NDR 2014

Scanning Legacy Seismic Data

Nova Scotia-Canada

• Mary Jean Verrall
• Canada-Nova Scotia Offshore Petroleum Board
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Organization

• The Board is the independent joint agency of the governments of Canada and Nova Scotia responsible for the regulation of petroleum activities in the Nova Scotia offshore area. It was established in 1990 pursuant to the Canada-Nova Scotia Offshore Petroleum Accord Implementation Acts (Accord Acts)

• The Board’s responsibilities include:
  – Health & safety of offshore workers
  – Protection of the environment
  – Management and conservation of offshore petroleum resources
  – Employment & industrial benefits
  – Issuance of licenses for offshore exploration & development
  – Resource evaluation, data collection, curation & distribution
Canada-Nova Scotia Offshore Petroleum Board

• Nova Scotia Offshore Area ~400,000 sq kms
• First Seismic Acquired in 1959
• 207 Wells (127 Exploration Wells) Offshore Nova Scotia
• Cohasset - Panuke project, produced oil from 1992-1999 and is now decommissioned. Project Operators were LASMO, and Pan Canadian (now EnCana). It produced 44.5 million barrels and is now abandoned.
• The Sable Offshore Energy Project, operated by ExxonMobil and partners, has been producing gas since 1999. It has produced 54,767,445.13e3m3 to date.
• The Deep Panuke Offshore Gas Development Project, operated by EnCana Corporation and partners, have produced 2,053,129.08 e3m3 since August 2013
CNSOPB Jurisdictional Area
Purpose of the Geoscience Research Centre-Digital Data Management Centre (NDR)

• To provide an effective & efficient system for management of digital petroleum data
• Explorers can efficiently access and evaluate large volumes of data via the web
• Data Preservation
• The Canada-Nova Scotia Offshore Petroleum Board provides access to all non-confidential geoscience information via internet access or on site FREE OF CHARGE
BackGround

- MJ- Supervisor of GRC – Geoscience Research Centre
- 28 years experience with regulatory bodies
- In 2006-2007 I was responsible for the expansion of the facility to incorporate the digital Data Management Centre (DMC), staff offices, expanded core exam viewing areas, Board room etc.
- As we retain all sub surface samples and data, we house a laboratory for use by clients for subsampling and other procedures.
- The facility was expanded from 6000 sq. feet to 13,000 sq. feet
- At that time, my responsibility was to “build the building” and manage the physical assets i.e. hard copy data well data, geophysical data, subsurface samples etc.
- Two additional staff were hired to manage the digital component of the facility
Types of Data

- Current data sets include;
  - Well reports, Logs & Digital Logs
  - Seismic Reports, 2D Lines, 3D Lines
  - Core Reports, Core Analysis, Plug Analysis, & Sidewall Core Analysis
  - License Reports - Exploration, Production & Significant Discovery
  - Metadata – Well & Seismic
  - Future Plans – Sample Reports, Environmental Reports & Site Surveys
Access Methods

- Accessible on the web via a user friendly map/report interface
- Access available after the completion of an Application for a CNSOPB Digital Data Management Centre password.
- On-line download available (time dependent on file size)
- Longer term vision includes electronic submission of all required data
Storage Methods

- Digital Data Management Centre (Schlumberger Software Technology) houses digital images (PDF/TIFF) for well and seismic and, currently being loaded, digital well log data (LAS, DLIS, etc.)
- Data submitted by industry on a variety of digital media i.e. DVD, CD, DLT, LTO
- Legacy paper, mylar & microfiche
- Only government owned SEGY is accessible via our FTP site
- Future Plans include online upload of data from industry
Scanning Legacy Data

- Initially, the plan was to load existing data (well and geophysical) into the DMC and then going forward, whatever digital data we received from that point, we would load into the DMC.
- It was realized that we did not in fact have much digital data.
- At this point a project was initiated by the DMC Supervisor to scan and load all of our legacy data and import it into the DMC.
- At this time, “my team” then became involved as we managed the physical data component of the facility.
- It was decided that the scanning of our legacy data would be outsourced.
- It was estimated that it would take one year to complete.
Issues

• Sending data offsite involved a lot of logistics as we had to track the data going out and returning
• The company that received the contract for the scanning eventually ended up placing a scanner onsite.
• We still had to send “colour” documents out for scanning, this meant dividing up the data sets, more logistics and tracking
• Scanning the data in house still had it’s issues as the individuals at the time did not appreciate the value of what they were scanning and the data quality that was required
• We decided not to renew the contract after the one year contract, during this time we had staff changes @ the DMC
• At this point I became responsible for the DMC
• We ended up purchasing our own scanner
Issues

• We tried a few options with various individuals and were unsuccessful
• We finally hired an individual who has become our “expert” with the machine and data quality
• We had issues with file size as some scanned files were too large to download online
• An optimization process was developed to remedy this problem
Standards

- The CNSOPB uses widely accepted industry standards i.e. LAS, DLIS, SEGY, etc.
- The CNSOPB are continually reviewing data standards to ensure they remain current with modern technology

Links To Regulatory Systems

- As the regulator for Offshore Nova Scotia, future plans include links to other regulatory agencies: National Energy Board & Canada-Newfoundland and Labrador Offshore Petroleum Board in anticipation of forming a “National Data Repository”
Summary / Recommendations

• Overall, we have made progress in 7 years considering we have a small staff. Our data set is not massive, 207 wells and 380 seismic programs.

• I would recommend that;
  • Start small and then expand as required
  • Go back to the beginning and then start there weather you are organized by year or company
  • Take the first program off the shelf, catalogue it using a standardized inventory form, scan what needs to be scanned (paper, mylar, microfiche etc.) and return the entire program to it’s place. This makes it easy to track the progress
  • Be aware that there is lots of time and effort into preparing the legacy data for scanning. We did not anticipate the amount of time and effort and cost into preparing this
Summary / Recommendations

- This is ongoing as we are filling in the gaps with microfiche (believe it or not!)
- The ultimate goal - (in addition to making it available online) is ARCHIVE & DISASTER RECOVERY!
Physical Data
Any Questions?

MJ
Supervisor, Geoscience Research Centre
Canada-Nova Scotia Offshore Petroleum Board