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Richard Mieritz Mining Collection

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December 6, 1972

Mr. John Jett, Director
Arizona Dept. of Mineral Resources
State Fairgrounds
Phoenix, Arizona.

Dear Mr. Jett:

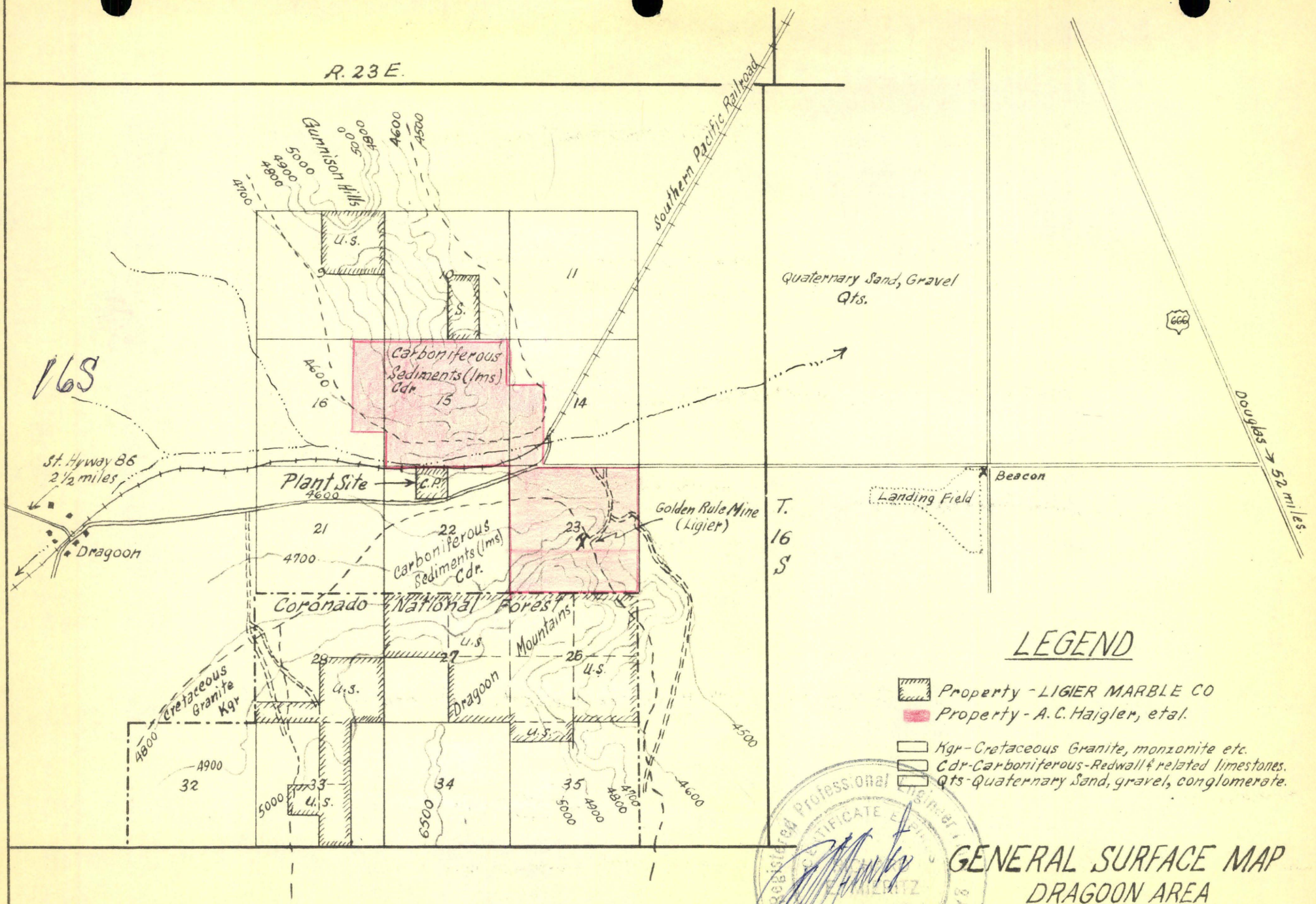
Pursuant to our telephone conversation of even date, I would like to request that the Department consider my January 23, 1961 report on the "Haigler Limestone" as confidential information. This report is titled "An INFORMATIVE REPORT on the HAIGLER LIMESTONE DEPOSIT in the DRAGOON AREA, COCHISE COUNTY, ARIZONA" It is a professionally stamped and signed copy.

Although prepared for Mr. A. L. Goodmon, Trustee of the HAIGLER Estate, the work has never been paid for, consequently, I consider it my property. Haigler, Goodmon and I agreed that one copy should be given the Department--several years ago, consequently, Mr. A. L. Goodmon presented the Department with this copy.

The deaths of Mr. and Mrs. Haigler and I believe Mr. Goodmon, necessitate this action.

Very truly yours,

R. E. Mieritz,
Mining Consultant.



GENERAL SURFACE MAP
DRAGOON AREA
COCHISE COUNTY, ARIZ.

SCALE: 1 IN = 1 Mi.

R.E. Mieritz

3-28-58

REPLY TO:
2940 N. CASA TOMAS
PHOENIX, ARIZONA 85016
TELEPHONE (602) 277-6053

Richard E. Mieritz
MINING CONSULTANT
ARIZONA REGISTERED
MINING ENGINEER AND GEOLOGIST

GEOLOGY
EXPLORATION
EVALUATION
FEASIBILITY
OPERATION

Roland Guillomet

January 24, 1981

213-559-7805

Mr. Stephen Sakhi – home -213-469-8879
3530 Schaefer Street
Culver City, California, 90230

Re: Limestone Property
Cochise County, Arizona.

Dear Mr. Sakhi:

Pursuant to our visit of January 19th and several phone calls, I have contacted the owner of a limestone deposit which I discribed to you at our meeting and after some delay, the owner has submitted the following plans for dealing for the property. The property in question is Section 15 of T. 16 S., R. 23 E. in Cochise County, Arizona.

PLAN "A" - A SALE of the property requires $375,000.- as a down payment at the time of signing an Agreement. Payments of $200,000.- annually must be made for a period of 5 years. The property is then signed over to you. Total sale price, $1,375,000.-.

PLAN "B" - A SALE of the property requires $375,000.- as a down payment at the time of signing an Agreement. Then, a royalty payment of 20¢ per ton of limestone must be paid for 15,000,000 tons mined. Total price, $3,375,000.- The property is then signed over to you.

PLAN "C" --A LEASE of the property requires $60,000.-down, then 30¢ per ton of limestone mined with a minimum of 400,000 tons mined per year, $120,000.- paid annually.(minimum). Lease renewable every five years. Total cost--(unreasonable). You never own the property.

The above three plans do not meet with your requirements of "no money" down. This appears to be the greatest obstacle. Plan "A" is low in total price--which is what you desire, If it isn't paid at the "front" then it must be paid at the end--with a higher price for the property. This is a usually situation. The range of property cost is from the minimum of $1,375,000.- to something over $3,375,000.-. I have analyzed the above plans, as well as your desires for acquisition of a property and to be fair to all concerned, I submit the following plan as an alternative, keeping in mind that it is a plan which achieves the wants and desires of both sides with little to no "room" for arbitration or nit picking because something like that could go on for months and as I understand your position, "time is of the essence".

MIERITZ PLAN - A LEASE_SALE situation. No large down payment required. Payment of $1000.- at time of signing and $1000.- each month until production begins. When production begins, then 10¢ per ton of limestone mined with a first year guarantee of a $200,000.- payment, from production or your treasury. The 10¢ royalty continues until forty

million (40,000,000) tons of limestone have been mined, at which time the property becomes yours. Total cost of the property is $4,000,000.- plus the few thousands of dollars you put out for signing the Agreement and the monthly rental. The sooner you start producing, the less amount of rental you pay.

This plan keeps your royalty payments down, permits you to own the property at some future date and permits you to give up the property if for some reason the economics of the operation are such that a profit can no longer be made. Moreover, your capital investment is more or less limited to the cost of the mining and plant equipment if you go that far.

For your information, the Southern Pacific Railroad line is on the south property line of the deposit.

You also asked about chemical analysis of the limestone deposit. To this end, I attach a Sample Assay Tabulation of several samples I took on the deposit and was part of my report of year 1959.

In that report I also made mention that in my opinion in excess of 100,000,000 tons of limestone could exist in Section 15--one square mile.

Please call me this coming Tuesday to advise whether the MIERITZ PLAN would be acceptable to you. I am quite confident this "deal" could be sold to the owner. I agree it is giving him just a little more "way down the l line" but it is also giving you a lot more in that the royalty would only be 10¢ per ton of limestone produced.

I would strongly urge your acceptance of the above. I will attempt to get the $1,000.- monthly rental reduced, but do not bank on it. Afterall--that is a very small item as compared to the overall cost and the capital invest you must consider if a plant is in the future. Were I in his shoes, I would think that if they were quibbling about such a small amount, they are not worthy of being dealt with.

Respectfully submitted,

R. E. Mieritz,
Mining Consultant

The following is a list of District Managers and District Offices within the State of Arizona:

Mr. Riley E. Foreman, Manager
Phoenix District Office
2929 W. Clarendon
Phoenix, Arizona 85017 Phone No. 261-4231

Mr. Garth M. Colton, Manager
Arizona Strip District
196 E. Tabernacle
P. O. Box 250
St. George, UT 84770 Phone No. (801) 673-3545

Mr. William S. Earp, Manager
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1707 Thatcher Rd.
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Safford, AZ 85546 Phone No. 428-1100

Mr. Vincent Ogurek, Area Manager
Kingman Resource Area Office
Radar Hill
P. O. Box 386 Phone No. 753-5496
Kingman, AZ 86401

Mr. H. Max Bruce
Yuma District Office
2450 South 4th Ave.
Yuma, AZ 85364 Phone No. 725-2614

61A

PUT IT IN WRITING

MEMORANDUM

January 2 1973

From To Leon Adams

SO_3	CaO	I.L.	Total	SiO_2	R_2O_3 (Al_2O_3)	MgO	Alk's-Chlor Na	Alk's-Chlor Pot.
0.25	13.4	19.8	33.15	43.3	18.1	1.54	1.15	0.48

Adams sample - surface clay in W/2 Sec. 16, T. 15S. R24E. Cochise

CMJ							
4.58	9.07	15.75	24.82	43.90	19.90	1.95	8.75

Title 43—PUBLIC LANDS: INTERIOR

Chapter II—Bureau of Land Management, Department of the Interior

Subchapter C — Minerals Management

Circular 2147

Group 3600—Special Disposal Provisions

PART 3610—MINERAL MATERIALS DISPOSALS

Subpart 3610—Mineral Materials Disposals; General

Subpart 3611—Mineral Material Sales

Subpart 3612—Free Use

AUTHORITY: The provisions of this Part 3610 issued under 61 Stat. 681, as amended, 69 Stat. 367; 30 U.S.C. 601 et seq.; 48 Stat. 1269; U.S.C. 315.

Subpart 3610—Mineral Materials Disposals; General

§ 3610.0–3 Authority.

(a) The Materials Act of July 31, 1947, amended by the acts of July 23, 1955 and September 25, 1962 (30 U.S.C. 601, 602), authorizes the disposal of mineral materials including, but not limited to, petrified wood and common varieties of sand, stone, gravel, pumice, pumicite, cinders and clay, in the public land of the United States (including the O&C lands as described in § 5040.0–3 of this chapter), if the disposal of such materials (1) is not otherwise expressly authorized by law, including, but not limited to the act of June 28, 1934, as amended (43 U.S.C. 315), and the United States mining laws, and (2) is not expressly prohibited by the laws of the United States, and (3) would not be detrimental to the public interest. Disposals of pumicite, within certain areas of the Katmai National Monument, Alaska, may also be made under this act, however, under appropriate contract conditions for the protection of the monument. Act of April 15, 1954 (68 Stat. 53).

(b) Where the lands have been withdrawn in aid of a function of a Federal department or agency other than the Department of the Interior, or of a State, county, municipality, water district or other local governmental subdivision or agency, the Secretary of the Interior may make disposals under the regulations in this part only, with the consent of such Federal department or agency or of such State or local governmental unit. The act provides that the Secretary of Agriculture shall dispose of materials from lands administered by him for national forest purposes or for purposes of title III of the Bankhead-Jones Farm Tenant Act of where withdrawn for any other function of the Department of Agriculture. See 36 CFR, Part 251 for Forest Service regulations relative to the disposal of materials in the national forests.

(c) Disposal of mineral materials under the act may not be made from any lands in any national park or national monument or from any Indian lands or lands set aside or held for the use or benefit of Indians including lands over which jurisdiction has been transferred to the Department of the Interior by Executive Order for the use of Indians.

(d) The act authorizes the Secretary of the Interior in his discretion to permit free use of mineral materials by any Federal or State governmental agency unit or subdivision, including municipalities, or any association or corporation not organized for profit for use other than for commercial or industrial purposes or resale.

Reprint of regulations current as of July 1, 1964

Circular Distribution List

§ 3610.0–5 Definitions.

(a) "Bureau" means Bureau of Land Management, Department of the Interior.

(b) "Director" means the Director of the Bureau of Land Management.

(c) "Authorized officer" means the Government official who has been duly authorized to sign a contract for the sale of mineral materials from public lands or to supervise operations and take action under such contract.

(d) "Mineral materials" include, but are not limited to "common varieties" of sand, stone, gravel, pumice, pumicite, cinders, clay and other mineral materials, and petrified wood.

(e) The word "act" when used in this part refers to the act of July 31, 1947, as amended.

§ 3610.1 Mineral materials disposal policy; limitations.

(a) Mineral material disposals may not be made under the act from public lands on which: (1) There are valid, existing claims to the land by reason of settlement, entry, or similar rights obtained under the public land laws; (2) there are any unpatented mining claims located either before or after July 23, 1955, which have not been cancelled by appropriate legal proceedings; (3) there are valid unpatented mining claims located on or after July 23, 1955, for valuable minerals that are not a "common variety", occurring in, or associated with "common variety" minerals.

(b) No sale of material shall be made under this part where the authorized officer determines that the aggregate damages to public lands and resources will exceed the benefits derived from such disposal. Sound conservation practices shall be exercised by all permittees or purchasers in the removal of materials under the provisions granted by this part.

(c) Mineral materials may be sold upon the request of any interested party or upon the authorized officer's own initiative.

§ 3610.2 Trespass; penalty for unauthorized removal of materials.

The extraction, severance, injury, or removal of timber or mineral materials from public lands under the jurisdiction of the Department of the Interior, except when authorized by law and the regulations of the Department, is an act of trespass. Trespassers will be liable in damages to the United States, and will be subject to prosecution for such unlawful acts. See Subpart 9239 of this chapter.

Subpart 3611—Mineral Material Sales

§ 3611.1 Advertising.

(a) Material sales offered by competitive bidding shall be advertised in a newspaper of general circulation in the area where the material is located and notice of the sale shall be posted in a conspicuous place in the office where bids are to be submitted. Such advertisement shall be published on the same day once a week for two consecutive weeks except that notice of sales amounting to $5,000 or less need be published only once.

(b) The advertisement of sale shall state the location by legal description of the tract or tracts on which the material is being offered, the kind of material, estimated quantities, the unit of measurement, appraised prices time and place for receiving and opening of bids, minimum deposit required, the access situation, the method of bidding, the office where additional information may be obtained, and such additional information as the authorized officer may deem necessary.

(c) Advertisement of materials appraised at $1,000 or less may be published or posted at the discretion of the authorized officer.

§ 3611.2 Sales, appraisals, and measurements.

(a) No materials, other than that designated in the contract or permit, shall be extracted unless designated in advance and written permission given by the authorized officer and payment made therefor.

(b) All materials to be sold shall be appraised and in no case shall it be sold at less than the appraised value.

(c) Such mineral material shall be measured by volume, weight, or truck tally, or combination of these methods, or such other form of measurement as the authorized officer determines to be in the public interest.

§ 3611.3 Competitive sales.

All sales other than those specified in § 3611.4 shall be made after inviting competitive bids through publication and

and provisions, as against any subsequent claim to or entry of the lands.

(b) *Permits to non-profit organizations.* A free-use permit issued to a non-profit association or corporation may not provide for the disposition of mineral materials having an in-place value in excess of $100 during any one calendar year. Such permittee is granted a right to remove materials while the permit remains in force and, in accordance with the provisions of the permit, as against a subsequent applicant who may wish to obtain the same mineral material by purchase. However, the mineral materials may not be removed by the permittee after the land has been included in a valid claim by reason of settlement, entry, mining location or similar rights obtained under the public land laws.

§ 3612.2–2 Procedures.

(a) *Applications.* An application for permit, in duplicate, must be made on Bureau approved forms and filed in any office or with any employee of the Bureau of Land Management authorized to issue a permit.

(b) *Term.* Permits shall be granted for periods not to exceed one year and shall terminate on the expiration dates shown therein unless extended by the authorized officer, such extension not to exceed one year. However, the authorized officer may grant permits to any Federal, State, or Territorial agency, unit, or subdivision including municipalities, for such periods as he may deem appropriate, not to exceed 10 years. The permittee must notify the officer in charge upon completion of removal.

(c) *Assignment.* A free-use permit issued under this section may not be assigned.

§ 3612.2–3 Permits.

(a) *Conditions.* A free-use permit, on a form approved by the Director, shall incorporate the provisions, if any, governing the selection, removal, and use of the mineral materials. Free-use permits shall not be issued where the applicant owns or controls an adequate supply of the mineral materials to meet his needs. The material applied for must be for the applicant's own use and may not be bartered or sold. No mineral materials shall be removed until the permit is issued.

(b) *Bond.* A bond satisfactory to the authorized officer may be required as a guarantee of faithful performance of the provisions of the permit and applicable regulations.

(c) *Cancellation.* The authorized officer may cancel a permit if the permittee fails to observe its terms and conditions, or if the permit has been issued erroneously.

§ 3612.2–4 Removal of minerals and improvements.

(a) *Conservation practices.* All mineral materials disposed of under free-use shall be extracted or removed in accordance with approved conservation practices so as to preserve to the maximum extent feasible all scenic, recreational, watershed, and other values of the land and resources.

(b) *Removal by agent.* A free-use permittee may procure the mineral materials by agent. Such agent shall not, however, be paid more than fair compensation for the time, labor, and money expended in procuring the material and processing it, and no charge shall be made for the material itself. No part of the material may be used in payment for services in obtaining or processing it.

(c) *Removal of improvements.* Upon expiration of the permit period the permittee will be given 90 days to remove equipment, personal property, and any improvements he has placed on the land, except roads, culverts, and bridges which are to be left in place and in good condition, and which will become the property of the United States upon expiration of the 90-day removal period.

This Circular replaces and supersedes all of Circulars 2146, 2119, 2057, and 2043, and the portion of Circular 2101 pertaining to 43 CFR Part 259.

GPO 843-082

nance of a source of materials for private and public collections, maintenance for the general public of areas for the pleasure of hunting for petrified wood specimens, and protection of other resources and projects on the lands. Subpart 3611 provides for purchase of petrified wood for commercial purposes.

(b) *Designation of free use areas.* (1) All public lands administered by the Bureaus of Land Management and Reclamation, except those public lands at constructed Reclamation reservoirs, within the Department of the Interior are open for free use removal of petrified wood with the exception of specific areas which may be closed to such collections by public notice or are otherwise closed to public entry. Free use areas under the jurisdiction of said Bureaus may be modified or cancelled by notices published in the FEDERAL REGISTER.

(2) The heads of other Bureaus in the Department of the Interior, or their delegates, may publish in the FEDERAL REGISTER designations, modifications, or cancellations of free use areas on lands under their jurisdiction.

(3) The Secretary of the Interior, or his delegate, may designate, modify, or cancel free use areas on public lands which are under the jurisdiction of other Federal departments or agencies other than the Department of Agriculture with the consent of the head of such other Federal department or agency concerned, upon publication of notice in the FEDERAL REGISTER.

(4) This section does not apply to lands under the jurisdiction of the Secretary of Agriculture.

§ 3612.1–2 Procedures.

(a) *Permits.* No application or permit for free use is required except for specimens over 250 pounds in weight. Permits to individuals for the removal of such specimens which the applicant certifies will be displayed to the public in a museum or similar institution may be issued by the authorized officer under the terms of § 3612.2.

§ 3612.1–3 Rules for collection of specimens.

(a) *General.* The following rules shall govern the removal without charge of specimens from public lands administered by the Department of the Interior:

(1) The maximum quantity of petrified wood that any one person is allowed to remove without charge per day is 25 pounds in weight plus one piece, provided that the maximum total amount that one person may remove in one calendar year shall not exceed 250 pounds. Pooling of quotas to obtain pieces larger than 250 pounds is not allowed.

(2) Except for the removal of museum pieces under permit issued pursuant to § 3612.2, no explosives and no power equipment, including but not limited to tractors, bulldozers, plows, power-shovels, trucks or semi-trailers, may be used for the excavation or removal of petrified wood obtained under the free use privilege. However, light trucks, up to one ton capacity, used in connection with campers or trailers or as a principal means of transportation, may be used for hauling purposes.

(3) Petrified wood obtained under this section must be for personal use and may not be bartered or sold to commercial dealers.

(4) Collection of specimens under the authority of this act must be accomplished in a manner that avoids unnecessary soil erosion or needless damage to the land or resources.

(b) *Additional rules.* The head of the Bureau having jurisdiction over a free use area, or his delegate, may establish and publish additional rules for the free use of petrified wood for non-commercial purposes, to supplement those included in paragraph (a) of this section.

§ 3612.2 Free use of mineral materials generally.

§ 3612.2–1 Program.

(a) *Permits to governmental units.* A free-use permit may be issued to any Federal or State agency, unit, or subdivision, including municipalities, without limitation as to the number of permits or as to the value of the mineral materials to be extracted or removed, provided that the applicant makes a satisfactory showing to the authorized officer that such materials will be used for a public project. Such permits will constitute a superior right to remove the materials and will continue in full force and effect, in accordance with its terms

posting in conformance with § 3611.1. Sales shall not be held sooner than one week after the last advertisement. No competitive sales shall be offered by the authorized officer unless there is access to the sale area which is available to anyone who is qualified to bid.

§ 3611.4 Negotiated sales.

(a) (1) When it is determined by the authorized officer to be in the public interest and where the sale is of property for which it is impracticable to obtain competition, he may sell at not less than the appraised value, without advertising or calling for bids, mineral materials not exceeding $5,000 in value. Where it is impracticable to obtain competition and the materials are to be used in connection with the development of Federal lands under a mineral lease or leases issued by the United States, sales under this paragraph may be made in a sum not exceeding $10,000.

(2) The authorized officer may sell, at not less than the appraised value, without advertising or calling for bids, mineral materials not exceeding $10,000 in value when it is in the public interest and the contract is for materials to be used in connection with a public works improvement program on behalf of a Federal, State, or local governmental agency and the public exigency will not permit the delay incident to advertising.

(3) The total aggregate of negotiated sales which may be made in any one State to or for the benefit of any one person, partnership, association or corporation in any period of twelve consecutive months shall not exceed $10,000.

(b) Non-exclusive disposals may be made under this paragraph from the same deposit within areas designated by the State Director for this purpose. These pit sites are not to exceed 40 acres in size, except they may be enlarged as the initial 40-acre site is depleted. Such permits issued for sale or removal of material from established community pit sites will constitute a superior right to remove the material as against any subsequent claim or entry of the lands.

§ 3611.5 Qualification of bidders and purchasers.

A bidder or purchaser for the sale of mineral materials must be (a) an individual who is a citizen of the United States; (b) a partnership; (c) an unincorporated association composed wholly of such citizens; or (d) a corporation authorized to transact business in the States in which the mineral material is located. A bidder must also have submitted a deposit in advance of the sale as required by § 3611.6.

§ 3611.6 Deposits with bids.

Sealed bids must be accompanied by a deposit of not less than 10 percent of the appraised value of the mineral materials. For mineral materials offered at oral auction, bidders must make a deposit of not less than 10 percent of the appraised value prior to the opening of the bidding. The authorized officer may, in his discretion, require larger deposits. Deposits may be in the form of cash, money orders, bank drafts, cashier's or certified checks made payable to the Bureau of Land Management, or bid bonds of a corporate surety shown on the approved list of the United States Treasury Department. Upon conclusion of the bidding the bid deposits of all bidders, except the high bidder, shall be returned. Except for corporate surety bid bonds, the deposit of the successful bidder will be applied on the purchase price at the time the contract is signed by the authorized officer.

§ 3611.7 Conduct of sales.

(a) Bidding at competitive sales shall be conducted by the submission of written sealed bids, oral bids, or a combination of both as directed by the authorized officer. In the event of a tie in high sealed bids, the highest bidder shall be determined by oral auction among the high bidders. If no oral bid is made which is higher than the sealed bids, the highest bidder shall then be determined by lot. Except for the first bid, no oral bid will be considered or recorded which is not higher than the highest preceding bid. In oral auction sales the high bidder must confirm his bid in writing immediately upon being declared the high bidder.

(b) At the request of the authorized officer, or the officer conducting the sale, bidders must furnish evidence of qualification or if such evidence has already been furnished, make appropriate reference to the record containing it.

(c) When it is in the interest of the Government to do so the authorized officer may reject any or all bids and may

waive minor deficiences in the bids or the mineral material sale advertisment.

§ 3611.8—Contracts

§ 3611.8–1 Award of contract.

(a) The authorized officer may require the high bidder to furnish such information as is necessary to determine the ability of the bidder to preform the obligations of the contract. The contract shall be awarded to the high bidder, unless he is not qualified or responsible or unless all bids are rejected. If the high bidder is not qualified or responsible or fails to sign and return the contract together with the required performance bond, the contract may be offered and award for the amount of the high bid to the highest of the bidders who is qualified, responsible, and willing to accept the contract.

(b) Within 30 days after receipt of the contract the successful bidder shall sign and return the contract, together with any required performance bond: *Provided,* That the authorized officer may, in his discretion, extend such period an additional 30 days if the extension is applied for in writing and granted in writing within the first 30-day period If the successful bidder fails to comply writing within the first 30-day period. shall be forfeited as liquidated damages.

§ 3611.8–2 Contract forms.

All sales shall be made on contract forms approved by the Director. The authorized officer may include additional provisions in the contract to cover conditions peculiar to the sale area, such as road construction, protection of improvements, and watersheds and recreational values. Such additional provisions shall be made available for inspection by prospective bidders during the advertising period.

§ 3611.8–3 Performance bonds.

(a) A performance bond of not less than 20 percent of the total contract price will be required for contracts of $2,000 or more. When the total contract price is less than $2,000, bond requirements, if any, will be in the discretion of the authorized officer. The performance bond may be:

(1) Bond of a corporate surety shown on the approved list issued by the U.S. Treasury Department and executed on an approved standard form; or

(2) Personal surety bond, executed on an approved standard form if the authorized officer determines the principals and bondsmen are capable of carrying out the terms of the contract; or

(3) Cash bond; or

(4) Negotiable securities of the United States.

(b) Where the materials sale contract has required a bond in connection with construction of a road, the authorized officer may, upon satisfactory completion of the road construction, reduce the amount of the performance bond by the amount of all or a portion of the estimated road construction costs: *Provided, however,* That the total amount of the performance bond shall, in no event, be reduced below 20 percent of the total contract price.

§ 3611.8–4 Payments.

(a) No part of any mineral materials sold may be removed unless advance payment has been made as provided in the contract.

(b) For sales under $2,000 the full amount shall be paid prior to or at the time the authorized officer signs the contract. For sales of $2,000 or more the authorized officer may allow payment by installments as provided below:

(1) Installment payments shall be determined by the authorized officer but in no case shall be less than 10 percent of the total purchase price. For fixed unit sales the first installment shall be paid prior to or at the time the authorized officer signs the contract. The second installment shall be paid prior to the commencement of removal operations. Remaining installments shall be due and payable without notice whenever the value of the material removed shall equal the sum of the second and subsequent installments paid by the purchaser. The total amount of the purchase price must be paid prior to 60 days before the expiration date of the contract. The purchaser shall not be entitled to a refund on a fixed unit sale even though the amount of material removed or designated for removal may be less than the estimated total volume shown in the contract.

(2) For sales of all the material within a specified area, or sales for duration of production, installment payments shall be made in the same manner as in subparagraph (1) of this paragraph, except

that if it is determined after all designated materials has been removed that the total payments made under the contract exceed the total value of the material measured, such excess shall be returned to the purchaser within 60 days after such determination is made.

§ 3611.8–5 Time for removal.

Time for removing materials sold, except that sold under a duration of production contract, shall not exceed a period of two years except that such time for removal may be extended as provided in § 3611.8–6.

§ 3611.8–6 Extension of time.

If the purchaser shows that his delay in removal was due to causes beyond his control and without his fault or negligence, the authorized officer may grant an extension of time, not to exceed one year, upon written request of the purchaser. Such written request must be received not later than 30 days prior to the expiration date of the time for removal but not earlier than 90 days prior thereto. Additional extensions may be granted if the purchaser submits the same type of written request not later than 30 days prior to the expiration date of an extension but not earlier than 90 days prior thereto. No extension may be granted without reappraisal as provided in § 3611.8–7.

§ 3611.8–7 Reappraisals.

If an extension is granted as provided in § 3611.8–6 mineral materials remaining on the contract area, title to which has not passed to the purchaser, shall be reappraised by the authorized officer. Such reappraised prices shall become the new unit prices for the purpose of computing the reappraised total purchase price except that the new unit prices shall not be less than the unit prices that were in effect during the original time for removal or previous extension.

§ 3611.9 Assignments.

(a) The purchaser may not assign the contract or any interest therein without the written approval of the authorized officer. An assignment shall contain all the terms and conditions agreed upon by the parties thereto.

(b) The authorized officer will not approve any proposed assignment involving contract performance unless the assignee (1) is authorized to transact business in the State in which the mineral material is located; (2) submits such information as is necessary to assure the authorized officer of his ability to fulfill the contract; and (3) furnishes a performance bond as required by § 3611.8–3 or obtains a commitment from the previous surety to be bound by the assignment when approved. Upon approval of an assignment by the authorized officer, the assignee shall be entitled to all the rights and subject to all the obligations under the contract, and the assignor shall be released from any further liability under the contract.

Subpart 3612—Free Use

AUTHORITY: The provisions of this Subpart 3612 issued under 61 Stat. 681, as amended, 30 U.S.C. 601; 48 Stat. 1269, as amended, 43 U.S.C. 315; § 2, 76 Stat. 652, 30 U.S.C. 611, subnote.

§ 3612.0–3 Authority.

(a) *Free use of mineral materials in general.* Reference § 3610.0–3 for full citation of authority for free use disposal of mineral materials.

(b) *Free use of petrified wood by individuals.* Section 2 of the act of September 28, 1962 (76 Stat. 652) requires that the Secretary of the Interior shall provide by regulation that limited quantities of petrified wood may be removed without charge from those public lands which he shall specify. Section 2 of said act applies to the same public lands as the act of July 31, 1947, as amended (61 Stat. 681). Specifically excluded are lands in any national park, or national monument, or any Indian lands. The Secretary of the Interior has no authority under those statutes over lands under the jurisdiction of the Secretary of Agriculture.

§ 3612.1 Free use of petrified wood by individuals.

§ 3612.1–1 Program.

(a) *General.* To implement the policy of Congress, these regulations have been issued, authorizing the collection for noncommercial purposes of limited quantities of petrified wood by amateur collectors and by scientists, under terms and conditions which will be consistent with preservation of significant deposits as a public recreational resource for the enjoyment of the general public, mainte-

Tanque Verde Inn

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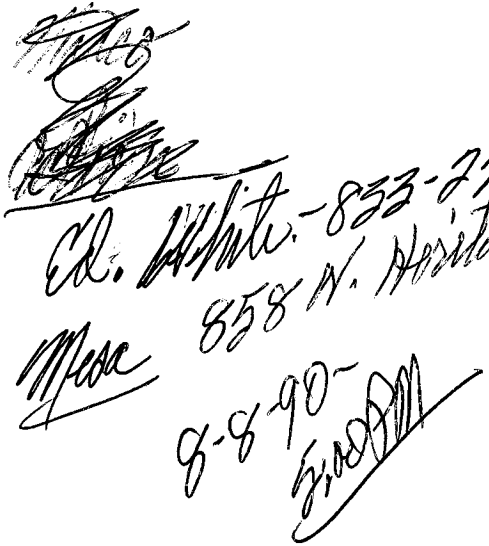

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Richard E. Mieritz
MINING CONSULTANT

September 1, 1959

AN INFORMATIVE REPORT on the HAIGLER LIMESTONE DEPOSIT in the DRAGOON AREA COCHISE COUNTY, ARIZONA

by

Richard E. Mieritz
Registered Consulting Engineer
Phoenix, Arizona

INTRODUCTION

This brief report has been prepared to acquaint the reader with such data and information relating to the feasibility of producing and marketing portland cement in Arizona by utilizing the local available raw materials, particularly when the raw materials are of excellent purity, have sufficient quantity and have the necessary facilities adjacent to the property.

CONCLUSIONS

Even though Arizona has two operating cement plants, (Rillito and Clarkdale, both related to American Cement) which produce or will produce an aggregate of 3.5 million barrels cement annually, there is ample justification and need for more and better quality cement production in the State.

The Haigler Limestone and Clay deposits herein described poessess all the necessary quantities and qualities required of excellent cement manufacture as well as having the required facilities of water, natural gas, power and transportation within very easy reach of the property.

Limestone, 95% $CaCO_3$, of light to white character with less than 1% MgO is available from the property in quantity in excess of 200 million tons while the reserves of the clay deposit exceed 100 million tons which has the proper distribution of the necessary minerals to produce an excellent cement product.

ARIZONAS' CEMENT PRODUCTION & MARKET

Arizona Portland Cement plant at Rillito produces 2.5 million barrels cement annually from a lime deposit containing 75 to 80% $CaCO_3$ and its newly constructed Clarkdale plant will produce one million barrels from smelter slag and a poor grade local limestone.

Much cement is being shipped into the State from California, New Mexico and Texas.

The unusual, increasing but steady growth of Arizona has made great demands on the construction materials industry and such demands should continue for a long period of time. Further demands will be made on the industry by the proposed National Highway construction program.

A "market" report prepared by any of the well recognized specialists, I am sure, will substantiate the writers statements

GEOLOGY

Except for a small area of Quaternary sand and gravel in the gap between the Gunnison Hills and the Dragoon Mountains the Carboniferous sediments outcrop abundantly over the entire property. In Particular, the Escabroas Limestone member is almost 100% pure and is credited with a thickness of some 330 feet but apparently is much thicker in this area.

Portions of the Escabrosa limestone member have been marblized but such conditions are localized near the contact with the Cretaceous igneous intrusions exhibited in the area.

LIMESTONE DEPOSIT

The Limestone member is exceptionally free of alteration and silicification as indicated by the analysis of the samples and is also relatively free of any other detriments to cement manufacture such as magnesium, iron etc. The analysis of several samples is separately provided in the appendix of this report.

Much of the limestone can be classified as "white" as contrasted to the "gray" which is most commonly produced. This characteristic will provide a superior product which can command a higher market price.

One quarter mile north of the railroad in Section 15, limestone outcrops above the valley gravels and rises quite rapidly exposing approximately 400 vertical feet of limestone which dips 25 to 30 degrees to the north.

Tonnage-wise, there is little doubt that sufficient material exists within the property limits to provide a plant with raw materials for many years. The exposures alone on three quarters of Section 15, closest to the railroad, contain some 200,000,000 tons of limestone or approximately one billion barrels of cement. This volume only considers that portion exposed above the valley gravels. Four vertical diamond drill holes near the gravel limits penetrated and bottomed in limestone. Total depths of the holes varied from 120 to 150 feet and the character of the limestone intersected was similar to that exposed on the surface within the property limits. (see map for location of drill holes.)

CLAY DEPOSIT

The clay property included in the "unitization" is in Sulphur Springs Valley, adjacent to the Railroad and nine miles distant over a well maintained road, thus transportation of the material to the cement plant site can either be by truck or railroad.

This property has been established and partially developed as a suitable admixture clay deposit by six wide spaced "2 inch" diameter auger holes to a depth of 12 feet. This development indicates ample clay for any requirements demanded by the plant capacity and its suitability would be determined in any and all tests of the total aggregate in cement production. The occurance of this material lies in an ancient dry lake in Sulphur Springs Valley. (See attached Map) (See Sample data Sheet)

SHALE DEPOSIT

Shale beds of varying thicknesses are exposed in various places within the property. Principal occurances are on the eastern edge of the property in Section 14. and the ground is covered by State Leases. (See assay data sheet for results of two shale samples.)

MINING

Low cost mining can be accomplished very easily for the limestone, shale and clay products. Little to no stripping of over-burden would be required. Mining of the limestone can be accomplished by a shovel-truck operation with very short hauls, ½ to 1 mile, mining of the shale and clay can be accomplished by front end loader-truck operation with very short hauls, ½ to 1 mile for the shale and nine miles for the clay. All mining for many years to come would be north and above the present gravel contact and all loads for the limestone and shale would have favorable down-grades.

The limestone is of fine grained character, being fractured sufficiently to permit good fragmentation by inexpensive blasting methods.

Respectfully submitted,

R. E. Mieritz, Reg'd. Eng.
Phoenix, Arizona

September 1, 1959

SAMPLE ASSAY DATA

Sample Descriptions	SO_3 %	CaO %	Ignition Loss %	Total %	Alk'ds Chlor.	SiO_2 %	R_2O_3 Fe, Al. %	MgO %
LIMESTONE SAMPLES								
Surface, State Lease, Sec. 16		53.48	41.11	94.59		3.48	1.10	0.81
Outcrop, Main Hill, NW edge, Sec. 15.		51.08	40.65	91.73		6.08	0.16	0.68
Outcrop, Main Hill, South Center, Sec. 15		54.60	42.24	96.84		2.30	0.80	0.36
Outcrop, SE part Main Hill, Sec. 15		54.66	42.35	97.01		2.68	0.30	0.36
Marble Quarry, Sec. 22		53.76	41.82	95.58		2.90	0.90	0.47
Shaft Dump. Sec. 15		53.75	42.05	95.80		2.80	0.80	0.66
South Claim, Sec. 23		52.64	40.17	92.81		5.44	0.96	0.20
Composite, Pieces from various parts of property		55.64	43.35	98.99		0.68	0.23	0.06
SHALE SAMPLES								
Tunnel # 1, Sec. 14	~~0.00~~	19.21	17.35		1.10	41.70	18.52	1.98
Tunnel # 2, Sec. 14	0.00	40.65	33.70		0.10	19.06	5.02	1.63
CLAY SAMPLE								
Sample from clay deposit	0.58	9.07	15.75		8.75	43.90	19.90	1.95

AN INFORMATIVE REPORT

of the

LIGIER MARBLE PROPERTY

near

DRAGOON, COCHISE COUNTY, ARIZONA

by

Richard E. Mieritz, P. E.
Consulting Engineer
Phoenix, Arizona

March 5, 1958

INTRODUCTION

This report has been prepared by the writer as an informative survey of the Ligier Marble Deposit located near Dragoon, Cochise County, Arizona. Quality-wise, volume-wise and accessibility-wise this property is very attractive as a substantial producer of fine quality marble for many years to come.

The writer personally examined the area and the property and the information contained herein is the fact finding result of that investigation.

AIM & SCOPE OF POSSIBLE PRODUCER

The Ligier Marble property is one that can not be satisfactorly operated on a small custom basis but is one that merits and warrants large scale production by a well financed organization with quarry and mass production "know-how". Such a corporation must be willing to purchase the property and must be financially able to equip an operation with the necessary quarry and processing equipment to produce upwards of 600 cubic feet daily of finished material. The corporation must also be well organized with a marketing force for distribution of the final product.

These are not simple tasks.

LOCATION & FACILITIES

A location of a property and facilities available to an operation are major factors which contribute to or distract from a property potential when reviewed by an interested party.

The Ligier Marble property is located three miles east of Dragoon, Cochise County, Arizona. Dragoon is a small railroad-rancher community on the Southern Pacific Railroad servicing El Paso, Texas to the east and Tucson, Phoenix and California to the west. This railroad crosses the northern portion of 40 acres on which the present small processing plant is located. A rail siding is available at Dragoon.

Another ideal situation is represented by the fact that the Sulphur Springs Valley Electric Corporation has a 4400 volt transmission line which passes through the same 40 acre process plant site.

A third ideal feature is the very close proximity (1000 feet at most) of the Southern Pacific's gas lines which could

be tapped if the need for this service arose.

Culinary water is presently available at Dragoon. The small limited water demand required for quarrying and processing could be hauled or piped from Dragoon or a supply developed near the property by drilling a 300 to 600 foot well. A pipeline from Dragoon to the property would be gravity flow.

Travel from the property by truck or auto to the west is over six miles of well maintained graveled road which joins paved State Hiway 86 at Texas Canyon whence to Tucson for 60 odd miles. Easterly, travel is over six miles of well maintained graveled road to the north-south paved U. S. Highway 666 which passes through wilcox and Douglas, Arizona.

Although the property has an elevation range of 4500 to 5000 feet, it is amendable to all year operation. Freezing winter temperatures will not interfere with operation except perhaps on occasion. Because of its elevation, summer temperatures would not be excessive as is the case in nearby desert valleys.

PROPERTY

The Ligier Marble property contains in excess of 2000 acres of State Leases, Federal Leases, private leases and privately owned parcels. A legality check was made by the writer and all appear in good order. A legal description of the parcels follow. (See included map).

	Acres
Federal Leases	
T. 16. S., R. 23 E.	
Section 9 - NE/4	160
Section 26 - Complete Section	640
Section 27 - N/2 and SE/4	480
Section 28 - SE/4 and S/2,S/2,SW/4	200
Section 33 - W/2,NE/4; NE/4,SW/4; and W/2,SE/4	200
Section 35- N/2,N/2,NW/4	40
T. 17 S., R. 23 E.	
Section 28 - W/2,NE/4	80
State Leases	
T. 16 S., R. 23 E.	
Section 10 - W/2,SE/4 and NE/4,NW/4	120
Private Lease	
T. 16 S., R. 23 E.	
Section 33 - Legal description not known	160
Commercial Purchase	
T. 16 S., R. 23 E.	
Section 22 - NE/4,NW/4- Process Plant Site	40
Total Acreage	2120

A second property owner in the area is A. C. Haigler, etal, who have some 1300 acres of limestone which is being considered as cement material. Production of a very white cement has been proven using material from this property.

PRODUCTION & DEVELOPMENT

Mr. Ligier attempted to operate the property as a producer of slab, block etc, however, the last few years his production has been limited to several colored Terrazzo products among which are white, pink, cream, tan and green. Each color is neatly sacked and shipped to market.

Production of large dimension blocks, table and counter tops, building facing etc. was hampered by a financial condition which did not permit expansion through equipment purchases. Moreover, most of his production was custom work which required his personal attention and lack of experienced quarry labor added to his grief. Thus, his unavoidable neglected attention to the marketing of the product soon brought failure of the "one" man operation.

The present Terrazzo production provides a comfortable income to Mr. Ligier. Through operation on this scale he eliminates all "headaches" of refined quarrying, breakage, polishing, etc.

Several small quarries have been opened on the property from which the various colored material has been obtained to produce the Terrazzo. Coloring of the marble is attributed to varying amounts of iron oxide. The bulk of the marble material is of a pure white color.

GEOLOGY

General geology of the area is relatively simple. The Carboniferous Redwall and related limestones have been gently uplifted by the underlying Cretaceous igneous rocks of granite and monzonite.

The Dragoon mountains and the smaller Gunnison hills to the north are the result of this uplifting and subsequent erosion. This gentle uplift has not caused excessive stresses and the resulting fractures. Lack of fractures permits quarrying of large size blocks and slabs and would keep waste to a minimum. Elevation-wise, a 2000 foot thickness of the Carboniferous sediments is exposed.

Purity of the Carboniferous limestone exposed in this area is indicated by the following analysis of samples taken

at random locations within the limits of Haiglers cement property. These samples were analysed to determine the quality of the limestone as a raw material for manufacturing cement. The analysis do however indicate the purity of the material.

Sample	CaO	Ignition loss, CO_2	Total	SiO_2	Fe,Al R_2O_3	MgO
Sec. 16-outcrop	53.48	41.11	94.59	3.48	1.10	0.81
Sec. 15-NW/4	51.08	40.65	91.73	6.08	0.16	0.68
Sec. 15-Center	54.60	42.24	96.84	2.30	0.80	0.36
Sec. 15-SE/4	54.66	42.35	97.01	2.68	0.30	0.36
Sec. 22-Marble	53.76	41.82	95.58	2.90	0.90	0.47
Sec. 14- Dump	53.75	42.05	97.80	2.80	0.80	0.66
Sec. 23-N/2	52.64	40.17	92.81	5.44	0.96	0.20
Composite	55.64	43.35	98.99	0.68	0.23	0.06

MARBLE QUALITY

The Carboniferous limestone exposed in this area is relatively free of foreign minerals which would tend towards discoloration of the normally white limestone. Where such scattered localizations do occur, marble products having hues of pink, tan, cream, etc are to be expected. These areas are the exceptions and are currently being quarried by Ligier for his Terrazzo production which he sells for $24.00 per ton.

The white marble, which ofcourse is the most important, is wide spread and can be quarried in large size blocks for block or slab production. A fine grained even textured metamorphosed crystallization makes this marble very receptive to a high polish.

Inspection of the white marble using a 10 power glass shows minute grains of limestone which through metamorphism have intergrown with each other to form a compact homogenous mass. A fresh broken face will show the fracture to break through the grains, rather than around them. This feature thus exposes many small grain faces which reflect light and brings about the "sparkly" or "sugary" effect common to good marble.

The marble is not porous, consequently any polished surface will be void of pits.

Since metamorphism has taken place, much of the original bedding has been distroyed, and converted the marble to a massive appearing formation. Planes of weakness may be present along the original bedding planes but distinguishing such features must be left to the experienced quarry man. Original bedding planes are in some instances crudely identified by discoloration.

A normal breaking of the marble by an impact blow produces fractures of concave contours.

Lack of intense cross-bed fracturing of the formation will reduce the amount of waste resulting from large block production. Where such fracturing does occur, it may be used to great advantage in quarrying practice.

All these salient features tend to make this marble equal to or better than the well known Italian white marble according to the experts in the marble field.

RESERVES

To attempt an estimate of reserves would be fool-hardy, however, to present some idea as to the potential, the writer believes that a 2 to 4,000,000 cubic foot yearly production of a marketable product could be maintained for a forty year period or longer. Each acre of property is potential.

MARKETING

Because of its equal to the Italian marble, the market for this marble becomes universal in scope. Marble used in Arizona and New Mexico building construction must be imported from the States of California or Virginia. That which is brought in from California is of mediocre grade.

CONCLUSIONS

Although not an expert of building stone, the writer believes the Ligier Marble property has a potential of excellent grade marble which must be developed and produced by a corporation well versed in marble quarry production know-how and that this potential is of long life which would provide adequate profit and return of capital investment for the producer.

The operator must also be familiar with the marketing of the product but with the present trend and interest in marble for the building industry and the decorative industry, the marketing should be less difficult.

Respectfully submitted,

Richard E. Mieritz, P.E.
Consulting Engineer
Phoenix, Arizona

March 5, 1958

AN

INFORMATIVE REPORT

on the

HAIGLER LIMESTONE DEPOSIT

in the

DRAGOON AREA

COCHISE COUNTY, ARIZONA

by

Richard E. Mieritz

Registered

CONSULTING MINING ENGINEER

Phoenix, Arizona

January 23, 1961

TABLE of CONTENTS

INTRODUCTION

At the request of Mr. A. L. Goodmon, Trustee of the Haigler Trust, the following report has been prepared to acquaint the reader with such data and information relating to the feasibility of producing and marketing portland cement in Arizona by utlizing the local available raw materials from the property known as Haiglers Limestone located near Dragoon, Arizona where the raw materials are of excellent purity, exhibit sufficient quantity and have the necessary utility facilities on the property. (See Map or Plate I, Cement Plants).

CONCLUSIONS

The writer having visited the property on several occasions and examined same, concludes the following:

(1)- The Haigler Limestone and Clay deposits herein described posess all the necessary quantities and qualities required for excellent manufacture of cement as well as having the required facilities of water, natural gas, power and transportation within easy reach of the property.

(2)- Limestone, 95% $CaCO_3$ or better, of light to white character with approximately 1% MgO is available from the property in quantity in excess of 100 million tons while the reserves of the clay deposit exceed 50 million tons and which has the proper distribution of the necessary minerals to produce an excellent cement.

(3)- A "market" report prepared by any of the well recognized specialists in that field, I am sure, will substan-

iate the writers statements as to the potential market for the product. A third cement plant in Arizona is amply justified.

(4)- Haiglers Limestone deposit has been examined and reported upon by several Engineers of cement manufacture prominence as well as Engineers of Mines; - Messrs O. L. Mc Cain, S. Rordan, Cement Chemists, Christie Mitchell and J. Fred Johnson, Mining Engineers, Jack Sayre, etc. All whom have experienced a visit to the property acclaim their highest regard for the deposits, their purity, the extensiveness and conveniences.

ARIZONAS' CEMENT PRODUCTION & MARKET

Although Arizona has two producing cement plants, Rillito and Clarkdale, both related to American Cement, produce an aggreate of 3.5 million barrels cement annually, there is ample justification and need for more and better quality cement production in the State.

Much cement is being shipped into the State from California, New Mexico and Texas.

The unusual, increasing but steady growth of Arizona has made great demands on the construction materials industry and such demands should continue for a long period of time. Further demands will be made on the industry by the proposed National Highway construction program, Bureau of Reclamation dams, etc.

PROPERTY & OWNERSHIP

The entire property consists of one Limestone-shale de-

posit and one Clay deposit with a total of 2460 acres, 1500 acres as eight 160 acre placer claims, one 40 acre claim and nine 20 acre State Leases cover the Limestone-Shale deposit whereas six 160 acre placer claims cover the Clay deposit.

All placer claims are in good legal order with the necessary annual assesment work up to date. These claims are held by right of location and were staked prior to the Minerals Leasing Act of August 13, 1954. The State Leases are all valid and do not expire until the year 1975 or later.

Owners of the property and Leases are Haiglers Trust, etal, Phoenix, Arizona.

LOCATION and FACILITIES

The Limestone-Shale deposit is three miles east of Dragoon which is 65 miles southeasterly from Tucson and 20 miles southwesterly from Willcox, both towns being on the major U. S. Highway 86 connecting one town with the other. Dragoon itself is on the old portion of State Highway 86, a gravel road but well maintained. (See Plate 3, General Surface Map)

The Tucson-ElPaso Branch of the Southern Pacific Railroad passes through the middle of the property.

El Paso Gas and Electric Companys 24 and 36 inch natural gas lines from Texas to California pass through the property as does a 66,000 volt REA transmission line.

Culinary water is available at Dragoon but a larger water supply could be developed further east towards Sulphur Springs Valley. Good flows of water in this area have been encountered at a 300 to 400 foot depth by the agricultural developers.

Local and long distance telephone service through the Benson

exchange is available from all points in the Dragoon area.

GEOLOGY

Except for a small area of Quaternary sand and gravel in the gap between the Gunnison Hills and the Dragoon Mountains the Carboniferous Sediments outcrop abundantly over the entire property. In particular, the Escabroas Limestone member is almost 100% pure and is credited with a thickness of some 330 feet but apparently is much thicker in this area.

Portions of the Escabrosa limestone member have been marblized but such conditions are localized near the contact with the Cretaceous igneous intrusions exhibited in the area.

LIMESTONE DEPOSIT

The Limestone member is exceptionally free of alteration and silicification as indicated by the analysis of samples and is also relatively free of any other detriments to cement manufacture such as magnesium, iron, etc. The analysis of several samples are separately provided in the Sample Assay Data tabulation following the report.

Much of the limestone when ground to a "fine" state can be classified as "White" as contrasted to the "gray" which is most commonly produced, even though the rock is a blue-gray in its natural state. This characteristic will provide a superior product which can command a higher price market-wise.

One quarter mile north of the railroad in Section 15 and about a similar distance south of the railroad in Section 23, limestone outcrops above the valley gravels and rises quite

rapidly exposing approximately 400 vertical feet of limestone which, in Sec. 15 the dips are 25-30° NE and in Sec. 23 the dips are 15-20° to the South or SSW.

DIAMOND DRILLING

As part of the annual assesment work for several years, five diamond drill holes were drilled. The locations of these holes are shown on Plate 4, General Surface Map.

The location of Drill Hole 1 was chosen by the writer in 1957. Location of subsequent drill holes was left to the judgement of the Sierra Drilling Co. Such locations are not prone to be advantageous to providing information that would benefit the property as a whole, particularly holes 2, 4, and 5. The information obtained from these holes is too local.

Overall core recovery for the five drill holes is not particularly impressive for the type rock that was penetrated. A review of the core shows much grinding has occured during the drilling operation. The fractured nature of the rock no doubt "blocked" the core barrel quite frequently, requiring short runs, however, drilling operation no doubt continued after the "blocking" occured, thus, much grinding of the core and only fair recovery. Drill runs are not adequately marked in the core boxes, thus one does not known what depths are represented by the core recovered.

The recovered core for each hole is stored in standard cardboard core boxes and located in Mr. Haiglers garage at 1211 North 1st Street, Phoenix.

To provide some information on the analysis of the lime-

stone at depth, two samples were prepared from Drill Holes 1 and 4. The sample from hole 1 was prepared by splitting the core from depths 50-60 feet and 110-120 feet, combining this material as one composite and assaying. A similar sample from depths 50-60 feet and 120-130 feet in hole 4, combining same as a composite and assaying both samples for CaO, Ignition Loss, MgO, R_2O_3 and SiO_2. Results of the analysises are indicated on the respective drill logs. The writer suspects that both holes, were they continued in depth another 50 to 100 feet, they would intersect the Cretaceous Granite exposed in the area to the west and the formation which has caused the uplift of the limestone. The increase in silica content thus indicates this thought.

All drill holes were geologically logged by the writer as well as such physical information as hole size, casing, core recovery, etc. Drill logs are included in this report.

Although this sampling represents only a small portion of the core obtained, the writer believes the results to be indicative of the material available particularly so since there is little content variance indiacted by the analysis of the surface samples which were taken at wide spaced locations in Sections 15, 16, and 23, the analysis of which are tabulated under Sample Assay Data following the written portion of this report.

RAW MATERIAL SUPPLY

The two major raw materials for cement manufacture are in close proximity and in abundant supply.

Tonnage-wise, there is little doubt that sufficient material exists within the property limits to provide a plant with raw materials for many years. The exposures alone on three quarters of Section 15 contain some 26,000,000 tons of limestone or approximately 60,000,000 barrels of cement. This volume considers only that portion exposed above the valley gravels.

To indicate a minimum potential of limestone within the Haigler property, the writer has calculated the volume of limestone available above an elevation of 4600 feet. This elevation was chosen because it closely approximates the alluvium outline, all material above this contour being exposed limestone.

For support of a tonnage figure, each 50 foot contour at and above the 4600 elevation was successively planimetered to determine the area of concern. The average end method, horizontally, was then used to determine the volume between contours, the summation of which provides a figure of 26,000,000 tons for Sections 14,15 and 16 and 19,000,000 tons for Section 23 of the property or a total of 45,000,000 tons. This tonnage represents a 108 year supply for a 1,000,000 barrel per year plant. Further, each foot of depth vertically below the 4600 foot elevation for Sections 14, 15, 16 and 23 represents 266,000 tons or 26,600,000 tons for a 100 foot depth.

Combining these tonnage figures provides 71,600,000 tons of limestone which would produce 2,000,000 barrels of cement for 70 years.

SHALE DEPOSIT

Shale beds of varying thicknesses are exposed in several

places within the property. Principal occurances are on the eastern edge of the property in Section 14 and this ground is covered by State Leases. (See assay data sheet for results of two shale samples.)

CLAY DEPOSIT

The clay property included in the "unitization" is in Sulphur Springs Valley, adjacent to the Railroad and nine miles distant over a well maintained road, thus, transportation of the material to the cement plant site (Section 15?) can be either by truck or railroad.

This property has been extablished and partially developed as a suitable admixture clay deposit by six wide spaced "2 inch" diameter auger holes to a depth of 12 feet, also by two diamond drill holes to 60 foot depths. The development indicates ample clay reserves for any requirements demanded by the cement plant capacity and its suitability would be determined in any and all tests of the total aggregate in cement production. The occurance of this material lies in an ancient dry lake in Sulphur Springs Valley. (See Plate 3, General Surface Map and Sample Data Sheet.)

MINING

Low cost mining can be accomplished easily for the limestone, shale and clay materials. Little to no stripping of over-burden would be required. Mining of the limestone can be accomplished by a shovel-truck operation with very short hauls, ½ to 1 mile for the limestone; mining of the shale and clay can be accomplished by front end loader-truck combination with

very short hauls, ½ to 1 mile for the shale and nine miles for the clay. All mining for many years to come would be north and above the present gravel contact and all loads for the limestone and shale would have favorable down grades.

The limestone is of medium to fine grained in character, being fractured sufficiently to permit good fragmentation by inexpensive blasting methods. Little secondary blasting would be required.

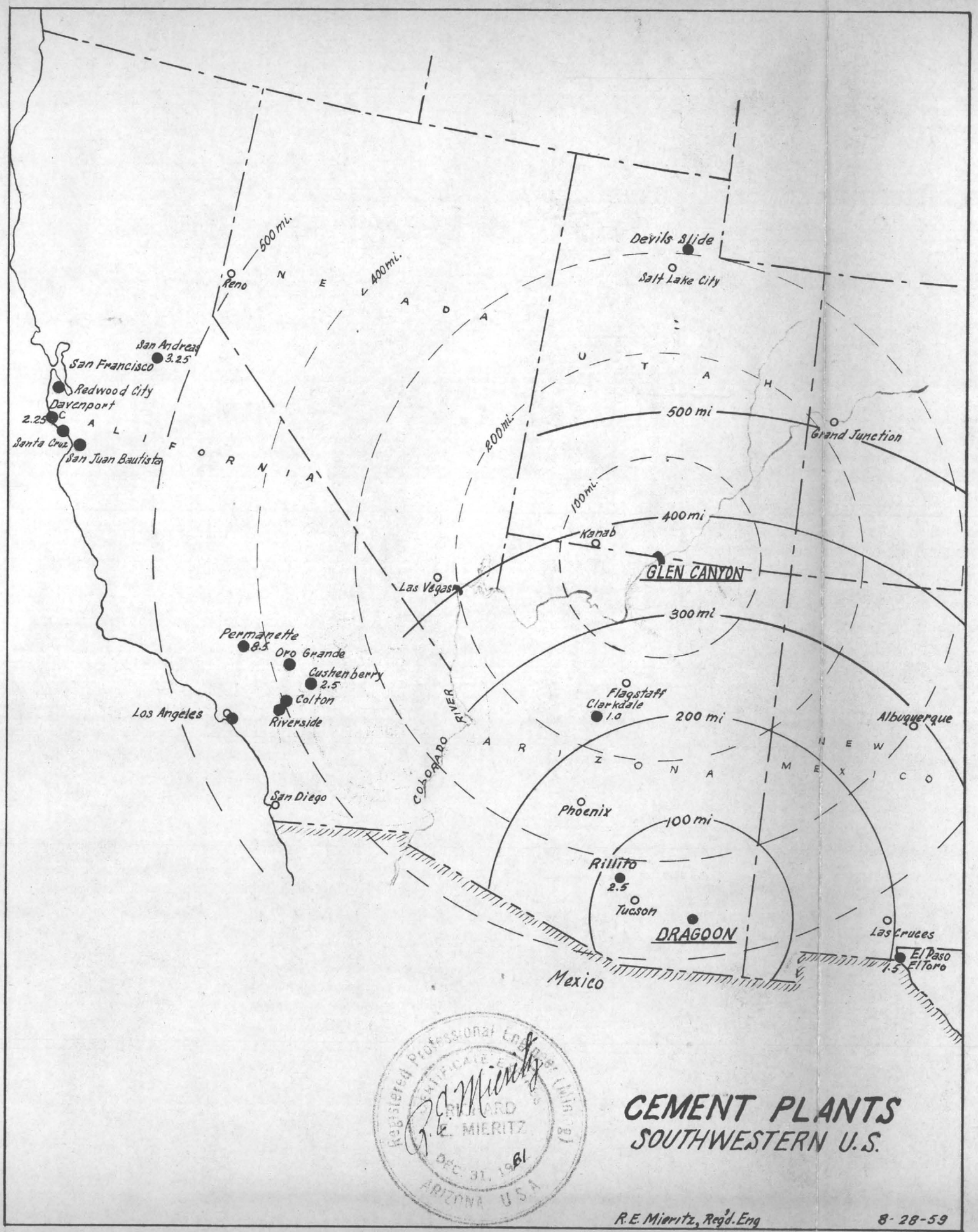
Respectfully submitted,

R. E. Mieritz, Reg'd. Eng.
Phoenix, Arizona

January 23, 1961

Looking NE from old Windmill location.

Looking SE from old Windmill location



Registered Professional Engineer (Mining)
R. E. MIERITZ
Dec. 31, 1961
ARIZONA U.S.A.

CEMENT PLANTS
SOUTHWESTERN U.S.

R.E. Mieritz, Reg'd. Eng

8-28-59

PLATE 1

COMPOSITE DIAMOND DRILL LOG

HOLE Nº 5

COMPANY: Haigler's Trust MINE: Haiglers Limestone CLAIM: Limestone Nº5 DISTRICT: Cochise

COUNTY: Cochise STATE: Arizona TWS: 16S. RGE: 23E. SEC: 23 N.S. _____ E.W. _____

BEARING: Vertical ANGLE: 90° ELEVATION: 4695 FT. T.D.: 80 FT. DATE STARTED: _____ DATE COMP: _____

DEPTH	ELEV.	ROCK TYPE	GEOLOGIC DESCRIPTION & REMARKS	HOLE: —— CASING: — —	CORE SIZE	CORE RUNS	CORE REC.%	MINERALIZATION	ASSAYS %
5–80			Limestone – mostly blue-gray, some tan. Little iron. Some calcite seams & vugs. Core has been extremely ground up – many pebbles – poor job of drilling. Total core recovery was 10 ft of core for 80 ft of drilling or 12% recovery. There were no footage marks in core box to indicate drill runs.		AX	20, 40, 60, 80	Total Rec. 12%		
90	4600		Hole drilled by Sierra Drilling Corp, Mesa, Ariz.						
150			Hole logged by: R.E. Mieritz, Reg'd Eng. Phoenix, Ariz. Jan., 1961						
100–300						100, 120, 140, 160, 180, 200, 220, 240, 260, 280, 300			

R.E. Mieritz 61

200 400 600 800

			1	2	3	4	5	6

Hol #2

Depth	Core	Notes
0	BX	Blue gray – calcite seams & vugs. some
5	4.0	yellow limonite
10	5.0	
15		
20	10.0	
25		28 – 1' shale – some specks lim aft py. some magnetite
30		LMS – 32 shale – reddish brown – lms interfingered.
35	9.8	fine grain med grain
40		
45 – 42		42 – 48 – LMS, 50 shale – Broken ground.
50	9.6	
55		
40	10.0	Dense blue-gray lms, little calcite, little iron.
45		
20		

Hol 5

10 feet of core for 80 feet of drilling AX size – many marbles. – Blue gray marble – some tan – fine to med grained, alterating. Little Fe (yel.) some calcite vugs. seams.

#5 located 500 feet No of #4 & 15' lower – making 140 feet lower than bottom of #4.

Hole 3 — BX

Depth	Recovery	Description
0	3.1	Blue gray Lms - Calcite Vugs. 0 - 3, 12 - 15
5		Md grained - little limonite in Lms.
10	3.5	
15	3.4	
20		Same - Vugs decrease Fe about same
25	10.0	
30		
35		-33 - 36 - broken ground - some calcite reddish - little more Fe
40	10.0	
45		=40/42 - calcite Lms breccia zone - water course? Vesicular little Fe (yellow)
50		more solid Lms. Blue gray.
55	10.0	Same calcite Vugs.
60		6" shale red zone at 58 ft
65	5.0	Badly broken - Blue gray - considerably ground. Med grained
70		

TD

Clay -

Herrel - #1 40 - 50 X
20 - 30
#2 40 - 50
50 - 60

#1	#2
10	10
20	20
30	30 } gray Dry - Hard
40	40
Damp Brown Hard → 50 } X	Wet Clk → 50 } X
60	60 } X

Hole # 4. 140 ft depth - 200 feet north of #2. - 25' lower in elevation Diff 25' to 100 from collar of 4 in bottom of #2 hole.

0		BX Blue lime	30° dip at 2' Strongly frac. throughout
5	3.2		
10	3.5		calcite vugs at 10' Fe stain
15	4.8		22° dip at 15 at wh-Blue contact.
18	1.5		
25	2.2		
30	2.9		Light tan to br - ~~small~~ thin stringers of shale at 30'
35	3.8		specks of FeS to limonite.
40	4.5		Tan to br 36 to 38 Marbleized slightly
43	1.6		17° @ 37'
45	2.0		Shale stringer @ 38' specks [illegible]
50	3.3		Calcite vug at 42' Blue-gray lime @ 42'
55	4.6		
60	4.0		Tan-gray lime 1/2 to 1" shale seams calcite stringers
65	5.8		basically solid.
75	5.3		Blue gray lime.
79	3.9	AX	
85	5.8		@ 82 - 4" shale & mud seam. Red.
90	4.0		Blue gray lime - small areas brown-gray 90-130
95	4.0		Slightly fracture - dips about 40° small vugs
100	3.0		calcite & some small water courses
105	4.0		Finer grain in same places.
110	3.5		
115	3.5		
120	5.0		
125	48		
130	48		
135	4.0		Blue gray - little Fe as limonite
140	4.0		little calcite seams or vugs.

Hole #1 -

0	BX		Blue-gray with spots of tan-[illegible].
5		4.0	thin seams of shale - some calcite [illegible].
10	AX	4.0	some FeOx filled and thin fractures.
15	AX.	4.2	Calcite seams. medium grained crystals.
20		5.0	
25		5.0	No evidence of tan after [illegible].
30		4.0	no good dips available.
35	}	2.3	
40			Qtz stringer at 21 ft.
45	}	1.8	
50			
55	}	4.8	
60			
65	}	3.4	
71		3.9	Blue gray medium grained. limonite (yellow) seams.
76		2.6	Ground & calcite veins and seams.
80		2.0	
85		1.1	ground no good dips.
90		—	ground
95		2.2	ground.
100		1.4	
105		3.4	
110		4.5	
115		4.2	
120		1.6	ground.

T.D.

7206 BUFF
G7206 GREEN TINT

Areas Northside — Douglass Limestone

5200	.0	.0080	0	8000		
5150	.016	.0370		37000		
5100	.058	.0755		75500		
5050	.093	.1140		114000		
5000	.135	.1540		154000		
4950	.173	.3225		322500		
4900	.472	.4790		479000		
4850	.486	.5670		567000		
4800	.648	.7520		752000		
4750	.856	.9840		984000		
4700	1.112	1.2820		1282000		
4650	1.452	1.6195		1619500		
4600	1.787					
			12/	6394500.	532875	
					50	
					26643750	Tons
				12/	1,787,000	149,000/ft.

Clay -

5200 2600
2600
15600
5250
24 cuft/ton
5215,600
217346
2507798
2,500,000/ft depth
1,254,000/ft depth

26,640,000 Tons N.
19,046,000 Tons S
45686000 Total

46,000,000 Tons.
above 4600 Elevation.

5300	.003	.0065		6500		
	.010	.0160		16000		
5200	.022	.0325		32500		
	.043	.0570		57000		
5100	.071	.0825		82500		
	.094	.1095		109500		
5000	.125	.1430		143000		
	.161	.1815		181500		
4900	.212	.2475		247500		
	.283	.3275		327500		
4800	.372	.4530		453000		
	.534	.6780		678000		
4700	.822	.9700		970000		
	1.118	1.2465		1246500		
4600	1.405					
			12/	4571000	380917	
					50	
					19045850	

117,000/ft
12/1,405,000

149,000
117,000
266,000,00 Total

PRODUCT DEVELOPMENT APPLIED RESEARCH

ARC LABORATORIES

Division of Arizona Research Consultants, Inc.
9236 NORTH 10TH AVE. PHOENIX 21, ARIZONA WINDSOR 3-3573

RESULTS

OUR SAMPLE NO.	YOUR SMP. NO	CaO	$CaCO_3$	SiO_2	Total
11884	1127	50.0%	89.3%	7.25%	97.0
11885	1128	49.2%	87.8%	10.2%	98.0
11886	1129	38.2%	68.2%	23.3%	91.5
11887	1131	51.9%	92.6%	5.42%	98.0
11888	1132	46.6%	83.2%	8.31%	91.5

July 19, 1972

221 E Culver, AZ-2-4110

Arthur Goodman

Tied up for period of Time – Potential Interest option in my Name.

90 days

Dougan Block –
Potts Canyon – Clifford
Sec- 13-14-15 16 17 18
36 claims 8 9 10 11
T. 15-12E

INFORMATIVE REPORT

on the

HAIGLER LIMESTONE DEPOSIT

and

LIGIER MARBLE DEPOSIT

in the

DRAGOON AREA

COCHISE COUNTY, ARIZONA

by

Richard E. Mieritz
Registered Consulting Engineer
Phoenix, Arizona

February, 1958

INTRODUCTION

This brief report has been prepared to acquaint present the reader with ~~facts~~ factual data and ~~figures~~ relating to the feasibility ~~and~~ necessity of expanding for Arizona and neighboring cement production in the State of Arizona ~~and~~ State ~~markets~~. General Only facts and figures of greater importance are herein included, ~~more detailed information being available if desired.~~

MARKET GROWTH

The visible increasing growth and popularity of the Southwest area of the United States as a manufacturing center and a permanent likeable livable abode has consistantly, these past few years, made successively larger demands on the supplies of building and construction materials. One of the materials now in great demand is cement. Further demands will be made on this material as our National Highway construction program gets under way and still further demands ~~within a year or so~~ when the much talked about and welcomed Glen Canyon Dam starts to become a reality. The estimated cement demands for the dam are 10 million barrels annually over a five year period. Ascending materials in demand is marble—chips, slabs,

Year round pleasant wonderful climatic conditions in Arizona, Southeastern California and ~~the~~ Western ~~half of~~ New Mexico has in the last few years attracted many people ~~who were~~ desireous of more economical, comfortable and leisure living. Industry has also continued the trend with its several electronic and small parts plants etc. What once was pri- area of marily an agricultural ~~area~~ is now giving way to the many industries ~~which are~~ being moved to the area and the people,-- employee resources. Machinery industry is anticipated. Those persons in the "know" on matters of city growth take a very optimistic view of the future for many years to come. All these conditions point to a continued growth requiring increased demands for construction materials—in particular-cement.

Present Supply

The State of Arizona has but one cement plant with an annual production of 2½ million barrels. The location of cement plants

O. L. McCan - chief Chemist - Oak Portland.

Bod
Christ - Mitchell - Eng. Houston - or Ft Worth.

currently supplying the required demand in the State of Arizona are indicated on the included map. Shipments coming into the State from both East and West are visible on the trains and highways.

Another cement plant in Arizona is definitely a "must" and promises to be a profitable venture for the organization with sufficient foresight for the industry and its potentials.

~~[illegible]~~

Arizona geology does not exhibit widespread sedimentary formations applicable to the manufacture of cement. Cement plant locations are therefore limited. Moreover, the lack of fuel, power and transportation facilities place still further restrictions on the plant location because of the excessive expenditure to bring the facilities to the location. It is therefore a rare occasion when the required facilities are available on a property which could supply the raw materials for cement manufacture and still more rare particularly when the property enhances an excellent grade of such raw material as does the Haigler Limestone which this report is of prime concern.

This report concerns itself with a rarity, namely, Haiglers Limestone-Shale - Ligiers Limestone-Marble properties.

Acknowledgements

PROPERTY and OWNERSHIP

Two mineral properties of concern have been "unitized" as one package because of their adjacent position and close relationship of their end products. Haiglers Limestone-Shale acreage bears the major importance while Ligiers Marble-Limestone acreage has secondary importance to the manufacture of cement but in its own light of Marble production it carries prime importance.

Both properties are held by Placer Claim right of location, having been claimed prior to the ~~[illegible]~~ Minerals Leasing Act of August 13, 1954, and by State or Government Leases. All claims to ownership are valid and can be readily checked legally.

The writer has completed a preliminary but thorough search.

The owners are Mr. A. C. Haagler, Phoenix, Arizona, and Mr. B. Ligier, Dragoon, Arizona. ~~Mr. Charles G. Sverle, P.O. Box 183~~

Acknowledgement

Haigler's limestone & Tigers Marble-Limestone properties have been examined and reported upon by several Engineers of mining and cement manufacture prominence— Mr's. O. L. McCain, Chemist, S. Bordain - cement chemists, Christie Mitchell, & J. Fred Johnson - Engineers -, Jack Sayre etc.

All who have experienced a visit to the properties acclaim their highest regard for the deposits, their purity, the extensiveness, and conveniences.

~~San Bernardino, California currently enjoys the option on these properties and is responsible for unitization, Much time, effort and expenses have been assumed by Mr. Storie in this operation.~~ acts as agent for the owners and has been responsible for unitization, and has been assumed by Mr. Storie in this operation. ~~Considerable factual data and information herein contained has been provided by Mr. Storie.~~ Much factual data and information herein contained was provided by many acquainted with the properties. The writer has personally checked the data by a physical examination of the properties ~~#########~~ and can therefore vouch for ~~its~~ the validity.

~~Haigles Limestone-Shale acreage comprises the legally diseribed Placer Claims and State Leases.~~

An addendum between maps 1 and 2 provide the legal discriptions of the Haigler Limstone-Shale acreage (2220 acres) and Ligiers Marble-Limestone acreage (~~1600~~ 1600 acres). The properties are also indicated on ~~###~~ Map 2, ~~succeeding these~~ pages.

LOCATION and FACILITIES

The limestone-shale-marble deposits lie two miles east of Dragoon which in turn is sixty-five miles southeasterly from Tucson and twenty-five miles southwesterly of Wilcox, both towns being on ~~#~~. ~~#########~~ major U. S. highways connecting one town with the other. the old portion of Dragoon itself is on State Highway 86, well maintained however.

The Tucson-El Paso Branch of the Southern Pacific Raialroad passes throught the property.

El Paso Gas and Electic Companys' ~~#~~ 24 and 30 inch natural gas lines from Texas to California pass through the property as does a 66,000 volt R. E. A. transmission line and ~~#~~ etc

Culinary water is presently available at Dragoon but ~~and~~ a larger water supply could be developed farthereast towards ~~if~~ Sulphur SpringsValley, ~~a short distance to the east of the property.~~ water has been encountered Good flows of water have been encountered at a 300-400 feet depth by the agricultural developers.

Local and long distance telephone service through the Benson exchange is available from all points in the Dragoon area.

Ample labor would become available from, Benson, Wilcox and Dragoon.

It is apparent that no large expenditures for facilities would be required for establishment of this cement plant enterprise ~~of a cement plant~~ on this deposit.

GEOLOGY

Except for a small area of Quaternary sand and gravel in the gap between the Gunnison Hills and the Dragoon Mountains, ~~both~~ properties enhance the Carboniferous sediments.which outcrop abundantly over much of the property. In particular, the Escabroas limestone is almost of 100% purity, and is credited with a thickness of some 330 feet.but apparently is much thicker in this area.

Portions of the Escabrosa limestone member of the Carboniferous sediments have been marblized. This is ~~particularly~~ specifically true for the western portion of the Ligier property which is currently under production for its terrazo and slab products by Mr. Ligier.

LIMESTONE DEPOSIT

The limestone member is exceptionally free from alteration and silicification and as indicated by the analysis of the samples taken is also relatively free of any other detriments to cement manufacture such as magnesium, ~~sulphates~~ oxides, iron etc. The analysis of samples is separately provided in the appendix of this report.

One quarter mile north of the railroad in Section 15, ~~the~~ limestone outcrops above the valley gravels and rises quite rapidly exposing approximately 400 vertical feet of limestone which dips 30 to 35 degrees to the north.

Tonnage-wise, there is little doubt that sufficient material exists within the property limits to provide a plant for many years. The exposures alone on three quarters of section 15, closest to the railroad, contain some ~~400~~,000,000 tons or approximately ~~1,000~~,000,000 barrels of cement. This volume considers only that portion exposed above the valley gravels. One vertical diamond drill hole ~~#####~~ near the gravel limits and ½ mile south of the section center, penetrated the ~~limestone for 120 feet~~. 120 feet of limestone the character of which was similar to that exposed on the surface within the property limits.

Much of the limestone can be classified as "white" to the gray "white" which is most commonly produced. This characteristic will provide a superior product which can be marketed

CLAY DEPOSIT

The clay property included in the "unitization" is in the Sulphur Springs Valley, adjacent to the Railroad and nine miles by road over a well maintained from the Limestone property.

This property has been established and partially developed as a suitable admixture clay deposit by six wide spaced 2" diameter auger holes to a depth of 12 feet. The developement indicates ample clay for any requirements demanded by the plant capacity and its suitability would be determined in any and all tests of the total aggregate in cement production. The occurance of this material lies in an ancient dry lake in Sulphur Springs Valley. (See Map)

MARBLE DEPOSIT

Ligiers' marble deposit contains white and varied colored marble of exceptional quality, being compared with the finest from Italy and is so written up in some of the Trade Journals. Lack of funds prevents Mr. Ligier from expanding his present limited operation of terrazo.

With proper equipment and qaarry knowledge, production of this property for its marble promises to be a very profitable venture. A rough estimate of $300,000 for the necessary equipment and operating capital would be required to put the property on ### a handsomely paying basis. The market is nation-wide.

Mr. Ligier has many inquires for products of various sizes for home and office construction and furniture applications. All in all, a nice industry could be available here.

This property also contains much limestone of the purity of which should compare favorably with that of the material on Hoiglers property. It is estimated that a

MINING

No mining problem is involved and the operation can be completed by the cheapest method possible. To illustrate the simplicity and as a matter of suggestion, transportation from quarry to the plant can be by conveyor system since the most logical place for the plant is the southwest corner of Section 15. All mining for many years to come would be north and the gravel contact.

The limestone is of fine grained character, being fractured sufficiently to permit good fragmentation by inexpensive blasting methods, consequently bearing a direct relation to an inexpensive production.

ESTIMATED COSTS AND PROFITS

The writer does not profess to be absolutly right on the following presentation of the cost and profit figures because such cost figures are somewhat difficult to obtain but they would be indicative of same.

A most recent construction cost figure as provided by one of the leading manufacturers of such equipment indicates that a million and a half barrel annual capacity plant can be estimated at $3.80 a barrel, or approximately $6,000,000 for its construction and installation. It was also indicated this figure could be shaded because of the purity of the limestone with which we are concerned. A larger capacity plant would reduce the cost per barrel since a two and a half million barrel capacity would appraoch $ 9,000,000.

Operating costs are extremely difficult to obtain but indications are that $2.50 per barrel for mining, treatment, overhead, interest etc is well above an operating cost for this property, since a mining cost should not exceed 20 cents a barrel. Current price for a barrel of cement FOB is $4.50, consequently a profit of $2.00 per barrel is indicated. This possible profit could possibly return the capital investment within a three year period.

One needs only to review Moodys Index on Cement plants to realize the earning capacities of this industry.

C. H. Storie, Ind. - A. C. H. Story - agree for sale [illegible] Nov. 5, 1955 B. 135 Page 335
" " " " Option to acquire Stock, C.X. Nov. 8, 1955 B. 135 Page 413
" " " " " agree. for sale of [illegible]. Nov. 8. 1955 B 135 Page 416 Sec 16-T-15-S R. 24-E

" St. Vincent Land Co. Feb. 11. 1956 B. 140 Page 591 - Option to Purchase.
Bill Patch Land & Water Co. Discussion Re: Lease & Purchase Feb 11, 1956. B 140 P 596

" A. C. H. Notice of Default July 12, 1956 B. 149 P. 484 Sunday Mining claim on Sec. 16-T-15-S
" " " " July 12, 1956 B 149 P. 486 R. 24-E. Sec 25-T-21-S

" Herbert W. Cox agreement Dec. 23, 1957 B 180 P. 490 See agree. Lots 3-4-5 Blk. 8

(8) Book $\frac{3}{135}$ - $\frac{3}{140}$. $\frac{2}{149}$ - $\frac{1}{180}$.

---

335 - Agreement - 4th Nov. 1955 - Haigler - wife - Storie - Cox - $50,000.00 - all Sunday Mining claims all State lode claims (Webster claims) 16 Limestone #7 - Tiro Claim to be paid out of profits. 10/2.5 & 14 23.
413 - agreement to buy all more claims @ $50.00 each. - All Sec 15 (Cox - Storie)
416 - Purchase of Clay claims - $10,000.00 pd. by profits 11-4-55 Must do assessment (Haigler)
591 - Option to purchase - 11-16-55 Storie Haigler Cox - to Bill Patch Land and Water Calif. - $40,000 Cox 40,000 Haigler undisclosed to Stone - E/2 ~~Sec 16 15~~ 24 all of property N/2 ~~Sec 23 - 16~~ 23.
596. Letter - 11-21-55 to Ligier advising Ligier of sale - introducing Patch to Ligier
484 - Notices of Default. 4-1-56 ~~Storie to Cox~~ / Haigler to - Storie & Cox, portion of prop.
486 - Same - portion of Property.
490 - Agreement to buy Haiglers property not less than $500.000 Haigler 6/35ths.
8-10-56 -

Lagu:

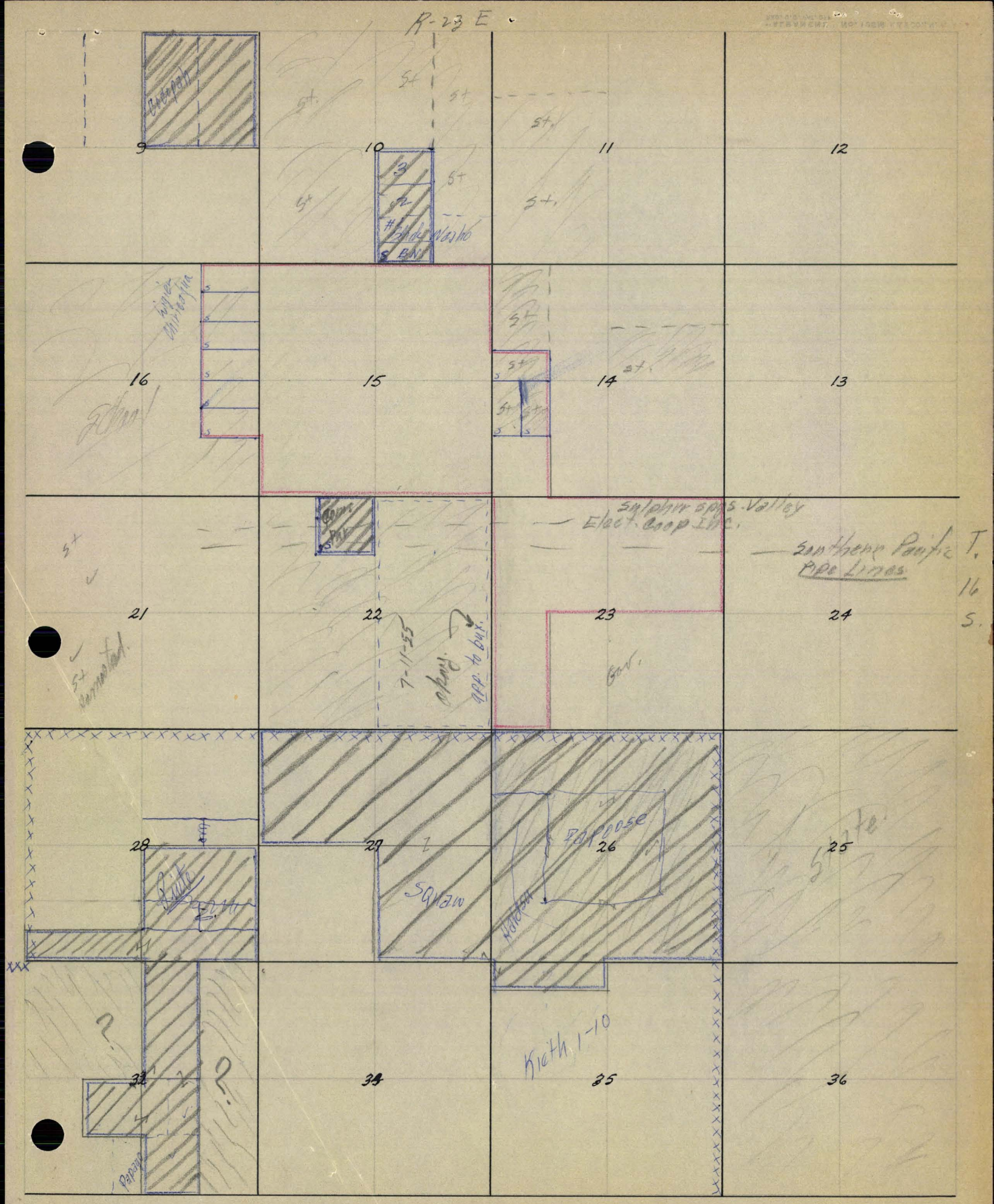
Ligier

Not much time to talk last nite -
deliver property free and clear?
Good legal disariptions?
No encumbrances on property - we don't want to interfere.
Acres -?
any state leases.
any federal leases.
How much are we talking about - Purchase price? - 5 figures - 6 or what.
down -
payout

D. L. Ligier 926 - 2571 Bennett

Steps

1- Call Ligier - ascertain possible committment - or tie up.
2- Send letter to Storie - get refusal on paper. (we assume refusal.)
3- Obtain Option to purchase from Ligier - at least 60 days.
4- Approach Chet.



MINE _____ LOCATION _____ LEVEL _____

GEOLOGY BY _____ SURVEY _____ SCALE _____ DATE _____

Limestone Samples

CaO	Ignition loss	Total	SiO_2	Fe-Al R_2O_3	MgO	K_2O Chlorides	SO_3	
53.48	41.11	94.59	3.48	1.10	0.81			#4 about 1/4 mile west of claim.
51.08	40.65	91.73	6.08	0.16	0.68			#5 NW edge main hill.
54.60	42.24	96.84	2.30	0.80	0.36			#6 - South center Main hill.
54.46	42.35	97.01	2.68	0.30	0.36			#7 - 3 E. Point of main body.
53.76	41.82	95.58	2.90	0.90	0.47			#11 - Marble Quarry
53.75	42.05	97.80	2.80	0.80	0.66			#12 & half dump.
52.64	40.17	92.81	5.44	0.96	0.20			#13 South Claim.
55.64	43.35	98.99	.68	.23	.06	.06		#14 - Random (Composite)
19.21	17.35		41.70	18.52	1.98	1.10	0.0	#8 - Shale #1 Tunnel.
40.65	23.70		19.06	5.02	1.63	0.10	0.0	#9 - " #2 Tunnel.
9.07	15.75		43.90	19.90	1.95	8.75	0.58	#10 - Clay Slick

$750,000 -

20% Cash -

80% stock -

$60,000 down

will supply Stanford

report. $10,000

limestone - Marble

Slabs - $4.00 to mine - sell

$30.00 - 16"X30"

Travertine - 10 to mine - sell

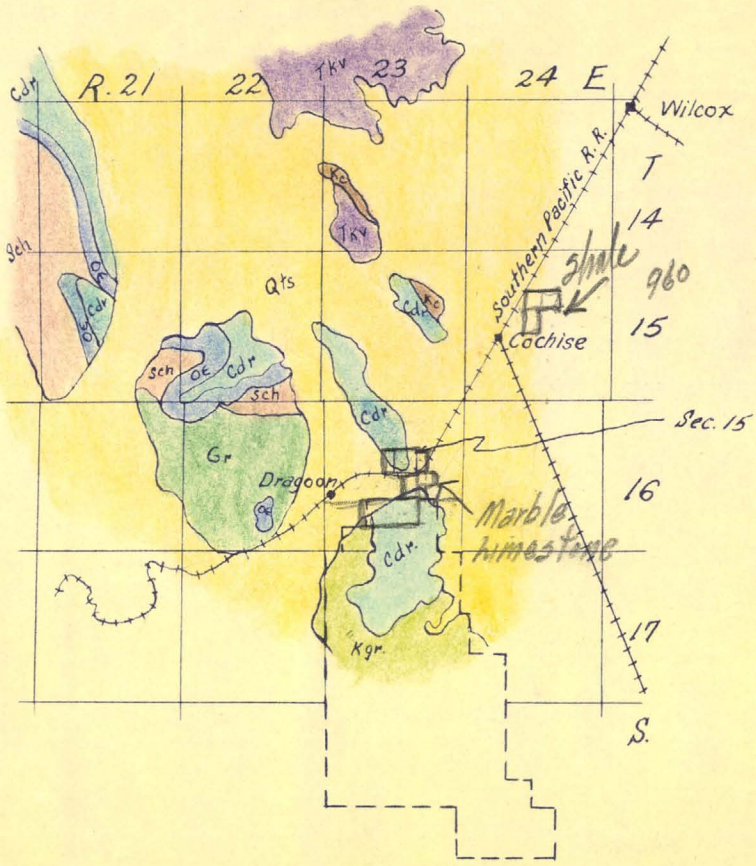
sell $24.00

Charles G. Storie

Turner 7-5155

San Bernardino, Calif

Cochise County, Arizona



4% Shale.
Nuded
4 Tons shale
100 Tons lime.

LEGEND

Sedimentary Rocks

- Qts - Quaternary Sand, gravel, conglomerate.
- Kc - Cretaceous - Shale, Sandstone, Limestone.
- Cdr - Carboniferous - Redwall & related Limestones.
- OE - Ordivician - Abrigo & related Limestones.
- Sch - Arkean Schist.

Igneous Rocks

- Tkv - Tertiary volcanic rocks
- Kgr - Cretaceous Granite, monzonite, etc.
- Gr - Pre-Cambrian Granite.

NOTE

The geological information has been traced from th Geologic Map of the State of Arizona, prepared by the Arizona Bureau of Mines in cooperation with U.S. Geol. Sur.

Scale - 1" = 8 mi.

July, 1957

R.E. Mieritz

D. G. Ligui – Bath 1-10 – Golden Rule – 172-509 to 512 ✓ Jade

Black Navajo	10-16-23	95 - 241 ✓
1		242 ✓
2		243 ✓
3		244 ✓
Papoose		92 - 588 ✓
Squaw		92 - 589 ✓
Paddery .1	" "	7 - 409
.2		7 - 410
Chiricahua		68 - 79 ✓
Navasu		68-80 ✓
Ponte		80 ✓
Cocapah		68 - 81 ✓
Papago -		68-81 ✓
Aztec		68-76 ✓
Tanto - 3½ mile N.E Dragoon		75-39 ✓
Picnic #1 4 mile N.W. Dragoon.		74-308 ✓ Jade
		309 ✓ Jade

242 N - Ligier - 80 - 1-23-5[illegible] Hopins- 1-22-74 W2 SE4

539-N Hagler 60 - 12-9-55 12-8-75 (NW4 SW4, S2 SW4 NW4,) 14
4-20-56 Transfr.

4828 - Hagler 120 - 7-14-56 7-13-76 (E2NE4, NE4SE4.) 16

~~259 N - Ligier~~
~~Ariz Marble~~
~~Quarries Inc.~~

Sunnyday Claims - 1, 2, 3, 4 - 134 Pg - 172, 73, 74, 75

W/2 of SW/4 23-

Building Stone Claim No 1.
NE/4 - 23 - 136 Pg 324

Clay Claim No 1-
NE/4 16 - 128 - 247 Pg.
No 2 - SE/4 - 16 - 128 - Pg 248
No 3 - NW/4 - 15 - 137 - Pg 450
No 4 - SW/4 15 - 137 - Pg 451
No 5 - SE/4 9 - 151 - Pg. 325
No 6 - SW/4 10 - 161 - 326

Limestone Claim No 1-
SW/4 - Sec 15. - 128 - Pg. 249

Limestone Claim No 2
SE/4 Sec 15 128 Pg 250

Limestone Claim No 3
NE/4 Sec 15 252

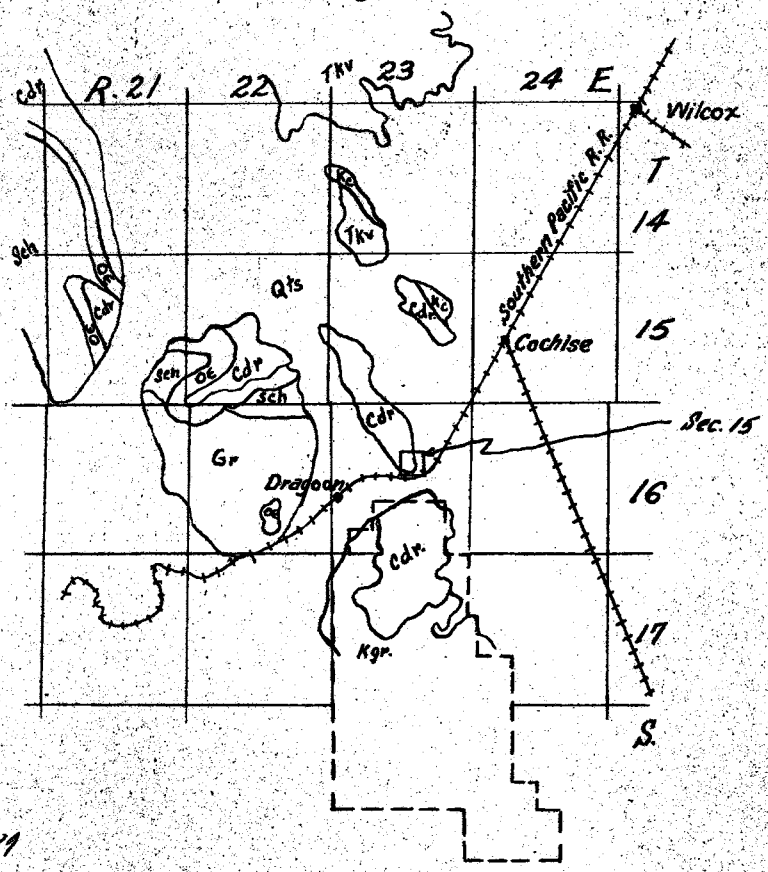
No 4 - NW/4 - 15 - 252

No 5 - SW/4 - 22 - 128 - 253 - Pg.

No 7 - NW/4 23 - 134 - 176

No 8 - SW/4 14 - 134 - 177
SW/4.

Cochise County, Arizona



LEGEND

Sedimentary Rocks

- Qts - Quaternary Sand, gravel, conglomerate.
- Kc - Cretaceous - Shale, Sandstone, Limestone.
- Cdr - Carboniferous - Redwall & related Limestones.
- Oe - Ordivician - Abrigo & related Limestones.
- Sch - Arkean Schist.

Igneous Rocks

- Tkv - Tertiary volcanic rocks
- Kgr - Cretaceous Granite, monzonite, etc.
- Gr - Pre-Cambrian Granite.

NOTE

The geological information has been traced from th Geologic Map of the State of Arizona, prepared by the Arizona Bureau of Mines in cooperation with U.S. Geol. Sur.

Scale - 1" = 8 mi.

July, 1959 R.E. Mieritz