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U. S. DEPARTMENT OF ENERGY
Tulsa, Oklahoma**

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NGDRS Phase III – Implementation

First Quarter Progress Report

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April 1999

Overview

The NGDRS steering committee met at Chevron's offices on March 2, 1999 in Houston, Texas to review and discuss issues of data transfer and the future of the Stapleton prospect for establishment of a national core repository. Company representatives reaffirmed their commitment in principal to the NGDRS project.

Given the downturn in oil prices and the final results from the due diligence of the Stapleton property, AGI has decided to forego pursuing acquisition and build-out of the Stapleton Airport property. The major petroleum companies indicated that raising the \$10-12 million endowment would be difficult in the current climate. The completion of the due diligence of the property also revealed major concerns about the environmental liability associated with the property, which would require indemnification of AGI by the City of Denver. Given these complicating results, AGI officially terminated efforts regarding the Stapleton property effective March 31, 1999.

Several steering committee members put forth a proposal that the companies make their non-proprietary holdings public and list them in the NGDRS GeoTrek metadata catalog. Most of these holdings are at C&M Storage in Schulemburg, Texas. The companies are discussing methods to allow for public access to these data with C&M.

Development and operation of the metadata catalog continues since its opening on May 14, 1998. Users around the world continue to access the system. In the 1st quarter 1999, there were 1134 unique visitors to the NGDRS metadata catalog website, including 72 companies, 88 universities, and 29 government agencies representing 29 countries (Attachment 1).

Program Activities Summary

1.0 NGDRS Steering Committee Meetings

The NGDRS steering committee met at the Chevron offices in Houston, Texas on March 2, 1999. Most of the major companies, as well as the USGS, MMS, BLM, DOE, Texas BEG, and Texas Railroad Commission were represented.

The meeting focused on the viability of establishing a central core facility at the former Stapleton Airport in Denver, and the overall priorities for the NGDRS given the downturn in crude oil prices.

Three central issues were discussed:

1. The viability of establishing an endowment to support the Stapleton initiative.
2. Defining viable near-term alternatives to a central facility.
3. Setting the NGDRS priorities in the new oil price climate.

Don Paul, Chevron Vice President, initiated the discussion about the viability of raising a \$10-12 million endowment for establishing a central facility at Stapleton. Given the current oil prices and the aggressive search for less expensive core storage options, a number of companies have lowered their core storage costs sufficiently that it is substantially more economical to continue to store core compared to either transfer to an NGDRS facility or disposal. A number of other companies agreed that the required \$4 per box contribution to an endowment was too high for the current climate, though they also recognized the numbers reflect the real costs.

Marcus Milling also outlined the current status of negotiations with the Stapleton Development Corporation. At the time, AGI had established that the initial environmental liability assessment for the site was insufficient, and that the City of Denver would need to indemnify AGI for any current or future environmental liability. Additionally, the Continental Airlines lease on the facility was expiring, endangering the maintenance of the building if AGI did not move expeditiously to settlement.

The committee recognized that the need for additional storage capacity continues to exist, however, the capital required to establish the facility does not appear to be available at the current time. Given that, a recommendation was put forward to facilitate a near-term solution that would parallel and support the goals and objectives of the NGDRS mission. Bob Merrill (Spirit Energy) and Jan Van Sant (AGI Foundation) were asked to visit with C&M Storage in Schulemburg, Texas concerning use of their facility for core storage. It was proposed that AGI establish a joint operating agreement with C&M. Coupled with this initiative was a pledge by Unocal/Spirit Energy and Chevron to open substantial portions of their core holdings at C&M to the public domain and into the GeoTrek catalog until conditions improve to institute a transfer of core to the NGDRS.

As part of this effort, Unocal and Chevron have completed a substantial portion of the indexing of their holdings for inclusion into the NGDRS GeoTrek Metadata catalog. Likewise, other companies participating in the NGDRS with core held at C&M would need to catalog their holdings as well.

At the root of this initiative was a call by the steering committee for the NGDRS to broaden to promote the public access of geoscience data, and where needed, for preservation, the transfer of data into the public domain.

Establishing the Clearinghouse

2.1 Project status

The ongoing component projects for the NGDRS and their status:

Project Name	Project Type	Status
Metadata Repository Infrastructure	Creation of the Metadata Repository	Completed
Metadata Repository Utilization	Utilization and Operations of the Metadata	Completed
Mineral Management Services (MMS)	Electronic Database Transfer	Completed
Oklahoma Geological Survey (OGS)	Electronic Database Transfer	Completed
PGS Project	Electronic Database Transfer	Completed
Eastern Gulf Region PTTC	Electronic Database Transfer	Completed
BEG Cores and Cuttings	Electronic Database Transfer	Completed
Seismic Data Tape Conversion Project	Transfer of Digital Data	Underway
Mobil Seismic Surveys	Electronic Database Transfer	Underway
Central Core Facility Project	Transfer of Core and Cuttings	Underway
Unocal/Spirit Energy Cores and Cuttings	Transfer of Core and Cuttings	Underway
Oregon Department of Geology & Mineral Industries	Electronic Database Transfer	Underway
Chevron Cores and Cuttings	Cataloging and Opening of Data	Underway
State of Arizona Core and Well Log Records	Electronic Database Transfer	Underway
Kansas Geological Survey Project	Electronic Database Transfer	Delayed
Well Log Data Tape Conversion Project	Transfer of Digital Data	Not defined

2.2 Data Targeting and Transfer

2.2.1 Unocal/Spirit Energy Cores and Cuttings

Unocal reported that they are nearing completion of cataloging and indexing their non-proprietary cores and cuttings. Unocal has expressed interest in the transfer of cores and cuttings to the NGDRS and the listing of their non-proprietary holdings in the NGDRS metadata catalog. However, given the current situation in the oil industry, Unocal has delayed the physical transfer of the cores and cuttings, but is willing to make their non-proprietary holdings available to the public through the NGDRS metadata catalog. Once Unocal has completed indexing and an arrangement made between Unocal, AGI, and C&M Storage, the holdings will be made publicly available on the metadata catalog.

2.2.2 Chevron Cores and Cuttings

Chevron has agreed to index their core and cutting holdings at the C&M Storage facility. The non-proprietary cores and cuttings records will be released to the NGDRS for inclusion in the metadata catalog. Similar to Unocal, once an agreement between AGI, Chevron, and C&M Storage is reached for access to the non-proprietary data, the Chevron holdings will be made publicly accessible.

2.3 National Geoscience Data Repository and Research Center

AGI has completed its due diligence of the Stapleton property. The due diligence determined that substantial environmental concerns about the facility remained. Given the continued pressure on the petroleum industry from low oil prices, the steering committee also suggested that raising sufficient support for the needed endowment is not currently feasible.

Upon reviewing these circumstances, the American Geological Institute formally discontinued discussions with Stapleton Development Corporation on March 31, 1999 concerning the acquisition of the facility for use as a geoscience data repository and research center.

AGI also met with BP Amoco concerning the possible transfer of their core research facility in Houston. However, BP Amoco expressed interest in only selling the property to a company to then operate the facility for BP Amoco on a lease basis. AGI has likewise stopped pursuing the acquisition of this facility at this time.

2.4 Discussions with National Science Foundation

Marcus Milling, David Applegate, and Christopher Keane met with Robert Corell of the National Science Foundation to discuss any interest NSF may have in supporting the development of a central geoscience data repository. Robert Corell detailed the requirements which the National Science Foundation would need in order to consider support for a central geoscience data repository. In particular, NSF would like to see a consortium of Universities be developed, which would be the base of developing NSF support. NSF does recognize the need for geoscience data curation, particularly as a number of major NSF programs generate cores and cuttings and are required by grant conditions to preserve the data. Corell recommended that AGI open discussions with the Drilling, Observation and Sampling of Earth's Continental Crust, Incorporated (DOSECC), an NSF supported consortium of 48 Universities and National Laboratories. DOSECC has and is continuing to produce new cores and cuttings, all in need of curation.

AGI has made initial contact with DOSECC and will be making a presentation about the NGDRS and opening formal discussions with the DOSECC Board of Directors concerning collaboration between the two projects during the DOSECC Annual Meeting in June, 1999.

Utilizing the metadata repository

3.1 Operating the Metadata Catalog

The operation of the metadata catalog continued during the first quarter of 1999. The system experienced growth in overall traffic. The following databases are currently available on the metadata catalog:

- Fairfield Seismic
- A2D Well Logs
- MMS Well Logs
- Alabama Eastern Gulf PTTC Well Logs
- BEG Well Logs
- BEG Cores
- Oklahoma Geological Survey Cores
- MMS Block and Lease Boundaries

PGS has opted to delay listing their holdings on the metadata catalog until they can provide sufficient quantity and quality of sample seismic sections for online viewing. A number of additional vendors are considering adding their catalogs to the NGDRS system as well.

The seven and one-half month 1998 and first quarter 1999 statistics for the use of the metadata catalog and the associated web pages concerning the NGDRS are as follows (attachment 1):

	1998	January	February	March	YTD
NGDRS Website Hits	30,911	6844	5904	6398	19,143
Unique Visitors to NGDRS	1331	344	334	456	1134
Unique GeoTrek Users	167	23	27	24	74
Number of GeoTrek Searches	2000	221	290	96	607
Total GeoTrek databases transactions	17,930	789	1196	605	2590

Attachment 1

Identifiable Organizations Accessing the NGDRS

January – March 1999

Companies

Amoco	Norsk Hydro A/S
Arco	Northrup Grumman
Bankers Trust - UK	Optum Software
Benchmark Environmental Consultants	PanEnergy Corporation
Boeing	PEMEX
Buena Ventura - Peru	Petris
Burlington Northern Santa Fe Corporation	Phillips Petroleum
CADVision	Price Waterhouse
Caterpillar	Questa Engineering
Chevron	Randall and Dewey
Chevron -- Canada	Roy F. Weston
Chubb Group of Insurance Companies	Royal Dutch Shell -- Netherlands
CNF Transportation	SAS Institute Inc
Cominco, Ltd.	Schlumberger
Crestar Energy	SCS Engineers
Den norske stats oljeselskap a.s. (STATOIL)	SDC Consulting
Digimarc Corporation	Shell Oil - UK
Digital Equipment Corporation	Shell Oil - US
Dupont	Shigehiro Shimaba
Ecology and Environment, Inc.	Southern California Edison
EDS	Sovereign-Hill Software
EEX	SPOT-Image -- France
ELF Exploration	Sundstrand Corporation
Enron	TECO Energy
Enterprise Oil PLC -- UK	Texaco
ERIM International	Thompson and Thompson
ESRI, Inc.	Total
Exxon	Ultra Petroleum
Fairfield Industries	Western Atlas
Gardere and Wynn	Western Mining Corporation -- Australia
General Dynamics	
Greentree Financial Corporation	
Hercules Incorporated	
Hughes STX Corporation	
IBM	
ICF Kaiser	
IT Corporation	
Jefferies and Company -	
L'Air Liquide, S.A.	
Lockheed-Martin Corporation	
Lucent Technologies	
Morgan Keegan	

Universities

Amarillo College
Amherst College
Arizona State University
Austin Community College
Austin Peay State University
Boise State University
Bowling Green State University
Brandon University – Canada
Cal State - Long Beach
Cal State - Hayward
College of William and Mary
Colorado School of Mines
Cornell University
Dartmouth University
Desert Research Institute
Fort Hays State University
Iowa State University
John Curtin University – Australia
Louisiana State University
Massachusetts Institute of Technology
McMaster University – Canada
Miami University of Ohio
Michigan Tech University
Middlebury College
Northeastern Illinois University
Northwestern University
Old Dominion University
Osaka University – Japan
Palomar Community College
Purdue University
Rice
Rose-Hulman College
Rutgers University
San Jose State University
Slippery Rock University
Southern Illinois University
St. Mary's College of Maryland
Stanford University
Stanislaw Staszic University of Mining and Metallurgy in Kracow, Poland
SUNY - Oswego
SUNY - Oneonta
Syracuse University
Texas A&M University
UCLA
Uni. Of California Fullerton
Uni. Of California Berkeley
University - Savoie - France
University of Alabama
University of Alberta - Canada
University of Arizona
University of Bordeaux - France
University of California David
University of California San Diego
University of Cologne - Germany
University of Colorado
University of Frankfurt - Germany
University of Georgia
University of Hannover – Germany
University of Hawaii
University of Houston
University of Idaho
University of Illinois Urban-Champaign
University of Indiana
University of London – UK
University of Maine
University of Manitoba – Canada
University of Michigan
University of Minnesota
University of Missouri-Rolla
University of Nevada Reno
University of New Hampshire
University of North Texas
University of Northern Iowa
University of Oregon
University of Paderborn - Germany
University of Pittsburg
University of South Carolina
University of Southern Indiana
University of St. Thomas
University of Tennessee – Knoxville
University of Texas at Austin
University of Texas at Dallas
University of Trier - Germany
University of Vermont
University of Virginia
University of Washington
University of West Virginia
University of Western Ontario – Canada
University of Wyoming
University of Wisconsin
Washington State University
West Virginia University
Western Washington University
Wittenberg University

Foreign Countries – Undifferential Organizations

Argentina
Australia
Austria
Brazil
Canada
Denmark
Finland
France
Germany
Iceland
India
Ireland
Japan
Lithuania
Malaysia
Namibia
Netherlands
New Zealand
Norway
Poland
Portugal
Russia
South Africa
Spain
Sweden
Taiwan
Trinidad and Tobago
UK
Venezuela

Government Agencies

Alberta Provincial Government
Belgium Military
Bureau of Economic Geology
Bureau of Land Management
Defense Logistics Agency
General Services Administration
Geological Survey of Finland
Housing and Urban Development
Indiana State Government
Kentucky State Government
Lawrence Livermore National Laboratory
Los Alamos National Laboratory
Marshall Space Flight Center
Missouri Department of Natural Resources
NASA Jet Propulsion Lab

Navy Facilities Engineering Center
Pacific Northwestern National Lab
State of Florida
State of Ohio
Texas Railroad Commission
US Army
US Army Corp of Engineers
US Department of Energy
USGS - Central Region
USGS - Eastern Region
USGS – Western Region

Organizations

Environmental Defense Fund
Hudson River Clearwater Organization
Royal Society of Chemistry
Search for Extraterrestrial Intelligence
The Institute for Scientific Information