hereunder shall be deemed to be completed when made in writing, deposited in the United States mail, registered, postpaid, addressed to

Lessor: MT. DIABLO QUICKSILVER COMPANY, LTD.

Clayton, California

Lessee: CORDERO MINING COMPANY

131 University Avenue Palo Alto, California

On the exercise of the option herein granted to Lessee to purchase certain property, and the payment of the further purchase price therefor, as hereinabove provided, Lessor shall convey said property to Lessee by grant deed. There has been exhibited to Lessee, and Lessee is fully advised of, that certain preliminary title report of California Pacific Title Insurance Company on said property dated October 28, 1954 (Order No. 190821). It is understood and agreed that at any time after the expiration of three (3) years from the date hereof, or upon payment by Lessee to Lessor of one-half (1/2) of the said purchase price -whichever event is earlier -- on demand by Lessee to Lessor, Lessor shall take such steps and commence such legal proceedings as it may be advised necessary to clear the title of said land of the exceptions appearing on said title report, and Lessor shall thereafter prosecute said proceedings with all reasonable diligence.

IN WITNESS WHEREOF, Lessor and Lessee have caused these presents to be executed by their officers thereunto

duly authorized, the day and year first above written.

the state of the s									
, LTD.	er compan	ν.							· Ose
resident	Blomberg	VIc	126	<u>V</u> ec	By				
0	lonker	L B	arae	_/9	By				
rg ecretary	old Blemb	Haro				Seal)	rate	Corpo	1
LESSOR									
- \$4. 		COMPAN Wos	E W. E	04/	By				
on President	I. WILLIB	1							4. 34
Secretary	lliglo ABBT	Wi	2a			Seal)	rate	Corpo	1
			Advantage A	e de la companya de La companya de la co					

# UNITED STATES DEPARTMENT OF THE INTERIOR SECRETARY OF THE INTERIOR, D. MCKAY

#### DEFENSE MINERALS EXPLORATION ADMINISTRATION

## REPORT OF EXAMINATION BY FIELD TRAM REGION III

DEPARTMENT OF THE INTERIOR Defense Minerals Administration RECEIVED

MAR 1 3 1953

### DMEA 2148, Mt. Diablo Quicksilver Mine

Contra Costa County, California

E. H. Pampeyan, Geologist U. S. Geologist Survey

February 27, 1953

Reviewed 57 DMEA OPERATING COMMITTEE

:--3-20 - 58 (det.e)

#### Sunary

A DEEA application was filed in December, 1952 by Mr. Romie Smith requesting Government aid to explore the Mt. Disblo mercury mine in Contro Costa County, California. The field exemination was made by S. H. Panceyan, J. F. Robertson, and D. B. Estlock, of the G. S. Geological Survey.

The original application proposed the phases of underground exploration with a total project cost of \$75,000. On the advise of the scalaries1 Survey, Mr. Smith Filed at alternate proposel that charges the first phase to 30 feet of sheft sinking and 625 feet of disfring and crosscutting at a cost of \$73,050. These two, thick result desert on the results of phase one, consists of an existional 1300 feet of drifting at a cost of \$52,000, bringing the total cost to \$125,000.

at the present market price of neverty, the list chase of exploration might develop enough ore to permit the applicant to repret the "overseent's share of the exploration costs. These two, however, appears to offer much less how for potential production. The speciestical or exploration for these one is recommended if the ear ent need for account justifies deverment participation.

#### Intraduction

The it. Disble wickerliver wise is located in the indext see. 25, T. 1 N., A. 1 D., KLEW, or the northeast side of Mt. Disble Contra Costa Contry, deliberals. The property is owned by the Mt. Disble wickerliver Company, Ltd., of Clarton, Califor Lt., and not been located to accuse Swith. The size is in alles by payed root from San Principed and is explicit accessible by an omnerly. At its reached by travelling if miles contingated then Clark Clark Press root, then turning right on the Live more roots for a mile to Have May, which is the courtest to the property.

The At. Diable mine area was visited by E. U. Penceyna, J. I. Recertion, and D. E. Batlock, of the U. S. Geological Amercy, for several days between December 1952 and February 1953. During this time, a topographic and reclosic plane talk map of the area under consideration was made.

The property was discovered between 1867 and 1875 and has been operated operadically since that time. According to 4r. Wie Blockers procident of the Mt. Disclo suicknilver Company, principal rareary production from the western cut of the property was from 1875 to 1877. As much as 8,000 flasks of moreary is said to have been produced, but the amount probably was closer to 300 flasks judging by the extent of the unicraryard workings. The greatest recorded production was between 1937 and 1947 when 1946; flasks of mercury were produced from the Mill workings at the extern and of the property. The most recent produced from the open

pit operations in the Mill area. This operation was halted by landslides into the pit that rendered surface work no longer feasible.

#### Morkines

The vorkings in the Mill area expected to some 3,000 feet of drifting and crosssutting on four levels with a vertical range of 210 feet. The proposed exploration would be at an elevation of 600 feet, or about 100 feet below the lowest level, on the down-dip extension of the ore zone. The adit level, as well as lower levels of the Will Workings was caved at the beginning of 1952. Next of the workings above the 60 level were uncovered by open pit operations.

Aftergram work at the western end of the projectly consisted of 2,100 feet, note or less, of drifting and prosecuting with a vertical range of 230 feet. The Camp, Jones, and Tyne turnels have been eved for almost 15 years. The Kitchen turnel is open but does not exposed any ore:

The surface workings consist of a pit 500 feet long, in an eastwest direction, by 250 feet wide and 150 to 200 feet deep, with three main benches. The highest beach, No. 5 on the map, was being mixed for one when alides from the steep worth free terminated the operation.

We property has furnacing, reforting, and housing facilities, all of which are in good condition and could be put into use on sharp notice.

#### Geology

The mines are located on the northeast side of the "ping" of Franciscan rocks and serpentine which has introded Jurasaic and younger sedirents in a way comparable to the intrusion of a selt case. The Franciscan formation in the mine area is made up of seasive, peoply bedded cilicified sancatone, in part grayworks, with leaser mounts of sheared shele and thin-bedded chart. Despiniting introdes the Franciscan rocks as irregular lenticular masses, the contacts of which strike from N. 50° W. to west and dip about 50° northeast. This trand is pronounced in the regional strucutre. To the north and east, just beyond the limit had the mapped area, lower tretscaus shales are exposed and form low relling slopes. About one mile to the east, some Tertiary biotite endesite introdes the Cretaceous pediments.

Silica carbonate rock, or hydrothermally altered serpentine, appears throughout most of the mapped area. It is similar to the silica-carbonate rock of other Coast Range quicknilver descrits and consists largely of chalcedary and quarts, with some dolomite and other carbonates with small amounts of pyrite, mercasite, and opal. Vaually messive, it is locally banded or laminated in white and black. The bands are, in some places, parallel to the foliation of the serpestine and probably represent relic textures.

#### Ore Deposits

The ore einers are metacionabar and cinnabar that occur filling frectures and shear senes in the silice-carbonate rock and, to a lesser degree, as disseminations throughout the sergentime and silice-carbonate rock. Apparently the shales immediately shove and below the silice-carbonate rock formed an impermeable berrier to the crebearing solutions for the enclosing sediments are bettern. The main one encet was in the fault along the south side of the open pit which forms the contact between silice-carbonate rock and unlerlying sections. Noteever, mineralization was not limited to this lower contact and one bosics were present slong other shears in silice-carbonate rock. One mixed during the 1936-1917 period from the Mill workings evenged 10 pounds of mercury to the ton.

Metacinnebar is the predominant ore mineral in the Mill workings whereas circustar force the ore in the chi mines at the western end of the property. Marcosite and pyrite occur in the silica-carbonate mock and some stibulte is also present. The rich ore-bodies encountered in the past are said to have been closely associated with massive iron pulprises. Mineralization is believed to have taken piece in Termisey time for some circular was reported 1/ to have been found along the correct of fertiary appearite and Conference scales about one mile to the east of the mines.

#### ianlo-uzion

In his original DMM epolication, Mr. Swith proceed todrive a 700-foot drift under the Mill Workings from the east to connect with the 270 level. He also proposed a second phase of work to explare the old mines at depth by drifting on additional 100 feet westerly.

The U.S. Scological Survey conferred with the operator and suggested that a more efficient program could be extried out by sinking a shaft, then driving exploratory drifts and crossects from the bottom.

- G. N. Schuette, consulting engineer for Mr. Smith, subsitted a new application requesting 75 percent Government participation in a \$125,050 program. The new proposal in two parts, is as foliams:
  - Phase 1. Sink a 330 foot shelt from a point 50 feet north of the new stack and then explore by 625 feet of drifting and crosscutting the ground 100 feet below the lowest mine level.
  - Phase 2. (To follow upon successful completion, and review by the Government and operator, of phase 1.) Drift northwesterly 1300 feet to explore the old Jones turnel area at depth.

1/Turner, E. S., Geology of Mt. Dieblo, Bell. 054 2:391-2, 1890

(Freshdown of cost figures are to be found in the application with Form MF-103). The application states that the work will be contracted out at \$135.50 per foot for sinking and \$35.00 per foot for drifting and crosscutting. With the added cost of engineering, realogy, assays, etc., the first phase would cost 373,050 and be completed in seven months, while the second phase, taking nine months, would cost an additional \$52,000. Total cost of the project would be \$125,000.

The first part of the revised application appears to offer the best means of exploring the ore deposit. The advantages of sinking a shaft at the proposed site rather than drifting in from the east are numerous, some of white are: 1 - it would be sunk in ground unvertain by sediments, mainly conditions, that have greater strength than the fracture and altered rocks over the one body; 2 - it would explore new ground 100 feet below any existing workings; 3, waste would be dumped at no greater distance than 300 feet from the shaft, alther into the open pit or just north of the ridge; 1, it would have the savantage of elevation as the collar would be higher than the mill; 5 - it would be only 60 feet from the existing grizzly, one bin, and conveyer belt to the mill.

On the basis of cross section #-1', shout 200 feet of a rescritting S. 24' W. from the bottom of the shaft, will be basessary to reach the main one some leaving some \$25 feet of ternaling to be used in drifting on the mineralized fault some. The log of drill hole so. 2, projected \$20 feet to plane of section \*-4', reports only \$2 feet of silica-cardonate rock at the \$40' feet mark. However, a sursory examination of the core proved that almost \$40 feet of silica-cardonate rock is present below the \$30-feet marker. The core is not complete; therefore, more silica-cardonate rock might be execuntered then has been proved. Some einstern was observed in the core and it was reported that some eight-point ore was sub -- probably in the missing section of core -- in this hole. Also, easys made from the mineralized zone in the winze below the \$65 level (see anisred portion of section \$-4') show that good one does not up the low the lowest level of a year workings.

The second phase of the project would appear to offer lase hope for discovering ore. Furface mapping and the logs of two old dismond drill cores indicate that there are about 600 feet of barron Franciscan action to between the northwest end of the drift proposed in phase one and the first possible pro-bearing rocks to the west.

The Covernment's chare of \$73.070 for phase one will be \$56,707 Chier the 5 percent repayment schedule, and providing that the price of nercury does not drop, production of 1,980 flasks with a gross value of \$1,095,700 would be necessary for the Covernment to recover it's share of the cost. It seems possible that at least half of the necessary ore might be found shove the proposed level, but the additional ore small have to be found below the proposed level. Phase two, with a total cost of \$52,000 would cost the Covernment \$39,000 and require the production of 3,5% flasks with a gross value of about \$780,000 for repayment of the loan.

At the present merical price of mercury, phase one oculd concelvebly psy it's way while phase two offers less promise of being able to repsy the loan. The spelication for exploration under chase one is recommoded. Exploration under mase two should be dependent upon the sneeds of phase one, as the edded exploration would only be worth the high risk involved if the mine were producing from good are found as a result of the phase one exploration.

Togazendrilara azu Genelusiana

JCKET NO. EA	JCKET N	o. EA	2443
--------------	---------	-------	------

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

Docket Copy IDM-E 544

#### EXPLORATION PROJECT CONTRACT 1

•	
	, 1953., between the United States of America, acting
through the Department of the Interior, Defense Minerals Ex	ploration Administration, hereinafter called the "Government,"
and Rounte B. Smith, Tower Petroleta	
c/o Franklin Supply Co., Chicago, Ili	angle. Eng vance of leadingen, which ic
Illinola - Partners	
ereinafter called the "Operator," as follows: 211 38 361	Capta in Annay Tand Ampay 1111
ARTICLE 1. Authority for contract.—This agreement is ente	red into under the authority of the Defense Production Act of ment Aid in Defense Exploration Projects."
50, as amended, pursuant to DMEA Order 1 entitled "Govern	ment Aid in Defense Exploration Projects."
ARTICLE 2: Operator's property rights.—With respect to tha	t certain land situated in the State of
the and the St. of the St. of the St.	described as follows: The No of the Sec. 23. T. I. N. I. I. S. Mount
Mahin Tose and Mentdian Recarried Hel	. 1, 1934 (File No. 1660), except for
rea described in Annes II and shown o	
persof. and entitled "U.S.O.S. Bulleti	
the Operator represents and undertakes:	
Land Wing of New Oran worker their this frame in the remaining that with his art.	ach straighteachean and people sit test beachteachean agus antenta
idiomoralinistima en unconfrance de especia e multipa	
Andrews and the second	And and the second seco
	to possession, and the Owner's Consent to Lien is attached.
The Operator shall devote the land and all existing improves the purposes of the exploration project without any allowance f	ements, facilities, buildings, installations, and appurtenances to
securiting owning or holding nessession thought	
	45 days from the date of this contract shall commence
work on a project of exploration for	
in or upon the described land; and shall bring the project to co date of this contract. The work to be performed is more fully	mpletion within a period of 113 mental from the
or drawings thereto attached, are made a part of this contract.	The Government will contribute to the cost of this work as here-
after provided.	
ARTICLE 4: Performance of the work.—(a) Operator's resp a workmanlike manner, in accordance with good mining standar	onsibility. The work shall be performed efficiently, expertly, in ds and State regulations for health and safety and for workmens.
compensation and employers' liability insurance, with suitable an	d adequate equipment, materials, and labor, to bring the project
to completion within the time fixed. To the extent specified in Expendent contractor or contractors; and work not specified in Ex	xhibit "A," attached hereto, the work may be performed by inde- hibit "A" for performance by independent contractor hav never-
The state of the s	

(b) Independent contracts.—Any independent contract for the performance of work shall be on a unit-price basis (such as foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved), or on some basis

will then 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 heneficial 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 estimate cost are limitations, and any excess therein will be for the sole account of the Operator in which the Government will not participate.

ARTICLE 5. Allowable costs of 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:

the Operator in which the Government will not participate.

Arricus S. Allowable costs of the project.—(a) The costs of the project in which the Government will participate are itself 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 of shall be included in the stimate of costs in Exhibit "A." in terms of the estimated numbers of units of work to be performed, the estimated amount to be half of the estimated costs of any work to be performed under an independent contract, and the estimated shall be allowable maximums above which the Government will not contribute. Regardless of the provisions of units of allowable maximums above which the provisions of the exploration project contractor only on account of work actually performed and that contorms with the provisions of the exploration project contracts with the provisions of the exploration project contracts with the Government will pay as provided in the exploration project contracts. When the provision is the exploration project contracts are independent contract, the Government will pay as provided in the exploration project contracts.

(2) Labor, supervision, consultants.—Labor, supervision and technical services (including engineering and geological ranks), a schedule of which is included in the exploration project contracts.

(3) Departing materials and supplies.—Labor, supervision and technical services including items of equipment costing less than \$50.00 cach, and power, water, and fuel, a schedule of which is included in the estimate of costs in Exhibit "A."

(4) Operating engineering and exploration exploration with the estimated rental, nurchase price, or the allowable depreciation, as the case may be a schedule. Any operating equipment to be rented or purphssed with a schedule of which is included in the estimate of costs in Exhibit. A.

(4) Operating engineering and exploration explorati

(b) The Government's payment | ell cases | .il be based on actual, necessary located in the secess of any "allows... maximum," and not in excess of the fixed perca...age of the tw. il aggregate estimated cost, Costs will be considered to be incurred only as they are or become due and payable.

(c) No flame of general overhead, corporate management, interest, taxes (other than payroll and sales taxes) or any other indirect costs, or work performed or costs incurred hefore the date of this contract, shall be allowed as costs of the project in management of the contract of the contract, in quinty and the project in management of the contract of the contract, in quinty and the project in management of the contract of the contract, in quinty and the project in the project of two key performed and costs (including contract unity prices) incurred under the contract, in quinty and the project of two key percents and costs (including contract unity prices) in the project of two key percents and costs (including contract unity prices) in the project of two key percents and the contract of the Covernment, unless the Government contracts the use of a standard voucher form with invoice attached (five contract) and include surface and/or underground engineering-geological maps of electhes showing the progress of the exploration, with assay-reports on samples taken concurrently with the advance in misracible ground.

(d) Final report—Upon completion of the exploration work or termination of the contract the Operator's reports are insufficient or incomplets, the Government may procure the making or completion of sold, reports and attachments, as adjusted to recomplete reports.

(e) Compliance with requirements—If, in the opinion of the Government, and of the Operator's records and accounts of percents and accounts of percents and accounts of percents and accounts of percents and accounts of the contract, the major percents and accounts of the contract of the contract, the operator and and is at any time. The Government may at

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 making suitable provision for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. Provinced, that mer failure by the Operator to minimal 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. Provinced, that mer failure by the Operator to minimal the Operator rights in the land, of the operator of the many repert from the cost of maintaining such rights (as.by surrender of a Operator of all interest in or operations on the land for a period of 10 years from the dear of this contract, and the operator make or permit any lienafer or conveyance in violation of flifs 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 liablity, the amount thereof shall be estimated as well as may be, and in the event of dispute on the operator, better the contrac

	ARTICLE 18. Changes an	d added provision	s						المن المسلم
* <u>}                                   </u>			<del></del>			·····			
								<u> </u>	
	Executed in sextuplicate	the day and year	first above	written.		THE UNITE	D STATES OF	AMERICA	
320	1000 /S	And	Z var	trans-			2		
	with the state of		Confirmation (Confirmation)			19/	The said	Écica	and "
-	THE WAR	3-(0		Buc.	2.00	AAM IT		Deler	
	Le v			iu.	RL	Pri. 1427	SZT Sep	i <del>ora</del> tion	
وقعاميا.			-	STATE TO	Jalui	De Carlo	re-rest		
A STATE		State State	an ibr	certif	v that I am	the			cretary
of t	he corporation named as (	Operator herein; t	hat	est chestocate	*		***	- 196 d + ± 4670 . 44	signed
	contract on behalf of the			٠,		. /		of spid corne	ration a
that	said contract was duly s	igned for and in	ochalf of sai	d corporation	n by author	ity of its go	verning body	, and is with	in the
scop	e of its corporate powers	•							11.7
						. 1		19 m 40 11 m	
					·				
	••				•.	•	· · · · · ·	F 10 1 10 10 10	

#### EXPLOPATION PROJECT CONTRACT ROWNIE B. SMITH BOCKET NO. DMEA-2448

#### amnex j

Materials and Supplies. For the purpose of determining the Government's interest in materials or supplies remaining upon any termination of the work, they shall be considered in groups or categories (such as pipe, or explosives, or rails, or drill steel), and if the original cost of the remaining unexpended portion of any such group or category exceeded \$50, the Government shall have an interest therein as provided in Article 11 of the contract form.

Equities in Equipment. Unless expressly permitted by provisions in Emilia 1. The operator shall not procure equipment or any other item under a rental-purchase agreement, an installment-purchase agreement, any agreement which creates or builds up an equity or interest in the thing procured which can be converted to legal title only by further payment or some other consideration, or any agreement other than for straight rental or cash purchase and delivery.

Breservation of Property. Until the final disposal of any equipment of other property in which the Government has an interest or equity, the operator shall preserve and protect same for the mutual best interests of the parties, any reasonable and necessary cost thereof to be treated as an allowable cost of the exploration work to which the Government will contribute.