



## **CONTACT INFORMATION**

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Phoenix, AZ 85007  
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<http://www.azgs.az.gov>  
[inquiries@azgs.az.gov](mailto:inquiries@azgs.az.gov)

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Arizona Department of Mines and Mineral Resources Mining Collection

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PRINTED: 06/21/2002

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: QUEEN CREEK LIMESTONE

ALTERNATE NAMES:

SUPERIOR MARBLE  
TOM CLAREY LIMESTONE  
OMYA ARIZONA  
PLUESS STAUFER

PINAL COUNTY MILS NUMBER: 753

LOCATION: TOWNSHIP 1 S RANGE 13 E SECTION 17 QUARTER  
LATITUDE: N 33DEG 21MIN 20SEC LONGITUDE: W 111DEG 03MIN 18SEC  
TOPO MAP NAME: SUPERIOR - 7.5 MIN

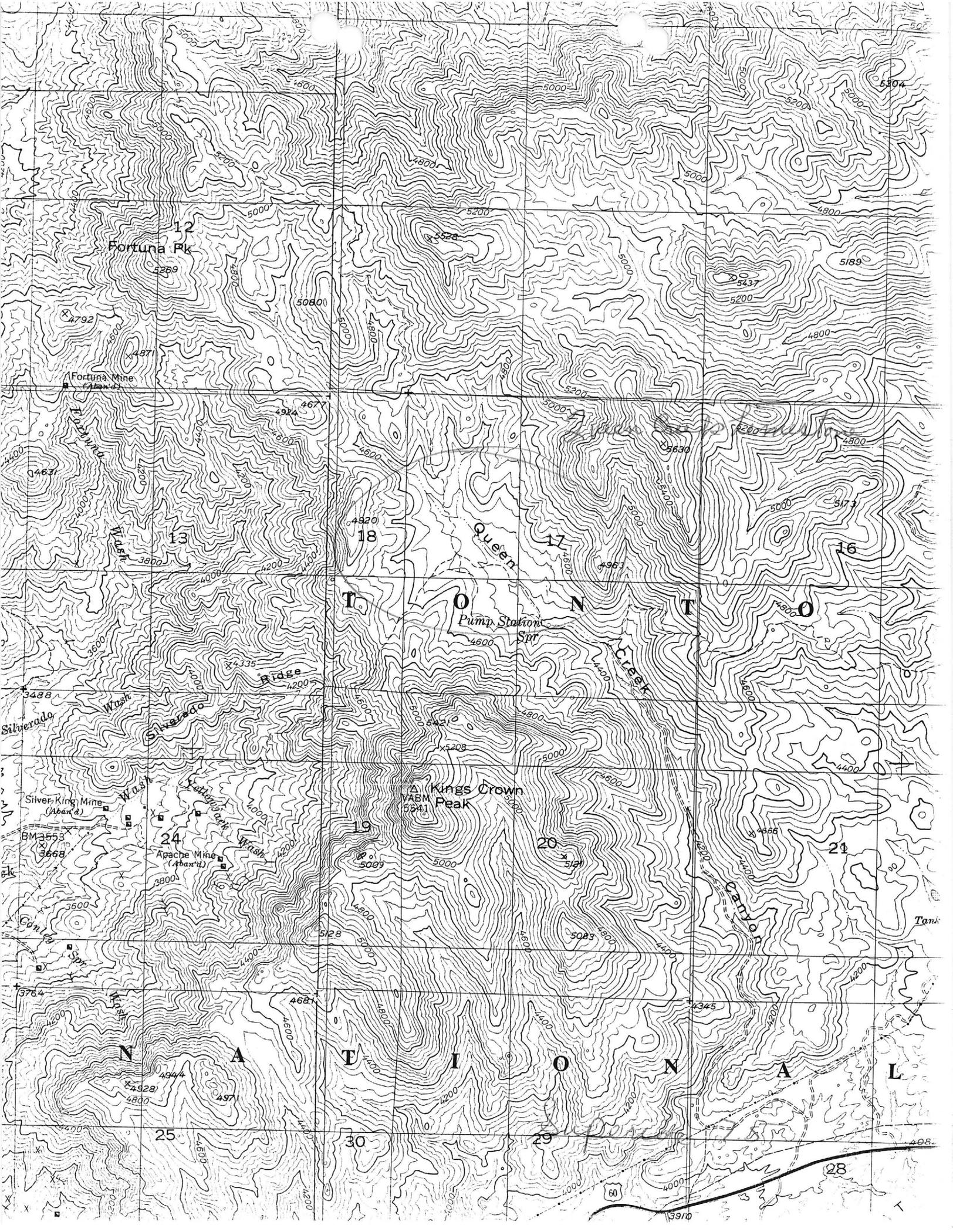
CURRENT STATUS: PRODUCER

COMMODITY:

CALCIUM LIMESTONE  
CALCIUM MARBLE  
STONE MARBLE

BIBLIOGRAPHY:

ADMMR QUEEN CREEK LIMESTONE FILE  
CLAIMS EXTEND INTO SEC. 18



12  
Fortuna Pk  
5269

13

18

17

16

T O N T

Pump Station  
Spr

Silverado  
Wash

Silver King Mine  
(Abandoned)

BM 3653  
3668

Apache Mine  
(Abandoned)

24

19

Kings Crown  
Peak  
5241

20

21

N

A

T

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25

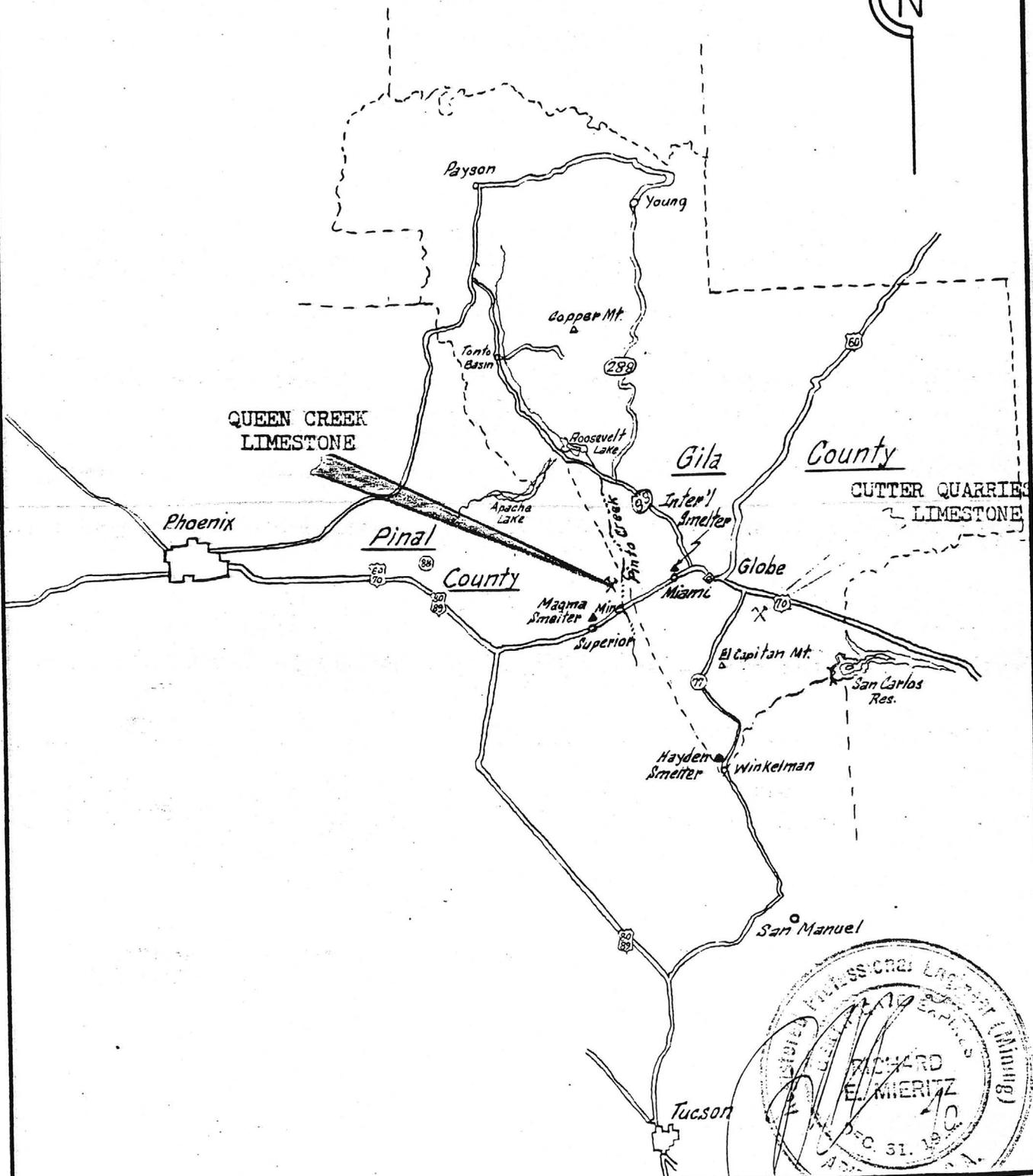
30

29

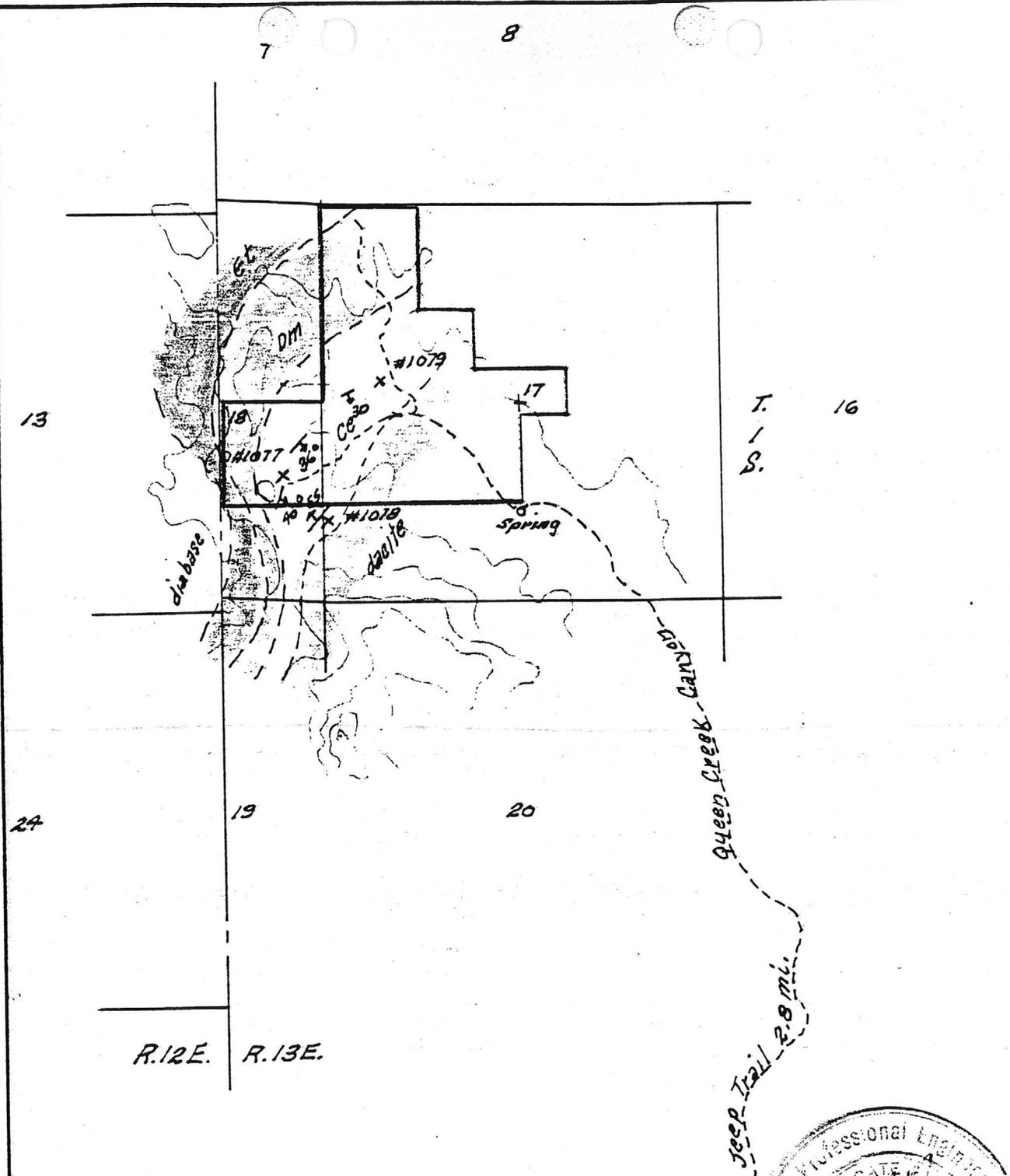
28

60

3970

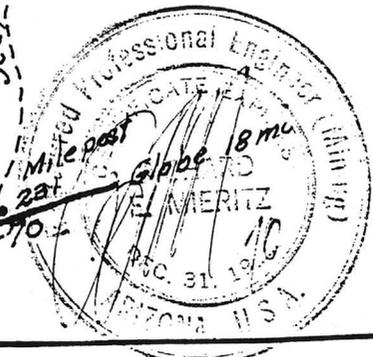


**INDEX MAP**  
 PORTION of ARIZONA  
 SCALE  
 1 INCH = ± 21 MI.  
 MAY, 1970 R.E. MIERITZ



**LEGEND**

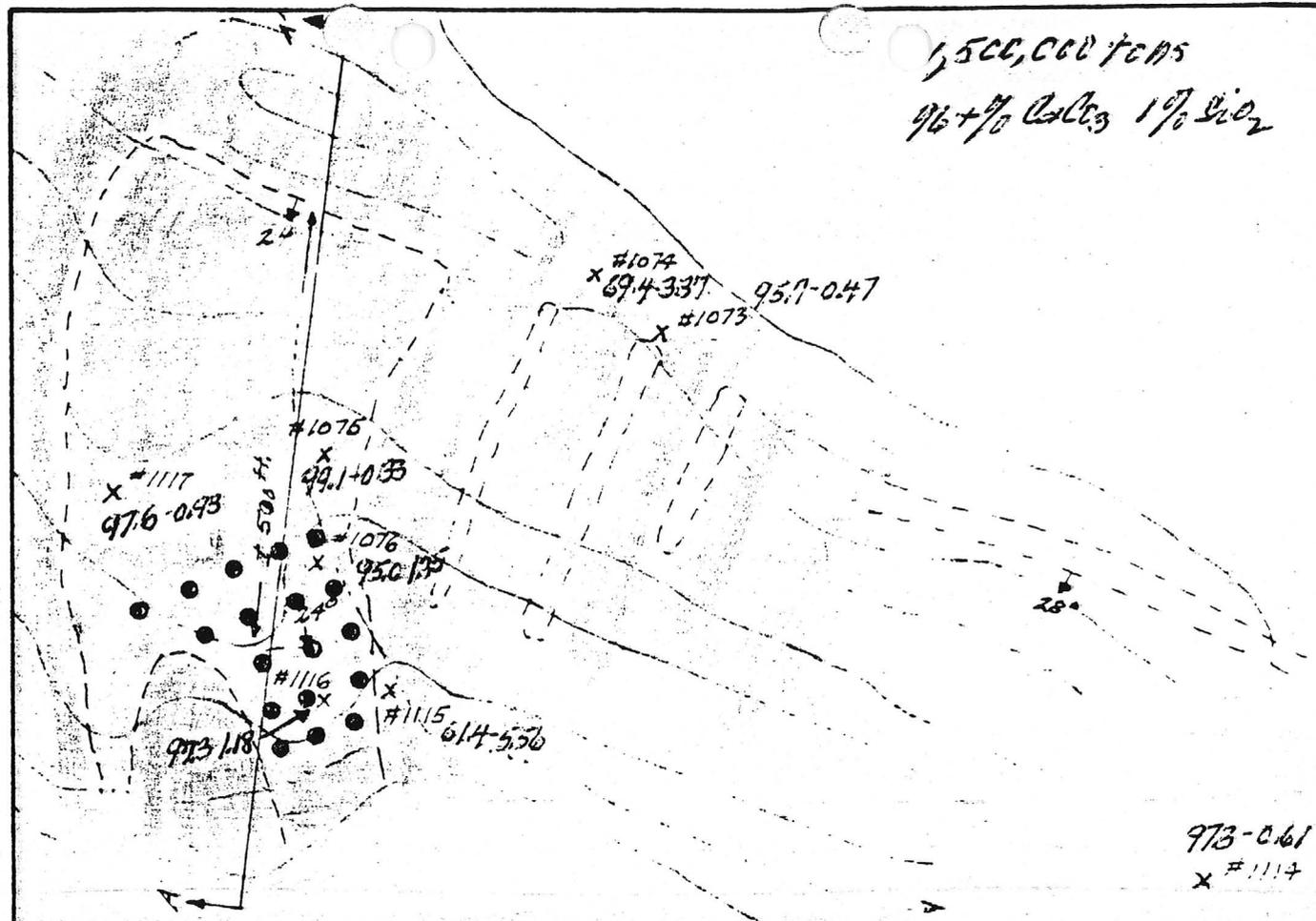
-  Et Troy Quartzite
-  Dm Mescal Limestone
-  Ce Escabrosa Limestone
-  Dacite
-  Diabase



**QUEEN CREEK LIMESTONE**  
 Superior Mining District  
 Pinal county, Arizona  
 Scale: 1" = 2000 Ft.

May, 1970 R. E. Mieritz

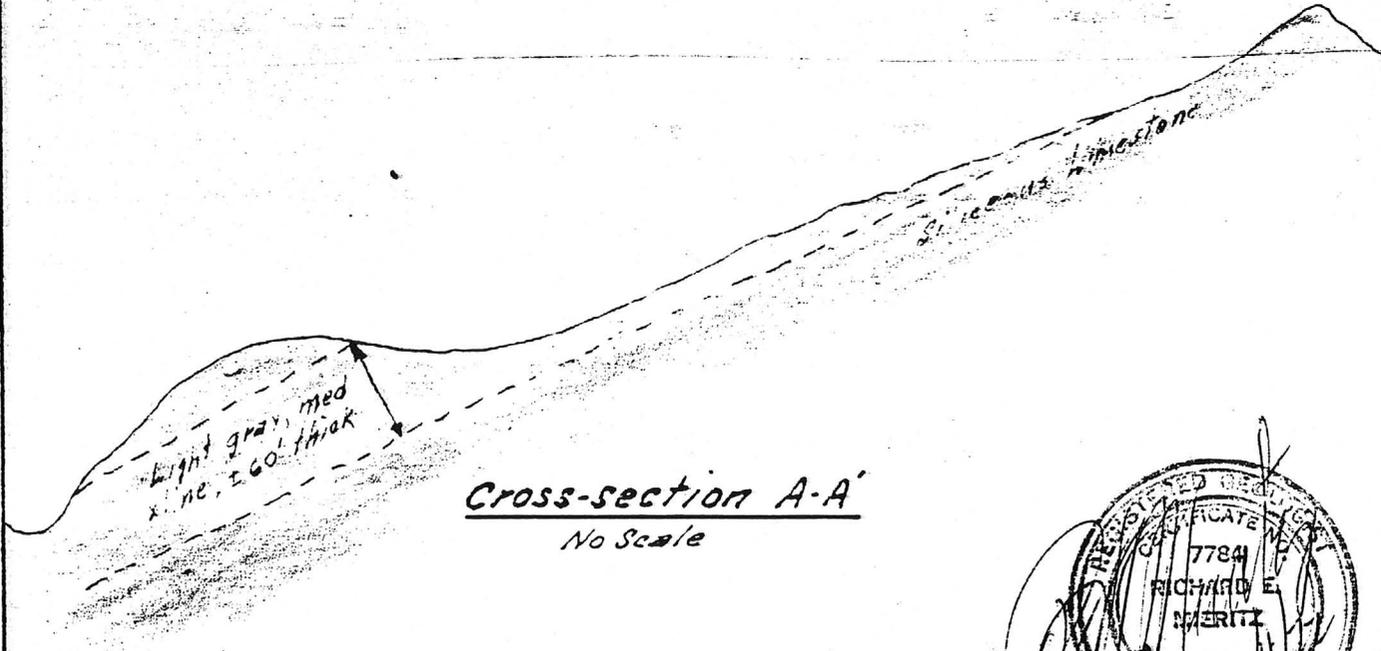
1,500,000 tons  
96% CaCO<sub>3</sub> 1% SiO<sub>2</sub>



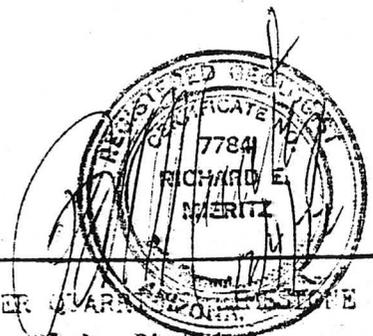
Plan Sketch  
No Scale

973-0.61  
X #1114

#1118 →  
60.0-5.70



Cross-section A-A'  
No Scale



CUTLER QUARRY Limestone  
Globe District  
Gila County, Arizona  
No Scale  
May, 1970 R. E. Mieritz



**Arizona Department of Mines and Mineral Resources**

1502 West Washington, Phoenix, AZ 85007 Phone (602) 255-3795

1-800-446-4259 in Arizona FAX (602) 255-3777

www.admmr.state.az.us

Queen Creek  
Limestone  
mine (F)

**QUEEN CREEK LIMESTONE MINE**

**PINAL COUNTY**

By Ken Phillips, Chief Engineer, September 30, 2003

Karen Harbour of the Tonto National Forest reported that the Plan of Operations (POL) for Omya Arizona's white marble and limestone mining operation at the Queen Creek Limestone Mine is to be finalized and signed on Sept. 30, 2003. Omya Arizona has been operating the mine on an extension of a prior existing POL. The new POL will allow continued quarry operations and expansion into an extended pit area.

The Queen Creek Limestone Mine supplies white calcium carbonate to Omya Arizona's calcium carbonate processing plant in Superior and to Superior Marble Company's marble crushing and screening plant, also in Superior.

Omya Arizona's plant produces finely ground, natural calcium carbonate products for functional fillers and extenders from calcium carbonate marble they mine at the Queen Creek Limestone Mine. They also process calcium carbonate in the same plant for food additives. Their calcium carbonate food additives come from a mine in the Southern California desert.



DS Queen Creek  
 Km Limestone  
file  
Pinal Co.

## ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Governor Jane Dee Hull

Jacqueline E. Schafer, Director

### PUBLIC NOTICE OF THE PRELIMINARY DECISION TO ISSUE AN INDIVIDUAL AQUIFER PROTECTION PERMIT

Pursuant to Arizona Administrative Code, Title 18, Chapter 9, Article 1, the Director of the Arizona Department of Environmental Quality intends to issue an individual Aquifer Protection Permit to the following applicant(s):

**OMYA (Arizona) Inc.**  
**6 North Mesquite Road**  
**Superior, Arizona 85273**

**Facility Name: OMYA (Arizona) Inc.**  
**Aquifer Protection Permit No. P-104187**

**The notice will be published in the Superior Sun.**  
**Public Notice No. 93-00 APP      On or about Wednesday, September 6, 2000**

The site is located at 6 North Mesquite Road, in Superior, Arizona, in Pinal County, within the Phoenix Active Management Area groundwater basin in Township 2 South, Range 12 East, Eastern ½ Section 4, Salt and Gila River Base Line and Meridian.

OMYA (Arizona) Inc. will operate a calcium carbonate processing plant. Calcium carbonate ore will be processed into industrial, food and pharmaceutical grade products. The processing of food and pharmaceutical grade ore will result in an industrial wastewater stream. The processing of the food and industrial grade ore will involve crushing the ore in a roller mill and mixing with water to achieve a slurry. This slurry will be screened and conditioned for floatation and beneficiating. Propylene Glycol is added and Tall Oil Hydroxyethyl Imidazoline Anad Amine Acetate utilized as a surfactant to separate impurities from the ore. The waste stream will discharge into a settlement basin where the impurities (primarily clays, silicate, and quartz particles) will settle out and the clarified water will be pumped out for disposal to the Town of Superior wastewater treatment plant.

As BADCT for the prevention of discharge to the vadose zone, OMYA will utilize a two celled settlement basin constructed with 12" steel reinforced concrete underlain with a 20 mil synthetic liner and leak detection system. Each cell will be 75' long by 23' wide with an 8% slope. Each cell will be 2' deep at one end sloping to an 8' depth at the other end. Each cell has a designed capacity of 39,000 gallons. Discharges will alternate between cells. When one cell is filled, the wastewater will be diverted to the other cell. When impurities settle out in the full cell the resulting clarified water is pumped out, the remaining material is allowed to dry and is then removed from the cell with front loaders where it is properly contained and stored for authorized disposal.

The permit and related materials are available for public review with 24 hour notice, Monday through Friday 8:00 a.m. to 5:00 p.m. at the Arizona Department of Environmental Quality, Records Management Center, Lower Level, at 3033 N. Central Avenue, Phoenix, AZ 85012.

Persons may submit comments or request a public hearing on the proposed action, in writing, to Steve Miller, ADEQ, at 3033 N. Central, Phoenix, AZ 85012 within thirty (30) days from the date of this notice. Any public hearing request must include the reason for such request.

*Queen Creek Limestone file*

CALIFORNIA INSTITUTE OF TECHNOLOGY

PHYSICS DEPARTMENT 161-33  
PASADENA, CA 91125

tel. (818) 395-4304, fax (818) 568-8263  
e-mail novikov@cco.caltech.edu

August 1, 1996

Ken A. Phillips, Chief Engineer  
Department of Mines and Mineral Resources  
State of Arizona

Dear Mr. Phillips:

This is to inform you that we have finally completed the search for low radioactive aggregate for our Palo Verde neutrino laboratory. We've chosen marble from Queen Creek – one out of three options in Arizona you've suggested to us.

We went through many samples of minerals which we have received from many places in the USA and Canada. We have measured radioactivities in the samples by means of  $\gamma$ -spectrometry, using Caltech's low background facility (semiconductor Ge detector). The sensitivity of this technique is  $\sim 1$  ppb – well below of the required purity of materials needed for the construction ( $\sim 100$  ppb of  $^{238}\text{U}$ ,  $^{232}\text{Th}$ ,  $^{40}\text{K}$ ).

Please find enclosed the results of our measurements. Some samples have shown U, Th, K concentrations much below that from Queen Creek. However, radioactivities in the final concrete mixture are governed by radioactivities in cement (16.5% by weight). From this point of view, as well as for reasons of cost (material+shipping), the marble from Queen Creek is clearly our best option. Concentrations of  $^{238}\text{U}$ ,  $^{232}\text{Th}$  and  $^{40}\text{K}$  in the final concrete mixture based on marble from Queen Creek are very close to our design goal.

I would like to thank you again for your cooperation which was very important for the progress of our neutrino experiment.

Sincerely yours,

Dr. Vladimir M. Novikov

Sand & Gravel

S A M P L E	CONCENTRATION, ppb		
	K-40	U-238	Th-232
BASALT Phoenix, AZ	2110+/-100	3420+/-460	14682+/-2041
SAND B-9 Palo Verde, AZ	2578+/-124	1492+/-230	6643+/-1109
MARBLE ( <i>Queen Creek Limestone</i> ) Queen Creek, AZ	111+/-9	434+/-62	142+/-69
MARBLE ( <i>Santa Rita Quarry</i> ) Sahuarita, AZ	62+/-11	238+/-46	159+/-104
DOLOMITE Kingman, AZ ( <i>Shipley Pit</i> )	43+/-4	262+/-35	188+/-44
DOLOMITE Salinas, CA	2.2+/-1.4	120+/-20	< 68
DOLOMITE Haley, Ontario	27+/-3	68+/-11	69+/-24
OLIVINE Bellingham, WA	2.4+/-0.6	< 4	10+/-7

Cement

HOLNAM, Theodore, AL	371+/-31	6602+/-846	4447+/-746
ORDINARY, Phoenix, AZ	633+/-25	1365+/-175	3288+/-451
WHITE, Waco, TX	118+/-9	1898+/-242	2359+/-337

Samples here described from the mine listed below are contained in the AzDMMR collection of reference samples.

Date Taken: 04/00/92  
Date Logged: 09/30/93  
Sample Number: 04/00/92-004

MINE: Superior Marble (S) ~~(S)~~  
COUNTY: Pinal  
LOCATION: Up Queen Creek from Highway 60 across from the turn off to  
Magma's No. 9 shaft.  
DESCRIPTION: Crystalline marble -1" landscape material  
MATERIAL: White marble

Date Taken: 04/00/92  
Date Logged: 09/30/93  
Sample Number: 04/00/92-005

MINE: Superior Marble  
COUNTY: Pinal  
LOCATION: Up Queen Creek from Highway 60 across from the turn off to  
Magma's No. 9 shaft.  
DESCRIPTION: Crystalline marble -0.125" screenings  
MATERIAL: White marble  
COMMENTS: Crystalline marble -0.125" screenings for possible use as  
swimming pool plaster aggregate. Color may be a problem.  
Bag looks like off color SMI 6-9 poultry calcium grit.

Date Taken: 04/00/92  
Date Logged: 09/30/93  
Sample Number: 04/00/92-006

MINE: Superior Marble  
COUNTY: Pinal  
LOCATION: Up Queen Creek from Highway 60 across from the turn off to  
Magma's No. 9 shaft.  
DESCRIPTION: Crystalline marble select hand specimens  
MATERIAL: White marble  
COMMENTS: Superior Marble Co. plans to produce a number of products that  
will compete directly with the mines south of Tucson in the for  
swimming pool plaster aggregate, landscape rock, and poultry  
calcium grit. Color may be a problem for some uses.

QUEEN CREEK LIMESTONE  
(file)

Samples here described from the mine listed below are contained in the AzDMMR collection of reference samples.

Date Taken: 04/00/92  
Date Logged: 09/30/93  
Sample Number: 04/00/92-008

MINE: Superior Marble  
COUNTY: Pinal  
LOCATION: Up Queen Creek from Highway 60 across from the turn off to Magma's  
No. 9 shaft.  
DESCRIPTION: Thin red stripes in white groundmass.  
MATERIAL: Marble and silica sandstone of possible decorative value.

Date Printed: 08/26/93

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

VERBAL INFORMATION SUMMARY

Information from: Jerry Price

Company: Rhyzona, Inc.

Address: 3435 E. Windrose  
City, State ZIP: Phoenix, Arizona 85032  
Phone: 602-992-7746

MINE: Queen Creek Limestone

ADMMR Mine File: Queen Creek Limestone  
County: Pinal  
AzMILS Number: 753

SUMMARY

Jerry Price, Rhyzona, Inc., 3435 E. Windrose, Phoenix, Arizona 85032, phone 992-7746, reported that his company is marketing some of Superior Marble's decorative white rock from the Queen Creek Limestone marble deposit. Lawrence Turley, the principal in Superior Marble, Inc., has acquired the use of a unused cotton gin facility in the community of Queen Creek for a crushing, screening, and bagging plant.

Ken A. Phillips, Chief Engineer      Date: August 26, 1993

Date Printed: 05/07/93

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

VERBAL INFORMATION SUMMARY

Information from: **Ted Zanfees**

Company:

Address:

City, State ZIP: Scottsdale, Arizona

Phone: 602-994-0561

**MINE:** Queen Creek Limestone

ADMMR Mine File: Queen Creek Limestone File

County: Pinal

AzMILS Number: 753

SUMMARY

Ted Zanfees was in and reported he is involved with marketing limestone and marble from the QUEEN CREEK LIMESTONE Mine. He explained that the operation is now owned and operated by Lawrence Turley, principal in Mineral Development Inc., Superior Marble Division, phone 602-926-104 and that Mr. Conklin has been bought out of the operation.

He went on to report that they have 18,000 tons of marble crushed and stockpiled at the property as of April 30, 1993. Further, they are now ready to accept orders for landscape stone.

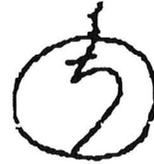
Their future plans include expansion of their processing facility to produce ground limestone products.

Ken A. Phillips, Chief Engineer      Date: May 5, 1993

Queen Creek Limestone  
(F)

SUPER01/00

GLOBO DE PLOMO  
P.O. Box 872  
Douglas AZ 85607



Stop to: 510 E Globo Lens  
Douglas AZ 85607  
Tel: (520) 364-9637  
Fax: (520) 364-7664

August 6, 2000

Rick Erman  
Superior Marble  
21555 E. Ocotillo Road  
Queen Creek AZ 85242-9306

Dear Mr. Erman:

I have studied the samples you sent using thin and polished sections. In the absence of a covering letter, I relied on my memory of our telephone conversation to guide me. As I recall, your main interest was in the identity of magnetic minerals, and also you were curious about the cause of the dark color of the rock.

The thin section shows clearly that this was highly impure carbonate sediment originally and the dark color is due chiefly to the presence of disseminated magnetite and also somewhat due to the presence of colored (green typically) silicates developed during metamorphism. As for magnetics, magnetite is the only mineral seen. I thought that pyrrhotite was potentially present as well, but pyrite was the only sulfide observed.

I hope the results are helpful. I am returning the thin and polished section to you for your interest.

Sincerely,

A handwritten signature in cursive script, appearing to read "Sid Williams".

Sidney A. Williams  
SAW:Dragon

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

VERBAL INFORMATION SUMMARY

Information from: FIELD VISIT ON 11-17-92 w/ Dick Calkins

Company: Mineral Development Corporation  
Address: Superior Marble Div, 5643 E. University  
City, State ZIP: Mesa, Arizona 85205  
Phone: 213-641-1445  
  
MINE: Queen Creek Limestone  
  
ADMMR Mine File: Queen Creek Limestone  
County: Pinal  
AzMILS Number: 753

SUMMARY

In the company of Dick Calkins a visit was made to the Queen Creek Limestone marble property in Secs. 17 & 18, T.1S.,R.13E. of Pinal County.

Mr. Calkins is in the process of developing the coarse to fine crystalline calcium carbonate marble deposit for decorative landscape uses and (he reports) for eventual fine grind uses.

The property has had some past production, but probably less than 5,000 tons for landscape stone. The past operators are reported to have abandoned their operation and left their junk equipment, barrells, etc. at the site. The abandoned site was cleaned up and old junk hauled off by Mr Conklin as part of his Forest Service Approved Plan of Operations for a new access road. The new road follows the approximate course of the long time 4 wheel drive road up Queen Creek. The new road, built at a reported cost of \$80,000 was required by the Forest Service to be kept completely in the Queen Creek stream bed.

At the deposit Mr. Conklin has drilled to a depth of 8' and shot approximately 12,000 tons of marble for road material and prepared a 300' x 500' working area. Most of the blasted material has so much red soil contamination that what was not used for road building was pushed back into the pit.

The best initial working areas are a face at the north end of the old workings below an existing bench and at a new bench that could be developed in undisturbed ground on the northeast edge of the old worked area. Avoiding those areas where red mud and soil has worked its way down through fractures and contaminated large amounts of marble will be important in making any premium products.

About 500 feet south of the workings are areas showing facies of limestone, shale, and sandy shale. Nearby are small areas contianing

Date Printed: 12/14/92

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

VERBAL INFORMATION SUMMARY

crimson speckled sandy limestone of a very unique appearance.

Approximately 700 tons of coarsely crystalline marble boulders, some colored by red soil, have been stockpiled. Also stockpiled are about 200 tons of minus 3/16" and about 50 tons of 1" white marble.

The owner/operator has leased the property from Tom Clarey.

Ken A. Phillips, Chief Engineer      Date: November 17, 1992

GEOLOGIC REPORT

of the

QUEEN CREEK

LIMESTONE PROPERTY

in the

SUPERIOR DISTRICT

Pinal County, Arizona

by

R. E. Mieritz  
Mining Consultant  
Phoenix, Arizona

June 3, 1970

## INTRODUCTION:

Accompanied by Mr. E. Dale Penrod, Arizona Sales Manager for Mineral Resources, Inc., on May 27, 1970, the writer completed a cursory field examination of the Queen Creek Limestone property of sixteen, 20 acre placer claims in parts of Sections 17 and 18, T. 1 S., R. 13 E., in Tonto National Forest, Pinal County, Arizona and approximately 4 air-line miles northeast of Superior Arizona, or 6.3 miles by road northeast of Superior or 16 miles west of Miami, Arizona.

## CONCLUSIONS:

Based on the field examination, the general geology of the area and the chemical results of three samples taken by the writer, the following conclusions are forwarded for your consideration:

(1) The limestone formation is mostly the Escabrosa formation of Carboniferous age, varies from fine crystalline to coarse crystalline and even to calcitic rhombohedral crystals up to  $3/4$ " near the formations contact with dacite, is mostly white to very light gray but does have some blue-gray members. Silica as seams or nodules is absent, surface-wise. Two of the three samples, however, suggest dolomitic characteristics.

(2) In excess of 3 million tons of high calcium carbonate, low silica content material should be available through advantageous hill slope quarrying with only a small amount of surface soil removal.

## PROPERTY, LOCATION and ACCESSIBILITY:

The 16 placer claims, 320 acres, are situated in parts of Sections 17 and 18 of T. 1 S., R. 13 E., as approximately shown on the accompanying Map No. 2. Legal descriptions should be obtained from the owners. (outline of property copied from map presented by Mr. Penrod.)

Access to the property on the day of the examination was travel from Miami 14.2 miles west on U. S. 60-70 to the top of the Mesa (truck pullout and mile post 331) just before the descent through Queen Creek Canyon to Superior. This same point is 4 miles by road east of Superior. At this point there is a "Jeep Trail" to the north (a right when coming from Miami) which leads to the property 2.8 miles distant. A short wheelbase, four wheel drive vehicle is necessary for this stretch of trail. Exit from the property can be made with a four wheel drive vehicle utilizing the electric power high line "Jeep Trail" to the Silver King Mine and then the Silver King gravelled road to U. S. 60-70 just west of Superior, Arizona, a distance of about 6-7 miles.

## GEOLOGY:

The limestone formation of interest is that of the Escabrosa which is underlain by the Mescal limestone formation, usually quite impure. The general strike of the Escabrosa at the property is northeast N. 40 E. at a  $36^{\circ}$  SE dip at its northeast end and N. 20 E. at a  $45^{\circ}$  SE

dip at its southwest end -- a synclinal trough effect with a gentle dip or rake to the northeast.

The northwest flank, including the Mescal formation, forms a N.10° E. trending hill with a ± 20° dip slope to the east and a valley to hill-top relief of approximately 200 feet. The southeast flank is part of the general terrain of the mountain on that side, has a "dip slope" of ± 35° with a definite erosional break at the limestone-dacite contact.

Limestone exposed on the property in the area of the "syncline" is, for the most part, white to very light gray, medium to coarsely crystalline, relatively soft to fracture and appears to have a low silica content since silica seams and nodules are non-existent. Sample #1077, however, indicates much magnesium carbonate, consequently we have a transition from a limestone marble to a dolomitic marble -- mostly on the northwest flank. The physical character of the rock in the area of the above sample was fine grained, somewhat more dense and perhaps is quite close to the Escabrosa-Mescal contact.

The southeast synclinal flank is approximately 60 to 70% calcite in fairly large crystals. It is also white in color. This is close to the limestone-dacite contact but has a surface width of approximately 100 feet. The dip here is close to 35° NW. The syncline trough is soil covered, consequently the gradational character from calcite to marble is not observable nor pinpointable. The small northeast trending wash - line or syncline - might denote this position. Some vari-colored marble (pink to tan) is present but appears to be at a minimum.

Three samples were taken by the writer at positions shown on Map No. 2. The chemical results are as follows:

	<u>% CaCO<sub>3</sub></u>	<u>% SiO<sub>2</sub></u>
#1077 Fine grained, sugary, white	39.4	0.55
#1078 Coarse grained, calcitic, white	28.7	0.45
#1079 Med. grained, white, discovery pit, on mesa	31.2	1.20

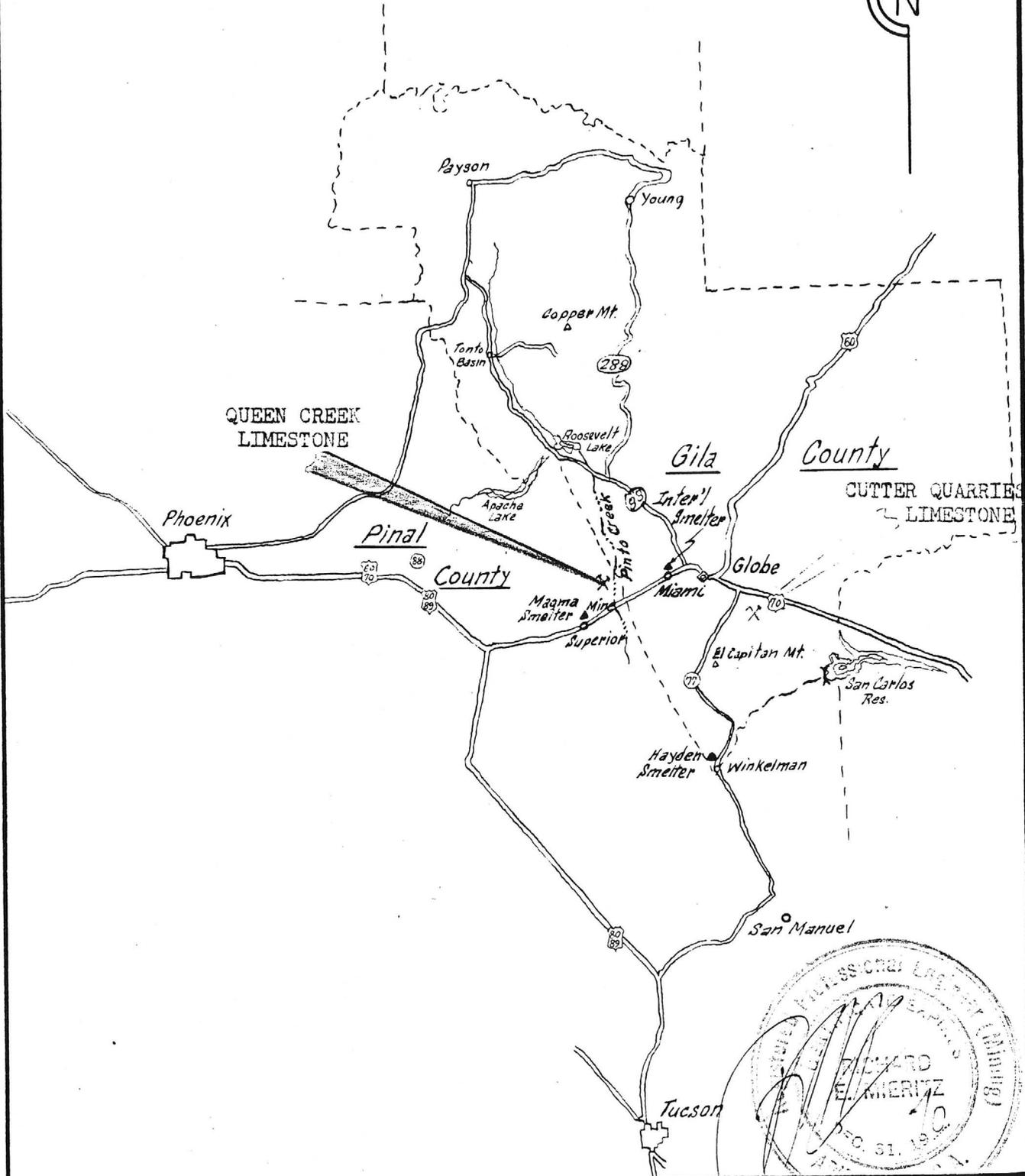
Tonnage-wise, a strike length of 1000 feet, a 500 foot width and normal dip depth of 75 feet would indicate 3.75 million tons of high calcium carbonate, low silica limestone.

#### DEVELOPMENT:

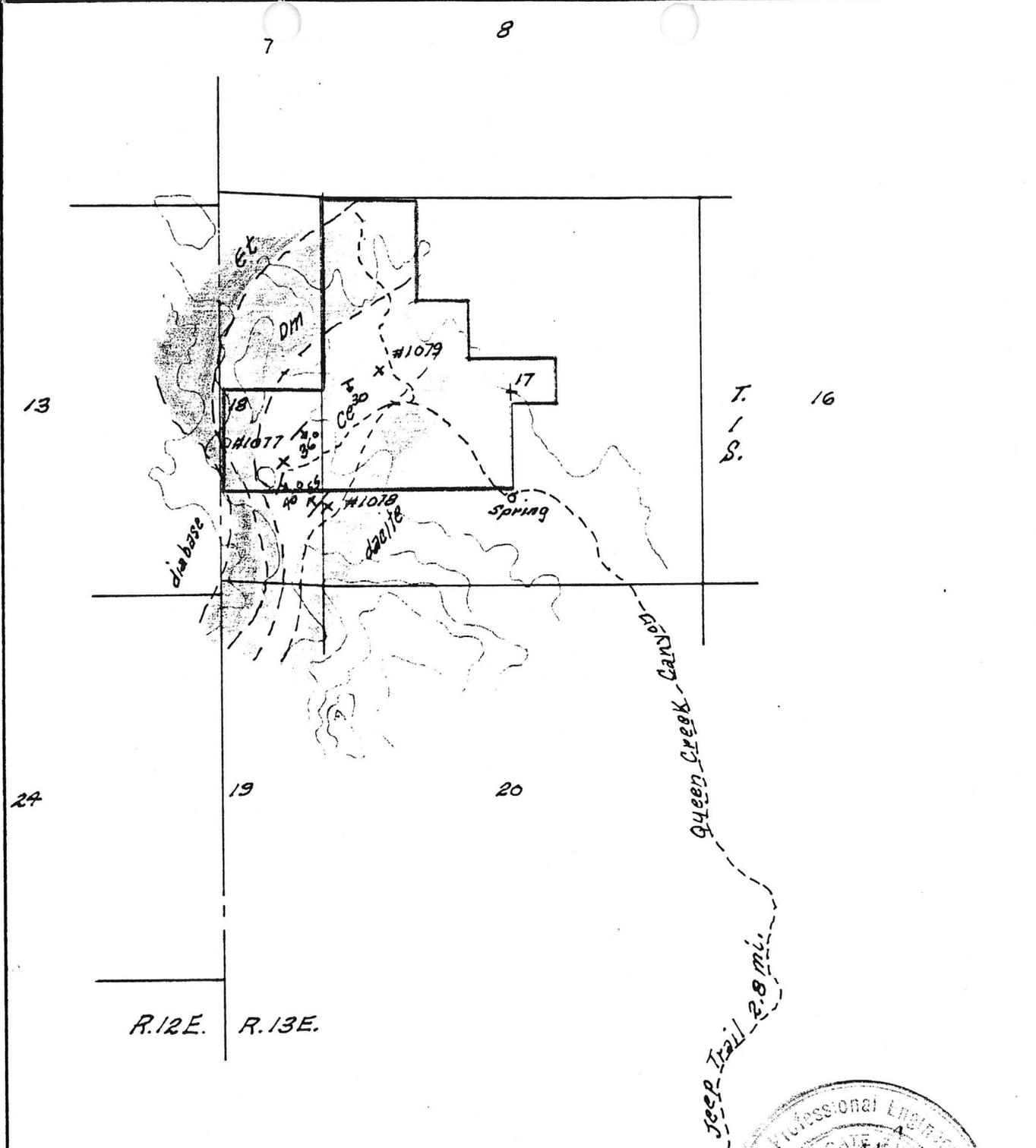
Except for the discovery pits, the property is undeveloped. Surface diamond drilling would be required.

Respectfully submitted,

R. E. Heritz,  
Mining Consultant  
June 3, 1970



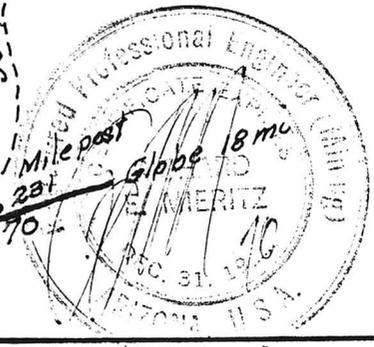
**INDEX MAP**  
 PORTION of ARIZONA  
 SCALE  
 1 INCH = ± 21 Mi.  
 MAY, 1970 R.E. MIERITZ



**LEGEND**

-  Et Troy Quartzite
-  Dm Mescal Limestone
-  Ce Escabrosa Limestone
-  Dacite
-  Diabase

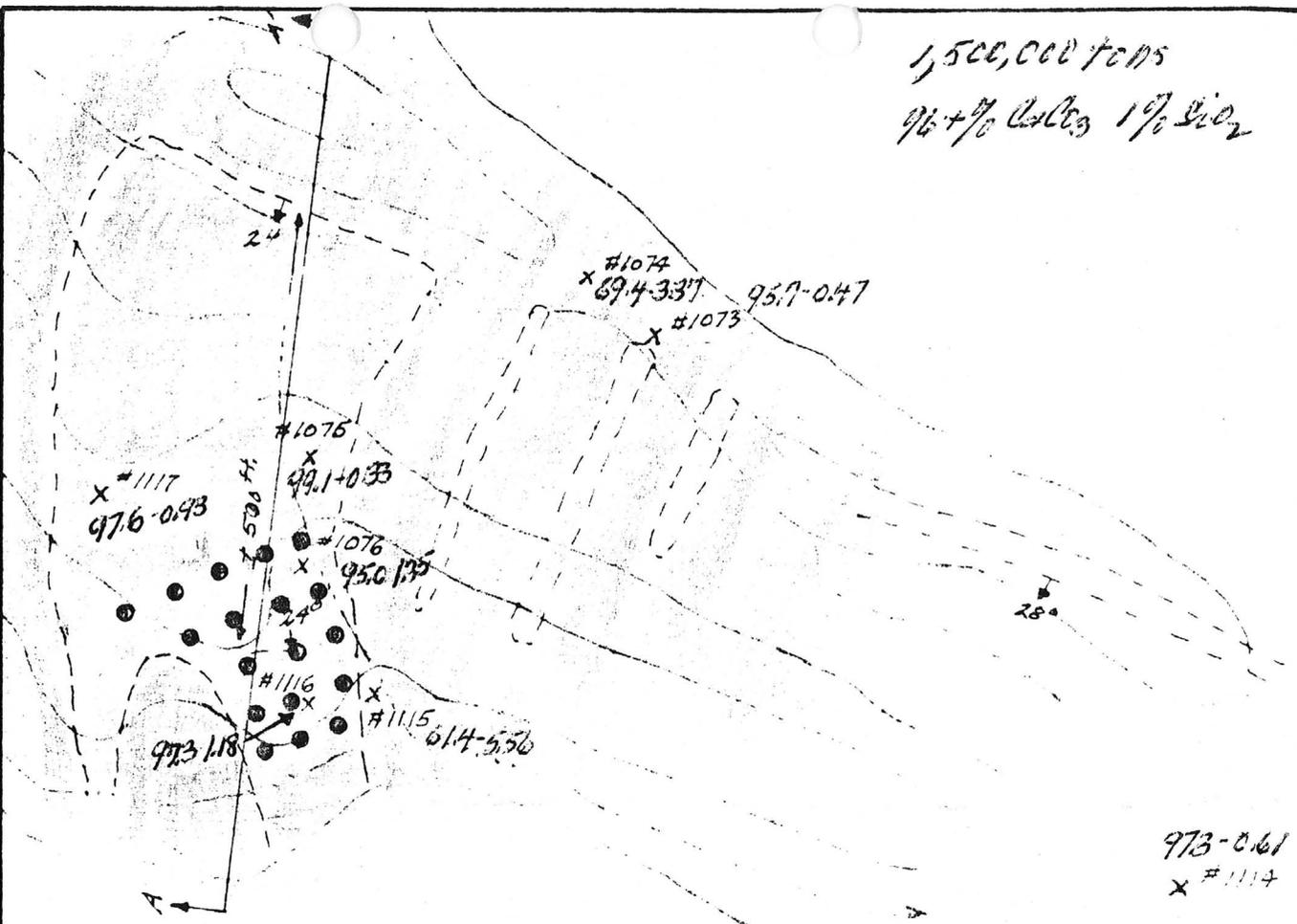
Superior 4mi U.S. 60-70  
 Mile post 287  
 Globe 18 mi



**QUEEN CREEK LIMESTONE**  
 Superior Mining District  
 Pinal county, Arizona  
 Scale: 1" = 2000 Ft.

May, 1970 R. E. Mieritz

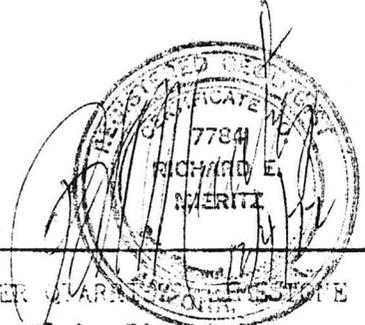
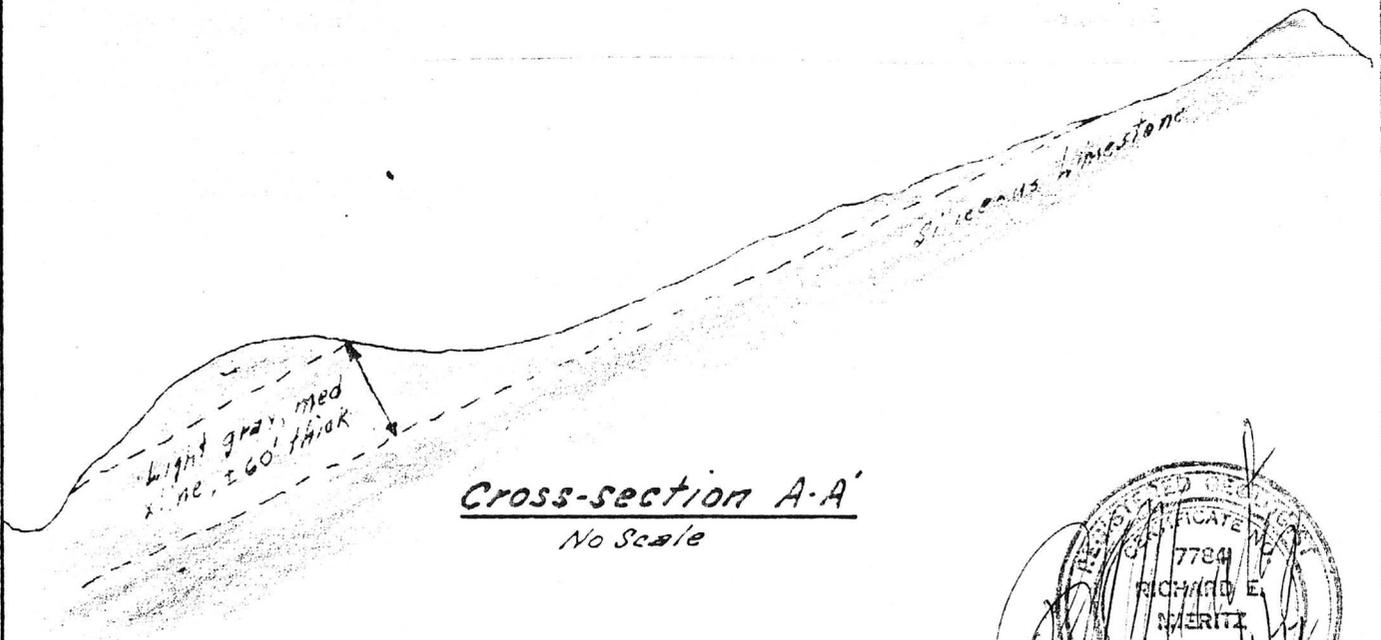
1,500,000 tons  
96+% CaCO<sub>3</sub> 1% SiO<sub>2</sub>



Plan Sketch  
No Scale

97.3-0.61  
X #1114

#1115 →  
60.0-5.70



CUTLER QUARRY  
Globe District  
Gila County, Arizona  
No Scale  
May, 1970 R. E. Mieritz

# ARC LABORATORIES

Division of Arizona Research Consultants, Inc.

9236 NORTH 10TH AVE.

PHOENIX, ARIZONA 85021

943-3573

FOR: Dick Hieritz  
11031 White Mountain Road  
Sun City  
Arizona 85351

DATE 13 Mar 72

LAB No. 11753-7

---

## RESULTS

Sample #	% Silica	% Calcium Carbonate
1114	0.61	97.3
1115	5.56	61.4
1116	1.18	97.3
1117	0.93	97.6
1118	5.70	60.0

Respectfully submitted,  
ARC LABORATORIES

John T. Long, Jr.