



# LIBERIA (PSDM) Offshore Liberia - 9382 km MULTI-CLIENT 2D SURVEY

## ACQUISITION PARAMETERS

Acquisition Date: August 2000-January 2001  
Data Acquired By: COOGC  
Shooting Orientation: 2D, Strike & Dip  
Recording Instrument: Syntrak 24-bit RDA  
Streamer Type: Digital Syntrak  
Streamer Positioning: DGPS  
Airgun Source: 3680 cubic inches  
Gun Depth: 7.5 ± 1.5 meters  
Shotpoint Interval: 37.5 meters  
Group Interval: 25 meters  
Recording Channels: 288  
Streamer Depth: 9 ± 1.5 meters  
Streamer Length: 7200 meters  
Record Length: 10 seconds  
Sample Interval: 2 milliseconds  
Nominal Fold: 96

## TIME PROCESSING SEQUENCE

Data processing performed by: Geophysical Development Corporation – Oct 2001

- Resample 2ms to 4ms - output tape
- Spherical divergence correction
- Radon using water velocity (water bottom time > 500 ms)
- Velocity analysis (1 per 2km)
- Radon using water velocity (water bottom time >500ms)
- Deconvolution - single design gate, 31 traces averaged for operator design, 320 ms operator, 32ms gap

## DEPTH PROCESSING SEQUENCE

Data processing performed by: TGS-Depth Imaging Houston, TX USA

- **Build Initial Velocity Model**  
Build initial model from smoothed PSTM velocity field
- **Create Data for Model Building Purposes**  
Input existing Radon gathers, 12.5m CDP interval, 96 fold, 10 sec. at 4ms
- **KIRCHHOFF PSDM: ITERATIONS I & II with Tomography Updates**  
Output 25m CMP, 16km depth, 10m step, 48 fold; Migration aperture 8000m  
Tomography (2-passes) to define sediment velocity model  
Tomography inversions: 200m, 50 m step
- **KIRCHHOFF PSDM: ITERATION III & IV– Final Tomography Update**  
Output 25m CMP, 16km depth, 10m step, 48 fold; Migration aperture 8000m  
Tomography (2-passes) to define final velocity field  
Tomography inversions: 200m, 50m step  
**Output: Final velocity volume**



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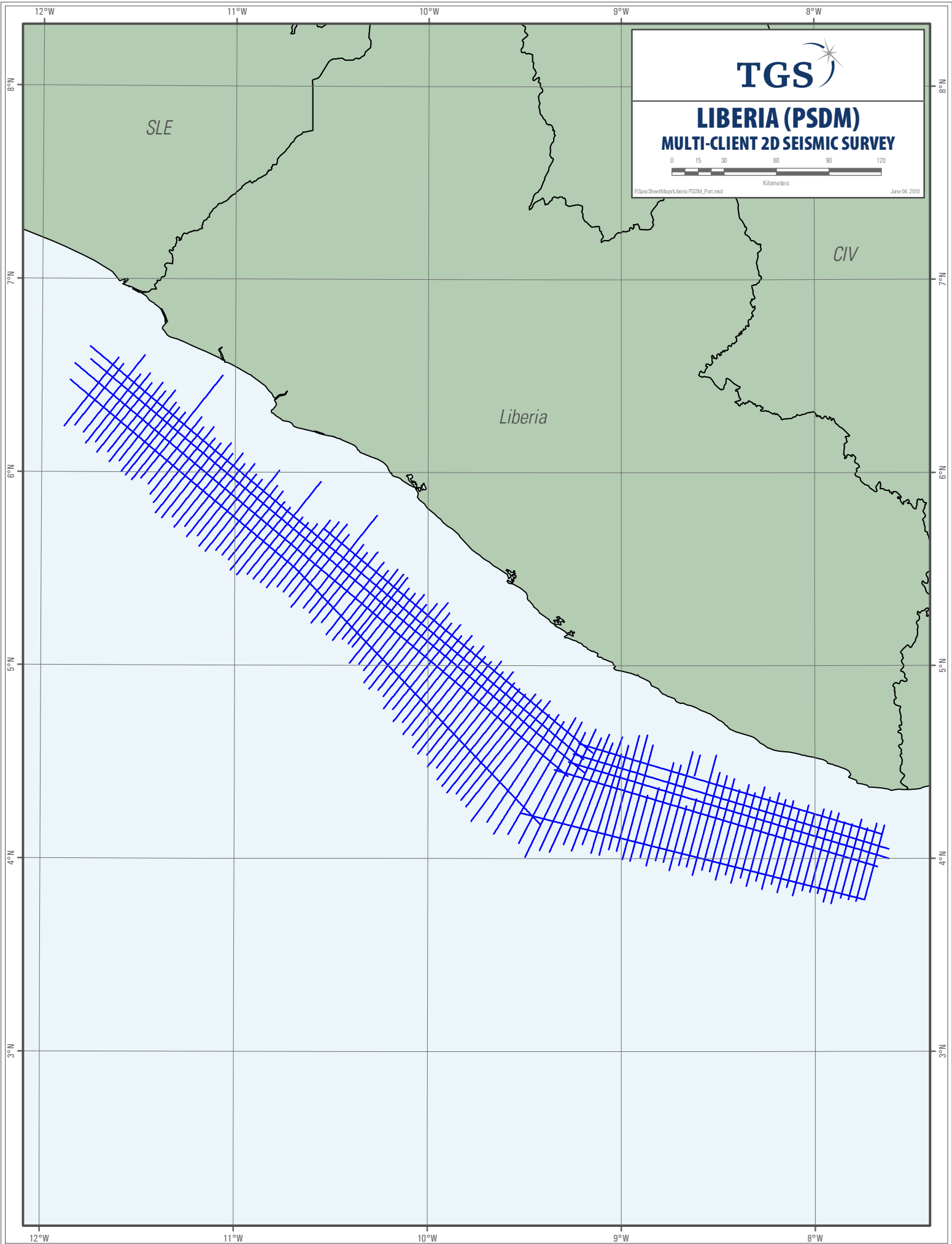
### MULTI-CLIENT 2D SURVEY

#### DEPTH PROCESSING SEQUENCE (continued)

- **FINAL KIRCHHOFF PRE-STACK DEPTH MIGRATION**  
Input Radon gathers, 12.5m CDP interval, 96 fold, 10 seconds at 4ms  
Output 12.5m CIG, 16km depth, 5m step, 48 fold  
Migration aperture 8000m, maximum frequency 75Hz, RMO  
**Output: Kirchhoff pre-stack depth migrated - raw**
- **RESIDUAL MOVEOUT CORRECTION**  
**Output: Kirchhoff PSDM gathers with RMO**
- **FINAL MUTE AND STACK**  
**Output: Kirchhoff PSDM raw stack**
- **FINAL WAVE EQUATION PRE-STACK DEPTH MIGRATION**  
Input Radon shots, 12.5m CDP interval, 96 fold, 14 seconds at 4ms  
Output 12.5m, 16km depth, 5m step  
Migration aperture 8000m, maximum frequency 45Hz  
**Output: Pre-stack depth migrated - raw**
- **POST STACK PROCESSING**  
Depth Variant Filtering; Signal Enhancement; Scaling  
**Output: WEM PSDM processed stack**  
**Output: Kirchhoff PSDM processed stack**
- **CONVERT TO TIME**  
**Output: PSDM processed converted to time**  
**Output: Kirchhoff PSDM – processed converted to time**

#### AVAILABLE DELIVERABLES

- Pre-stack depth migrated - raw (in depth) – 12.5m, 16km, 5m depth step
- Pre-stack depth migrated - processed (in depth) – 12.5m, 16km, 5m depth step
- PSDM processed converted to time – 12.5m, 10sec, 4 ms s/r
- (in depth) – 12.5m, 16km, 5m depth step
- Kirchhoff pre-stack depth migrated - processed (in depth) – 12.5m, 16km, 5m depth step
- Kirchhoff PSDM – processed converted to time – 12.5m, 16km, 5m depth step
- Kirchhoff PSDM gathers with residual NMO (in depth) – 25m, 48 fold, 16km, 5m depth step
- Final velocity volume (SEG Y, in depth) – 12.5m, 16km, 5m depth step
- Water bottom horizon (ASCII – m or ft)
- Post stack navigation (UKOOA)



# LIBERIA (PSDM) MULTI-CLIENT 2D SEISMIC SURVEY



ESpec:SheetMap/Liberia PSDM\_Part.mxd  
Kilometers  
June 04, 2010