

# Request for Proposal

## Flagstone Mineral Study for Hualapai Tribe



Funded by the Division of Energy and Mineral Development, Office of Indian Energy and Economic Development, Bureau of Indian Affairs – DEMD/IEED/BIA

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## **INTRODUCTION:**

The Hualapai Tribe of Arizona is soliciting a Request for proposals (RFP) for a Flagstone Mineral Study.

The Hualapai Indian Tribe (Tribe) wishes to identify and develop additional sources of flagstone to meet the future needs on the Hualapai Reservation and northern Arizona. The Hualapai Reservation contains approximately 998,000 acres of land held in Trust by the Federal government and is located in portions of Mohave, Yavapai and Coconino Counties, Arizona. Aside from on-Reservation use, the Tribe will seek to market the flagstone to other builders in Arizona. A market analysis must be performed to determine the price point for this unique product and determine the best means to make the product available to the buyer. A contract geologist will be retained to conduct preliminary assessment, field surveys, geotechnical studies, market studies and any needed drilling and sampling. The contractor will combine this information into a final report to be presented to the Tribal Council at the completion of the grant.

### **Technical Summary for Geologist Services:**

#### **Phase 1: Literature Research Studies and Local Sources**

This is a preliminary assessment of the geology in select areas of the Reservation for flagstone potential. Phase 1 is based on the review of available information that has been published which includes geological studies as well as anecdotal information from members of the community. Some published information may be confidential with restricted use by only the Bureau of Indian Affairs and/or the Tribe. It will be necessary to receive permission from the Tribe to review these reports. Other maps or reports on the surface geology as well as the quality of past and present flagstone quarries in the area may be a good indicator of the flagstone resource. Consultation with residents of the Reservation will also help identify resources in the area. Aggregating this information will direct the research to focus on the most likely locations for flagstone deposits and avoid those locations which are culturally sensitive.

#### **Phase 2: Field Surveys**

Conduct field surveys of the identified sites, review local land features, note which feature may have potential and collect information about the areas. Potential sites will be measured to estimate the size of the deposit. Complete a survey of abandoned or existing quarries. Field samples of flagstone will be collected and labeled for identification and analysis.

#### **Phase 3: Geotechnical Studies**

A closer examination of the sites shown on the Arizona National Resources Conservation Service (NRCS) and Arizona Geographic Information Council (AGIC) maps is needed. Techniques include geological mapping and sampling, and more detailed surveys to determine the location, volume, extent and quality

of the flagstone deposits. Based on consultation with a retired geologist residing in northern Arizona, the recommended exploration techniques used for flagstone includes the creation of a detailed geological map.

Test pitting and core drilling is not recommended for flagstone, namely due to the density of the rock which precludes the use of conventional backhoe methods. However, as noted above, flagstone samples will be collected, with their locations identified using GPS, and then an analysis performed on each sample to determine the quality, characteristics and suitability of the material for various uses.

### **Geological Mapping:**

A map will be created which depicts the location of the flagstone formation showing the location of the samples collected the outline of the different formations, and specifically the target unit, with strike and dip, outcrop boundaries, faults and other structures exposed in outcrops, or projected below the land cover, if the unit is not completely exposed. Estimation of the formation's thickness, descriptions of the material and the results of latter sample analysis will give the total volume and quality. Once the analysis is complete, the geologist will prepare a summary report on each site. The results of these surveys will be the basis for the Tribe's decision to proceed with further assessment or to prepare a plan for extraction.

### **Phase 4: Market/Feasibility Studies**

The final phase of this project will be a study of the current market conditions, and future demands, prices and all the engineering and equipment necessary for the startup of a new operation. This study is necessary to determine whether to proceed with the development of the flagstone resource. The feasibility study would look at specific needs of the Tribe as well as the broader construction industry in Arizona and California. The study would determine the demand for flagstone products in residential, commercial and institutional applications. This project will utilize building trade surveys as well as informal surveys and knowledge of local conditions.

### **Regulatory Approvals:**

The Tribe and/or the BIA will be responsible for securing all required approvals to comply with both Tribal and Federal regulations necessary for any land disturbance during exploration or development of any flagstone quarries. No work will be completed without the consent of the Tribe. No work will be completed without complying with the Hualapai Environmental Review Code (NEPA process) regulations and Federal Regulations. The cost of any regulatory approval, for permits or documents, required by Tribal and or Federal regulations is a factor in this project budget. Five percent of the total project cost will be set aside for these reviews.

### **Site Preparation:**

A mining plan, to direct the activities at the flagstone quarries, will be prepared to ensure safe and efficient operations. Quarry design would require stockpiling overburden so that it can be used later for site restoration and to keep the flagstone unit from being covered up.

### **Site Rehabilitation:**

Planning for reclamation of a quarry during the early development stage will make the restoration process easier. Un-reclaimed, abandoned quarries affect the area's appearance, productivity and safety for generations. Restoration would be the Tribe's responsibility, with the BIA providing technical assistance.

### **Phase 5: Test Drilling**

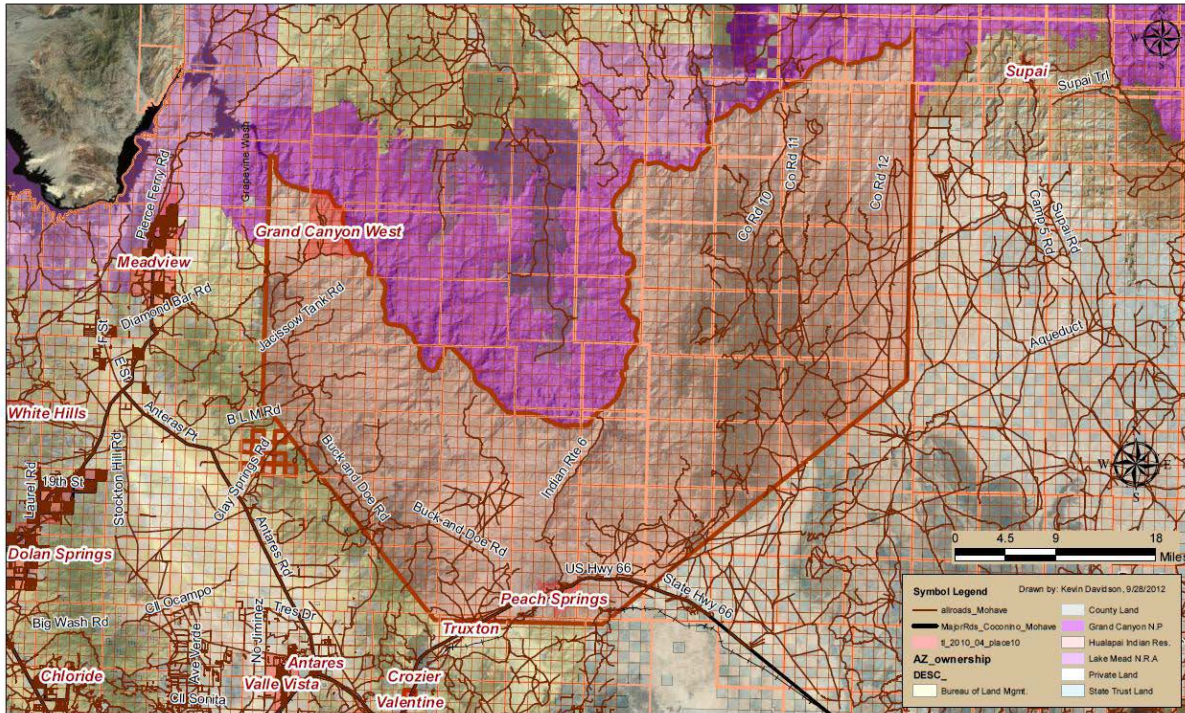
Test drilling is not anticipated in the flagstone mining effort since material will be taken largely from surface outcrops.

### **Reservation Location and Access**

The Hualapai Tribe is a federally recognized Indian Tribe located in northwestern Arizona. "Hualapai" (pronounced Wal-lah-pie) means "People of the Tall Pines." In 1883, an executive order established the Hualapai reservation. The Hualapai Indian Reservation is about 40 miles east of Kingman and 75 miles west of Flagstaff. Roughly one half of the reservation is in Mohave County and one half in Coconino County. Only a few acres are in Yavapai County. The entire reservation encompasses an area of 992,463 acres and has a 1976 population of 1,133. In addition to the main reservation, two small areas, both in Mohave County, are part of the reservation. One of 800 acres is at Valentine about 18 miles southwest of Peach Springs (Figure 1) and is the site of the Truxton-Cañon Indian Agency. The other, called the Big Sandy area (not shown on Figure 1), includes 710 acres in T. 18 N., R. 13 W., and is 30 to 35 miles south of the Truxton-Cañon Agency. All land and mineral rights within the reservation are tribally owned except 650 acres of allotted land in the Big Sandy area. Private land within the reservation is limited to Santa Fe Railroad rights-of-way and 160 acres of Santa Fe land around a well in sections 2 and 3, T. 25 N, R. 11 W, south of Peach Springs, the main Hualapai village.

The north boundary of the reservation borders the south rim of the Grand Canyon, west of Grand Canyon National Park, an area of outstanding scenic attraction. More specifically, it is bounded on the north by Grand Canyon National Monument and Lake Mead National Recreation Area. Much of the southern part of the reservation is relatively featureless but the topographic relief is great and the scenery spectacular at the canyon rim. Maximum relief on Indian land is about 5,200 feet between the Colorado River and the canyon rim in the easternmost part of the reservation.

## Reservation Boundary Base Map



## Geology

The general regional geology was summarized from the State Geologic Map of Arizona published by the Arizona Bureau of Mines and the U.S. Geological Survey in 1969, and from the Geologic Investigations section of the National Aeronautics and Space Administration Technical Report 32-1597 published in 1975. Location and some description of mineral deposits are found on a number of Arizona Bureau of Mines maps, U.S. Geological Survey Mineral Resource Maps, U.S. Geological Survey Bulletins and CRIB files.

R. W. Schnabel and M. C. Johnson, USGS assisted in the collation of information on mines, prospects, and mineral deposits. R. A. Young of the Geology Department, New York State College, Geneseo, N.Y., loaned unpublished geologic maps of the reservation.

## **Bidder Instructions**

The contractor shall perform all services within ninety (120) days from date of award. See statement of work below. The bid shall be a firm-fixed price, identified as BID AMOUNT and shall be for EXACT AMOUNT ONLY. No deviations or partial BIDS will be considered. Bids will be evaluated by lowest price and technical acceptability. The bid must address the minimum qualifications in a statement (including any resume and copy of degree) not to exceed 5 pages. The bidder shall provide an itemized estimate of travel mileage. The current Federal Travel Regulation authorized mileage rate can be found at: <http://www.gsa.gov/portal/content/100715>. The bidder's estimate is not a guarantee of travel reimbursement, rather a ceiling, as the Tribe will only pay actual expenses.

### **To be determined technically acceptable, the bidder must meet these minimum qualifications:**

1. The contractor must have at least 5 years' experience assessing flagstone or dimension stone in Arizona or connecting states.
2. The contractor must have a degree in geology or other earth science related discipline (geophysics, hydrology, etc.).
3. The contractor must be able to use and have the software and hardware to use GPS and GIS to make comprehensive maps of the study area(s) for the report.

**The (RFP) closes on December 31, 2014 at 4:00 PM Mountain Time/5:00 PM Arizona Time. All questions must be submitted in writing and may be sent via email to the individual listed below. All bids shall be submitted to:**

*Kevin A. Davidson, Director  
Hualapai Tribe Planning & Economic Development Department  
Mail to: P.O. Box 179 or  
Deliver to: 887 W. Highway 66  
Peach Springs, Arizona 86434  
Phone: (928) 769-1310 Ext. 22  
Fax: (928) 769-1377  
[kdavidson@hualapai-nsn.gov](mailto:kdavidson@hualapai-nsn.gov)  
[www.hualapai-nsn.gov](http://www.hualapai-nsn.gov)*

## **Geologist Services (Arizona)**

### **Statement of Work**

#### **SCOPE**

The Hualapai Flagstone Project will be administered by the Tribe with the assistance of the Division of Energy and Mineral Development (DEMD) staff.

The objectives of the exploration plan are to determine the volume (board feet) of minable flagstone on the Hualapai Reservation at two specific locations identified by the Tribe as described in the following paragraph below. Before it can be decided whether or not a potential site for a flagstone quarry deposit might be economically viable, it is necessary to determine the quantity and quality of the flagstone available. The degree of confidence with which this can be done depends upon the amount of information available.

Based upon NRCS and AGIC data sources, both the existing five-acre quarry site and the new eastern site have the proper geologic setting for flagstone mining activities. The next step is to conduct geological exploration of the known and potential mineral occurrences which is usually completed in five phases: 1) literature research, 2) field survey, 3) geotechnical studies, 4) market/feasibility studies and 5) test drilling if needed. As mentioned previously, drilling is not required for this project.

The Tribe is sensitive to activities which unduly scar the landscape and disturb archeological sites, some of which have not been cataloged. While the expansion of the western flagstone mine may only involve an additional ten acres adjoining the existing quarry, and not pose a significant challenge to Hualapai sensibilities, the establishment of a new quarry on the eastern side of the Reservation, in proximity to Blue Mountain, will require consultation with the Hualapai Cultural Resources Department, and the presence of staff on-site to monitor the exploratory activities and to direct these activities away from sensitive areas.

#### **Contractor Identification:**

When performing as contractor, the contractor shall identify themselves as independent contractors for the Hualapai Tribe, both orally and in writing. In

addition, all materials produced under contract must be labeled sufficiently to identify it as contractor produced materials. Under no circumstances shall the contractor state or imply that he or she is acting as a Tribal representative.

## **DELIVERABLES**

The first draft of the Final Report will be delivered for review one month after Phase 4 has been completed. Literature research and field surveys will be commenced as soon as the grant has been obtained. All work will be contracted. This first draft will include (in digital and hard copy formats) information as follows:

1. A topographic map of the land surface overlain on aerial photography (1" = 100 ft)
2. A detail geologic map showing the size and depth of the flagstone formation and units.
3. Selected cross-sections of the site generated using the solid model.
4. Results of analysis of samples taken from geotechnical studies.
5. All raw data obtained during the geotechnical survey.
6. Volume estimates for the flagstone formation by unit and depth in board feet.
7. The solid model.

The second Draft Final Report will address all comments made in the first Draft Final Report, and will be delivered for final review two to three weeks after reviewers comments have been made and received by the contractor. The Final Report will address all comments made in the second Draft Final Report, and will be delivered one week after reviewers comments have been made and received.. The Final Report will be presented to Council at or before the end of the 12th month of the grant.

All data and reports will be restricted for use by the Bureau of Indian Affairs and Tribe. Any consultants or contractors will be required to sign a confidentiality or non-disclosure agreement.

## **INTERIM REPORT**

The contractor shall deliver an interim report to the Tribal Representative *Kevin A. Davidson Director Tribal Planning* within **60** days of award. The interim report shall include recommendations for the suggested sites.