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Arizona Department of Mines and Mineral Resources Mining Collection

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PRINTED: 12/18/2002

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: CASTLE DOME MINE

ALTERNATE NAMES:
FLORA TEMPLE MINE

YUMA COUNTY MILS NUMBER: 17

LOCATION: TOWNSHIP 4 S RANGE 19 W SECTION 36 QUARTER SW
LATITUDE: N 33DEG 02MIN 18SEC LONGITUDE: W 114DEG 10MIN 24SEC
TOPO MAP NAME: CASTLE DOME MTS - 15 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:
FLUORINE FLUORSPAR
LEAD
SILVER
BARIUM

BIBLIOGRAPHY:
HAURY, P.S., USBM RPT. ON AZ. LEAD CO. JULY, 1945, FROM USBM FILES
PHELPS, H.D., FLUOR PB AG MINES CASTLE DOME DIST, WAR MINS. RPT. OCT. 1943
WILSON, E.D. GEOL. & MIN. DEP. SOUTH YUMA CO AZ. BUR. MINES BULL. 134, 1933
AZBM BULL 158, 1950 P98, 115
ADMMR CASTLE DOME MINE FILE

158

CASTLE DOME MINES YUMA COUNTY

T4S, R19W Sec 25 36

ABM Bull. 134 p. 95

De Luce, (Flora Temple) in "U" file

A. L. Flagg vanadium reports - Book VI

Mining Statistics West of the Rocky Mountains, by R.W. Raymond, 1874 p. 393
C.F. Willis library

DMR - Fluorspar p. 39

Minerology of Arizona p. 13, 16

SEE: Index of Mining Properties in Yuma Co.
Bulletin 192 - 1978, Pg. 118
Bureau of Geology and Mineral Technology

See: Maps upstairs in Drawer 7 - Flat storage file

MAPS - Upstairs in the ABM rolled file boxes under Castle Dome District
3 maps, one of Lala Claim, one of Flora Temple Claim, and one of Castle Dome Claim groups

NAME OF MINE: CASTLE DOME (42 mi. N.E. of Yuma)

COUNTY: YUMA
DISTRICT:
METALS: PB

OPERATOR AND ADDRESS: DATE:		MINE STATUS DATE:	
5/1/44	Kenneth Holmes, Box 828 Yuma, Arizona (Arizona Lead Company)	5/1/44	Shipping pb
		4/45	& stockpiling fluorspar
		11/45	Idle

Castle Dome Mines

HOLMES, M. A., George I. & K. A. 7-30-42
Ariz. Lead Co. of Yuma
~~Box 828~~ 675 6th Ave.
Yuma, Arizona

Arizona Lead Co. of Yuma — USBM "U" File - Mill —

See Arizona Lead Co. - re: Priority on trucks - 9-28-42

See Ariz. Lead Co. of Yuma - re hauling permit 10-9-42

See ARIZ. LEAD CO. OF YUMA - Re priority on lumber 12-3-42

MINING JOURNAL 2/28/42

[redacted]

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

INFORMATION FROM MINE CARDS IN MUSEUM

~~ARIZONA~~ --
YUMA COUNTY
CASTLE DOME MINE

MM 2992 Fluorite (Fl)
2993 Fluorite (Fl)

MM N 094 Vanadinite

N 601 Fluorite
N 602 "
N 603 "

N 983 Vanadinite
N 984 "
N 985 "

Mils # 17
1- AKA
Castle Dome Mine (file)

RECNO	M030315
REC_TYPE	S
USER_FIELD	*U93/7
REP_DATE	83 05
FIL_LINK	USBM 004 027 0004 IMS, CIMRI
REP	PETERSON, JOCELYN A.
REP_AFF	USGS
SYN	FLORA TEMPLE EXTENSION, PART OF CASTLE DOME MINE GROUP
DIST	CASTLE DOME DISTRICT
COUNTY	YUMA
STATE_CODE	AZ
CTRY_CODE	US
PHYS	12
DRAIN	15070201
LAND_ST	40
ELEV	1330 FT
UTM_N	3659150
UTM_E	764000
UTM_Z	+11
ACC	A
TOWNSHIP	04S
RANGE	019W
SECTION	36
SECT_FRACT	N CENTER
MERIDIAN	GILA AND SALT RIVER
POSITION	SW OF CASTLE DOME PEAK.
LOCATION	INFO FROM LAND.ST :1964
SITE	FLORA TEMPLE CLAIM
LAT	33.0422
LONG	-114.1747
CTRY_NAME	UNITED STATES
COMMOD	PB AG CU F MO ZN V BA
ORE_MAT	ARGENTIFEROUS GALENA, CERUSSITE, ANGLESITE, HYDROZINCITE, SMITHSONITE, WULFENITE, VANADINITE, MIMETITE, PYRITE, LIMONITE
GAD	ABOUT 58,738 TONS OF ORE AVERAGING 4% PB, 0.1% CU, AND 1.3 OZ/T AG.
MAJOR	PB AG CU F
CLH_USE	93/10/14
TRACE	MO ZN V BA
PROD	S
LOC_STRUCT	WELL DEFINED FAULTS
STATUS	4
YR_DISC	1871
NAT_DISC	B
YRFST_PROD	1871
YRLST_PROD	1949
OWNER	MRS. ELIZA DELUCE (1951)
EXPL_COM	SECOND PATENTED CLAIM IN ARIZONA (1871). AS PERMITTED BY THE MINING LAWS OF THE TIME, IT IS 2000 FT LONG BY 200 FT WIDE.
DEP_TYPE	VEIN
DEP_FORM	LENSES & SHOOTS
D_T_U	FT
DEPTH_BOT	225
D_B_U	FT
MAX_LEN	2000
M_L_U	FT
MAX_WID	10
M_W_U	FT

DEP_SIZE	S
STRIKE	N18W
DIP	50E
DDESC_COM	A VERTICAL VEIN STRIKING MORE NW BRANCHES FROM MAIN VEIN NEAR SOUTHERN BOUNDARY OF CLAIM.
QUAD250	SALTON SEA
DEPTH_WK	225
D_W_U	FT
DWORK_COM	11 SHAFTS
MIN_AGE	MTERT
NORE_MINS	BARITE, CALCITE, FLUORITE, QUARTZ, ARAGONITE
ORE_CNTL	FAULTS WITH STRONG CROSS FRACTURING
ADMIN_AREA	KOFA WILDLIFE REFUGE
ALTER	SERICITIZATION, SILICIFICATION, LOCALLY IRON-STAINED
HRU_AGE	MES
HRU_NAME	UNNAMED METASEDIMENTS
NAME	PETERSON, JOCELYN A.|ORRIS, GRETA J.
DATE	05/01/83|06/01/93
ARU_AGE	MTERT
ARU_NAME	KOFA VOLCANICS
ED_COM	|
CONT_CODE	NA
GEN_COM	THIS REPORT WAS TAKEN FROM RECORD MO30315 OF JAN WILT IN MOLYBDENUM FILE, CONTACT PERSON T.G. THEODORE, USGS. ; INFO.SRC : 1 PUB LIT; 2 UNPUB REPT
REF	KEITH, 1978, ABGMT BULL 192.|WILSON, 1933, ABM BULL 134.|WILSON, 1951, ABM BULL 158.|PHILLIPS, K.A., 1987, ARIZONA INDUSTRIAL MINERALS: ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES MINERAL REPORT 4, 185 P.|USBM-ABGMT PRODUCTION FILE DATA|USBM FILE DATA CLUSTER 343, FLORA TEMPL E
CONT_NAME	NORTH AMERICA
STATE_NAME	ARIZONA
WORK_TYPE	U
AP_ITEM	ORE
AP_ACC	ACC
AP_AMT	0.40000
AP_U	TONS
AP_YEAR	1871
CP_ITEM	ORE
CP_ACC	EST
CP_AMT	58.
CP_U	ST
CP_YEAR	TOTAL?
CP_GRADE	4% PB, 0.1% CU, 1.3 OZ/T AG
AP_COM	LARGELY MINED OUT BY 1880. STOPE FILL & DUMPS LATER WORKED FOR PB, AG, FLUORSPAR. ONE OF MAJOR PRODUCING MINES IN EARLY DAYS BUT TOTAL OUTPUT UNKNOWN.
UPD_DATE	93 06
UPDATER	ORRIS, GRETA J.
COMMOD_TYP	B
QUAD24	CASTLE DOME PEAK
QUAD6250	CASTLE DOME MOUNTAINS
DATE_ISSUE	95/5/18
UPD_AFF	USGS
PROF_ID	100
PROF_LOC	100
PF_COMMOD	100
PROF_EXPL	100
PFDESC_DEP	50

PFDESC_WRK 100
PROF_GEOL 85
PROF_REF 100
PPROD_RESV 26
PROF_ALL 84
HR_AGE_MV MES
HR_TYPE_MV RHYOLITE PORPHYRY (HANGING WALL), SLATE (FOOTWALL), LOCALLY METAMORPHOSED SHALE
AR_AGE_MV MTERT
AR_TYPE_MV DIORITE PORPHYRY, QUARTZ PORPHYRY DIKES
TYPE R|U
AFFIL USGS|USGS
DEP_CODE 11000
HUC 15070201

ARIZONA DEPARTMENT OF MINERAL RESOURCES
MINERAL BUILDING, FAIRGROUNDS
PHOENIX, ARIZONA

~~December 10, 1957~~

January 29, 1958

To the Owner or Operator of the Arizona Mining Property named below:

ARIZONA LEAD COMPANY OF YUMA (Property) LEAD (ore)

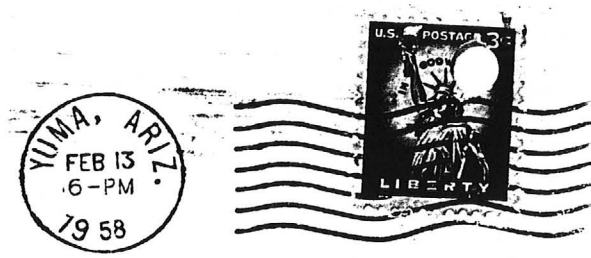
We have an old listing of the above property which we would like to have brought up to date.

Please fill out the enclosed Mine Owner's Report form with as complete detail as possible and attach copies of reports, maps, assay returns, shipment returns or other data which you have not sent us before and which might interest a prospective buyer in looking at the property.

FRANK P. KNIGHT,
Director.

Enc: Mine Owner's Report

Holken Mining Co., Inc.
MANGANESE PROCESSING
P. O. BOX 308 WINTERHAVEN, CALIF.



Arizona Department of Mineral Resources
Mineral Building, Fairgrounds
Phoenix, Arizona.

June 12, 1944

Mr. George I. Holmes
Arizona Lead Company
Box 628
Yuma, Arizona

Dear Mr. Holmes:

The War Production Board has asked this department to make an immediate survey as to the causes of the curtailment of metal production in Arizona. It may have to do with pending plans for selective service.

I had planned to have Mr. Holt visit you and get the desired information regarding your operation, but he will be unable to do so soon enough. I am therefore enclosing a "questionaire" (much as we dislike the word) which I hope you will see fit to fill out and return.

It is important that this be done as quickly as possible as there may be matters quite vital to us operators pending in Washington right now.

Approximate figures will be sufficient and they will be compiled into an over-all picture.

Very truly yours,

Chas. H. Dunning
Director

CHD:JES
enc.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Arizona District
Western Region

SOUTHWEST EXPERIMENT STATION
BOX 4097
UNIVERSITY STATION

TUCSON, ARIZONA

May 26, 1944

Mr. C. H. Dunning, Director
Department of Mineral Resources,
State of Arizona,
304 Home Builders Building,
Phoenix, Arizona.

Dear Mr. Dunning:

Your letter of May 23 regarding the Castle Dome Lead Mines of Yuma County, now being operated by the Arizona Lead Company, has been received.

A rather thorough examination of the four principal properties comprising the Castle Dome Mining District was made by an engineer of the Bureau of Mines in March and April, 1943. Our chief interest was in the fluorspar, which is the principal gangue mineral in the lead ore. Our engineer estimated at that time that the Arizona Lead Company had a reserve of about 25,000 tons of dump ore and stope fill. If the development then planned by the company has not been carried out, it is not surprising that they are running out of ore. It is the opinion of our engineer that additional ore can be developed without difficulty and it is to be hoped that the management will proceed to open up additional ore before their present reserves are completely exhausted.

The Bureau of Mines undertakes exploration for the discovery of new reserves but does not ordinarily develop ore bodies for mining. In general this is considered to be a function of the operator and Government assistance, where needed, is supplied in the form of development loans by the Reconstruction Finance Corporation.

We will be glad to assist Mr. Holmes in any way possible and if he so desires, will send an engineer to discuss his problems with him as soon as we have one available. As you know, we are approaching the end of our fiscal year and our present funds are fully obligated. Appropriations for the next fiscal year beginning July 1 have not yet been passed by the Congress; consequently our plans for the next fiscal year are still uncertain.

Yours very truly,

J. H. Hedges

J. H. Hedges
District Engineer.

Send copy
to Holt

May 23, 1944

Mr. J. H. Hedges,
Supervising Engineer,
U. S. Bureau of Mines,
University of Arizona,
Tucson, Arizona.

Dear Mr. Hedges:

I am submitting for your consideration a memorandum and report concerning the Castle Dome Lead Mines, of Yuma County, from our field engineer, Mr. Elgin B. Holt.

You will note that this property has been in operation, under the management of Mr. George I. Holmes, since 1942, and that it produced during 1943 about 2,000,000 pounds of lead, plus 27,000 ounces of silver.

However, it seems that the dump and mine fill ores have been fairly well worked out and underground work is now being carried on which has resulted in uncovering virgin vein material from which the mill is being supplied; but not adequately.

Holt states that the main problem now is to keep sufficient ore developed ahead to keep the mill running, and he suggests that we call your attention to this matter with a view to having you consider sending engineers to this property, for the purpose outlined in the memorandum mentioned.

Very sincerely yours,

C. H. Dunning,
Director.

cc - George I. Holmes

January 8, 1944

Mr. George Holmes
Arizona Lead Co. of Yuma
Box 828
Yuma, Arizona

Dear Mr. Holmes:

I am enclosing a copy of the regulations regarding fluorspar. Fluorspar seems to be one of the real critical minerals at this time and you may wish to consider recovery of fluorspar from your tailings.

I am also sending a copy of these regulations to Walter Riley, as I know he is interested and was discussing it with me while here in Phoenix yesterday.

Yours very truly,

J. S. Coupal, Director

JSC:LP
Enc.

CC: Walter Riley

March 31, 1943

Mr. George Holmes
Arizona Lead Company
160 Main Street
Yuma, Arizona

Dear Mr. Holmes:

I have just received a memorandum from Bill Broadgate which may interest you. He says:

> "The Arizona Lead Co. case has cleared OPA, the principal stumbling block, which is very encouraging - after a little more treatment at WPB it goes to Metals Reserve"

Evidently you are in line for some relief after a little more red tape is unraveled.

With kindest personal regards, I am

Yours very truly,

CHARLES F. WILLIS, Chairman
Board of Governors

Consultant for Metals Reserve Co.

CFW:MH

December 3, 1942

Mr. George Holmes
Arizona Lead Company of Yuma
San Carlos Hotel
Yuma, Arizona

Dear Mr. Holmes:

Regarding your inquiry about priority on lumber, I talked with Mr. Chris Totem, who is President of the Retail Lumber Association, regarding priorities on Oregon pine. I stated your case and he told me that it would take special priorities to get Oregon pine or fir, and that the use to which this timber was to be placed would be carefully scrutinized to see whether or not another type of timber could be used in its stead.

If you use this timber for stulls and head boards, Mr. Totem stated very definitely that priorities for these would unquestionably be denied.

As stated to you, I believe, for your purpose, you can increase the size of your timbers and instead of using 4 x 6 either use 6 x 6, 6 x 8, or 8 x 8, as necessary for these tunnels and use No. 1 mine timber of native pine.

Mr. Totem suggested that the Saginaw Manistee at Flagstaff could probably supply you with the timber you needed.

Very truly yours,

J. S. Coupal
Director

JSC:kk

Washington, D,C.
Nov. 10, 1942

SUBJECT: Premium Payment
Arizona Lead Company of Yuma,
George Holmes, Box 828, Yuma.

A check was mailed Nov. 2nd for $831.24 premium on 30,277# of lead.

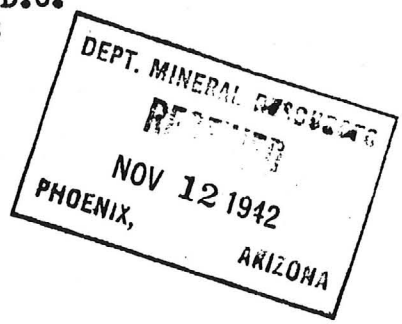
I am glad you feel that this situation is improved and improving.

You did not give any shipment dates, etc., in the above case so it would be hard to make comparisons. However, you can see that perhaps there was no undue delay in this case.

If Holmes shipped this car late in September, and it got in the works early in October, the smelter would not credit it until the November accounting period. I can see how cases riding in on the edges of the monthly bookkeeping accumulation periods may seem a little delayed. MRC seems to have acted promptly enough.

Bill Broadgate

Washington, D.C.
Nov. 9, 1942



SUBJECT: Premium Payment
Arizona Lead Company of Yuma
George Holmes, Box 828, Yuma, Arizona

I am having this looked into.

Bill

Mr. Hastings

November 5, 1942

Mr. George Holmes
Arizona Lead Company
Box 828
Yuma, Arizona.

Dear Mr. Holmes:

I have just noted your letter of November 3 to Earl Hastings and I will immediately check up to see why you have not more promptly received the premium payment on the lead shipped during the month of September. You should have received your affidavit for signature early in the month of October and, in accordance with the usual speed that payments are made, should have had your premium check prior to November 1.

There is no excuse for these things not being handled promptly and we like to know when there are delays so we can check up to find out what is wrong.

The other portion of letter relating to trucks and hauling I am referring back to Mr. Hastings to handle.

If at any time we can do anything for you to simplify your problems, please do not hesitate to call upon us.

With kindest personal regards, I am

Yours very truly,

CHARLES F. WILLIS, Consultant
Metals Reserve Company

CFW:MH

Chairman, Board of Governors
Department of Mineral Resources

Arizona Lead Company

of Yuma, Arizona

Box 828 YUMA, ARIZ.

November 3rd, 1942.

Mr. Earl F. Hastings,
Assistant Director and
Project Manager,
Department of Mineral Resources,
State of Arizona.
Phoenix, Arizona.

Dear Mr. Hastings:

We still have not received the premium for the lead we shipped during the month of September, we only received the Affidavitt of Producer from American Smelting and Refining Company, El Paso, Texas, on October 14th, 1942.

Regarding the application for a Permit by G.G.Fletcher, we have just talked with him, he now has a temporary Permit to operate and states they are to have a hearing on about November 15th, at Yuma, unless a change is made later.

Regarding H.L.Gardner application to purchase new trucks, he has been given authority to purchase three new trucks, and refusal of two, in issuing him permit to to purchase the new trucks they did reduce them to medium instead of large as asked for.

Wishing to thank you very kindly for the assistance you have given us.

Yours Very truly,

Arizona Lead Company,

Geo Holmes

GH/of

November 2, 1942

Mr. George I. Holmes
Arizona Lead Company
P. O. Box 828
Yuma, Arizona

Dear Mr. Holmes:

Mrs. Clara Botzum informed Mr. Coupal that you were experiencing some difficulty in obtaining premium payments on lead shipments.

This is quite unusual in that the Premium Payment Settlement plan had been streamlined and stepped up to the extent that we have heard of no complaints for the past month or so. Will you please give us full particulars as to the amount now due you, how long it is overdue and when the last settlement was made. With this information we will be able to check into this delay for you.

We will be interested to know when you receive any information relative to the truck application for Mr. Gardener and the Corporation Commission's decision relative to granting carrier privilege to G. G. Fletcher.

Very truly yours

Earl F. Hastings
Assistant Director &
Projects Engineer

EFH:BA

ARIZONA CORPORATION COMMISSION
THE CAPITOL
PHOENIX

WILLIAM (BILL) PETERSEN
COMMISSIONER

October 20th, 1942.

Mr. Earl F. Hastings, Assistant Director,
Projects Engineer,
Department of Mineral Resources,
413 Home Builders Building,
Phoenix, Arizona.

Dear Mr. Hastings:

This will acknowledge receipt of your letter of October 13th with which was enclosed a report of your field engineer in regard to the Arizona Lead Company, Yuma, Arizona.

You may rest assured that this will be given every consideration and I sincerely appreciate your communication.

With kind regards, I am,

Sincerely yours,

Bill Petersen

WILLIAM (BILL) PETERSEN,
COMMISSIONER

WBP-pat

October 13, 1942

Mr. William Peterson
Arizona Corporation Commission
Phoenix, Arizona

Subject: Arizona Lead Co., Yuma, Ariz.

Dear Mr. Peterson:

The above company has applied for a permit for G.G. Fletcher to operate dump trucks for the purpose of hauling lead ore from the Castle Dome Lead Mine to the concentrating plant near McPhaul Bridge on the Gila River. The distance between the mine and the mill is 25 miles. At present a Mr. Henry Gardner has a permit to do this hauling but is unable to keep the mill supplied to capacity.

This Department has been in close touch with the Arizona Lead Company and appreciates their production possibilities and the troubles being encountered at the present time through lack of transportation of ores to their treatment plant. The production capacity of this company constitues an appreciable amount in view of the current demand for metals. We feel that your very serious consideration of this application is warranted and trust that a favorable decision may result.

We are enclosing a report by our field engineer, Elgin B. Holt, which indicates the importance of this property and may be of some assistance to you in reaching a decision. If we may supply any further information in this or other projects please do not hesitate to call on us.

Very truly yours,

Earl F. Hastings
Assistant Director
Projects Engineer

EFH:BA
cc: G. Holmes
Enc.

Arizona Lead Company

of Yuma, Arizona

Box 828 YUMA, ARIZ.

October 10, 1942.

Mr. Earl F. Hastings,
Assistant Director
and Project Engineer,
Department of Mineral Resources,
State of Arizona,
Phoenix, Arizona.

Dear Mr. Hastings:

I Have your letter of October 9th, 1942, and note your willingness to aid us in obtaining a hauling permit for G.G.Fletcher.

Also that you have obtained a reconsideration of the application for additional trucks for our Mr. Henry L. Gardner.

If I understand your letter correctly, it is your opinion that we are asking for a hauling permit for Mr. Fletcher, only, in case Mr. Gardner is unable to get the new trucks as applied for, but this is not the case.

In the face of the reconsideration for the application to buy the trucks, we still wish to obtain the hauling permit for Fletcher, for the reason that should Mr. Gardner get the new trucks he would only be able to haul some 100 tons per day, and our Mill when operating at full capacity will handle 200 tons, which is about all the tonnage of ore that can be hauled by both Gardner and Fletcher, Fletcher has several trucks which he can put on this job at once, but he alone, does not have enough trucks to do all of our hauling, therefore we will appreciate all the help you are able to give to get this permit too.

Thanking you very kindly for your cooperation.

Yours very truly,
Geo. T. Holmes
Arizona Lead Company,

Castle Dome Lead Mine.

GH/of

October 9, 1942

Mr. George Holmes
Arizona Lead Company
Box 828
Yuma, Arizona

Dear Mr. Holmes:

We have a letter from Elgin B. Holt, as well as a copy of your letter to him of October 1st. We will gladly help you to the extent of our ability with the Arizona Corporation Commission in obtaining a hauling permit for G. G. Fletcher.

We have, however, already obtained a reconsideration of the application for additional trucks made by Henry L. Gardner. In the face of this reconsideration do you still wish to obtain a hauling permit for Fletcher?

Please let us know so that we will not be putting pressure on both projects for you but limit our activity to either obtaining a permit for Fletcher or obtaining trucks for Gardner, which ever you deem the most helpful. Let us know at your earliest convenience.

Very truly yours,

Earl F. Hastings
Assistant Director
& Projects Engineer

EFH:BA

C

October 5, 1942

Mr. Grant M. Syphers
Local Application Officer
Office of Defense Transportation
304 Security Building
Phoenix, Arizona

Dear Mr. Syphers:

Subject: Truck Application of H. L. Gardner
Yuma, Arizona

On my recent visit to your office I was not aware the application for trucks to be used by the Arizona Lead Company at Yuma had been made by a carrier.

I am enclosing herewith a report on the Arizona Lead Company property which is indicative of the production possibilities of this mine. We trust that this report will serve to assist in the reconsideration of Mr. Gardner's application.

Yours very truly,

Earl F. Hastings, Assistant Director
and Projects Engineer

EFH:LP
Enc.

Lead Co

October 5, 1942

Mr. H. L. Gardner
Box 524
Yuma, Arizona

Dear Mr. Gardner:

We have forwarded to Mr. Syphers a copy of Elgin B. Holt's report on the Arizona Lead Company property and have strongly recommended that your application for trucks be reconsidered.

I have also talked with Mr. Joe Bickman of the Western Motors, Incorporated, who handles GMC trucks and he is thoroughly cognizant with the conditions affecting new truck sales. He tells me that it is very difficult to obtain permission to buy a new truck having a five yard factory rating. However, it is relatively easy to obtain permission to buy a smaller truck to which a third axle can be added and certain other alterations made so that that would be entirely satisfactory for the heavier loads. I have asked Mr. Bickman to write to you, giving you the various possibilities along this line, as it may be possible for you to use one of these substitutes in the event that you cannot purchase the standard five yard truck.

Please let us know whenever you receive further information relative to your application, as we will follow this matter through for you to the best of our ability.

Yours very truly,

Earl F. Hastings, Assistant Director
and Projects Engineer

EFH:LP

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

413 HOME BUILDERS BLDG.
PHOENIX, ARIZONA

October 5, 1942

REPLY TO

P. O. Box 188,
Kingman, Ariz.

Mr. J. S. Coupal, Director,
Department of Mineral Resources,
413 Home Builders Bldg.,
Phoenix, Arizona.

Dear Sam:

I am herewith enclosing a letter I have just received from Mr. George I. Holmes, Manager of the Arizona Lead Company of Yuma, in which he included copy of a letter, dated Sept. 29th, which he had written to Mr. William Peterson, Arizona Corporation Commission, Phoenix, Arizona, requesting that a permit be granted to G. G. Fletcher, of Yuma, to operate dump trucks, for the purpose of hauling lead ore from the Castle Dome Lead mines to the concentrating plant, belonging to said company, near the McPhaul bridge on the Gila River, a distance of 25 miles.

You will note that Mr. Holmes asked me to write to Mr. Peterson in their behalf stating the facts as I know them to be, regarding the requirements and the necessity of the said company having additional trucks hauling ore in order to keep the mill operating at capacity.

As per your instructions that all such matters should be handled by our Phoenix office, I am passing this correspondence on to you so that you can write to or contact Mr. Peterson with a view to helping Mr. Holmes, or rather Mr. Fletcher, in every way possible.

As Mr. Holmes states, his present contractor, Henry L. Gardner, has been unable to purchase more trucks, so at the present time the mill is only supplied with ore at about 40% of its capasity. You can refer to my reports on Castle Dome mines for full details of this important operation.

Very sincerely yours,

Elgin B. Holt

Elgin B. Holt,
Field Engineer.

cc - George I. Holmes.

YUMA, ARIZONA

Lead
Arizona Co.

October 3rd, 1942

Mr. Earl F. Hastings,
Assistant Director & Projects Engineer
Department of Mineral Resources
413 Home Builders Building
Phoenix, Arizona.

Dear Mr. Hastings:

Referring to your letter of September 28th, 1942 addressed to Mr. George H. Holmes of the Arizona Lead Company in regard to Priority on Trucks, wish to state that I am the carrier under contract to them for the hauling of their ore.

On September 15th I submitted applications on WPB form PD-310 for 5 new trucks of 5 yard capacity, and the applications were turned down by the Board on September 18th.

Due to the fact that your letter to Mr. Holmes was written on September 28th, it seems that somewhere along the line, my applications and your conversation with Mr. Syphers did not get together.

I am enclosing a copy of the letter written to Mr. Syphers today in which I am enclosing and resubmitting the applications and asking his advice as to the proper method of re-opening the matter.

Anything you can do for us to help us along in obtaining permission to buy these trucks will be greatly appreciated by both myself and Mr. Holmes, as they consider the need for these trucks as urgent.

Thanking you for your assistance, I am,

Yours very truly,

H.L. Gardner

H.L. Gardner
P.O. Box 524
Yuma, Arizona.

c

YUMA, ARIZONA

October 3rd, 1942

Mr. Grant E. Syphers,
Local Allocation Officer
Office of Defense Transportation
304 Security Building
Phoenix, Arizona.

Re: LAO 802 to 806 Inclusive
Henry Leslie Gardner.

Dear Mr. Syphers:

Under date of September 19th I received from you the above captioned forms PD-310 which were disapproved by your office for the reason that heavy trucks cannot be released except where absolutely necessary.

Under date of September 28th I received the enclosed letter addressed to Mr. George I. Holmes from Mr. Hastings of the Arizona Department of Mineral Resources in which he states that he had discussed the matter with you, and seemed to be, from his letter, that we should have little trouble in securing permission to obtain these trucks.

I am wondering if there is the possibility that the matter discussed with Mr. Hastings and my application was considered as separate operations, in view of the fact that his letter was written some time after my application was disapproved.

Perhaps there is some doubt as to the size of the trucks that I need for this job. They are to be of 5 yard capacity, which is considered as a light job rather than a heavy truck, this being the smallest size that I can use on the job with the Arizona Lead Company.

For the foregoing reasons, I am enclosing the applications that were disapproved and ask your re-consideration. If the enclosures cannot be re-considered, would like your advice as to whether or not new applications can be submitted. If this cannot be done and it is necessary to file an appeal as stated in your Form ODT-AS-Form D, would appreciate having a copy of "Instructions to Applicants", Part IV, (4) (b), as I do not have such a copy.

Your advice in the matter will be greatly appreciated, both by myself and Mr. Holmes of the Arizona Lead Company.

Yours very truly,

H.L. Gardner
P.O. Box 524, Yuma, Arizona.

Arizona Lead Company

of Yuma, Arizona

Box 828 YUMA, ARIZ.

October 1st, 1942.

Mr. Elgin B. Holt,
Engineer Metals Reserve,
Kingman, Arizona.

Dear Mr. Holt:

Included we are sending you a copy of a letter we have sent to, Mr. Wm Petersen, Arizona Corporation Commission, Phoenix, Arizona.

In an endeavor to get a permit for Mr.G.G. Fletcher, a truck operator who has several dump trucks, and he can start hauling ore for us at once.

If you will,write Mr. Petersen a letter in our be-half stating the facts as you know them to be, regarding the requirements and the necessity of our having more trucks hauling ore to keep our Mill operating at capacity.

We will surely appreciate your kindness in doing so.

With kind personal regards.

Yours very truly,

Arizona Lead Company,

GH/of

Geo Holmes

September 29,1942.

Mr. Wm. Petersen,
Arizona Corporation Commission,
Phoenix, Arizona.

Dear Mr. Petersen:

Mr. G.G.Fletcher, of Yuma, Arizona, will call on you personally to apply for a permit to operate dump trucks, for the purpose of hauling lead ore from our Castle Dome Lead Mine to our Lead Concentrating Plant, near the McPhaul bridge on the Gila river which is a distance of approximate twenty-five miles from the Mine to the Mill on State Highway # 95.

We will appreciate your being able to issue this permit.

Some time ago you passed favorable on, and issued a permit to Henry L. Gardner, for this same haul, but owing to his inability to purchase more trucks at this time, he is only able to keep our mill supplied with ore at about 40 % of capacity.

Therefore we have contacted Mr. G.G.Fletcher, a truck operator in an endeavor to keep our Lead Mill operating at as near capacity as possible.

This permit if issued to him will be in unison to the one issued to Mr. Gardner.

Yours very truly,

Arizona Lead Company,

Castle Dome Lead Mine.

GH/cf

Arizon Lead Co

FSC

September 28, 1942

Mr. George I. Holmes
Arizona Lead Company
Box 828
Yuma, Arizona

Dear Mr. Holmes:

Subject: Priority on Trucks

We had considerable discussion with the Truck Rationing Board since we learned of your need of trucks. Mr. Syphers had not received any application from your carrier at the time I talked with him, but stated that it would receive his immediate and serious consideration whenever it was received. We believe that you will have little trouble in obtaining trucks for the job, although approval is limited to the smaller types, there being so few of the large dumps available in the country.

We have the recent report made be Elgin B. Holt on your property and Mr. Syphers, I believe, intends to use a copy of it in substantiating his approval of your truck application. We assume that you have already filed form PD-310.

If we can be of further assistance to you in either this matter or in your road project, do not hesitate to call on us.

Yours very truly,

Earl F. Hastings, Assistant Director
and Projects Engineer

EFH:LP

July 30, 1942

Mr. M. A. Holmes,
Arizona Lead Company,
Box 828,
Yuma, Arizona.

Dear Mr. Holmes:

I have your letter of July 21 which I found on my desk upon my return from Denver.

We have tried for a long time to do something with the Industrial Commission on the subject of workmen's compensation rates but have gotten nowhere simply because the accident record is such that the present high rates are justified. Of course, we all know that the way to get lower rates is to reduce the number and severity of accidents but the operators of the smaller mines do not seem to progress much on this program.

I think you should look into Lloyd's insurance. It is not workmen's compensation insurance in the sense that it does the same thing that Industrial Commission does, but many of the mines believe it to be sufficiently adequate coverage. There are many mines insured under the Lloyd's program and apparently are getting along satisfactorily. Lloyd's is represented by the Insurance Service Agency, R. Simis, Luhrs Building, Phoenix.

You complain that they classify all of your people under one heading, that of employes, and that the hazards are different and therefore the rates should not be the same.

Several times we have discussed that subject with the Industrial Commission and they maintain and have been able to show us by statistics that if mine employes were broken down into different classifications depending upon the hazards, the rate for underground workers would go so high that it would offset any saving on those above ground and that the average rate would be the same that it is now.

This whole thing is a subject upon which we have done a lot of work. We know that it is possible to get the cost down to about $3.00 as many mines are doing it by proper safety work and precautions, but that the smaller mines, as a whole, have a mighty bad accident record which has gotten worse in the last couple of years.

July 27, 1942

Mr. George Holmes
Arizona Lead Company of Yuma
Yuma, Arizona

Dear Mr. Holmes:

I am enclosing a copy of a memorandum just received from our Washington representative on fluorspar. This memorandum may be of general interest to you.

Yours very truly,

J. S. Coupal, Director

JSC:LP
Enc.

July 22, 1942

Mr. M. A. Holmes,
Arizona Lead Company
Box 828
Yuma, Arizona

Dear Mr. Holmes:

Mr. Willis at present is in Denver attending the Senate Special Silver Committee hearings.

Your letter of July 21 will be called to his attention immediately upon his return the first of next week.

Yours very truly,

MH

ARIZONA LEAD COMPANY
Box 828
YUMA, ARIZONA

July 21, 1942.

Mr. Charles F. Willis, Chairman,
Board of Governors,
Department of Mineral Resources,
State of Arizona,
518 Title and Trust Building,
Phoenix, Arizona.

Dear Mr. Willis:

Attached we are sending you a copy of a letter we have sent to, Mr. L.C.Holmes, Chairman, of The Industrial Commission of Arizona, in an effort to get the rates lowered covering our Mining and Milling operations, also the construction rates.

If there is any way/in which you can help us in getting the rates reduced, we will surely appreciate having you do so, as we feel free in asking your aid.

Thanking you very kindly.

Very truly yours,

Arizona Lead Company,
of Yuma, Arizona.

M. A. Holmes

MAH/of

Washington, D.C.
July 21, 1942

SUBJECT: Power Connection and Material
Arizona Lead Company of Yuma.

Senator Hayden's office called me in on this today and although I did not work on it personally, I was able to inform them the right people to contact to get action.

Bill

Bill Broadgate

ARIZONA LEAD COMPANY
Box 828
YUMA, ARIZONA

July 21,1942.

Mr. L.C.Holmes, Chairman,
The Industrial Commission of Arizona,
Phoenix, Arizona.

Dear Sir:

We believe there should be a lower base rate covering our Compensation Insurance, on the labor performed on and in construction of our Mill which is included in our payroll report of May, June and will be completed in July.

If we give you a statement showing the type of construction and location of,and kind of labor performed under each classification listed on the payroll report, would there be a possibility of our getting a reduced base rate, for we think this is an excessive rate for the kind of work performed.

For instance refering to our May Payroll report covering Class # 5403, Carpentry office building, and Carpentry ore bins, you gave both the same rate of $10.95, the work performed on the Office and assay building size 12'0" X 52'0" outside dim. included, wood sills, floor joist,and flooring, studded walls 8'0" to ceiling joist, roof framed ¼ pitch,with solid sheathing and composition roofing, peak not over 12'0", outside walls of bevel siding, inside walls,partitions and ceiling finished with sheetrock wall board sheets size 2'0" x 8'0" ⅜" thick edges bound, none of this work being of a hazardous type, none of the Carpenters were required to be more than a minimum distance from the ground at any time.

As to Carpentry on the ore bins, the largest of them was 18'x20' and 18' walls, constructed of 6"x6" timbers, and 2"x12" planking bolted, and other bins of a smaller size but built of similar materials,none of these requiring the Carpenters to be over 20' above ground at any time.

We are spending our own money in the interest of the War effort, and feel that the Commission should do all in their power to lessen the burden as much as possible.

We think that the rates that you are chargeing at the Mine are unreasonable at this time, as we are all in this War together and should help each other, as much as possible.

Very truly yours,

Arizona Lead Company,
of Yuma, Arizona,

MAH3cm

July 15, 1942

Mr. George Holmes
Arizona Lead Company of Yuma
Yuma, Arizona

Dear Mr. Holmes:

I have just received a memorandum from W. C. Broadgate in Washington regarding fluorspar which may be of interest to you. I quote his comment as follows:

> "Fluorspar has been included with metallics in the 15% depletion clause in the new tax bill.
>
> "This was specifically done to relieve the mines where it is intimately mixed with base minerals but will help straight fluorspar producers at the same time."

Yours very truly,

J. S. Coupal, Director

JSC:LP

July 9, 1942

Mr. M. A. Holmes,
Arizona Lead Company of Yuma,
Box 828,
Yuma, Arizona.

Dear Mr. Holmes:

I have your letter of July 7 and want to thank you very much for your check for $25 as a donation to the Washington Defense Fund.

We appreciate your help and we know that this contact which we are keeping there is doing the State of Arizona and its miners a lot of good.

Thanking you again and with kindest personal regards, I am

Yours very truly,

CHARLES F. WILLIS, Chairman
Board of Governors

CFW:MH

July 8, 1942

Mr. George I. Holmes
P. O. Box 828
Yuma, Arizona

Dear Mr. Holmes:

I am enclosing a copy of a list of fluorspar purchasers which I have received from our Assistant Director, W. C. Broadgate, in Washington. I am also enclosing some information he has furnished us on the three grades of fluorspar. It would seem as though better information on local users of fluorspar might be obtained from the mine division of the Los Angeles Chamber of Commerce.

There are two purchasers on the west coast who might be interested, namely, the Republic Steel Company and the Columbia Steel Company.

Hoping this information may be of value to you,
I am

Yours very truly,

J. S. Coupal, Director

JSC:LP
Enc.

ARIZONA LEAD COMPANY
Box 828
YUMA, ARIZONA

July 7th, 1942.

Mr. Charles F. Willis, Chairman,
Board Of Governors,
Department of Mineral Resources,
Title & Trust Building,
Phoenix, Arizona.

Dear Mr. Willis:

As per the letter we have from Mr. Elgin B. Holt, dated June 30th, 1942, copy of which was sent to you.

Please accept our check in amount of $25.00 which is enclosed, as a donation, to the furtherence of the good cause created by yourself and Mr. W.C. Broadgate, in your work on behalf of the Mining interests.

We are glad to be able to do our part in this way, to help in carrying out the useful work for the mining interests of our State.

If at any time you are in this vicinity we will be pleased to have you visit with us, and go through our mine and concentrating plant.

Very truly yours,

Arizona Lead Company,
of Yuma, Arizona.

M.A. Holmes

MAH/of

June 24, 1942

FLUORSPAR

Mr. George I. Holmes
P. O. Box 828
Yuma, Arizona

Dear Mr. Holmes:

I have had note from our engineer, Elgin B. Holt that beginning July 15 you will produce about 50 tons of fluorite concentrates weekly averaging better than 90 per cent CaF2 and that you desire to contact industrial users of this material rather than brokers.

I am enclosing a list of buyers of fluorspar and also one of producers and dealers. This may or may not be of value to you.

I am writing our representative, Mr. W. C. Broadgate, who is at present in Washington, and am asking him to consult with the Fluorspar Division of the WPB and try to locate names and addresses of possible industrial users for your production.

I will advise you as soon as I hear from Mr. Broadgate.

Yours very truly,

J. S. Coupal, Director

JSC:LP
Enc.

CC: W. C. Broadgate

SURVEY OF OPERATING MINES

June 1[illegible] 1942

"ARIZ. LEAD COMPANY OF YUMA"

(A Partnership - not Incl.)

By: Elgin B. Holt

CASTLE DOME MINES, leased to:

M. A. Holmes, K. A. Holmes and Geo. I. Holmes,

P. O. Box 828, Yuma, Arizona.

Property consists of 25 claims leased to above company and located 42 miles northeast of Yuma. These mines are among the oldest in Arizona and were worked first by the Spaniards and later by the Americans in the 1860's and 1870's. The Flora Temple claim in this group was the second claim to be patented in this State, the Moss mine, of Oatman being the first. Mineralization consists of a number of parallel lead-silver veins that have been worked superficially and to around 600 feet deep for two or three miles in length.

ORE RESERVES: Geo. Holmes states he is now working 19 men removing old fills from the mines, through six shafts from 50 feet to 160 feet deep. Now has in STOCKPILE on surface 40,000 tons of ore, mainly oxidized material, (as the galena ores in these fills have been removed by sorting), that will average 9% lead and 2 ounces silver per ton.

200-TON MILL, now being completed, is located 25 miles from mines on north side of Gila River near the McFall highway bridge. Mines and mill are connected by a hard level mesa road, which will be improved by county. A water well taps the underflow of the Gila River and will furnish 250 gallons of water per minute, or ample to run mill at capacity.

Mill consists of: rock crusher, one 200-ton Bendalari jig, tables, etc., or a gravity concentration plant that will produce, per Holmes, a product running: 62% lead, 7 ounces silver and 0.02 ounces gold per ton, with total recovery of 85% of lead-silver values. Also around 50 tons per week of FLUORITE concentrates will be produced, as a by-product, running in excess of 90% CaF_2. Later a flotation unit will be installed, which will materially increase the recovery of both the lead and the fluorite contents in the ore. Mill should be ready to run by July 15, 1942.

POWER will be obtained from power line, passing within two miles from mill, with which a branch power line has already been completed; mill units to be run by individual motors.

PRODUCTION: no production as yet; but once mill is put in operation, per Homes, it will continue to run as long as war lasts, at least.

Note: Geo. I. Holmes is Supt. of the mines and K. A. Holmes, is Mill Supt.

cc - Albert W. Dudley,
Yuma, Arizona.

Elgin B. Holt.

CASTLE DOME MINES YUMA COUNTY

RRB WR 12/3/82: Mailed information about beryl to Albert Pinkerton, 701 E. 26th Street, Yuma, AZ 85364. He reports that Contract Mining has shut down its lead-silver operation at Castle Dome Mines, Yuma County.

MG WR 9/9/80: Lance Vanderzyl of the BLM in Yuma informed me that Dome Ventures has shipped metallurgical grade fluorite from the Dome Mine (Yuma County). Some underground development work is being done and Dome Venture is looking for investment capitol.

CASTLE DOME DIST.
YUMA CO.

CASTLE DOME MINES

SW¼ 24, NW¼ to SE¼ 25 and 36 of 4S, 19W; SW¼ 30 & NW¼ 31, 4S, 18W; NE¼ 1, 5S 19W
GM/WR 11/14/78 - Jones Shields and his partner wanted information on Castle Dome Mining district, they said they were associated with the Castle Dome Mining Company. 6/6/79 a.p.

CJH WR 2/13/80: Mr. Rud is also working the Castle Dome Mine, 45 miles NE of Yuma in the western foothills of the Castle Dome Mountains, Yuma County. They are re-working dumps with a Deister mill at the rate of 10 t/hr and shipping concentrates (40 t/month) to ASARCO El Paso. The mill fee reportedly runs 7% Pb, 3½ oz. Ag/t. and 25% fluorspar. The concentrates run 55-57% Pb, 30 oz. Ag. The Hull shaft is being rehabilited to the 400' level. A wooden headframe is now in place but they will replace it with steel and install a 100 hp hoist. Underground production, hopefully, will start in March or April. The mine was last worked in 1951. Stoping was 5-16' wide.

Can do custom milling for Pb, Ag and fluorspar.

KAP WR 7/11/80: Lance Ververzyl, BLM, 2512 W. 22nd St, Yuma, Arizona 85364, BLM Mining Engineer for the Yuma District, reported that John Rud, 1965 Athens Avenue, Yuma, Arizona 85364, office phone 726-1662, home phone 782-9976, is continuing to operate the Castle Dome Mine, Castle Dome District, Yuma County. Rud is reportedly a small mine operator and promoter.

MG WR 12/18/81: Discussed Contract Mining Corp., P.O. Box 5840, Yuma, AZ 85364, with Mr. David Knight, the Treasurer. Contract is currently operating the Hull Mine (Yuma County). They have completed a decline at the mine and are planning to ship lead-silver concentrates to ASARCO. They are stock-piling fluorite. They are looking for other mine properties to manage.

NJN WR 1/29/82: Don Jeffery, general delivery, Yuma, Arizona 85364 and Ray Driver visited. Mr. Jeffery reported having control of the Castle Dome, Flora Temple, and North Extension Flora Temple patent claims, (Castle Dome Mine, Yuma County). They have been doing maintenance work and sampling underground. Their previous experience has been with placer mining in California. They were interested in looking at our file on the property and learning about possible beneficiation methods.

Date Printed: 12/30/94

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

VERBAL INFORMATION SUMMARY

Information from: **Don Anderson**

Company: Anderson Corporation

Address: 10644 N. Scottsdale Road
City, State ZIP: Scottsdale, Arizona 85254
Phone: 602-922-7114

MINE: **Castle Dome Mine**

ADMMR Mine File: Castle Dome Mine
County: **Yuma**
AzMILS Number: **17**

SUMMARY

Don Anderson, of the Anderson Corporation was in the office to obtain some definitions for an Securities Exchange Commission filing regarding plans to develop the Hull and Castle Dome mines.

Based on the sketchy information provided it appears that they are including a number of factors in their proposal:

1. Develop the properties for fluorspar and lead.

2. Base a market for fluorspar on increasing demand for hydrofluoric acid required to manufacture new refrigerants.

3. Produce lead by means of a "hydrometallurgical smelter"; actually a galena concentrate, pressure leach / electrolytic process developed by the U.S. Bureau of Mines in the late 1970's and early 1980's at the Reno Metallurgical Research Center.

Ken A. Phillips, Chief Engineer Date: December 29, 1994

June 18, 1942

"ARIZ. LEAD COMPANY OF YUMA"

FLUORITE CONCENTRATES -
wants market for.

By: Elgin B. Holt.

CASTLE DOME LEAD MINES, leased to:

M. A., K. A., & Geo. I Holmes,
P. O. Box 828, Yuma, Arizona.

ATTENTION: J. S. Coupal:

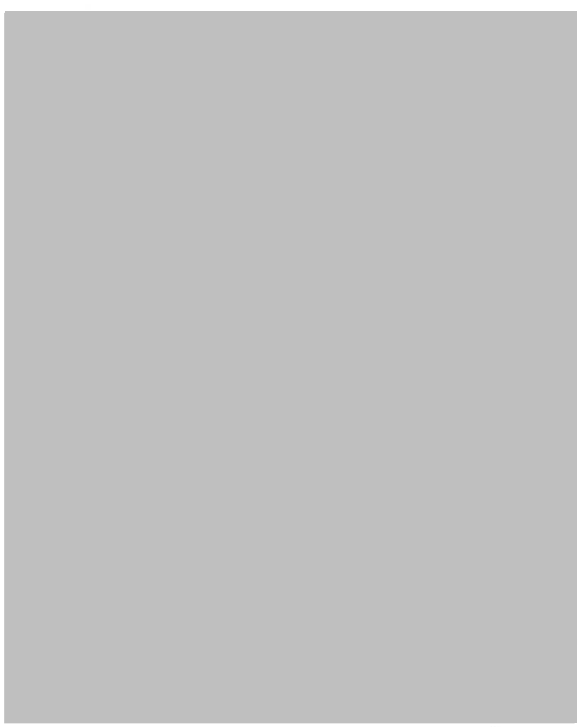
Geo. I. Holmes informed me that beginning July 15th, he will produce around 50 tons of FLUORITE CONCENTRATES weekly, averaging better than 90% CaF_2.

He wants a market direct with factories using this material, but does not, or will not deal with brokers.

Kindly keep this matter in mind and advise him in case you can dig up a buyer that will pay him the full market price for this mtl.

Elgin B. Holt

Elgin B. Holt.



Mining World 7-30-42

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine De Luce Group (12 claims) Date December 19, 1939.

District Castle Dome, Yuma Co., Ariz. Engineer Elgin B. Holt

Subject:

SYNOPSIS REPORT

OWNER. - Mrs. Eliza De Luce.
Address. - P. O. Box 832, Yuma, Ariz.

LOCATION. - Property located in the Castle Dome Mining District, Yuma County, Arizona, 45 miles northeast of Yuma, on the west side if the Castle Dome Mountains.

HISTORY. - The Castle Dome lead mines were discovered by Americans and Mexicans during the 1860's and operations have been carried on intermittently since that time. Production is estimated between $3,000,000 and $5,000,000.

DE LUCE GROUP. - Several veins traverse property and are traceable on the surface for over one mile.

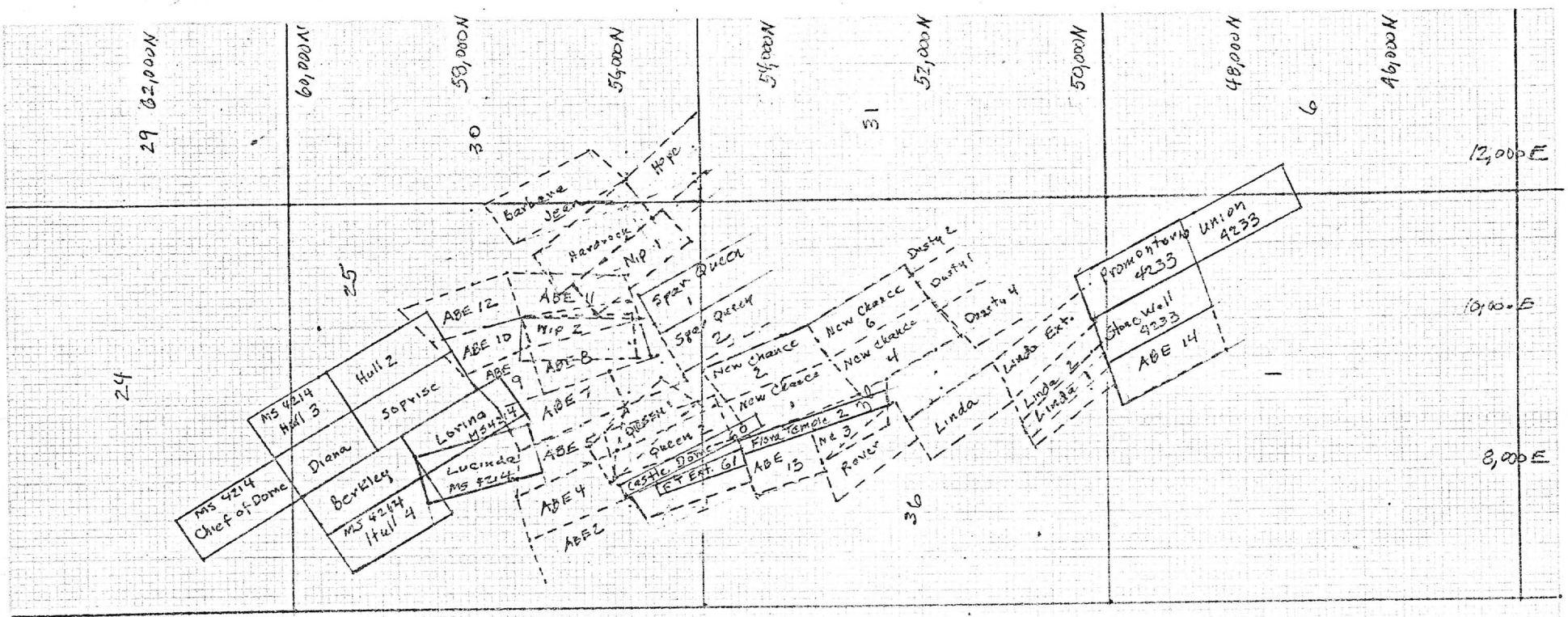
DEVELOPMENT WORK. - Main shaft down 600 feet, with stoping down to 250 feet. All workings caved and in bad shape. Besides a vast amount of work was done extracting shipping ore by chloriders and leasers.

CHARACTER OF ORE. - Ore consists mainly of galena; mine run of ore of this property will average around 15% lead and 8 ounces silver per ton. No zinc or other deleterious metals present.

OPINION. - This and adjoining properties warrant investigation by any company looking for a meritorious lead-silver property. Values can be recovered by flotation and a high grade lead concentrate made, up to 60% lead and 30 ounces silver per ton, the ore assaying ½ ounce silver for each per-cent of lead.

ACC/ESSIBILITY. - Property reached by fair desert road 30 miles in length from Dome, a station on the S. P. R. R.

WATER. - Water is generally encountered in all the mines of this region at a depth of from 300 to 400 feet. By sinking deeper no doubt ample water can be found to supply a milling plant of from 50 to 100 tons capacity.



Cestle Dome Claims

ABE 10 = Alpodones

Linda Extension = Little Dome

Dusty 4 = Big Dome

Hope = Cleveland

Linda = Sonora

Hardrock = Cleveland Extension

New Chance 4 = Lada Edith

New Chance 1 = New Dil

New Chance 2 = Nevada

NIP = Benito

Scale 1" = 2000'

From New Jersey Zinc Survey at 1" = 200'

REPORT

on

COLORADO GROUP

CASTLE DOME

Yuma Co.

Ariz.

by

Theo. H. M. Crampton, E.M.

Sir;-

The following report is compiled from data and material secured upon the Colorado property and from observations made on Oct. 3rd. 1919. when the property was examined by the writer.

CONCLUSIONS

The Colorado Group offers one of the best, if not the best opportunity, through certain work recommended, of any high-grade silver-lead mine in the southwest.

The property has been demonstrated by $ 60,000.00 worth of ore shipped, which under existing prices would be double that value.

$ 20,000. invested is secured by assets immediately available, and the possibilities seldom possessed by mines.

The property has never had a piece of modern machinery upon it. Having paid under most adverse conditions, modern methods insure the future of the enterprise.

The past history proves the existance of a Mexican Antigua within the United States.

The mine is located in a district famous for its high-grade silver-lead ores.

The Colorado mine offers without question, the greatest possibilities of any mine in the district.

The terms upon which the property can be secured are such as to enable demonstration of the property and the profitable operation of the mine.

To those interested in the possibilities of exploiting a meritorious silver mine, I can heartily recommend the Colorado Group with which is included the Morada mines and group, and the Stonewall mines and group.

PROPERTIES & HOLDINGS

The mining properties involved in this report belong to Althee Modesti, and cover what may be classed as three mines grouped as follows,-

The Colorado, the most important.

The Morada group, an extension of and contiguous to the above.

The Stonewall group of mines, which is a valuable property about a mile distant from the Colorado.

A millsite, and a claim on an occurrence of water, about 2½ miles from the Morada are all included.

CLAIMS

CLAIMS

In the Colorado Group there are five full mining claims of 20 acres each to wit,-

Colorado
Amarilla
Great Hope
Bonanza
Premium

In the Morada group there are six full mining claims of twenty acres each to wit,-

Morada — Palo Verde
1906 — Azul
Lead Mountain — Eureka

In the Stonewall group there are three full mining claimms of 20 acres each to wit,-

Stonewall — Promontorio — Union

The Neptune is a claim located upon a water occurence.
The Colorado Millsite is not far from the Neptune.
The last two were not visited.
see blue-print.

LOCATION

These claims are located in the Castle Dome Mining District in Yuma County, Arizona, about 22½ miles north from Dome, a railroad station on the Southern Pacific Railroad. The nearest telegraph office is at Dome. A post-office was at Castle Dome not far from the mine. (See blue-print)

ACCESSIBILITY

The mine is reached by an excellent road from Dome, which is on the south side of the Gila river. The river has to be crossed by aid of a flat boat whenever the water is high. Wagons can cross at practically all times of the year. A stretch of sand is easily made into a good road by "brushing" with "arrow weeds" which abound along the bank of the river. The disadvantages of the river crossing are made up for by the balance of the road and the proposed provision, by the company, of a scow. Loaded trucks can be taken across the river on the scow by hand power. The cost of the scow would amount to about $ 600. Wagon transportation of ore is cheap and feasible.

BRIDGE

The County of Yuma has voted bonds for a bridge to be built about five miles west of Dome. The completion of this bridge wil eliminate for all time the river question, but, provision for meeting this (the only) obstacle of any consequence is essential at the start. The fact that the district has produced millions of dollars worth of ore, and that this has all been taken to Dome proves the feasibility of taking the ore to Dome.

COST OF HAUL

Ore is delivered to the railroad platform at Dome for $6.00 a ton, and this can be materially reduced by the company hauling their own ore and supplies, under proper supervision and provision for the river crossing.

TITLE

The claims involved in this report are held in the name of Althee Modesti, and were either located in his name, or secured by him through proper deeds which he holds. The claims are recorded in the office of the County Recorder at Yuma, Arizona. Most of these claims have been held by Mr Modesti for over twenty years. The title is undisputed. There are no leins or claims against the properties. The property is under option and can be secured through Fred H. Larsen, of Phoenix, Arizona, who has a bond and lease.

HISTORY.

The history of this property is most favorable, when considering its past with the possibilities of the future. From the following history, for the most part, must be deducted the value of the property. Smelter returns on shipments of ore from the ground have been reviewed and partially abstracted. (see blueprint) These total $ 59,295.48, but do not include records of all shipments made. From several sources a past production of over $ 75,000.00 is credited. The abstract of shipments cover the major portions of shipments made, but others were made upon which no returns are available. The smelter returns reviewed are in existance and are available.

The shipments were made on ore secured from practically the grass roots to a depth of 400 feet and more, from the Colorado workings. Practically 90% or more of the ore came from the Colorado shaft.

The Castle Dome district is one of the oldest mining districts in the west and has received less attention to development than any other of corresponding possibilities. The mines were worked by the Spaniards in the very early days, and have been worked by Mexicans up to and including the present time.

The Colorado mine was worked on a lease by a Juan Laguna on 20% royality from the present owner as far back as 1898. A record of shipments by him show as follows,-

June 1899 to Jan 1900	$ 18,824.05
Jan. 1900 to Jan 1902	25,217.68
Jan. 1902 to Jan 1904	11,405.07
Jan. 1904 to July 1904	3,848.68

The above covers only those shipments upon which returns are accessible. An appreciation of this production is had when it is considered that the property was worked by a Mexican without financial means. He mined the entire quantity with no aid other than a windlasses and a whip (a horse attached to one end of a rope to draw the bucket up the shaft by travelling away from the collar of the shaft 400 feet).

A chlorider, such as the leasor, can devote little attention to development. No funds could be used for prospecting purposes. All the work was done following just one shoot of ore and mining each day what ore came in sight.

The last operations by the leasor involved raising the ore from a winze (shaft underground) 100 feet, to the 400 foot sub-level, where it was moved along the sub-level to the bottom of another winze and raised to the 300 foot level, and here it was moved along a curved drift to the main shaft, and from here it was raised to the surface by the use of a mule on the whip. The air in the lower parts of the mine was terrible, due to the lack of any ventilation and the poisonous powder smoke and natural heat.

From an analysis of the above a clear conception of the reason for stopping work is apparent. The leasor in following the ore shoot according to Mexican and chlorider fashion followed the ore in such a manner and to such a point that continuation to extract ore favorably and at a profit was impossible.

The cause for filling the lower portion of the main shaft is clear when we consider that the leasor had a chance to place the waste there instead of hoisting it to the surface.

From the existance of a 25 foot cross-cut (off-set) on the 300 foot level we see the possibility that the lower portion of the shaft may have left the main vein.

With a hoist at the surface; a blower to supply air; the main shaft cleared out and a drift on the vein at the 450 foot level to the rich ore shoot, we can see the possibility of extracting ore from this point at one forth the cost the leasor was put to.

All the ore was extracted when the price of silver was little over $ .50 an ounce and lead was only $ .045 a pound. Under present market conditions the ore mined, and upon which shipments records are available, would have been worth $ 120,000. Development holds out most promising possibilities. The ore in the shoot is now worth twice what it was when worked before.

The property has never been leased and worked by other parties than this above mentioned leasor. The mine has remained essentially as left in the early days, except that annual assessment has been kept up by the former leasor for the owner.

The owner is a merchant of Yuma, and not a mining man.

There has never been a piece of modern machinery upon the property. The mine is a Mexican Antigua within the United States.

TOPOGRAPHY

The mine is located upon the flats along the south slope of the Castle Dome Mountains. The mine is about 500 feet above the river at Dome.

GEOLOGY

The Colorado mine consists of a fissure vein which has taken a position along a contact of highly altered, or metamorphosed sedimentaries. The foot-wall shows a schist, or highly altered sedimentary, having in places the appearance of a much altered limestone. The hanging-wall is limestone, which from alteration, appears porphyritic, (this being possible only where excessive metamorphism has taken place).

The sedimentaries are very old and probably date back to Cambrian time.

VEIN on COLORADO

The vein varies from 12 inches to three feet and in places reaches eight feet. It strikes northerly and southerly and dips at an angle of 45 degrees to the west. The high-grade ore occurs within it, and varies in width and in places occurs in large bunches or pockets, and in many places disseminated throughout the vein. The surface outcrop can be traced for a great distance, but no work of consequence has been done elsewhere than at the main shaft.

The gangue is principally calcite with fluorite and only small quantities of barite (heavy-spar), at isolated places. The fluorite has from time to time been shipped after sorting, at a profit.

Upon the Stonewall group a great deal of surface work has been done upon silver-lead showings. These comprise small shafts, and open-cuts and expose many showings of silver-lead ore from which commercial ore can be mined and shipped at a profit. There are six places on the Stonewall from which shipping ore can be secured; four of these can advantageously be worked by using a small portable hoist. There is considerable ore on the Stonewall group which can be profitably concentrated by dry concentration.

SILVER ORE DEPOSITS on MORADA.

A high-grade silver-lead vein has been sunk upon, to a depth of about 150 feet. This vein appears to be an off-shoot from the main vein on the Colorado. The vein is small with occasional showings of very high-grade silver ores. These assay upwards of 300 ounces silver to the ton. The commercial possibilities of the vein are questionable, but do not have any bearing upon the main issue at the Colorado workings. Nevertheless, the Morada is an asset, but to receive attention only after proving up the Colorado.

DEVELOPMENT & WORKINGS

Refer to blue-print.

ORE SHOOT (COLORADO)

The workings on the Colorado clearly show the existance of one ore shoot, proven to extend 450 feet deep, where the richest ore was mined. Some ore is, from descriptions, blocked at the bottom of the second winze, but should be reached and the evidence of its occurrence proven, at which time the main shaft, could be opened and a drift run to reach that ore in the shoot, in the neighborhood of the second winze.

POSSIBILITIES

The opportunities of extracting and operating below the 300 foot level are apparent. The ore bodies can be worked to a depth of 800 to 1000 feet profitably.

The old workings comprise filled stopes with considerable ore which can be profitably milled.

The dump aggregates about 7000 tons. A major portion of this, from the vein, is estimated to carry 5% lead and silver, which when crudely concentrated in jigs (see photo) afford 60% lead and 12 ounces silver to the ton of concentrated material. The weathered material upon the dump does not afford a high recovery of the silver content. The dump material can be concentrated by the aid of a Stebbins dry concentrating table. These tables are proving a success in this district. The adaptability of these tables to the needs of this property are well known to the writer.

There occur in the mine quantities of ore too low grade to ship, but which can be concentrated to afford a product which will ship, and pay for the investment involved in installing the dry mill.

The Stonewall deposits are immediate assets which can be worked at once for their silver-lead ores, both milling and shipping.

The greatest possibilities of the three mines are involved in opening up the workings for access to the second winze, in ore. The main shaft is caved just below the 200 foot level, and access is impossible down the old stope below the 200 foot level. Therefore, open the main shaft to the 300 foot level (probably not more than one third of the shaft between the 200 foot level and the 300 foot level is caved at the most).

Then, open up the 300 foot level to the first winze.

Clean out the first winze with the aid of a windlass and bucket if necessary.

Access to the second winze will then be possible through the 400 footsub-level.

Air from a blower will have to be carried to the work.

Very careful geological consideration should be given to the ore shoot at all points with a study of its correlation to the position of the main shaft.

After reaching the second winze the ore from the 400 foot sub-level can be extracted through an extension of it to the main shaft.

Upon verification of the ore at this point of the mine the main shaft can be cleaned to the bottom, and steps taken for the steady production of ore from this point.

The vertical shaft, now down 170 feet, can receive consideration after opening up the mine, but it will be possible to produce from the main shaft in shorter time than from the vertical shaft.

Install a Stebbins dry mill including table, small crusher revolving screen, elevator, and small bins for treating the ore on the dump, and that in the mine which can be milled. The equipment will cost around $ 3500. having in mind some second-hand machinery suitable for the work. No building will be necessary only a crude shelter will suffice for protecting the machinery.

Install a hoist of 12 to 20 HP., preferably the latter, with rails and skip at the main shaft.

Secure a small 6 HP. hoist for installation on the Stonewall with a view to secure such ores as are on that group. This hoist can be moved from one point to another on this group to reach ore at the different shafts. The installation of two hoists on the Stonewall would result in a greater production in a shorter period of time.

Compressor and air drills to be considered later, for the main shaft on the Colorado.

Build a scow as elsewhere described. (See photo)

ASSETS

Milling ore on the Colorado dump.
Milling ore in filled stopes and main shaft.
Milling ore in place throughout the Colorado mine.
Milling ore on dumps and in shafts at Stonewall.
Shipping ore in the locality of the second winze.
Shipping ore on Stonewall group.

COSTS

COSTS

	R. er scow	$ 600.00
#	Ford service car & truck	750.00
#	Camp equipment, buildings, tents, cots etc	700.00
#	Mine equipment, hoist, rails, skip	3000.00
	Mine timbers	750.00
	Mine tools	400.00
#	Hoists for Stonewall	2200.00
	Timber for headframes	600.00
	Labor to clean out mine and start operations	1500.00
#	Food supplies	600.00 (returnable)
#	Stebbins mill equipment	3500.00
#	Air blower	750.00
	Incidentals	1500.00
		16850.00

From the above preliminary estimate it is seen that $20000 Twenty thousand dollars, should be provided at the outset to start operations, and this amount should determine the value of the mine at its lowest levels. This amount should also provide means (as the mill and hoists on the Stonewall) for an immediate reimbursement upon the initial investment.

Further expenditures, after cleaning out the mine, would be made upon the strength of the showing in the lower part of the mine.

From the above it is apparent that all money invested is reasonably secured. The greatest portion of the above involves machinery which is at all times an asset

Those items marked "#" are assets, to be considered with redemption on capital invested at time of stopping operations.

COSTS OF LABOR

The property can and should be operated with Mexican labo which in this locality of Arizona is plentiful and more proficien than in most parts. Wages are shown below, for Mexicans.

Muckers	$ 3.50	Carpenters	$ 5.00
Miners	4.00	Truckman	4.50
Timbermen	4.50	Shiftboss	5.00
Hoistmen	4.50	Cook	60.00/month
Millman	6.00	Foreman	200.00/month

Under proper management, arrangements could be made for a foreman who could have full supervision of the mill.

Economical methods must at all times be used with a view to keep costs at a minimum.

SUPPLIES

Timber for shaft needs, scow, headframes and such as is necessary for mill to be secured in one car load from Los Angeles

Machinery, second hand, for installation where such is in perfect running order and adaptable.

Staples, grocreies,. etc to be secured wholesale from Los Angeles.

Mill and all installations readily designed and erected under supervision of consulting engineer.

Ford service car to be secured from Los Angeles.

Only two buildings are on the property, as shown in photo-graph. These can be remodelled and utilized.

CAMPSITE.

Splendid campsite is available, as shown by photograph of the two buildings. This is immediately available to Colorado workings. Water for domestic purposes is available 2½ miles away on Neptune claim and Colorado millsite. There is no timber upon the ground. The desert vegetation consists principally of small brush. Wood for domestic use is available about 6 miles away, and can be laid down at the camp for $ 6.00 a cord. The summer months are very hot, but with Mexican labor operations can be continued the year around. The winter months are delightful.

DIFFICULTIES FROM PAST OPERATION

Bad air due to lack of ventilation; and this must have been excessive in the second winze. Air is now bad on the 200 foot level, and warm at this point.

The number of times the ore had to be handled.
The crude means of handling the ore and waste.
The low price of the metals in the ore.
The lack of capital.

The remedies for these are MODERN methods, properly and economically applied. The present market prices for silver and lead make the ore worth twice what it was when formerly worked.

GRADE OF ORE

This is shown by the record of shipments. (see blue-print)
The richest ore was obtained with depth.
Claims are made of ore in the bottom of the second winze which assays 70% lead and 450 ounces silver to the ton.
From the shipment records it is seen that the grade of the ore improved with depth.
Ore from the second winze can be profitably handled if 12 inches wide, and running 20% lead and 20 ounces silver to the ton. Lower grade ore than this can be profitably milled.

TERMS OF SALE

Work to start on or before Feb. 1st. 1920
No cash down.

First payment	$ 3000. on Aug. 1st 1920
Second payment	2000. on Nov. 1st 1920
Third payment	2000. on Feb. 1st 1921
Fourth payment	10000. on Feb. 1st 1922

and balance making total of $ 40000. by Feb. 1st 1923.
Payments to be made through Fred H. Larsen, of Phoenix, Arizona.
15% royality after deducting smelter charges and freight, to apply upon the next payment due.

These terms allow the opening up of the mine before a payment has to be made, and allows of the profitable removal of ores up to Feb 1st. 1922, at which time the operators will have disclosed to their satisfaction the existance or non-existance of a large mine. The terms are favorable for the operation of the mine with assets available to protect the operators at all times.

$ 20000. invested in the openi_ up of this property which has been demonstrated to be a paying mine under past unfavorable conditions, and which has never had the advantage of being operated by a company under modern methods, will from all indications develope one of the most promising silver-lead mines in the southwest.

The present price of silver when applied to the resources of milling ore and high-grade ore on the Stonewall group; and to the proven existance of a most important shoot on the Colorado, and to the milling ore on the Colorado dump, shows clearly possibilities for a small investment which are seldom equalled or excelled.

My favorable report and recommendations are made upon the provision of starting work at once to secure the full advantage of the present market.

Respectfully submitted,

Thos. H. M. Crampton E.M.

Operating & Consulting Min. Engr.

Office and laboratories,
1259 Third Street,
SantaMonica, Calif.

Under heading of "Lead Silver Mines in Yuma Co., Ariz., Mr James E J nson, an engineer wrote t following in 1911,-

The principle mines are the Colorado and Stonewall.

The rich ore has been stoped for about 75 feet from the north side of the shaft and about an average of 100 feet from the south side, beginning at a point about an average of 50 feet from the surface. A drift was run from the 250 foot (200?) level, for 100 feet south, and a winze sunk 100 feet below that level. A drift ran from this 80 feet to follow a rich shoot, and another winze sunk at the end of the drift to a depth of 40 feet, when air became so poor that work in that part of the mine had to be abandoned until such time as some method was devised for supplying air to this isolated point, as other rich ore was found in the levels above, and as the mine was being worked on a royality system by leasors.

The leasors threw the waste and low-grade back in the drift rather than handle it so often to get it to the shaft, so that at present the only workings that can be examined are the 350 (450?) incline and the connecting stopes and levels, which are two in number.

The character of the ore is a galena and lead carbonate, and at the lowest level reached in the mine some very rich chloride ore was cut. The vein has remained in tact for the whole distance of this incline but is now commencing to demonstrate a likelyhood of opening out into a vast chamber, such as is characteristic of veins found in this formation, which is lime and porphyry.

There are upwards of $ 75,000.00 as shown by the smelter returns, abstracted from these two workings, and they are prospects yet, but I do not hesitate to state that further practical development will soon place this property on the list as one of the largest silver-lead producres in this part of Arizona.

The mines are reached by a good auto road from Dome (or as it was formerly called Gila City) of 23 miles to the mine. It runs through an almost level plain with no sand or rock to prevent easy travel.

The writer returned to Dome from the mine in one hour and a quarter safe driving. Adjacent to the mines is a well from which all the water that has been so far necessary is had. It is owned by the same owner and is part of the property. Of course after greater development more water will be required for the purpose of reduction works. This can be obtained in unlimited quantities and at a small expenditure from shallow wells sunk in the Gila river bottom about ten miles distant, and could be brought to the mines with slight expense, considering the value of the property. The description of these properties has been written after a careful personal examination by the writer and gurantees in every particular what is contained therein.

signed

James E. Johnson.

SAMPLES

Morada No 1. Sample taken of silver ore selected

Silver. 45.44 oz/ton Lead 10.7%

Morada No 2. Sample of about a ton of ore on the dump.

Silver.234.96 oz/ton Lead 12.4%

Colorado No 1. Sample of pillar on 150 foot level north from shaft. To determine ore in place

Silver 14.48 oz/ton Lead 27.7%

Colorado No 2. Sample taken of filled stope on 150 foot level north of shaft. To determine if ore t thrown into stope might be milled

Silver 1.32 oz/Ton Lead 6.3%

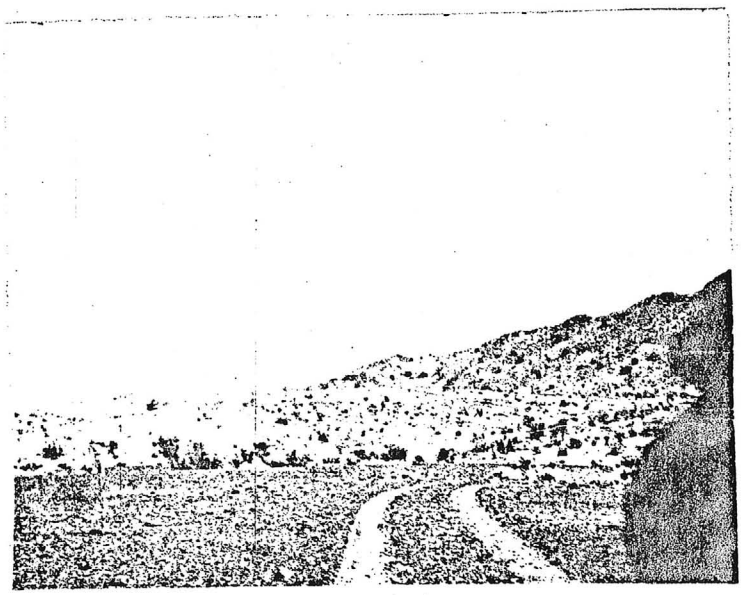
Colorado No 3. Sample of waste fill at top of stope below 200 foot level. Not to be construed as a representative sample of the possibilities of the stope below.

Silver 1.04 oz/ton Lead 3.8%

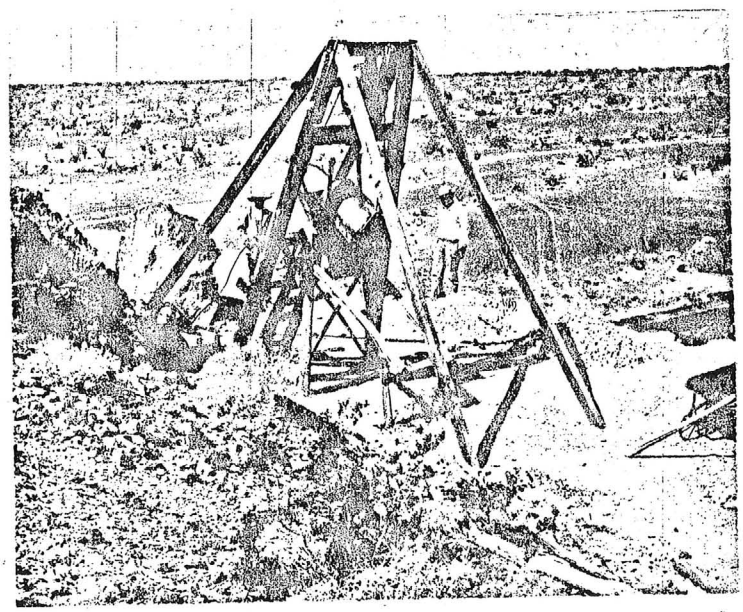
Complete sampling cannot be accomplished until the workings are made accessible.

Instead of a long list of samples which would not refer to the main issue(i.e. the ore at the bottom of the mine) reference is made to the record of shipments on accompanying blueprint, which record covers the ground more completely than any samples which might be taken upon the Colorado workings.

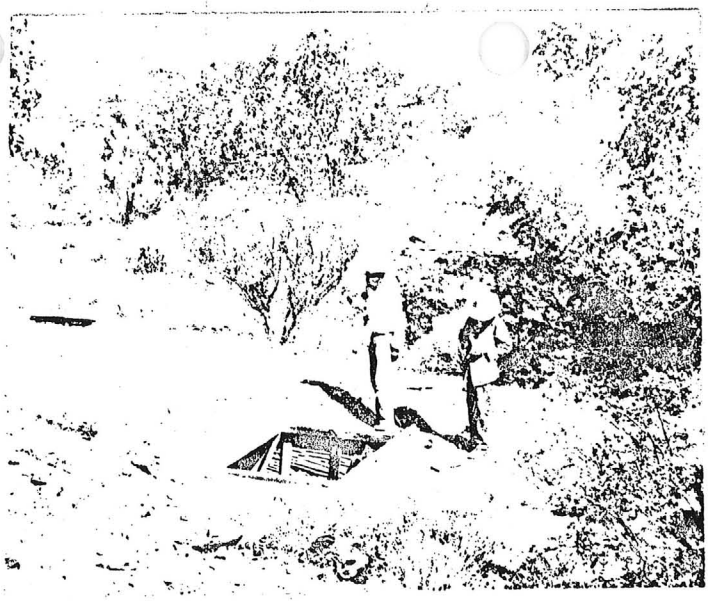
Two buildings at Colorado, showing campsite and level country.



Road to Stonewall from Colorado, looking toward Castle Dome Peak. Shows topography of country.

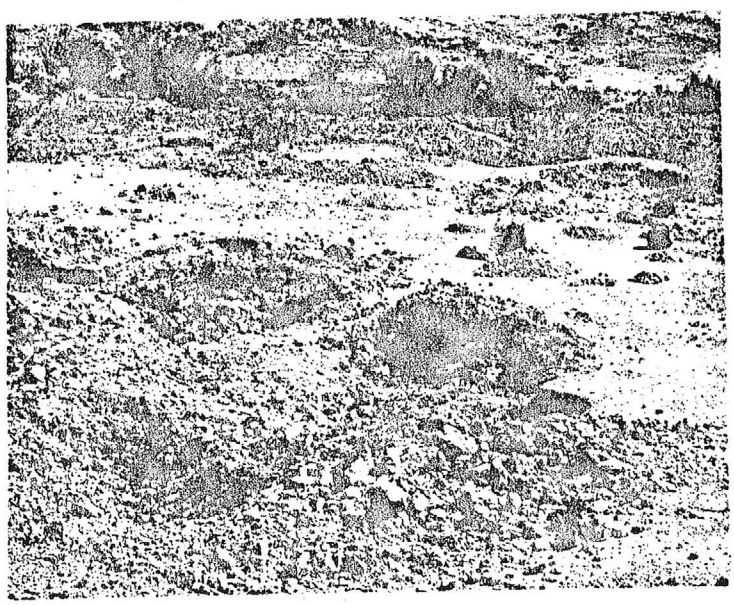


Collar of Morada shaft, where there was a whim. Shows level country in back ground.

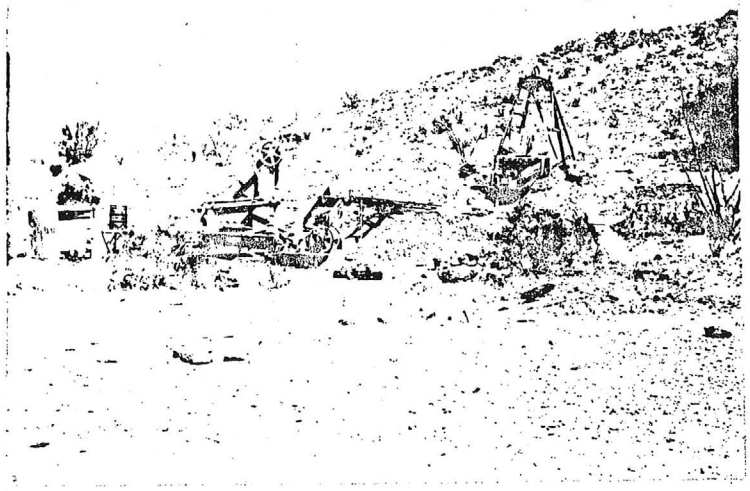


Collar of shaft of main workings on Colorado.

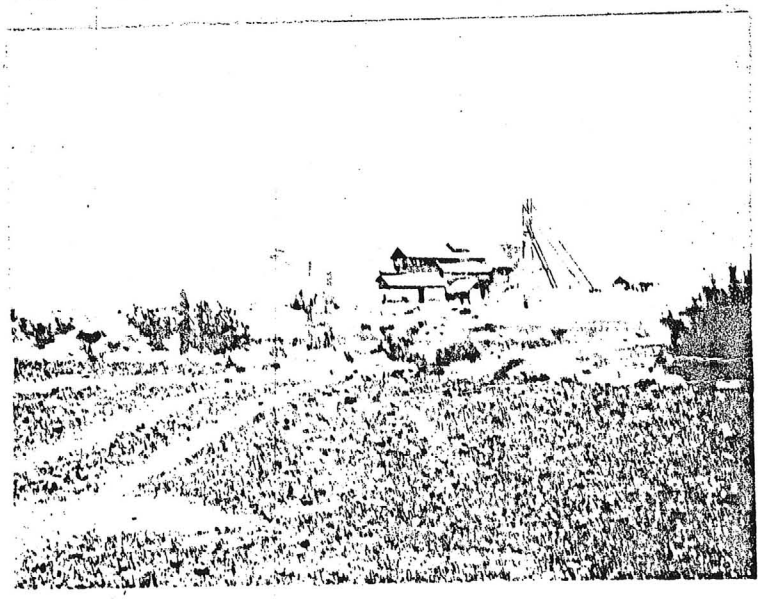
A view of the dump on the Colorado.



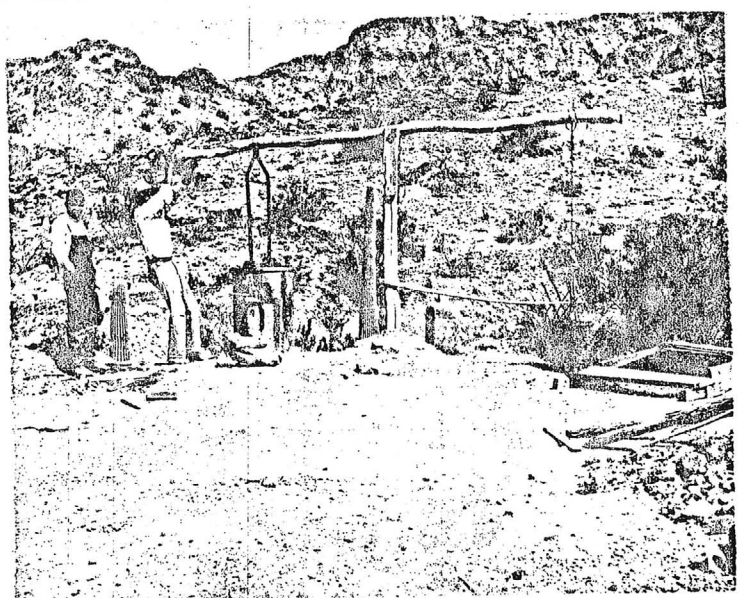
A view of the dump on the Colorado, aggregates 7000 tons



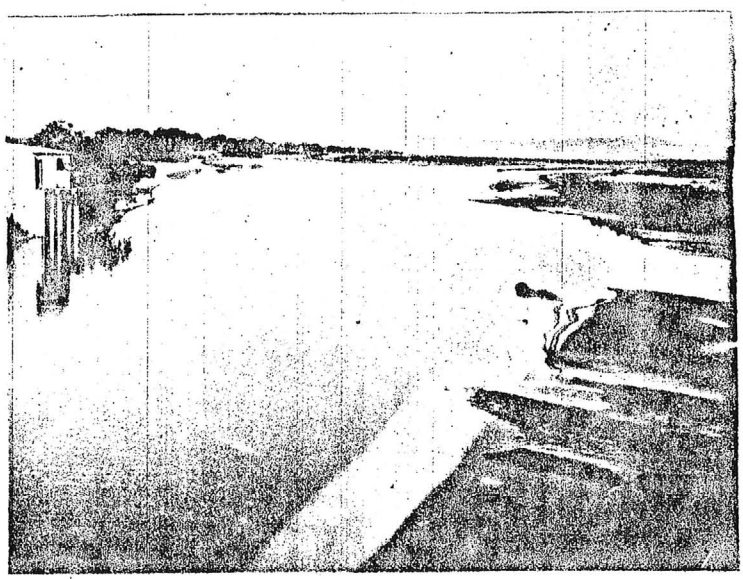
A Stebbins dry concentrating plant in the open. A similiar plant is recommended to handle the dumps, and mill ore at the Colorado and Stonewall.



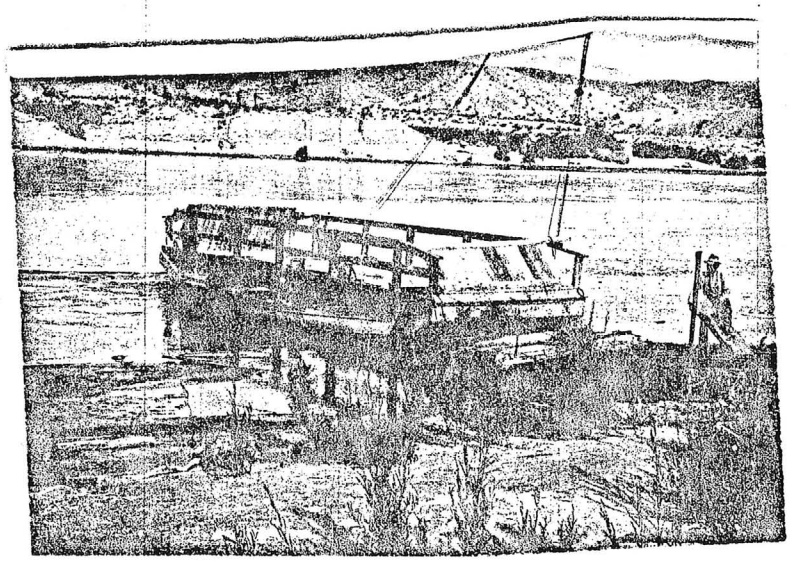
A dry mill being operated successfully upon a small property not far from the Stonewall. In operation at time of visit.



The Mexican method of concentrating. This handles only 50 pounds of ore at a time. Period of treatment about 10 minutes.



A view of the Gila river taken about 20 miles up the river from Dome, but which gives a general idea of the river when it is "up".



A view of a river scow near Eldorado on the Colorado. A scow built upon the principles of this one is recommended, but it will not be necessary to operate it as a cable ferry.

EXTRACTS FROM THE WORK ON MINERALS OF ARIZONA, REPORT TO HON. J. H. KIBBEY, GOVERNOR OF ARIZONA, BY WILLIAM P.BLAKE, TERRITORIAL GEOLOGIST MADE IN 1909.

FLUORITE.

Fluor-spar, Derbyshire spar, Fluorine, 48.9., Calcium, 51.1. When massive, an ornamental stone, much used in England for vases and mantel ornaments. It forms an important portion of the vein filling of the Lodes of Castle Dome District, and may be picked up along the croppings. It is usually of a delicate pink color.

GALENITE.

Lead sulphide; Galena; Sulphur, 13.4; Lead 86.6.
This formation crystallises in cubes, or in modifications of the cube, but is usually found massive with cubical cleavage. Good crystals are comparatively rare. It is a coomon associate of silver bearing minera ale, and is itself argentiferous, being rarely without a few ounces of silver to the ton of ore. Castle Dome in Yuma County, on the Colorado River, twenty miles above Yuma, is one of the oldest and most extensively developed lead yielding districts in the Territory. It has supplied lead ore continuously since the settlement of the country, and bears many evidences of prehistoric workings. The mineral veins may be said to have been rediscovered in the year 1863, for it is certain that they were opened and worked at a remote period before American occupation. The mines were probably worked by the Spanish explorers, and very likely even by the aborigines, if not for smelting, for the glittering ore obtained by crushing the galena. The ancient excavations extended to a depth of from five to fifteen feet, and followed the croppings of the veins for a hundred feet or more southward toward the bank of the Gila river, where traces of ancient smelting works may still be seen. The veins which yield the lead ore are good typical examples of the "fissure vein". They traverse fine-grained mica and clay slates, and are from one to six, and in places, twelve, feet in thickness. They have a general trend northwesterly and southeasterly, and are vertical, or very slightly inclined. The galena occurs in sheet-like masses on one or both walls, and also in nodular bunches, spread through a gangue or vein-stone of quarts, gypsum, and fluor-spar, this last mentioned mineral being the most characteristic and abundant. During the first six months of the year 1879, 438 tons of ore were shipped to San Francisco, averaging over 69% lead, and over 26 ounces of silver to the ton of ore.

WULFENITE.

A common associate of the oxidised lead ores of Arizona often confounded, in name at least, with a species of wulfranite with which mineral it has no affiliation whatever. Close association with galenite at so many different localities leads to the belief that molybdenum occurs in the form of sulphide in the galenite, either enfolded in the crystalline or cleavage planes or in such close combination as not to be recognizable except by the products of oxidisation with the formation of the highly colored molybdate of lead.
In this form it occurs at Castle Dome in beautifully honey-yellow crystals, and in crystalline aggregates of cerussite, the carbonate of lead.

prospects of rich ores have been worked for a short time and then abandoned, Castle Dome has been found, if not so brilliant, more enduring and reliable. The ores, not being extremely rich, have never been sought for with the expectation of sudden enrichment, but their exploitation has always returned a fair profit to the industrious miner. The ore, being extremely brilliant and heavy galena, with which the first prospectors were not familiar, led many of them to believe that they had found veins of nearly pure silver, and it was not until they had obtained much independent and confirmatory evidence by assays and returns from shipments that they were willing to accept the fact that the bulk of the ore was lead, carrying, however, thirty or more ounces of silver to the ton of ore.

When this was fully ascertained and proved to be the general average value of the castle dome ores, it became evident that to realize large profits from them it would be necessary to work them on a large scale with the aid of capital, and to ship the ores abroad or to San Francisco to be smelted. Some of the early settlers sold out their claims to those better able to cope with the difficulties, and the process of consolidation of the properties commenced and has since been going on, and for some years past, chiefly through the exertions of Mr. Wm. P. Miller, formerly Deputy U. S. Mineral Surveyor for Arizona, who has done more, perhaps, than any other single person to develop and work the veins profitably.

THE VEINS.

The veins in which this argentiferous lead occurs are true fissure veins, remarkably regular and well defined. They are in this respect notable and typical examples, interesting not alone to the miner, but to the close observer of mineral deposits of whatever form. A somewhat detailed description will therefore be given, especially as the facts indicate that these veins may be relied upon for metal in depth and far beyond any point yet reached by the workings.

The rocks of the district are compacted, fine grained mica and clay slates, standing nearly on edge and traversed by numerous compact, chocolate-colored, porphyritic dykes or intrusions which apparently bear some close resemblance to the mineralizations of the veins. These veins have a general trend northwesterly and southeasterly, following the direction of the mountain range. Their outcroppings are evidently made chiefly of outlying masses and fragments of crystals of rose-colored fluor-spar, which constitutes the chief vein stone accompanying the galena, and which is a remarkably good flux for the ore, and desirable to mix with it in the smelting. This is the only known instance of the general occurrence of fluor-spar in lead bearing veins in the United States. This mineral is an accompanying mineral of galena in Derbyshire, England, but has not before been found asa dominating gangue, or vein stone in galena bearing veins in this country. Calc-spar and gypsum are other accompanying minerals, and in some of the veins quartz constitutes an important part of the gangue, being arranged in sheets or combs along the walls, or forming distinct sheets in the midsto of the vein filling. The veins are also remarkably straight, and are in the main nearly parallel and can be followed continuously through the entire length of several successive claims. There are a few cross veins, and some oblique intersections, but theyall have, in the main, the same characteristics, and appear to have had a contemporaneous and similar origin. In width they vary from a few inches to several feet, being generally about four feet wide, and sometimes eight to twelve feet wide. They are generally well filled with ore. This ore appears in sheet-like masses or in disseminated bunches scattered through the vein stone, and commonly known among the miners as ball-metal from its nodular or ball-like form. Where it occurs in this form it is easily separated from the adhering gangue, and is very easily mined. This is the character of the ore found in the principal opening of the railroad mine where the vein is twelve feet thick, eight feet of which is highly charged with metal. In another claim in the district sheet-like masses of ore eight feet thick and nearly solid have been found. There are, of course, parts of the veins where the ore is replaced in vein ston only, but they lead to ore, and in general the veins give unusually satisfactory results in working.

THE DEVELOPMENT.

No machinery has as yet been erected for hoisting ore at these mines. There is but one horse-whim in the district. The extraction since the discovery of the district has been by hand windlass chiefly, and in consequence has been slow and limited. The work which has been done may in all cases be regarded as superficial. The mines heretofore have been worked without capital. The claims have been opened sufficiently to show their great value, and to secure the title under the mining laws, and from some of them considerable ore has been taken, as for example from the Buckeye lode, one of the largest and most productive of the veins.

THE IMPORTANCE OF LEAD ORE IN SMELTING.

The possession of so much argentiferous lead ore is a controlling power and enables the holders to purchase and work other and more refractory silver ores with confidence, when smelters which cannot command a constant supply of lead ore will not be justified in purchasing. Lead is the natural and most economical solvent for many of the ores of the precious metals. In its liquid state by fusion it will wash silver from its matrix, and concentrate it in the lead bullion, from which it is easily separable by well-known processes. The lead ore in fusion, especially when so clean as the Castle Dome ores, and free from antimony and arsenic, exerts a powerful solvent action upon other ores. In the glowing heat of the furnace it attacks and dissolves quartz and will make a liquid, easily flowing slag with silicious ores that cannot be smelted alone. It is thus an essential ore to smelting works, and the basis of the most profitable and simplest metallurgical processes. Smelted alone or with other ores it gives a lead bullion containing the precious metals which existed in the ore of the charge. This product is then refined by the separation of the silver and the purification of the lead. The product and the processes are not unlike those at Leadville, or at Eureka, Nevada, and Utah. Lead smelting is a well-known business in which the western miners and metallurgists have now had large experience. New and valuable improvements are constantly being made, increasing the product and lessening the cost, and the margin of profit is thus made larger.

SUPERIOR LEAD.

The refined lead produced from the Castle Dome ores is remarkable for its purity and softness, and its special adaptation to the wants of the manufacturers of white lead. It is in great demand in San Francisco for that purpose, being found far superior to lead which has been smelted from arsenical and antimonial ores. It is thought to be better than the celebrated Missouri and Wisconsin lead. It is de-silverized with great ease, an advantage not only of economical importance, as respects ease of working and production of silver, but as giving a lead which is almost entirely chemically pure so far as silver content is concerned, and therefore much better adapted to the manufacture of white lead, and more valuable for the purpose than if it contained silver. The presence of a dollar's worth of silver in a ton of lead effects its corrodibility in no small degree. Lead which corrodes easily and completely is best for making pure white lead. Lead carrying silver does not corrode readily, and white lead containing silver even in small degree darkens upon exposure to sunlight. Hence it is very important to manufacturers to have pure lead. The lead produced in Castle Dome District has been tried with most satisfactory results. It is in demand, its quality known, and commands a higher price than any other.

EXTRACTS FROM SYNOPSIS OF REPORT OF CASTLE DOME MINING AND SMELTING COMPANY, dated, 1880.

((Here it may be said that the reports hold equally true to-day regarding the permanency and value of these mines as it did in 1880. The investigation of any expert mining engineer will corroborate this statement, and the report of such an engineer is cordially welcomed.)

ORES AND VEINS.

"The silver-lead ores are in regular veins and abundant. They are very clean and pure, and easy to smelt. They yield superior soft lead, and the silver is easily separated from it. The yield of the Castle Dome ores ranges from twenty to thirty three ounces of silver to the ton of ore, and from sixty to seventy-five per cent of lead. The yield of the Silver District ores is from fifty to one hundred dollars per ton, but the mines are not yet as fully opened as those of Castle Dome. The usual selling price of Castle Dome ore in San Francisco has been fifty dollars per ton, but by smelting it in the company's works, alone, or with other ores, the amount to be realized would be very much greater.

MARKET FOR LEAD.

There is an active demand on the Pacific Coast for superior soft lead, to the extent of 150 to 200 tons per month, for the manufacture of white lead for paint. This insures a large market for a large part of the lead produced. Lead can also be shipped readily at San Francisco to any part of the world.

DISCOVERY AND HISTORY.

The discovery and history of the Castle Dome Mines go to prove that these mines are the oldest working mines in the State of Arizona, and are far from being exhausted. The mineral veins of the Castle Dome District were re-discovered in the year 1863. They may truly be said to have been re-discovered for it was evident that the veins were opened and worked at a remote period, probably by the first of the Spanish padres, who made their way northward into this country from Mexico. Traces of ancient excavations on many of the veins were very plainly to be seen by the prospectors of 1863, and there were, and still remain heaps of debris consisting of the vein stone with small fragments of the ores. The metal had been taken from many of the veins by these ancient miners down to a depth of from six to fifteen feet, following the vein for fifty to one hundred feet or more. The excavations appear to have been made with long bars, and to have followed the best outdrops of metal. These old workings were thus the sure guides to good metal bearing ground a short distance below the surface. Well-worn trails leading from the mines to the banks of the Gila, some eighteen miles distant, and the ruins there of some rude smelting furnaces, go to show that the ores mined at Castle Dome were packed on the backs of Indians to the Gila and that they were there reduced to metal, possibly being used to mix with, and to flux the more refractory but riches ores of silver from districts further to the east. The explorations of the veins made since 1863 have obliterated the traces of the old workings for the greater part, but they can still be seen in several places. That they are ancient is abundantly proved by the growth of the peculiar slow growing hard-wood trees of the district, such as the palo verde and the iron-wood, which were found growing on the piles of refuse thrown out from the workings, and in the old pits.

MODERN EXPLORATIONS.

Since the rediscovery of the veins they have been worked almost continuously. In fact, the Castle Dome District is well known upon the entire Pacific Coast among the miners of the region as one of the oldest and most reliable of all the mining districts for a constant yield of ore of uniform quality. While many other districts of great promise and brilliant

prospects of rich ores have been worked for a short time and then abandoned, Castle Dome has been found, if not so brilliant, more enduring and reliable. The ores, not being extremely rich, have never been sought for with the expectation of sudden enrichment, but their exploitation has always returned a fair profit to the industrious miner. The ore, being extremely brilliant and heavy galena, with which the first prospectors were not familiar, led many of them to believe that they had found veins of nearly pure silver, and it was not until they had obtained much independent and confirmatory evidence by assays and returns from shipments that they were willing to accept the fact that the bulk of the ore was lead, carrying, however, thirty or more ounces of silver to the ton of ore.

When this was fully ascertained and proved to be the general average value of the castle dome ores, it became evident that to realize large profits from them it would be necessary to work them on a large scale with the aid of capital, and to ship the ores abroad or to San Francisco to be smelted. Some of the early settlers sold out their claims to those better able to cope with the difficulties, and the process of consolidation of the properties commenced and has since been going on, and for some years past, chiefly through the exertions of Mr. Wm. P. Miller, formerly Deputy U. S. Mineral Surveyor for Arizona, who has done more, perhaps, than any other single person to develop and work the veins profitably.

THE VEINS.

The veins in which this argentiferous lead occurs are true fissure veins, remarkably regular and well defined. They are in this respect notable and typical examples, interesting not alone to the miner, but to the close observer of mineral deposits of whatever form. A somewhat detailed description will therefore be given, especially as the facts indicate that these veins may be relied upon for metal in depth and far beyond any point yet reached by the workings.

The rocks of the district are compacted, fine grained mica and clay slates, standing nearly on edge and traversed by numerous compact, chocolate-colored, porphyritic dykes or intrusions which apparently bear some close resemblance to the mineralizations of the veins. These veins have a general trend northwesterly and southeasterly, following the direction of the mountain range. Their outcroppings are evidently made chiefly of outlying masses and fragments of crystals of rose-colored fluor-spar, which constitutes the chief vein stone accompanying the galena, and which is a remarkably good flux for the ore, and desirable to mix with it in the smelting. This is the only known instance of the general occurrence of fluor-spar in lead bearing veins in the United States. This mineral is an accompanying mineral of galena in Derbyshire, England, but has not before been found as a dominating gangue, or vein stone in galena bearing veins in this country. Calc-spar and gypsum are other accompanying minerals, and in some of the veins quartz constitutes an important part of the gangue, being arranged in sheets or combs along the walls, or forming distinct sheets in the midst of the vein filling. The veins are also remarkably straight, and are in the main nearly parallel and can be followed continuously through the entire length of several successive claims. There are a few cross veins, and some oblique intersections, but they all have, in the main, the same characteristics, and appear to have had a contemporaneous and similar origin. In width they vary from a few inches to several feet, being generally about four feet wide, and sometimes eight to twelve feet wide. They are generally well filled with ore. This ore appears in sheet-like masses or in disseminated bunches scattered through the vein stone, and is commonly known among the miners as ball-metal from its nodular or ball-like form. Where it occurs in this form it is easily separated from the adhering gangue, and is very easily mined. This is the character of the ore found in the principal opening of the railroad mine where the vein is twelve feet thick, eight feet of which is of high character ball metal. In another claim in the district sheet-like masses of ore [illegible] feet thick and nearly solid have been found. There are, of course, [illegible] of the veins where the ore is replaced in vein stone only, but they [illegible] ore, and in general the veins give unusually satisfactory results in working.

THE DEVELOPMENT.

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EXTRACTS FROM THE OFFICIAL REPORTS OF THE UNITED STATES COMMISSIONER OF MINING STATISTICS.

Report for 1868; page 452. (Exhibit "E")

" Castle Dome, 50 miles above Arizona City, now Yuma, is a well known mining district, so called from the isolated mountain bearing a close resemblance to a dome. ..... Mr. Gird values the ore at 60% (lead), with $40.00 in silver to the ton, making the value of a ton of ore $90.00. He allows for mining and sacking ... $12.00;
for carting to colorado River, $15.00;
Freight to San Francisco, $18.00, leaving a net profit per ton of $45.00 per ton. "

Report for 1870; page 27o.

" Castle Dome District?- This district is situated opposite a point on the Colorado River 30 miles above Arizona City, and inland to the east about twenty miles. It was organized in 1863 and 1864 and some of the mines have been in operation more or less ever since. ..."

Report of 1873; page 344.

" In Yuma County several of the older mines in Castle Dome Mining District have been worked, and one or two discoveries of very rich argentiferous galena are reported; Much money is reported to have been expended in this district during the year of exploration. The shipments of galena by the Colorado River Steam Navigation Company during 1873 were 270 tons, by far the greater part of which came from Castle Dome. The silver value of this ore in San Francisco was about $75.00 per ton. "

Report of 1876; page 353.

"The principal mines of Yume County, which comprises the southwestern part of the Territory, are those of the Castle Dome District, upon the Colorado River. They have so often been referred to in these pages that it will now suffice to say that recent work upon them has been abundantly confirmed their permanency and value. Much ore has been shippped to San Francisco, where it has an established reputation, and findsa ready market."

From Reports of the U. S. Geographical Surveys.

" Castle Dome District lies in the foot-hills and on the western slope of a range of mountains in Arizona, 18 miles east of the post office of Castle Dome Landing on the Colorado River. The eastern side of these mountains has not been prospected. The general trend of the Range is N.,25 degrees, West. The district as already traced is two and one half miles in width and several miles in length, following the trend of the mountains."
" The Castle Dome District was discovered and organized in 1863 by Messrs Snively and Conner. Except a portion of 1872 it has been worked constantly since that time ..."

" A geological investigation has been made by Prof. Blake of Connecticut. The lodes are found to run North, 25 deg. west. Some follow, and others intersect the stratification." The rich veins carry galena with fluor-spar and calc-spar. The wall rocks are slate and porphyry. Fissure veins are found at a depth of 350 feet.

&&&&&----------&&&&&

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Castle Dome Mine Date April 12, 1965

District Castle Dome District - Yuma County Engineer Axel L. Johnson

Subject: Present Status. Information from John W. Markham

References: None

Location: 30 miles north of Yuma.

No. of Claims: 9 patented claims

Owners: John Mahood, et al.

Lease with Option to Purchase: John W. Markham, 2638 N. Edith Blvd., Tucson, Arizona

Principal Minerals: Lead, silver

Principal Activity: None

Ore Values: Lead - 30% Silver 20 to 25 oz. No copper. No zinc.

Plans: Expects to sell the lease to some company. Union Carbide reported interested.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Castle Dome Mines

Date March 30, 1953

District Yuma County

Engineer Geo. F. Reed

Subject: In reporting on Yuma County

J. S. (Red) Mahood, Box 1310, Yuma, has crusher, rolls, screen, jigs, table, caterpilar Diesel-Electric power, etc. He and partner are working on dumps and going underground this summer. Has some 50-60% lead concentrates (11 tons estim.) which he hates to sell at this price. Very discouraged. Said he'd be at the April Congressional hearing.

May 23, 1944

MEMORANDUM

To: C. H. Dunning, Director

From: Elgin B. Holt.

Subject: Castle Dome Lead Mines, Yuma, Arizona

Attention is called to a conversation I had last week with Mr. George I. Holmes, whose company is lessee of the Castle Dome Lead Mines, situated 45 miles northeast of Yuma.

During 1942, Holmes took this property over and erected a gravity concentration mill, with a maximum capacity of 200 tons daily, adjacent to the Gila River, 25 miles from property. This mill has been in operation since that time, running at about half capacity. Ores treated, consisting mainly of dump and mine "gob" material, assays around 7% lead and 0.75 ounce silver per ton. Concentrates produced assay about 60% lead and 7.0 ounces silver per ton; the same being shipped to the El Paso Smelting Works.

I am handing you herewith my report on this property, dated September 23, 1942. This report merely describes the mine and operations at that time; but the amount of ore reserves, in dumps and mine fills, seem to have been overestimated.

However, Mr. Holmes stated that he produced in 1943 about 2,000,000 pounds of lead and 27,000 ounces of silver. Also, he has pretty well worked out the ore reserves referred to, and is now carrying forward underground work which has resulted in uncovering virgin vein material of better grade ore.

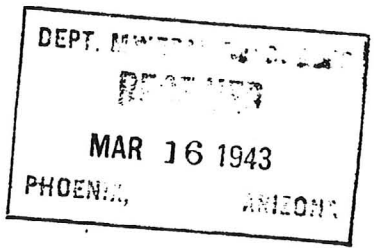
His main problem now is to keep sufficient ore developed ahead in order to supply the mill continuously.

I suggested to him that it might be well for our Department to take the matter up with the U. S. Bureau of Mines, Tucson, Arizona, with a view to suggesting that this Bureau send engineers to property to look it over for the purpose of considering the carrying out of rather extensive diamond drilling to the end of locating new shoots of ore in the several veins of property.

Holmes now has a mill in operation, and hence new ores that will undoubtedly be developed by such drilling can be treated and marketed without delay. His address is: George I. Holmes, Arizona Lead Company of Yuma, Box 828, Yuma, Arizona.

Elgin B. Holt,
Field Engineer,
Department of Mineral Resources.

cc - George I. Holmes



Washington, D.C.
March 14, 1943

SUBJECT: Arizona Lead Co of Yuma,
Quota. Willis memo

I have had several conversations on this matter.

It is at the top of the pile and will probably be dealt with at the Quota Committee meeting Monday or Tuesday.

If the results are not satisfactory, I believe we can make an issue of it as I understand that the lead situation is not as good as the WPB figures show.

You are right, of course, that the additional lead premium was really arranged to stimulate zinc and a straight lead property does not get as much consideration.

Bill Broadgate

March 4, 1943

MEMORANDUM

ARIZONA LEAD COMPANY, YUMA
APPLICATION FOR ADVANCE LEAD PREMIUM

TO: Charles F. Willis

FROM: J. S. Coupal

I have just returned from a visit to Yuma where I looked over the Arizona Lead Company of Yuma mill and also discussed with Mr. George Holmes details of his application for the increased premium on lead.

The Arizona Lead Company made application on February 1, 1943, to Landon F. Stroebel of the Quota Committee, and in reply was asked to fill out application on the WPB form 1572 for the added premium. These forms were fully filled out and submitted on February 24. The Arizona Lead Company has also asked the assistance of Senator Carl Hayden in obtaining this added lead premium.

Included in the application for premium was a statement by a certified public account who went over the books and showed that the company had an investment of $100,255 as of December 31. From August 1, when the mill started, to December 31, 1942, they showed a profit of $3,382.50. Not included in this profit was an additional $3,510 royalty to be paid to the owners. In the profit statement no allowance was made for interest, depreciation or amortization of the operations, so it is evident that the operations to date have shown a decided loss.

During the last quarter of 1942 they milled 8,453 tons of ore from which about 7% lead was recovered, or a total production of 615,494 pounds of lead produced. The capacity of the mill has been stepped up to 140 tons per day during the last two weeks and if the company could obtain the additional 2-3/4 cents per pound, they would plan to step up capacity to 200 tons per day. In order to do this it will call for an extra Bendalari jig. In addition, there has been a request by the contractors who were hauling the ore from the mine, which is located 25 miles from the mill, for a raise in the charge per ton.

To date neither of the Holmes brothers have drawn any money for salary for supervising and operating. The whole operation is in the red at the present time but with an additional 2-3/4 cents for lead, production can be stepped up and the operation can be made to pay back the original capital invested. At present there are about 50,000 tons of ore in the dump and in the mine definitely assured. There is a much larger tonnage of lower grade ore which can be handled if the additional premium of 2-3/4 cents can be paid. Mr. Holmes figures that he can mill the dumps now available, cut out mining and any new development work and probably recover his investment, but at the end of this time lead production would cease.

I believe this particular case can well be called to the attention of Metals Reserve and immediate action on an increased premium. As stated, all papers have been submitted and the question has been taken up with Senator Carl Hayden.

P.S. At the start of the work on Arizona Lead they were paying 50 cents an hour for labor. They have been forced to pay 75 cents an hour which has increased their costs accordingly. Costs of supplies, hauling, etc. have all advanced beyond the original figures. Based on the original costs which were in force last year the property would now be showing a profit. Under the present conditions with the increased costs they are working in the red and making no provision for amortization, depletion or additional development work in order to keep up production.

March 4, 1943

MEMORANDUM

ARIZONA LEAD COMPANY
DELAYED PREMIUM PAYMENTS

TO: Charles F. Willis

FROM: J. S. Coupal

If the Arizona Lead Company was not backed by sufficient capital they would have been forced to shut down in receiving premium payments. The premium payments for cal shipments in November were received February 3. Premium payments for ore shipped in December received February 12. Premium payments shipped in January were not received at the date I called which was March 3.

There is also a delay due to the return of the affidavit for premiums for notorization from the smelter. For example, on the December shipments the sum for notorizing the authorization for premium payments was not received from the smelter until January 22 and the payment was not made until February 12.

A further delay from the smelter on settlement on cars shipped is from 19 to 23 days from the date of bill of lading until settlement by the smelter is made. Part of this delay may be caused from the need of calling for an empire on most of the shipments.

TYPE NO. 1

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

PRODUCTION POSSIBILITY SURVEY.

Mine CASTLE DOME MINES Date Sept. 23, 1942

District Castle Dome Mining D., Yuma Co. Engineer Elgin Kent

Subject:

PRODUCTION POSSIBILITY

OWNER: Mrs. Eliza DeLuce, Yuma, Arizona.

LESSEE: Arizona Lead Company of Yuma, owned by M. A. Holmes, K. A. Holmes and George I. Holmes, Yuma, Arizona.

LOCATION

Property is located 45 miles N. E. of Yuma, in the western foot hills of the Castle Dome Mountains, Yuma County; its area being 23 claims, 3 of which are patented.

HISTORICAL

The Castle Dome Mining District was organized in 1863. The original discovery, however, was made many years earlier. Operations have been more or less continuous in this district since that time and large amounts of lead and silver have been produced from the various mining groups.

During the winter months of 1941-42, the Holmes syndicate leased 25 of the principal claims of the Castle Dome mining property and started active work under the firm name of ARIZONA LEAD COMPANY OF YUMA. Since then, operations have been going on steadily with a crew of 20 men at the mines, under the supervision of George I. Holmes.

VEINS

Two main parallel veins, 400 feet apart and from 3 to 8 feet wide, have been developed through the years by around 20 old shafts and lateral work for 2,000 feet on each vein and to depths ranging from 100 to 400 feet.

In addition to a large tonnage of back-fills of milling grade in the old mine workings, there are huge blocks of unmined ore in the veins mentioned, per Holmes, assaying from 5 to 6 per cent lead, plus 0.75 ounce silver per ton, which grade of ore is too low to mine and treat at the present price of lead, considering high labor and other costs.

WORKING SHAFTS

There are six working shafts now in operation and from which back-fills are being hoisted to the surface and stock-piled for the mill, described below. These shafts have been reopened to the 100-foot level of the mine and will be deepened from time to time as additional mill ore is needed.

ORE RESERVES

Holmes states he now has on surface a stockpile consisting of 40,000 tons of broken oxidized ore assaying 7 per cent lead and one ounce silver per ton. Also, 25,000 tons of old mill tails at the mine, from galena ores milled years ago, assaying 3.5 per cent lead and also one ounce silver per ton. He also estimates the back-fills, still in the old mine workings, at 100,000 tons, assaying 8 per cent lead and one ounce silver per ton. The oxidized ores are lower in silver than the galena ores.

DEVELOPMENT WORK PLANNED

Furthermore, it is planned to sink at least one main working shaft to 500 or 600 feet depth in order to develop the underlying galena ores. Holmes also is arranging to start a comprehensive diamond drilling project for the purpose of locating deep-seated ore shoots and undiscovered parallel veins. The mineralized zone of this immediate area is around one-half mile wide, in which are a number of parallel lead-bearing veins and stringers.

200-TON MILL

Since taking over the Castle Dome Mines, the Holmes syndicate has completed a 200-ton mill, located 25 miles southwesterly from the mines on the north bank of the Gila River, and one-half mile west of the McPhaul highway bridge across the Gila on State Highway 95. A water well, located 600 feet from the mill, taps the underflow of the Gila River. This well is equipped with a Byron-Jackson deep well pump, which delivers 400 gallons of water per minute, through a 5-inch pipe line to a 20,000 gallon storage tank.

The mill consists of: ore bins, jaw crusher, coarse and fine grinding rolls, one 4-cell Bendelari jig, two Deister-Plato sand tables and one Deister-Plato slime table, vibrating screens, and other equipment. All mill units are powered by individual motors.

Electric power is delivered to mill and pumping plant by means of a two-mile branch power line connecting with a main power line owned by the California-Nevada Power Company, at a rate of 1.5 cents per K. W. hour.

MILL RESULTS

The mill mentioned, with K. A. Holmes in charge, was started up on September 9, 1942, and for the succeeding week only about 60 tons of ore were milled daily, instead of 200 tons, due to poor road conditions, as will be explained later in this report.

At the time of visit, September 17, daily mill heads averaged 11.0 per cent lead plus one ounce silver per ton of ore treated. Tails averaged 1.1 per cent lead. Hence, 89 per cent of lead values were being recovered, which is most excellent results for a gravity plant.

CONCENTRATE SHIPMENT

On September 14, a car load of concentrates was shipped to the El Paso Smelting Works, the same consisting of 43.774 tons, assaying 60 per cent lead and 7.0 ounces silver per ton; R. R. freight on

said shipment, from Blaisdell station, being around $6.68 per ton. Also, on September 17, another car of concentrates was ready to ship from said station, located 5 miles from the mill.

OPERATING COSTS

George I. Holmes informed me that he pays muckers 75 cents, miners 80 cents and timbermen 85 cents per hour for a 40-hour week, plus time and a half for overtime, figured at 8 hours for Saturdays. He also states it costs around $2.50 per ton to draw the back-fills in the mines and hoist the same to the surface. Also that he has temporarily contracted the ore haul from the mines to mill at $1.25 per ton, although this low rate cannot be maintained unless roads are improved materially. Milling costs are estimated at 75 cents per ton of ore treated. Holmes also stated that the smelting charges on concentrates shipped to El Paso amount to $2.50 per ton for a 30 per cent lead concentrate; but that a 50 per cent lead concentrate is smelted free of charges; and that a bonus of 10 cents per unit for lead content above 50 per cent will be paid shipper. Hence, as Castle Dome concentrates run around 60 per cent lead, a bonus of $1.00 per ton will be paid on such grade product.

REMARKS

From the above facts it readily can be seen that the operations of the Castle Dome mine and mill have a most excellent outlook indeed for a long period of years to come. For, in the first place, the mill referred to is the first mill of importance that ever has been erected in this area, as nearly all previous work has mainly been done by "chloriders". Again, while much surface work has been carried out, superficially, in the Castle Dome region, only a small fraction of the main ore-bearing zone has been explored; said zone having a width of one-half mile and a length of around 5 miles.

Castle Dome

HOW INCREASED PRODUCTION COULD BE ATTAINED

However, there are several factors that are now impeding the production of lead now being carried on by the Holmes syndicate. Some of these obstacles will be briefly discussed as follows:

CASTLE DOME ACCESS ROAD PROJECT

The facts concerning this project, which is in the process of being sponsored by the Arizona Lead Company of Yuma and the Yuma County Board of Supervisors, are as follows:

Henry Leslie Gardner has contracted to haul ore from the Castle Dome mines to the mill referred to, a distance of 25 miles. He has in service 1936 seven/7-ton trucks, which are about worn out. In this regard, application has been made by Gardner to the Office of Defense Transportation, 304 Security Building, Phoenix, Arizona, for permission to purchase new five/7-ton trucks, exclusively for the purpose of hauling Castle Dome ores ~~km~~ from the mines to mill. Roads over which Gardner operates are described as follows:

Yuma County has "bladed" a road 8.6 miles in length across a flat sandy mesa from the Castle Dome mines southwesterly to highway 95. On reaching the said highway 95, the trucks follow the same 16.6 miles, more or less, over an excellent gravelled and paved road, to a point near the McPhaul bridge; thence one-half mile to the mill, over a usable dirt road.

The Castle Dome Road Project consists of the 8.8 miles of "bladed" road leading from the said mines to ~~km~~ highway 95. After the trucks had used this road, recently, about a week, it looked like a plowed field with no bottom and is full of deep chuck holes in which are concealed rocks of various sizes. As a result, within 10 days prior to the time of my visit, September 17, the trucks mentioned had used up 15 tires, due to blow outs. Consequently, only 60 tons of ore were then being delivered to the mill daily instead of 200 tons. The

Castle Dome

said 8.6 miles of road needs to be surfaced by rolled in gravel, of which there is an abundant supply in the many sand washes that cross or parallel the said road at frequent intervals.

COST OF SURFACING ROAD

The cost of surfacing this 8.6 miles of road by means of rolled in and sprinkled gravel has been figured at $3,000 per mile, per an estimate prepared by W. L. Ellison, Yuma County Engineer. Hence, the total cost of this road project should not exceed $25,800.

BETTER PRICE FOR LEAD

As stated above, there are huge blocks of unmined ore in the Castle Dome veins mentioned, per Holmes, assaying from 5 to 6 per cent lead, plus a little silver, which grade of ore is too low to mine and mill at the present price of lead, considering high labor and other costs. This statement also holds true for a number of other lead mines in the Castle Dome area, separate reports concerning which are now being prepared by this Department. Hence, an increased price for lead would materially help in moving these low grade ores in the area under discussion.

Elgin B. Holt