Form MF-100
(March 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

GENERAL TECHNICAL DATA
FOR USE UNDER THE
DEFENSE PRODUCTION ACT OF 1950

NOT TO BE FILLED IN BY APPLICANT

Docket No. .....

Date received .....

VERMONT COPPER COMPANY, INC.
SOUTH STRAFFORD,
VERMONT

Name and address of applicant

Date May 18, 1951

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) Necessity Certificate pursuant to the provisions of Sec. 124-A (Amortization Deduction) of Internal Revenue Code, 1950, (5) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (6) other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

Supply the following information on separate sheets, arranged, numbered, and lettered as indicated:

1. Materials produced:
   (*a*) What are the chief mine, mill, or smelter products?
   (*b*) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   (*a*) Linear feet of shafts.
   (*b*) Linear feet of drifts and crosscuts.
   (*c*) Linear feet of tunnels or adits.
   (*d*) Linear feet of other mine openings (explain briefly).

   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - [x] Owner.
   - [ ] Lessee.
   - [ ] Contractor.
5. Number of years in production Since 1943

   If not in production or operation, estimated date when production will begin .....
6. Experience of operators:
   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*b*) State briefly the known history and production of adjoining and neighboring properties.
   (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

3-14-52

Mails + Files:

This is a revision of DMA-1950X (#303,565.64) so it should be docketed thusly:

DMA-1950X (Revised)

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation: Common (e)	Number of Shares Held in Applicant Corporation: Preferred (f)	Life Insurance Carried for Benefit of Applicant: Amount (g)	Life Insurance Carried for Benefit of Applicant: Net Cash Surrender Value After Loans (h)
George Adams Ellis	Chairman Bd/Directors	1,666.67		7,950			
Frank Eichelberger - Pres.	to 3/16/51 D	13700.00		23,000			
Robert F. Patrick	D	-0-		500			
J. Howard Moore	D	-0-		900			
E. A. De Villermont	Vice-Pres. D	600.00		6,975			
Clarence B. Benson	Vice-Pres. D	7150.00		1,000			
Vt. Development Trust		-0-		45,000			
Edward A. Ellis	D	-0-		3,500			
Margaret R. Ellis	D	-0-		1,150			
Stanley C. Wilson	Vice-Pres. & Secretary D	3500.00		6,300			
John F. Cowley	President since 3/16/51 D	750.00		6,000			
	Total	37,366.67	x x x x x	102,275		x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$1,000,000	$ 130,000	$ 1.00	130,000	None
Preferred stock	$ -	$ -	$ -	-	-

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)	Copper Ore	144,914	222,636	245,451	16,000
2. Quantity of product processed (specify unit of measure and type of process) short tons	Copper Concentrate	96.77	12.013	14,215	1,111
3. Quantity and grade of product sold or shipped (specify units of measure) pounds	Electrolytic Copper	4,314,248	5,914,713	6,716,735	540,000

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change.

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

(*b*) If deposit is other than placer:

(1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.

(2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons (a)	Metal or Mineral Content Per Ton (Grade) (b)	Gross Value Per Ton (c)	Recoverable Unit Value Per Ton (d)	Estimated Cost of Production Per Ton (e)
Measured (proved)	221,000	2.38% Cu	$11.65	$10.18	$9.25
Indicated (probable)	300,000	2.5% Cu	$12.25	$10.70	$9.25

(*c*) If placer:

(1) Give estimated total yardage and average marketable mineral content of each deposit.

(2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.

(3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.

(4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, uneven or rough.

(5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.

(6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

13. Access Roads: See attached sheet.

Give road distances to shipping, supply and residence points, stating kind and condition of roads.

14. Water Supply: See attached sheet.

State source and quantity of water available for operations and whether sufficient for all seasons of year.

15. Power: See attached sheet.

State amount of power used, rate per hour, and source thereof.

16. Labor: See attached sheet.

State number and classes (miners, muckers, millmen, etc.) of men employed during a recent representative payroll period.

17. Equipment and Facilities: See attached sheet.

Describe present equipment on the property, including buildings. (State condition.) List major pieces of equipment now owned or controlled and in serviceable condition available for this operation.

18. Are there any particular conditions or circumstances affecting your operations that are not described above? If so, explain.

CERTIFICATION

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

(Name of company) By (Signature of authorized official)

(Date) (Title)

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.

U. S. GOVERNMENT PRINTING OFFICE 16—63792-1

VERMONT COPPER COMPANY, INC.
SOUTH STRAFFORD, VERMONT

ATTACHMENT TO
U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMIN.
FORM MF 100

GENERAL TECHNICAL DATA

1. Materials produced:
   a) Chief mine product; copper ore containing approximately 2% copper
      Chief mill product; copper concentrates containing approximately 25% copper. Shipped to Smelter for treatment to electrolytic copper.
   b) By products; a pyrrhotite concentrate containing approximately 36% S and 55% iron.

2. Name of Company: Vermont Copper Company, Inc.
   Name of Mine : Elizabeth Mine
   Mill: Copper Flotation mill
   Old Names of Operation:
   1929-1930 - National Copper Co.
   1926- - American Metal Co.
   1917-1919 - Vermont Copper Co.
   a) Linear feet of shafts; No. 3 Shaft - vertical, three compartments, each 5' x 5'; 825 feet from surface to 115 feet below 975 foot level.
      No. 2 Winze - Incline @ 70°, two compartments, 1 - 4' x 6', and 1 - 3' x 6'. Start at 600 level and extend 42' below 975 level. Slope distance 417 feet.
   b) Linear feet of drifts (accessible)

300 level	-	1,400
400 level	-	300
575 level	-	3,100
600 level	-	700
725 level	-	200
850 level	-	100
975 level	-	3,300
Total Drifts		9,100

Linear feet of crosscuts

575 level - #3 shaft crosscut -	890 feet
575 level - Diamond Drill Station Cross Cuts	100 feet
975 level - #3 Shaft Crosscuts	800 feet
975 level - Diamond Drill Station Cross Cuts	200 feet
Total Crosscuts	1,990 feet

   c) Linear feet of tunnels (adits)

300 level Adit #1	1,200 feet
300 level Adit #3	900 feet
Total	2,100 feet

   d) Linear feet other mine openings. - None
      Mine is not flooded.
      Pumping from 3 separate pump stations. Gross water pumped approximately 250 gallons per minute.
      Production capacity approximately 20,000 tons per month.

VERMONT COPPER COMPANY, INC.
SOUTH STRAFFORD, VERMONT

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(2)

GENERAL TECHNICAL DATA

3. a) Elizabeth Mine is eleven miles south east from Kendall, a railroad station on the Boston and Maine Railroad.
   b) Orange County Copper District, Vermont.
   c) Strafford township. No section or Range.
   d) Orange County, Vermont

4. a) Mine is in operation now by Vermont Copper Company, South Strafford, Vermont.
   b) Mine is operated as owner.

5. Mine has been in uninterrupted production since 1943.

6. a) Vermont Copper Company has operated the Elizabeth Mine for a period of eight years producing up to January 1, 1951, 1,077,809 tons of ore with a copper content of 39,885,771 pounds and a recovery in concentrates of 36,192,646 pounds.

   b) The Chairman of the Board of Directors is Mr. George Adams Ellis, a lawyer of national repute and the senior partner of the law firm Clark, Carr & Ellis, 120 Broadway, New York. Mr. Ellis has been connected with large copper interests for more than thirty years.

   The President of the Company is Mr. John F. Cowley. He has been active in successful mining properties for 30 years, including 13 years with the United Verde Copper Company of Jerome, Arizona; 5 years as Mine Superintendent of the Idaho Maryland Mines Corporation, Grass Valley, California; 2 years as Manager, West Coast Mines, Winnemnecca, Nevada; 5 years as Mining Engineer, Metals Reserve Company, Washington, D.C., and 4 years as Consulting Mining Engineer for the Turkish Government, Ankara, Turkey.

   The Vice-President and Manager of the Company, Mr. Clarence B. Benson, is a graduate of Dartmouth College and had a general business and accounting background before becoming associated with this Company in 1943. He was engaged in public accounting work with the firm Archibald M. Peisch & Co., Norwich, Vt., after leaving college; then served as sales and systems representative for the National Cash Register Company until he joined Vermont Copper Company, Inc., early in 1943 as Chief Accountant. Was elected Treasurer in 1945, Vice-President in 1950, and has acted as Manager since 1949.

   The Mine Superintendent is Mr. Frank Taft a graduate of the University of Idaho, School of Mines, in 1934, since which time he has had a wide and varied experience in large and small mines in Washington, Idaho, Montana and South America. He spent 8 years with the Howe Sound Mining Company as engineer; 4 years with Goldfield Consolidated Mining Company as Mine Superintendent; one year around Kellogg, Idaho, in charge of several small operations.

VERMONT COPPER COMPANY, INC.
SOUTH STRAFFORD, VERMONT

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GENERAL TECHNICAL DATA

6. a) The Mill Superintendent is Mr. Helmer A. Johnson a graduate of Montana School of Mines in 1937. Two years as construction engineer and assayer. Four years ore testing engineer and metallurgical consultant with the Galligher Company, Salt Lake City, Utah. 1943 to date, Mill Superintendent, Vermont Copper Company.

7. a) Ore was discovered at the Elizabeth Mine in 1793. The deposit was worked first as a source of iron sulfate and later as a source of copper, which was mined during several periods up to 1937. The present operation was started in 1943 and has been continuous since that date. Production prior to the present regime is estimated by the U. S. Bureau of Mines as 250,000 tons of 2.2% copper ore, an aggregate content of 11,000,000 pounds of copper.

From 1943 to 1950 inclusive, 1,077,809 tons were mined averaging 1.86% copper from which 36,192,646 pounds of copper were recovered in a concentrate averaging 23.4% copper.

The several suspensions of operations of the previous operators were due presumably to the low price of copper.

b) Pike Hill Mine and Ely Mine and others in the vicinity have been operated in periods of high copper prices since the early part of the last century.

c) A report by Dr. H. E. McKinstry, "Ore Reserves of the Vermont Copper Company, South Strafford, Vermont", dated April 16, 1951, is attached hereto.

11. It is expected that monthly production will increase as stope development progresses. Maximum mill capacity is approximately 20,000 tons of ore per month.

12. a) See McKinstry report attached hereto.

b) 1. Vertical and longitudinal sections with assay plan map of 975 North Drift attached.

13. The Mine is eleven miles from Kendall a station on the Boston and Maine Railroad; two miles from South Strafford; and 20 miles north of White River Junction, Vt. It is connected to all three places by good "black top" roads.

14. The water supply is obtained from the Ompompanoosuc river and is adequate for all requirements at all seasons of the year.

15. Power is obtained from the Central Vermont Public Service Corp. Approximately 700,000 KWH per month are consumed at an average rate for that quantity of $.0083 per KWH.

91012

16. In the mine a recent representative payroll included 22 miners, 34 muckers, 20 trammers, 10 timbermen, 3 hoistmen, 3 skiptenders, 10 maintenance men, 12 miscellaneous. In the mill there were 5 crushermen, 6 flotation men and 4 miscellaneous. On surface, 3 carpenters, 1 plumber, 6 machinists and welders, 3 electricians, 8 miscellaneous. In the office and warehouse, 7 men. Total including watchmen and foreman - 165.

17. The Mine is equipped with main hoisting facilities through a 3 compartment shaft from the surface to 975 level including a 500 H.P. two drum hoist. 10 ton Electric Trolley locomotive haulage from 300 level main shaft pocket thru the 300 adit to the mill and also from the upper level ore passes thru No. 1 adit on 300 level to the mill. 2 Mancha trammers, 1 - 3½ ton Mancha locomotive, and 1 - 7 ton trolley locomotive complete the underground haulage set up.

Drilling equipment consists of 20 - IR 48 Stopers, 10 IR DA30 Drifters, 12 - IR DA35 Drifters, 15 IR Jackhammers and 6 Atlas Diesel jackhammers.

Mucking equipment consists of 3 Eimco 21 B Shovel loaders, 1 - Sullivan shovel loader and 10 heavy scraper hoists.

Compressed air is furnished by 3 - 1000 cfpm electrically driven compressors housed in a well built compressor building.

Shop equipment includes necessary tools and equipment and is housed in a suitable building.

The office and warehouse occupy a separate building which is also well built and in good condition.

A change room of ample capacity with locker and shower bath facilities is well built and in good shape.

The mill buildings consist of a coarse ore bin and primary jaw crusher 28" x 40" building, a 1000 ton fine ore bin with secondary jaw crusher 26" x 38" and third stage Allis Chalmers cone crusher together with necessary conveyer belts, screens grizzlies and housing.

The Main Mill building houses a 9' x 6' Marcy Mill, 72" Akins type classifyer, 4 conditioners, 10 rougher flotation cells, 8 cleaner circuit flotation cells and 10 scavenger flotation cells together with the necessary pumps and compressors.

A thickener, a 2 disc filter and 4 final cleaner cells together with concentrate bin and truck scale are housed in an adjoining building.

All buildings and equipment are in good condition.

Additional equipment consists of 3 Mack trucks for hauling concentrates, 1 pick up truck, 1 station wagon and 2 touring cars.

An assay office together with complete facilities for making necessary analyses of products is located adjacent to the main mill building.

18. A small open pit operation at the location of the outcrop of the principal ore vein is operated intermittently. Breaking, mucking and hauling from the open pit operation are done under contract.

A substantial tonnage of low grade ore has been salvaged from the old dumps at the Ely and Pike hill mines which are also owned by the Vermont Copper Company.

The operations at these old dumps are restricted to the summer season when the roads are firm.

May 12, 1951

REPORT TO SHAREHOLDERS - VERMONT COPPER CO., INC.
FOR YEAR ENDING MARCH 31, 1951

There were 234,698 tons of ore treated at the company's concentrating plant. From such ore 14,188 tons of copper concentrate were produced containing 6,897,180 pounds of copper which were shipped to the Phelps Dodge smelting and refining works at Laurel Hill. A total of 6,684,364 pounds of copper were returned to us from Phelps Dodge.

Of the 234,698 tons of ore milled, 40,006 tons were mined at the open cut mine at the Elizabeth Mine, 13,309 tons reclaimed from the Ely Mine dumps and 181,382 tons removed from the underground operations of the Elizabeth Mine.

The underground production of the Elizabeth Mine continued to draw heavily on the broken ore reserves built up in previous years. Actual tons broken during the year amounted to 139,699 and in addition 48,041 tons of reserve broken ore was drawn from the stopes.

Development in the mine and exploratory drilling on the surface which had been curtailed for some time was resumed late in 1950 and has added materially to the ore reserves.

Gross value of the copper sold for the year was $1,775,586.80 and a preliminary estimate of our gross income after all costs but before depreciation and depletion shows $253,486.36.

A preliminary profit and loss account for the fiscal year ending March 31, 1951 is attached hereto.

VERMONT COPPER COMPANY, INC.
TENTATIVE BALANCE SHEET
MARCH 31, 1951

		Balance Sheet March 31, 1950		Tentative Balance Sheet March 31, 1951	
ASSETS					
CURRENT ASSETS					
CASH		43,662.27			56,768.75
RECEIVABLES					
Mine Office Miscellaneous	16,903.32		15,266.31		
Copper Billed to B. of F.S.	77,640.54		146,186.63		
Cathode Allowance			900.53		
Silver			7,794.96		
TOTAL		94,543.86			170,148.48
COPPER INVENTORY					
1,350,513 Pounds @ 17.32¢ (Cost)		233,908.85			
792,860 Pounds @ 19.25¢ (Estim. Cost)					152,625.55
OTHER INVENTORIES					
Broken Ore Reserves	75,957.93		16,784.58		
Warehouse Inventories	78,690.86		105,018.78		
TOTAL		154,648.79			121,803.36
PREPAID INSURANCE		355.85			591.94
PREPAID INTEREST					322.22
TOTAL CURRENT ASSETS		527,119.62			502,260.30
FIXED ASSETS					
Depreciable	1,663,490.09		1,699,444.51		
Depletable	246,806.40		246,806.40		
TOTAL		1,910,296.49		1,946,250.91	
Reserve for Depreciation	911,576.03		1,018,430.53		
Reserve for Depletion	124,658.74		154,808.74		
TOTAL		1,036,234.77		1,173,239.27	
NET FIXED ASSETS		874,061.72			773,011.64
INVESTMENTS IN AFFILIATED COMPANIES (Sharon Power Co.)		1,164.71			1,266.29
OTHER DEFERRED CHARGES & PREPAID EXP.		3,853.00			10,144.79
TOTAL ASSETS		$1,406,199.05			$1,286,683.02
LIABILITIES					
CURRENT LIABILITIES					
Accrued Wages & Salaries		3,106.82		7,955.41	
Accrued Comp. & Exp. due Officers				12,000.00	
Taxes Withheld from Wages & Sal.		1,790.55		7,713.50	
Accrued Payroll Taxes (Employer's)		1,646.74		3,049.27	
Accounts Payable		38,045.09		74,526.80	
Accrued Smelting & Refining Charges		68,711.32		62,685.34	
Phelps Dodge Advances		188,000.00		114,000.00	
Accrued Interest Payable		9,197.98		193.17	
TOTAL CURRENT LIABILITIES			310,498.50		282,123.49
NOTES PAYABLE			265,000.00		50,000.00
CAPITAL					
Common Stock (130,000 Shares)		130,000.00		130,000.00	
Paid-in Surplus		700,700.55		700,700.55	
Earned Surplus from April 1, 1950				123,858.98	
TOTAL			830,700.55		954,559.53
TOTAL LIABILITIES			$1,406,199.05		$1,286,683.02

VERMONT COPPER COMPANY, INC.
TENTATIVE STATEMENT OF OPERATIONS
FOR THE PERIOD APRIL 1, 1950 TO MARCH 31, 1951

SALES		
Copper (7,242,404 Pounds)	$1,739,436.69	
Copper Cathode Allowances Received	10,312.42	
Gold & Silver	25,837.69	
Total Sales	1,775,586.80	
Deduct Charges against Production	363,447.30	
NET MINE REVENUE		$1,412,139.50
OPERATING COSTS		
Mining	631,476.55	
Surface	140,032.92	
Milling	138,407.59	
General Overhead	182,522.23	
Total	1,092,439.29	
Less Income Credits to Operating Costs	15,069.45	
NET OPERATING COSTS	1,077,369.84	
Add Decrease in Inventory of Copper (Tentative)	81,283.30	1,158,653.14
OPERATING PROFIT BEFORE DEPRECIATION & COST DEPLETION		253,486.36
DEDUCT		
Depreciation (Tentative)	107,073.84	
Cost Depletion (Tentative)	30,150.00	137,223.84
PROFIT AFTER DEPRECIATION & COST DEPLETION		116,262.52
OTHER INCOME		16,628.09
		132,890.61
OTHER EXPENSES		9,031.63
NET PROFIT FOR THE PERIOD MARCH 31, 1950 TO MARCH 31, 1951		$123,858.98

* * * * * * * * * * * * *

Gross Pounds Actually Produced for Year 4/1/50 - 3/31/51	6,897,180
Smelter Deductions	212,816
Net (Saleable) Pounds Produced	6,684,364

* * * * * * * * * * * * *

Out-of-Pocket Surplus from Production for Year 4/1/50-3/31/51	$311,691.02
Deduct - Decrease in Broken Ore Reserves	59,172.35
Operating Profit Before Depreciation & Depletion on Actual Production for Year 4/1/50-3/31/51	$252,518.67

* * * * * * * * * * * * *

Copper Inventories	Net (Saleable) Pounds	Unit Cost	Inventory Value	Amount Realized From Sales
At 3/31/50	1,350,513	17.32¢	$233,908.85	$364,150.35
At 3/31/51	792,860	19.25¢	152,625.55	194,250.70 *
Decrease in Inventory of Copper	557,653		$ 81,283.30	

* Computed @ 24½¢ per pound

23. (1) 3 - Power Installation Cost

	LABOR						MATERIALS & EQUIPMENT				EQUIPMENT RENTAL				
	No. of Men	Class	Hourly Rate	No. Man Shifts	Rate Per Shift	Overtime	Total	Item	No. Required	Cost Each	Total	Item	Hourly Rate	No. Shifts	Per Shift	Total
A		Clearing Right of Way														
	4	Laborers	1.08	40	8.64	17.28	362.88					Trucks	2.54	8	53.12	424.96
	1	Bulldozer Operator	1.50	6	12.00	6.00	78.00					Bulldozer	6.64	2	20.32	40.64
B		Foundation & Structures 2 Dead Ends & Transformer Sub Station														
	2	Carpenters	1.75	2	14.00		28.00	Concrete	2 Cu.Yds.	$16.00	$32.00					
	4	Laborers	1.08	20	8.64		172.80									
	2	Electricians	1.41	10	11.28		112.80									
C		Transmission Line - 2400 Volt						No. 4 MHDWP Wire	7,200 ft.		450.00					
	1	Truck Driver	1.31	2	10.48		20.96									
	1	Bulldozer Operator	1.50	4	12.00		48.00	Poles & arms	12	$30.00	360.00					
	3	Electricians	1.41	15	11.28		169.20									
	3	Laborers	1.08	15	8.64		129.60									
D		Transformer Substation						Transformers 100 KVA 2300/440	3	$800.00	$2,400.00					
	2	Electricians	1.41	2	11.28		22.56									
								Circuit Breaker	2	$500.00	1,000.00					
E		Pump Line down Shaft - 2300 Volt						Cable #4 -3 Cond. - 500 V.	500 ft.	1.30	650.00					
		Service Line down Shaft - 440 Volt														
		Trans. to Hoist House - 440 Volt						Cable #2/0-3 Cond.-600 V.	500 ft.	1.45	725.00					
	2	Electricians	1.41	4	11.28		45.12	Cable #1 - 600 Volt	50 ft.	1.05	52.50					
	3	Shaft Men	2.00	6	16.00		96.00									
							$1,285.92				$5,669.50					$465.60

Summary

Labor	$1,285.92
Materials	5,669.50
Rentals	465.60
	$7,421.02
15% Contingencies	1,113.15
	$8,534.17

23. (i) 2- Move Hoist from No. 2 Winze 575 Level to No. 4 Shaft Site

Hoist - Single Drum
75 H.P. Motor
Rope Max.Pull

	LABOR						MATERIAL & EQUIPMENT				EQUIPMENT RENTAL				
	No. of Men	Class	Hourly Rate	No.Man Shifts	Rate Per Shift	Overtime	Total	Item	No. Required	Cost Each	Total	Item	Hourly Rates	No. Shifts	Per Shift	Total
A		Move from Mine to Shop														
	1	Rigger	1.41	20	11.28	16.92	$242.52					Truck	2.54	1	20.32	$20.32
	3	Miners	1.26	20	10.08	15.12	216.72									
B		Shop Overhaul (Include Install 2nd Brake)														
	2	Mechanics	1.41	40	11.28	16.92	485.04	Material	Misc.		150.00					
C		Install No. 4 Hoist House														
		1) Foundation						Concrete	2 cu.Yds.	16.00	32.00					
	2	Carpenters	1.75	4	14.00		56.00	Cable	700' 3/4"	.35	245.00					
	2	Mechanics	1.41	4	11.28		45.12	Safety Switch 600 VOlt-3 Pole	1	175.00	175.00					
	2	Laborers	1.08	4	8.64		34.56	Limit Switches & Controls	2	100.00	200.00					
		2) Move from shop to No.4 Hoist														
	1	Truck Driver	1.31	1	10.48		10.48									
	2	Laborers	1.08	2	8.64		17.28									
	2	Electricians	1.41	6	11.28		67.68									
							$1,175.40				$802.00					$20.32

Summary

Labor	$1,175.40
Materials	802.00
Rentals	20.32
	$1,997.72
15% Contingencies	299.66
	$2,297.38

5/29/52 gh

College Park, Maryland

May 27, 1952

Mr. Frank E. Johnson, Chairman
Operating Committee, Defense Minerals
Exploration Administration
Washington 25, D. C.

Subject: Contract No. DMA-1950 (Copper)
Vermont Copper Co., Inc.
South Strafford, Vermont

Dear Mr. Johnson:

To be attached to my letter regarding Contract DMA-1950 under date of May 21, 1952, are the enclosed two photostat copies of the longitudinal section through the Elizabeth mine and its northern extension which is being diamond drilled under Contract DMA-94, Contract 15252.

This section should clarify the letter by showing graphically the relationship of ore in diamond drill holes, the proposed shaft and the Elizabeth mine workings.

Yours very truly,

Tillery Hester, Executive Officer
Reconnaissance Field Team
Defense Minerals Exploration
Administration, Region VIII

Enclosures: 2

HeBMirsa

copy for FLJohnson
HEHelmen
DMRA Files 2

College Park, Maryland

May 21, 1952

Mr. Frank L. Johnson, Chairman
Operating Committee, Defense Minerals
Exploration Administration
Washington 25, D. C.

Subj: Docket No. DMA-1958 (Copper)
Vermont Copper Co., Inc.
South Strafford, Vermont

Dear Mr. Johnson:

Referring to your letter of May 15, 1952 requesting comments and recommendations on the above named docket:

It is the considered opinion of the mining engineers and the geologists of the Field Team that this application is preponderantly for development and not for exploration.

Holes diamond drilled by the Company itself before Contract DMA-96 went into effect, showed the following: DDH 426 on section 15,700 intercepted 14.8 feet averaging 3.41 percent copper. This was supplemented by a short underground drill-hole which closely checked the width and content of hole 426. Both these holes intercepted the ore zone slightly above the 975 level. DDH 425 on section 16,800 intercepted 24.6 feet containing 3.34 percent copper at an altitude of 630 feet. Drill hole 476 on section 16,700 intercepted 6.2 feet carrying 4.44 percent copper at an altitude of 555 feet.

Under Docket 1508g, Contract 94, diamond-drill hole 516 on section 17,500 intercepted 5 feet carrying 2.05 percent copper at an altitude of 590 feet. On section 16,400 drill hole 574 intercepted 9.2 feet of copper mineralization averaging 2.94 percent copper at an altitude of 640 feet. Drill hole 578 intercepted 25.2 feet averaging 3.32 percent copper at an altitude of 500 feet.

In view of the results of recent diamond drilling, the present heading on the 975 level should be classified as development northward for 500 to 1,000 feet from the present face. The remaining drifting northward in section 16,700 would contribute little to exploration because of the proximity of the good copper mineralization in diamond drill holes 425, 578 and 476. Part of this remaining drifting is included in the proposed work in Docket No. DMA-1958. Consequently, the proposed shaft whose primary purpose was to serve as a base for drifting operations would thus have to be classed as development.

Considering exploration alone, without any assumed benefits toward possible later development, the cheapest method of delineating any

probable extension of the known ore zone in the area south of station 17,500 is by the continuation of the current diamond drilling.

With this in view, Mr. John Conley was this day contacted on long distance telephone. It was suggested that an additional hole on station 16,700 would provide valuable information by intersecting the ore zone about 50 feet below the mineralization cut in hole 176. He has agreed to drill this proposed hole.

Any decision by the Field Team as to the validity of a "discovery or development" at this project is deferred until a later date.

Yours very truly,

W. Henry Mosier

[redacted], Executive Officer
Supervisory Field Team
Uranium Minerals Exploration
Administration, Region VIII

W. E. Nelson

W. E. Nelson
Geologist, U.S.G.S.

MoHM:rwa

copy for FEJohnson ✓
~~HFGreenwald~~
~~FMAmbrose~~
~~HKNelson~~
WTMillar
DMEA Files 2

SUMMARY OF NEGOTIATIONS WITH DMA AND ITS SUCCESSOR DMEA
IN CONNECTION WITH PROPOSED EXPLORATION FOR COPPER ORES
AT VERMONT COPPER COMPANY, SOUTH STRAFFORD, VERMONT

The Vermont Copper Company Inc. operates a copper mine at South Strafford, Vermont which has been in continuous production since 1948 when it was reopened by a group of Vermont citizens as a contribution to the war effort to supply critically needed copper.

Since that time, it has produced some 45,000,000 pounds of copper and has furnished employment to 150-200 men fromthe South Strafford area.

Early in 1951 it became obvious that if the mine was to continue to produce, a very substantial exploration program would be required to find the ore necessary for the annual mill capacity of 240,000 tons.

Developed ore reserves available for mining on April 1, 1951 amounted to 220,000 tons but the possibilities of additional ore discoveries appeared excellent.

Vermont Copper Company outlined an exploration program covering approximately 17,000 feet of diamond drilling for the year and about 12,000 feet of underground drifts, raises and crosscuts, which by the way has been completed.

However, it was recognized that in the area north of our present mine, there were indications that by sinking a new shaft nearly one mile north of our present shaft and following such work with underground drifts, crosscuts and raises, enough ore might be discovered to assure mill requirements for an extended period.

In view of the extensive exploration commitments already planned by the Company at its own expense and the provisions for government assistance provided by the Defense Minerals legislation passed by Congress, it appeared reasonable to believe that Vermont Copper Company should make an application to DMA for such help in the proposed shaft project.

The President of the Company went to Washington in April 1951 to outline its program to DMA and to try and learn the requirements and procedures under which an application should be submitted.

The original proposal discussed with DMA people contemplated a shaft sinking project to explore the favorable area north of our present mine. Vermont Copper was at that time diamond drilling in the area and had cut ore in one hole some 500 feet ahead of the most northerly workings of the Elizabeth mine. This program was in force as discussions with DMA continued and Vermont spent some $18,000 during 1951 up to the time of the government participation.

As discussions for the proposed shaft continued, DMA suggested that Vermont apply for a diamond drilling project at once which could be granted without delay and to follow with a shaft project if and when indications from diamond drilling would show sufficient encouragement to justify shaft sinking and deep exploration work.

Under the circumstances, Vermont could hardly object to such reasoning and did apply for assistance for diamond drilling which was granted.

Up to April 1st of this year some 5500 feet of drilling from three stations 500 feet apart had been completed. Indications of ore had been obtained over a length of 1500 feet. However, by August of 1951 it was apparent that exploration by diamond drilling alone would not warrant a determination that an ore discovery had been made because of the impossibility of determining the physical extent of the ore possibilities. It appeared then, as now, that further exploration by means of a shaft and drifts would be necessary.

At this point DMA suggested to Vermont that it draw up a shaft project to cover the necessary underground exploration and submit it to the DMA as a supplement to the diamond drill project. The shaft to be deep enough to reach what appeared to be the bottom of the ore shoot and the project to include sufficient drifting along the vein if found to explore the possibilities for development.

Such a project was written up and submitted to DMA, as a supplement, to the DMA 1526 project on August 6, 1951. The estimated cost of the project was $303,565.64 and included an exploration shaft approximately 500 feet in depth together with 225 feet of crosscutting and 1500 feet of drifting along the ore zone.

After weeks of reviewing and several personal visits to Washington to clarify various phases of the project, DMEA finally advised that the project appeared to be over the imaginary line between development, which DMEA funds do not provide for, and exploration which is its function. As a consequence, Vermont revised the scope of its shaft program downward as of March 15, 1952, curtailing a necessary power installation to provide only the bare necessities in power, decreasing the size of the shaft from three 5' x 5' compartments to two 5' x 5' compartments, and limiting the crosscutting to 115 feet and the drifting along the ore zone to 500 feet, the total cost of which was decreased from $303,565.64 to $158,905.00 of which the government's share is cut from $151,782.82 to $79,452.50.

In subsequent discussions via telephone DMEA suggested that Vermont agree to provide a repayment to the government in the event the project was approved on a basis of its royalty scale applying to the present production from its Elizabeth mine, or in other words to include in the exploration are the presently developed and producing areas of the Elizabeth mine.

In view of the legislation under which DMEA is operating and which Congress set up as a program to aid in exploration of critical and strategic minerals, the financial aid to be repaid from ores found in such exploration Vermont was unwilling to agree to extending such royalty payments to ore already developed and being mined in its regular operations.

In order to meet DMEA half way howeverv, Vermont did agree to extend the prospective area covered from which all ores will be subject to royalty

payments to the south approximately 700 feet to the northerly limit of the present operations. This extra area will cover prospective ore which was indicated by diamond drilling at Vermont's expense prior to the government participation in the present contract.

The present status of the application appears in doubt. DMEA is still reluctant to make any decision on the project, apparently unable to determine whether it is to be considered as exploration or development and whether its decision in the Vermont Copper Company case would be considered a precedent in numerous other projects.

Our position in the matter is that, while indications of copper bearing material have been found by diamond drilling, no ore has been discovered. Ore by commonly accepted definition is material that can be mined at a profit. The only possible way to determine an ore discovery in the type of deposits covered in the Vermont area is to do underground exploration by means of shaft sinking and drifting to obtain the necessary information as to quantity and grade by mineral bearing material.

It is quite true that drilling can determine ore in sheet deposits such as those in the tri-state area where years of experience has made it possible to correlate such information with little chance of error but the same procedure is worthless in vein type deposits such as in our mine.

It has been suggested that Vermont extend its present mine to the north areas by drifting on its lower level. Such a suggestion is impractical from a safety standpoint inasmuch as we are almost a mile from the source of fresh air, the heading will have to be advanced under the Pemmaneosic River with its attendant risk of a water inflow with the men a mile from the present shaft and is impractical from an operating standpoint in view of the fact that the major share of our present production is being obtained from the drift on the lower level and no further increase in material handling can be made at this time.

J. F. Cowley

J. F. Cowley

Exact copy including typographical errors

SUMMARY OF NEGOTIATIONS WITH DMA AND ITS SUCCESSOR DMEA
IN CONNECTION WITH PROPOSED EXPLORATION FOR COPPER ORES
AT VERMONT COPPER COMPANY, SOUTH STRAFFORD, VERMONT

C O P Y

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present production is being obtained from the drift on the lower level and no further increase in material handling can be made at this time.

J. F. Cowley

cc: Mr. C. H. Johnson, B.M. Rm. 3621
Mr. Ned Nelson, Rm. 4216, GSA
Mr. Ellis
Field Team, Reg. VIII (2)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

March 27, 1952

Memorandum

To: E. W. Ellis, DMEA

From: C. H. Johnson, Bureau of Mines

Subject: DMA-1950X Revised, Vermont Copper County, Orange County, Vermont

Approval or disapproval of this application depends to some extent on the definition of exploration. If DMEA resolves this question in favor of the applicant, I think it is otherwise a good project and will be glad to concur in its approval.

The cost has been greatly reduced in the revised application from approximately $300,000 to $145,000, but it still contains a large element of work that is chiefly for purposes of production and on the whole it seems to me to be as much or more a production project as an exploration loan.

The amount of actual exploration that will be accomplished under the revised project has been greatly reduced as only 500 feet of vein will be explored compared with 1500 in the original project. Nevertheless, the program still contains a definite and worthwhile exploratory feature. The vein has been drilled only at 500-foot intervals and in such a distance along the strike there may be very great changes in thickness, dip and grade of ore. Compared with many other projects, I feel that the chances for substantial royalty returns to the Government are comparatively good in this case, particularly since the ground to which the lien will apply includes several thousand feet of known mineralized vein.

The docket is being sent on to Mr. Nelson.

C. H. Johnson

Copy to - Mr. Nelson, USGS (with docket)
Minerals Division
Base Metals Branch
C. H. Johnson
Files

MF-200
(June 1951)
(Revised Feb. 1952)

Docket No. DMEA 1950
Commodity Copper

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

EXPLORATION PROJECT CONTRACT 1/

It is agreed this _____ day of _____, 195__, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and 2/ Vermont Copper Company, Inc. South Strafford, Vermont

hereinafter called the "Operator," as follows:

ARTICLE 1. Authority for contract. This agreement is entered into under the authority of the Defense Production Act of 1950, as amended, pursuant to DMEA Order 1 entitled "Regulations for Government Aid in Defense Exploration Projects."

ARTICLE 2. Operator's property rights. With respect to that certain land situated in the State of Vermont, County of Orange, described as follows:

1/ If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.

2/ State name, address, and nature of organization if any.

3/ That area of land located on lot # 84 in the Third Division of Stratford Township consisting 2E, 2C, 2B and that portion of 3A and 3B lying North of line B-B' as shown and further delineated on "Plan of Land" map attached hereto.

the Operator represents and undertakes: 4/

(a) That the Operator is the owner, in possession and entitled to possession, and that the property is subject only to the following claims, liens, or encumbrances as to each of which the subordination agreement of the holder is attached: NONE

(b) That the Operator is a lessee, in possession and entitled to possession, and the Owner's Consent to Lien is attached.

The Operator shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances, to the purposes of the exploration project without any allowance for the use, rental value, depreciation, depletion, or other cost of acquiring, owning, or holding possession thereof.

ARTICLE 3. Exploration project. The Operator, within 60 days from the date of this contract shall commence

3/ Give legal description or enough to identify the property, particularly excluding any land or interest therein to which the Government's lien is not to attach or the production from which is not to be subject to the Government's percentage royalty.

4/ Strike out the provision not applicable.

on a project of exploration for[5] Copper

in or upon the described land; and shall bring the project to completion within a period of 12 Months. from the date of this contract. The work to be performed is more fully described in Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, are made a part of this contract. The Government will contribute to the cost of this work as hereafter provided.

ARTICLE 4. Performance of the work. (a) Operator's responsibility. The work shall be performed efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for workmens' compensation and employers' liability insurance, with suitable and adequate equipment, materials, and labor, to bring the project to completion within the time fixed. To the extent specified in Exhibit "A" , attached hereto, the work may be performed by independent contractor or contractors; and work not specified in Exhibit "A" for performance by independent contractor may nevertheless be so performed upon amendment of Exhibit "A", as agreed to by the parties, to state the work to be so performed and the estimated unit costs thereof, as provided hereafter.

(b) Independent contracts. Any independent contract for the performance of work shall be on a unit-price basis (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved), or on some basis that will indicate the amount due for work performed at any stage of the work to be performed

5/ Name of mineral or minerals.

under such independent contract. The Government shall not be nor be considered to be a party to any such independent contract, and the Government's right to terminate the exploration project contract under any of its provisions shall not in any manner be affected by reason of any such independent contract. If the reference in Exhibit "A" to any such independent contract states that the Government's approval thereof is required, the Government may refuse to participate in the cost thereof unless and until it has given its written approval of the independent contract.

(c) Government may inspect. The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Operator shall provide the Government with all available means for doing so. The Government may consult with and advise the Operator on all phases of the work.

ARTICLE 5. Estimated costs of the project. A statement of the estimated cost of the project is set forth in Exhibit "A", attached hereto. Except insofar as any item of requirement or the estimated cost thereof set forth in Exhibit "A" is there or elsewhere designated as an "allowable maximum," such items of requirement and of related cost are estimates only, and may be exceeded to the extent that the Government may from time to time approve for the most economic and beneficial performance of the work within the limitation of the total aggregate estimate of costs. The Government's approval of any such excess over the estimate for an item of requirement or related cost will be signified by its approval and payment of any invoice or voucher for payment which expressly calls attention to such excess. Items expressly designated in Exhibit "A" or

elsewhere as "allowable maximum," and the total aggregate estimated cost are limitations, and any excess therein will be for the sole account of the Operator in which the Government will not participate.

ARTICLE 6. Allowable costs of the project. (a) The costs of the project in which the Government will participate are limited to the following:

(1) Independent contracts. Payments to independent contractors under independent contracts listed in Exhibit "A". The estimated cost of any work to be performed under an independent contract is or shall be included in the estimate of costs in Exhibit "A" in terms of the estimated numbers of units of work to be performed, the estimated amount to be paid per unit, and the estimated total amount to be paid to the independent contractor, and such estimates shall be allowable maximums above which the Government will not contribute. Regardless of the provisions of any such independent contract, the Government will participate in the payments to the independent contractor only on account of work actually performed and that conforms with the provisions of the exploration project contract, and only to the extent that the Government deems the unit prices for the work under the independent contract to be reasonable and necessary. No such independent contract shall have the effect of increasing the estimated total cost of the exploration project contract nor the maximum amount which the Government will pay as provided in the exploration project contract.

(2) Labor, supervision, consultants. Labor, supervision and technical services (including engineering and geological consultants),

a schedule of which is included in the estimate of costs set forth in Exhibit "A". The requirements and related estimated costs for supervision and technical services are allowable maximums.

(3) Operating materials and supplies. Necessary materials and supplies including expendable items of equipment costing less than $50.00 each, and power, water, and fuel, a schedule of which is included in the estimate of costs in Exhibit "A".

(4) Operating equipment. Any operating equipment to be rented or purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or the allowable depreciation, as the case may be, a schedule of which is included in Exhibit "A". Any items listed for purchase or as owned and to be furnished by the Operator, and related purchase price and allowable depreciation, are allowable maximums.

(5) Rehabilitation and repairs. Any necessary rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and to be devoted to the purposes of the exploration contract, a schedule of which is included in the estimate of costs set forth in Exhibit "A". These items are allowable maximums.

(6) New buildings, improvements, installations. Any necessary buildings, fixed improvements, or installations to be purchased, installed, or constructed for the purposes of the exploration work, with the estimated cost of each, a schedule of which is included in the estimate of costs in Exhibit "A". All of these items are allowable maximums.

(7) Miscellaneous. Repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmens' compensation and employers' liability insurance and payroll and sales taxes.

(8) Unforeseen. Such other necessary, reasonable direct costs of performing the exploration work, within the limit of the total aggregate estimate of costs, whether or not included in any schedule of costs in Exhibit "A", as may be approved by the Government in the course of the work, as indicated by its approval and payment of invoices and vouchers.

(b) The Government's payments in all cases will be based on actual, necessary costs (including contract unit prices) incurred not in excess of any "allowable maximum," and not in excess of the fixed percentage of the total aggregate estimated cost. Costs will be considered to be incurred only as they are or become due and payable.

(c) No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes) or any other indirect costs, or work performed or costs incurred before the date of this contract, shall be allowed as costs of the project in which the Government will participate.

ARTICLE 7. Reports, accounts, audits. (a) Progress reports. The Operator shall provide the Government with monthly reports of work performed and costs (including contract unit prices) incurred under the contract, in quintuplicate (five copies), upon forms provided by the Government. These progress reports shall be certified by the Operator,

and shall constitute both the Operator's invoice of costs incurred on the project during the period covered by the report and his voucher for repayment by the Government, unless the Government requires the use of a standard voucher form with invoice attached. Progress reports shall include surface and/or underground engineering-geological maps or sketches showing the progress of the exploration, with assay-reports on samples taken concurrently with the advance in mineralized ground.

(b) Final report. Upon completion of the exploration work or termination of the contract the Operator shall provide the Government with an adequate geological and engineering report, in quintuplicate (five copies), including an estimate of ore reserves resulting from the exploration work.

(c) Compliance with requirements. If, in the opinion of the Government, any of the Operator's reports are insufficient or incomplete, the Government may procure the making or completion of such reports and attachments as an expense of the exploration work; and the Government may withhold approval and payment of any vouchers depending upon insufficient or incomplete reports.

(d) Accounts and audits. The Operator shall keep suitable records and accounts of operations, which the Government may inspect and audit at any time. The Government may at any time require an audit of the Operator's records and accounts by a certified public accountant, the cost thereof to be treated as a cost of the project. The Operator shall keep and preserve said records and accounts for at least 3 years after the completion of the project or the termination of this contract. Upon the completion of the project or termination of the contract the Operator shall render a final account as provided in Article 12.

ARTICLE 8. Payments by the Government. (a) The Government will pay 50 per cent of the allowable costs incurred, as they accrue, in an aggregate total amount not in excess of $ 72,505, which is 50 per cent of $ 145,010, the agreed, estimated total cost of the project in which the Government will participate; Provided, that until the Operator's final report and final accounting have been rendered to the Government, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of ten (10) per cent of the maximum total which the Government might have been called upon to pay under the terms of the contract.

(b) The Government may make any payment or payments direct to independent contractors and to suppliers, for the account of the Operator, rather than to the Operator.

ARTICLE 9. Repayment by Operator. (a) If, at any time, the Government considers that a discovery or a development from which production may be made has resulted from the exploration work, the Government, at any time not later than six months after the Operator has rendered the required final report and final account, may so certify in writing to the Operator. The certification shall describe broadly or indicate the nature of the discovery or development. In the event of such certification, any minerals mined or produced from the land described in Article 2 within ten years from the date of this contract, including any mined or produced before the certification, shall be subject to a percentage royalty which

the Operator or his successor in interest shall pay to the Government, upon the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, until the total amount contributed by the Government, without interest, is fully repaid, or said ten years have elapsed, whichever occurs first, as follows:

(1) One and one-half ($1\frac{1}{2}$) per cent of any such net amounts not in excess of eight dollars ($8.00) per ton;

(2) One and one-half ($1\frac{1}{2}$) per cent of any such net amounts, plus one-half ($\frac{1}{2}$) per cent of such net amounts for each additional full fifty cents ($0.50) by which such net amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) per cent of such net amounts.

(For instance: the percentage royalty on a net amount of five dollars ($5.00) per ton, would be one and one-half ($1\frac{1}{2}$) per cent; on a net amount of ten dollars ($10.00) per ton, three and one-half ($3\frac{1}{2}$) percent.)

(b) As here used, "net smelter returns," "net concentrator returns," and "other net amounts realized from the sale or other disposition," mean gross revenue from sales; or if not sold, the market value of the material after it is mined in the form in which and the place where it is held. In the case of integrated operations in which the material is not disposed of as such, these terms mean what is or would be gross income from mining operations for percentage depletion purposes in income tax determination.

(c) To secure the payment of its percentage royalty, the Government shall have and is hereby granted a lien upon the land described in Article 2 and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(d) This article is not to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations.

ARTICLE 10. Assignment, transfer, or loss of Operator's interest. Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder. The Operator shall not make any voluntary nor permit any involuntary transfer or conveyance of the Operator's rights in the land described in Article 2, without making suitable provision for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof; Provided, that mere failure by the Operator to maintain the Operator's rights in the land, without any consideration running to the Operator other than relief from the cost of maintaining such rights (as by surrender of a leasehold, failure to perform assessment work, or failure to exercise an option), coupled with complete abandonment by the Operator of all interest in or operations on the land for a period of ten years from the date of this contract, shall not constitute such a transfer or conveyance. Should the Operator make or permit any transfer or conveyance in violation of this provision, the Operator shall be and remain liable for payment to the Government of the same amounts, at the same times, as would have been paid under the terms of the percentage royalty on production. If for any

reason the net smelter returns, net concentrator returns, or other net amounts realized from the sale or other disposition of such production are not available as a means of measuring the amount of the Operator's liability, the amount thereof shall be estimated as well as may be, and in the event of dispute as to such estimates, the determination thereof by the Administrator of Defense Minerals Exploration Administration or by his successor shall be final and binding upon the Operator.

ARTICLE 11. Title to and disposition of property. All facilities, buildings, fixtures, equipment, or other items costing more than $50.00 each, paid for or purchased with funds contributed jointly by the Operator and the Government, although title may be taken in the name of the Operator, shall belong to the Operator and the Government jointly, in proportion to their respective contributions, and upon the completion of the work or the termination of the contract shall be disposed of promptly by the Operator for the joint account of the Government and the Operator, either by return to the vendor, by sale to others, or purchase by the Operator at a price at least as high as could otherwise be obtained, as may appear to be for the best interest of the Government, unless the Government, in writing, waives its interest in any such item. If necessary to accomplish such disposition, the Operator shall dismantle, sever from the land, and remove any such item, the cost thereof to be for the joint account of the parties in proportion to their respective interests. If the Operator, within 90 days after the receipt of written notice from the Government, fails, neglects, or refuses to dispose of such property, the Government may itself enter upon the land, take possession of, and remove and dispose of any such property as above provided.

ARTICLE 12. Termination and completion. The Government may, at any time, by written notice to the Operator, terminate this contract: (a) If the Operator fails to provide his share of the money necessary to prosecute operations pursuant to the terms of the contracts; (b) if the Operator, in the opinion of the Government, fails to prosecute operations pursuant to the terms of the contract; or (c) if in the opinion of the Government, operations up to the time of the notice have not indicated the probability of making any worthwhile discovery and in the opinion of the Government further operations are not justified. Upon the completion of the project or any termination of the contract the Operator shall dispose of any remaining materials, supplies, facilities, buildings, fixtures, and equipment in which the Government has an interest, for the joint account of the Operator and the Government in the proportion of their respective interests; shall render to the Government a full and final accounting of his operations under the contract and his expenditures of money; and shall pay to the Government its prorata share of any money remaining.

ARTICLE 13. Changes and added provisions. _____

_____

_____

_____

_____

_____

_____

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

_____
Operator

By_____

By_____

I, , certify that I am the secretary of the corporation named as operator herein; that who signed this contract on behalf of the operator, was then of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

_____ [Corporate Seal]

16042

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

March 31, 1952

Memorandum

To: Mr. E. Wm. Ellis

From: Ned E. Nelson

Subject: DMA-1950X revised, Vermont Copper Company, Orange County, Vermont.

Comment

Drilling at Vermont Copper, while generally favorable has not been entirely so. The "fans" at intervals of 500 feet have shown ore, but it had been up and down more than expected and it is fairly apparent that underground work is necessary to block it out.

Also the new ore is far from the new shaft so another opening is practically necessary for extraction and service reasons.

Just where to draw the line is a question. The operation promises to pay out if too many new projects are not found necessary.

Ned E. Nelson
Geologist

FILE COPY
Surname:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

March 31, 1952

Memorandum

To: Mr. B. Wm. Ellis

From: Ned E. Nelson

Subject: DMA-1950X revised, Vermont Copper Company, Orange County, Vermont.

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Ned E. Nelson
Geologist

NENelson:emp
Copies to: Geol. Div. files
Branch files
Directors r. files
Branch r. files
C. H. Johnson Interior 3619
N. E. Nelson

March 31, 1952

Memorandum

To: Mr. E. Wm. Ellis

From: Ned E. Nelson

Subject: DMA-1950X revised, Vermont Copper Company, Orange County, Vermont.

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C. H. Johnson Interior 3619
N. E. Nelson

March 31, 1952

Memorandum

To: Mr. R. Wm. Ellis

From: Ned E. Nelson

Subject: DMA-1950X revised, Vermont Copper Company, Orange County, Vermont.

Comment

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Branch r. files
C. H. Johnson Interior 3619
N. E. Nelson

March 31, 1952

Memorandum

To: Mr. L. Ma. Ellis

From: Ned H. Nelson

Subject: DMA-1950X revised, Vermont Copper Company, Orange County, Vermont.

Comment

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Ned H. Nelson
Geologist

NHNelson:emp
Copies to: Geol. Div. files
Branch files
Directors r. files
Branch r. files
C. H. Johnson Interior 3619
N. E. Nelson

March 31, 1952

Memorandum

To: Mr. E. Wm. Ellis

From: Ned E. Nelson

Subject: EMA-1950X revised, Vermont Copper Company, Orange County, Vermont.

Comment

Drilling at Vermont Copper, while generally favorable has not been entirely so. The "fans" at intervals of 500 feet have shown ore, but it had been up and down more than expected and it is fairly apparent that underground work is necessary to block it out.

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Ned E. Nelson
Geologist

NENelson:emp
Copies to: Geol. Div. files
Branch files
Directors r. files
Branch r. files
C. H. Johnson Interior 3619
N. E. Nelson

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

April 17, 1952

Memorandum

To: Ernest Wm. Ellis

From: Chief Counsel

Subject: Vermont Copper Company, Inc. exploration project — Docket No. DMRA-1950X

The attached seven copies of the subject contract are in satisfactory legal form for execution subject to the attachment of the necessary maps to the contract. Your file in the case is returned.

J. L. Hofflund

J. L. Hofflund
Chief Counsel

Attachments

~~400~~
~~300~~
~~135000~~
~~45250~~
~~180250~~

~~1525~~
~~30.~~
~~45750~~

~~303000~~
~~90000~~
~~213000~~

~~Subm 87264.17~~
~~Buyers. 29 299.75~~

15 holes, less 3 = 12 holes
@ 700 feet av. length = 8400 feet
@ $8 = $67,200
1/2 = $33,600

9/18/57

Note:

To explore this 1500' vein length adequately at the proposed level (el. 500) by diamond-drilling from surface (av. elev. 900) would, in my opinion, require holes about 100 feet apart. There are already 3 holes through it (Nos 425, 445, + 476). That leaves 12 more to drill. They would be 600 feet long, average. 600 x 12 = 7200 feet. The average overall cost would be in the order of $8; 7200 x $8 $57,600. Joint participation would be $30,000 (approx). My recommendation

over

would be that the Govt participate in ~~this~~ the proposed $304,584 exploration-production project to the extent of $30,000. ~~plus the cost of~~

This amounts to saying that in my opinion the project is 20% exploration and 80% production.

CHJ. (C.H. Johnson)

No. of overtime shifts high ... 15% sh. for d.d. operators

Costs in general seem a bit high, especially w/ 15% for contingency tacked on.

Although the geologic feasibility of the project appears good I question whether it warrants the expenditure of such a large amount for the purposes of exploration. It seems to me that some of the costs should more correctly be applied to production & expansion at a later date.

Profenius

6/5/51

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. DMA 1950

Commodity Copper

Total Amount $304,584.50

Govt. Participation 50% 152,292.25

1. Name and Address of Applicant Vermont Copper Company, Inc
South Strafford, Vermont

2. Location of Property Lot #84 in the Third Division of
Strafford Township, Orange County, Vermont

3. Mineral or metal Copper Is it listed in Section 9 of MO-5? yes

If not, application will be rejected.

4. Geologic probability of discovery—based on data in application
(question #16, 17, 18, 20 and 22)*

Mines or Survey reports, etc., do you rate chances:

a) Good ✓

b) Poor

c) None

d) Don't know—needs field examination

e) Is there an alternative and favorable project?
(If so, attach an explanation)

5. Is the applicant's right to the property clearly stated? yes - owner
(question 5, 6, 7)*

6. If applicant is a lessee, is a copy of the lease attached?

Does the lease have sufficient time to run to cover a future

productive period? —

*question numbers are those of MF-103

7. Are subordination agreements necessary? No

a) MF-201? _____

b) MF-202 _____

8. From the data presented, does the proposed project appear feasible from the point of view of:

a) Available manpower Yes

b) Equipment and supplies Yes
(Question 14 plus general knowledge of availability)*

c) Accessibility (question 12)* Yes

d) Water (question 13)* Yes

e) Power (question 13)* will be installed

Is a field check needed on any of these points? No

9. Does the experience of the applicant appear to be adequate to assure that he can properly conduct the proposed project? (question 4)* Yes

Is a field check needed on this point? No

10. Exhibit A. (questions 21 and 22)*

a) Is the project adequately described? Yes

If not, are there sufficient data given so that you can describe the project? _____ If so, attach a draft.

b) Is there an adequate map or sketch of the proposed work? Yes

c) Is the proposed work "exploration" under the definition of Section 8, MO-5? all except installation of power

If not, what part of it is? installation of power lines & transformer

Is this part a worthwhile exploration project? Yes

d) Are the cost estimates detailed? Yes

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data? Yes If so, attach a draft.

e) Are the cost estimates reasonable? Yes

f) Should more information be requested from applicant? No

g) Is a field examination necessary to complete Exhibit A? No

11. Exhibit B (question 23-d)*

a) Is it applicable? Yes

b) If so, are sufficient data furnished? Yes If so, attach a draft.

c) Is a field check needed? No

12. Exhibit C (question 23-e, f and g)*

a) Is it applicable? Yes

b) Sufficient data? Yes If so, attach a draft.

c) Are rents and charges reasonable? Yes

d) Is a field check needed? No

13. Exhibit D (question 23-a, b)*

a) Are there sufficient data? Yes

b) Is the schedule adequate for the work proposed? Yes

c) Is the schedule excessive for the work proposed? ~~No~~ Number of over-Time shifts seems high

d) Are the proposed wages and salaries reasonable? Yes

e) Is a field check needed? No

Vermont Copper Co DMA-1950

Exhibit A

Exploration Project

"... it is proposed to sink an exploratory shaft approx. 450 ft in depth, at a point ~~4,000~~ (5,000) ft North of present operating shaft, and to drive 225 ft of crosscuts and 1,500 feet of drifts to explore the vein indicated by diamond drill cores in that area.

Cost Estimates

labor		87,284.17
supervision		29,299.75
equipment	more than $50/	39,629.00
"	less than "	77,030.08
Rental	- unowned equip.	11,674.80
"	owned "	9,306.99
Installing	Power & hoist	47,277.70
Misc.		3,082.00
		304,584.49

all estimates include 15% for contingencies

DMA 8 1950

Exhibit B

Hoist & compressor Bldg

Labor	3,433.12	
mat'ls	2,085.30	
15% contin.	827.76	
TOTAL		6,346.18

Head frame & Bins

Labor	5,347.28	
mat'ls	5,633.76	
15% Cont.	1,686.99	
TOTAL		12,668.03

Moving Hoist

Labor	4,942.68	
Rentals	630.00	
mat'ls	0	
15% cont.	0	
TOTAL		5,572.68

Power Installation

Labor	6,600.32	
Rentals	1,341.92	
mat'ls	28,323.00	
15% cont	5,439.78	
TOTAL		41,705.02

DMA # 1950

Exhibit C

23-e cost of items @ more $50.00

ITEM	NUMBER	COST
cross head	1	300.00
sinking bucket	2	300.00
Blasting set	1	500.00
Bucket dump door	1	800.00
Hoist Rope		1 600.00
skip cages	2	4000.00
Sump pump	1	2000.00
mucking machine	1	5,000.00
Battery Locomotive	1	12,000.00
Cars @ $535.00	6	3,210.00
Oil Heater	1	300.00
Sheaves - 6 foot	2	1,100.00
Diversion gate		1,000.00
skip Dump	2	500.00
Control gate & Asses	1	800.00
Cartridge	1	800.00
Grizzlies	2	250.00
15% Contingencies		5,169.00
		39,629.00

DMA # 1950

Exhibit C (con't)

23-f Rental of unowned equipment

Portable compressor	2 for 306 days @ $32.00 / day	9,792.00
Trucks	4 for 5 days @ $72.00/d	360.00
		10,152.00
15% conting.		1,522.80
		11,674.80

23-g Rental of owned equipment

1 Bull dozer	17 ds @ $53.12/d	903.04
1 Truck - dump	303 ds @ 18.00/d	5,454.00
4 Jack hammers	103 ds @ 2.00/d	824.00
2 Leyners	203 ds @ 2.00/d	812.00
1 air Tugger	100 ds @ 1.00/d	100.00
		8,093.04
15% conting.		1,213.95
		9,306.99

14. Exhibit E (question 23-c)*

a) Is it applicable? No

b) Sufficient data? _____

c) Reasonable? _____

d) Field check needed? _____

15. In your judgment, can the proposed work be done in the proposed time? Yes

(All exploration must be completed within two years)

16. If field examination is not needed, attach your recommendation.

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question? _____

Reviewed by: RW Lewis

Date _____

97692

Mr. C. Wm. Ellis

Re, DMEQ 1950 Copper
Vermont Copper Company, Inc.
South Strafford, Vermont.
$304,584.49

Conclusions of Engineers.

H F Keller:

1 The proposed exploration project as proposed by the Vermont Copper Company, Inc. is in reality a development project.

2. If we concede, that the part of the project covering the sinking of the shaft and the driving of the crosscut to the vein be considered exploration, the allowable costs for this portion of the project would be $114,590.00

3 Driving 1500 along the vein or parallel to it to connect to the stoping section of the mine cannot be considered exploration.

4 The maximum participation on the part of the government would be $57,295.00

C H Johnson.

To explore this 1500 foot vein length adequately at the proposed elevation of 500' by diamond drilling from the surface (Average elev. 900') would in my opinion require holes about 100 ft. apart. There are already three holes there if (Nos 425, 445 + 476) That leaves 12 more to drill. They would average 600 ft in length. 600 x 12 = 7200 ft. The average overall

cost would be on the order of $8.00 per foot or a total of $57,600 for the project. Joint participation would be $32,000 (approx) My recommendation would be that the Joint participation in the proposed $304,584.00 exploration-production project to the extent of $30,000.

This amounts to saying that in my opinion the project is 20% exploration and 80% Development.

R.W. Lewis:

No. of overtime shifts high especially 152 for DD operator

Costs in general seem high especially 14/15% for contingency tacked on.

While the geological feasibility of the project appears good, I question whether it warrants the expenditure of such a large amount for the purpose of exploration. It seems to me that some of the costs should more correctly be applied to production and expansion at a later date.

Consensus of opinion:

Much of the proposed project should be classified as production or development.

W.F. Allen

March 15, 1952

Mr. C. O. Mithoefer, Director
Defense Minerals Exploration Administration
Department of the Interior
Washington 25, D. C.

Dear Mr. Mithoefer:

Re: Vermont Copper Co., Inc.
Docket ~~DMA-1526-X~~ DMA-1950X

Following extended discussions with engineers of your department in connection with the proposed exploration shaft required to explore the ground covered by the captioned contract, we have revised our project in accordance with suggestions made by your people.

The amended project, as outlined, reduces the expenditures originally estimated at $303,365.64 to a sum of $198,903.00. Such reduction has been made possible by cutting the size of the shaft from three to two compartments, reducing the electric power requirements to the bare necessities, eliminating the purchase of some equipment and by other economies.

The major ore reserves in our present operation are, as you know, concentrated in one haulage level and it appears that our production of copper for the defense effort will be seriously curtailed if the proposed exploration is not successfully completed within the next 12 months, so that subsequent development of this new area may furnish additional ore.

I expect to be in Washington within the next week and will be available for discussions in this matter.

Very truly yours,

VERMONT COPPER CO., INC.

John F. Cowley
John F. Cowley
President

JFC:mm
Encl.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 1 3 1952

COPY

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

DO NOT FILL IN THIS BLOCK

Docket No. DMEA-1950 REVISED

Date received 3-19-52

Participation

VERMONT COPPER COMPANY, INC.
SOUTH STRAFFORD, VERMONT

Name and address of applicant

Date March 17, 1952

FILL IN THIS BLOCK

Date of application Supplement - March 17, 1952

Estimated cost $158,905.00

Mineral or metal Copper Ore

Percentage of Government participation 50%

Location of mine Orange County, Vermont

Date of filing MF-100 May 23, 1951

DMA Docket Number, if available DMA ~~1526 X~~ 1950

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 1 3 1952

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.
    (*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

    NOTE.—If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*b*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

*11. State the present and former names of the property, if any.

*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.

*13. State source and quantity of water available for operations and its sufficiency at all seasons.
State amount of power to be used, rate per hour or other cost, and source.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.

15. State in detail how the ore could be shipped and how and where milled.

*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*b*) State briefly the known history and production of adjoining and neighboring properties.
    (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:
    (*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.

19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:
    (*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.
    (*b*) Supervisors, by numbers and positions, with salaries of each.
    (*c*) Cost of necessary repairs to existing facilities, structures, and buildings.
    (*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.
    (*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
    (*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
    (*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.
    (*i*) Cost of power, water, utilities, and any other items not provided for above.

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

CERTIFICATION

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

VERMONT COPPER COMPANY, INC.
(Name of company)

By John F Cowley
(Signature of authorized official)

March 17, 1952
(Date)

President
(Title)

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.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

VERMONT COPPER COMPANY, INC.
SOUTH STRAFFORD, VERMONT

ATTACHMENT TO
U. S. DEPT. OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
FORM MF-103

It is understood that this application for aid for an Exploration Project pursuant to Mineral Order 5, under Defense Production Act of 1950 is a supplement to DMA 1526 X.

1. Answered on MF 100

2. Answered on MF 100

3. Answered on MF 100

4. Answered on MF 100

5. Answered on MF 100

6. Answered on MF 103

7. Answered on MF 103

8. Answered on MF 103

9. Applicant is prepared to invest $79,452.50 representing its full share of this supplementary to project DMA 1526 X.

10. (a) Answered on MF 103

(b) Answered on MF 103

11. Answered on MF 100

12. Answered on MF 100

13. Answered on MF 100

14. Answered on MF 103 - In addition see 23 G.

15. Answered on MF 103

16. Answered on MF 100

17. Answered on MF 100

18. Answered on MF 100

19. None

THE EXPLORATION

20. Answered on MF 103.

21. In addition to diamond drill program listed in original MF 103, it is proposed to sink an exploratory shaft approximately 450 feet in depth, at a point 4,000 feet north of the present operating shaft, and to drive 115 feet of crosscuts and 500 feet of drifts to explore the vein indicated by diamond drill cores in that area. A sketch of the area showing the location of the above described work is attached hereto. It is estimated that 249 days will be required to complete the project.

22. Answered on MF 103.

23. In addition to itemized statement covering expenditures for the diamond drill program in MF 103 Docket No. DMA 1526 I, the following is an itemized statement for the exploration work as covered in 21 above.

23. (a) Labor, by numbers and classes (Miners, muckers, millmen, etc.) with wages of each.

No. of Men	Class	No. of Straight Time Shifts	Hourly Rate	No. of Overtime Shifts	Rate	Straight Time Pay	Overtime Pay	Total
12	Carpenters	300	1.75	53	2.625	4,200.00	1,113.00	5,313.00
1	Bulldozer Operator	15	1.50	2	2.25	180.00	36.00	216.00
5	Truck Drivers	166	1.31	29	1.965	1,739.68	455.88	2,195.56
2	Axemen	10	1.03	2	1.545	82.40	24.72	107.12
1	Compressor Operator	5	1.26	1	1.89	50.40	15.12	65.52
4	Laborers	110	1.08	22	1.62	950.40	285.12	1,235.52
4	Mechanics	100	1.37	20	2.055	1,096.00	328.80	1,424.80
1	Rigger	25	1.41	5	2.115	282.00	84.60	366.60
4	Timbermen	20	1.37	0	2.055	219.20		219.20
3	Hoistmen	264	1.37	54	2.055	2,893.44	887.76	3,781.20
6	Drillers	242	1.26	46	1.89	2,439.36	695.52	3,134.88
3	Deckmen	264	2.00	54	3.00	4,224.00	1,296.00	5,520.00
8	Shaftmen	687	2.00	161	3.00	10,992.00	3,864.00	14,856.00
3	Shaftmen's Helpers	264	2.00	54	3.00	4,224.00	1,296.00	5,520.00
2	Diamond Drill Operators			43	2.055		706.92	706.92
2	Mucking Machine Operators	116	1.26	22	1.89	1,169.28	332.64	1,501.92
2	Shiptenders	116	1.26	22	1.89	1,169.28	332.64	1,501.92
63		2,704		590		35,911.44	11,754.72	47,666.16

SUMMARY

Total Number of Men	63	
Total Man Shifts	3,295	
Total Man Hours	26,360	
Straight Time Wages		$35,911.44
Overtime Wages		11,754.72
Total Wages		47,666.16
15% Contingencies		7,149.92
		$54,816.08

23. (b) Supervisors, by numbers and positions, with salaries of each.

No. of Men	Supervision	No. of Shifts	Rate per Shift	Total
1	Design & Layout Man	40	16.00	640.00
1	Engineer	50	16.00	800.00
2	Engineer's Helpers	100	13.44	1,344.00
1	Construction Superintendent	60	25.00	1,500.00
1	Shaft Foreman	245	21.50	5,267.50
1	Shift Boss	245	19.00	4,655.00
1	Mechanic (Maintenance)	60	10.96	657.60
1	Electrician	60	10.96	657.60
1	Warehouse Man	60	10.60	636.30
				$16,158.00
	Plus 15% Contingencies			2,423.70
				$18,581.70

23. (c) None.

23. (d) Cost of necessary installation or construction of additional facilities, structures and buildings.

Item	Labor	Materials	15% Contingencies	Total
Buildings	1,246.00	2,548.22	569.14	$4,363.36
Headframe & Bins	4,731.16	5,289.66	1,503.12	11,523.94
				$15,887.30

Total is included in (a) and (h).

23. (e) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.

Item	No. Required	Cost
Cross Head	1	300.00
Sinking Bucket	2	300.00
Blasting Set	1	500.00
Bucket Dump Door	1	800.00
Hoist Rope		600.00
Skip	1	1,200.00
Oil Heater	1	250.00
Sheave - 72"	1	550.00
Diversion Gate	1	1,000.00
Skip Dump Plates	2	500.00
Control Gate & Acces.	1	400.00
Cartridge Gate & Acces.	1	400.00
Sinking Pump & 4" Pipe		2,000.00
~~Safety Door~~		150.00
Pump, tank & Pipe - Water Supply		1,000.00
		$ 9,950.00
	15% Contingencies	1,492.50
		$11,442.50

Note: Equipment herein does not include materials for power installation, etc.

23. (f) Cost of rental for equipment which the operator proposes to rent.

Item	No. Required	Days	Cost Per Day	Total
Portable Compressors	1	178	32.00	$5,696.00
Trucks	4	5	20.00	400.00
				$6,096.00
	15% Contingencies			914.40
	Total Cost			$7,010.40

23. (g) Rental Value of items of equipment which the operator now owns and which will be devoted to the work.

Item	No. Required	Days	Cost Per Days Each	Total
Bulldozer	1	17	53.12	903.04
Truck	1	175	20.00	3,500.00
Jackhammers	3	104	6.00	624.00
Leyners	2	75	4.00	300.00
Air Tugger	1	100	1.00	100.00
Mucking Machine	1	69	(2 shifts) 18.00	1,242.00
6 Cars	6	69	" " 12.00	828.00
Electric Locomotive	1	69	(" ") 9.00	621.00
				$ 8,118.04
	15% Contingencies			1,217.71
	Total Cost			$ 9,335.75

23. (h) Cost of materials and supplies, including items of equipment costing less than $50.00 each.

Item	Amount Required	Cost	Total
Local Timber	46,739 Bd.Ft.	.822 M	$3,841.76
Oregon Timber	44,050 Bd.Ft.	1.35 M	5,947.20
Explosives			6,486.34 *
Bits & Steel			4,692.50 *
2" Pipe	705 Ft.		282.50
3" Pipe	450 Ft.		292.50
4" Pipe	1,230 Ft.		1,353.00
Air Hose	600 Ft.		590.00
Water Hose	400 Ft.		240.00
Concrete Pre-Mix	72 Yds	16.00	1,152.00
Roofing	17 Rolls	5.00	85.00
Gyp Lap	2,884 Ft.	.06	195.36
Windows	14	16.00	224.00
Doors	2	30.00	60.00
Nails & Hardware			57.50
Axes & Picks	2 each		11.10
Shovels	52	3.50	182.00
Anchor Bolts for Hoist	12	3.00	36.00
Reinforcing Steel			45.00
Steel Rods, Bolts & Plate			550.00
Anchor Bolts for Headframe	80	1.25	100.00
Tie rods & Bolts			423.00
Ladders	450'	1.25	112.50
Header	1		50.00
Grouting Supplies			5,000.00
Diamond Drill & Supplies			4,250.00
Track & Supplies			1,059.36
Pipe Hangers			67.50
Guide Brackets & Bolts			666.00
Belts			11.52
C.I. Washers			92.90
Lag Screws	48	.12	5.76
Turnbuckles	12	1.00	12.00
Change House Plumbing & Lockers			575.00
Grizzley Material			250.00
			$38,979.30
	15% Contingencies		5,846.90
		Total Cost	$44,826.20

* Calculated on a per foot basis, not broken down to units.

23. (i) Cost of the power moving heist, etc., not provided for above.

To obtain the power for this exploration it will be necessary for Vermont Copper Co. to increase the size of its copper wire from its main transformer station to the river pump station, a distance of 2700 feet from No. 4 wire to No. 2 wire which the Company proposes to do at its own expense.

To deliver power to the proposed shaft site from the river pump station, a distance of 2,400 feet, will require the 7,200 feet of No. 4 wire shown below.

For hoisting duty during the exploration program, we have available a 75 H.P. single drum hoist which must be completely overhauled and an auxiliary brake installed.

This hoist is presently located underground at our No. 2 Winze. No rental for this hoist has been charged.

The above estimate of the cost of power, installation and moving hoist has not been included in 23 a, b, d, e, f, g, h, because it is contemplated that these two operations may be contracted separately.

23. (i) 1 - Power & Miscellaneous

Item	Estimated Power Cost
Sinking	$1,200.00
Station & Pocket	100.00
Drifts & Cross-cuts	492.00
	$1,792.00
15% Contingencies	268.80
Total Cost	$2,060.80

23. (1) 2- Move Hoist from No. 2 Winze 575 Level to No. 4 Shaft Site

Hoist - Single Drum
75 H.P. Motor
Rope Max.Pull

LABOR

	No. of Men	Class	Hourly Rate	No.Man Shifts	Rate Per Shift	Overtime	Total
A		Move from Mine to Shop					
	1	Rigger	1.41	20	11.28	16.92	$242.52
	3	Miners	1.26	20	10.08	15.12	216.72
B		Shop Overhaul (Include Install 2nd Brake)					
	2	Mechanics	1.41	40	11.28	16.92	485.04
C		Install No. 4 Hoist House					
		1) Foundation					
	2	Carpenters	1.75	4	14.00		56.00
	2	Mechanics	1.41	4	11.28		45.12
	2	Laborers	1.08	4	8.64		34.56
		2) Move from shop to No.4 Hoist					
	1	Truck Driver	-1.31	1	10.48		10.48
	2	Laborers	1.08	2	8.64		17.28
	2	Electricians	-1.41	6	11.28		67.68
							$1,175.40

MATERIAL & EQUIPMENT

Item	No. Required	Cost Each	Total
Material	Misc.		150.00
Concrete	2 cu.Yds.	16.00	32.00
Cable	700' 3/4"	.35	245.00
Safety Switch 600 VOlt-3 Pole	1	175.00	175.00
Limit Switches & Controls	2	100.00	200.00
			$802.00

EQUIPMENT RENTAL

Item	Hourly Rates	No. Shifts	Per Shift	Total
Truck	2.54	1	20.32	$20.32
				$20.32

Summary

Labor	$1,175.40
Materials	802.00
Rentals	20.32
	$1,997.72
15% Contingencies	299.66
	$2,297.38

23. (1) 3 - Power Installation Cost

	LABOR						MATERIALS & EQUIPMENT				EQUIPMENT RENTAL				
No. of Men	Class	Hourly Rate	No. Man Shifts	Rate Per Shift	Overtime	Total	Item	No. Required	Cost Each	Total	Item	Hourly Rate	No. Shifts	Per Shift	Total
A	Clearing Right of Way														
4	Laborers	1.08	40	8.64	17.28	362.88					Trucks	2.54	8	53.12	$424.96
1	Bulldozer Operator	1.50	6	12.00	6.00	78.00					Bulldozer	6.64	2	20.32	40.64
B	Foundation & Structures 2 Dead Ends & Transformer Sub Station														
2	Carpenters	1.75	2	14.00		28.00	Concrete	2 Cu.Yds.	$16.00	$32.00					
4	Laborers	1.08	20	8.64		172.80									
2	Electricians	1.41	10	11.28		112.80									
C	Transmission Line - 2400 Volt						No. 4	7,200 ft.		450.00					
1	Truck Driver	1.31	2	10.48		20.96	MHDWP Wire								
1	Bulldozer Operator	1.50	4	12.00		48.00	Poles & arms	12	$30.00	360.00					
3	Electricians	1.41	15	11.28		169.20									
3	Laborers	1.08	15	8.64		129.60									
D	Transformer Substation						Transformers	3	$800.00	$2,400.00					
2	Electricians	1.41	2	11.28		22.56	100 KVA 2300/440								
							Circuit Breaker	2	$500.00	1,000.00					
E	Pump Line down Shaft - 2300 Volt						Cable #4 -3 Cond. - 500 V.	500 ft.	1.30	650.00					
	Service Line down Shaft - 440 Volt														
	Trans. to Hoist House - 440 Volt						Cable #2/0-3 Cond.-600 V.	500 ft.	1.45	725.00					
2	Electricians	1.41	4	11.28		45.12	Cable #I - 600 Volt	50 ft.	1.05	52.50					
3	Shaft Men	2.00	6	16.00		96.00									
						$1,285.92				$5,669.50					$465.60

Summary

Labor	$1,285.92
Materials	5,669.50
Rentals	465.60
	$7,421.02
15% Contingencies	1,113.15
	$8,534.17

VERMONT COPPER COMPANY, INC.
SOUTH STRAFFORD, VERMONT

ATTACHMENT TO
U. S. DEPT. OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
FORM MF-103

24. Time schedule and expenditures starting date depends on delivery of material but is expected to be not later than May 1, 1952.

Month			
1	Supervision	774.25	
	Surface Preparation	2,694.70	
	Power Installation	8,534.17	12,003.12
2	Supervision	1,548.48	
	Building Construction	4,363.36	
	Moving Hoist	2,297.38	
	Shaft Collar	1,428.44	
	Headframe & Bins	8,000.00	
	Shaft Equipment Purchase	7,705.00	25,342.66
3	Supervision	2,322.71	
	Headframe & Bins	3,523.94	
	Shaft Sinking	10,366.06	16,212.71
4	Supervision & Power	2,322.71	
	Shaft Sinking	19,251.24	21,573.95
5	Supervision & Power	2,322.71	
	Shaft Sinking	19,251.24	21,573.95
6	Supervision & Power	2,322.71	
	Shaft Sinking	17,770.38	20,093.09
7	Supervision & Power	2,322.71	
	Shaft Station & Pocket	5,433.75	
	Cross-Cutting	8,609.75	16,366.21
8	Supervision & Power	2,322.71	
	Crosscut & Drift	11,192.68	13,515.39
9	Supervision & Power	2,322.71	
	Drift	9,901.21	12,223.92
	Total		$158,905.00

March 15, 1952

Mr. C. O. Mittenderf, Director
Defense Minerals Exploration Administration
Department of the Interior
Washington 25, D. C.

Dear Mr. Mittenderf:

Re: Vermont Copper Co., Inc.
Docket ~~DMA-1526-X~~ DMA-1950X

Following extended discussions with engineers of your department in connection with the proposed exploration shaft required to explore the ground covered by the captioned contract, we have reviewed our project in accordance with suggestions made by your people.

The amended project, as outlined, reduces the expenditures originally estimated at $303,365.64 to a sum of $158,905.00. Such reduction has been made possible by cutting the size of the shaft from three to two compartments, reducing the electric power requirements to the bare necessities, eliminating the purchase of some equipment and by other economies.

The major ore reserves in our present operation are, as you know, concentrated in one haulage level and it appears that our production of copper for the defense effort will be seriously curtailed if the proposed exploration is not successfully completed within the next 12 months, so that subsequent development of this new area may furnish additional ore.

I expect to be in Washington within the next week and will be available for discussions in this matter.

Very truly yours,

VERMONT COPPER CO., INC.

John F. Cowley
John F. Cowley
President

JFC:mm
Encl.

Defense Minerals Exploration Administration
MAR 1 . 1952

COPY

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

DO NOT FILL IN THIS BLOCK

Docket No. dmea/1950 REVISED

Date received 3-19-52

Participation

VERMONT COPPER COMPANY, INC.
SOUTH STRAFFORD, VERMONT

Name and address of applicant

Date March 17, 1952

FILL IN THIS BLOCK

Date of application Supplement - March 17, 1952

Estimated cost $158,905.00

Mineral or metal Copper Ore

Percentage of Government participation 50%

Location of mine Orange County, Vermont

Date of filing MF-100 May 23, 1951

DMA Docket Number, if available DMA ~~1526 X~~ 1950

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

RECEIVED
Defense Minerals Administration
MAR 1 1952

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.
    (*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

    NOTE.—If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*b*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

*11. State the present and former names of the property, if any.
*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.
*13. State source and quantity of water available for operations and its sufficiency at all seasons.
State amount of power to be used, rate per hour or other cost, and source.
*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.
15. State in detail how the ore could be shipped and how and where milled.
*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*b*) State briefly the known history and production of adjoining and neighboring properties.
    (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.
*17. Production:
    (*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.
19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?
21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.
22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:
    (*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.
    (*b*) Supervisors, by numbers and positions, with salaries of each.
    (*c*) Cost of necessary repairs to existing facilities, structures, and buildings.
    (*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.
    (*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
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CERTIFICATION

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

VERMONT COPPER COMPANY, INC.
(Name of company)

By John F Cowley
(Signature of authorized official)

March 17, 1952
(Date)

President
(Title)

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16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

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SOUTH STRAFFORD, VERMONT

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U. S. DEPT. OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
FORM MF-103

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23. In addition to itemized statement covering expenditures for the diamond drill program in MF 103 Docket No. DMA 1526 X, the following is an itemized statement for the exploration work as covered in 21 above.

23. (a) Labor, by numbers and classes (Miners, muckers, millmen, etc.) with wages of each.

No. of Men	Class	No. of Straight Time Shifts	Hourly Rate	No. of Overtime Shifts	Rate	Straight Time Pay	Overtime Pay	Total
12	Carpenters	300	1.75	53	2.625	4,200.00	1,113.00	5,313.00
1	Bulldozer Operator	15	1.50	2	2.25	180.00	36.00	216.00
5	Truck Drivers	166	1.31	29	1.965	1,739.68	455.88	2,195.56
2	Axemen	10	1.03	2	1.545	82.40	24.72	107.12
1	Compressor Operator	5	1.26	1	1.89	50.40	15.12	65.52
4	Laborers	110	1.08	22	1.62	950.40	285.12	1,235.52
4	Mechanics	100	1.37	20	2.055	1,096.00	328.80	1,424.80
1	Rigger	25	1.41	5	2.115	282.00	84.60	366.60
4	Timbermen	20	1.37	0	2.055	219.20		219.20
3	Hoistmen	264	1.37	54	2.055	2,893.44	887.76	3,781.20
6	Drillers	242	1.26	46	1.89	2,439.36	695.52	3,134.88
3	Deckman	264	2.00	54	3.00	4,224.00	1,296.00	5,520.00
8	Shaftmen	687	2.00	161	3.00	10,992.00	3,864.00	14,856.00
3	Shaftman's Helpers	264	2.00	54	3.00	4,224.00	1,296.00	5,520.00
2	Diamond Drill Operators			43	2.055		706.92	706.92
2	Mucking Machine Operators	116	1.26	22	1.89	1,169.28	332.64	1,501.92
2	Skiptenders	116	1.26	22	1.89	1,169.28	332.64	1,501.92
63		2,704		590		35,911.44	11,754.72	47,666.16

SUMMARY

Total Number of Men	63	
Total Man Shifts	3,295	
Total Man Hours	26,360	
Straight Time Wages		$35,911.44
Overtime Wages		11,754.72
Total Wages		47,666.16
15% Contingencies		7,149.92
		$54,816.08

23. (b) Supervisors, by numbers and positions, with salaries of each.

No. of Men	Supervision	No. of Shifts	Rate per Shift	Total
1	Design & Layout Man	40	16.00	640.00
1	Engineer	50	16.00	800.00
2	Engineer's Helpers	100	13.44	1,344.00
1	Construction Superintendent	60	25.00	1,500.00
1	Shaft Foreman	245	21.50	5,267.50
1	Shift Boss	245	19.00	4,655.00
1	Mechanic (Maintenance)	60	10.96	657.60
1	Electrician	60	10.96	657.60
1	Warehouse Man	60	10.60	636.30
				$16,158.00
	Plus 15% Contingencies			2,423.70
				$18,581.70

23. (c) None.

23. (d) Cost of necessary installation or construction of additional facilities, structures and buildings.

Item	Labor	Materials	15% Contingencies	Total
Buildings	1,246.00	2,548.22	569.14	$4,363.36
Headframe & Bins	4,731.16	5,289.66	1,503.12	11,523.94
				$15,887.30

Total is included in (a) and (h).

23. (e) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.

Item	No. Required	Cost
Cross Head	1	300.00
Sinking Bucket	2	300.00
Blasting Set	1	500.00
Bucket Dump Door	1	800.00
Hoist Rope		600.00
Skip	1	1,200.00
Oil Heater	1	250.00
Sheave - 72"	1	550.00
Diversion Gate	1	1,000.00
Skip Dump Plates	2	500.00
Control Gate & Acces.	1	400.00
Cartridge Gate & Acces.	1	400.00
Sinking Pump & 4" Pipe		2,000.00
Safety Door		150.00
Pump, tank & Pipe - Water Supply		1,000.00
		$ 9,950.00
	15% Contingencies	1,492.50
		$11,442.50

Note: Equipment herein does not include materials for power installation, etc.

23. (f) Cost of rental for equipment which the operater proposes to rent.

Item	No. Required	Days	Cost Per Day	Total
Portable Compressers	1	178	32.00	$5,696.00
Trucks	4	5	20.00	400.00
				$6,096.00
	15% Contingencies			914.40
	Total Cost			$7,010.40

23. (g) Rental Value of items of equipment which the operator now owns and which will be devoted to the work.

Item	No. Required	Days	Cost Per Days Each	Total
Bulldozer	1	17	53.12	903.04
Truck	1	175	20.00	3,500.00
Jackhammers	3	104	6.00	624.00
Leyners	2	75	4.00	300.00
Air Tugger	1	100	1.00	100.00
Mucking Machine	1	69	(2 shifts) 18.00	1,242.00
6 Cars	6	69	" " 12.00	828.00
Electric Locomotive	1	69	(" ") 9.00	621.00
				&
				$ 8,118.04
	15% Contingencies			1,217.71
	Total Cost			$ 9,335.75

23. (h) Cost of materials and supplies, including items of equipment costing less than $50.00 each.

Item	Amount Required	Cost	Total
Local Timber	46,739 Bd.Ft.	.822 M	$3,841.76
Oregon Timber	44,050 Bd.Ft.	1.35 M	5,947.20
Explosives			6,486.34 *
Bits & Steel			4,692.50 *
2" Pipe	705 Ft.		262.50
3" Pipe	450 Ft.		292.50
4" Pipe	1,230 Ft.		1,353.00
Air Hose	600 Ft.		590.00
Water Hose	400 Ft.		240.00
Concrete Pre-Mix	72 Yds	16.00	1,152.00
Roofing	17 Rolls	5.00	85.00
Gyp Lap	2,884 Ft.	.06	195.36
Windows	14	16.00	224.00
Doors	2	30.00	60.00
Nails & Hardware			57.50
Axes & Picks	2 each		11.10
Shovels	52	3.50	182.00
Anchor Bolts for Hoist	12	3.00	36.00
Reinforcing Steel			45.00
Steel Rods, Bolts & Plate			550.00
Anchor Bolts for Headframe	80	1.25	100.00
Tie rods & Bolts			423.00
Ladders	450'	1.25	112.50
Header	1		50.00
Grouting Supplies			5,000.00
Diamond Drill & Supplies			4,250.00
Track & Supplies			1,059.36
Pipe Hangers			67.50
Guide Brackets & Bolts			666.00
Bolts			11.52
G.I. Washers			92.90
Lag Screws	48	.12	5.76
Turnbuckles	12	1.00	12.00
Change House Plumbing & Lockers			575.00
Grizzley Material			250.00
			$38,979.30
	15% Contingencies		5,846.90
		Total Cost	$44,826.20

* Calculated on a per foot basis, not broken down to units.

23. (i) Cost of the power moving hoist, etc., not provided for above.

To obtain the power for this exploration it will be necessary for Vermont Copper Co. to increase the size of its copper wire from its main transformer station to the river pump station, a distance of 2700 feet from No. 4 wire to No. 2 wire which the Company proposes to do at its own expense.

To deliver power to the proposed shaft site from the river pump station, a distance of 2,400 feet, will require the 7,200 feet of No. 4 wire shown below.

For hoisting duty during the exploration program, we have available a 75 H.P. single drum hoist which must be completely overhauled and an auxiliary brake installed.

This hoist is presently located underground at our No. 2 Winze. No rental for this hoist has been charged.

The above estimate of the cost of power, installation and moving hoist has not been included in 23 a, b, d, e, f, g, h, because it is contemplated that these two operations may be contracted separately.

23. (i) 1 - Power & Miscellaneous

Item	Estimated Power Cost
Sinking	$1,200.00
Station & Pocket	100.00
Drifts & Cross-cuts	492.00
	$1,792.00
15% Contingencies	268.80
Total Cost	$2,060.80

23. (i) 2 - Move Hoist from No. 2 Winze 575 Level to No. 4 Shaft Site

Hoist - Single Drum
75 H.P. Motor
Rope Max.Pull

LABOR

	No. of Men	Class	Hourly Rate	No.Man Shifts	Rate Per Shift	Overtime	Total
A		Move from Mine to Shop					
	1	Rigger	1.41	20	11.28	16.92	$242.52
	3	Miners	1.26	20	10.08	15.12	216.72
B		Shop Overhaul (Include Install 2nd Brake)					
	2	Mechanics	1.41	40	11.28	16.92	485.04
C		Install No. 4 Hoist House					
		1) Foundation					
	2	Carpenters	1.75	4	14.00		56.00
	2	Mechanics	1.41	4	11.28		45.12
	2	Laborers	1.08	4	8.64		34.56
		2) Move from shop to No.4 Hoist					
	1	Truck Driver -1.31		1	10.48		10.48
	2	Laborers	1.08	2	8.64		17.28
	2	Electricians -1.41		6	11.28		67.68
							$1,175.40

MATERIAL & EQUIPMENT

Item	No. Required	Cost Each	Total
Material	Misc.		150.00
Concrete	2 cu.Yds.	16.00	32.00
Cable	700' 3/4"	.35	245.00
Safety Switch 600 VOlt-3 Pole	1	175.00	175.00
Limit Switches & Controls	2	100.00	200.00
			$802.00

EQUIPMENT RENTAL

Item	Hourly Rates	No. Shifts	Per Shift	Total
Truck	2.54	1	20.32	$20.32
				$20.32

Summary

Labor	$1,175.40
Materials	802.00
Rentals	20.32
	$1,997.72
15% Contingencies	299.66
	$2,297.38

23. (1) 3 - Power Installation Cost

LABOR

	No. of Men	Class	Hourly Rate	No. Man Shifts	Rate Per Shift	Overtime	Total
A		Clearing Right of Way					
	4	Laborers	1.08	40	8.64	17.28	362.88
	1	Bulldozer Operator	1.50	6	12.00	6.00	78.00
B		Foundation & Structures 2 Dead Ends & Transformer Sub Station					
	2	Carpenters	1.75	2	14.00		28.00
	4	Laborers	1.08	20	8.64		172.80
	2	Electricians	1.41	10	11.28		112.80
C		Transmission Line - 2400 Volt					
	1	Truck Driver	1.31	2	10.48		20.96
	1	Bulldozer Operator	1.50	4	12.00		48.00
	3	Electricians	1.41	15	11.28		169.20
	3	Laborers	1.08	15	8.64		129.60
D		Transformer Substation					
	2	Electricians	1.41	2	11.28		22.56
E		Pump Line down Shaft - 2300 Volt Service Line down Shaft - 440 Volt Trans. to Hoist House - 440 Volt					
	2	Electricians	1.41	4	11.28		45.12
	3	Shaft Men	2.00	6	16.00		96.00
							$1,285.92

MATERIALS & EQUIPMENT

Item	No. Required	Cost Each	Total
Concrete	2 Cu.Yds.	$16.00	$32.00
No. 4 MHDWP Wire	7,200 ft.		450.00
Poles & arms	12	$30.00	360.00
Transformers 100 KVA 2300/440	3	$800.00	$2,400.00
Circuit Breaker	2	$500.00	1,000.00
Cable #4 -3 Cond. - 500 V.	500 ft.	1.30	650.00
Cable #2/0-3 Cond.-600 V.	500 ft.	1.45	725.00
Cable #I - 600 Volt	50 ft.	1.05	52.50
			$5,669.50

EQUIPMENT RENTAL

Item	Hourly Rate	No. Shifts	Per Shift	Total
Trucks	2.54	8	53.12	$424.96
Bulldozer	6.64	2	20.32	40.64
				$465.60

Summary

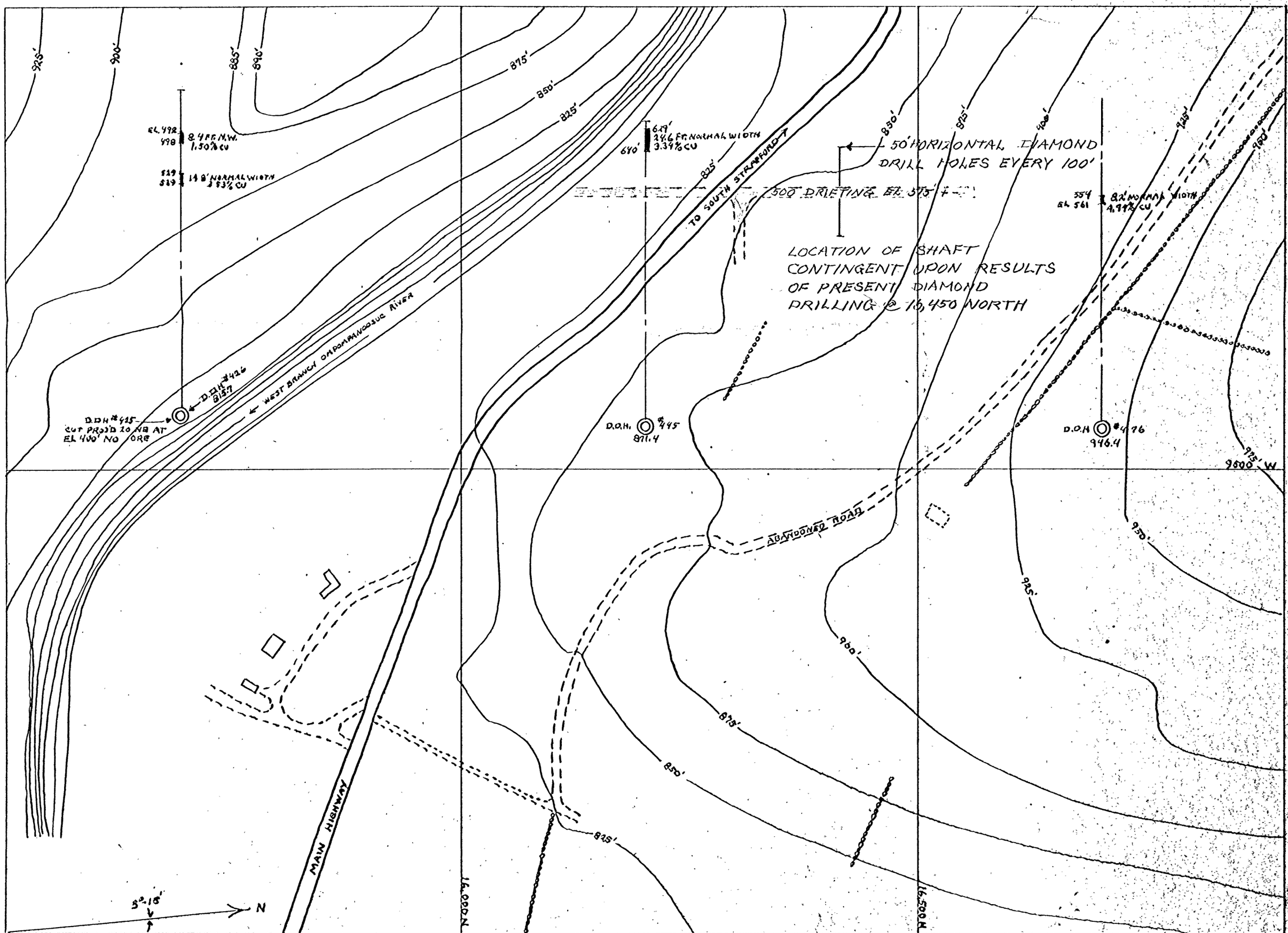
Labor	$1,285.92
Materials	5,669.50
Rentals	465.60
	$7,421.02
15% Contingencies	1,113.15
	$8,534.17

VERMONT COPPER COMPANY, INC.
SOUTH STRAFFORD, VERMONT

ATTACHMENT TO
U. S. DEPT. OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
FORM DM-103

24. Time schedule and expenditures starting date depends on delivery of material but is expected to be not later than May 1, 1952.

Month			
1	Supervision	774.25	
	Surface Preparation	2,694.70	
	Power Installation	8,534.17	12,003.12
2	Supervision	1,548.48	
	Building Construction	4,363.36	
	Moving Hoist	2,297.38	
	Shaft Collar	1,428.44	
	Headframe & Bins	8,000.00	
	Shaft Equipment Purchase	7,705.00	25,342.66
3	Supervision	2,322.71	
	Headframe & Bins	3,523.94	
	Shaft Sinking	10,366.06	16,212.71
4	Supervision & Power	2,322.71	
	Shaft Sinking	19,251.24	21,573.95
5	Supervision & Power	2,322.71	
	Shaft Sinking	19,251.24	21,573.95
6	Supervision & Power	2,322.71	
	Shaft Sinking	17,770.38	20,093.09
7	Supervision & Power	2,322.72	
	Shaft Station & Pocket	5,433.75	
	Cross-Cutting	8,609.74	16,366.21
8	Supervision & Power	2,322.71	
	Crosscut & Drift	11,192.68	13,515.39
9	Supervision & Power	2,322.71	
	Drift	9,901.21	12,223.92
	Total		$158,905.00

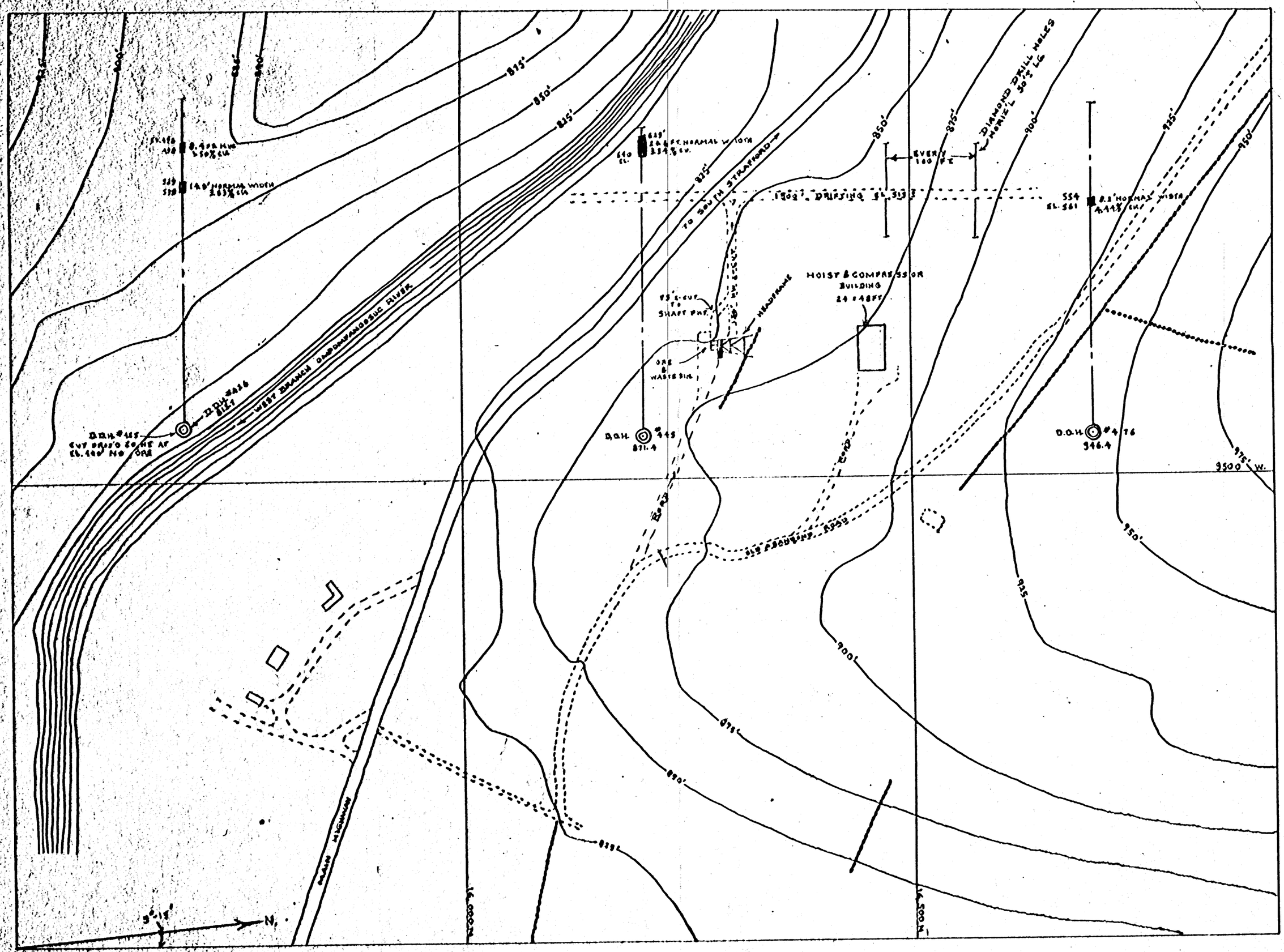


PLAN SHOWING

PROPOSED SHAFT & UNDERGROUND LAYOUT

SCALE: 1" = 100' MAR 7, 1952

VERMONT COPPER COMPANY, INC.
SOUTH STRAFFORD, VERMONT



PLAN SHOWING

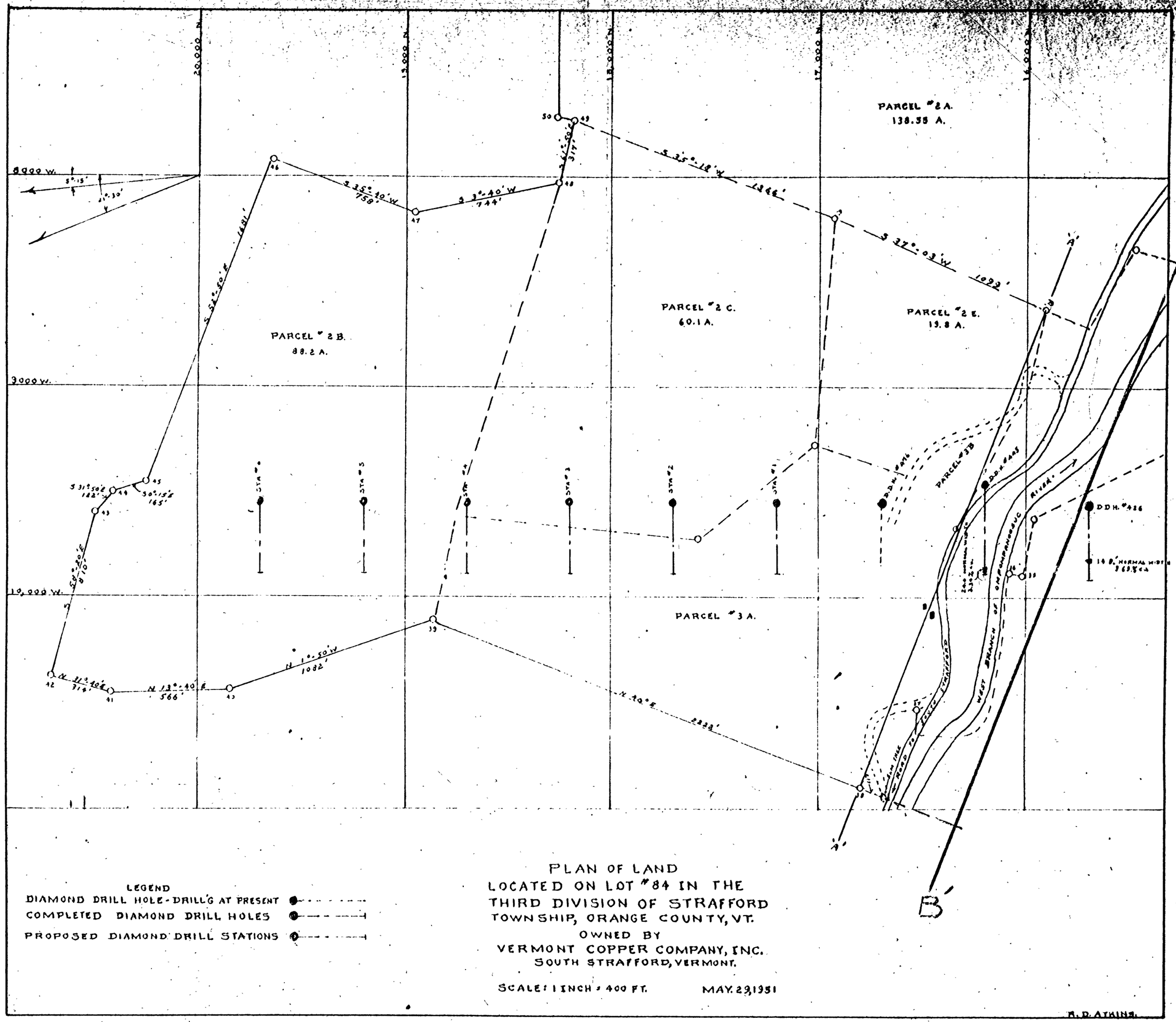
PROPOSED SHAFT & UNDERGROUND LAYOUT

SCALE: 1" = 100' AUG. 3, 1951

— SURFACE CONSTRUCTION

-·- UNDERGROUND EXPLORATION

VERMONT COPPER COMPANY, INC.
SOUTH STRAFFORD, VERMONT



LEGEND

DIAMOND DRILL HOLE - DRILL'G AT PRESENT

COMPLETED DIAMOND DRILL HOLES

PROPOSED DIAMOND DRILL STATIONS

PLAN OF LAND
LOCATED ON LOT #84 IN THE
THIRD DIVISION OF STRAFFORD
TOWNSHIP, ORANGE COUNTY, VT.
OWNED BY
VERMONT COPPER COMPANY, INC.
SOUTH STRAFFORD, VERMONT.

SCALE: 1 INCH = 400 FT. MAY. 23, 1951

R. D. ATKINS.

PLAN SHOWING

PROPOSED SHAFT & UNDERGROUND LAYOUT

SCALE: 1" = 100' AUG. 3, 1951

— SURFACE CONSTRUCTION

— UNDERGROUND EXPLORATION

VERMONT COPPER COMPANY, INC.

SOUTH STRAFFORD, VERMONT