Coordinating Committee for Offshore Geoscience Programmes in East & Southeast Asia (CCOP)

Petroleum Policy & Management Project

1st Workshop on the Philippine (Sulu Sea) Case Study
CCOP – March 2003, Manila

- Multiclient Seismic
- WesternGeco Multiclient Experience
- Sulu Sea & East Palawan Surveys
- Seismic Data Overview
- Discussion Forum
Multiclient Seismic

- How and why it works in opening new exploration areas.
Multiclient Seismic – New Exploration Areas

- Joint Venture (JV) Agreement
- Licensing Agreement
- Exploration Agreement.
Discover and Produce Oil & Gas

Promote New Exploration & Investment in Philippines

Oil Company

Exploration Agreement

Department of Energy

Master License Agreement (MLA)

JV Agreement

WesternGeco

Supply Seismic Services

DOE
OC’S
WesternGeco
Joint Venture Agreement

- Oil Company
- Exploration Agreement
- Department of Energy
- Master License Agreement (MLA)
- WesternGeco
- DOE
- OC’S
- WesternGeco
Joint Venture Agreement

- Data owned by DOE, marketed by WesternGeco
- Survey area defined & agreed
- Parameters, products & deliverables agreed
- Business model for data licensing agreed
- Acreage Milestones – announcement, release, award
- Marketing strategy put in place.

- **Multiplex Seismic – Inviting Investment!!!**
Master License Agreement

- Data licensed from WesternGeco, utilized by OC’s
- MLA’s are worldwide
- Option to precommit – single company, study group
- Option to have input on parameters
- Provides understanding of business model
- Quality, Health, Safety, Environment (QHSE).

- *Multiclient Seismic – Reducing Risk!!!*
Exploration Agreement

- Data owned by DOE, utilized by OC’s
- Exploration guided by seismic evaluation
- Value of seismic is an order of magnitude greater than the licensing fee
- Work commitment (cost recovery?) guided by value of seismic
- Uncertainties removed, caution reduced
- Clear understanding of area, risk is reduced.

*Multiclient Seismic – Focused Exploration!!!*
Multiclient Seismic – New Exploration Areas

- Joint Venture (JV) Agreement
  - To invite investment and promote exploration
  - 8 countries in Asia
- License Agreement
  - Controlled access to new data
  - Provides head start on exploration ladder
- Exploration Agreement
  - Knowledge based exploration
  - Focused exploration budget.
WesternGeco Multiclient Experience

- Asia Overview & Analogs
- Philippines General
- Sulu Sea & East Palawan Surveys.
Sulu Sea & East Palawan Surveys

- Acquisition Overview
- Data Processing Overview
- Data License Models.
Acquisition Overview
Acquisition Overview
Acquisition Overview

- **Acquisition Dates**: 15 Feb – 5 Apr, 19 Jun – 12 Jul, 2002
- **Data Acquired**: Approx. 6000km
- **Record Length**: 8 sec
- **Sample Rate**: 2 msec
- **Streamer Length**: 6km
- **Streamer Depth**: 7.0m
- **Source Volume**: 4200 ci
- **Source Depth**: 6.0m
- **SP Interval**: 25m
- **Nominal Fold**: 120
- **Gravity & Magnetic (East Palawan Phase only).**
Data Processing Overview

- Format Conversion
- Designature Filter
- Resample
- Marine Geometry
- Trace Edit
- Amplitude Recovery
- Drop Trace
- Shot Average Deconvolution
- Sort to CMP
- V1 Velocity Analysis
- Pre Radon TVF
- Removable AGC

- FK Trace Interpolation
- Radon Demultiple
- K Filter
- FK Filter
- Pre Migration TVF
- Kirchoff PrSTM
- V2 Velocity Analysis
- Stack 120 Fold
- Static Correction
- Random Noise Attenuation
- Time Variant Filter
- Display
Data License Models

- **Model 1 – Prior to Block Delineation**
  - Volume driven, one time license fee

- **Model 2 – Following Block Delineation**
  - 3 Phase License Fee Model
  - Evaluation fee, Bid escalation fee, Award escalation fee.
Seismic Data Overview

- Play Concepts
- Petroleum Systems
- Data Examples
- Block Delineation.