OPERATION OF A PUBLIC GEOLOGIC CORE AND SAMPLE REPOSITORY IN HOUSTON, TEXAS

Final Status Report

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by

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ABSTRACT

In the spring of 2002, the Department of Energy provided an initial 1-year grant to the Bureau of Economic Geology (BEG) at The University of Texas at Austin (UT). The grant covered the one-year operational expenses of a world-class core and cuttings facility located in Houston, Texas, that BP America donated to the BEG. The DOE investment of $300,000, matched by a $75,000 UT contribution, provided critical first-year funds that were heavily leveraged by the BP gift of $7.0 million in facilities and cash. DOE also provided a one-month extension and grant of $30,000 for the month of May 2003. A 5-year plan to grow a permanent endowment in order to manage the facility in perpetuity is well under way and on schedule. The facility, named the Houston Research Center, represents an ideal model for a strong Federal, university, and private partnership to accomplish a national good.

This report summarizes the activities supported by the initial DOE grant during the first 13 months of operation and provides insight into the activities and needs of the facility in the second year of operation.

TABLE OF CONTENTS

THE FACILITY

The BP donation has a value of $7 million (land, buildings, cash). Included in BP's contribution to the future of the facility is a $1.5 million cash endowment. In addition to the buildings, land, and cash, BP provided more than 550,000 boxes of samples and cores, almost all of which were obtained as the result of exploration for oil and gas. The material is stored on steel shelving in buildings consisting of 107,000 square feet of warehouse and office space located on 12 acres of land. The specific location is 11611 West Little York Road on the west side of Houston. The building includes modern core examination rooms (with roller tables and excellent lighting), office and laboratory space, and two conference rooms with computer and slide projectors. All interior space, including the warehouse, is air-conditioned.

This remarkable facility was donated to the BEG because it has a 70-year track record of maintaining and operating core and sample repositories for the State of Texas. BEG, which functions as the State Geological Survey, began maintaining a core and sample collection in the 1930's and now operates one of the largest and most modern core research facilities in the United States. In

addition to the new Houston facility, the BEG has two other facilities. The Austin Core Research Facility currently includes more than 390,000 boxes of core and 265,000 boxes of cuttings housed in a 95,000-square-foot building constructed in 1985. The Midland Core Research Facility houses more than 224,000 boxes of core and 275,000 boxes of cuttings in 45,500 square feet of warehouse space.

TASKS

The grant provided by DOE listed four main tasks to be accomplished during the first 12 months of operation. Tasks 1–3 are discussed below, and this document serves to satisfy Task 4, the submittal of a final report.

Task 1 – This task was to complete the transfer of all utility and other service providers to the facility from BP to BEG. This process began in April 2002 and was completed in December 2002. In addition to transferring the services, an exceptional amount of inspection and maintenance was undertaken to bring all systems up to standards and to attempt to decrease the cost of operation wherever possible. Examples of cost-cutting measures:

> For electricity, BEG utilized the State of Texas electrical providers contract through the Texas General Land Office. This allowed BEG to tag onto an existing umbrella contract negotiated statewide and to obtain more favorable electricity rates.
>
> The number of water meters at the facility was decreased from three to one. This was accomplished once it was determined that appropriate water pressure could be maintained throughout the facility via one water line. This allowed BEG to avoid the monthly minimum charge for the extra water meters that were going virtually unused.
>
> BEG terminated the site management contract that had been used by BP to obtain service providers such as janitors, landscape, and utility maintenance. BEG now contracts directly with each service provider and saves the cost of the management company.

Insurance for the facility was switched from the commercial carrier used by BP to The University of Texas System policy. This enabled BEG to take advantage of a comprehensive insurance package that was negotiated for the entire University of Texas statewide system.

The following services are now provided to the facility under service orders directly to BEG:

Service	Provider
Electricity	Reliant via Texas General Land Office
Natural Gas	CenterPoint Energy
Water/Wastewater	AquaSource
Lawn Maintenance	Top Growth Industries
Janitorial Services	J & E Associates
Garbage and Trash	Browning-Ferris Industries
Telephone/Computer Lines	SBC Corporation

Several major repair and maintenance items had to be addressed during the initial operation of the center. At the time of accepting the donation, the air-conditioning and heating system required service work in order to ensure safety in the working environments. These repairs were taken care of by the end of summer 2002. A new gate and driveway had to be constructed to allow exiting the compound onto a passable street controlled by a traffic light. This project was completed in February 2003.

Task 2 – BEG was to provide personnel and logistical support necessary to transition the facility and contained material from the private to public sector. This task included transferring all data associated with the geologic material (550,000

boxes) from BP America's data files to the Bureau's database system that is in place and used at the Austin and Midland facilities. BEG addressed this task in three major steps: (1) hiring staff for the facility, (2) moving material into the warehouse, and (3) merging the databases.

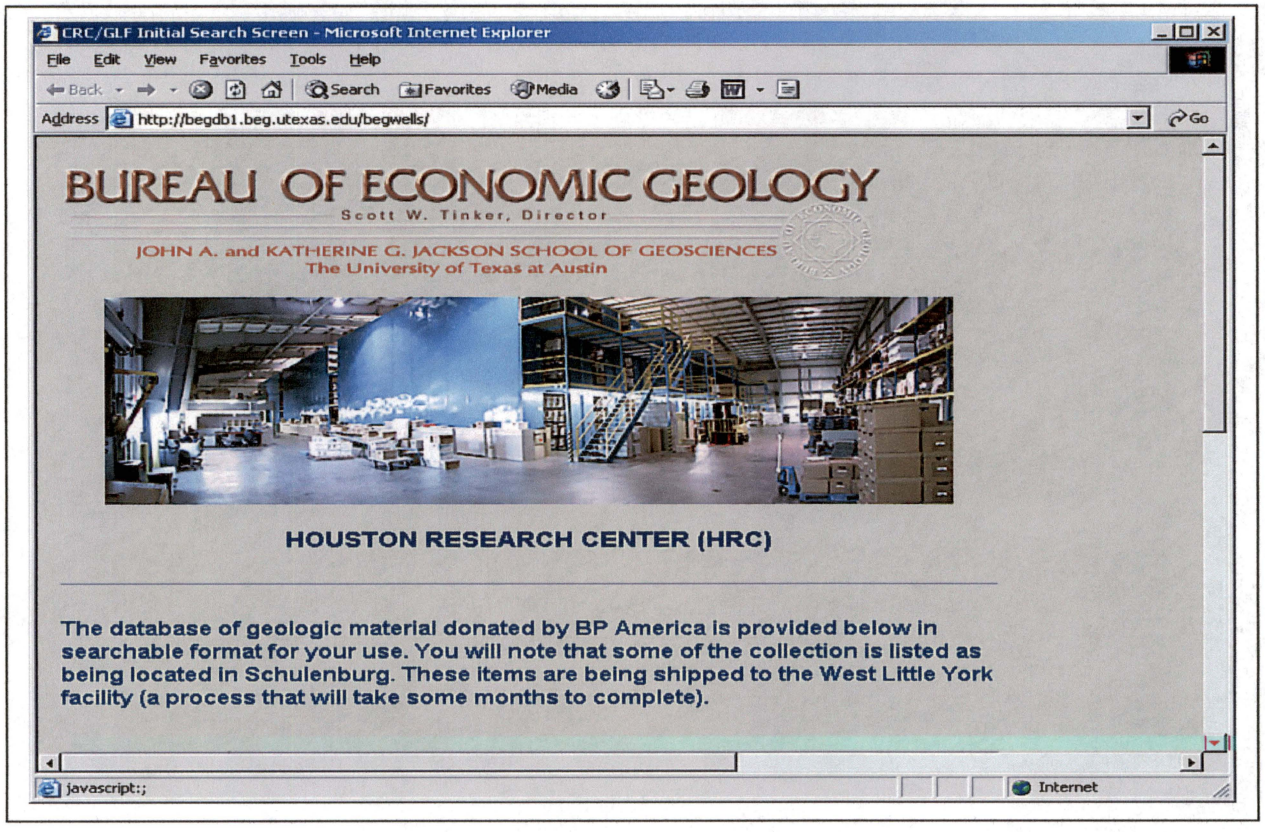
Hiring staff – Staffing of the facility includes two different title groups. One title group manages the warehouse, the infrastructure of the facility, and the contained geologic materials. The other title group is necessary to manage the science being conducted at the facility. BEG hired Randy McDonald to manage the warehouse and operation of the facility. Mr. McDonald has been the curator of the warehouse since the 1980's (under BP and Amoco before BP) and has broad experience not only in the operation of the facility but also in the procedures necessary to properly care for the geologic material. Three other full-time warehouse personnel, Darrell Haynes, Richard Gutierrez, and Marcus Hafford, have now joined Mr. McDonald.

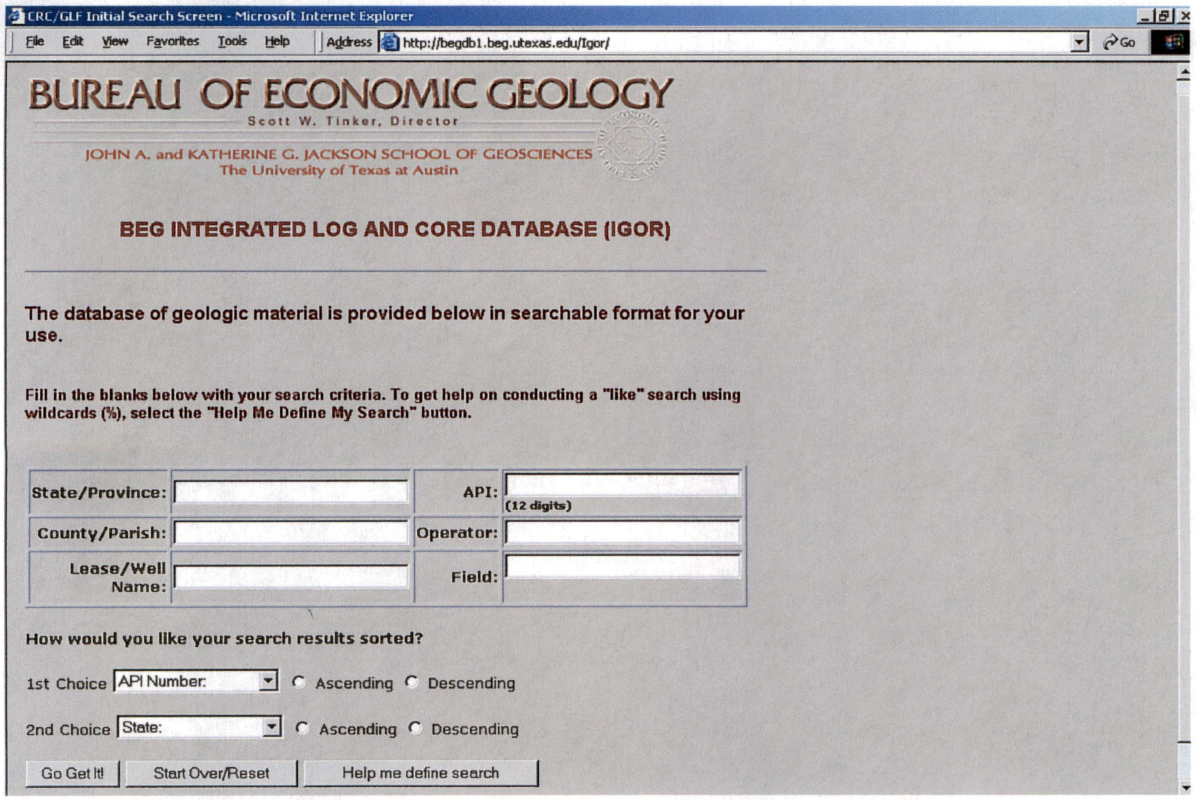
Two half-time geologists were hired in February 2003 to handle the scientific operations of the facility. Beverly DeJarnett and Laura Zahm, both of whom hold master's degrees in geology, will share the scientific management of the center.

Moving Material into the Facility – At the time BEG took ownership of the facility, 225,000 boxes of geologic material were located in Schulenburg, Texas, approximately 100 miles west of Houston. BEG has contracted with a trucking firm to move this material to Houston, and as of May 28, 2003, 80,066 boxes have been moved. This activity is expected to be completed by November 2003.

Merging of Databases – BP provided a digital listing of the donated material at the time of turnover. BEG made this information available to the public by posting it to the BEG Website in the fall of 2002. To view this information, go to the BEG Website for the Houston Center: http://www.beg.utexas.edu/crc/houston.htm. An example of the webpage is shown below.

BEG has completed the merging of data associated with all core, cuttings, and geophysical logs managed by the Bureau (Austin, Houston, Midland). This process was completed in March 2003 and the database can be searched through the BEG website: http://begdb1.beg.utexas.edu/lgor/. The entire database can now be accessed by interested scientists to determine if the material in which they are interested is held in any of the BEG's collections. The collections include 1.7 million boxes of geologic material, an extensive collection of digital log data, and geophysical surveys.





Task 3 – This task represented the purpose of operating the facility, which is to provide public access to the facility and the contained material. With the completion of transferring all service providers to BEG and hiring staff, progress on this task is well under way. The facility is open to the public five days each week from 8 a.m. to 5 p.m. In addition, the facility is being used for technology transfer activities such as the following:

09/26/02	PTTC Workshop: New Resources from Old Fields: Revitalizing Gas Exploration and Production in the Gulf of Mexico Shelf Province
10/02/02	2002 National Geoscience Data Repository System Advisory (NGDRS) Committee Meeting

10/17/02	Gulf Coast CO2 Management
01/20/03	Houston Structural Geology Group
Spring 03	Series of core workshops planned by Dr. Charlotte Sullivan, Allied Geophysical Laboratories, Department of Geosciences, University of Houston
3/10/03	Denver consultant used the facility for core descriptions
4/01/03	ConocoPhillips geologic team came to view facility to use the HRC for future in-house teaching and possible core donations
4/15/03	PTTC Workshop: Well Cuttings Workshop taught by Clif Jordan and Jim Wilson.
4/23/03	BEG Frio Brine Project Meeting
5/16/03	Nautilus Geoscience Training Alliance toured the facility. They are interested in utilizing the available core material and the facility to teach industry training courses.
5/27/03	Rice students toured the facility and worked on the IGOR database to locate material for graduate research projects

With the recent hiring of two geologists at the facility, activity is expected to increase throughout 2003.

Challenges for the Second Year of Operation

To build the required endowment, the business model calls for additional gifts of core and cash. The BEG has been contacted by three companies who have expressed interest in donating additional material to the Houston center. In May 2003, one of the three companies (Oxy) has agreed to donate 49,000 boxes of core material and approximately $392,000. Two pending donations have a total

box count of about 100,000 boxes of core. At $8 per box, this represents a potential $800,000 in new endowment contributions. The total contributions for 2003 are expected to reach $1.2 million.

Additional donations of this type have been identified, but because the Houston Research Center is near capacity at this time, a third warehouse is required. To this end, a proposal to DOE requesting funds to build a third warehouse and increase the storage space was submitted in late 2002. If funding for increased capacity can be obtained from the DOE, or some combination of DOE and private sources, then the business model will succeed, and the HRC will operate independently beginning some time in 2008.

Goals for the second year of operation include submittal of a proposal to the National Science Foundation to establish curation of rock cores taken for projects funded by the National Science Foundation. This proposal has been submitted and is in the review process. Early comments from the reviews are quite favorable. In addition, the HRC will be set up with laboratories for core-related activities such as slabbing core, making thin sections, and viewing samples and thin sections using binocular and petrographic microscopes. Plans are to move a scanning electron microscope from the Austin facility to Houston and to install a CT scan instrument (donated by Marathon) in the Houston laboratory. Interest in preservation of geologic materials has increased in Congress, and a bill is currently being considered to pass funds through the U.S. Geological Survey to the states to assist in this effort.

The BEG greatly appreciates the support of the DOE in providing critical operational funds that have allowed the facility not only to be saved from loss for the scientific and academic community, but also to thrive and operate in the public domain well into the future. DOE's support will allow the endowment to grow to the level of $9 million, and at that point DOE funding will no longer be needed.