

MINING IS...

ESSENTIAL

BENEFICIAL

RESPONSIBLE

SUSTAINABLE



YOUR ROADS ■ YOUR HOMES ■ YOUR FUTURE



**ARIZONA
ROCK
PRODUCTS
ASSOCIATION**

ROCKS BUILD AMERICA

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The Construction Building Blocks Of Society



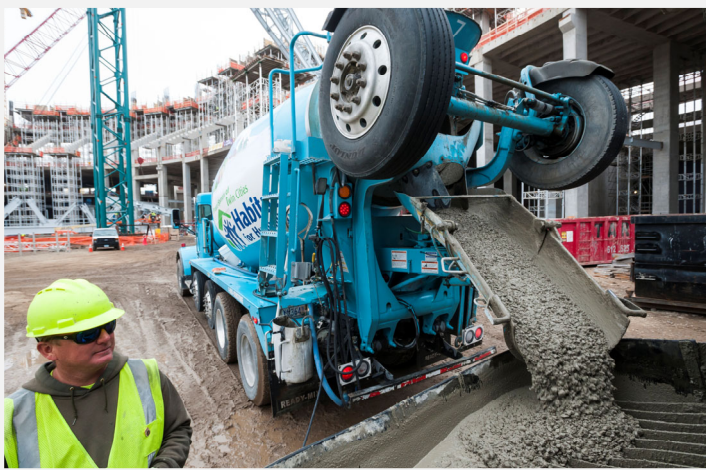
Stone, sand and gravel (Aggregates) are natural resources that form the foundation of modern society and the way of life for everyday citizens. From roads and bridges to schools, medical facilities, utilities and homes, aggregates, along with cement, concrete, and asphalt play a vital role in our daily lives.

Aggregates: A combination of sand, gravel and crushed stone, mined and processed into different sizes. Sourced from non-renewable minerals, aggregates are mined where they are naturally deposited and close to construction to help keep material costs low. Due to strict specifications for highways and roads, high quality aggregates are required and must be mined where they are located.

Cement: The special binding ingredient in concrete. It is made of Limestone, Iron, Silica, Alumina and minerals such as Gypsum. These minerals are combined and undergo an extensive process to form cement, a powder like substance.

Concrete: Is made up of sand, gravel, and cement. When combined with water, the mixture hardens into concrete. 33 billion tons of concrete is used annually making it the most used construction material in the world. Chemical ad-mixtures can be added to concrete for a wider range of applications and specification needs like major highway construction, airport runways, high rise building, dams, canals, bridges, and much more.

Asphalt: A black liquid oil. When combined with aggregates, asphalt acts as a binder when heated to a specific temperature. Together, the materials form asphaltic concrete which is used for constructing roads and other surfaces.



Building Communities & Infrastructure



Modern society could not exist without the natural resources of aggregates and minerals that make up the construction building blocks of cement, concrete and asphalt. We depend on these critical resources to maintain our way of life and build the communities we live in. Take a look around, these materials are the building blocks for:

The roads that connect our neighborhoods, towns, and cities to our way of life;

The transportation system that allows for efficient mobility within communities, and the movement of commerce in the economy;

The dams, waterways, and treatment facilities that help manage community water needs and allow agriculture to thrive and produce our food supply;

The foundations and structures of our homes; the sidewalks we walk, run and bike on; the pools we swim in, and environmentally friendly landscapes;

The hospitals that provide healthcare services and the schools our children attend;

The airports and runways that allow intercontinental and worldwide travel and trade;

The urban centers that provide for our cultural awareness, social well being, and economic activity;

The production of products such as paper, glass, medicines, cleansers, cosmetics, toothpaste, and much more.



Economic Impacts



The Arizona rock products industry creates a direct economic impact of nearly \$2.9 billion with an indirect impact of nearly \$5.9 billion in Arizona annually. The industry employs over 8,110 workers and supplies essential materials to the construction industry that employs an additional workforce of over 112,000. Some compelling facts to consider include:

Arizona was the #2 producer of non-fuel minerals in 2020. Arizona produced approximately \$8 billion of all non-fuel minerals in the U.S., with the principle minerals being copper, molybdenum, sand & gravel, cement, and stone;

Documents with the Arizona State Mine Inspector's Office in 2022 show 560 rock products facilities in Arizona which includes; 325 aggregate mines, 81 concrete batch plants; 52 hot mixed asphalt plants; 3 cement plants; 75 custom crushing operations and 23 cinder pits;

A 2000 square foot house requires 400 tons of aggregate material;

A one mile stretch of freeway requires about 38,000 tons of aggregate material;

Aggregates make up 94% of asphalt pavement and 80% of concrete;

There is more than 2.6 million miles of paved roads and highways in the U.S. and 93% of those are surfaced with asphalt;

Twice as much concrete is used in construction than the total of all other building materials, including wood, steel, plastic, and aluminum;

A metropolitan airport requires 1,320,000 tons of aggregate material;

90% of aggregates are used within 50 miles from where they are mined;

Every state, virtually every congressional district and 70% of the nation's counties are home to an aggregates mining operation.



Sustainability



ARPA member companies recognize sustainability as a practice that integrates environmental stewardship and social responsibility with a sound business approach, to ensure the long term supply of aggregate materials and preserve our way of life for future generations.

Reclamation: Industry members are actively engaged in the process of developing land for post mining activity which includes parks, residential neighborhoods, wetlands, arboretums, school grounds, wildlife habitats, golf courses, and more.

Recycling: Industry and agencies utilize the practice of reusing asphaltic concrete and portland cement concrete for new projects. These are considered the most recyclable materials in the world, by volume.



Conservation: Many industry members are EPA Energy Star certified, which is a voluntary program to identify and promote energy-efficient products and buildings in order to reduce energy consumption. Employing water efficiency practices minimizes water loss, protects surface and ground water supplies, and reduces costs. Industry members utilize technology to control emissions at operations to ensure the highest standards of air quality are met.

Social Responsibility: Industry members engage community leaders and residents as partners in advancing local communities. Educational outreach on mining and minerals are part of the sustainable culture of member companies and provide a foundation of learning about the importance of the industry on our lives.



Economic Prosperity: While quality sand & gravel must be mined where they are deposited and close to construction, member companies choose to invest back into their communities. Investing in workforce development, hiring locally, contributing to local tax revenues, and assisting with community projects are means of sustaining local economies.

ARPA Members in the Rock Products Industry



ARPA Members Supporting the Rock Products Industry

Acken Law

AmCast, Inc.

Arizona Construction Equipment
Inc.

Arizona Fine Aggregates
Business

Arizona Public Service

Arnold Machinery Company

Atlas Technical Consultants
LLC

BASF the Chemical Co.

Brown & Caldwell

Bud's Electric

CarbonCure Technologies

Civil & Environmental
Consultants, Inc.

Cleancor Energy Solutions

Columbia Bank

Command Alkon

Core Machinery

Cummins Rocky Mountain

Curry Supply Co.

Dave Humphrey Enterprises,
Inc.

Empire Machinery

Euclid Chemical Co.

Fennemore Craig, P.C.

Freeport-McMoRan

Fuels, LLC

FullForce

Gallagher & Kennedy P.A.

GCP Applied Technologies

Geobrugg North America, LLC

Global External

Goodfellow Corporation

Greenwich Investment
Management

Haley & Aldrich

Hercutech Inc.

Industrial Supply Solutions, Inc.

Ingevity

Inland Kenworth

JacksonWhite Attorneys at
Law

Jobsite Sentry

Keeley Construction Group

Kimball Equipment Co.

May Potenza Baran &
Gillespie PC

McCraren Compliance

Mountain Regional Equipment
Solutions, Inc.

Ninyo & Moore

Orizon I.P.E.

Pacific GeoSource

Phos Electrical

Power Motive Corporation

Powerscreen Western

Quality Testing, LLC

RDO Equipment Co.

Reuter Equipment Co.

SAECO

Salt River Project

Sapphire Gas Solutions

Sika Corporation

Slabstack

Snell & Wilmer L.L.P

Southwest Energy LLC

Southwest Gas Corporation

Southwestern Scale Co.

Speedie & Associates

Surface Tech

SW Risk Management

Terracon Consultants Inc.

Tetra Tech

Tim A. La Sota, PLC

Tremco CPG

Trinity Consultants

Unified Screening & Crushing

Western Technologies, Inc.

WSP USA

Xylem



In the Community



ARPA members understand the importance of being good neighbors in the communities they operate in and the significance of having the social license to operate from local residents. Member companies go to great lengths to give back to their communities to foster good will and provide an environment for quality of life to future generations. Examples of community outreach include the following.

Mine Tours: ARPA, with the support of its members, provide guided tours of aggregate mines, ready-mix concrete and asphalt operations, along with cement plant tours to help educate the community the important role the industry plays on our quality of life.

K-12 School Projects: Members donate materials for school projects like playgrounds, outdoor classrooms, and modifications to children's homes like Sunshine Acres.

Charities: ARPA members were contributors to several youth baseball fields constructed by the Arizona Diamondbacks Charities, LLC in low socio-economic communities.

Memorials: Frequently, members donate time and materials to the construction of memorials such as, the Navajo Code Talkers Memorial, the Arizona Fallen Firefighters Memorial, and the World War II Memorial.

Habitat for Humanity: ARPA members have been involved in material donations and volunteer work in constructing homes for the less fortunate families in need.

Wildlife Habitat Council: Members work with third party organizations to help protect the lands they operate on as well as donating time and materials to build habitat gardens in local residential communities.



Workforce Development



The value of the aggregates industry in America is profound when considering its impact on the economy and jobs. Construction sand & gravel is produced by an estimated 4,100 companies and government agencies from approximately 6,600 operations in 50 states. 10 states produce 52% of the nation's aggregates supply and Arizona ranks in the top five. Every \$1 million in aggregate sales creates 19.5 jobs, and every dollar of industry output returns \$5.69 to the economy. It's for these reasons the industry emphasizes programs on workforce development to help fill jobs and careers.



Education Outreach: ARPA and member companies collaborate with stakeholders to help educate K-12 students on the fundamentals of the rock products industry and the many careers paths that exist.

Counseling: ARPA works with college & career ready counselors to help communicate career opportunities in the industry and the different paths to job placement.

Career & Technical Education: JTED's or Joint Technical Education Districts offer curriculums that emphasis trades important to the economy with sustainable career paths.



Advanced Careers: ARPA works with university programs such as the Lowell Institute for Mineral Resources and the Del E. Webb School of Construction to help communicate the many degreed career paths in the industry.

Career Day Events: In partnership with affiliates, ARPA engages in career day events to help spread the word on careers. These events include Arizona Construction Career Days and Mining Day at the Capitol, to name a few.

Careers At A Glance: Plant Operator, Quality Control, Safety Manager, Environmental Manager, Geologist, Engineer, Sales & Marketing, Accounting, Human Resource Manager, Heavy Equipment Mechanic, Heavy Equipment Operator, Concrete Ready-Mix Truck Driver.



Natural Resource Planning

Aggregates are a vital natural resource. They are essential to our quality of life in Arizona and needed to build and maintain all roads, bridges, homes, hospitals, schools, and public and private construction. Historically, Arizona communities have relied on local supplies of aggregates as the most efficient and effective way to supply materials. Today, we mainly transport aggregates by truck but, because it is a high bulk, heavy weight commodity, it is very costly to transport long distances and distance adds to environmental impacts. By supporting and obtaining locally produced materials, a community can help reduce consumer costs (fuel and energy costs), and reduce environmental impacts (specifically air quality emissions and greenhouse gases).



A haul truck transporting aggregate material from a Phoenix area aggregate mine operation.



Haul trucks transporting aggregate material on a local highway.

Shorter Distances are Better for the Environment.

If truck trip length can be reduced by even 15 miles, then total transport distances could be reduced by 282 million miles per year. It would have these benefits:

Reduce fuel consumption by 44 million gallons annually.

Reduce tail pipe emissions by 835 tons a year.

Remove over 400,000 metric tons of green house gases.

Shorter Distances Mean More Money to Build Roads and Generates Tax Revenues.

If transportation distances were reduced by an average of 15 miles, Caltrans estimates these benefits:

42% savings in material costs.

Reduce road wear and tear costs by \$12-18 million per yr.

Fewer delays in the supply of materials to road and other construction projects, saving ~\$9 million a year.

Shorter Distances Reduce Congestion and Safety Exposure.

Local aggregates can reduce transport of materials through congested urban areas.

Local Materials Create Local Jobs.

Creating local jobs is a sustainable practice, especially when both jobs and the products produced will benefit the local community.

About Arizona Rock Products Association



For 65 years, The Arizona Rock Products Association (ARPA) has been representing member companies involved in the production and supply of aggregates, asphaltic concrete, ready-mix concrete, asphalt, portland cement and lime products. Providing support services to producer companies are Associate members, which offer related transportation, testing, consulting, contracting and ancillary services.



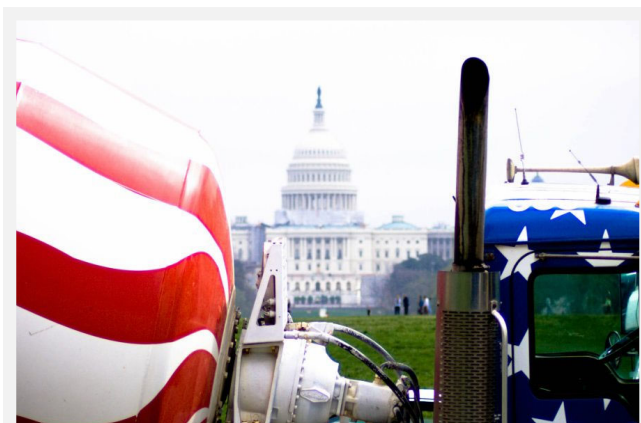
Advocacy: ARPA works with state, county, and local elected officials, as well as, federal, state, and local agencies to ensure public policy has a sound balance in protecting citizen's rights while providing a stable economic environment. Ensuring we have access to natural resources and the ability to provide building materials at a reasonable cost is vital to our quality of lives and a vibrant economy.



Community Relations: ARPA works closely with elected officials, agency heads, community leaders, and local residents to help understand the importance of the industry on our quality of life and the necessity of natural resources. Education and awareness of the benefits the industry provides to the community is crucial to a healthy perception of the industry as a whole.

Regulatory Awareness: Protecting our environment and establishing sound regulatory policies are part of the mission of ARPA and its members. ARPA works closely with federal, state, county and local agencies to ensure compliance above and beyond standard regulations. Maintaining a social license to operate is a high priority and members invest in technologies and best practices to ensure a healthy environment and a safe workplace.

Technical: ARPA is engaged in the technical process of public works and infrastructure specifications as it pertains to our communities. Understanding the technical complexities of natural resources is critical to establishing sound specifications and keep the cost of building materials low.



ARPA Excellence

The Arizona Rock Products Association recognizes members for excellence in achievement for measures that companies and individuals make in going above and beyond compliance standards set forth by governing entities and/or company policies. Below are examples of accolades honoring achievements in community excellence, environmental leadership, and safety performance to name a few.



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ADVOCACY ★ COMMUNITY RELATIONS ★ REGULATORY

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