			
				275.0-302.6	27.6	0.70	Nil			
				322.8-365.4	42.6	2.41	Nil			
				405.2-409.6	4.4	0.44	Nil			
				428.2-431.7	3.5	0.48	Nil	474.3	474.3	474.3
M-22	3224.4	363,458	763,961	237.8-284.7	46.9	0.62	Nil			
				354.5-393.3	38.8	0.98	Nil	465.0	465.0	465.0
M-23	3224.3	363,664	763,710	203.9-220.6	16.7	0.69	0.47			
				239.0-249.0	10.0	0.44	Nil			
				374.9-384.6	9.7	0.41	Nil			
				482.7-516.3	33.6	0.41	Nil			
				532.6-570.1	37.5	2.49	Nil	621.1	621.1	621.1
M-24	3219.2	363,420	764,709	300.0-308.2	8.2	0.60	Nil	450.4	450.4	450.4
M-25	3224.1	363,120	764,719	221.8-233.0	11.8	0.65	0.40			
				339.8-345.3	5.5	0.54	Nil			
				412.2-484.1	71.9	2.18	Nil	496.4	496.4	496.4
M-26	3226.2	363,117	764,465	No Assays at end period				411.9	411.9	411.9
M-27	3176.3	363,745	764,938	"				357.4	357.4	
M-28	3191.0	363,890	765,826	"				304.9	304.9	

Total Footage - May 3651.9

DIAMOND DRILLING - MISSION UNIT

April, 1962

*Completed in March, not assayed.

Hole Nos.	Ground Elevation	Coordinates North	Coordinates East	+0.40% Cu. Intersections Depth	Interval	Average % Cu. Total	N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
*M-13	3136.1	362,811	764,980	245.0-301.3	56.3	1.86	Nil	322.3	322.3	322.3
*M-14	3134.1	363,266	764,977	No Ore Intersections				186.0 Drilled in March	186.0	
M-14	3134.1	363,266	764,977	No Ore Intersections				314.9	500.9	500.9
M-15	3178.3	363,579	764,960	283.5-311.2	27.7	1.08	Nil			
				368.1-375.2	7.1	3.45	Nil	534.0	534.0	534.0
M-16	3227.3	362,970	764,710	224.7-238.2	13.5	1.73	1.07			
				338.3-354.9	16.6	0.88	Nil			
				395.4-411.4	16.0	3.25	Nil			
				438.5-443.0	4.5	1.04	Nil			
				475.4-482.1	6.7	1.50	Nil	492.1	492.1	492.1
M-17	3215.6	363,591	764,705	195.0-202.8	7.8	0.63	0.55			
				202.8-249.4	46.6	1.46	Nil			
				255.0-288.6	33.6	0.70	Nil			
				301.0-311.0	10.0	0.42	Nil			
				429.4-456.1	26.7	1.58	Nil	531.0	531.0	531.0
M-18	3224.7	363,265	764,462	225.2-229.1	3.9	0.55	Nil	357.1	357.1	357.1
M-19	3221.3	363,464	764,460	214.2-222.6	8.4	2.60	1.60			
				238.3-284.0	45.7	1.09	0.005	342.5	342.5	
M-20	3223.0	363,462	764,210	192.8-205.5	12.7	0.59	0.29			
				326.2-347.0	20.8	1.18	Nil			
				422.6-428.4	5.8	0.88	Nil	512.0	512.0	512.0
				Total Footage - April				3083.6		

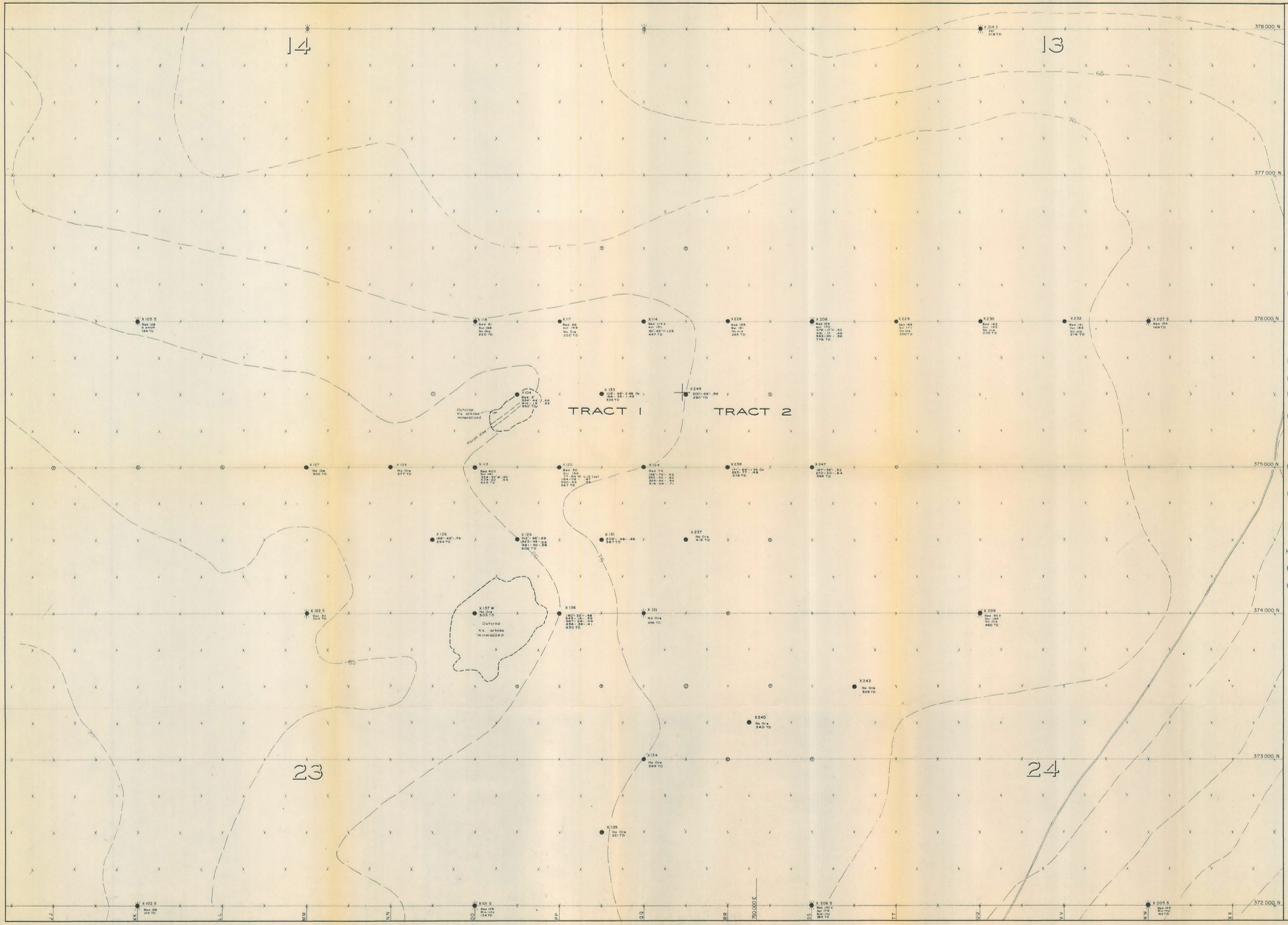
April 62

DIAMOND DRILLING - MISSION UNIT.

APRIL, 1962

* Completed in March, not assayed.

Hole No.	Ground Elevation	Coordinates North	Coordinates East	+ 0.40 % Cu Intersections Depth	Interval	Average % Cu Total	N.S.	Feet Drilled During Month	Depth End of Month	Final Depth
*M-13	3136.1	362,811	764,980	245.0-301.3	56.3	1.86	Nil	322.3	322.3	322.3
*M-14	3134.1	363266	764,977	No ore intersections				186.0	186.0	
								Drilled in March		
M-14	3134.1	363,266	764,977	No ore intersections				314.9	500.9	500.9
M-15	3178.3	363579	764,960	283.5-311.2	27.7	1.08	Nil			
				368.1-375.2	7.1	3.45	Nil	534.0	534.0	534.0
M-16	3227.3	362,970	764,710	224.7-233.2	8.5	2.13	1.63			
				233.2-238.2	5.0	1.05	0.12			
				338.3-354.9	16.6	0.88	Nil			
				395.4-411.4	16.0 ✓	3.25	Nil			
				438.5-443.0	4.5	1.04	Nil			
				475.4-482.1	6.7	1.50	Nil	492.1	492.1	492.1
M-17	3215.6	363,591	764,705	195.0-202.8	7.8	0.63	0.55			
				202.8-249.4	46.6 ✓	1.46	Nil			
				255.0-288.6	33.6 ✓	0.70	Nil			
				301.0-311.0	10.0	0.42	Nil			
				429.4-456.1	26.7 ✓	1.58	Nil	531.0	531.0	531.0
M-18	3224.7	363,265	764,462	225.2-229.1	3.9	0.55	Nil	357.1	357.1	357.1
M-19	3221.3	363,464	764,460	No assays at end period				342.5	342.5	
M-20	3223.0	363,462	764,210	"				512.0	512.0	512.0
				Total Footage April				3083.6		



Hole Numbering System on Reservation

Tract I —— X 101, X 102, etc.
Tract II —— X 201, X 202, etc.
Tract III —— X 301, X 302, etc.

Shallow Holes Designated X 101 S, etc

Holes Drilling • X 206 S

Hole Location Prepared o

Holes To Be Drilled Next Deep Shallow

Holes Complete But All Assays Not Available •

Magnetic High (Erwin Letter 9-11-57) .....

Relative Gravity Contours CI = 0.5 milligal (Saegart report 12-10-57)

Hole in post-mineral rocks only •

Hole in mineralized bedrock •

Hole in possible open pit ore •

ASARCO

SAN XAVIER PROJECT

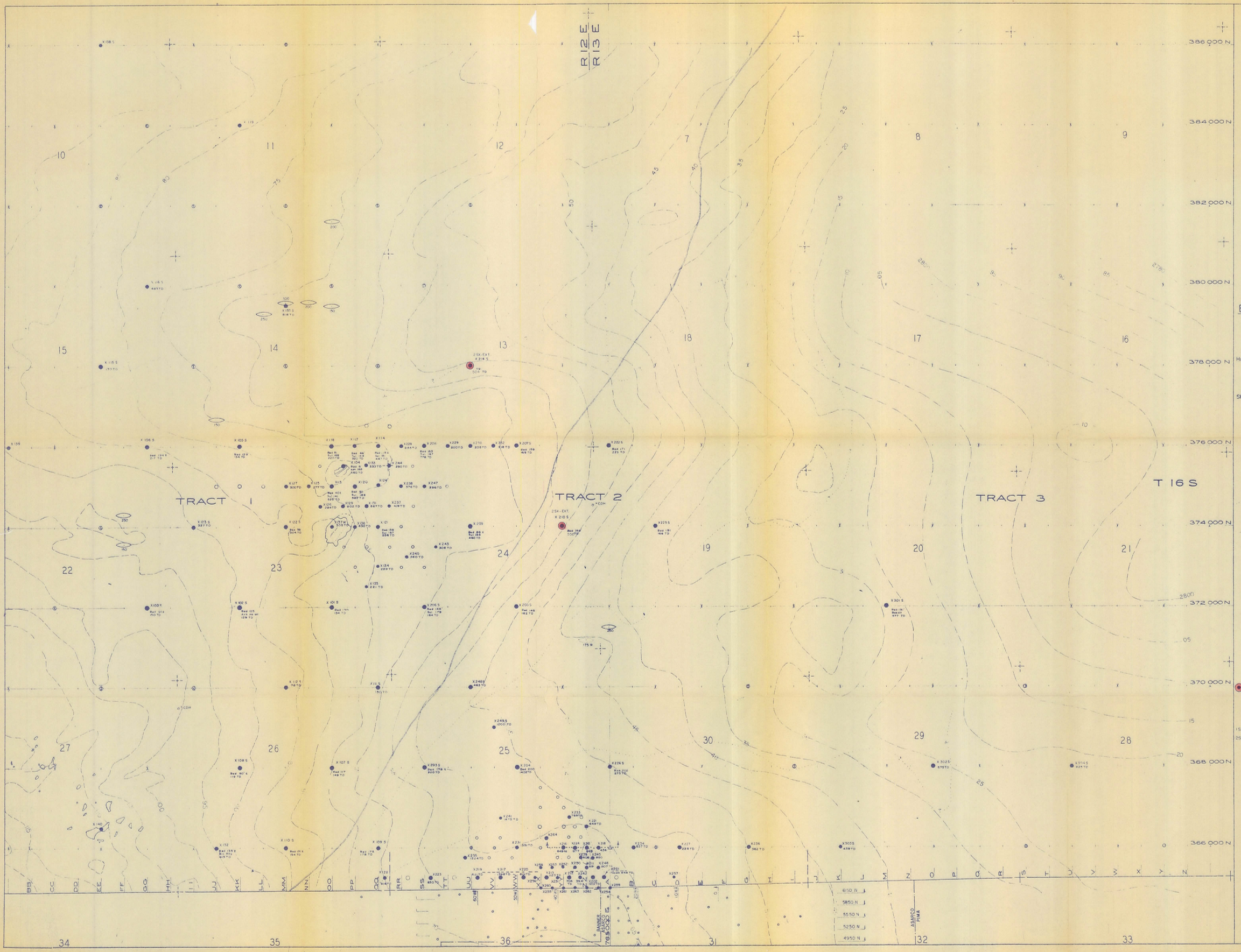
Pima County, Arizona

DRILLING MAP

CENTRAL TRACT I-II

SCALE 1" = 300'

December 1957 Map No. 1387



EXPLANATION

Hole Numbering System On Reservation

Tract I —— X101, X102, etc.
Tract II —— X201, X202, etc.
Tract III —— X301, X302, etc.

Shallow Holes Designated X101S, etc.

Magnetic High (Erwin letter 9-11-57)

Relative Gravity Contours CI = 0.5 milligal (Soegart report 12-10-57)

EM Crossover max. depth

EM "Tandem" effect

EM "Edge" effect

ASARCO DEVELOPMENT DRILLING ON THE SAN XAVIER RESERVATION

FROM APR 7 1966 TO APR 27 1966

1SX- Prefix indicates drilling on TRACT 1
2SX- " " " " TRACT 2

ASARCO

SAN XAVIER PROJECT

Pima County, Arizona

DRILLING MAP

SCALE 1" = 1000'

September 1957 Map No. 1385