

Phase III: Implementation and Operation of the Repository

Quarterly Report October 1 - December 31, 1997

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NATIONAL GEOSCIENCE DATA REPOSITORY SYSTEM

PHASE III: IMPLEMENTATION AND OPERATION OF THE REPOSITORY

PROGRESS REPORT

DE-FG22-97BC-14847--04

4th Quarter

October-December, 1997

Submitted by the
AMERICAN GEOLOGICAL INSTITUTE

to the

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NGDRS Phase III — Implementation Fourth Quarter Progress Report

January 1998

Overview

In October all three Sun servers (3000, Ultra/II) were loaded, and we were able to demonstrate the complete system — databases, web front-page, and GeoTrek — to a large audience. All systems required for the web-based metadata catalog are in place and operational. Version 54 of the PetroTrek/GeoTrek software was loaded in December and is being tested. It is expected this version will be placed in the production environment for beta testing in January.

Installation of the Bureau of Economic Geology (BEG) databases on the IS Houston server was completed and GeoTrek was loaded on BEG's server in Austin. Installation of the entire MMS well data set (35,000 records) was completed and it will be moved to the production environment for beta testing in January. The Eastern Gulf Region PTTG interior salt basin data set was prepared and it will be loaded in January. The Gulf of Mexico PGS seismic data set was prepared and loaded in December.

The web-site front pages for the NGDRS GeoTrek Metadata Catalog are 70 percent completed and write-ups for the tutorials are scheduled to be completed in January. Ten users identified to be beta testers are actively testing the system.

Program Activities Summary

1.0 NGDRS STEERING COMMITTEE MEETING

Amoco hosted a meeting of the NGDRS Steering Committee at their Houston offices. The focus of the meeting was on identification of a new repository facility and status of the GeoTrek Metadata Catalog. Two facilities are presenting being evaluated for repositories — the Amoco Houston Core Repository located on Little York Road in northwest Houston and Hanger Four at Denver's former Stapleton Airport. AGI is actively pursuing both of these possibilities.

The GeoTrek Metadata Catalog was demonstrated, reviewed, and tested. The Committee was highly supportive of the GeoTrek development effort. The Committee recommended establishing two activities committees — one to address the needs for a repository facility and contributions of cores and cuttings and a second to address opportunities for loading service company databases on GeoTrek. John Deery, Amoco, will chair the Repository Core Subcommittee and Robert Merrill, Spirit of 76, will chair the GeoTrek Metadata Catalog Subcommittee. Each company was given an opportunity to discuss and review their data management issues and how they might be addressed through the NGDRS program. Minutes and handouts for the meeting are attached with this report.

2.0 ESTABLISHING THE CLEARINGHOUSE

Task 2.1 -- Project Plan and Management

The following projects had their plan sheets updated:

PROJECT NAME	PROJECT TYPE	PROJECT STATUS
1. Houston Core Facility Project	Transfer of Core and Cuttings	Underway
2. Well Log Data Tape Conversion Project	Transfer of Digital Data	<i>Not defined</i>
3. Seismic Data Tape Conversion Project	Transfer of Digital Data	Underway
4. BEG Project	Electronic Database Transfer	Underway
5. PGS Project	Electronic Database Transfer	COMPLETED
6. Kansas Geological Survey Project	Electronic Database Transfer	Delayed
7. Mobil Seismic Sales Project	Electronic Database Transfer	<i>Not defined</i>

8. Metadata Repository Infrastructure	Creation of the Metadata Repository	COMPLETED
9. Metadata Repository Utilization	Utilization and Operations of the Metadata Repository	Underway
10. Mineral Management Services (MMS)	Electronic Database Transfer	Underway
11. Oklahoma Geological Survey (OGS)	Electronic Database Transfer	Underway
12. Eastern Gulf Region PTTC	Electronic Database Transfer	Underway

Task 2.2 -- BEG - Databases Conversion

In preparation for installing GeoTrek at the BEG in Austin, R. Hanks completed the loading and a tiling of the two databases (cores, well log headers) in Houston during the first week in December. In addition several cultural data sets were prepared including Texas county data (Lat/Long boundary and center of county and county names). Before the installation at the BEG the assembled system (GeoTrek and data sets) was tested by the staff of The Information Store

The installation of GeoTrek at the BEG-Austin was completed on 12/12/97. Working on the installation from The Information Store were Rod Hanks and A. Eloy. Oracle technical support was provided to the team by an outside consultant -- Tom Watson. Rodney Heathcott and Morgan Ives of the BEG provided infrastructure support. The team loaded the current BEG Core Repository data and Geophysical Log data into an Oracle database and installed GeoTrek (v.54) as a browser for this data. Minor compatibility issues were encountered with the Oracle Web Server software but they were all overcome and by late afternoon the installation was completed.

The system is running under Unix (Solaris operating system) using Oracle Web (HTML) Server (v3.0). The BEG is currently testing the system with various combinations of platforms and browsers. Once they have gained familiarity with the system they plan to have users from the Core Research Center (in Austin and Midland) test it. They provide us with feedback and will work with us during our testing phase.

Task 2.3 -- OGS - Databases Conversion and Installation

We determined that the computer program "TRS2LL" that we were attempting to use for converting township/range/section data into Lat/Long data, is only applicable to certain states and that Oklahoma is not one of them. The program is made available by the BLM and the current person that is the custodian of the program has no immediate plan for expanding it. We will be reviewing the program source code (Fortran) to assess how difficult it is to extend it ourselves.

Task 2.4 -- MMS - Databases Conversion and Installation

The total Gulf of Mexico (GOM) well-wellbore data set, consisting of approximately 35,000 wellbore entries, was loaded on our development-staging computing environment. The data set was also "tiled" to allow for the loading of the data displayed on the working area of GeoTrek. The tiling of the data shows a summary of the wellbores available for each GOM block. GeoTrek queries can be applied for further filtering the data set. This allows users to develop, for example, a tiled map for the GOM containing all wells owned by company XYZ.

Task 2.5 -- Eastern Gulf Region PTTC - Databases Conversion and Installation

This project was proposed by the NGDRS Team in November and was initiated in December.

The original data set deals with data from the Mississippi Interior Salt Basin and is available at the web site <<http://egrpttc.geo.ua.edu/pttc/reports/smacko~1/contents.html>>. The data set was identified by C. Keane during discussions with Ernest Mancini, a member of the Eastern Gulf PTTC. The set is part of a report aimed at providing the information obtained from a geological study of the Mississippi Interior Salt Basin. The work focused on inventorying the data files and records of the major information repositories in the Northeastern Gulf of Mexico and making these inventories easily accessible in an electronic format. The study is part of the Advanced Geologic Basin Analysis Program promoted by the DOE. The program designed to provide an avenue for studying and evaluating sedimentary basins and to improve the efficiency of the discovery of the nation's remaining undiscovered oil resources.

The following was accomplished in December:

- Export of the original files from HTML to ASCII format.
- Merging of the original 15 data sets, that were split by county, into one single data set.
- Identification of the data schema, unique keys and data issues. The following is a summary of our findings:
 - The unique data set key is the Permit Number, not the API number. The same API number appears repeated on different permits. Furthermore, the API numbers ending with 20000 (such as API#= 01-097-20000) appears repeated many times; it seems to be a "catch-all number" used to describe water disposal wells.
 - There are approximately 1,200 permit numbers (rows in the table).
 - About 3% of the 1,200 entries did not have Lat/Long data. We have approximated the Lat/Long data from the "nearby" permits or through interpolated values. All entries in our file have a Lat/Long. A column was added describing how the approximation was obtained.
 - The data set is a fairly rich metadata data set containing information on what well logs were taken, what kind of samples are available, well status, etc.

3.0 CREATING THE METADATA REPOSITORY

Task 3.1 -- Sun Microsystems

No work or problems to report.

Task 3.2 -- Internet Software Components Development and Installation

The development of the front-end pages of NGDRS web site continued. The list below gives a brief status of this work by the end of November:

<u>SECTION OF WEB SITE</u>	<u>STATUS</u>
About the NGDRS project	completed
What's New (1997)	completed
NGDRS Installed Data Sets	started
What's Planned (1998 and beyond)	completed
Site Purpose and Intended Audience	completed
Tutorials	started
Frequently Asked Questions (FAQ)	completed
System Requirements	started
Contact Us	started

Task 3.3 -- GeoTrek

Testing continued of the new version (v.54) of the GeoTrek software, required by the NGDRS to handle large data sets. Additional features and improvements were implemented.

4.0 UTILIZING THE METADATA REPOSITORY

Task 4.1 -- Marketing NGDRS

The following is an updated list of events or tasks that have been identified as part of the on-going marketing campaign:

EVENT	WHERE	WHEN	STATUS	RESPONSIBLE
Repositories Meeting	Calgary	June 16-17	Completed	TW
DOE Contractors Workshop	Houston	June 20	Completed	MM, GB and AE
PTTC Board Meeting	DC	July 13-15	Completed	GB
AGI/NGDRS Review Meeting	Houston, Amoco	Oct. 15	Completed	JD, MM, JVS, GB, AE
GSA Meeting	Salt Lake City	Oct. 20-23	Canceled	AGI
SEG Annual Meeting	Dallas	Nov. 2-7	Completed	Information Store
AAPG - Annual/98 Meeting	Salt Lake City	May 17-20	<i>Not defined</i>	---
POSC/AGI Standards Workshop	DC	<i>Not scheduled</i>	<i>Discussions</i>	MM, D. Archer
NGDRS Marketing Plan	Houston	Jan/98	<i>Not started</i>	A. Eloy

Task 4.2 Metadata Repository Beta-Testing

Below is a list of people that were invited or have volunteered for testing the NGDRS system. The list includes notes on their current status and pertinent remarks.

	PERSON	ORGANIZATION	STATUS	NOTES
1	Christopher Keane	AGI	Beta-tester	
2	Gary Stone	Five States Energy	Beta-tester	
3	Mary Blount	MMS-New Orleans	Beta-tester	
4	Ronald Brignac	MMS-New Orleans	Beta-tester	
5	George Dellagiarino	MMS-Virginia	Beta-tester	Engaged 2 more MMS people
6	Madelyn Bell	Mobil	Beta-tester	
7	Allen Hittelman	NOAA-Denver	Beta-tester	
8	Ben Lin	Unocal	Beta-tester	
9	Sherilyn Williams-Stroud	USGS-Denver	Beta-tester	
10	Shawn Devlin	Viking Resources-Kansas	Beta-tester	Small independent
11	Mark Aden	Pennzoil	Declined	
12	Bruce Baum	Enserch	Declined	
13	Lance Cole	PTTC	Delegated to person at Viking Resources	Contacted 10 more persons
14	Jim Gibbs	Five States Energy	Delegated - G. Stone	
15	Del Fortner	BLM-Bakersfield	Looking for suitable volunteer at BLM	
16	Tom Coffman	Visos Exploration	No answer	
17	John Deery	Amoco	No answer	
18	Fred Hilterman	Geophysical Develop. Corp.	No answer	
19	David Jenne	Maxus	No answer	
20	Michael Ray	DOE-Natl. Petroleum Tech.	No answer	
21	Michael Baranovic	Shell Offshore - New Orleans	No answer	
22	Robert D. Hatcher	University of Tennessee	No answer	