



CONTACT INFORMATION

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Arizona Department of Mines and Mineral Resources Mining Collection

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PRINTED: 01/15/2003

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: CLARKDALE CEMENT

ALTERNATE NAMES:
PHOENIX CEMENT

YAVAPAI COUNTY MILS NUMBER: 545B

LOCATION: TOWNSHIP 16 N RANGE 2 E SECTION 12 QUARTER E2
LATITUDE: N 34DEG 46MIN 45SEC LONGITUDE: W 112DEG 04MIN 55SEC
TOPO MAP NAME: CLARKDALE - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:
MANUFACTURED PRODUCTS CEMENT

BIBLIOGRAPHY:
ADMMR CLARKDALE CEMENT FILE

08/13/91

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: CLARKDALE LIMESTONE QUARRIES

ALTERNATE NAMES:

YAVAPAI COUNTY MILS NUMBER: 544

LOCATION: TOWNSHIP 16 N RANGE 2 E SECTION 11 QUARTER W2
LATITUDE: N 34DEG 46MIN 40SEC LONGITUDE: W 112DEG 06MIN 32SEC
TOPO MAP NAME: CLARKDALE - 7.5 MIN

CURRENT STATUS: PRODUCER

COMMODITY:

CALCIUM LIMESTONE

BIBLIOGRAPHY:

USGS CLARKDALE QUAD
SEE ADMMR CLARKDALE CEMENT FILE

08/13/91

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: CLARKDALE CEMENT CLAY QUARRIES

ALTERNATE NAMES:

YAVAPAI COUNTY MILS NUMBER: 541

LOCATION: TOWNSHIP 16 N RANGE 2 E SECTION 1 QUARTER SE
LATITUDE: N 34DEG 47MIN 30SEC LONGITUDE: W 112DEG 04MIN 47SEC
TOPO MAP NAME: CLARKDALE - 7.5 MIN

CURRENT STATUS: PRODUCER

COMMODITY:
CLAY

BIBLIOGRAPHY:

USGS CLARKDALE QUAD
ELEVATORSKI, E.A. AZ IND. MIN. NO. 2 1978
ADMMR PUB.
CLAIM EXTENDS INTO SEC. 7 T16N-R3E
SEE ADMMR CLARKDALE CEMENT FILE

08/13/91

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: LIMESTONE PROSPECT PITS

ALTERNATE NAMES:

YAVAPAI COUNTY MILS NUMBER: 534

LOCATION: TOWNSHIP 16 N RANGE 3 E SECTION 7 QUARTER SW
LATITUDE: N 34DEG 47MIN 48SEC LONGITUDE: W 112DEG 04MIN 35SEC
TOPO MAP NAME: CLARKDALE - 7.5 MIN

CURRENT STATUS: EXP PROSPECT

COMMODITY:
CALCIUM LIMESTONE

BIBLIOGRAPHY:
USGS CLARKDALE QUAD
SEE ADMMR CLARKDALE CEMENT FILE
CLAIMS EXTEND INTO SEC. 7

08/13/91

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: CLARKDALE CEMENT CLAIMS

ALTERNATE NAMES:

YAVAPAI COUNTY MILS NUMBER: 542

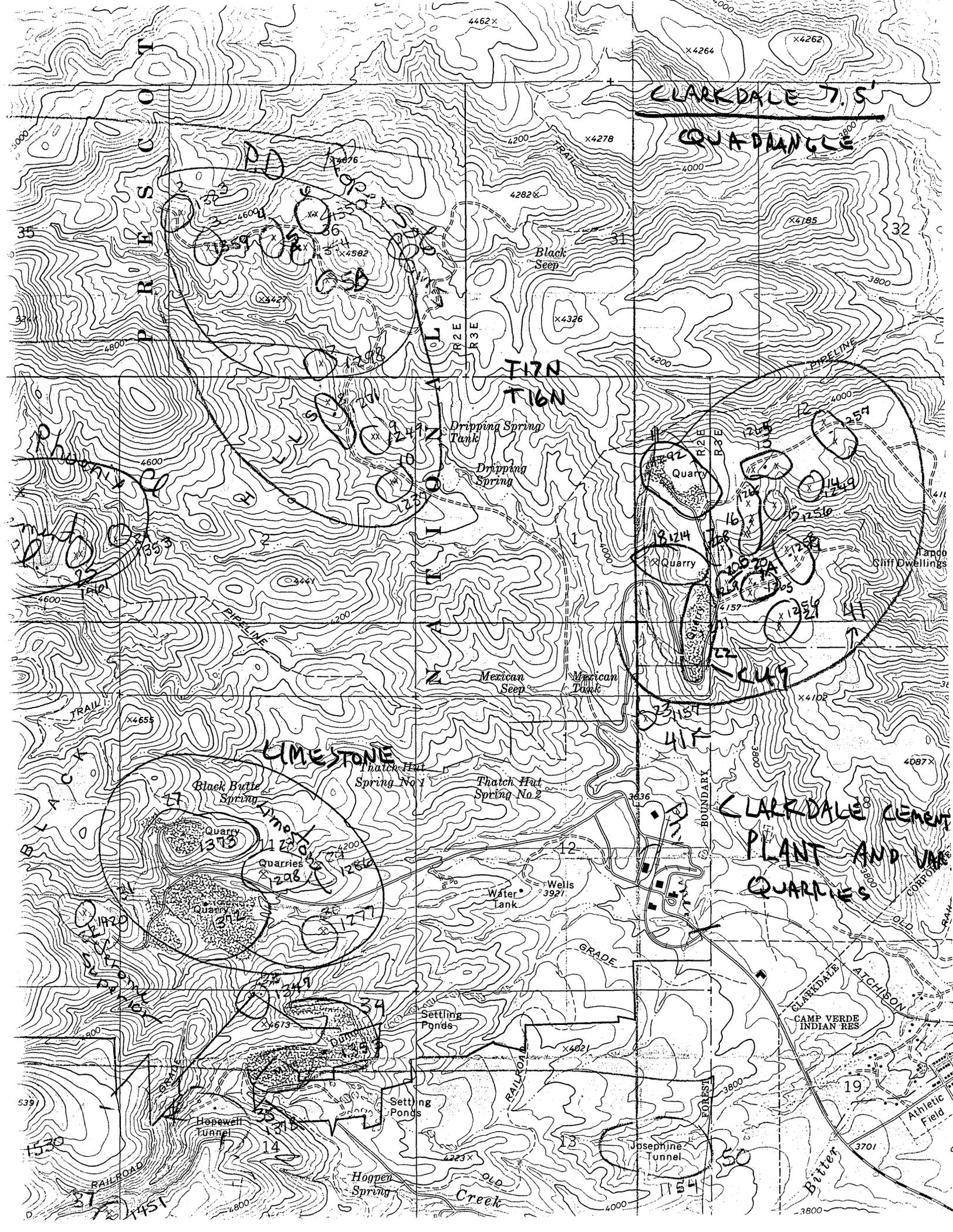
LOCATION: TOWNSHIP 16 N RANGE 2 E SECTION 3 QUARTER C
LATITUDE: N 34DEG 47MIN 44SEC LONGITUDE: W 112DEG 07MIN 29SEC
TOPO MAP NAME: CLARKDALE - 7.5 MIN

CURRENT STATUS: EXP PROSPECT

COMMODITY:
CALCIUM LIMESTONE

BIBLIOGRAPHY:

USGS CLARKDALE QUAD
BLM AMC FILES 12138-12209
CLAIMS EXTEND INTO SEC. 1, 4, 9, 10, 14 & 15
SEE ADMMR CLARKDALE CEMENT FILE



CLARKDALE T.S.
QUADRANGLE

LIMESTONE

CLARKDALE CEMENT
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Went on to the Phoenix Cement Company plant, Clarkdale, but Mr. Conway was out. Talked with Mr. Lieher, plant chemist, who said their gypsum specifications were not very rigid just that it should contain less than 1% NaSO₄ and more than 60% gypsum. He says they presently get their gypsum from the Superior Company, (Fishers). When asked about the use of fluorspar he said it was originally used to lower the temperature of centering in the old small kilns but since kilns had grown, it posed a problem in draft and dust regulation, therefore, it was used now. GW WR 9/21/72

Active Mine List - October 1972 - Empl. 110

Mr. Conway wasn't in at the Phoenix Cement Company plant. GW WR 1/25/73

NJN WR 4/12/85: S. A. Kupferman of Kaiser Cement Corp., Permanente, Ca. 95014 reported at the Industrial Mineral Symposium in Tucson that the Arizona cement industry's capacity (including Arizona Portland Cement Co (f), Rillito Plant and Phoenix Cement Co (f) Clarkdale Plant) is 1.75 million tons a year. In 1984 the state's produced at about 65% capacity.

NJN WR 12/27/87: Dave McPherson of Quintana Gypsum visited and reported that they mine gypsum across the Colorado river in Claifornia, north of Blythe which they sell to cement plants at Victorville and currently the Phoenix Cement Plant (Clarkdale Cement Mine - file) Yavapai County. Current price is \$11 per ton FOB the mine. They have a lower grade product which they hope to sell as agricultural gypsum in local markets.

Visited Clarkdale Plant. Wm. R. Nelson is the new manager, replacing Larry Walker who was promoted. They have added a new kiln and employ 175. FTJ WR 11-21-69

Interview with Mr. Nelson, Mgr. - No change in operations. FTJ WR 3-20-70

Active Mine List May 1970 - 108 men - W.R. Nelson, Mgr.

Phoenix Cement - added another kiln in 1969 and employs 175 11-21-69 vs. 108 in Oct. Running full

2 kiln orig. cap	1,800,000	bbbls/yr
3rd Kiln added 1960	800,000	"
4th Kiln added 1969	<u>800,000</u>	
	3,400,000	?

FPK Note 8/1970

Visited Clarkdale Cement. Interview with Mr. Nelson - nothing new to report. FTJ WR 9-18-70

Active Mine List Oct. 1970 - 110 men - W.R. Nelson, Plant Mgr.

Stopped at the Phoenix Cement Co. plant in Clarkdale and met John Conway, Mgr., who said they were operating at capacity now and handling about 65,000 tons/month of raw materials. GW WR 9/16/71

Directory of Mining - August 1971 - 110 men.

The Clarkdale Cement plant of the Phoenix Cement Corp., has been operating at capacity for sometime, 65,000 tons/month of raw material. GW QR 9/71

Mr. Conway, at Phoenix Cement plant in Clarkdale, was in conference, hence was unable to see him. GW WR 1/27/72

The Clarkdale cement plant of the Phoenix Cement Company has worked continuously to capacity. GW QR 2/72

Visited with Mr. Conway, Mgr., Phoenix Cement Company plant in Clarkdale. He said their business had increased considerably and that they were planning to erect another kiln, making a total of 4. The present production is about 2.8 million barrels annually. GW WR 5/25/72

Active Oct. 1961
Active Feb. 1962

Active Mine List Oct. 1962 - 143 men
Active Mine List Oct. 1963 - 120 men

Visited Clarkdale Cement Plant - interview Clyde Minard, Mgr. EGW WR 9-18-64

Phoenix Cement Corp., complete payroll 85 employees. FTJ WR 9-24-65

Visited Phoenix Cement Plant - Mr. Richard B. Peterson is new resident manager as of March 1, 1966. FTJ WR 3-18-66

Phoenix Cement has been operating at about the same regular rate. FTJ QR 7-8-66

Visited Phoenix Cement Plant at Clarkdale, operation at regular rate. FTJ WR 9-23-66

Visited Mr. Peterson, Mgr. Phoenix Cement at Clarkdale. Production of cement slightly increased. They also furnish limestone to Spreckles Sugar plant at Chandler. A crushing and sizing plant had to be set up for this purpose. Between 20,000 and 30,000 tons per year will be sold to Spreckles. FTJ WR 3-24-67

Visited Clarkdale Cement plant. Larry D. Walker is plant Manager replacing Richard Peterson who is at the Riverside plant. 1 kiln is idle due to slack in demand. FTJ WR 9-22-67

Active Mine List Nov. 1967 - 87 men

Visited the Clarkdale cement plant. Operating at full capacity. FTJ WR 3-22-68

Active Mine List April 1968 - 89 men

Phoenix Cement at Clarkdale operated at near capacity. FTJ QR 7-1-68

Learned that all production of Larson Quarry is sold to Phoenix Cement at Clarkdale. FTJ WR 9-13-68

Active Mine List Oct. 1968 - 89 men

Visited Phoenix Cement - interview with Larry Walker, Mgr. - output about same as previous visit. FTJ WR 3-21-69

Active Mine List April 1969 - 107 men - Larry D. Walker, Mgr. - Box 428, Clarkdale
Active Mine List Oct. 1969 - 108 men - " " " " " "

Date Printed: 12/09/93

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

VERBAL INFORMATION SUMMARY

Information from: L. Pat Neillio

Company: Phoenix Cement
Address: P.O. Box 43740
City, State ZIP: Phoenix, Arizona 85027
Phone: 602-264-0511

MINE: Clarkdale Cement (Phoenix Cement Co.)

ADMMR Mine File: Clarkdale Cement mine file
County: Yavapai
AzMILS Number: 545B

SUMMARY

Specification data on a number of Arizona mined products was obtained for Gerd A. Zimmermann of Scottsdale, the U.S. contact for Hebel GmbH of Germany. They (Hebel GmbH) are interested in building a wall panel plant in the southwestern United States. L.

Pat Neillio, Vice President-Manufacturing, Phoenix Cement Company provided analysis on their Type I/II Low Alkali Portland Cement. Copies of the data provided by Mr. Neillio has been made for the mine file.

Ken A. Phillips, Chief Engineer Date: December 9, 1993

PHOENIX CEMENT

P.O. BOX 43740 • PHOENIX, ARIZONA 85080 ■ 2501 W. BEHREND DRIVE • PHOENIX, ARIZONA 85027 ■ (602) 264-0511

December 8, 1993

Mr. Ken Phillips, Chief Engineer
State of Arizona Department
of Mines and Mineral Resources
1502 W. Washington
Phoenix, AZ 85007

Dear Mr. Phillips:

Attached please find a typical mill test analysis for our Type II portland cement. I have not been able, with such short notice, to get a copy of the German DIN 1164 standard, so I can not evaluate if we meet those requirements or not.

We would be interested in meeting this prospect and discussing their needs in more detail if that would be appropriate.

Thank you for your inquiry and please don't hesitate to contact us if you have any further questions.

Sincerely,



L. Pat Neilio
Vice President-Manufacturing

LPN/jp

enc.



PHOENIX CEMENT

Clarkdale, Arizona 86324

MILL TEST REPORT

SHIPPED TO:

PHOENIX CEMENT TYPE I/II LOW ALKALI
ASTM DESIGNATION C 150-92
FEDERAL SPECIFICATION SS-C-1960/3B

Silo Number: 2-701
Date: 11/06/93

CHEMICAL ANALYSIS:

Silicon Dioxide, SiO ₂	21.03%
Aluminum Oxide, Al ₂ O ₃	4.29%
Ferric Oxide, Fe ₂ O ₃	3.11%
Magnesium Oxide, MgO	2.39%
Sulfur Trioxide, SO ₃	2.94%
Loss on Ignition	1.68%
Insoluble Residue	0.27%
Alkalies, (%Na ₂ O + 0.658% K ₂ O)	0.48%

POTENTIAL COMPOSITION:

Tricalcium Silicate, C ₃ S	60.7%
Tricalcium Aluminate, C ₃ A	6%

PHYSICAL DATA:

Fineness, Blaine (Sq. CM. per Gm.)	4000
Autoclave Expansion	0.03%
Air Content	6.4%
Compressive Strength, Lbs. per Sq. In.	
1 Day	2320
3 Days	4350
7 Days	5180
Time of Setting: Vicat <u>XX</u> Gillmore _____	
Initial Set	2 Hrs. 5 Mins.
Final Set	3 Hrs. 55 Mins.

All tests have been made in strict accordance with current standards of the American Society for Testing and Materials covering the type of cement specified above.

Lee Gorby, Quality Control Manager

M. 2/11/84 11/11/84 3/2/87 - Ed Lopez
Phoenix Cement Co (F)

Hamm



Office of State Mine Inspector

705 West Wing, Capitol Building
Phoenix, Arizona 85007
602-255-5971

STATE MINE INSPECTOR

MAR 08 1984

NOTICE TO ARIZONA STATE MINE INSPECTOR

In compliance with Arizona Revised Statute Section 27-303*, we are submitting this written notice to the Arizona State Mine Inspector (705 West Wing, Capitol Building, Phoenix, Arizona 85007) of our intent to start/stop (please circle one) a mining operation.

COMPANY NAME Ernest D. McGuire Co.

CHIEF OFFICER Ernest D. McGuire

COMPANY ADDRESS 1215 Pomona Rd., Corona Ca. 91720

COMPANY TELEPHONE NUMBER (714) 371-3344

MINE OR PLANT NAME Phoenix Cement Co. (Gifford Hill)

MINE OR PLANT LOCATION (including county and nearest town, as well as directions for locating by vehicle)

Clarkdale, Arizona - Hwy 89-A

TYPE OF OPERATION Manuf. Construction PRINCIPAL PRODUCT Cement Modification

STARTING DATE 3/10/89 CLOSING DATE 9/21/89

DURATION OF OPERATION 2 Months

PERSON SENDING THIS NOTICE John N Broholm

TITLE OF PERSON SENDING THIS NOTICE Project Manager

DATE NOTICE SENT TO STATE MINE INSPECTOR 3/3/89

*A.R.S. Section 27-303. NOTIFICATION TO INSPECTOR OF BEGINNING OR SUSPENDING OPERATIONS: When mining operations are commenced in any mine or when operations therein are permanently suspended, the operator shall give written notice to the inspector at his office prior to commencement or suspension of operations.

June 7, 1978

Spoke to John Conway at the suggestion of a lady in his Phoenix office. John is Vice President of the company at Clarkdale. They are completely converted to coal and now use gas only for lighting the kilns or for flame stabilization. Right now he is using 20% coke and 80% coal. If he used coal all together, it would total about 9,000 tons per month. It comes from New Mexico.

"Do not reveal to competitors - hide in totals"

Fade Phoenix Cement

Joe A

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine American Cement Corp. Project

Date July 23, 1958

District Verde (Jerome) Yavapai Co.

Engineer Travis P. Lane

Subject: Cement Project

Operator: American Cement Corporation
P.O. Box 728, Clarkdale, Arizona

Project Manager: Ray R. Adams
Engineer: Chas. Fox

Construction Contractor: Fisher Contracting Co.
2201 S 19th Ave.
Phoenix, Arizona

Resident Mgr: R. Heinke
502 Main St.
Clarkdale, Arizona

Job Supt.: Chas. Kramer

The American Cement Corp. has begun construction of a 1,500,000 bbl/yr cement plant at a location some $2\frac{1}{2}$ miles westerly from Clarkdale. The corporation operates cement plants, as subsidiary companies, in Michigan and Pennsylvania and at Riverside, Calif. The Riverside plant will be headquarters for the Clarkdale operation. A sales office has recently been opened in Phoenix by Riverside Cement Company at 3424 N. Central Ave., with W. A. Warringer as Arizona Sales Manager.

The principal raw material source is a lake bed deposit near the plant site. This deposit, consisting of interbeds of limestone and silt, is counted upon to provide about 70% of the raw mix. Nearby deposits of high purity limestone and high silica malapai will be drawn upon as needed, also smelter slag from the slag pile at Clarkdale (for its iron content). Gypsum will probably be obtained from one or more deposits near Camp Verde.

The corporation has entered into a contract to supply 3,300,000 bbls. of cement to the Glen Canyon Dam Project over a 5 year period. This will amount to about 40% of the capacity production of the plant.

Cement for the dam project will be trucked from the plant directly to the dam site. For delivery elsewhere the corporation is negotiating with the Santa Fe R.R. regarding installing a spur line connecting the plant with the railroad at Clarkdale.

At the time of visit the contractor was grading the site and completing construction of a batch plant for mixing concrete for foundations. Pouring of concrete is expected to begin about the middle of August and the contractor estimates completion of the plant in October or November 1959. The present crew is 30-35 men and will increase as the work progresses. The corporation estimates that 200 to 250 men will be steadily employed when the plant is in operation.

Clarkdale Cement file
Yavapai County

ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1992

PHOENIX CEMENT COMPANY

Phoenix Office

2501 W. Behrend, P.O. Box 43740, Phoenix, AZ 85080 - Phone 264-0511 -
Employees: 11.

President James E. Carmichael

Sales Manager Pete Kuehner

Clarkdale Quarry & Plant T16N R2E Sec. 11

P.O. Box 428, Clarkdale, AZ 86324 - Phone 634-2261 - Employees: 130 - Quarry
and plant two miles northwest of Clarkdale - 630,000 TPY - Cement used for
building industry - Marketed in Arizona, New Mexico, Utah, and Nevada.

V.P. Operations/Plant Manager John B. Conway

Assistant Plant Manager/Maintenance Joe D'Avignon

Assistant Plant Manager/Engineering Tom Gibbons

Industrial Relations Manager Cliff Ayres

Controller Meg Slanski

Purchasing/Stores Frank Contreras

Environmental Engineer Bernie Ott

ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1991

PHOENIX CEMENT COMPANY

Phoenix Office

2505 W. Beryl, P.O. Box 35395, Phoenix, AZ 85069 - Phone 264-0511

- Employees: 12.

President

Paul Anderson

VP & Chief Financial Officer James E. Carmichael

Sales Manager Pete
Kuehner

Clarkdale Quarry & Plant T16N R2E Sec. 11

P.O. Box 428, Clarkdale, AZ 86324 - Phone 634-2261 - Employees: 130

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Industrial Relations Manager Cliff Ayres

Controller

Meg Slanski

Purchasing/Stores Frank Contreras

Environmental Engineer Bernie

Ott

ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1990

PHOENIX CEMENT COMPANY

Phoenix Office

2505 W. Beryl, P.O. Box 35395, Phoenix, AZ 85069 - Phone 264-0511

- Employees: 12.

President Paul Anderson

VP & Chief Financial Officer James E. Carmichael

Sales Manager Pete Kuehner

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ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1989

PHOENIX CEMENT COMPANY

Phoenix Office

2505 W. Beryl, P.O. Box 35395, Phoenix 85069 - Phone 264-0511 - Employees 11.

President & CEO John N. Stoss
VP & Chief Financial Officer James E. Carmichael
Sales Manager Pete Kuehner

Clarkdale Quarry & Plant

T16N R2E Sec. 11

P.O. Box 428, Clarkdale 86324 - Phone 634-2261 - Employees 107 - Quarry and plant two miles northwest of Clarkdale - 630,000 TPY - Cement used for building industry - Marketed in Arizona, New Mexico and Utah.

V.P. Operations/Plant Manager John B. Conway
Assistant Plant Manager/Maintenance Joe D'Avignon
Assistant Plant Manager/Engineering Tom Gibbons
Quarry/Crushing/Industrial Relations Manager Cliff Ayres
Controller Richard Huffman
Operations/Shipping Manager Richard Gardner
Purchasing/Stores Frank Contreras

ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1988

PHOENIX CEMENT COMPANY

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Type I/II (LA) Portland Cement

Phoenix Cement Type I/II (LA) cement meets all chemical and physical requirements of the current ASTM Specification C150 for Types I and II, low alkali cements, as well as the requirements of UBC Standard 19-1 for Types I and II portland cements. **Type I/II (LA)** is a general all-purpose cement suitable for use in most general construction applications.

Strengths:

ASTM C109 cement cubes made with **Phoenix Cement Type I/II (LA)** provide compressive strengths for surpassing those required by ASTM C150. More importantly, compressive strengths of concrete made with **Type I/II (LA)** are consistently competitive with those required by the marketplace.

Durability:

Phoenix Cement Type I/II (LA) is safe for use in any application where protection against moderate sulfate attack is required.

Phoenix Cement Type I/II (LA) meets ASTM C150 requirements for low alkali (LA) designation, reducing the potential for damage due to alkali-aggregate reactivity.

Uniformity:

Consistency in strength, color, fineness, chemical composition, and setting characteristics provides users of **Phoenix Cement Type I/II (LA)** with consistently high quality finished products.

Random market samples of **Phoenix Cement Type I/II (LA)** are tested weekly at Phoenix Cement's concrete laboratory to monitor what customers really want to know: How does it perform in concrete?

Availability:

Phoenix Cement Type I/II (LA) is produced year-round at our Clarkdale manufacturing facility, approximately 100 miles north of Phoenix. **Type I/II (LA)** is available in bulk and sack, by rail or truck, 7 days a week. In addition, our Phoenix transfer facility is open weekdays to provide added convenience for our customers.

Phoenix Cement Company has manufactured cement specifically designed for the Southwest since 1959. This experience enables Phoenix Cement to continue to provide the highest quality line of cement products available.

Rapid Power™ Type III (LA) Portland Cement

Phoenix Cement's Rapid Power™ Type III (LA) meets all chemical and physical requirements of the current ASTM Specification C150 and UBC Standard 19-1 for Type III, low alkali, portland cement. **Rapid Power™ Type III (LA)** is a high-early strength cement suitable for use in most general construction applications..

Strength:

Ground finer than a normal Type I/II cement, **Rapid Power™ Type III (LA)** produces higher early-age strengths in concrete mixes. In tests using **Rapid Power™**, average one day compressive strengths were 30% greater than those achieved with Type I/II cement.

Setting:

Initial set times (by the Vicat method) for **Rapid Power™ Type III (LA)** are approximately 20 to 25% faster than our Type I/II cement.

Durability:

Rapid Power™ Type III (LA) is safe for use in any application where concerns about moderate sulfate attack or alkali-aggregate reactivity exist.

Economy:

Rapid Power™ Type III (LA) can provide high early strengths more economically than richer mixes utilizing a Type I/II cement.

Applications:

Due to higher early age strengths, **Rapid Power™ Type III (LA)** is excellent for:

- “Fast track” paving or pavement repairs that must be put into service quickly.
- Precast/Prestressed and other structures that require early form removal.
- Cold weather concrete applications where the controlled curing period is reduced.
- Earlier splitting and reduced breakage in block production.

Phoenix Cement Company has manufactured cement specifically designed for the Southwest since 1959. This experience enables Phoenix Cement to continue to provide the highest quality line of cement products available.

Portland Pozzolan™
Type IP (MS)
Blended Hydraulic Cement

Phoenix Cement Type IP (MS) meets all chemical and physical requirements of the current ASTM Specifications C595 for Type IP (MS) and C1157 for Types GU, MS, and HS hydraulic cements.

Phoenix Cement Type IP (MS) is a blend of Phoenix Cement Type I/II (LA) and Class F Fly Ash. As an all-purpose cement, it is suitable for use in general construction applications where a typical Type I/II cement would be used.

Strength & Setting:

Phoenix Cement Type IP (MS) is designed to provide strength development and setting characteristics similar to those of a typical Type I/II cement.

Under normal conditions, it is not recommended that any portion of Type IP (MS) be further replaced with fly ash by the purchaser, as designed strength and setting characteristics may not be achieved.

Durability:

As an intimate blend of Type I/II, low alkali cement, and Class F fly ash, **Phoenix Cement Type IP (MS)** provides significantly reduced expansion when compared to cement-only mixes in tests for sulfate attack and alkali-aggregate reactivity.

Pumpability:

Because fly ash particles are spherical, they provide a “ball bearing” effect in concrete, lubricating the mix and lending superior pumpability and homogeneity.

Uniformity:

Phoenix Cement Type IP (MS) is tested after blending to ensure consistency in performance of the finished product. In addition, our Class F fly ash is subject to a rigorous quality assurance program, meeting our own requirements that far exceed those of ASTM C595 and C1157, for pozzolans to be used in blended hydraulic cements.

Convenience:

For producers with limited silo space who are required to use fly ash, or simply want to receive its many benefits, **Phoenix Cement Type IP (MS)** is the logical choice.

Availability:

Phoenix Cement Type IP (MS) is produced year-round. Type IP (MS) is available in bulk and sack, by rail or truck, 7 days a week.

Phoenix Cement Company has manufactured cement specifically designed for the Southwest since 1959. This experience enables Phoenix Cement to continue to provide a wide range of the highest quality cement products available.

SUPERMORTAR™

Type S Masonry Cement

Phoenix Cement SUPERMORTAR™ meets all requirements of the current ASTM Specification C91 and UBC Standard 21-11 for Type S masonry cements. In addition, SUPERMORTAR™ meets the requirements of UBC Standard 25-1 for plastic cement.

SUPERMORTAR™ is the original masonry cement formulation created by the Phoenix Cement Company. Since its inception in 1962, the SUPERMORTAR™ trade name has become synonymous with quality and consistency in the masonry industry. It is an all-purpose product suitable for use in the production of Type S masonry mortar.

	SUPERMORTAR™
Laboratory specimens producing strengths well in excess of those required by ASTM C91	<input checked="" type="checkbox"/>
Mortar specimens, when mixed in recommended proportions, producing strengths in excess of those required by ASTM C270	<input checked="" type="checkbox"/>
Premixed ingredients requiring only sand and water to be added in the field	<input checked="" type="checkbox"/>
Strict proportioning at the manufacturing plant providing the greatest uniformity in structural and architectural performance	<input checked="" type="checkbox"/>
Superior water-retention and boardlife reducing the need for retempering	<input checked="" type="checkbox"/>
Improved workability and plasticity providing superior bond to masonry units	<input checked="" type="checkbox"/>
Fewer jobsite additions and reduced waste leading to increased production and profits.	<input checked="" type="checkbox"/>

TYPE S MASONRY MORTAR PROPORTIONS (ASTM C270): Parts by volume

<u>SUPERMORTAR™</u>	DAMP, LOOSE <u>SAND (ASTM C144)</u>	<u>WATER</u>
1	2 ¼ - 3	Enough clean potable water to produce a workable mix

Phoenix Cement Company has manufactured masonry cements specifically designed for the Southwest since 1962. This experience enables Phoenix Cement to continue to provide the highest quality line of cement products available.

DYNAMORTAR™

Type S Masonry Cement

DYNAMORTAR™ is an all-purpose masonry cement suitable for use in the production of ASTM C270 Type S masonry mortar.

Phoenix Cement DYNAMORTAR™ meets all requirements of the current ASTM Specification C91 and UBC Standard 21-11 for Type S masonry cements. In addition, DYNAMORTAR™ meets the requirements of UBC Standard 25-1 for plastic cement.

Strengths:

Laboratory specimens prepared with DYNAMORTAR™ produce strengths well in excess of those required by ASTM C270 for masonry mortar.

Workability:

Special additions give DYNAMORTAR™ the high plasticity and water retention required in the hot, dry Southwestern climate.

Board Life:

Extended board-life reduces the need for retempering and provides superior bond to masonry units.

Uniformity:

With all ingredients carefully premixed, DYNAMORTAR™ is very consistent in strength, workability, and color. This provides the user with predictably good structural and architectural performance every time.

Economy:

Less waste and fewer ingredients to add with DYNAMORTAR™ means increased production and profits.

Type S Masonry Mortar Proportions (ASTM C270): Parts by volume

<u>DYNAMORTAR™</u>	DAMP, LOOSE, MASONRY <u>SAND (ASTM C144)</u>	<u>WATER</u>
1	2 ¼ - 3	Enough clean potable water to produce a workable mortar

Phoenix Cement Company has manufactured masonry cements specifically designed for the Southwest since 1962. This experience enables Phoenix Cement to continue to provide the highest quality line of cement products available.

PHOENIX PLASTIC CEMENT™

Phoenix Plastic Cement™ is manufactured specifically for the plaster/stucco industry. It meets all chemical and physical requirements of the current ASTM Specification C1328 and UBC Standard 25-1 for plastic cements for use in plastering. In addition, **Phoenix Plastic Cement™** meets all requirements of the current ASTM Specification C91 and UBC Standard 21-11 for Type S masonry cement.

Strengths:

Laboratory-prepared specimens produced with **Phoenix Plastic Cement™** produce compressive strengths well in excess of those required by UBC 25-1 (1800 psi in 7 days, 2900 psi in 28 days.)

Placeability:

Consistently high workability and homogeneity are essential in plastering and stucco applications. Air entrainment and other special additions in **Phoenix Plastic Cement™** help create mixes with these important characteristics. Whether applied by hand or by pump, **Phoenix Plastic Cement™** provides users with superior placeability.

Uniformity:

With all ingredients carefully premixed at the plant, **Phoenix Plastic Cement™** requires no addition of lime or any other plasticizing agents at the time of mixing. This provides users with the highest reliability in strength, workability, water retention, and consistent architectural performance.

Economy:

Less waste and fewer jobsite additions with **Phoenix Plastic Cement™** mean increased production and profits.

Recommended proportions (parts by volume):

<u>Plaster Type</u>	<u>Coat</u>	<u>Plastic Cement</u>	<u>Sand</u>	<u>Water</u>
P	Scratch (first)	1	3 to 5	Enough clean
P	Brown (second)	1	4 to 5	potable water to
FP	Finish	1	1-1.5	make a workable mixture.

Phoenix Cement Company has manufactured plastic cement specifically designed for the Southwest since 1985. This experience enables Phoenix Cement to continue to provide the highest quality line of cement products available.

AMERICAN CEMENT CORP. YAVAPAI COUNTY

The Interior Department awarded a contract for 3,000,000 barrels of Portland cement for the Glen Canyon Dam on the Colorado River in Arizona to AMERICAN CEMENT CORPORATION on its low bid of \$3.2473 a barrel. The cement is to be supplied from a new mill to be constructed at Clarkdale, Arizona by the RIVERSIDE-ARIZONA CEMENT COMPANY, a newly formed division of AMERICAN CEMENT.

Taken from MINING WORLD, Aug. 1958, p 66

See: Article in "ARIZ.BUILDER & CONTRACTOR",
p 27, April Issue (1958)
FPK

PHOENIX CEMENT CO. plant at Clarkdale

Travis P. Lane, Field Engineer - Weekly Report 10-3-59

Thursday: Visited the Phoenix Cement Co. plant at Clarkdale. The address is Box 728, Clarkdale. The key plant personnel is as follows:

Mgr. - Jack Q. Van Meter
Plant Eng. - L. R. Gregory
Chief Chemist- R. F. Lowe

Mr. Lowe described the current operations.

The plant start-up date (fire-up of the first kiln) was Aug. 31. Mr. Lowe expected that the second kiln would fire up within a few days. Some grinding of clinker has been done for test purposes, but grinding for production at partial capacity was begun the day before this visit. Capacity operations should have been reached during the following week.

The rated capacity of the plant is 5000 BPD. The finished product capacity of the storage silos is 180,000 barrels. The present raw material feed to kilns (each 12'-10" diameter x 350' long) is composed at present of approximately 75% high purity limestone from the Redwall deposit, 23% Lake Bed material (mixed limestone and shale) and 2% Clemenceau smelter slag. The clinker is ground with appropriate additive of gypsum in 3 Smidth ball mills, 12' diameter by 19' long.

A novel feature of the plant is the absence of stacks. Draft is generated by an elaborate cyclone system containing several stages of dust collection units. Kiln discharge heat is used (after dust removal) to preheat new feed to the kiln.

90 men are currently employed. The normal crew at capacity operation will be about 110 men.