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UNION CARBIDE

INTERNAL CORRESPONDENCE

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Date January 23, 1969

Originating Dept.

Answering letter date

Copy to Roger Hopper/W. T. Cohan

Subject

Two copies of the Report of the Investigation of Ore Reserves, Claims, and Leases of the UCC asbestos mining area near Coalinga are attached.

If you have any questions, please contact John Riddle or myself.

R.O. Marsten

R.O. Marsten

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Investigation of Ore Reserves - Vs - Number of Mining Claims Being Maintained.

UCC Coalinga Asbestos Deposits

Purpose of Report

To determine if any of the approximately 339 current claims in the UCC Asbestos Mine Area, near Coalinga, California, can be released without materially affecting the ore reserves, accessibility to ore bodies, legal protection of mineral sites and road locations, water rights, inconvenience to competing asbestos producers, etc.

History of Property

The Coalinga Asbestos Deposits cover many square miles of steeply mountainous country. When the UCC Asbestos Project was getting underway, the thoughts at that time were to blanket the areas of good ore so as to (1) reserve as much as possible of the highest grade ore for ourselves, and (2) keep competitors from setting up operations of a similar nature in the same ore bodies. Property was acquired by leasing from other claim owners and by staking our own claims wherever possible. While a huge amount of asbestos ore was thus insured, competition was not kept out, and both Atlas and Johns-Manville have working pits and mills in the same general area. Their reserves are not known by the writer, but presumably they are not hurting for orebodies.

Claim and Lease Information

Lode mining claims are a maximum size of 600 x 1500 feet, containing 20 acres, and placer mining claims may be 160 acres maximum. All of the UCC mining area is covered by lode claims, and some placer claims by others have been purchased or are being purchased by the payment of annual minimum royalties. Each claim requires a minimum of $100 of improvement work annually. Proof of this expenditure maintains the claim year by year, and no other fees or taxes need be paid. These are all unpatented claims, which means the land is not taxed.

UCC has leases with certain other claim owners whereby we will, in time, acquire the claims by payment over the years of substantial annual payments called minimum royalties. These minimum royalties must be paid each year, even though no ore is mined. If ore were mined on any lease, an earned royalty of 25¢ per dry short ton or ore mined can be applied to reduce the minimum royalty for that lease year only, but only up to the amount of the minimum royalty. All royalties end when the purchase price of the property is paid. Ideally, enough ore should be mined and shipped from each lease annually so that the earned royalty just equals the minimum royalty. Obviously there is not enough asbestos demand to warrant mining in more than one pit at this time.

All of our lease agreements stipulate that the total minimum royalties must be paid each year until all of the claims covered by the lease have either been released or paid for.

Current Status of the Property

The UCC Mining area is operated by the Mining and Metals Division, out of an office in Coalinga, California. The present mine superintendent has been connected with the workings since their beginning in 1959. There are four other full-time employees. Stripping and mining, ore hauling to the mill at King City, and road building are done by contractors as needed. There are no utilities at the mine site, and only one small building for warehouse purposes.

It is thought that there are more claims than can ever be utilized in any profitable manner. The accompanying map covers about two-thirds of the area which, prior to 1968 had been more or less covered with 424 (approximately) claims. In 1968, 85 of these claims were released (allowed to revert to Public Land where presumably anybody could again claim this property). The map shows two such areas where claims were released. A fiber-yield of 50% or better was the cut-off point when these particular claims were released, whereas the ore outline on the map is now based on a 45% cut-off point.

At the present, there are approximately 339 claims, both lode and placer, which comprise our property. Most of these were staked by UCC people, and are shown in brown on the map. Of the claims being purchased by minimum royalty payments to various lessors, the following table presents the approximate status:

LEASE	EXTENT	TOTAL PAYMENT	PAYOUT YEAR	MINIMUM ROYALTY	REMARKS
Condor	7 claims	$500,000	2011	$10,000	UCC now owns ½ of the Condor interes by purchase in bankruptcy proceeding
Koski #1	7 claims	was 30,050	--	---	Paid up by UCC, but most claims released in 1968.
Koski #2	5 claims	50,000	1973	2,500	
Kirk-Oyster	11 claims	was 20,500	--	---	Acquired by UCC in 1964.
New Idria	1280 acres	500,000	2006	12,000	Part of this is a proposed mill sit
Sandoval-Green	39 claims	280,000	2989	10,000	

Total Current Annual Minimum Royalties $34,500

This table does not include three Easement Leases which cover the mine road to the property.

All of the mining to date has been on the Condor Lease property. Some $80,000 in minimum royalties has been paid to date to Condor Syndicate (UCC is now a ½ partner in Condor Syndicate), but only some $30,000 of this has been earned royalty when ore was actually shipped to the mill.

The mine road, which is the sole good access road to the area is well constructed and maintained. Claims, easements, and purchased grounds protect this road from the ore area to the county road. A good bit of the maintenance of this road is chargeable to the various claims as "improvements", thus helping to satisfy the annual $100 per claim requirement. Other improvements can be stripping, construction of drill roads, access and haul roads to claims, etc.

Explanation of Map

The map shows only the northwest part of the UCC claims area. The areas not shown are thought to be too far from our present road and mining operations, and drill holes there to date do not show extensive high fiber-yield bodies of ore. All of Koski #2 Lease, some claims of Koski #1 Lease, most of the Sandoval-Green Lease, and many UCC claims are in this area not shown. The map is to a scale of 1000 feet to the inch and has been compiled from various other maps of property boundaries, drill holes, and some surface features. Only areas of claims are shown, not the claims themselves, as maps with this information are already existing and will certainly have to be carefully checked to guide any decisions reached as a result of this report.

The ore outlines shown in color are based on a 45% or better fiber-yield ore body. Fiber-yield and reflectance are the two determining tests run on the 10 foot interval drill hole samples. These results are then averaged together for each hole, although many of the holes which have been drilled have not as yet been assayed. Fig. I compares reflectance and fiber-yield percentages, and shows that within the limits of good fiber-yield ore, the reflectance does not vary appreciably on the average.

The topography of the mine claims area is steeply mountainous, and it should be pointed out that no attempt has been made here to correlate terrain features with property boundaries or ore body delineation.

Ore Reserves

Fig. II is a tabulation of the estimated 45% or better fiber-yield ore, expressed as tons of final dried asbestos products leaving the mill. A total of 185,000,000 tons of products (or 800,000,000 tons of ore in place) seems to be a conservative figure of the outlined bodies. Although an ore depth of 100 feet is used in the calculations, the drill holes are normally 150 to 200 feet deep, and a few have been pushed below 400 feet. No indication of the bottoming of the ore has as yet been found. The percentage reductions, by which ore in place is converted to dry asbestos products, is about what happens as the ore is mined, hauled, and processed.

It will be noted that ore bodies occur on New Idria Lease and on Condor Lease, both of which require minimum royalty payments each year. Koski Lease and Kirk-Oyster Lease, as well as all the UCC mining claims do not require minimum royalties.

Recommendations

Fig. III lists the various claims and leases and shows the amounts of annual assessment work and of minimum royalties for the entire area as it now stands and as it would be if the recommended 128 claims were dropped. This indicates an annual savings of $12,800 in assessment work required, and $12,500 in minimum royalties.

The "West UCC Claims", between 0,000 and 9700E can be reduced by about 28 claims, but the remaining onesshould be left to protect the ore body as shown, and to keep water rights along the San Benito River.

There is no change recommended in the central area of the property, except the releasing of the single Sandoval-Green claim.

All claims and leases East of 27,800 E, and all claims and leases south of 16,000 N could probably be dropped. These are off the map area, but their approximate location is indicated.

This then leaves the ore body and property as shown on the map. The 185,000,000 tons of equivalent products (which is 800,000,000 tons of ore in place) will furnish sufficient ore for many years of mill operations. The annual required costs will only be $21,100 for assessments, and $22,000 for minimum royalties to Condor and to New Idria Lease owners.

This report does not spell out exact numbers of claims and leases. Figures are approximate, and when and if decisions are made to take action on these claims, exact numbers, locations, and nomenclature must be obtained from other maps. The writer has not consulted at all with company lawyers on the legal aspects of the property, and this would certainly have to be done before any action is taken. Likewise, the minesuperintendent and others in the Mining and Metals Division should be invited to give their opinions on whatever we propose to do. These people are presently in the process of examining some of the same property areas which are recommended here for release, but complete drill hole data is not yet available.

All the mine records, with the exception of some maps and drill hole assays, are in Colorado, and have not been accessible to the writer.

There is some question whether the three parcels which are the New Idria Lease, shown in purple on the map, should be retained or released. These cost us $12,000 in minimum royalties each year and do not appear to be favorably located as far as the orebody is concerned. They are held now because of the possibility of a future mill at the mine area. They do not protect the mine road, as might be inferred from the map, as the road across the New Idria Lease has a separate easement with New Idria. This separate easement costs us $500 per year which is credited as advance or minimum royalty against the New Idria Lease lands, as long as that lease remains in effect.

There is a peculiar clause in the New Idria Lease which states in effect that, if by 1977 we have not removed from New Idria Lease lands approximately 560,000 tons of ore, then each year thereafter we must mine 48,000 tons of ore on their lease. This is not a clause in other leases. There is a possibility of re-negotiating the New Idria Leases to hold only the land we want for a mill-site. This should be discussed with T. S. Ary and W. T. Cohan.

R. O. Marsten

R. O. Marsten
January 23, 1969

ROM/cg

REFLECTANCE Vs FIBER-YIELD — 94 DRILL HOLES WEST OF 30,000 E

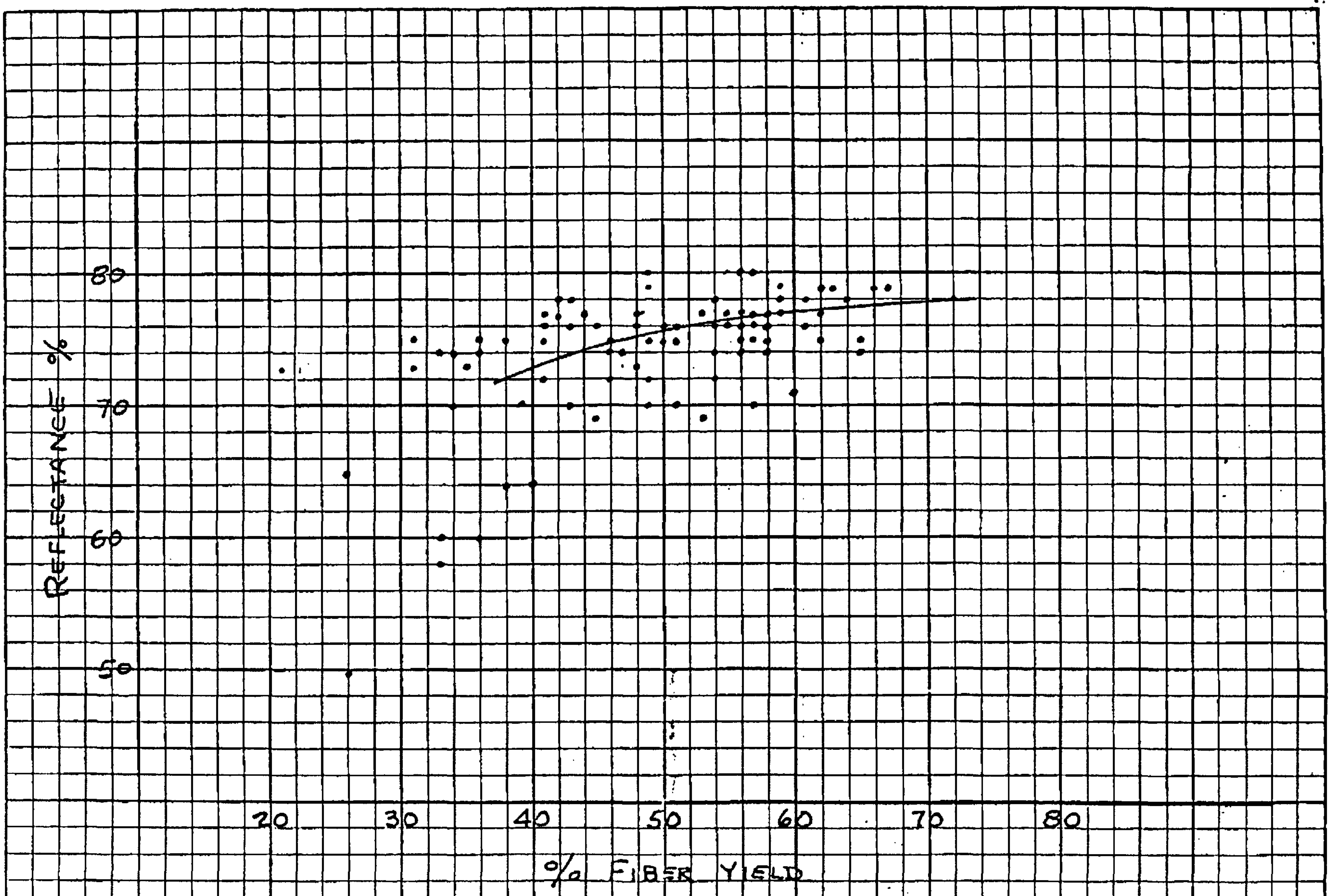

FIG I

ESTIMATED ASBESTOS ORE RESERVES ; UCC COALINGA MINE AREA (1)

1/20/69
RCM

Q.A. FACTOR = .8 x .8 x .8 x .45 = 23 %

DEPL. UNITS 813 -	NAME OF LEASE	APPROX AREAS MAP □"	APPROX AREAS ACTUAL □'	VOL. @ 100' THICKNESS CU. FT.	WET ORE IN PLACE @ 11 CFT (2) TONS	LESS 20% PIT WASTE TONS	LESS 20% OVERSIZE TONS	LESS 20% MOISTURE TONS	LESS 55% TAILINGS TONS	FINISHED PRODUCTS MM TONS
51, 54, 79, 80	WEST CONDOR (3)	13	13×10^6	13×10^8	1.18×10^8	$.94 \times 10^8$	$.76 \times 10^8$	$.60 \times 10^8$	$.27 \times 10^8$ =	27
52	EAST CONDOR	12	12×10^6	12×10^8	1.09×10^8				$.25 \times 10^8$ =	25
	TOTAL CONDOR									52
53, 55	KIRK-OYSTER (UCC)	2.4	2.4×10^6	2.4×10^8	0.22×10^8				$.05 \times 10^8$ =	5
	TOTAL K-OYSTER									5
64, 68, 69	NEW IDRIA	2.5	2.5×10^6	2.6×10^8	0.23×10^8				$.05 \times 10^8$ =	5
	TOTAL NEW IDRIA									5
50	UCC CLAIMS, WEST (4)	14	14×10^6	14×10^8	1.27×10^8				$.29 \times 10^8$ =	29
50	" " , CENTRAL	30	30×10^6	30×10^8	2.73×10^8				$.63 \times 10^8$ =	63
50	" " , EAST	15	15×10^6	15×10^8	1.36×10^8				$.31 \times 10^8$ =	31
	TOTAL UCC CLAIMS									123
70, 71	UCC FEE	0		THESE CLAIMS FOR ROAD & MILL SITES						0
	TOTAL UCC FEE									0
	GRAND TOTAL									185

(1) INCLUDES ALL INDICATED ORE OF 45% OR BETTER FIBER YIELD, BETWEEN 0,000 AND 27,800 E. BASED ON AVAILABLE DRILL HOLE DATA AS OF 1/16/69.
(2) WET ORE IN PLACE FACTOR OF 11 CU FT PER TON, OR APPROXIMATELY 1.5 TONS PER CU YARD.
(3) INCLUDES KIRK-OYSTER (NOW UCC) CONFLICTS WITH CONDOR.
(4) "WEST UCC" IS 0,000 TO 9,700 E; "CENTRAL" IS 9,700E TO 20,000 E; AND "EAST" IS 20,000E TO 27,800 E.

FIG II

Claims and Leases, and Annual Costs Involved

Does Not Include Fee Lands Owned By UCC, or Leased From New Idria @ $12000 Per Year

	Claims Held Prior to 1968	Released in 1968	Claims Held in 1968	Annual Assessment Costs	Minimum Royalties	Total Annual Costs	Claims Proposed for Release	Proposed Claims to Keep	Annual Assessment Costs	Minimum Royalties	Total Annual Costs
West Condor	3	-	3				-	3			
East Condor	4	-	4				-	4			
Total Condor	7	-	7	$700	$10000	$10700	-	7	$700	$10000	$10700
North Kirk-Oyster	5	-	5				-	5			
South Kirk-Oyster	6	-	6				-	6			
Total Kirk-Oyster	11	-	11	1100	-	1100	-	11	1100	-	1100
Koski #1	7	4	3		None		3	0			
Koski #2	5	-	5		2500		5	0			
Total Koski	12	4	8	800	2500	3300	8	0	-	-	-
Sandoval-Green DIST# -57	31	-	31				31	0			
" -56	4	-	4				4	0			
" -81	1	-	1				1	0			
" -82	1	-	1				1	0			
" -58	10	-	10				10	0			
" -63	1	-	1				1	0			
Total Sandoval-Green	48	-	48	4800	10000	14800	48	0	-	-	-
UCC West of 9700E	85	21	64				24	40			
9700E to 20000E	104	7	97				4	93			
20000E to 27800E	80	21	59				-	59			
South of 1600N	26	7	19				19	0			
East of 27800E	50	25	25				25	0			
On Mine Road	1	-	1				-	1			
Total UCC Claims	346	81	265	26500	-	26500	72	193	19300	-	19300
Grand Total	424	85	339	33900	22500	56400	128	211	21100	10000	31100

Fig. III