Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

PAID ON VOUCHER & SCHEDULE OF PAYMENTS K-

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of March, 1959 Docket No. DMEA 5044 Contract No. IDM-E 1222
Operator's Name Appalachian Sulphides, Inc. Minerals Copper-Zinc
Address Jefferson, North Carolina
Contract Amount, $ 58,190.00 Government Participation: 50% Amount, $ 29,095.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling	$6,591.45	$45,597.30	$52,188.75	5/20/59		
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
Incidentals	380.80	2,504.27	2,885.07			
Assaying	2.00	17.00	19.00			
Tro-Pari Tests	75.00	879.17	954.17			
TOTALS	$7,049.25	$48,997.74	$56,046.99	7,049.25	48,997.74	56,046.99

APR 30 1959 O.M.E.

I certify that the above bill is correct and just and that payment therefor has not been received.
Date April 1/59 *Payee Appalachian Sulphides, Inc.
Per [signature] Title Accountant

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:
$ 3524.63
Signature Helen R. Miller
(Authorized Certifying Officer)
Date APR 28 1959 Vou. No. 107
(See other side)

3524.62

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-1222 in accordance with the terms of the contract.

Signature [illegible] Title GEOLOGIST, U. S. G. S. Date APR 24 1959

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature [illegible] Title ACTING EXECUTIVE OFFICER DME - REGION V Date APR 24 1959

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of March 195 59 Docket No. DMEA 5044 Contract No. IDM-E 1222

Operator's Name Appalachian Sulphides, Inc. Minerals Copper - Zinc

Address Jefferson, N. C.

OPERATION		Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting									
Crosscutting									
Raising									
Shafts									
Winzes									
Drilling: Core	0-500	Ft.	$2,750.00	1000	$16,500.00	6,000	$2.75	5500	$ 2.75
Churn	500-1000	Ft.	2,679.00	893	17,178.00	5726	3.00	5200	3.00
Auger	1000-1500	Ft.	1,162.45	347	12,284.45	3667	3.35	3700	3.35
Stripping	1500-2000	Ft.	-	-	4,912.60	1276	3.85	2300	3.85
Trenching	2000 +	Ft.	-	-	1,313.70	302	4.35	300	4.55
Test Pits	Tro Pari Tests	Hole	75.00	2	954.17	12	79.514	11	160.00
Roads and Trails	Assays	Each	2.00	2	19.00	19	1.00	200	1.00
	Incidentals	ft.	380.80	2240	2,885.07	16971	.17	17000	.17
Total Distributed Costs			7049.25		56,046.99				Total Costs Authorized by Contract
Operating Equipment Purchased									
Initial Rehabilitation and Repairs									
New Buildings, Improvements, etc.									
Total Costs									

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date April 1/59 Operator Appalachian Sulphides, Inc.

Per [signature] Title Accountant

Remarks: This report covers:
Holes N-49 and N-50
2 Assays Hole N-49

→ NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

(For Government use only)

[signature]
GEOLOGIST, U. S. G. S.

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

APPALACHIAN SULPHIDES, INC.

ORE KNOB MINE

PROGRESS REPORT DMRA DOCKET NO. 5044

Period: February 28 - March 31, 1959

D. D. H. No. 50

Location: North 7434.30, East 15494.18, Elevation 3180.23, Offset Baseline 154 feet South and on Section 4400 West.

A two inch siliceous zone containing a few specks of pyrrhotite, pyrite, and chalcopyrite was encountered at elevation 2560, offset baseline 85 feet north, and on section 4360 west.

It was unfortunate that this program did not yield any additional ore reserve or new mineralized areas. However, I feel that valuable geologic information was obtained, and that it will be helpful for future exploration on the property.

Submitted,

APPALACHIAN SULPHIDES, INC.

Dewey S. Kirstein

Dewey S. Kirstein
Geologist

RECEIVED
APR 6 - 1959
U. S. Geological Survey
Geologic Division
Knoxville, Tenn.

THE NIPISSING MINES COMPANY LIMITED

DIAMOND DRILL RECORD

NORTH	7434.30	HOLE No.	N 50
EAST	15494.18	STARTED	3/3/59
ELEV.	3180.23	COMPLETED	3/9/59
BEARING	N 30 E	LENGTH	893
H.L.		PROPERTY	ORY KNOB
PURPOSE	Exploration	SHAFT	
WORKING	Surface	LOGGED BY	D.S.K.
SECTION	4400 W	PLOTTED	
OFFSET	154 S		

DIP - 75° @ 100 N 25° W - 73°, @ 300 N 20° W - 69° @ 500 N 18° W - 66°.

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
0 - 22	Overburden - Soil boulders and saprolite								
~~22~~ 22-893	Quartz Mica Gneiss a medium gray foliated and granulated gneiss with an average grain size of 2 mm. Average composition 60 - 70% quartz, 15% biotite, 10% muscovite and 5% garnet, carbonates, chlorite ect. Frequent 1/2 to 2" quartz stringers.								
	22 - 33 Biotite more prominent than muscovite.								
	33-96 Muscovite more prominent than biotite.								
	78 1 foot white quartz vein - barren.								
	96 - 166 Biotite and muscovite equal.								
	148 6 inch quartz and feldspar vein with a few specks of sulphides.								
	166 - 205 Biotite more prominent than muscovite.								
	205 - 212 Muscovite more prominent than biotite.								
	217 - 327 Biotite more prominent than muscovite.								
	327 - 332 Muscovite and biotite equal.								
	332 - 385 Muscovite more prominent than biotite.								
	387 3 feet core ground and lost.								
	385 - 392 Muscovite and biotite equal.								
	391 8 inch quartz vein with a few specks of sulphides.								
	392 - 602 Biotite more prominent than muscovite.								

RECEIVED
APR 6 - 1959
U. S. Geological Survey
Geologic Division
Knoxville, Tenn.

SHEET No. 2

THE NIPISSING MINES COMPANY LIMITED

HOLE No. # 50

FOOTAGE	DESCRIPTION		SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	602 - 633	Biotite and muscovite equal.								
	633 - 715	Muscovite more prominent than biotite.								
	663	6 inch very silicious zone with a few specks of pyrite.								
679	679	Two inch very silicious zone with scattered specks of pyrrho. pyrite and chalco.								
	682	1 inch zone of biotite schist - few specks of pyrite.								
	715 - 818	Biotite more prominent than muscovite.								
	724	6 inch quartz vein with a few specks of sulphides.								
	782	1 foot zone brecciated and epidotized and silicified.								
	818 - 869	Biotite and muscovite equal.								
	845	Very even textured foliated gneiss - near micaceous quartzite/								
	840	2 feet ground and lost Foliation 45° from core axis.								
	869 - 893	Muscovite more prominent than biotite.								
	893	End of hole - Casing pulled.								

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

ROOM 2-B POST OFFICE BLDG.
KNOXVILLE 2, TENN.

OFFICIAL FILE COPY
O. M. E.
RECEIVED APR 13 1959
DATE | INITIALS

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS
EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

OFFICIAL BUSINESS

Final Operator's Monthly
Report - Vanadium
March 1959 -
Final - Map

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE, $300
(PMGC)

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

ROOM 2-B POST OFFICE BLDG.
KNOXVILLE 2, TENN.

April 10, 1959

OFFICIAL FILE COPY		
O. M. E.		
RECEIVED APR 13 1959		
DATE	INITIALS	
4/13	C	220
4/14	[illegible]	~~500~~

Memorandum

To: Operating Committee, OME, Washington, D. C.

ATTENTION: Mr. W. R. Griswold

From: Executive Officer, OME Field Team, Region V, Knoxville

Subject: DMEA-5044, Idm-E1222 (Copper-Zinc)
Appalachian Sulphides, Inc., Jefferson, North Carolina
Ore Knob Mine, Ashe County, North Carolina

Enclosed for your information are copies of the final MF-104 and 104A forms and the monthly narrative report on the subject contract.

The Audit Division has been requested to prepare a Report of Review; therefore, the MF-104 and 104A forms are subject to change depending on the results of the audit review.

The Operator's final engineering and geologic report has not yet been received.

Robert A. Laurence

Robert A. Laurence

Enclosures 3

FINAL

Form MF-[illegible] (Rev.) (April [illegible])

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of March 1959 Docket No. DMEA 5044 Contract No. IDM-E 1222

Operator's Name Appalachian Sulphides, Inc. Minerals Copper-Zinc

Address Jefferson, North Carolina

Contract Amount, $ 58,190.00 Government Participation: 50% Amount, $ 29,095.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling	$6,591.45	$45,597.30	$52,188.75			
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
Incidentals	380.80	2,504.27	2,885.07			
Assaying	2.00	17.00	19.00			
Pyro-Part Tests	75.00	879.17	954.17			
TOTALS	$7,049.25	$48,997.74	$56,046.99	7,049.25	48,997.74	56,046.99

I certify that the above bill is correct and just and that payment therefor has not been received.

Date April 1/59 *Payee Appalachian Sulphides, Inc.

Per [signature] Title Accountant

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—Title 18, U. S. Code, (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 3524.62

Signature
(Authorized Certifying Officer)

Date Vou. No.
(See other side)

3524.62

Form MF-104A
(April 1960)

Budget Bureau No. 42-R1151.2

OMF APR 18 1959

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of March 195 59 Docket No. DMEA 5044 Contract No. IDM-E 1222
Operator's Name Appalachian Sulphides, Inc. Minerals Copper - Zinc
Address Jefferson, N. C.

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 0-500	Ft.	$2,750.00	1000	$16,500.00	6,000	$2.75	5500	$ 2.75
Churn 500-1000	Ft.	2,679.00	893	17,178.00	5726	3.00	5200	3.00
Auger 1000-1500	Ft.	1,162.45	347	12,284.45	3667	3.35	2700	3.35
1500-2000	Ft.	-	-	4,912.60	1276	3.85	2300	3.85
Stripping 2000 +	Ft.	-	-	1,313.70	302	4.35	300	4.55
Trenching								
Test Pits Pre Pari Tests	Hole	75.00	2	954.17	12	79.514	11	160.00
Roads and Trails Assays	Each	2.00	2	19.00	19	1.00	200	1.00
Incidentals	ft.	380.80	2240	2,885.07	16971	.17	17000	.17
Total Distributed Costs		7049.25		56,046.99				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs								

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date April 1/59 Operator Appalachian Sulphides, Inc.

Per [signature] Title Accountant

Remarks: This report covers: Holes N-49 and N-50

2 Assays Hole N-49

NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

(For Government use only)

APPALACHIAN SULPHIDES, INC.

OLD IRON MINE

PROGRESS REPORT DDH DRILL HOLE NO. 58A

Periods February 28 - March 31, 1959

D. D. H. No. 58

Location: North 7834.30, East 13694.18, Elevation 3180.83, Offset Baseline 198 feet South and on Section 4400 West.

A two inch siliceous zone containing a few specks of pyrrhotite, pyrite, and chalcopyrite was encountered at elevation 2560, offset baseline 85 feet north, and on section 4360 west.

It was unfortunate that this program did not yield any additional ore reserve or new mineralized areas. However, I feel that valuable geologic information was obtained, and that it will be helpful for future exploration on the property.

Submitted,

APPALACHIAN SULPHIDES, INC.

Denny S. Kirstein

Denny S. Kirstein
Geologist

RECEIVED
APR 6 - 1959
U. S. Geological Survey
Geologic Division
Knoxville, Tenn.

THE NIPISSING MINES COMPANY LIMITED

DIAMOND DRILL RECORD

NORTH	7434.30	HOLE No.	# 50
EAST	15494.18	STARTED	3/3/59
ELEV.	3180.23	COMPLETED	3/9/59
BEARING	N 30 E	LENGTH	893
H.L.		PROPERTY	ORF KNOB
PURPOSE	Exploration	SHAFT	
WORKING	Surface	LOGGED BY	D.S.K.
SECTION	4400 W	PLOTTED	
OFFSET	1545		

DIP - 75° @ 100 N 25° W - 73°, @ 300 N 20° W - 69° @ 500 N 18° W - 66°.

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
0 - 22	Overburden - Soil boulders and saprolite								
~~22~~ 22 - 893	Quartz Mica Gneiss a medium gray foliated and granulated gneiss with an average grain size of 2 mm. Average composition 60 - 70% quartz, 15% biotite, 10% muscovite and 5% garnet, carbonates, chlorite ect. Frequent 1/2 to 2" quartz stringers.								
	22 - 33 Biotite more prominent than muscovite.								
	33-96 Muscovite more prominent than biotite.								
	78 1 foot white quartz vein - barren.								
	96 - 166 Biotite and muscovite equal.								
	148 6 inch quartz and feldspar vein with a few specks of sulphides.								
	166 - 205 Biotite more prominent than muscovite.								
	205 - 212 Muscovite more prominent than biotite.								
	217 - 327 Biotite more prominent than muscovite.								
	327 - 332 Muscovite and biotite equal.								
	332 - 385 Muscovite more prominent than biotite.								
	387 3 feet core ground and lost.								
	385 - 392 Muscovite and biotite equal.								
	391 8 inch quartz vein with a few specks of sulphides.								
	392 - 602 Biotite more prominent than muscovite.								

RECEIVED
APR 6 - 1959
U. S. Geological Survey
Geophysics Division
Knoxville, Tenn.

SHEET No. 2

THE NIPISSING MINES COMPANY LIMITED

HOLE No. # 50

FOOTAGE	DESCRIPTION		SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	602 - 633	Biotite and muscovite equal.								
	633 - 715	Muscovite more prominent than biotite.								
	663	6 inch very silicious zone with a few specks of pyrite.								
679	679	Two inch very silicious zone with scattered specks of pyrrhotite, pyrite and chalco.								
	682	1 inch zone of biotite schist - few specks of pyrite.								
	715 - 818	Biotite more prominent than muscovite.								
	724	6 inch quartz vein with a few specks of sulphides.								
	782	1 foot zone brecciated and epidotized and silicified.								
	818 - 869	Biotite and muscovite equal.								
	845	Very even textured foliated gneiss - near micaceous quartzite/								
	840	2 feet ground and lost Foliation 45° from core axis.								
	869 - 893	Muscovite more prominent than biotite.								
	893	End of hole - Casing pulled.								

OFFICIAL FILE COPY
O. M. E.
RECEIVED MAR 19 1959

DATE	INITIALS	CODE
3-19		220
		110
3/19		800
3/23		~~500~~

INTERIM REPORT

DMEA EXPLORATION PROJECT

DMEA-5044, Idm-E1222 (Cu, Pb-Zn)

Operator: Appalachian Sulphides, Inc. Jefferson, North Carolina

Location: Ore Knob Mine, Ashe County, North Carolina

Summary of Drilling Completed

	Since last inspection	To date
Number of Holes	3	12
Footage	3,437	16,972*
Holes showing:		
a) Commercial Cu ore		1
b) Non-Commercial mineralization		11
c) No mineralization		0

* Two feet disallowed last month has been replaced.

Additional data on the three holes completed during the interim follows:

Hole No. N48. Coordinates N7204.22, E15580.57; collar elevation 3208.53 feet. Total depth 1196 feet. Drilling began 2-5-59, and was completed 2-14-59. Brief log of hole: 0-22 feet overburden, collared in quartz mica gneiss; 22-1196 quartz mica gneiss containing zones predominating in muscovite, or biotite, quartz veins up to 1 foot in thickness and epidotized-silcified zones up to 2 feet thick. Mineralization: Specks of pyrite at 302, specks of chalcopyrite and pyrrhotite at 384; 2 inch quartz vein containing specks of pyrite at 645; chlorite slip containing few specks of pyrite at 855; 3 inch shear zone containing 10% sulfides at 929 feet.

Hole No. N-49. Coordinates N7131.59, E15,752.37; collar elevation 3228.85. Total depth 1347 feet. Drilling began 2-17-59 and was completed 2-28-59. Brief log of hole: 0-24 feet overburden, collared in quartz mica gneiss; 24-1347 quartz mica gneiss containing quartz veins up to 4 feet thick, predominant muscovite and/or biotite zones, chlorite slips and epidotized zones and other minor features.

Mineralization: Few specks of sulphides in 18 inch quartz vein at 998; 1' (1244-1245) of 0.28% Cu; 1.2 (1245.0-1246.2) of 2% Cu.

Hole No. N-50. Coordinates N7434.30, E 15494.18; collar elevation 3180.23. Bearing N30°E, inclination -75°. Total depth 894 feet. Drilling began 3-3-59 and was completed 3-9-59. Brief log of hole: 0-22 feet overburden, collared in quartz mica gneiss; 22-894 quartz mica gneiss containing zones with muscovite in prominence, biotite in prominence or with equal amounts of muscovite and biotite; quartz veins, breccia zones, epidotized and silicified zones.

Mineralization: six inch quartz and albite (?) feldspar zone containing few specks of sulfides at 148; 8" quartz vein with a few specks of sulfides at 391; 6" very silicious zone with a few specks of pyrite at 663; 2" very silicious zone with scattered specks of pyrrhotite, pyrite and chalcopyrite at 679; 1" zone of biotite schist containing a few specks of pyrite at 682; 6" quartz vein containing a few specks of sulfides at 724 feet.

This contract has been completed and no further drilling is recommended. A company representative stated that no additional drilling will be undertaken in the near future. Certification will not be recommended.

Inspected: March 12, 1959

L. E. Shirley, Mining Engineer
Bureau of Mines (OME)

Helmuth Wedow, Jr. Geologist
Geological Survey

z

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

PAID ON VOUCHER & SCHEDULE OF PAYMENTS K- 51

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of February, 1959 Docket No. DMEA 5044 Contract No. IDM-E 1222
Operator's Name Appalachian Sulphides, Inc. Minerals Copper-Zinc
Address Jefferson, N. C.
Contract Amount, $ 58,190.00 Government Participation: 50 % Amount, $ 29,095.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:		Adjusted				
Drilling	$15,612.70	$29,984.60	$45,597.30	5/20/59		
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
Incidentals	872.95	1,631.32	2,504.27			
Assaying	1.00	16.00	17.00			
Tro-Pari Tests	267.50	611.67	879.17			
TOTALS	$16,754.15	$32,243.59	$ 48,997.74	16,754.15	32,243.59	48,997.74

I certify that the above bill is correct and just and that payment therefor has not been received.

Date March 5/59 *Payee Appalachian Sulphides, Inc.

Per [signature] Title Accountant

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 8377.07

Signature [signature]
(Authorized Certifying Officer)

Date MAR 12 1959 Vou. No. 95

(See other side)

8377.08

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-1222 in accordance with the terms of the contract.

Signature W. M. Beck Title MINING ENGINEER U. S. BUREAU OF MINES Date MAR 11 1959

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature V. J. Lynch Title ACTING EXECUTIVE OFFICER DMEA - REGION V Date MAR 11 1959

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(*a*) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(*b*) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(*c*) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of February 195 9 Docket No. DMEA 5044 Contract No. IDM-E 1222

Operator's Name Appalachian Sulphides, Inc. Minerals Copper - Zinc

Address Jefferson, N. C.

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 0 - 500	Ft.	$ 5,500.00	2000	$13,750.00	5000	$2.75	5500	$2.75
Churn 500 - 1000	Ft.	5,499.00	1833	14,499.00	4833	3.00	5200	3.00
Auger 1000-1500	Ft.	2,680.00	800	11,122.00	3320	3.35	3700	3.35
1500-2000	Ft.	1,925.00	500	4,912.60	1276	3.85	2300	3.65
Stripping 2000 +	Ft.	8.70	-	1,313.70	302	4.35	300	4.55
Trenching Tro-Parl Tests	Hole	267.50	4	879.17	10	87.917	11	160.00
Test Pits Assays	Each	1.00	1	17.00	17	1.00	200	1.00
Roads and Trails Incidentals	Ft.	872.95	5133	2,504.27	14731	.17	17000	.17
Total Distributed Costs		$16,754.15		$48,997.74				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs								

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date March 5, 1959 Operator Appalachian Sulphides, Inc.

Per [signature] Title Accountant

Remarks: This report covers:
Hole No. 39A (Deepening)
Hole Nos. N 45, N 46, N 47, N 48

1 Assay Hole No. N 46

Claiming 2' over the 2000' Level and .34¢ Incidentals Disallowed on January Billing

→ NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

(For Government use only)

[signature]
MINING ENGINEER
U. S. BUREAU OF MINES

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

APPALACHIAN SULPHIDES, INC.

ORE KNOB MINE

PROGRESS REPORT DMEA DOCKET NO. 5044

Period: January 31 - February 28, 1959

D.D.H. No. N 47

Location: North 7714.50, East 16259.44, Elevation 3176.70, Offset Baseline 294 feet South and on Section 3600.

A 6 inch mineralized zone, largely pyrrhotite - enclosing wall rocks very siliceous quartz mica gneiss was encountered at elevation 2715, offset baseline 87 feet north and on section 3585 west.

Hole completed at 836, casing pulled. Complete log enclosed.

D.D.H. No. N 48

Location: North 7284.22, East 15580.57, Elevation 3208.53, Offset Baseline 334 feet South, and on Section 4400 West.

A 3 inch shear zone mineralized with 20% pyrrhotite and traces of chalcopyrite was encountered at elevation 2397, offset baseline 67 feet north, and on section 4235 west. This probably represents the westward extension of the main mineralized zone for the hole was carried 367 feet past the zone without finding additional mineralized zones.

Hole completed 1196, casing pulled. Complete log enclosed.

D.D.H. No. N 49

Location: North 7284.22, East 15580.57, Elevation 3208.53, Offset Baseline 334 feet South and on Section 4322 West.

A 22 feet brecciated quartz mica gneiss zone was encountered at elevation 2142, offset baseline 5 feet south and on section 4214 west. The first foot of the zone was mineralized with a few scattered specks of sulphides - it assayed 0.20% copper. The following 1.2 feet contained 30% sulphides of which 20% was pyrrhotite, 5% pyrite and 5% chalcopyrite. The 1.2 feet zone assayed 2.00% copper.

Hole was completed at 1347 - casing pulled. Complete log enclosed.

Submitted,

APPALACHIAN SULPHIDES, INC.

Dewey S. Kirstein

Dewey S. Kirstein
Geologist

NORTH 7714.50
EAST 16259.44
ELEV. 3176.70
BEARING N 30 W
DIP - 50° @ 300 N 28 W - 50°; @ 500, N 25 W - 48°; @ 700, N 25 W - 46°.

STARTED 1/31/59
COMPLETED 2/7/59
LENGTH 836 H.L.

THE NIPISSING MINES COMPANY LIMITED

DIAMOND DRILL RECORD

PROPERTY
ORE KNOB MINE

PURPOSE Exploration
LOGGED BY D.S.K.
PLOTTED

HOLE No. N 47
SHAFT
WORKING Surface
SECTION 3600 W
OFFSET ~~681.5 S~~ 291 S

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
0 - 34	Overburden - Soil boulders and saprolite								
34 - 836	Quartz Mica Gneiss A medium grey folisted and cremulated gneiss with an average grain size of 2 mm. Average composition 60% quartz, 15% biotite, 10% muscovite and 5% garnet, carbonates, chlorite ect. Frequent ½" - 2" quartz stringers.								
	34 - 70 Considerable core broken and lost due to soft ground.								
	70 - 493 Biotite more prominent than muscovite. Rock very cremulated.								
	182 1 foot quartz vein with inclusions of biotite schist.								
	262 3 inch quartz stringer with a few specks of sulphides.								
	294 3 foot epidotized silicified zone with a few chlorite fractures filled with quartz, calcite and a few specks of pyrite.								
	318 2 foot epidotized and silicified zone.								
	377 2 foot epidotized and silicified zone.								
	397 1 foot ground and lost.								
	427 2 foot epidotized and silicified zone.								
	439-442 Epidotized and silicified breccia zone.								
	493-544 Muscovite and biotite equal.								
	544-572 Biotite more prominent than muscovite.								
	571-582 Core broken in 3 six inch zones.								

SHEET No. 2

THE NIPISSING MINES COMPANY LIMITED

HOLE No. N 47

FOOTAGE	DESCRIPTION		SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	572-592	Muscovite and biotite equal.								
	592-616	Muscovite prominent over biotite.								
606	606	6 inch zone with 10% disseminated sulphides, largely pyrrhotite Rock very silicious.								
	606.5	2 foot epidotized and silicified zone.								
	612	4 inch quartz vein with a few specks of sulphides.								
	616-645	Muscovite and biotite equal.								
	645-836	Biotite more prominent than muscovite.								
	672	2 foot epidotized and silicified zone.								
	686-689	Fine grained zone with weak foliation muscovite-biotite equal. Rock near quartzite.								
	710-718	Zone as above.								
	726	2 foot zone as above.								
	730-747	Zone as above.								
	836	End of Hole								
		Casing Pulled.								

THE NIPISSING MINES COMPANY LIMITED

DIAMOND DRILL RECORD

NORTH	7131.59	HOLE No.	# 49
EAST	15752.37	SHAFT	
ELEV.	3228.85	WORKING	Surface
BEARING	N 40° E	SECTION	4322
OFFSET	549.0		

STARTED 2/17/59
COMPLETED 2/28/59
LENGTH 1347 H.L.
PROPERTY: CRT KNOB MINE
PURPOSE: Exploration
LOGGED BY: D.S.K.
PLOTTED:

DIP: ~~- 78°; @ 100 N 18 W - 74; @ 300 N 14 W - 65°; @ 500 N 21 W - 62°; @ 700 N 20°W - 60°; @ 900 N 18° W - 59°~~

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
0 - 24	Overburden - Soil boulders, saprolite								
24	Quartz Mica Gneiss - a medium gray foliated and crenulated gneiss with an average grain size of 2 mm. Average composition 60% quartz, 15% biotite, 10% muscovite, 5% garnet, carbonate, chlorite, feldspar ect. 1 - 2 inch quartz veinlets frequent.								
	24 - 947 Biotite more prominent than muscovite.								
	79 2 Foot quartz vein with biotite inclusions								
	101 1 Foot quartz vein similar to above.								
	119 2 Foot quartz vein as above.								
	142 1 foot quartz vein as above.								
	269 1 foot white quartz vein - barren								
	307 1 foot white quartz vein similar to above.								
	432 2 Foot white quartz vein barren								
	489 6 inch barren quartz vein.								
	566 & 588 Weak chlorite filled fractures 30 degrees from core axis								
	613 18 feet of core ground and lost.								
	679 - 685 Epidotized and silicified breccia zone.								
	678 - 685 4 Feet of core ground and lost.								
	700 6 inch white quartz vein with inclusions of carbonates.								

SHEET No. 2

THE NIPISSING MINES COMPANY LIMITED

HOLE No. # 47

FOOTAGE	DESCRIPTION		SAMPLE	FOOTAGE	C. L.	% Cu.	%	%		
	736	Weak chlorite filled slip 15° from core axis.								
	778	1 Foot white quartz vein.								
	828	6 inch epidotized and silicified zone.								
	871	1 foot white quartz vein.								
	947 - 960	Muscovite and biotite equal.								
	960 - 983	Biotite more prominent than muscovite.								
	969	6 inch white quartz vein.								
	983 - 1000	Muscovite and biotite equal.								
	998	18 inch quartz vein with a few specks of sulphides.								
	1000 - 1102	Biotite more prominent than muscovite.								
	1102 - 1192	Biotite and muscovite equal.								
	1192 - 1200	Muscovite more prominent than biotite.								
	1200 - 1213	Biotite more prominent than muscovite.								
	1213 - 1229	Muscovite more prominent than biotite.								
	1229 - 1244	Biotite and muscovite equal.								
1244 - 1246.2	<u>Mineralized zones</u>									
	1244	1 Foot brecciated zone of quartz bio. gneiss - few specks of sulphides.	3608	1244 - 1245	1.0	0.28				
	1245 - 1246.2	30% sulphides, 20% pyrrhotite, 5% pyrite and 5% chalcopyrite in typical brecciated quartz mica gneiss.	3609	1245 -1246.2	1.2	2.00				
1246.2 - 1347	<u>Quartz-Mica Gneiss</u>									

SHEET No. 3

THE NIPISSING MINES COMPANY LIMITED

HOLE No. —

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C. L.	% Cu.	%	%		
	1246.2 - 1251 40% muscovite - rock very near a schist. Core badly broken, 1 foot ground at 1250.								
	1251 - 1332 Biotite and muscovite equal.								
	1254 Lost 10 feet of core due to dropping in hole and grinding.								
	1324 6 inch quartz vein with a few specks of sulphides.								
	1332 - 1347 Biotite more prominent than muscovite.								
	1347 End of Hole - Casing pulled.								

NORTH 7284.22
EAST 15580.57
ELEV. 3208.53
BEARING N 30 W

STARTED 2/5/59
COMPLETED 2/14/59
LENGTH 1196 H.L.

THE NIPISSING MINES COMPANY LIMITED
DIAMOND DRILL RECORD

PROPERTY
ORE KNOB MINE

PURPOSE Explorations
LOGGED BY D. S. K.
PLOTTED

HOLE No. N 48
SHAFT
WORKING Surface
SECTION 4400 W
OFFSET 334 S

DIP - 75°, @ 100, N 12 W - 70°; @ 300, N 0° W - 64°; @ 500°, N 6 W - 61; @ 700, N 9 W - 57°.

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
0 - 22	Overburden - Soil, boulders, saprolite								
22	Quartz Mica Gneiss a medium gray foliated and crenulated gneiss with an average grain size of 2 mm. Average composition 60% quartz, 15% biotite, 10% muscovite and 5% garnet, carbonate, chlorite, ect. frequent 1" - 2" quartz stringers.								
	22 - 51 Core badly broken 4 feet ground and lost.								
	80 1 foot ground and lost.								
	297 3 foot zone 95% quartz.								
	302 A few spots of pyrite.								
	384 A few specks of pyrrhotite and chalco in 1 inch quartz vein.								
	385 Two feet gpound and lost.								
	484 8 inch white quartz vein with inclusions of muscovite.								
	489- 504 6 feet ground and lost.								
	571 2 foot epidotized and silicified zone.								
	592 Weak chlorite slip 30°, from core axis.								
	610- 662 Biotite and muscovite equal.								
	628- 631 Epidotized and silicified section.								

SHEET No. 2

THE NIPISSING MINES COMPANY LIMITED

HOLE No. N 48

FOOTAGE		DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	645	Two ~~6~~ inch quartz veins seperated by 4 inch zone of quarts mica gneiss that contains a few specks of pyrite.								
	662 - 780	Biotite more prominent than muscovite.								
	791	1 foot white quartz vein.								
	780 - 818	Biotite and muscovite equal.								
	818	~~Muscovite and biotite equal.~~								
	828	1 foot ground and lost.								
	830 - 856	Core badly broken, 1 foot lost at 831 and 1 foot at 851								
	836	1 foot zone epidotized and silicified.								
	855	Chlorite slip with a few specks of sulphides.								
	868 - 878	Fine grained - near quartzite section.								
	883 - 901	Core badly broken - Two feet ground and lost.								
	908 - 910	Two feet ground and lost.								
	903 - 930	Muscovite 20% of the rock - biotite almost absent.								
929	929	3 inch sheared zone of quartz muscovite gneiss with 10% sulphides, largely pyrrhotite.								
	942	1 foot ground and lost.								
	966	1 foot ground and lost.								
	1007-1017	Biotite and muscovite equal.								
	1017-1052	Muscovite more prominent than biotite.								
	1031-1037	Fine grained weak foliated gneiss.								
	1052-1100	Biotite and muscovite equal.								
	1078	Two foot epidotized and silicified zone.								

SHEET No. 3

THE NIPISSING MINES COMPANY LIMITED

HOLE No. N 48

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C. L.	% Cu.	%	%		
	1080 1 foot zone biotite more prominent than muscovite.								
	1100 - 1196 Biotite more prominent than muscovite.								
	1154 Two-Three, chlorite slips 15° from core axis.								
	End Hole, Casing pulled 1196.								

MF-104-
operator: Monthly Rept.
for February.

OFFICIAL FILE COPY
O. M. E.
RECEIVED FEB 24 1959

DATE	INITIALS	CODE
2-24	C	220
"		110
2/25		800
3/2		500

DMEA EXPLORATION PROJECT

INTERIM REPORT

DMEA-5044, Idm-E1222(Cu-Pb-Zn)

Operator: Appalachian Sulphides, Inc., Jefferson, No. Carolina

Location: Ore Knob Mine, Ashe County, North Carolina

Summary of Drilling Completed

	Since last inspection	To date
Number of holes	3	9
Footage	3,833	13,533* 13,535' Falbert 2/24/59

* Includes deepening Hole No.N-39, 104 feet.

Holes showing:

a) Commercial Cu ore ---------- 1
b) Non-commercial mineralization--------- 8
c) No mineralization---------- 0

Additional data on the three holes completed during the interim follows:

Hole No. N-45 - Located 1570 feet southwest of baseline at elevation 3040 on Section 200 west. Coordinates N8398.5, E19815.83; Collar elevation 3037.53. Total depth 2000 feet. Drilling began 12/12/58 and was completed 1/23/59. Brief log of hole: 0-102 overburden, collared in quartz mica gneiss; 102-1645 quartz mica gneiss, containing numerous quartz veins, biotite and muscovite mica, garnet and limited zones of sulphide-bearing material; 1645-1706-quartz hornblende-actinolite gneiss, containing scattered lenses or stringers of quartz, some biotite gneiss, alternating zones of hornblende-actinolite gneiss, and a narrow stringer of sulphide material; 1706-2000

quartz mica gneiss, containing principally muscovite, biotite with some scattered actinolite and hornblende in quartz biotite gneiss; hole bottomed at 2000 feet.

Mineralization: Specks of sulphides at 288 and 401; 1/4-inch cube of pyrite at 445; specks at 728 in 8-inch quartz vein; specks at 1079, 1252 and 1338; 1/4-inch stringer of pyrrhotite at 1647.

Hole No. N-46 - Coordinates N7714.50, E16259.14; elevation at collar 3176.70 feet. Total depth 997 feet. Drilling began 1/21/59 and was completed 1/30/59. Brief log of hole: 0-71 feet overburden, collared in quartz mica gneiss; 71-780.5 quartz and mica gneiss containing numerous quartz veins up to 1 foot thick, biotite and muscovite; 780.5 - 784, 3.5 feet of pyrite, pyrrhotite and chalcopyrite that assayed 2.51% copper in brecciated quartz mica gneiss; 784-997 quartz mica gneiss containing silicified breccia zones and epidotized zones; hole bottomed at 997 feet.

Mineralization: Specks of sulphides in 2-inch quartz vein at 690 feet; 3.5' (780.5-784) of 2.51% copper.

Hole No. N47. Coordinates N7714.50, E16259.44; elevation at collar 3176.70 feet. Total depth 836 feet. Drilling began 1/31/59 and was completed 2/7/59. Brief log of hole: 0-34 feet overburden, collared in quartz mica gneiss; 34-836 quartz mica gneiss containing quartz veins, muscovite, biotite, crenulated zones, and specks of sulfides in quartz stringers.

Mineralization: Specks of sulfides at 262, 284 and 612; 6-inch zone of pyrrhotite from 606 to 606.5.

Hole No.N-39 - This hole was deepened from 1327 feet to 1421 feet because later drilling results in other holes showed that the original drilling was too shallow to intercept the target. Casing had to be set through the overburden for a distance of 72 feet.

Current drilling is in progress on Hole No. N-48, located by coordinates N7284.22, E15580.57. Core was observed to a depth of 932 feet. The estimated total depth of the hole is 1100 feet. No ore mineralization had been encountered to the present depth.

Inspected: February 12, 1959

L. E. Shirley, Mining Engineer
Bureau of Mines - OME

Helmuth Wedow, Jr., Geologist
Geological Survey - OME

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
REGION V

ELECTROTECHNICAL
EXPERIMENT STATION

OFFICIAL FILE COPY
O. M. E.
RECEIVED FEB 1959

DATE	INITIALS	CODE
2-20	C	220
"	P. O. BOX 217	110
NORRIS, TENNESSEE		
2-20	WPL	500
	Interior	

February 18, 1959

Memorandum

To: Jay L. Chambers, Office of Minerals Exploration, Interior Building, Washington 25, D. C.

From: Administrative Assistant, Norris, Tennessee

Subject: Monthly report and voucher

We are enclosing two copies of the following monthly report and voucher:

Idm-E1222 Appalachian Sulphides, Inc.
Docket No. DMEA-5044
4th payment - month of January
Amount $4162.75

Helen Miller
Helen R. Miller

Attachments
/hbm
Copies to R. A. Laurence
V. J. Lynch
Norris files
Day files

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

PAID ON VOUCHER & SCHEDULE OF PAYMENTS K-

FEB 20 1959

OPERATOR'S MONTHLY REPORT AND VOUCHER

5040 D.M.E.

Month of January, 1959 Docket No. DMEA Contract No. IDM -E1222
Operator's Name Appalachian Sulphides, Inc. Minerals Copper - Zinc
Address Jefferson, North Carolina
Contract Amount, $ 58,190.00 Government Participation 50% Amount, $ 29,095.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling	$7,849.10	$22,204.60	$30,053.70	7780.00	22204.60	29,984.60
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
Incidentals	391.34	1,240.32	1,631.66	391.00	1240.32	1631.32
Assaying	2.00	14.00	16.00	2.00	14.00	16.00
Tro-Pari Tests	152.50	459.17	611.67	152.50	459.17	611.67
TOTALS	$8,394.94	$23,918.09	$32,313.03	8325.50	23918.09	32,243.59

I certify that the above bill is correct and just and that payment therefor has not been received.
Date Feb. 10/59 *Payee Appalachian Sulphides, Inc.
Per [signature] Title Accountant

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:
$ 4162.75
Signature Helen R. Meeker
(Authorized Certifying Officer)
Date FEB 18 1959 Vou. No. 89
(See other side)

4192.75

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-1222 in accordance with the terms of the contract.

Signature Frank G. Lesure Title GEOLOGIST, U. S. G. S. Date FEB 16 1959

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature W. J. Lynch Title ACTING EXECUTIVE OFFICER OME - REGION V Date FEB 16 1959

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

FEB 20 1959
O.M.E.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of January 1959 Docket No. DMEA 5044 Contract No. IDM-E1222
Operator's Name Appalachian Sulphides, Inc. Minerals Copper-Zinc
Address Jefferson, North Carolina

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 0-500	Ft.	1375.00	500	8250.00	3000	2.75	5500	2.75
Churn 500-1000	Ft.	1500.00	500	9000.00	3000	3.00	5200	3.00
Auger 1000-1500	Ft.	1675.00	500	8442.00	2520	3.35	3700	3.35
Stripping 1500-2000	Ft.	1925.00	500	2987.60	776	3.85	2300	3.85
Trenching 2000 +	Ft.	1374.10	302	1374.10	302	4.55	300	4.55
Test Pits Tro Pari Tests	Hole	152.50	1	611.67	6	101.945	11	160.00
Roads and Trails Assays	Each	2.00	2	16.00	16	1.00	200	1.00
Incidentals	Ft.	391.34	2302	1631.66	9598	.17	17000	.17
Total Distributed Costs		$8,394.94		$32,313.03				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs								

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date Feb. 10/59 Operator Appalachian Sulphides, Inc.

Per [signature] Title Accountant

Remarks: This report covers Hole No. N 44

2 Assays - Hole No. N 44

NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

(For Government use only)

2 feet of drilling in the 2000'+ category was disallowed.
V.J.L.

GEOLOGIST, U. S. G. S.

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

February 18, 1959

Appalachian Sulphides, Inc.

Jefferson, North Carolina

Gentlemen:

Reference is made to your January 1959 voucher covering contract Idm-81222, Docket No. IMPA-5044, Ore Knob Mine, Ashe County, North Carolina.

It is necessary to adjust your claim of $8,394.94 to read $8,325.50. The following deletions have been made:

1. Claim is made for 302 feet of drilling over the 2000 foot level - necessary to disallow 2 feet of the above, as contract calls for 300 feet only - claim is also made for drilling in excess of the 2000 foot level at $4.55, but we cannot pay more than $4.35/feet as per invoice.

Claim made - 302 feet at $4.55	=	$1,374.10
Claim adjusted - 300 feet at $4.35	=	1,305.00
	Disallowance	$69.10

2. Claim is made for 2302 feet, incidental allowances - necessary to disallow 2 feet in accordance with above.

Claim made for 2302 feet at $0.17	=	391.34
Claim adjusted 2300 feet at $0.17	=	391.00
	Disallowance	$ 0.34

Voucher is being processed today in the amount of $4162.75, which is 50% of the approved total of $8,325.50.

Sincerely yours,

Helen R. Miller
Administrative Assistant

/hlm
Copies to R. A. Lawrence
W. J. Lynch
J. L. Chambers
Morris files
Day files

APPALACHIAN SULPHIDES, INC.

ORE KNOB MINE

PROGRESS REPORT DMRA DOCKET NO. 5044

Period: December 31 - January 31, 1959

RECEIVED
1959

D.D.H. No. N 44

Location: North 6423.95, East 17808.82, Elevation 3149.29, Offset Baseline 1784.20 South and on Section 3595.5 West.

A 22 foot zone of quartz actinolite-biotite gneiss containing traces of sulphides was encountered at elevation 2110, offset baseline 1065 feet south and on section 3435 west. This probably represents a continuation of a similar zone found in Hole No. N 40.

Two weak intersections were found, four feet apart at elevation 1445, offset baseline 695 south and on section 3325 west. The first was 4.5 feet long and assayed 0.23 copper and the second was 2.5 feet long and assayed 0.18 copper. Hole completed at 2302. Complete log enclosed.

D.D.H. No. N 45

Location: North 8398.95, East 19815.83, Elevation 3037.53, Offset Baseline 1570 South, and on Section 200 West.

A 61 feet zone of quartz hornblende-actinolite gneiss was encountered at elevation 1555, offset baseline 905 feet south, and on Section 20 west. A ¼ inch veinlet of pyrrhotite two feet from the beginning of the zone was all of the sulphides found of note. This zone of quartz hornblende-actinolite gneiss aligns reasonably with the known explored vein. Hole completed at 2000 feet. Complete log enclosed.

D.D.H. No. N 46

Location: North 7714.50, East 16259.44, Elevation 3176.70, Offset Baseline 294 feet South and on Section 3600 West.

A mineralized zone 3.5 feet long with 2.51% copper was found at elevation 2449, offset baseline 50 feet north, and on section 3550 west. Hole completed at 997 feet. Complete log enclosed.

D.D.H. No. N 47

Location: Same as D.D.H. No. N 46.

This hole was drilled from the same set up as N 46 but at a lesser dip angle to hit a target at elevation 2720, offset baseline 110 feet north, and on section 3600 west.

Summary Log:

0 - 34	Soil and Overburden
34 - 70	Soft and broken ground
70 - 147	Quartz Mica Gneiss
147	Hole Continues

D.D.H. No. N 39 A

Location: North 7376.74, East 16451.97, Elevation 3145.06, Offset Baseline 681 South, and on Section 3600 West. This hole is located on the same set up as N 39.

It was deemed possible that this hole was stopped too soon. Deepening the hole required resetting 72 feet of casing and 104 feet of drilling. Hole completed at 1431. Complete log enclosed.

A total of 2703 feet was drilled and 72 feet of casing was reset during the period.

Submitted,

APPALACHIAN SULPHIDES, INC.

Dewey S Kirstein

Dewey S. Kirstein
Geologist

THE NIPISSING MINES COMPANY LIMITED

DIAMOND DRILL RECORD

NORTH	7376.74		
EAST	16451.97	STARTED	1/26/59
ELEV.	3145.06	COMPLETED	1/30/59
BEARING	N 30 W	LENGTH	104 H.L.
DIP	- 74°		

PROPERTY: ORF KNOB

PURPOSE	Exploration
LOGGED BY	D. S. K.
PLOTTED	

HOLE No.	N 39A
SHAFT	
WORKING	Surface
SECTION	3600W
OFFSET	681.5S

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
0 - 72	Casing in Overburden and Soft ground.								
1327 - 1431	<u>Quartz Mica Gneiss</u>								
	1327 - 1378 Biotite more prominent than muscovite.								
	1327 - 1342 Two feet ground and lost								
	1378 - 1400 Muscovite more prominent than biotite.								
	1400 - 1430 Biotite and muscovite equal.								
	1430 - 1431 Biotite more prominent than muscovite.								
	1431 End of hole								
	Casing Pulled.								

NORTH 6423.95

EAST 17008.82 STARTED 12/13/58

ELEV. 3149.29 COMPLETED 1/15/59

BEARING N 35 E LENGTH 2302 H.L.

THE NIPISSING MINES COMPANY LIMITED

DIAMOND DRILL RECORD

PROPERTY

PURPOSE Exploration

LOGGED BY Dewey S. Kirstein

PLOTTED

HOLE No. N 44

SHAFT

WORKING Surface

SECTION 3595.5 W

OFFSET 1704.20

DIP - 77°; @ 100 N 26 W, - 68°; @ 300 N 22 W, - 50°; @ 500 N 19 W ORE KNOB - 48°; @ 700 N 17 W, - 50°; @ 900 N 15W - 52°; @ 1300 N 7 W, - 60° @ 1700 N 14 W, -60°; @ 1900 N 15W - 58° @ 2100 N 18W - 56°

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
0 - 22	Overburden - Soil, boulders and saprolite								
22 - 307	Quartz Mica Gneiss A medium gray foliated and crenulated gneiss with an average grain size of 2 mm., average composition 70% quartz, 15% biotite, 10% muscovite and 5% carbonates, garnet, chlorite, etc. Frequent 1/2 - 2" quartz zones.								
	22 - 289 Biotite more prominent than muscovite.								
	37 5 feet core ground and lost.								
	50 5 feet core ground and lost.								
	138 5 feet core ground and lost.								
	204 3 feet core ground and lost.								
	230 2 feet core ground and lost.								
	240 2 feet core ground and lost.								
	246 2 feet silicified and epidoditsed zone.								
	266 5 feet core ground and lost.								
	289 - 307 Muscovite more prominent than biotite.								
307 - 349	Quartz Actinolite Gneiss A medium green foliated gneiss with an average grain size of 1 - 2 mm. often cut by 1/2 - 1 inch. Quartz stringers average composition 40% quartz, 50% actinolite, 10% disseminated biotite and carbonate.								
	327 1 foot core ground and lost								
	341 5 foot section of fine grained quartz muscovite gneiss.								

SHEET No. 2

THE NIPISSING MINES COMPANY LIMITED

HOLE No. X 44

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
349 - 425	<u>Quartz Mica Gneiss</u>								
	349 - 375 Biotite more prominent than muscovite.								
	366 6 inch zone of quartz actinolite - biotite gneiss.								
	375 - 423 Biotite and muscovite equal.								
	397 2½ foot white quartz vein								
	405 8 inch zone of biotite schist								
	411 1 foot zone as above								
	423 - 425 Biotite schist zone - sheared - zone contains few specks of sulphides - zone grades into quartz actinolite gneiss at 475.								
425 - 429	<u>Quartz Actinolite Gneiss</u> quartz is more granular than previous zone								
	427 6 inch zone of quartz mica gneiss								
429 - 434	<u>Quartz Mica Gneiss</u>								
	429 Muscovite and biotite equal								
434 - 437	<u>Quartz Actinolite Gneiss</u>								
437 - 497	<u>Quartz Mica Gneiss</u>								
	437 - 470 Muscovite more prominent than biotite								
	443 6 inch zone of biotite schist								
	445 8 inch quartz vein fractured and contains sulphides along chlorite filled fractures.								
	455 6 inch quartz vein with 1/8" stringer of pyrrhotite, pyrite and chalcopyrite.								

SHEET No. 3

THE NIPISSING MINES COMPANY LIMITED

HOLE No. W 44

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	462 - 466 White quartz vein								
	467.5 - 469.5 White quartz vein with a few specks of sulphides								
	470 - 480 Biotite more prominent than muscovite								
	474 1 foot zone of biotite schist								
	479 Same as above								
	480 - 497 Muscovite more prominent than biotite								
497 - 502	Quartz Actinolite Gneiss section as previous sections but contains 15% disseminated biotite.								
502 - 506	Quartz Mica Gneiss								
506 - 511	Quartz Actinolite Gneiss								
	509 1 foot quartz mica gneiss								
511 - 589	Quartz Mica Gneiss								
	511 - 566 Biotite prominent over muscovite								
	561 1 foot biotite schist-few specks of sulphides.								
	566 Muscovite prominent over biotite.								
589 - 634	Quartz Actinolite Gneiss - typical								
	615 3 inch quartz stringer with specks of sulphides								
634 - 655	Quartz Mica Gneiss								
	634 - 655 Biotite and muscovite equal								
	645 1 foot actinolite gneiss								
655 - 660	Quartz Actinolite Gneiss								

SHEET No. 4

THE NIPISSING MINES COMPANY LIMITED

HOLE No. # 44

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
660 - 787	Quartz Mica Gneiss - Biotite prominent over muscovite								
	661 1 foot quartz vein								
	668 2 foot zone of biotite actinolite schist								
	675 Zone as above								
	686 - 690 Biotite very prominent, rock near schist								
	690 - 762 Muscovite more prominent than biotite								
	694 3 feet ground and lost								
	714 1 foot ground and lost								
	716 3 foot section of actinolite gneiss								
	762 - 773 Biotite prominent over muscovite								
	773 - 787 Biotite and muscovite equal								
787 - 800	Quartz Actinolite Gneiss								
	793 3 foot section of quartz mica gneiss								
	798 1 foot section as above								
800 - 1273	Quartz Mica Gneiss								
	800 - 848 Biotite and muscovite equal								
	848 - 900 Muscovite more prominent than biotite								
	900 - 994 Biotite more prominent than muscovite								
	966 3 feet ground and lost								
	994 - 1020 Muscovite and biotite equal								
	1020 - 1043 Biotite more prominent than muscovite								

SHEET No. 5

THE NIPISSING MINES COMPANY LIMITED

HOLE No. W 46

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	1021 1 foot quartz vein								
	1033 3 feet core ground and lost								
	1043 - 1056 Muscovite more prominent than biotite								
	1054 Chlorite slip 10° from core axis with specks of sulphides.								
	1056 - 1076 Biotite and muscovite equal								
	1076 - 1273 Biotite more prominent than muscovite								
	1243 2½ foot section of coarse biotite and chlorite no sulphides.								
	1263 3 foot section of actinolite gneiss								
1273 - 1295	Mineralized Zone (Upper Vein) Quartz Actinolite - Biotite gneiss with a few specks of sulphides - scattered throughout.								
1295 - 2044	Quartz Mica Gneiss								
	1295 - 1331 Biotite and muscovite equal								
	1331 - 1348 Biotite more prominent than muscovite								
	1334 1/2 inch crystal of pyrrhotite								
	1348 - 1516 Biotite more prominent than muscovite.								
	1352 3.5 foot epidotized and silicified breccia zone - few specks of pyrite								
	1414 2 feet ground and lost								
	1482 & 1485 1 foot coarse biotite sections with scattered specks of sulphides.								
	1516 - 1545 Muscovite more prominent than biotite								

SHEET No. 6

THE NIPISSING MINES COMPANY LIMITED

HOLE No. X 44

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	1545 - 1571 Biotite and muscovite equal								
	1571 - 1790 Biotite more prominent than muscovite								
	1612 2 foot epidotized and silicified zone								
	1790 - 1840 Muscovite and biotite equal								
	1821 - 1823 3 six inch quartz veins								
	1846 Weak slip 17° from core axis								
	1846 - 2000 Biotite more prominent than muscovite								
	1894 6 inch quartz vein								
	2000 - 2014 Biotite and muscovite equal								
	2014 - 2044 Muscovite more prominent than biotite	B605	2044 - 2048.5	4.5	0.23				
2044 - 2048.5	Mineralized Zone								
	2044 First foot weak disseminated sulphides in quartz bio. gneiss								
	2045 - 2047 10% sulphides and equally divided pyrrhotite and pyrite with traces of chalco in quartz biotite - chlorite gneiss								
	2047 - 2048.5 Quartz actinolite - biotite gneiss with 5% disseminated sulphides - pyrrhotite and pyrite equal - traces of chalcopyrite								
2048.5 - 2052	Quartz Mica Gneiss								
2052 - 2066	Quartz Actinolite Gneiss								
	2056.5 - 2059 Weak disseminated sulphides in quartz actinolite - biotite gneiss.	B606	2056.5 - 2059	2.5	0.18				
2066 - 2302	Quartz Mica Gneiss								
	2066 - 2102 Biotite more prominent than muscovite								

SHEET No. 7

THE NIPISSING MINES COMPANY LIMITED

HOLE No. X 44

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	2141 - 2162 11 feet of core ground and lost								
	2182 - 2236 Biotite and muscovite equal								
	2206 Few specks of sulphides in a 6 inch quartz vein								
	2236 - 2276 Muscovite more prominent than biotite								
	2276 - 2302 Biotite and muscovite equal - graincosity normal to core axis.								
	End of hole 2302 -Casing Pulled.								

NORTH 0390.95

EAST 19815.83

ELEV. 3037.53

BEARING N 35 W

STARTED 12/12/58

COMPLETED 1/23/59

LENGTH 2000 H.L.

THE NIPISSING MINES COMPANY LIMITED

DIAMOND DRILL RECORD

PROPERTY ORE KNOB

PURPOSE ~~Sampling~~ Exploration

LOGGED BY D.S.K.

PLOTTED

HOLE No. N 45

SHAFT

WORKING Surface

SECTION 200 W

OFFSET 1570.58 S

DIP -77° @ 200 N30W - 70°; @ 400 N19W -68° @ 600, N17W -67° @ 800 N14W -65°; @ 1000, N8W - 63°; @ 1200, N7W - 60° @ 1400 N7W - 60°; @ 1600, N9W - 60°; @ 1800 N11W -59°.

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
0 - 102	Overburden Soil, boulders and saprolite								
102 - 1645	Quartz Mica Gneiss a medium gray foliated and crenulated gneiss with an average grain size of 2 mm. Average composition 60% quartz, 15% biotite, 10% muscovite and 5% garnet, carbonates, chlorite, ect. - frequent ½ - 2" quartz zones.								
	102 - 151 Considerable core broken and lost due to soft ground.								
	102 - 373 Biotite more prominent then muscovite.								
	201 - 204 2 Feet of core ground and lost.								
	232 Weak chlorite slip 45° from core axis.								
	239 - 246 Epidotized and silicified section - several chlorite filled fractures 30° from core axis.								
	288 16 inch white quartz vein with a few specks of sulphides.								
	290 6 inch quartz vein.								
	325 1 foot quartz vein.								
	331 1 foot quartz vein with 2 inch zones of biotite.								
	373 - 390 Muscovite more prominent than biotite.								
	390 -464 Biotite and muscovite equal.								
	401 Few specks of sulphides in 1 inch zone.								
	445 1/4 inch cube of pyrite in quartz.								
	464 - 509 Biotite more prominent than muscovite.								

SHEET No. 2

THE NIPISSING MINES COMPANY LIMITED

HOLE No. H 45

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	454 5 Feet core ground and lost.								
	509 - 535 Muscovite more prominent than biotite.								
	535 - 580 Biotite more prominent than muscovite.								
	572 - 588 Biotite very prominent in three 1 foot zones - zones usually contain granular quartz (breccia?).								
	580 - 612 Muscovite and biotite equal.								
	584 Few Scattered 1/4 inch pink garnets.								
	612 - 671 Biotite more prominent than muscovite.								
	671 - 715 Biotite and muscovite equal.								
	715 - 730 Biotite more prominent than muscovite.								
	723 6 inch quartz vein.								
	728 8 inch quartz vein with a few specks of sulphides along contact.								
	730 - 760 Muscovite more prominent than biotite.								
	760 - 804 Biotite more prominent than muscovite.								
	804 - 820 Muscovite more prominent than biotite.								
	820 - 1274 Biotite more prominent than muscovite.								
	894 1 Foot quartz vein.								
	949 3 foot epidotized and silicified section with a weak chlorite slip parallel to the core axis.								
	964 6 inch white quartz vein.								
	1079 1 foot quartz vein with a few specks of sulphides.								
	1177 & 1178 6 inch white quartz veins								
	1213 3 feet core ground and lost								

SHEET No. 3 THE NIPISSING MINES COMPANY LIMITED HOLE No. N 45

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	1237 2 Foot epidotized and silicified zone.								
	1252 Weak fracture 30° from core axis - few specks of pyrite.								
	1283 - 1298 Epidotized and silicified - fractures 20 - 30° from core axis - 14 feet of core ground and lost.								
	1274 - 1360 Muscovite and biotite equal								
	1320 1 foot white quartz								
	1324 8 inches white quartz								
	1338 1/2 inch chlorite slip along core axis for 3 feet - few specks of pyrite.								
	1344 6 inch white quartz vein.								
	1360 - 1541 Biotite more prominent than muscovite								
	1377 3 Feet spidotized and silicified zone.								
	1400 Weak chlorite slip parallel to core - 2 feet ground and lost.								
	1415 Small veinlets of epidote.								
	1482 - 1487 Epidotized and silicified breccia zone.								
	1510 2 Foot silicified and brecciated zone.								
	1522 - 1541 Biotite and muscovite equal.								
	1541 - 1586 Muscovite more prominent than biotite.								
	1586 - 1602 Biotite more prominent than muscovite - 1 foot core grennd at 1597.								
	1602 - 1636 Muscovite more prominent than biotite.								
	1636 - 1645 Biotite more prominent than muscovite.								
1645 - 1706	Quartz Hornblende - Actinolite Gneiss								

SHEET No. 4

THE NIPISSING MINES COMPANY LIMITED

HOLE No. N 45

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	A medium green foliated gneiss with frequent 1/8 - 1/2 inch bands or stringers of quartz.								
	1647 1/4 inch stringer of sulphides - largely pyrrhotite - ore zone?								
	1659 - 1661 Zone of quartz bio gneiss.								
	1683 Alternating zones from 6 inches to 2 feet of hornblende - actinolite gneiss and quartz biotite gneiss.								
1706 - 2000	Quartz Mica Gneiss								
	1706 - 1730 Biotite and muscovite equal.								
	1730 - 1754 Biotite more prominent than muscovite.								
	1737 - 1740 Disseminated actinolite and hornblende in quartz bio gneiss.								
	1754 - 1802 Biotite and muscovite equal.								
	1802 - 1885 Muscovite more prominent than biotite.								
	1885 - 2000 Biotite and muscovite equal.								
	End of Hole 2000								
	Casing pulled.								

NORTH 7714.50
EAST 16259.44
ELEV. 3176.70
BEARING N 30 W
DIP - 70° @ 100, N 27W - 76°; @ 300, N 24 W - 68°; @ 500, N 23 W - 51°; @ 700 N 17 W - 56°.

STARTED 1/21/59
COMPLETED 1/30/59
LENGTH 997 H.L.

THE NIPISSING MINES COMPANY LIMITED
DIAMOND DRILL RECORD

PROPERTY
ORE KNOB SURFACE

PURPOSE Exploration
LOGGED BY D.E.
PLOTTED

HOLE No. N 46
SHAFT
WORKING Surface
SECTION 3600-W
OFFSET 294 S

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
0 - 71	Overburden - Soil, Boulders, and Saprolite								
71	Quartz Mica Gneiss A medium gray foliated and cremulated gneiss with an average grain size of 2 mm. Average composition 60% quartz, 15% biotite, 10% muscovite and 5% garnet, carbonates, chlorite, ect. Frequent ½" - 2" quartz stringers.								
	71 - 184 Biotite more prominent than muscovite - Rock highly cremulated								
	181 - 210 Biotite and muscovite equal								
	210 - 483 Biotite more prominent than muscovite.								
	333 Six inch zone of Muscovite schist								
	366 Two foot white quartz vein - Rock only slightly cremulated gneissosity, 45° from core axis.								
	377 Six inch quartz vein								
	387 One foot epidotized and silicified breccia zone.								
	419 One foot core ground and lost - rock lightly cremulated.								
	483 - 492 Muscovite more prominent than biotite.								
	492 - 670 Biotite more prominent than muscovite.								
	519 One foot white quartz vein.								
	569 Two foot section core broken - chlorite seams along fracture- No pattern to fractures.								
	593 Eight inch white quartz vein.								

SHEET No. -

THE NIPISSING MINES COMPANY LIMITED

HOLE No.

FOOTAGE	DESCRIPTION		SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	617	Six inch white quartz vein								
	670 - 716	Biotite and muscovite equal								
	690	Two inch quartz stringer with specks of sulphides.								
	696	Two feet ground and lost.								
	715	Two feet ground and lost.								
	716 - 755	Muscovite more prominent than biotite.								
	755 - 780.5	Biotite and muscovite equal.								
	748 - 774	Core badly broken and 10 feet ground and lost.								
780.5 - 784	Mineralized Zone									
	780.5 - 783	Coarsely brecciated quartz mico gneiss mineralized with 25% pyrrhotite 5% chalco.	8607	780.5 - 784	3.5	2.57				
	783 - 784	Fine breccia mineralized with 60% pyrrhotite, 5% chalcopyrite. Zone very silicious - gangue 80% quartz.								
	Quartz Mica Gneiss									
784 - 997	784 -843	Biotite and muscovite equal.								
	799	One foot silicified breccia zone.								
	803	One foot silicified breccia zone.								
	827	One foot core ground and lost.								
	843 - 997	Biotite more prominent than muscovite.								
	853	Two foot zone badly broken.								
	863	Three foot zone of core broken.								
	880 - 897	Zone very silicious and fine grained - 1 foot epidotized zone at 894. Foln. 70° from core axis								
	918	Four inch quartz and calcite vein.								

SHEET No. 3

THE NIPISSING MINES COMPANY LIMITED

HOLE No. E 46

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	926 Eight inch white quartz vein - gneiss very crenulated.								
	977 - 982 Epidotized and silicified zone followed by a 4 foot fine grained section								
	997 End of Hole								
	Casing pulled.								

THE NIPISSING MINES COMPANY LIMITED

DIAMOND DRILL RECORD

NORTH	7714.50	HOLE No.	N 47
EAST	16259.44	STARTED	1/31/59
ELEV.	3176.70	COMPLETED	2/7/59
BEARING	N 30 W	LENGTH	836
H.L.			
DIP	- 50° @ 300 N 28 W - 50°; @ 500, N 25 W - 48°; @ 700, N 25 W - 46°.	PROPERTY	ORE KNOB
PURPOSE	Exploration	SHAFT	
WORKING	Surface	LOGGED BY	D.S.K.
SECTION	3600	PLOTTED	
OFFSET			

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
0 - 34	Overburden - Soil boulders and saprolite								
34 - 836	Quartz Mica Gneiss A medium gray foliated and cremulated gneiss with an average grain size of 2 mm. Average composition 60% quartz, 15% biotite, 10% muscovite and 5% garnet, carbonates, chlorite ect. Frequent ½" - 2" quartz stringers.								
	34 - 70 Considerable core broken and lost due to soft ground.								
	70 - 493 Biotite more prominent than muscovite. Rock very cremulated								
	182 1 foot quartz vein with inclusions of biotite schist.								
	262 3 inch quartz stringer with a few specks of sulphides.								
	284 3 foot epidotized silicified zone with a few chlorite fractures filled with quartz, calcite and a few specks of pyrite.								
	318 Two foot epidotized and silicified zone.								
	377 Two foot epidotized and silicified zone.								
	397 One foot ground and lost								
	427 Two foot epidotized and silicified zone.								
	439 - 442 Epidotized and silicified breccia zone.								
	493 - 544 Muscovite and biotite equal.								
	544 - 572 Biotite more prominent than muscovite.								
	571 - 582 Core broken in 3 six inch zones.								

SHEET No. 2

THE NIPISSING MINES COMPANY LIMITED

HOLE No. [illegible]

FOOTAGE	DESCRIPTION		SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	572 - 592	Muscovite and biotite equal.								
	592 - 616	Muscovite prominent over biotite.								
606	606	Six inch zone with 10% disseminated sulphides, largely pyrrhotite - Rock very silicious.								
	606.5	Two foot epidotized and silicified zone.								
	612	Four inch quartz vein with a few specks of sulphides.								
	616 - 645	Muscovite and biotite equal								
	645 - 836	Biotite more prominent than muscovite.								
	672	Two foot epidotized and silicified zone.								
	686 - 689	Fine grained zone with weak foliation muscovite-biotite equal.								
	710 - 718	Zones as above.								
	726	Two ~~weak~~ zone as above.								
	730 - 747	Zone as above.								
	836	End of Hole								
		Casing Pulled.								

OFFICIAL FILE COPY
O. M. E.
RECEIVED JAN 26 1959

DATE	INITIALS	CODE
1-26	C	220
"	[illegible]	110
1/27	[illegible]	800
1/27	[illegible]	500

DMEA EXPLORATION PROJECT

INTERIM REPORT

DMEA-5044, Idm-E1222 (copper-Lead-Zn)

Operator: Appalachian Sulphides, Inc., Jefferson, North Carolina

Location: Ore Knob mine, Ashe County, North Carolina

Summary of Drilling Completed

	Since last inspection	To date
Number of holes	1	6
Footage	2300	9596

Holes showing:

a) Commercial mineralization.....	0
b) Non-commercial mineralization.....	6
c) No mineralization.....	0

Additional data on the one hole completed during the interim follows:

Hole No. N-44 : Located 680 feet southeast of N-40 off section 3595.5, Coordinates N6423.95, E17008.82; Elevation at collar 3149.29. Drilling began 12/13/58 and was completed 1/15/59. Brief log of hole: 0-22 overburden, collared in quartz mica gneiss; 22-307 quartz mica gneiss containing lenses of quartz; 307-349 actinolite- hornblende gneiss; 349-425 quartz mica gneiss; 425-429 actinolite gneiss; 429-434 quartz mica gneiss; 434-437 actinolite gneiss; 437-494 quartz mica gneiss; 494-502 actinolite gneiss; 502-506 quartz mica gneiss; 506-511 actinolite gneiss; 511-589 quartz mica gneiss; 589-634 actinolite gneiss; 634-655 quartz mica gneiss; 655-660 actinolite gneiss; 660-2052 quartz mica gneiss; 2052-2056 quartz actinolite gneiss; 2056-2300 quartz mica gneiss; hole bottomed at 2300 feet; Mineralization: at 455, 1/8 inch stringer of pyrite, pyrrhotite and chalcopyrite;

467.5-469.5 specks of sulfides; at 561 ft. scattered specks of sulfides in biotite; at 615 ft. specks of sulfides in quartz; at 1054 ft specks of sulfides; 1273-1295 (upper vein position (?)) scattered specks of sulfides; at 1334 ft-1/2 inch cystal of pyrrhotite; 1352 ft. specks of pyrite; 45 ft (2044-2048.5) of 0.23% Cu.; 2.5 ft (2056.5-2059.0) of 0.8% Cu.

Current drilling is in progress on Hole No.N-45, located 1570 feet southwest of base line on Section 200W at elevation 3040. Core was examined to a depth of 1737 feet. The estimated total depth is 1900-2000 feet.

The location of two proposed holes, to follow upon completion of Holes No's. N-44 and N-45, was made at the time of this inspection.

Inspected: January 15, 1959

Mr. V. J. Lynch, Member of the OME Field Team, accompanied the Field Examiners on this inspection.

L. E. Shirley, Mining Engineer
Bureau of Mines, OME

Helmuth Wedow, Jr. Geologist
Geological Survey

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Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

PAID ON VOUCHER & SCHEDULE
PAYMENTS K- 62

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of December, 1958 Docket No. DMEA [illegible] Contract No. IDM-E 1222
Operator's Name Appalachian Sulphides, Inc. Minerals
Address Jefferson, North Carolina
Contract Amount, $ 58,190.00 Government Participation: 50 % Amount, $ 29,095.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling	$8,544.55	$13,660.05	$22,204.60	1/30/59	W.P.K.	
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
Incidentals	474.81	765.51	1,240.32			
Assaying	1.00	13.00	14.00			
Tro-Pari Rests	179.17	280.00	459.17			
TOTALS	$9,199.53	$14,718.56	$ 23,918.09	$9,199.53	$14,718.56	$23,918.09

I certify that the above bill is correct and just and that payment therefor has not been received.
Date Jan 11/59 *Payee Appalachian Sulphides, Inc.
Per [signature] Title Accountant

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:
$ 4,599.76
Signature Helen R. Miller
(Authorized Certifying Officer)
Date JAN 21 1959 Vou. No. 62
(See other side)

4,588.77

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. Idm E/212 in accordance with the terms of the contract.

Signature [illegible] Title GEOLOGIST, U. S. G. S. Date JAN 20 1959

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Robert A. Lawrence Title EXECUTIVE OFFICER OME FIELD TEAM REGION V Date JAN 20 1959

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of December 1958 Docket No. DMEA 5044 Contract No. IDM-E 1222
Operator's Name Appalachian Sulphides, Inc. Minerals
Address Jefferson, North Carolina

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: ~~Core~~ 0 - 500	Ft.	$2,750.00	1000	$5,500.00	2000	$5,500.00	5,500	$ 2.75
~~Churn~~ 500 - 1000	Ft.	3,000.00	1000	6,000.00	2000	6,000.00	5,200	3.00
~~Auger~~ 1000-1500	Ft.	2,656.55	793	5,427.00	1620	5,427.00	3,700	3.35
~~Stripping~~ 1500 - 2000	Ft.	138.00	-	924.60	276	924.60	2,300	3.85
~~Trenching~~ 2000 +	Ft.	-	-	-	-	-	300	4.55
~~Test Pits~~ Tro-Pari Tests	Hole	179.17	17°-55'	399.17	4	399.17	11	160.00
~~Roads and Trails~~ Assaying	Each	1.00	1	14.00	14	14.00	200	1.00
Incidentals	Ft.	474.81	2793	1,002.32	5896	1,002.32	17,000	.17
Total Distributed Costs		$9,199.53		$19,267.09				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs								

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date Jan 11/59 Operator Appalachian Sulphides, Inc.

Per [signature] Title Accountant

Remarks: This report covers Holes No. N42 & N43

1 Assay - Hole No. N 43

Claiming error of $138.00 on extension, Hole No. N 40 on November billing.

NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

(For Government use only)

The figures in the "Costs to Date", ~~and~~ "Unit Costs to Date" and "Units to Date" colums are incorrect. Operator will be advised corrections necessary.

W. A. Beck

[signature]
GEOLOGIST, U. S. G. S. JAN 20 1959

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

APPALACHIAN SULPHIDES, INC.

OUR KNOB MINE

PROGRESS REPORT DMRA DOCKET NO. 5044

Period: November 30 - December 31, 1958

D.D.H. No. N 42

Location: North 9282.97, East 20663.64, Elevation 3028.87, Offset Baseline 1138.7 feet South and on Section 1000 East.

A zone of quartz actinolite gneiss was encountered at elevation 1960, offset baseline 600 feet south and on section 1155 east. This appears to coincide with a similar zone found in hole No. N 41.

Hole completed at 1493 feet.

Complete log enclosed.

D.D.H. No. N 43

Location: North 7556.78, East 16348.03, Elevation 3119.97, Offset Baseline 476.1 South, and Section 3600 West.

An eight foot zone containing a few specks of sulphides was found at elevation 2235, offset baseline 25 feet south. This probably represents the "Hanging Wall Vein".

A second zone, 3 feet in length, containing 0.25% cu. was found at elevation 2185, offset baseline 5 feet north. This probably represents the "Main Vein".

Hole completed at 1300 feet

Complete log enclosed.

D.D.H. No. N 44

Location: North 6423.95, East 17008.82, Elevation 3149.29, Offset Baseline 1784.20 South and on Section 3595.5 West.

This hole was spotted for a target at elevation 1360, offset baseline 660 feet south and section 3600.

Summary Log:

0 - 22	Overburden; soil boulders and saprolite
22 - 307	Quartz Mica Gneiss
307 - 349	Quartz Actinolite Gneiss
349 - 425	Quartz Mica Gneiss
425 - 429	Quartz Actinolite Gneiss
429 - 434	Quartz Mica Gneiss
434 - 437	Quartz Actinolite Gneiss
437 - 497	Quartz Mica Gneiss
497 - 502	Quartz Actinolite Gneiss
502 - 506	Quartz Mica Gneiss

RECEIVED

506 - 511	Quartz Actinolite Gneiss
511 - 589	Quartz Mica Gneiss
589 - 634	Quartz Actinolite Gneiss
634 - 655	Quartz Mica Gneiss
655 - 660	Quartz Actinolite Gneiss
660 - 787	Quartz Mica Gneiss
787 - 800	Quartz Actinolite Gneiss
800 - 1273	Quartz Mica Gneiss
1273 - 1295	Mineralized Zone
1295 -	Quartz Mica Gneiss

Bottom of hole 12/31/58 1674 feet

Hole Continues.

D.D.H. No. H 45

Location: North 8398.95, East 19815.83, Elevation 3037.53, Offset Baseline 1570 feet South, and Section 200 West.

This hole was spotted for a target at elevation 1500 offset baseline 600 feet south and on section 200 west.

Summary Log:

0 - 102	Overburden
102 -	Quartz Mica Gneiss

Bottom of hole 12/31/58 1173 feet

Hole continues.

A total of 3,664 feet was drilled during the month of December.

Submitted,

APPALACHIAN SULPHURES, INC.

Dewey S. Kirstein

Dewey S. Kirstein
Geologist

NORTH 9282.97
EAST 20663.64
ELEV. 3028.87
BEARING N 35 W

STARTED 11/18/58
COMPLETED 12/9/58
LENGTH 1493 H.L.

THE NIPISSING MINES COMPANY LIMITED
DIAMOND DRILL RECORD

PROPERTY ORE KNOB

PURPOSE Exploration
LOGGED BY D.S.K.
PLOTTED

HOLE No. N 42
SHAFT
WORKING Surface
SECTION 1000 E
OFFSET 1138.7

DIP @ 0 - 75°; @ 100, N 22W - 68°; @ 300, N 11 W - 65° @ 500, N 14 W - 62° @ 700, N 19 W - 58°; @ 900 N 8 W - 60° @ 1100, N 15 W - 57°; @ 1300 N 15 W - 56°.

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
0 - 29	Overburden Soil, boulders, and saprolite								
29 - 1211	Quartz Mica Gneiss a medium gray cremulated and foliated gneiss with frequent 1 - 3 inch quartz stringers. Average grain size is 2 mm and average composition is 65% quartz, 20% biotite, 10% muscovite, and 5% garnet, magnetite, chlorite, epidote and carbonates.								
	26 - 78 Zone contains a number of 1 - 3 inch quartz stringers - core is badly broken								
	84 2 foot white quartz vein								
	109 3 foot quartz vein								
	106 - 130 Core broken into 3 inch lengths								
	163 3 foot section broken 6 feet ground								
	240 - 264 Muscovite more prominent than biotite								
	264 - 1209 Biotite more prominent than muscovite								
	354 6 inch quartz vein with 1 inch bleb of calcite								
	372 6 inch quartz vein								
	377 1 foot core ground								
	420 - 424 10% disseminated carbonates								
	445 6 inch quartz vein								
	454 - 467 5% disseminated carbonates								
	457 and 460 6 inch porous zone								
	463 Weak chlorite slip along core crossed by carbonate veinlet.								
	525 - 538 3% scattered pink garnet								
	542 6 inch quartz vein								
	641 Weak chlorite slips parallel to core with carbonate strs.								
	641 1 foot quartz vein								

SHEET No. 2

THE NIPISSING MINES COMPANY LIMITED

HOLE No. N 42

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	654 Muscovite prominent over biotite in three foot section								
	714 4 foot silicified and epidotized section								
	794 6 foot section containing 5% disseminated carbonates								
	963 6 inch zone with scattered pyrite, pyrrhotite and chalcopyrite								
	965 1 foot quartz vein								
	1041 2 foot section broken								
	1060 6 inch quartz vein								
	1099 - 1122 Muscovite more prominent than biotite								
	1122 - 1184 Biotite and muscovite equal								
	1139 1 foot white quartz vein								
	1155 6 inch white quartz vein								
	1184 - 1211 Biotite more prominent than muscovite								
1211 - 1218	Actinolite Gneiss a medium green foliated, fine grained gneiss with frequent 1/8 to 1/2 inch quartz bands parallel to gneissosity. Average composition is 60% actinolite, 30% quartz, 10% disseminated carbonate and biotite - gneissosity 80° from core axis.								
1218 - 1493	Quartz Mica Gneiss Typical as described								
	1218 Biotite more prominent than muscovite								
	1236 - 1243 5 feet core ground and lost								
	1258 - 1263 3 feet core ground and lost								
	1281 - 1285 2 feet core ground and lost								
	1280 - 1493 Muscovite and biotite equal								
	1322 3 foot silicified section								
	1361 6 inch brecciated zone - silicified, with a few specks of sulphides								
	1393 - 1397 4 feet ground and lost								
	1493 Typical quartz mica gneiss with biotite and muscovite equal, gneissosity normal to core axis.								
	1493 End of Hole casing pulled.								

NORTH 7556.78
EAST 16348.03
ELEV. 3119.92
BEARING N 35 W

STARTED 11/22/58
COMPLETED 12/6/58
LENGTH 1300 H.L.

THE NIPISSING MINES COMPANY LIMITED
DIAMOND DRILL RECORD

PROPERTY ORE KNOB

PURPOSE Exploration
LOGGED BY D. S. K.
PLOTTED

HOLE No. N 43
SHAFT
WORKING Surface
SECTION 3600 W
OFFSET 476.1

DIP @ 0 - 77°; @ 100, N 35 W - 76° @ 300, N 25 W - 65 @ 500, N 18 W - 60°; @ 700, N 14 W - 58° @ 900, N 15 W - 55° @ 1100, N 15 W - 55°

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
0 - 26	Overburden Soil, boulders, and saprolite								
26 - 1065	Quartz Mica Gneiss a medium gray crenulated and foliated gneiss with frequent one to two inch quartz stringers. Average grain size is 2 mm and average composition is 65% quartz, 20% biotite, 10% muscovite, and 5% garnet, magnetite, chlorite, epidote and carbonates.								
	70 Foliation 80 degrees from core axis								
	104 1 foot quartz vein								
	143 1 foot quartz vein								
	145 1½ foot quartz vein with inclusions of biotite								
	147 2 foot quartz vein with inclusions of biotite and a few specks of pyrrhotite.								
	185 1 foot quartz vein with biotite inclusions								
	195 6 inch white quartz vein								
	208 6 inch quartz vein								
	234 2 foot white quartz vein								
	244 6 inch white quartz vein								
	261 6 inch quartz vein								
	282 6 inch quartz vein								
	300 6 inch white quartz vein								
	343 1/4 inch chlorite slip 30° from core axis								

SHEET No. 2

THE NIPISSING MINES COMPANY LIMITED

HOLE No. N 43

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	365 6 inch white quartz vein								
	370 - 385 Core broken and 11 feet ground								
	392 2 foot epidotized - silicified section								
	414 - 425 7 feet core ground and lost								
	449 2 foot white quartz vein								
	454 6 inch quartz vein								
	485 Chlorite slip 30° from core axis that contains a few cubes of pyrite								
	627 - 638 Silicified and expidotized zone								
	785 6 inch quartz vein								
	878 6 inch quartz vein								
	883 18 inch silicified and epidotized zone								
	902 - 971 Muscovite more prominent than biotite								
	971 - 1004 Biotite and muscovite equal								
	1004 - 1012 Biotite more prominent than muscovite - 1 foot sections at 1006 and 1008 near schist - few specks of sulphides		1004 - 1012	8.0	Tr.	(Hangingwall Vein)			
	1012 Muscovite and biotite equal								
	1020 3 foot silicified zone								
1065 - 1068	Mineralized Zone Quartz Biotite gneiss - quartz is in 1/8 - 1/4 inch granules probable shear zone - mineralized with 3% sulphides - this zone is probably the main vein.		1065 - 1068	3.0	0.25				
1068 - 1300	Quartz Mica Gneiss Typical as described								
	1080 - 1095 Core broken, 14 feet ground								
	1102 - 1109 5 feet core ground and lost								
	1114 - 1127 10 feet core ground and lost								
	1145 - 1148 Epidotized and silicified zone								
	1150 - 1186 Muscovite more prominent than biotite 8 feet core ground and lost								

SHEET No. 3

THE NIPISSING MINES COMPANY LIMITED

HOLE No. N 43

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	1186 - 1213 Muscovite and biotite equal								
	1213 - 1300 Biotite more prominent than muscovite								
	1300 End of hole Casing pulled.								

OFFICIAL FILE COPY
O. M. E.
RECEIVED DEC 30 1958

DATE	INITIALS	CODE
12/30	J. G.	225
		~~440~~
12/30	GEE	800
12/31	~~[illegible]~~	500

DMEA EXPLORATION PROJECT

INTERIM REPORT

DMEA-5044, Idm-E1222 (Copper-lead-zinc)

Operator: Appalachian Sulphides, Inc., Jefferson, North Carolina

Location: Ore Knob Mine, Ashe County, North Carolina

Summary of Drilling Completed

	Since last inspection	To Date
Number of holes	2	5
Footage	2,793	7,296

Holes showing:

a)	Commercial mineralization	0
b)	Non-commercial mineralization	5
c)	No mineralization	0

Additional data on the two holes completed during the interim follows:

Hole No. N-42.--Coordinates N 9,282.97, E 20,663.64; elevation at collar 3,028.27 feet. Drilling began on November 18, 1958 and was completed December 9, 1958. Brief log of hole: 0-29 feet overburden; 29-1211 quartz mica gneiss containing quartz pods and stringers from 1 inch to 3 feet thick, disseminated carbonates, and silicified and epidotized zones; 1211-1218 actinolite gneiss containing quartz stringers; 1218-1493 quartz mica gneiss containing quartz pods and stringers; hole bottomed at 1493 feet.

Mineralization:--6 inch zone of pyrite, pyrrhotite and chalcopyrite at 693; few specks of scattered sulfides at 1361.

Hole No. N-43.--Located 200 feet up dip from N-39. Coordinates N 7,556.78, E 16,348.03; elevation at collar 3,119.92 feet. Depth 1,300 feet. Drilling began November 22, 1958 and was completed December 6, 1958. Brief log of hole: 0-26 overburden; 26-1065 quartz mica gneiss containing quartz lenses from 1/2 to 2 inches thick; 1065-1068 mineralized zone in quartz biotite gneiss; 1068-1300 quartz mica gneiss - 29 feet of core loss in this section due to grinding; 1145-1148 silicified and epidotized zone; 1150-1186 muscovite prominent, 8 ft. core loss due to grinding; 1186-1213 quartz mica gneiss containing equal amounts of muscovite and biotite; hole bottomed at 1300 feet.

Mineralization.--Few specks of pyrrhotite at 147; 3' (1065-1068) of 0.25 % Cu. in zone of pyrite, pyrrhotite and chalcopyrite.

Current drilling is in progress on Hole No. N-44 located 680 feet (horiz) southeast of N-40, and on Hole No. N-45 located 1275 feet southwest of base line at elevation 1340 on Section 200 west. Core was observed to depths of 714 feet and 326 feet, respectively. Estimated total depths are 2,200 feet and 2,000 feet respectively.

The core drills will not be operating between December 24 and 29 because of Christmas vacation.

Inspected: December 18, 1958

L. E. Shirley, Mining Engineer
U. S. Bureau of Mines

Helmuth Wedow, Jr., Geologist
U. S. Geological Survey

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED DEC 12 1958 OMA

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of November, 1958 Docket No. DMEA 1044 Contract No. IDM-E 1222
Operator's Name Appalachian Sulphides, Inc. Minerals
Address Jefferson, N. C.
Contract Amount, $ 58,190.00 Government Participation: 50 % Amount, $ 29,095.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling	$9,689.60	$3,970.45	$13,660.05	1/29/59		
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
Incidentals	539.92	225.59	765.51			
Assaying	10.00	3.00	13.00			
Tro-Pari Tests	165.00	115.00	280.00			
TOTALS	$10,404.52	$4,314.04	$14,718.56	$10,404.52	$4,314.04	$14,718.56

I certify that the above bill is correct and just and that payment therefor has not been received.

Date Dec. 9, 1958 *Payee Appalachian Sulphides, Inc.

Per [signature] Title Accountant

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 5,202.26

Signature [signature] (Authorized Certifying Officer)

Date DEC 15 1958 Vou. No. 70

(See other side)

5,202.26

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. Adm-E/222 in accordance with the terms of the contract.

Signature H Wilson Title GEOLOGIST, U. S. G. S. Date DEC 17 1956

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE: Alternate

Signature W. E. Beck Title REGIONAL EXECUTIVE OFFICER DMEA - REGION V Date

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
ROOM 2-B POST OFFICE BLDG.
KNOXVILLE 2, TENN.

December 12, 1958

Mr. Philip Eckman, Manager
Appalachian Sulphides, Inc.
Jefferson, North Carolina

Re: IMKA-5044 (copper-zinc)
Ore Knob Mine, Ashe County, N.C.
Contract Idm-31222

Dear Mr. Eckman:

Your November Operator's Monthly Report and Voucher has been received in this office and is being sent to the Finance Office for processing. On the calculations for Hole No. N40, there was an error of $138.00 in the item 1500-2000 feet. 276 x $3.85 = $1,062.60 instead of $924.60. You may claim the $138.00 on your next voucher.

On the Operator's Unit Cost and Progress report (Form MF-104A) it is not necessary to use separate sheets for each hole. They all can be combined on one sheet.

Sincerely yours,

Wm. A. Beck, Alternate Acting
Executive Officer, OMK
Field Team, Region V

WAB/mm
cc
Finance
Lynch

Shirley
Files

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

RECEIVED DEC 17 1958 O.M.E.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of November 195 8 Docket No. DMEA 5044 Contract No. DM-E 1222
Operator's Name Appalachian Sulphides, Inc. Minerals
Address Jefferson, N. C.

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: ~~Core~~ 0 - 500	Ft.	$1375.00	500	$2750.00	1000	$2750.00	5500	$2.75
~~Churn~~ 500-1000	Ft.	1500.00	500	3000.00	1000	3000.00	5200	3.00
~~Auger~~ 1000-1500	Ft.	1675.00	500	2770.45	827	2770.45	3700	3.35
~~Surfipipe~~ 1500-2000	Ft.	924.60	276	924.60	276	924.60	2300	3.85
~~Trenching~~ 2000		-	-	-	-	-	300	4.55
~~Test Pits~~ Tro-Pari Tests	Hole	105.00	10½	220.00	2	220.00	11	160.00
~~Roads and Trails~~ Incidentals	Ft.	301.92	1776	527.51	3103	527.51	17000	.17
Assaying	Each	10.00	10	13.00	13	13.00	200	1.00
Total Distributed Costs		$5891.52		$10205.56				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs								

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date Dec. 9, 1958 Operator Appalachian Sulphides, Inc.

Per [signature] Title Accountant

Remarks: This Report covers Hole No. N 40

Assays: Hole No. N 40

NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

(For Government use only)

Under Drilling:- "Costs this month" on 1500-2000 ft. line should be $1,062.60 instead of $924.60. Operator has been advised that he can claim the $138.00 on his next voucher.
W A Beck

[signature]
GEOLOGIST, U. S. G. S.

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of November 1958 Docket No. DMEA 5044 Contract No. IDM-E 1222
Operator's Name Appalachian Sulphides, Inc. Minerals
Address Jefferson, N. C.

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core 0 - 500 ft.		$1375.00	500	$4125.00	1500	$4125.00	5500	$2.75
Churn 500 - 1000 ft.		1500.00	500	4500.00	1500	4500.00	5200	3.00
Auger 1000-1500 ft.		1340.00	400	4110.45	1227	4110.45	3700	3.35
~~Stripping~~ 1500-2000 ft.		-	-	924.60	276	924.60	2300	3.85
~~Trenching~~ 2000 + ft.		-	-	-	-	-	300	4.55
~~Test Pits~~ Tro-Pari Tests Hole		60.00	6	280.00	2	280.00	11	160.00
~~Roads and Trails~~ Incidentals Ft.		238.00	1400	765.51	4503	765.51	17000	.17
Assaying Each		-	-	13.00	13	13.00	200	1.00
Total Distributed Costs		$4513.00		$14718.56				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs								

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date Dec. 9, 1958 Operator Appalachian Sulphides, Inc.

Per [signature] Title Accountant

Remarks: This Report covers Hole No. N 41

→ NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

(For Government use only)

[signature]
GEOLOGIST, U. S. G. S. DEC 12 1958

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

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GPO 872894

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APPALACHIAN SULPHIDES, INC.

ORE KNOB MINE

PROGRESS REPORT DMRA DOCKET NO. 5244

Period: October 31 - November 30, 1958

D.D. H. No. N 40

Location: North 6949.78, East 16698.48, Elevation 3073.41, Offset Baseline 1161 feet South, and on Section 3600 West.

This hole was spotted for a target at elevation 1770, offset baseline 410 feet south and on section 3600 west.

Weak intersections were found at elevation 2490, offset baseline 870 feet south, and on Section 3530 west, at elevation 1735, offset baseline 390 feet south, and Section 3380 west, and at elevation 1670, offset baseline 350 feet south.

The first intersection corresponds to a zone we call the "Upper Vein", the second intersection corresponds to our "Hangingwall Vein" and the third intersection corresponds to our "Main Vein". The hole was completed at 1776 feet.

Complete log enclosed.

D.D. H. No. N 41

Location: North 9697.87, East 20824.09, Elevation 3117.65, Offset Baseline 658.5 feet South, and on Section 1000 East.

This hole was spotted for a target at elevation 2100, offset baseline 290 feet south, and on Section 1000 east.

A few scattered specks of sulphides were found at the following footage Sections: 78-94, 138-154, 255-267, 1283-1284, and 1291-1292.

A zone of quartz actinolite gneiss was encountered at elevation 2315, offset baseline 290 feet south and on Section 1045 east. It appears likely that this zone of actinolite gneiss is an extension of the same actinolite gneiss found associated with the vein in the mine.

Hole completed at 1400 feet.

Complete log enclosed.

D. D. H. No. N 42

Location: North 9282.97, East 20663.64, Elevation 3028.87, Offset Baseline 1138.7 feet South, and on Section 1000 East.

This hole was spotted for a target at elevation 1960, offset baseline 550 feet south, and on Section 1000 east.

Summary Log:

0 - 29	Overburden; soil, boulders, and saprolite
29 - 1051	Quartz mica gneiss - typical
963	6 inch zone with specks of pyrite, pyrrhotite and chalcopyrite
	Bottom of hole 11/30/58 1051 feet
	Hole Continues.

D.D.H. No. H 41

Location: North 7556.78, East 16348.03, Elevation 3119.97, Offset Baseline 476.1 feet South, and Section 3600 West.

Hole was spotted for a target at elevation 2330, offset baseline 50 feet south and on Section 3600 west.

Summary Log:

0 - 26	Overburden; soil, boulders and saprolite
26 - 925	Quartz mica gneiss - typical
147	Two feet quartz vein with a few specks of sulphides.
	Bottom of hole 11/30/58 925 feet
	Hole Continues.

Submitted,

APPALACHIAN SULPHIDES, INC.

Dewey S Kirstein

Dewey S. Kirstein
Geologist

DSK/cs

THE NIPISSING MINES COMPANY LIMITED

DIAMOND DRILL RECORD

NORTH 6949.78			HOLE No. N 40
EAST 16698.4B	STARTED 10/2/58	PURPOSE Exploration	SHAFT
ELEV. 3073.41	COMPLETED 11/19/58		WORKING Surface
BEARING N 35° W	LENGTH 1776 H.L.	LOGGED BY D.S.K.	SECTION 3600 W
DIP @ 0' - 73°; @ 100' N25W, - 65° @ 300 N17W - 56 @ 500 N12W - 60° @ 900 N9W - 57° @ 1200 N16W - 57 @ 1500 N9W - 55°	PROPERTY ORE KNOB MINE	PLOTTED	OFFSET 1161 S

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
0 - 17	Overburden Soil, boulders and saprolite								
17 - 656.5	Quartz Mica Gneiss a medium gray foliated crenulated gneiss with an average grain size of 2 mm. Its composition averages about 65% quartz, 20% biotite, 10% muscovite and 5% garnet, carbonate magnetits, chlorite, and sericite. The gneiss contains numberous white quartz zones that vary from ¼" to 2" thick.								
	17 - 42 Iron stained and weathered in zones, 6 feet of core lost								
	42 - 94 Rock highly crenulated								
	94 - 97 Zone epidotized and silicified								
	156 4 inch white quartz vein								
	180 Rock lightly crenulated								
	231 & 234 1 foot white quartz vein								
	246 - 248 Gneiss slightly silicified and epidotized - few specks of pyrrhotite chalcopyrite and pyrite - epidote filled fracture 15° from core axis								
	302 6 inch white quartz vein								
	308 & 310 6 inch white quartz vein								
	310 - 338 Rock tightly crenulated								
	433 1 foot white quartz vein - barren								
	554 6 inch quartz vein with 2 inch zone of coarse biotite								

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SHEET No. 2

THE NIPISSING MINES COMPANY LIMITED

HOLE No. N 40

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	555 8 inch quartz vein								
	597 6 inch quartz vein								
	620 - 627 Core badly broken - 4 feet ground								
	628 - 648 Muscovite more prominent than biotite - otherwise typical								
656.5 - 693.5	Mineralized Zone Quartz Biotite Actinolite gneiss with scattered blebs and specks of sulphides.	1059	656.5-661.5	5.0	0.15				
	656.5 - 668 Section contains 4 12 - 18 inch quartz veins - quartz in gneiss to schist zones more or less granular	1060	661.5-666.5	5.0	0.14				
		1061	666.5-671.5	5.0	0.14				
		1062	671.5-676.5	5.0	0.11				
	668 - 670.3 Quartz biotite actinolite gneiss - few specks of sulphides	1063	676.5-681.5	5.0	0.13				
		1064	681.5-686.5	5.0	0.13				
	670.3 - 671.8 Quartz mica gneiss no sulphides	1065	686.5-693.5	4.0	0.16				
	671.8 - 673.4 Quartz biotite actinolite gneiss - few specks of sulphides			34/37	0.20	3 feet core lost			
	673.4 - 677 Quartz mica gneiss with 6 inch quartz epidote zone at 675.5 No sulphides except a little pyrite in epidote quartz zone								
	677 - 693.5 Quartz biotite actinolite gneiss as described but with a weak foliation marked by quartz zones - specks of sulphides - 3 feet core lost.								
693.5 - 1560.5	Quartz Mica Gneiss Typical as described - biotite more prominent than muscovite.								
	746 1 foot quartz vein								
	769 6 inch quartz vein same at 671								
	791 3 foot zone very little mica - 90% quartz								
	866 18 inch quartz vein with rock inclusions - no sulphides								
	956 18 inch quartz vein inclusions of biotite								
	970 - 986 Muscovite more prominent than biotite - 3 feet core lost at 999								

SHEET No. 3 THE NIPISSING MINES COMPANY LIMITED HOLE No. N 40

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	1012 - 1045 Muscovite more prominent than biotite - 5% scattered pink garnets and a few specks of sulphides.								
	1065 Foln. well defined at 70° from core axis								
	1155 Zone with garnet similar to 1012-1045								
	1191 - 1206 Prominent muscovite with 10% pink garnet and shreds of chlorite. Foln. 70° from core axis								
	1210 1 foot zone as above								
	1222 2 foot epidotized and silicified zone								
	1227 - 1232 Zone as above 3 chlorite slips 45° from core axis								
	1303 - 1312 Biotite and muscovite about equal but biotite is in prominent 1/8 - 1/4 inch flakes.								
	1353 2 foot epidotized and silicified section								
	1376 Chlorite slip 20° from core axis								
	1395 2 foot white quartz vein								
	1467 6 inch quartz vein								
	1527 -1569.5 Muscovite more prominent than biotite								
1569.5 - 1579.5	<u>Mineralized Zone</u> (Hangingwall Vein)								
	1569.5 - 1573 Quartz actinolite chlorite gneiss with scattered pink garnet and biotite contact at 1569 sharp with 3 inches of biotite schist, 60° from core axis - 5% pyrrotite, pyrite and chalcopyrite in blebs up to 1 inch.	8601 8602	1569.5-1574.5 1574.5-1579.5	5.0 5.0	0.20 0.20				
	1573 - 1579.5 Quartz mica gneiss with a brecciated appearance 10% pyrrhotite, pyrite and chalcopyrite - disseminated throughout, contact gradational at 1579.5.								
1579.5- 1656.5	<u>Quartz Mica Gneiss</u> - Typical								
	1579.5 - 1656.5 Muscovite and biotite equal								

SHEET No. 4

THE NIPISSING MINES COMPANY LIMITED

HOLE No. N 40

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	1622 1/4" chlorite slip 20° from core axis								
	1638 Few specks of pyrite, pyrrhotite and chalcopyrite								
1656.5 - 1660	Mineralized Zone - Quartz biotite gneiss with a brecciated appearance mineralized with 40% pyrrhotite, pyrite and chalcopyrite. Contact at 1656.5 gradational, contact at 1660 sharp and 70° from core axis marked by two inch zone of garnet.	8603	1656.5-1660	3.5	0.53				
1660 - 1776	Quartz Mica Gneiss - Typical								
	1660 - 1676 Muscovite and biotite equal								
	1676 - 17 - 18 Biotite more prominent than muscovite								
	1718 -1728 Brecciated and silicified section (probable post-ore fault zone) Contains few crystals of pyrite and 1 foot quartz vein at 1727 which contains books of muscovite up to 1/2 inch.								
	1728 - 1776 Biotite more prominent than muscovite foln. normal to core axis								
	1776 End of hole - casing pulled.								

THE NIPISSING MINES COMPANY LIMITED

DIAMOND DRILL RECORD

NORTH 9697.87			HOLE No. N 41
EAST 20424.09	STARTED 10/20/58	PURPOSE Exploration	SHAFT
ELEV. 3117.65	COMPLETED 11/13/58		WORKING Surface
BEARING N 35 W	LENGTH 1400 H.L.	PROPERTY	LOGGED BY D. S. K.
			SECTION 1000 E
			PLOTTED
			OFFSET 658.5

DIP - 75 @ 100 N 25 W - 74° @ 300 N 27 W - 65° @ 500 N 25 W - 62 ORE KNOB @ 700 N 20 W - 59 @ 900 N 15 W - 56 @ 1100 N 13 W - 53 @ 1300 N 11 W - 54°

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
0 - 51	Overburden Soil, boulders, and saprolite								
51 - 876	Quartz Mica Gneiss a medium gray foliated - crenulated gneiss with an average grain size of 2 mm. Average composition is 65% quartz 20% biotite, 10% muscovite, 5% garnet, carbonates, magnetite, chlorite and sericite.								
	51 - 66 Some iron stained sections								
	78 - 94 Several 1/2 to 2 inch zones that contain pink garnets and a few specks of pyrite, pyrrhotite, and chalcopyrite. 6 feet core lost								
	138 - 154 6 inch quartz vein - followed by zone as in 78 - 94.								
	205 - 228 Contains 5% pink garnet and zones of granular quartz								
	242 - 252 Prominent muscovite in grained quartz matrix.								
	255 - 267 Zone as in 78 - 94 - specks of sulphides at 259.								
	333 - 337 Porus oxidized zone - lost 3 feet core - water seam								
	460 3 foot section very fine grained quartzite.								
	471 Same as above								
	581 Weak chlorite slip 10° from core axis								
	643 6 inch white quartz vein								
	712 - 717 Prominent muscovite 95% quartz								
	738 - 750 Same as above								
	753 1 foot zone of actinolite gneiss								
	754 - 759 Quartz Biotite gneiss with a little scattered actinolite - biotite								

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U. S. Geological Survey
Lakewood, Colorado

SHEET No. 2

THE NIPISSING MINES COMPANY LIMITED

HOLE No. N 41

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	prominent in 1/4 inch flakes and 1 inch schist zones								
	767 3 inch actinolite zone								
	768 1 foot quartz biotite gneiss with prominent biotite in 1/4 inch flakes.								
	771 18 inch zone as above								
	772 - 791 Prominent muscovite - muscovite 20%, biotite 5%, quartz 75%.								
	791 - 865 Prominent muscovite but 10% muscovite content, 5% biotite, 85% quarts								
	865 - 870 Muscovite prominent but biotite in scattered 1/4" flakes								
	870 - 876 Biotite prominent with disseminated actinolite in 1 foot zone at 874								
	QUARTZ ACTNOLITE GNEISS								
876 - 910	876 - 891 Quartz actinolite gneiss with frequent 1 - 2 inch quartz stringers gneiss often cut by 1/4 - 2 inch zones of biotite.								
	891 - 897 Quartz Biotite gneiss with prominent biotite 2 foot zone prominent actinolite at 894.								
	897 - 910 Quartz Actinolite Gneiss with prominent biotite zones as in 876 - 891								
910 - 1400	Quartz Mice Gneiss								
	910 - 942 Prominent muscovite gneiss that grades to schist in 6 inch to 1 foot zones								
	942 - 954 Quartz mica gneiss with muscovite prominent over biotite								
	954 -1037 Muscovite and biotite equal								
	1037 -1198 Biotite prominent over muscovite								
	1176 - 1183 10% disseminated carbonate								
	1183 - 1 foot white quartz vein								
	1206 - 1212 Section contains 30% very coarse biotite - two 4 inch sections of biotite schist, quartz appears brecciated - possible fault zone - no sulphides.								

SHEET No. 3

THE NIPISSING MINES COMPANY LIMITED

HOLE No. N 41

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	1212 - 1222 Muscovite and biotite equal, foliation normal to core axis.								
	1222 - 1267 Muscovite more prominent than biotite								
	1267 - 1321 Biotite and muscovite about equal								
	1278 & 1280 6 inch quartz veins								
	1283 1 foot quartz vein with a few specks of chalcopyrite and pyrrhotite.								
	1291 18 inch quartz vein with three 1/2 inch sheared zones containing biotite and a few specks of pyrrhotite.								
	1321 - 1357 Biotite more prominent than muscovite								
	1332 Two foot fine quartzite section cut by 3 1/8 inch quartz stringers containging a few specks of pyrrhotite.								
	1357 - 1390 Biotite and muscovite equal								
	1390 - 1400 Biotite more prominent than muscovite, foliation 90 - 80° from core axis.								
	End of hole - casing pulled at 1400								

Map for November 1958
MF-104-
Operator's Monthly
Report-

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS
EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

OFFICIAL BUSINESS

15

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DATE	INITIALS	CODE
12-1	C	220
12/1	[illegible]	110
12/1	[illegible]	800
12/1	[illegible]	500

DMEA EXPLORATION PROJECT

INTERIM REPORT

DMEA-5044, Idm-E1222(copper-lead-zinc)

Operator: Appalachian Sulphides, Inc., Jefferson, No. Carolina

Location: Ore Knob Mine, Ashe County, North Carolina

Summary of Drilling Completed

	Since last inspection	To date
Number of holes	2	3
Footage	3,176	4,503

Holes showing:

a) Commercial mineralization---------- 0
b) Non-commercial mineralization--------- 3
c) No mineralization---------- 0

Data on the two holes completed during the interim follows:

Hole No. N40 - Coordinates N-6949.78, E-16,698.48; elevation at collar 3073.41 feet. Drilling began 10/10/58 and was completed 10/31/58. Brief log of hole: 0-17 ft overburden; 17-271 ft., quartz biotite gneiss, crenulated, with quartz veins up to 1-foot thick; 246-248 ft few scattered specks of chalcopyrite, pyrrhotite and pyrite; 433-434, 1 ft quartz vein; 554-554½ 6-inch quartz vein in coarse biotite; 656½-693½ mineralized zone containing disseminated sulfides, quartz stringers in upper section and scattered actinolite; 677-1337 quartz mica gneiss; 1556½ to 1579½ mineralized zone; 1660 to 1776 quartz mica gneiss.

Mineralization: 37' (656½-693½) of 0.14 copper; 10'(1569½ to 1579½) of est. 0.2% copper; 3½' (1656½-1660½) of est. 0.75% copper.

The hole has been surveyed at the indicated intervals as follows:

Depth	Direction	Inclination
0	N35°W	-73°
100	N25°W	-65°
300	N17°W	-56°
500	N12°W	-60°
900	N11°W	-57°
1200	N16°W	-57°
1500	N 9°W	-55°

Hole No. N-41 - Coordinates N-9697.87, E-2042.04; elevation at collar 3117.65 ft. Depth 1400 ft. Drilling began 10/20/58 and was completed 11/13/58. Brief log of hole: 0-51 ft. overburden, collared in biotite gneiss; 51-78 ft biotite gneiss; 78-94 ft narrow zones of gneiss containing garnet and scattered specks of pyrite, chalco-pyrite and pyrrhotite; 94-255 ft quartz biotite gneiss; 255-267 ft narrow zones of gneiss containing garnet and scattered specks of pyrrhotite, pyrite and chalco-pyrite; 267-333 ft quartz biotite gneiss; 333-337 ft. porous iron oxidized zone; 337-754 quartz biotite gneiss; 754-759 quartz mica gneiss containing actinolite; 759-876-quartz mica gneiss; 876-910 quartz mica gneiss containing actinolite; 910-1400 quartz mica gneiss; hole bottomed at 1400 feet. Mineralization: from 78 to 94 and 255 to 267, scattered specks of pyrite, pyrrhotite and chalco pyrite.

This hole has been surveyed at the indicated intervals as follows:

Depth	Direction	Inclination
0	N35°W	-75°
100	N25°W	-74°
300	N27°W	-65°
500	N25°W	-62°
700	N20°W	-59°
900	N15°W	-56°
1100	N13°W	-53°
1300	N11°W	-54°

Drilling is in progress on Holes N-42 and N-43.

Inspected: November 19, 1958

L. E. Shirley, Mining Engineer
Bureau of Mines (OME)

Helmuth Wedow, Jr., Geologist
Geological Survey (OME)

z

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

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PAID ON VOUCHER & SCHEDULE OF PAYMENTS K-

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of October, 1958 Docket No. DMEA Contract No. IDM-E 1222
Operator's Name Appalachian Sulphides, Inc. Minerals
Address Jefferson, North Carolina
Contract Amount, $ 58,190.00 Government Participation: 50 % Amount, $ 29,095.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling	$3,970.45	-	$3,970.45	1/13/59		
~~Bulldozing~~						
~~Crosscutting~~						
~~Drifting~~						
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
Incidentals	225.59		225.59			
Assaying	3.00		3.00			
TrO-Pari Tests	115.00		115.00			
TOTALS	$4,314.04		$4,314.04	$4,314.04	—	$4,314.04

I certify that the above bill is correct and just and that payment therefor has not been received.
Date Nov. 10, 1958 Payee Appalachian Sulphides, Inc.
Per [signature] Title Accountant

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:
$ 2,157.02
Signature [signature] (Authorized Certifying Officer)
Date NOV 19 1958 Vou. No. 53
(See other side)

2157.02

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. Idm-E/222 in accordance with the terms of the contract.

Signature W. T. Beck Title U. S. BUREAU OF MINES Date NOV 1 7 1958

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Robert A. Lawrence Title EXECUTIVE OFFICER OVERSEEING TEAM Date 1958

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S UNIT COST AND PROGRESS REPORT

RECEIVED NOV 24 1958 O.M.E.

Month of November 1958 Docket No. DMEA 5044 Contract No. IDM-E 1222
Operator's Name Appalachian Sulphides, Inc. Minerals
Address Jefferson, North Carolina

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drilling								
~~Drifting~~								
~~Crosscutting~~								
~~Raising~~								
Shafts								
Winzes								
Drilling: Core 0-500	500	1,375.00	500	1,375.00	500	1,375.00	5,500	15,125.00
~~Churn~~ 500-1000	500	1,500.00	500	1,500.00	500	1,500.00	5,200	15,600.00
~~Auger~~ 1000-1327	327	1,095.45	327	1,095.45	327	1,095.45	3,700	12,395.00
Incidentals	1,327	225.59	1,327	225.59	1,327	225.59	17,000	2,890.00
~~Stripping~~ Assaying	3	3.00	3	3.00	3	3.00	200	200.00
~~Trenching~~ Tro-Pari Tests	7	115.00	7	115.00	7	115.00	11	1,760.00
~~Test Pits~~								
Roads and Trails								
								$55,100.00
Total Distributed Costs		$4,314.04		$4,314.04				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		$4,314.04		$4,314.04				

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date Nov. 10, 1958 Operator Appalachian Sulphides, Inc.

Per [signature] Title Accountant

Remarks: This Report covers: Hole No. M-39

Assays - Hole No. M-39

→ NOTE.—Title 18, U. S. Code (Crimes), section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

(Instructions on reverse)

(For Government use only)

[signature]
GEOLOGIST, U. S. G. S.

NOV 17 1958

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 872894

APPALACHIAN SULPHIDES, INC.

ORE KNOB MINE

PROGRESS REPORT DMRA DOCKET NO. 5044

Period: September 10 - October 31, 1958

D.D.H. No. N 39

Location: North 7376.74, East 16451.97, Elevation 3145.06, Offset baseline 681.5 feet South, Section 3600 West, Bearing N 30 W, Dip - 74° N.

This hole was spotted for a target at elevation 2230, offset baseline 130 feet south, and on Section 3600 west, however due to abnormal horizontal drift this target was not hit. Intersections were at elevation 2050 and 2025, offset, baseline 185 and 173 feet south, and on Section 3355 west.

Complete log enclosed.

D.D.H. No. N 40

Location: North 6949.78, East 16698.48, Elevation 3073.41, Offset baseline 1161 feet South, Section 3600 West, Bearing N 35 W, Dip - 73° N.

This hole was spotted for a target at elevation 1770, offset baseline 410 feet south, and on Section 3600 west.

A weak intersection was located at elevation 2490, offset baseline 870 feet south, and on Section 3530 west. This is very similar in location and geology to an intersection found in a hole drilled in 1954 by the Company on Section 2800 west. It appears likely that this is a continuation of the same zone.

Summary Log:

0 - 17 Overburden; soil boulders, and saprolite.
17 - 656.5 Quartz mica gneiss, more or less typical.
656.5 - 693 Mineralized Zone
656.5 - 668 Quartz biotite actinolite gneiss with four 12 to 18 inch white quartz veins. 3% sulphides scattered throughout the zone.
668 - 670.3 Quartz biotite actinolite gneiss - few specks of sulphides.
670.3 - 671.8 Quartz mica gneiss - no sulphides.
671.8 - 673.4 Quartz biotite actinolite gneiss - few specks of sulphides.
673.4 - 677 Quartz mica gneiss - no sulphides except a little pyrite in 6 inch shear zone.
677 - 693 Quartz biotite actinolite gneiss with a few specks of sulphides. 1.7 feet core lost.
693 - 1337 Quartz mica gneiss, more or less typical.
1337 Bottom of hole October 31, 1958.
Hole continues.

D.D.H. No. N 41

Location: North 9697.87, East 2042.04, Elevation 3117.65, Offset baseline 658.5 South, Section 1000 East, Bearing N 35 W, Dip - 75° N.

Hole was spotted for a target at elevation 2300, offset baseline 290 feet south, and on Section 1000 east.

Summary log:

0 - 51 Overburden; soil, boulders, and saprolite
51 - 647 Quartz mica gneiss - typical
78-94 Several ½ to 2 inch zones of gneiss containing 10% pink garnet and a few specks of pyrite, pyrrhotite, and chalcopyrite.
255-267 Same as 78-94
333-337 Porous oxidized zone.
647 Bottom of hole October 31, 1958.
Hole continues.

Submitted,

APPALACHIAN SULPHIDES, INC.

Dewey S. Kirstein

Dewey S. Kirstein
Geologist

NORTH 7376.74

EAST 16451.97

ELEV. 3145.06

BEARING N 30 W

STARTED Sept. 10, 1958

COMPLETED Oct. 10, 1958

LENGTH 1327 H.L.

THE NIPISSING MINES COMPANY LIMITED

DIAMOND DRILL RECORD

PROPERTY ORE KNOB

PURPOSE Exploration

LOGGED BY D.S.K.

PLOTTED

HOLE No. N 39

SHAFT

WORKING

SECTION 3600 W

OFFSET 681.5 S

DIP 0° - 74°; @ 100' N25W, - 74°; @ 300 N14W, - 68°; @ 500 N11W, - 65°; @ 700 N08E - 60°; @ 900 N10°E - 58°; @ 1100 N9W - 56°; @ 1300 N11W - 54°.

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
0 - 60	Overburden Soil, boulders and saprolite								
60	Quartz Mica Gneiss A medium gray, foliated rock composed of 70% quartz, 20% Biotite, 10% Muscovite, frequently banded by white quartz zones that vary from ¼ inch to 2 inches thick.								
	60 - 89 Rock slightly weathered in zones and iron stained 15 feet of core lost due to weathered zones.								
	100 2 inch quartz vein with ¼ inch zone of pyrrhotite, pyrite and chalcopyrite.								
	106 6 inch quartz vein with 1 inch zone of chlorite and sericite. Rock foln. near 90° to core axis.								
	137 6 inch quartz vein few spots of carbonates.								
	177 6 inch zone with creamy streaks - probably carbonates - 2 inch zone at 176.								
	195 More pronounced banding of white quartz zones and more apparent crenulation.								
	319 6 inch pale green zone - rock silicified and epidotized - probable fault.								
	327.5 4 inch white quartz vein - few carbonate blebs and scattered spots of pyrrhotite, pyrite and chalcopyrite.								
	347 3 inch quartz vein with spots of chalcopyrite, pyrite and pyrrhotite.								
	350 - 354 Rock is greenish gray - due to a predominance of green muscovite.								

SHEET No. 2

THE NIPISSING MINES COMPANY LIMITED

HOLE No. -

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	359 6 inch zone of quartz stringers and coarse biotite - few specks of pyrrhotite, pyrite, and chalcopyrite.								
	372 6 inch white quartz vein with 1 inch zone of carbonate.								
	439.5 6 inch quartz vein - barren.								
	449 - 451 10% fine chlorite and sericite in average quartz Biotite gneiss.								
	451 2 6 inch quartz veins seperated by 4 inch zone of quartz biotite, chlorite gneiss.								
	466 - 468 Light green zone appears to be shear or fault zone - silicified and epidotized.								
	471 1 foot quartz vein with a few rock inclusions, followed by a 2 foot zone of quartz mica gneiss with 10% fine chlorite and sericite mica.								
	476.5 1 foot white quartz vein.								
	508 2 foot zone greenish gray due to slight epidotization.								
	520 1 foot zone as above.								
	546 - 551 Typical quartz biotite gneiss but contains 30% disseminated creamy carbonates.								
	562 2 foot zone as above.								
	573 10 inch zone epidotized to a light greenish gray - foln. 70° from core axis.								
	595 1 foot zone same as above.								
	598 - 602 Fine grained zone brecciated and epidotized.								
	610 18 inch zone epidotized.								
	613 6 inch zone epidotized with ½ inch epidotite veinlet 45° from core axis.								

SHEET No. 3

THE NIPISSING MINES COMPANY LIMITED

HOLE No. N 39

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	657 2 foot zone 15% chlorite, 5% garnet in typical gneiss.								
	662 6 inch white quartz vein - barren.								
	676 3 foot quartz vein with inclusions of quartz mica gneiss - vein cut by 1/8 inch epidote stringers that contain specks of pyrite.								
	696 6 inch quartz vein - barren.								
	702 3 foot section contains 4 6 inch quartz veins.								
	791 6 inch quartz vein with ~~globe~~ blebs of carbonate.								
	809 Several fractures about 5° from core axis - no evidence of movement. Foln. about 80° from core axis.								
	822 12 inch zone of quartz biotite gneiss with 15% chlorite.								
	859 1 foot quartz vein with biotite inclusions along fractures.								
	914 - 920 Fine grained quartz mica gneiss very few quartz bands.								
	949 2 foot quartz vein 3 foot zone following quartz vein 10% chlorite.								
	992 - 1016 Prominent Muscovite.								
	995 Chloritic Mica gneiss zone.								
	1050 - 1054 Prominent Muscovite.								
	1176 - 1204 Prominent muscovite with minor biotite in typical quartz mica gneiss.								
	1204 - 1237 Biotite and muscovite equal - few scattered pink garnets - rock straight grained - little cremulation.								
1237 - 1244	<u>Mineralized zone</u>								
	1237 - 1239.5 Quartz chlorite biotite gneiss with scattered ¼ stringers and specks of pyrite, pyrrhotite and chalcopyrite - few ¼" pink garnets	1055 1056	1237 - 1239.5 1239.5 - 1244	2.5 4.5	0.28 0.18				

SHEET No. 4

THE NIPISSING MINES COMPANY LIMITED

HOLE No. N 39

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.	% Cu.	%	%		
	1239.5 - 1244 Quartz biotite gneiss with scattered ¼ inch prominent biotite zones and few specks of sulphides.								
1244 - 1266	Quartz Biotite Gneiss Typical as described.								
1266 - 1267.5	Mineralized Zone (Main Vein) Zone 1.5 feet Thick and consists of quartz biotite gneiss with prominent biotite and a few scattered blebs of chalcopyrite, pyrite and pyrrhotite.	1057	1266 - 1267.5	1.5	0.60				
1267.5 - 1327	Quartz Biotite Gneiss								
	1267.5 - 1320 Biotite about equal with muscovite.								
	1327 End of hole - casing pulled.								

Map for
October MF104
1958.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS
EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

OFFICIAL BUSINESS

OFFICIAL FILE COPY
O. M. E.
RECEIVED OCT 31 1958

DATE	INITIALS	CODE
10/31	C	220
11/4		110
11/5		800
		500

DMEA EXPLORATION PROJECT

INTERIM REPORT

DMEA-5044, Idm-E1222 (copper-lead-zinc)

Operator: Appalachian Sulphides, Inc. Jefferson, North Carolina

Location: Ore Knob Mine, Ashe County, North Carolina

Summary of Drilling Completed

	Since last inspection	To date
Number of holes	1	1
Footage	1327	1327

Holes showing:

a) Commercial mineralization---------- 0
b) Non-commercial mineralization--------- 1
c) No mineralization---------- 0

Additional data on the one hole completed during the interim follows:

Drill Hole No. N-39: Drilling began 9/10/58 and was completed 10/10/58. A log of the core to 1307 feet was given in the interim report of October 10. The hole bottomed at 1327 feet in quartz mica gneiss and no additional mineralization was encountered in the remaining 20 feet.

Drilling in Progress

Hole No. N-40 - Coordinates N6949.78, E16,698.48; collar elevation 3073.41. Present depth 940 feet. A disseminated sulphide zone has been encountered from 656½ to 693 feet. Estimated total depth of this hole is 1600 feet.

Drill Hole No. N-41. Coordinates and collar elevation not available. The hole is located on the northeast end of the project area on Base line 1000E between Drill Hole No's 1 and 2 as shown on the plan and longitudinal projection map accompanying the contract. The present depth of this hole is 96 feet, including 56 feet of overburden, and material encountered is quartz mica gneiss. The estimated total depth is 900 feet.

The purpose of this visit was to confer with Dr. B.S.W. Buffam, consulting Geologist, of Patino of Canada, Ltd., who has purchased controlling interest of Nipissing Mines Co., Ltd., of which the Operator is a subsidiary company. The conference was brief and concerned present and future drilling plans and mention of a former proposal for underground drilling. Those present in addition to Dr. Buffam were officials of Appalachian Sulphides, Inc.

Discussion was held concerning wording of the contract as pertains to spacing of drill holes. The Operator is interested in drilling a flatter hole from the same location as N-39, in order to penetrate the ore zone at a distance of 200 to 250 feet up dip from the penetration of N-39. A drill hole in this area will, in the opinion of the Field Examiners, allow exploration in a critical area. The results of N-39 were not encouraging, but drilling in this proposed area may intercept a target up dip. The Field Examiners recommend that the contract be amended, if necessary, to permit drilling more than one hole from any site but at different

bearings and/or inclinations.

Some time ago a proposal was made by the Operator for exploration drilling underground from the 980 or 1120 level in the mine. Dr. Buffam, who made the original proposal, stated that this was a program recommended for Company participation alone and indicated that no request would be made for Government assistance.

Inspected: October 22-23, 1958

L. E. Shirley, Mining Engineer
Bureau of Mines (OME)

Helmuth Wedow, Jr., Geologist
Geological Survey (OME)

z

DMEA EXPLORATION PROJECT

INTERIM REPORT

DMEA-5044, Idm-E1222 (Copper-lead-zinc)

Operator: Appalachian Sulphides, Inc., Jefferson, North Carolina

Location: Ore Knob Mine, Ashe County, North Carolina

Drilling continues on the two holes referred to in the last interim report of September 10, 1958. Progress on these holes is summarized as follows:

Drill Hole No. N-39.--Coordinates N7376.74, E16,451.97; collar elevation 3145.06. Drilling began September 10, 1958 and the hole is nearing completion. Core was observed to a depth of 1307 feet and estimated total depth is 1350 feet. The hole has been surveyed at intervals and the following deviations noted:

Depth	Direction	Inclination
0		-74°
100	N. 25° W.	-74°
300	N. 14° W.	-68°
500	N. 11° W.	-65°
700	N. 8° E.	-60°
900	N. 10° E.	-58°
1100	N. 9° W.	-56°

Brief log of core.--0-60 feet overburden, collared in quartz mica gneiss; from 60 to 1307 feet, the core is predominantly quartz mica gneiss composed of white quartz, commonly banded, biotite and muscovite in varying quantities, and scattered accessory minerals. The accessory minerals consist of pyrrhotite, pyrite, chalcopyrite, chlorite, sericite,

epidote and garnet. Quartz veins were observed up to 3 feet thick.

Mineralization:--At 100 feet, 2 inch quartz vein with $\frac{1}{4}$ inch zone of pyrrhotite, pyrite and chalcopyrite; at $327\frac{1}{2}$ feet, 4 inch quartz vein containing carbonate material and scattered spots of pyrrhotite, pyrite, and chalcopyrite; at 347 feet, 3 inch quartz vein with spots of chalcopyrite, pyrite and pyrrhotite; at 359 feet, 6 inch zone of quartz stringers and coarse biotite containing a few specks of pyrrhotite, pyrite, and chalcopyrite; at 676 feet, 3 feet quartz vein containing inclusions of gneiss and 1/8 inch stringers of epidote that contain specks of pyrite.

Hole No. N-40.--Located 500 feet south of Hole No. N-39. Coordinates and collar elevation not available. Core was examined to a depth of 422 feet. Material encountered is quartz mica gneiss and no mineralization has been cored to date.

Discussion was held with Mr. Philip Eckman, Mine Manager, concerning future hole locations. A further discussion with the Company's consultant is contemplated in the near future.

Mr. V. J. Lynch, Member of the Field Team and Mr. R. A. Laurence, Executive Officer, accompanied the Field Examiners.

Inspected: October 10, 1958

L. E. Shirley, Mining Engineer
U. S. Bureau of Mines

Helmuth Wedow, Jr., Geologist
U. S. Geological Survey

OFFICE MAIL SCRIPT
DMEA
RECEIVED SEP 19 1958

DATE	INITIALS	COST
9-19	C	220
19	[illegible]	100
[illegible]	[illegible]	110
9/22	[illegible]	800
9/24	[illegible]	500

DMEA EXPLORATION PROJECT

PROGRESS REPORT

DMTA-5044, Idn-41222 (copper-lead-zinc)

Operator: Appalachian Sulphides, Inc. Jefferson

Location: Ore Knob Mine, Ashe County, N. C.

Core drilling is under way on this contract. Two drills have been moved to the contract area by Sprague and Henwood, drilling contractors, and are set up on drill hole locations nos. 6 and 8. This conforms to the original locations as shown on the plan and longitudinal projection map accompanying the contract.

Drilling began on Hole N-39 (original location 6) on September 10, 1958. This hole is to be drilled at a -74° angle, and estimated total depth is 1200 feet. At the time of this visit drilling in overburden was in progress and no additional data were available.

Drill Hole N-40, the location conforming to D.D.H. #8 on the maps, will be started within the week. The necessary drilling equipment was at the site.

The Operator was requested to notify the Field Team upon completion of Holes, 6, 7 and 8 to confirm new hole locations.

Inspected: September 10, 1958.

L. E. Shirley, Mining Engineer
Bureau of Mines

Helmuth Wedow, Jr. Geologist
Geological Survey

3

APPALACHIAN SULPHIDES, INC.

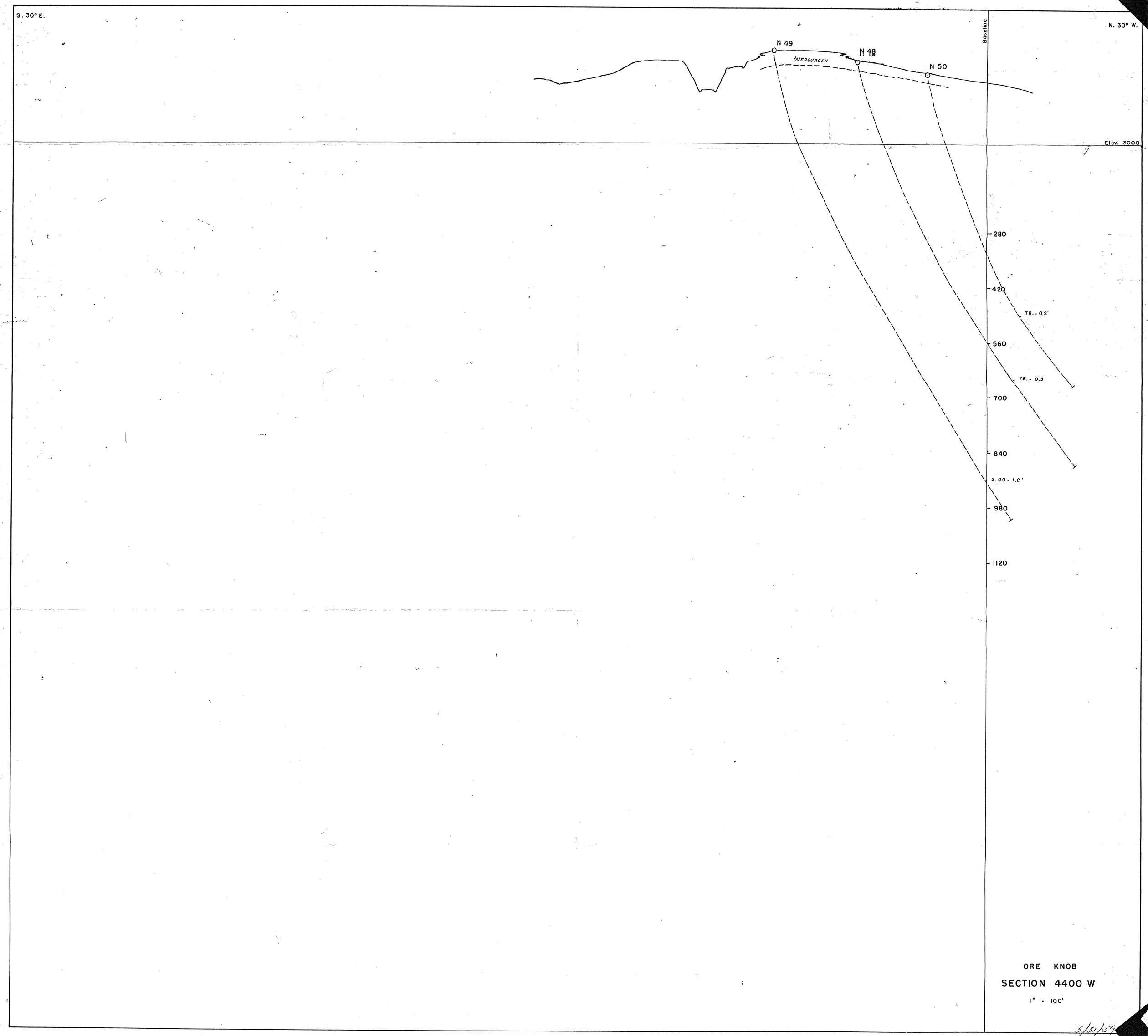
PLAN & LONGITUDINAL PROJECTION OF

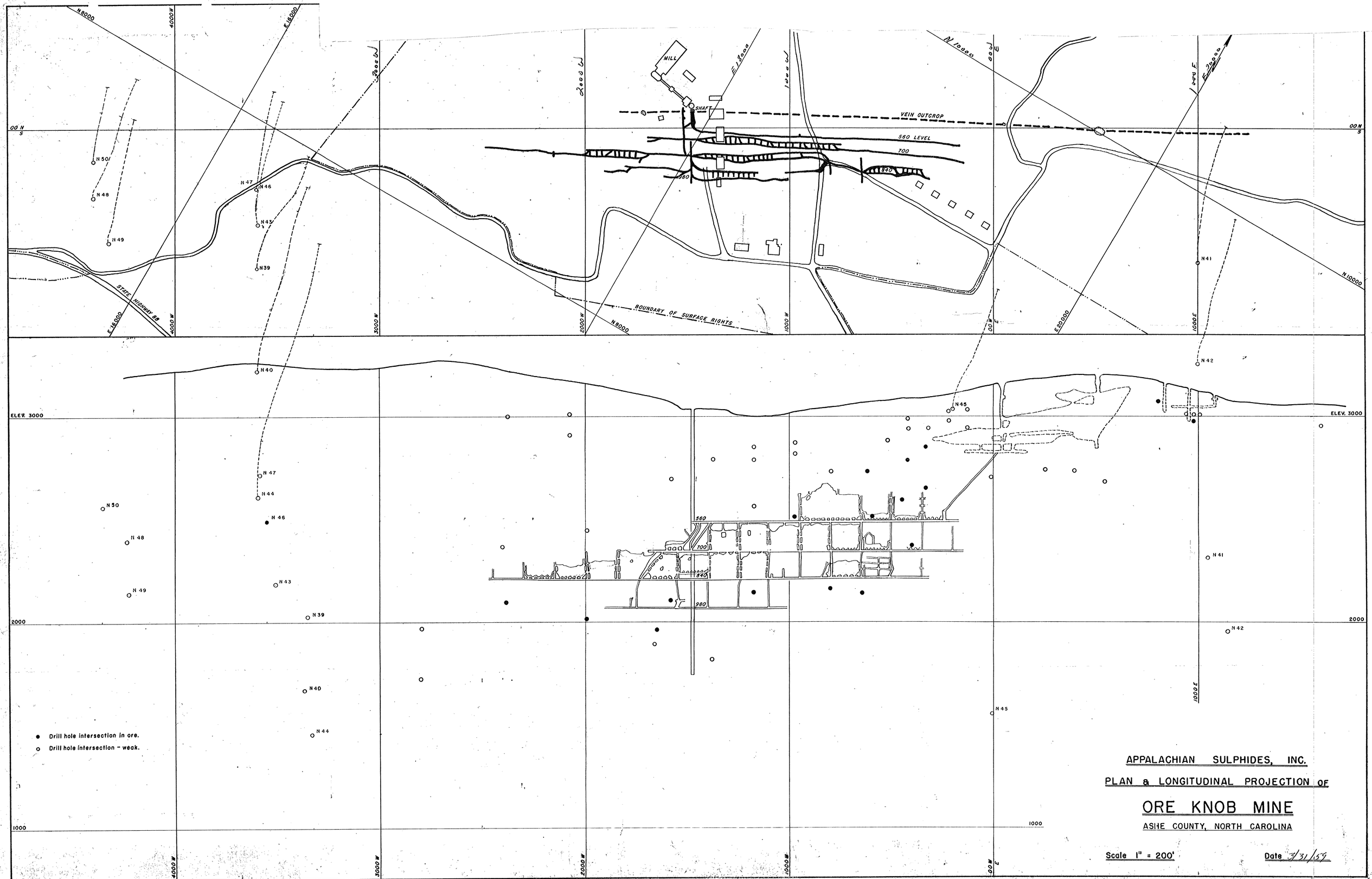
ORE KNOB MINE

ASHE COUNTY, NORTH CAROLINA

Scale 1" = 200'

Date 3/31/59


S. 30° E.
N. 30° W.
Baseline
N 49
N 48
N 50
OVERBURDEN
Elev. 3000
280
420
560
700
840
980
1120
TR. - 0.2'
TR. - 0.3'
2.00 - 1.2'
ORE KNOB
SECTION 4400 W
1" = 100'
3/31/39



APPALACHIAN SULPHIDES, INC.

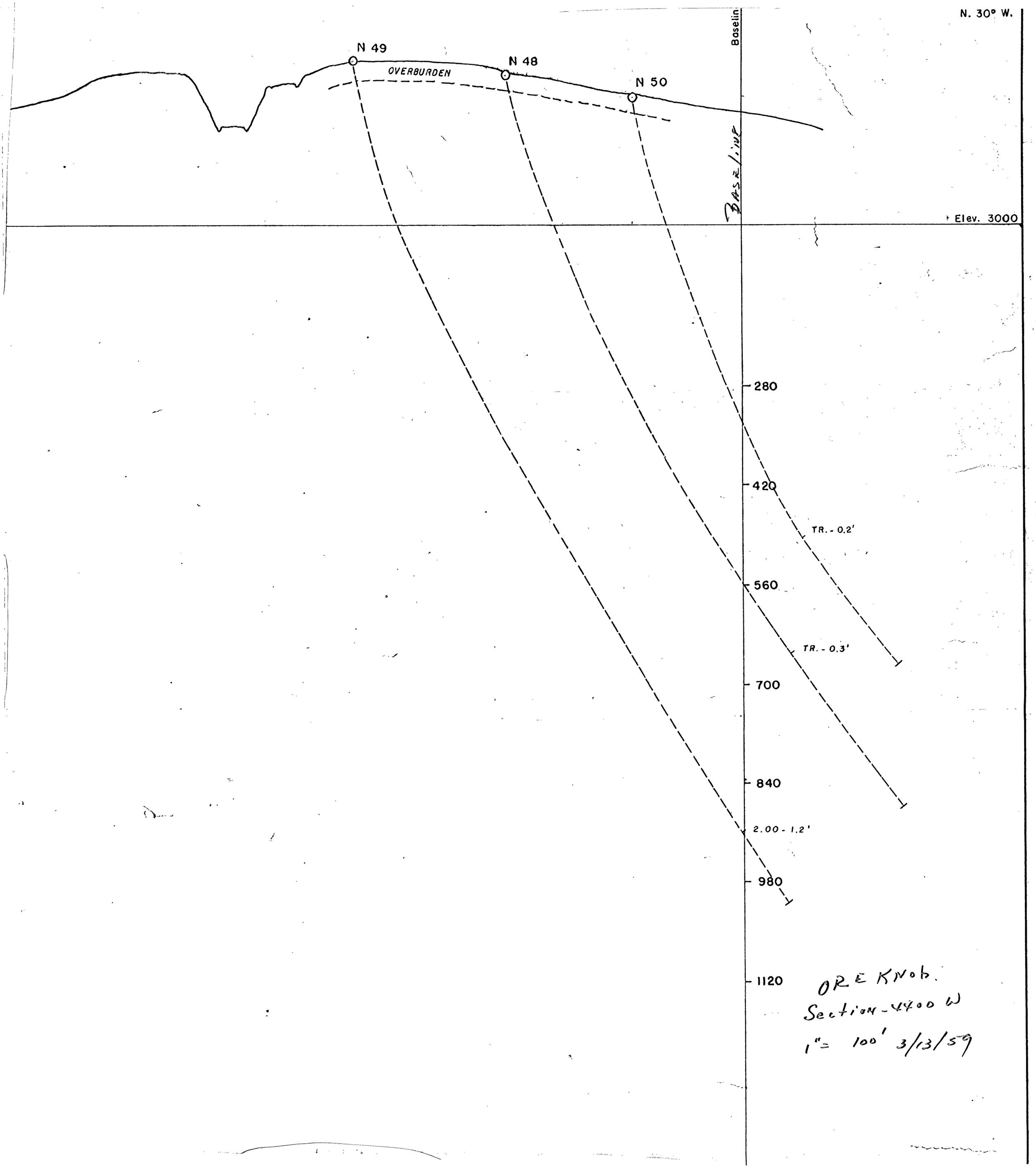
PLAN & LONGITUDINAL PROJECTION OF

ORE KNOB MINE

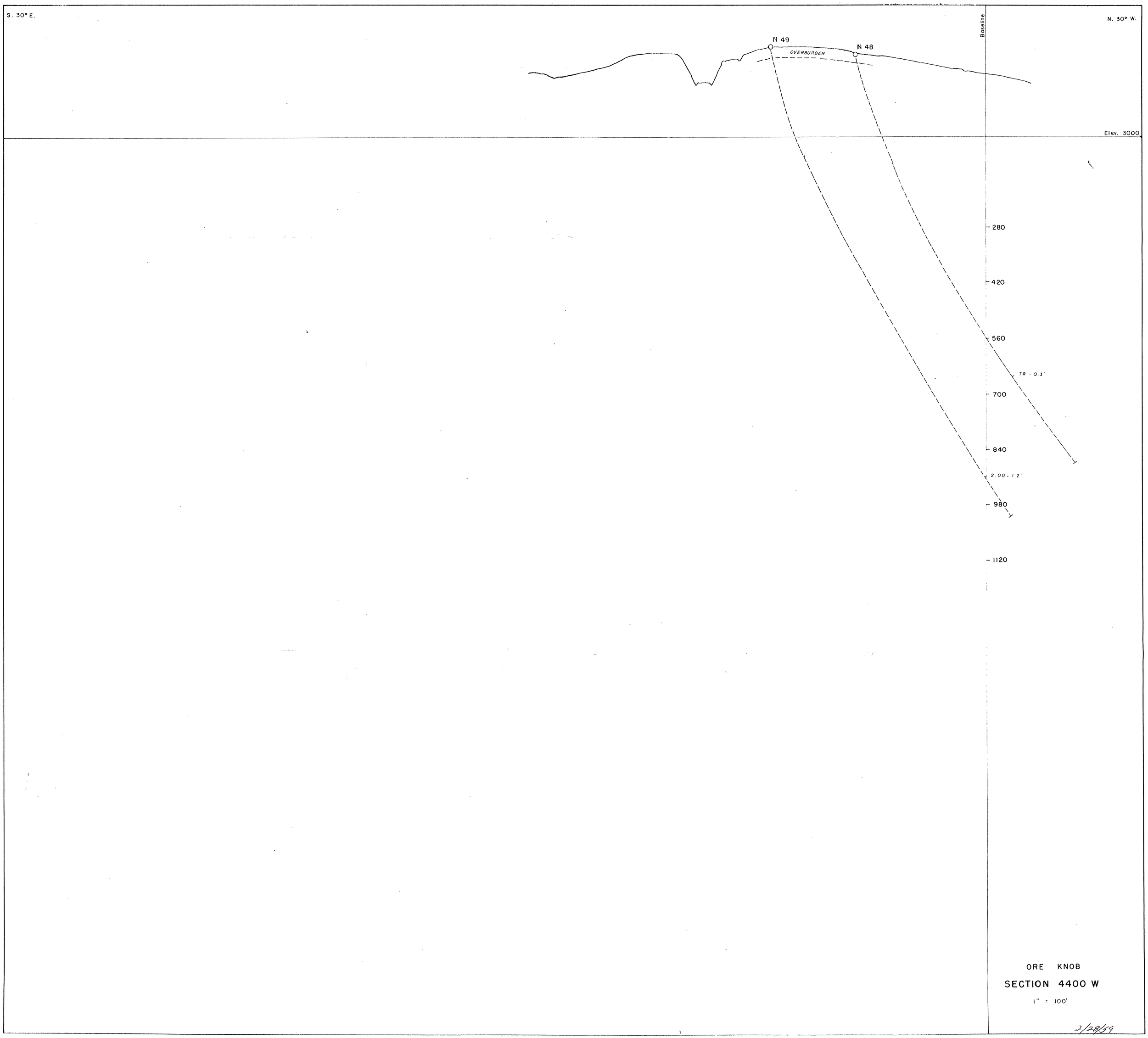
ASHE COUNTY, NORTH CAROLINA

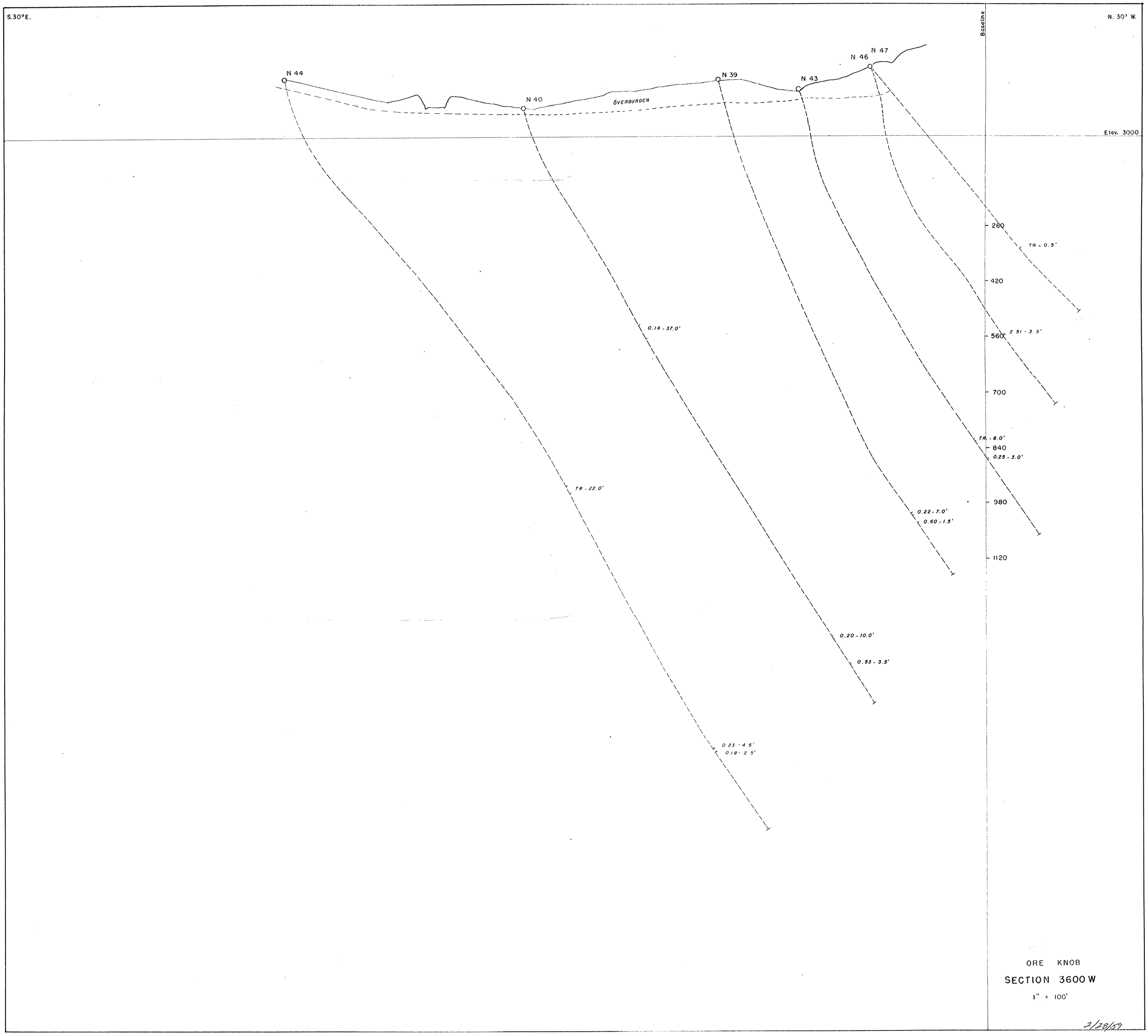
Scale 1" = 200'

Date 3/31/59


N. 30° W.
Baselin
N 49
N 48
N 50
OVERBURDEN
BASE LINE
Elev. 3000
280
420
TR. - 0.2'
560
TR. - 0.3'
700
840
2.00 - 1.2'
980
1120
ORE KNOB.
Section - 4400 W
1" = 100' 3/13/59

MILL
SHAFT
VEIN OUTCROP
560 LEVEL
700
980
1030
STATE HIGHWAY 88
BOUNDARY OF SURFACE RIGHTS
N 8000
N 10000
E 18000
E 20000
4000 W
3000 W
2000 W
1000 W
00 N
1000 E
ELEV. 3000
2000
1000
N 48
N 49
N 47
N 46
N 43
N 39
N 40
N 44
N 45
N 41
N 42
Drill hole intersection in ore.
Drill hole intersection - weak.
APPALACHIAN SULPHIDES, INC.
PLAN & LONGITUDINAL PROJECTION OF
ORE KNOB MINE
ASHE COUNTY, NORTH CAROLINA
Scale 1" = 200'
Date 2/28/59


S. 30° E.
N. 30° W.
Baseline
N 49
N 48
OVERBURDEN
Elev. 3000
280
420
560
TR - 0.3'
700
840
2.00 - 12'
980
1120
ORE KNOB
SECTION 4400 W
1" = 100'
2/28/59


S.30°E.
N. 30° W.
Baseline
N 44
N 40
N 39
N 43
N 46
N 47
OVERBURDEN
Elev. 3000
280
420
560
700
840
980
1120
TR - 0.5'
2.51 - 3.5'
0.14 - 37.0'
TR - 8.0'
0.25 - 3.0'
TR - 22.0'
0.22 - 7.0'
0.60 - 1.5'
0.20 - 10.0'
0.53 - 3.5'
0.23 - 4.5'
0.18 - 2.5'
ORE KNOB
SECTION 3600 W
1" = 100'
2/28/69

APPALACHIAN SULPHIDES, INC.

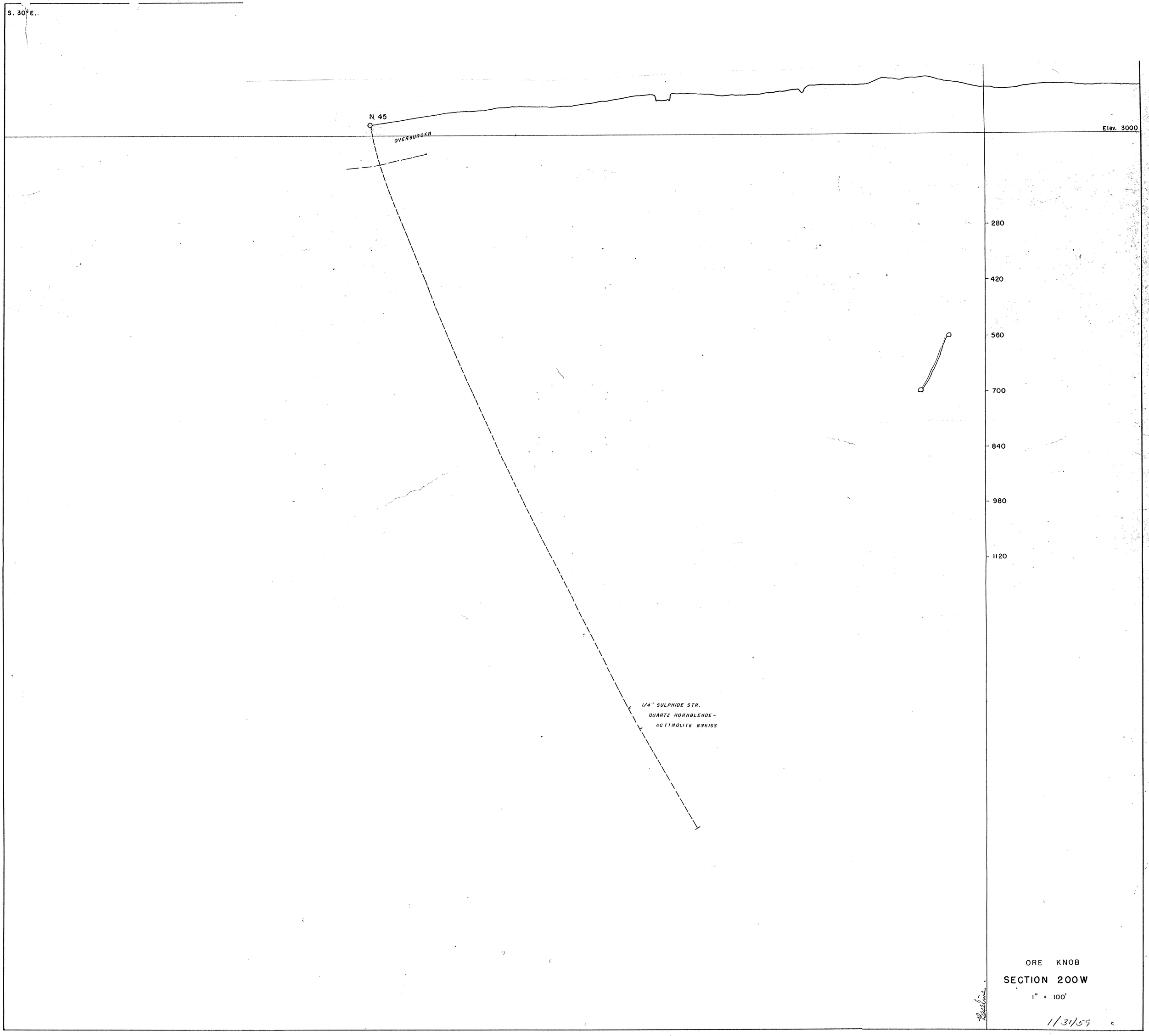
PLAN & LONGITUDINAL PROJECTION OF

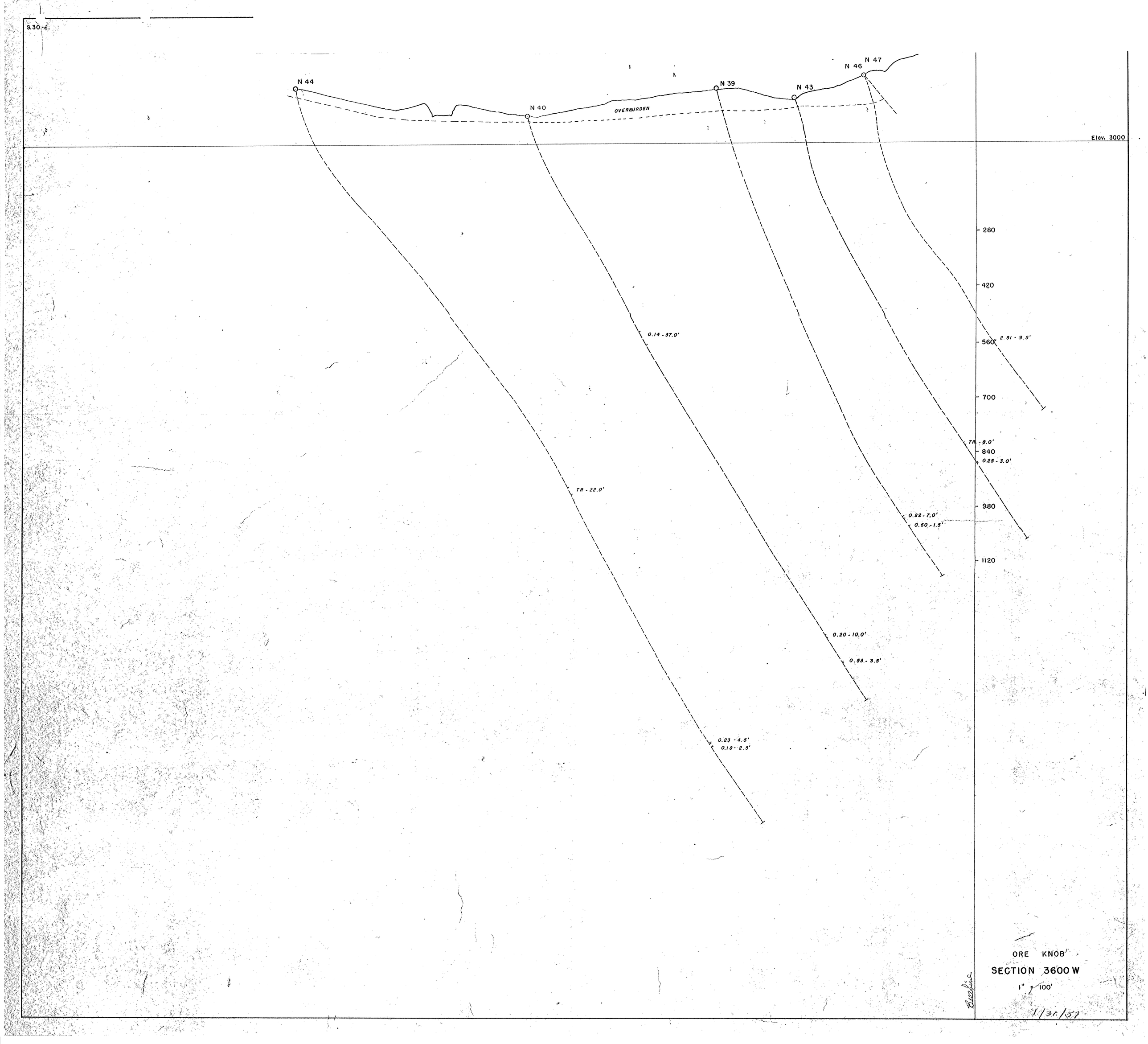
ORE KNOB MINE

ASHE COUNTY, NORTH CAROLINA

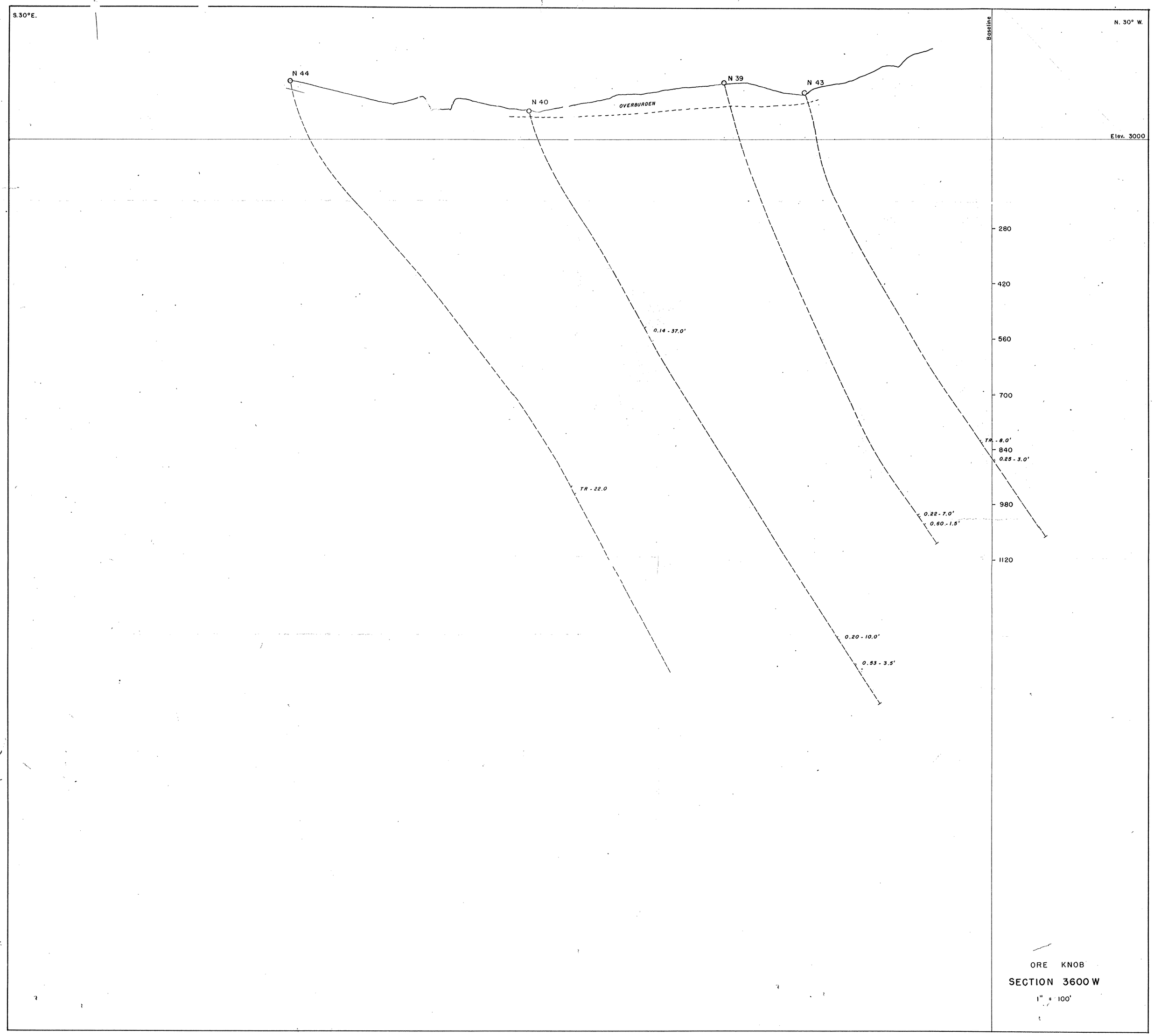
Scale 1" = 200'

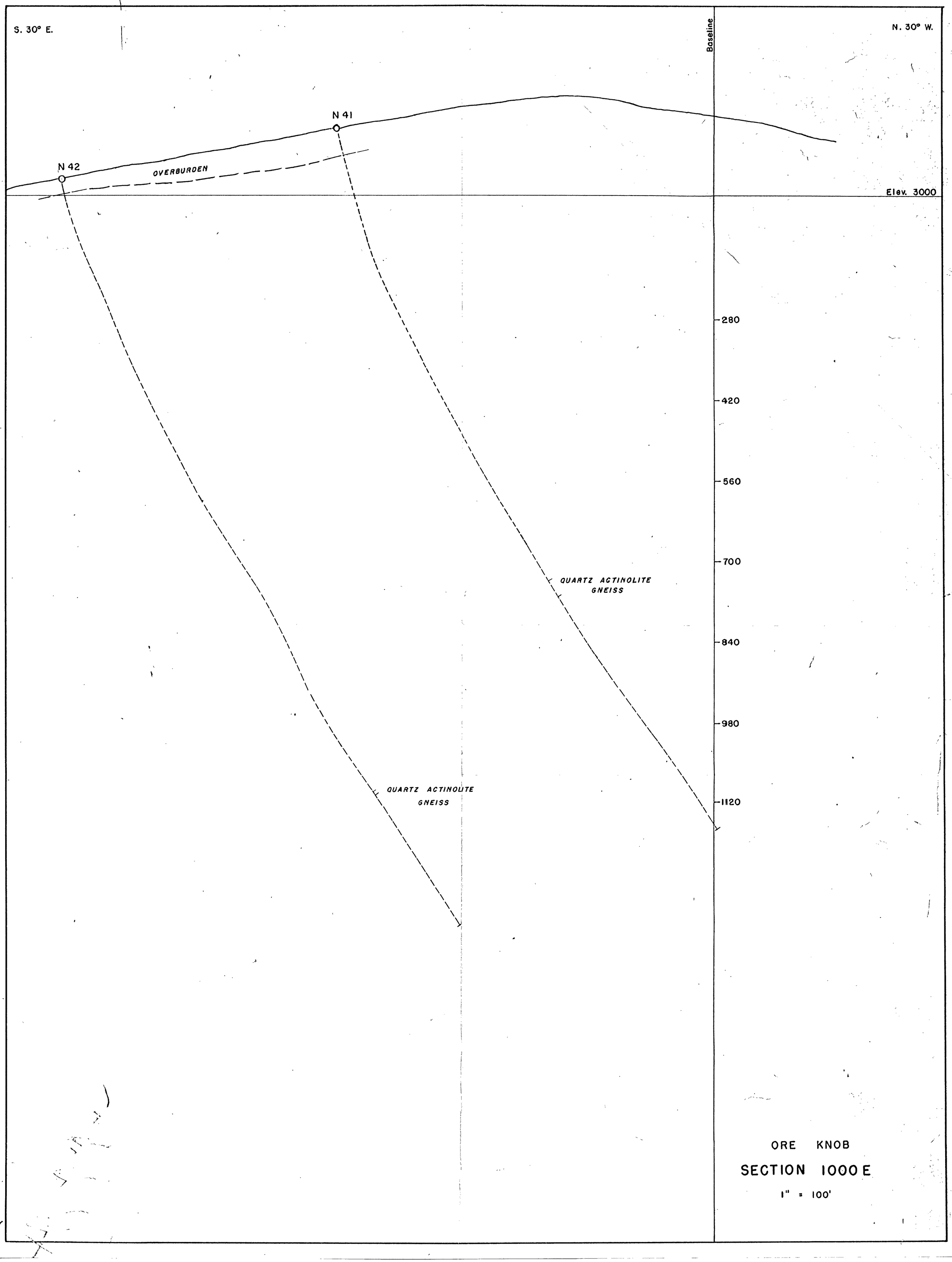
Date 1/31/59

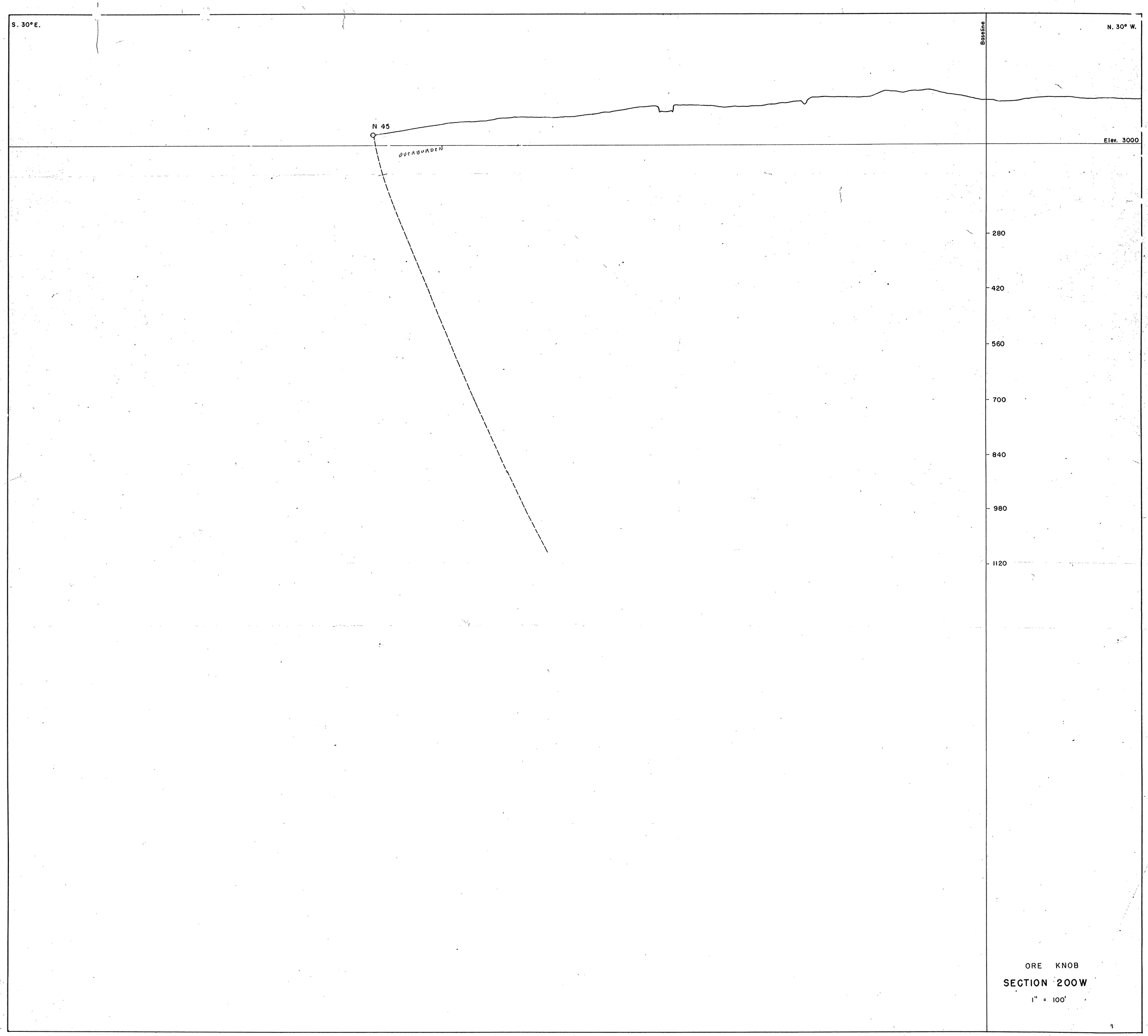

S. 30° E.
N 45
OVERBURDEN
Elev. 3000
280
420
560
700
840
980
1120
1/4" SULPHIDE STR.
QUARTZ HORNBLENDE-
ACTINOLITE GNEISS
ORE KNOB
SECTION 200W
1" = 100'
1/31/59

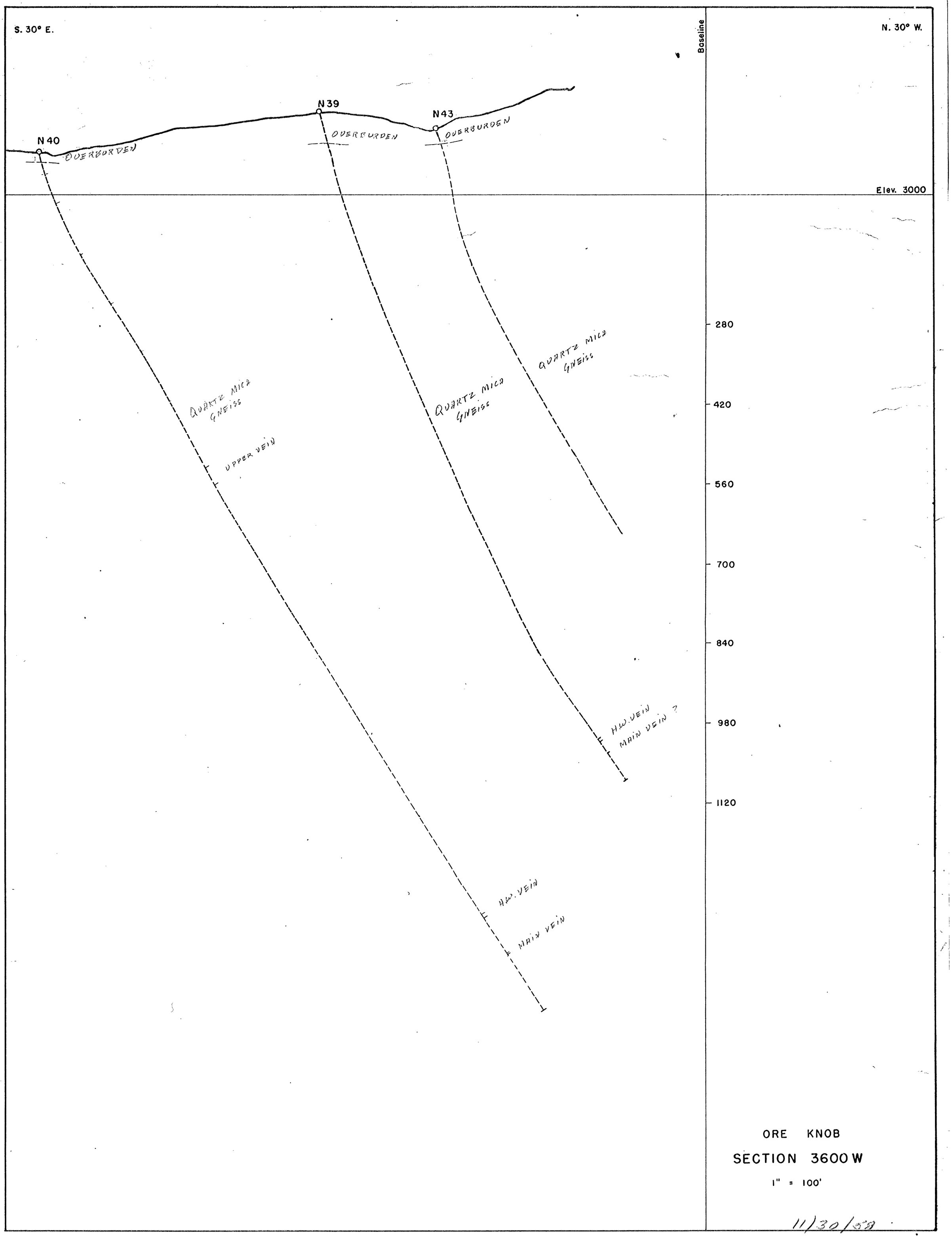

S.30°E.
N 44
N 40
N 39
N 43
N 46
N 47
OVERBURDEN
Elev. 3000
280
420
560
700
840
980
1120
0.14 - 37.0'
2.51 - 3.5'
TR - 8.0'
0.25 - 3.0'
TR - 22.0'
0.22 - 7.0'
0.60 - 1.5'
0.20 - 10.0'
0.53 - 3.5'
0.23 - 4.5'
0.18 - 2.5'
Baseline
ORE KNOB
SECTION 3600 W
1" = 100'
1/30/59

MILL
SHAFT
VEIN OUTCROP
560 LEVEL
700
940
980
STATE HIGHWAY 88
BOUNDARY OF SURFACE RIGHTS
N8000
E15000
E18000
E20000
4000 W
3000 W
2000 W
1000 W
00 W
1000 E
00 N
S
N39
N40
N41
N42
N43
N44
N45
ELEV. 3000
2000
1000
Drill hole intersection in ore.
Drill hole intersection - weak.
APPALACHIAN SULPHIDES, INC.
PLAN & LONGITUDINAL PROJECTION OF
ORE KNOB MINE
ASHE COUNTY, NORTH CAROLINA
Scale 1" = 200'
Date Dec 31


S.30°E.
N. 30° W.
Baseline
Elev. 3000
N 44
N 40
N 39
N 43
OVERBURDEN
280
420
560
700
840
980
1120
0.14 - 37.0'
TR - 22.0
TR - 8.0'
0.25 - 3.0'
0.22 - 7.0'
0.60 - 1.5'
0.20 - 10.0'
0.53 - 3.5'
ORE KNOB
SECTION 3600 W
1" = 100'


S. 30° E.
N. 30° W.
Baseline
N 41
N 42
OVERBURDEN
Elev. 3000
280
420
560
700
840
980
1120
QUARTZ ACTINOLITE GNEISS
QUARTZ ACTINOLITE GNEISS
ORE KNOB
SECTION 1000 E
1" = 100'


S. 30° E.
N. 30° W.
Baseline
N 45
OVERBURDEN
Elev. 3000
280
420
560
700
840
980
1120
ORE KNOB
SECTION 200W
1" = 100'


S. 30° E.
N. 30° W.
Baseline
Elev. 3000
280
420
560
700
840
980
1120
N40
N39
N43
OVERBURDEN
OVERBURDEN
OVERBURDEN
QUARTZ MICA GNEISS
QUARTZ MICA GNEISS
QUARTZ MICA GNEISS
UPPER VEIN
H.W. VEIN
MAIN VEIN ?
H.W. VEIN
MAIN VEIN
ORE KNOB
SECTION 3600 W
1" = 100'
11/30/59

APPALACHIAN SULPHIDES, INC.

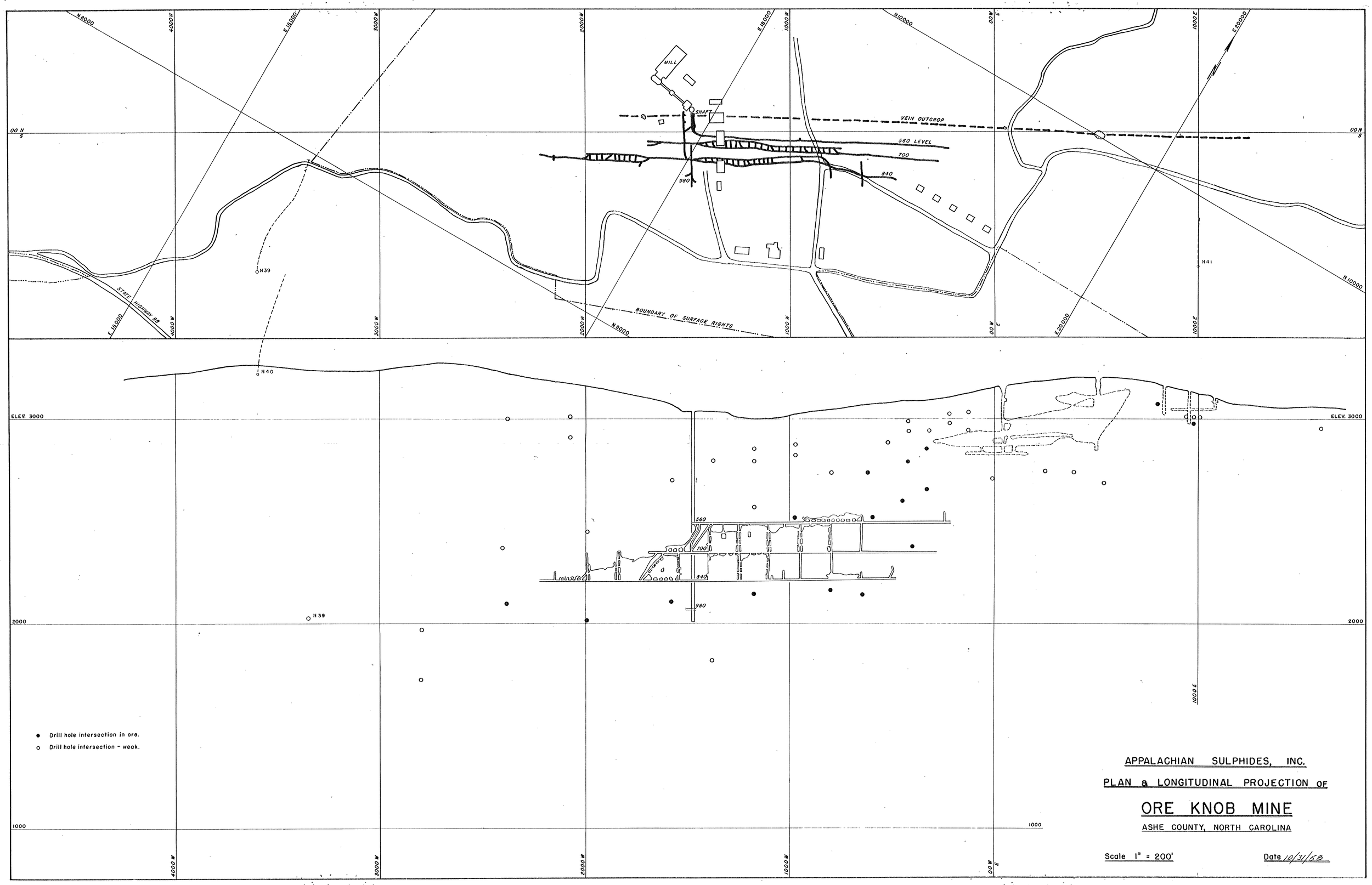
PLAN & LONGITUDINAL PROJECTION OF

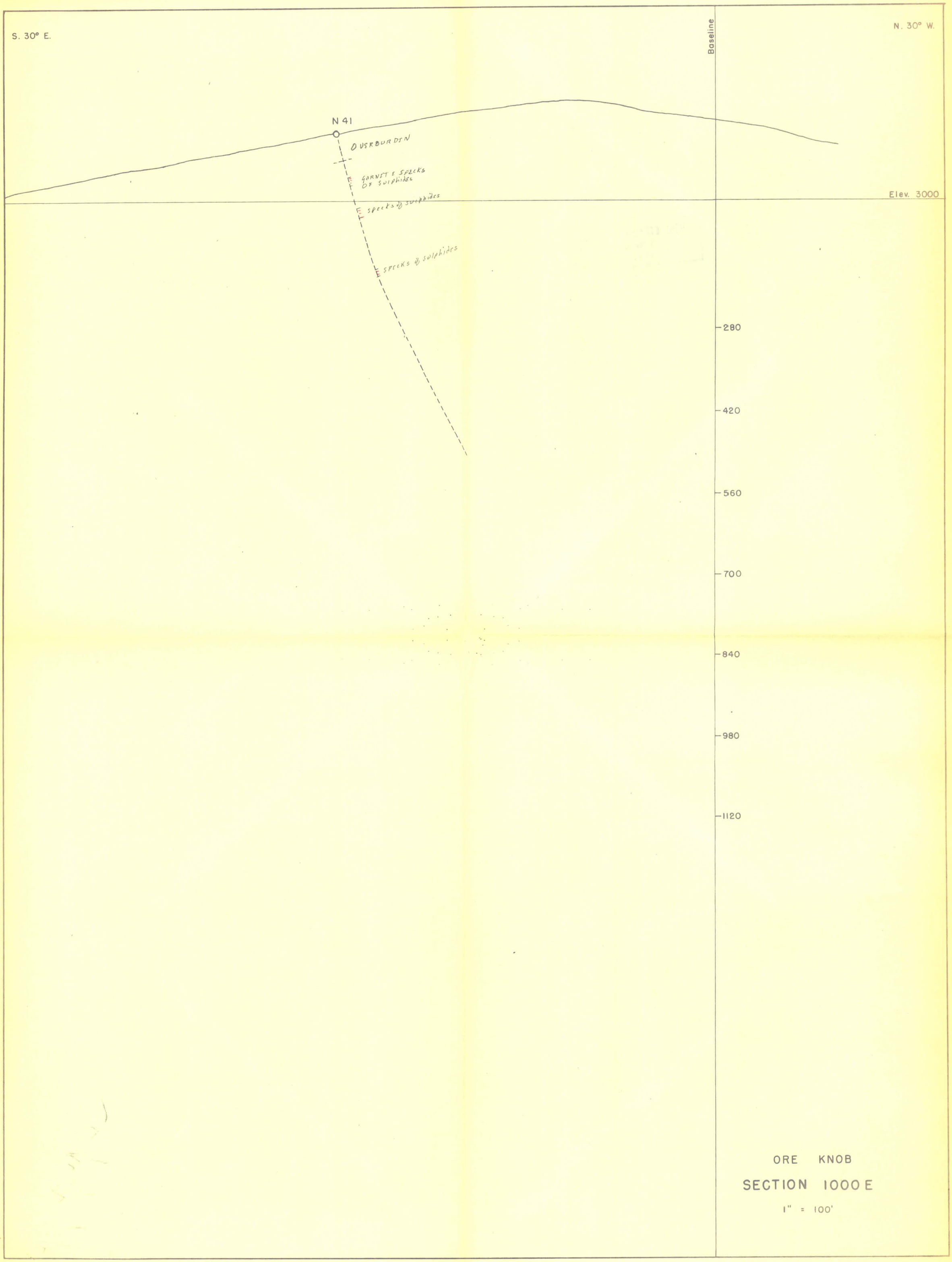
ORE KNOB MINE

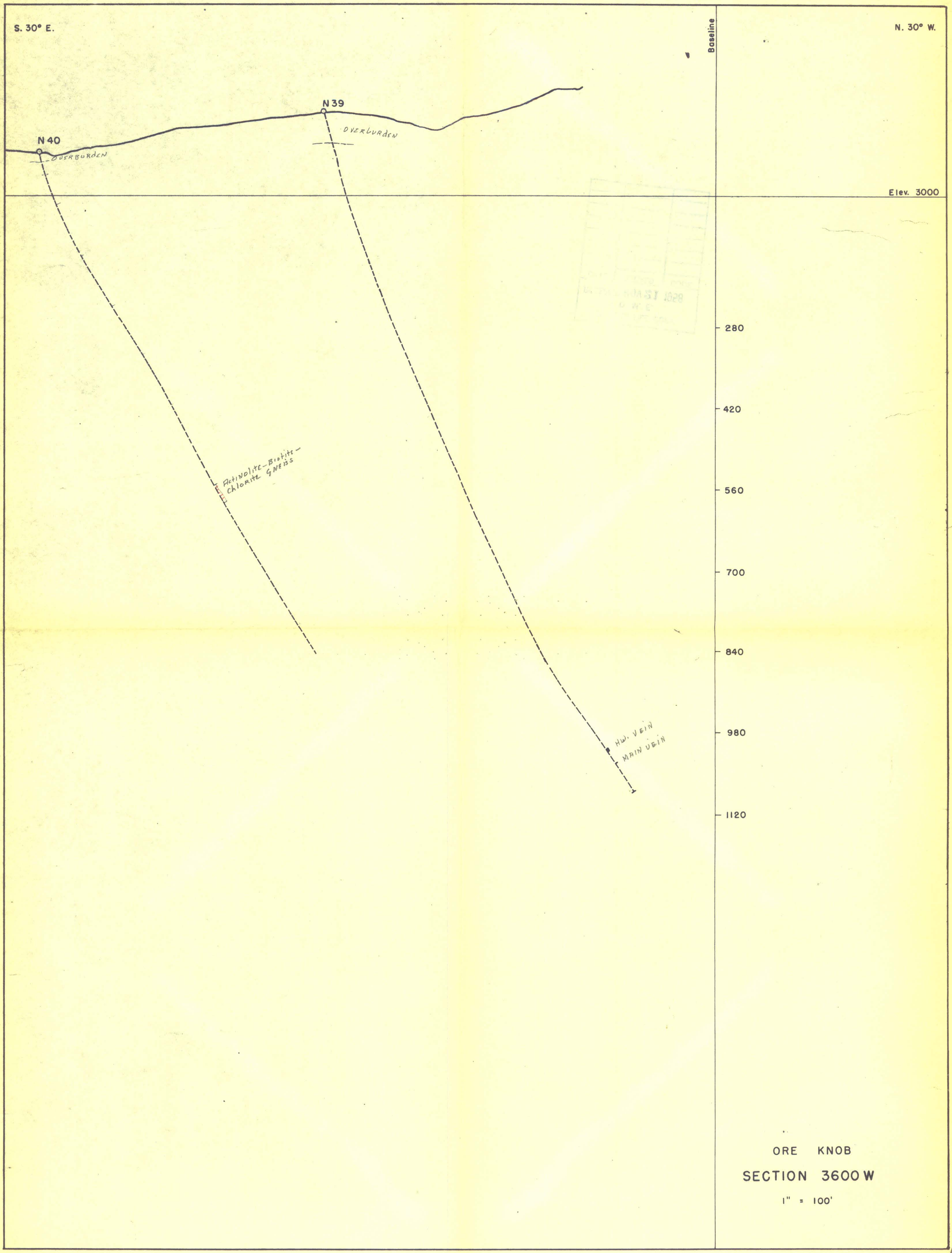
ASHE COUNTY, NORTH CAROLINA

Scale 1" = 200'

Date 11/30/58


MILL
SHAFT
VEIN OUTCROP
560 LEVEL
700
840
980
N39
N40
N41
STATE HIGHWAY 88
BOUNDARY OF SURFACE RIGHTS
N8000
N10000
E18000
E20000
4000 W
3000 W
2000 W
1000 W
00 N
1000 E
ELEV. 3000
2000
1000
Drill hole intersection in ore.
Drill hole intersection - weak.
APPALACHIAN SULPHIDES, INC.
PLAN & LONGITUDINAL PROJECTION OF
ORE KNOB MINE
ASHE COUNTY, NORTH CAROLINA
Scale 1" = 200'
Date 10/31/58


S. 30° E.
N. 30° W.
Baseline
N 41
OVERBURDEN
GARNET & SPECKS OF SULPHIDES
SPECKS OF SULPHIDES
SPECKS OF SULPHIDES
Elev. 3000
280
420
560
700
840
980
1120
ORE KNOB
SECTION 1000 E
1" = 100'


S. 30° E.
N. 30° W.
Baseline
N39
N40
OVERBURDEN
OVERBURDEN
Elev. 3000
280
420
560
700
840
980
1120
Actinolite-Biotite-Chlorite GNEISS
HW. VEIN
MAIN VEIN
ORE KNOB
SECTION 3600 W
1" = 100'