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GEOLOGIC RESOURCES DIVISION
NATURAL RESOURCES PROGRAM CENTER
Monthly Report - April 1998

GEOLOGIC RESOURCES - GENERAL

INSIDE EARTH, THE NEWSLETTER OF THE NATIONAL PARK SERVICE CAVE AND KARST PROGRAMS - This first issue, posted on the Geologic Resources Web Site, has 15 articles from ten National Parks as well as the complete text of the Federal Cave Resources Protection Act and summaries of the cave program. The Newsletter will be published quarterly with Dale Pate from Carlsbad Caverns doing the editing. The response to the first issue has been good, with Web postings about it on the National Speleological Society, Karst Waters Institute, and the Cave Canada servers. The newsletter has also been made available as hard copies and has been sent out to requesters in the electronic format. (Kerbo)

1998 WEST-BY-NORTHWEST CONFERENCE PARTICIPANTS TARGET GEOLOGIC MANAGEMENT ISSUES -- Division staff attended the Pacific West Region's 1998 West-by-Northwest Conference in Portland, Oregon. Numerous park/regional staff queried the division staff during the Conference about policy issues, technical assistance requests, and the AML program, and offered to assist the Division with its "white paper" documenting Servicewide geologic resource management needs. During a session on management of earth processes, which included papers on NPS road reclamation and cultural resource impacts in active stream channels, division staff presented the status of the revision of Special Directive 91-6 that guides NPS administrative uses of in-park borrow materials. The session then focused on much-needed revisions to NPS geologic resources management policies. The ideas and conclusions from this session are proving enormously helpful in our current efforts to compile and propose revisions to the geologic resources sections of the NPS Management Policies. (Brunner)

GUADALUPE MOUNTAINS SITE CHOSEN AS INTERNATIONAL STRATOTYPE STANDARD -- The International Union of Geological Sciences has designated Stratotype Canyon on the west side of Guadalupe Mountains National Park and Nipple Hill on its east side as the international standard for correlation of middle-Permian age rocks. This is only the second such site in the United States and the first in a national park. Key criteria for this selection included geologists' detailed knowledge of the park's Permian rocks, their rich fossil fauna and lack of thermal, magnetic, and chemical alteration, and the park's guarantee of continued access to qualified scientists. The Guadalupe Mountains preserve a portion of the great reef, dominated by sponges, that surrounded the Delaware Basin, now a very productive oil and gas region in southwest Texas. The Permian, which ended about 250 million years ago, culminated in the consolidation of all of the Earth's continents into the single supercontinent Pangaea, and the greatest mass extinction in geologic history. (McClelland)

PARK ABANDONED MINE PROJECTS SELECTED FOR FY98 û Based on project priorities submitted by the regions and Geologic Resources Division recommendations, Associate Director Mike Soukup selected 21 Abandoned Mineral Lands (AML) sites for clean-up this fiscal year. These projects will use \$234,000 of the Servicewide AML funds available for the first time in FY98 for park projects. The selection process for FY98 relied on each Region's project rankings and relative AML workload. In FY99 and beyond, the AML funding process will be included in the Natural Resources Unified Call. The Park Service AML program supports the Servicewide Strategic Plan Long-Term Goal 1a1A: Restoration of Disturbed Lands, and the Service's mission of preserving resources "unimpaired." (Steensen)

DIVISION DRAFTING PROPOSED REVISIONS TO MANAGEMENT POLICIES -- The Director has asked that draft proposed revisions to the NPS Management Policies be submitted to the WASO Office of Policy no later than June 30, 1998. In keeping with this timeframe, the Geologic Resources Division is focused on revising the geology resource sections, which includes paleontological resources, at Chapter 4; the minerals sections at Chapter 8; and the section on in-park use of borrow pits and spoil areas at Chapter 9. The Division has already obtained and will continue to seek input from field reviewers before submitting any suggested revisions to the Office of Policy. If you would like to be included on the list of reviewers for the minerals revisions, please contact Eddie Kassman at (303) 969-2146. For the geology revisions, call Julia Brunner at (303) 969-2012. Once proposed revisions to the NPS Management Policies are compiled, the Office of Policy intends to put the document out for a 60-day NPS review. (McCoy)

MINERAL APPRAISAL AND ECONOMIC ANALYSIS REQUESTS ACTIVE û The month saw a busy schedule of work devoted to "how we spend our tax payers dollars." These mineral valuation projects included; (1) Indiana Dunes Appraisals Review û Midwestern Region Lands Office requested technical review of the mineral appraisals for 38 acres of land adjoining the park that are being considered an acquisition that will add sand dunes to the park. The private owners are planning to mine the sand for use at construction sites and negotiations have been underway for several years to prevent this from happening. The mineral values will be used in conjunction with the surface values for the complete appraisal. (2) New World Mine Studied û A graduate student at Washington State University Department of Economics is completing a thesis on economic modeling of the New World Mine buy-out. The student is investigating the minimum "amenity benefits of Yellowstone National Park in order to make the decision not to develop the mine." The results will estimate the cost each park visitor would have to absorb to justify the economic decision. A thesis defense is planned for May, after which a copy of the research work will be sent to the division. (3) Justice Department Helping Hand û The Chief Appraiser of the Justice Department sought assistance on a complex oil and gas appraisal. Questions involved key parameters critical to an estimate of fair market value (e.g., acreage, spacing, nearest production, well history, success rates, risk, appropriate discount rate, inflation, decline curves, oil/gas ratios, nearest pipeline, markets, etc.). Application of consistent methodology in arriving at fair market value is important to both DOJ and NPS. (3) Mojave Technical Assistance û The park's geologist received assistance in deriving a "planning estimate" of fair market value for a possible third party purchase of private mineral rights within the park. The estimate was based upon production history, projections of future production, reasonable royalty rate, price, appropriate set of discount rates, and a mine life of 40 years. (Cloues)

ALASKA REGION

ALASKA SUPPORT OFFICE CONTRIBUTES FUNDS TO THE GEOLOGIST-IN-THE-PARK PROGRAM û Recognizing the value that last years geologic interns provided to Alaska parks, the Alaska Support Office has contributed \$9,200 to support geologic interns at Denali, Lake Clark, and Klondike Gold Rush National Parks under the Division's Geologist-in-the-Parks Program in 1998. Last year's interns in Alaska were involved in activities including: interpretive talks to Elderhostel groups in Kotzebue; mapping bedrock and glacial geomorphology, and developing a paleontological database at Denali; and monitoring coastal erosion at Cape Krusenstern. We anticipate similar valuable contributions from this year's interns. (Gese)

INTERMOUNTAIN REGION

GUADALUPE MOUNTAINS NATIONAL PARK'S 25TH ANNIVERSARY SYMPOSIUM, A DIVISION PERSPECTIVE - The park's exemplary planning was evident in an impressive meeting, with topical sessions divided about equally between geology, biology, and cultural/historical issues. Speakers noted that enabling legislation

established Guadalupe Mountains National Park for the preservation of its geologic wonders, and symposium attendees were left with no doubt about the superb nature of the park's geologic resources. Built from a core donation of more than 5,000 acres by petroleum geologist Wallace Pratt, the park has the world's best example of an exhumed reef complex. The 250 million-year-old Permian Reef draws more than 100 organized geologic field trips to the park every year. These range from the annual field trips of five major oil companies, to university geology classes, to yellow school buses packed with elementary school kids who love to crawl all over the rocks. Session facilitators included GRD staff Bob Higgins and Ron Kerbo. A panel of a number of geologists and two park superintendents, jointly facilitated by Higgins and park chief ranger Janice Wobbenhorst, developed a lively discussion on park geology that included geologic interpretive and educational programs for the public and schoolchildren, research, collection policy, geologic mapping, and the newly designated international type section (see above) for the Middle Permian. (McClelland)

BIG THICKET EXPERIENCING RENEWED OIL AND GAS EXPLORATION INTEREST û The Big Thicket National Preserve in southeast Texas has a rich history of oil and gas activity dating back to the early years of this century. In recent years, the use of 3D-Seismic surveying has provided industry with high-resolution imagery of subsurface geology. The technology has significantly improved exploration-drilling results, and brought areas thought dead and buried back to life. Operators tell Big Thicket that most of the Preserve area will be included in large-scale surveys in the near future. The Division reviewed the first of such plans of operations in which Continental Geophysical proposes only the laying of recording stations within the Lower Neches Corridor Unit of the Preserve. Impacts will be limited to vegetative trimming for line of sight surveying. In addition, all access other than boat and existing roads will be on foot. Other units of the Preserve may not get off so easy. The Continental operations are part of a large-scale 3D Seismic program between the Jack Gore Baygall and Beaumont Units. Positive results on the survey could lead to drilling and field development in and around the Preserve. (O'Dell)

BIG BEND ADJACENT HUMATE MINE LOOMS IN FUTURE û Division staff are assisting Big Bend National Park in its continuing attempts to provide input into the permitting process for a proposed mine adjacent to the park. Landowners, land management companies, and mining companies plan to surface mine humate, ultimately marketed as a soil amendment, two miles from the park's western boundary. Park efforts to voice concerns about the project are hindered because Texas doesn't regulate humate mining or even conduct environmental studies. Big Bend is currently discussing issues with the Army Corps of Engineers and the state Air Quality Board and identifying possible adverse impacts. (Moss)

Canyonlands National Park ABANDONED MINERAL LANDS Project Completed û Six abandoned mineral openings in Canyonlands National Park were closed this month. Bat compatible gates were installed on five adits (Airport Tower #1 and #2; Lathrop Canyon #12; Musselman #1; and Shafer #1) and one adit was blockaded (Shafer #2). All work was completed under the management and supervision of the Utah Division of Oil, Gas, and Mining using 19 state prisoners. Materials and equipment were backpacked to all sites. The Division (\$16,000) and Canyonlands NP (\$6,000) provided funding. This is the first project completed in FY98 under the Division's Abandoned Mineral Lands Program. (Gese)

MIDWEST REGION

DECISION ON PROTECTION OF OZARK'S WATER RESOURCES DEFERRED IN DEPARTMENTAL DECISION ON LEAD PROSPECTING PERMITS û In April, the NPS was informed that the Secretary of the Interior has decided to concur in the BLM/USFS issuance of five prospecting permits to the Doe Run Company to explore for lead 16 miles west of Ozark National Scenic Riverways. The Department proposes to allow mineral exploration, while deferring a decision on future mineral leasing and/or mine development. The Department and the company will enter a contractual agreement

where, in exchange for the permits, the company will agree to waive any legal or equitable rights to a future lease that arise from the prospecting permits. The issuance of any future lease will be contingent on: a full environmental study of the impacts of mine development, in particular addressing the resources of Ozark Riverways; a determination that a valuable mineral discovery has been made, considering the costs and feasibility of mitigating environmental impacts; and a determination by the Secretary that issuance of a lease is not in derogation of the values and purposes for which Ozark Riverways was established.

While not yet achieving the specific result desired at Ozark, this Solicitor/DOI opinion adds significant backing to NPS arguments that external agencies must consider the effects on NPS resources, prior to taking irreversible land-use actions. (Shaver)

PACIFIC WEST REGION

DIVISION gears up for contracting mineral examinations IN THE DESERT û In order to address a backlog of mineral exams on unpatented mining claims in the California Desert parks, the Geologic Resources Division is developing a contract mechanism for hiring third-party contractors to conduct the exams and write mineral reports. The contract request for proposals was issued in April. Responses are due June 22nd. To date, more than 35 contractors have requested copies of the bid solicitation. In preparation for administering the contract, one staff member attended the Contracting Officer's Representative course and another took the corresponding refresher course. The Division expects to initiate several mineral exams this summer under the contract. (Burghardt)

SOUTHEAST REGION

JEAN LAFITTE TO HOST 3D-SEISMIC WORKSHOP - A full-scale 3D-seismic operation is currently underway at Jean Lafitte National Historical Park and Preserve. This is the first 3D-seismic operation to occur on NPS lands, and provides an excellent opportunity for staff from other park units to gain some firsthand observations. Jean Lafitte will host a two-day "workshop" during the last week of May when operations will include surveying, shothole drilling, and recording.

The workshop will include extensive field time via boat and seaplane, meetings with key players including the compliance monitors, and discussions to compare ideas and concerns. Geologic Resources Division staff will be on hand to join in discussions. Since at least three parks are now in the permitting process for 3D-seismic, a primary topic of discussion will be the NPS handling of 3D-seismic under 36 CFR 9B. The 50 square mile shoot includes 5760 acres in the park's Barataria Preserve Unit, a wetland complex that includes rare floating marshes, floating scrub/shrub thickets, and prehistoric archeological sites. The park worked very closely with the operator to assure that the plan of operations includes every realistic action to reduce the impacts to the park's resources. Some of the more innovative ideas include use of 1) third-party compliance monitors, 2) GIS/GPS technologies to locate and avoid sensitive resources, 3) high resolution aerial photography (pre and post), 4) lightweight marsh buggies for drilling, 5) helicopters to reduce airboat passages, and 6) interpretive wayside, press releases, and a newsletter article. (O'Dell)