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UTM
UNIDAD DE TECNOLOGÍA MARINA

NEW SEISMIC INTERFACE CSIC – 2010

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Main Specs. (I)

RTS Big Shot

- Bolt, Sercel, Sleeve Gun
- Sync. Error 0.1 ms

2 x LMF Mod. 25/138-207E

- Input press. 1.013 bar
- Output press: 140 - 207 bar
- Flow: 25m³/min (1100 cfm)
- Cooling: 87m³/h
- Electronic inverter

2 x Solid Sentinel[®] multichannel "streamer" by SERCEL[®]

- Hydrophones / channel: 8
- Channels by section: 12 (150 m.)
- Channel length: 12.5 m.
- Total length: 2 x 3000 (+360) m.
- Max. Operating depth: 25 m.



Main Specs. (II)

Acquisition system: SEAL[®] 408XL

Data formats: SEG D, formato IEEE 32 bit

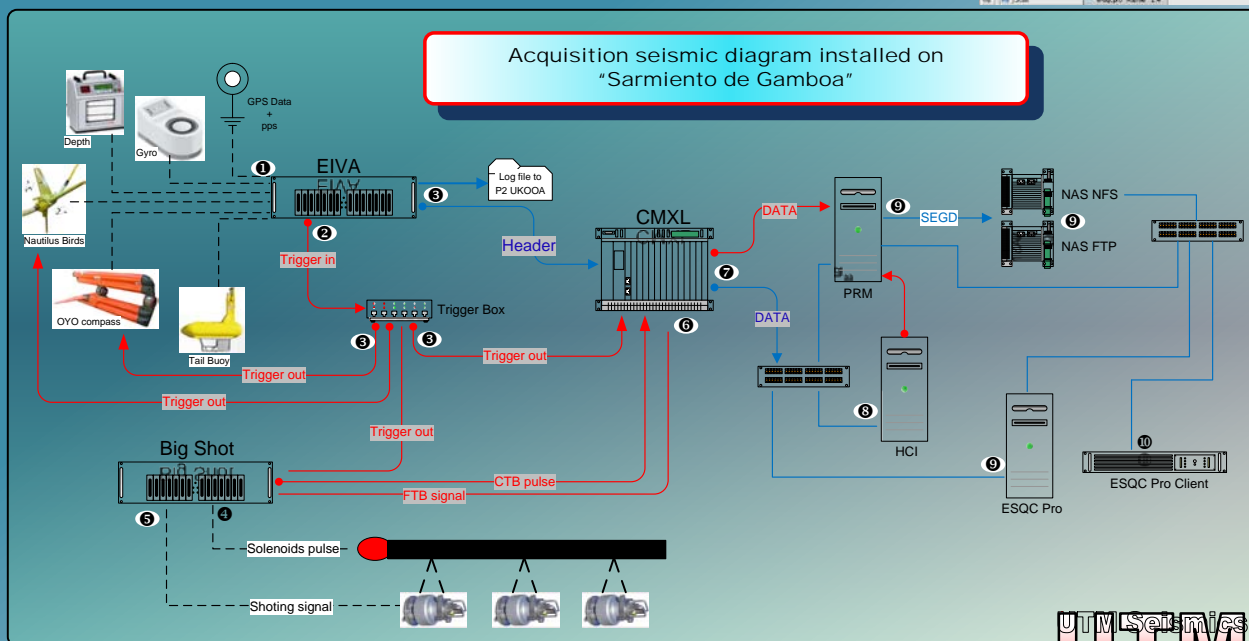
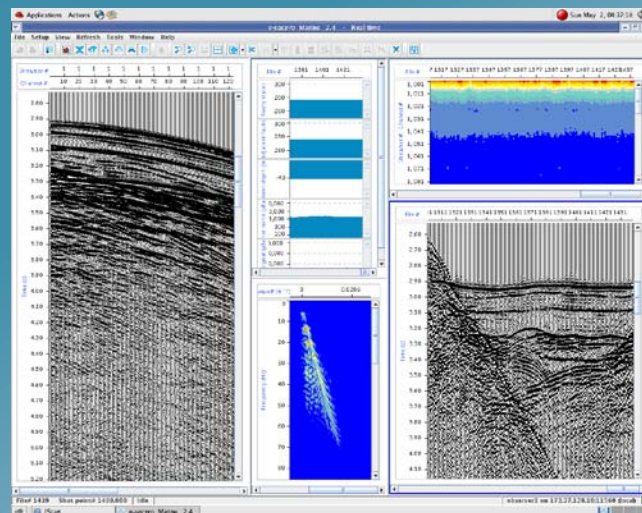
Sampling interval: 0.25 to 2 msec.

Filtering: Analog (LP,HP,section - 3Hz), digital

External trigger from Nav system: EIVA[®]

Aux. channels: 3 (FTB, CTB, WB)

Real Time QC eSQC-Pro



Main Specs. (II)

Ancillary equipment

- Sercel[®] Nautilus[®] omnidirectional Birds.
- OYO[®] Geospace HSRD Compass.
- Seamap[®] Tail buoy
(Strobe, Radar reflector, GPS+RadioModem)
- Novatel RGPS (GPS+Modem):
 - Accuracy < 3m.
 - Range: ca. 12 km.



From first sea trials some problems were evident:

**SERCEL development proposal
SERCEL seismic source deficiencies**

**UTM solutions. New source structure design
UTM seismic system skills. Fully transportable to other vessels**

SERCEL SEISMIC SOURCE STRUCTURE. 2009.



Video

[Sercel fail 2010.wmv](#)

- Unsafety deployment.
- Unefficient procedure.
- Several damages on equipment.
- Twisted floating and umbilical dangerous operation.
- Difficult and long operations.



NEW UTM SEISMIC SOURCE STRUCTURE. 2009.



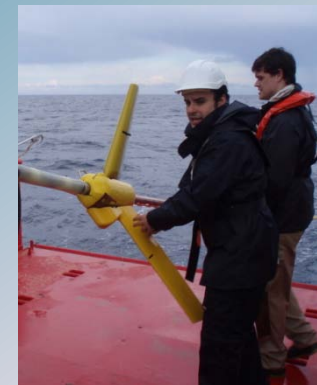
Video

[UTM design 2010.wmv](#)

- Short staff to be operated.
- Safety and free space maniobrates.
- Unforced deployment for the equipment.
- Low stress of the umbilical, floating and cables.



NEW UTM SEISMIC DECK OPERATIONS. 2010.



- UTM multichannel streamer pay out.
- Free back deck to operate.
- Safety and easy operational deployment.



2010 UTM CRUISES

FEB/MARCH 2010 : First Sercel Trials (streamer, deployment, compressors)

APRIL/MAY (30 d.): MEDOC (Tyrranean Sea) - 4 km multichannel streamer -

MAY/JUNE (20 d.) EVENT (Mediterranean Sea) - High and medium resolution
multichannel streamers -

JUNE (15 d.) SAGAS (Mediterranean Sea) – High resolution seismics -

JUNE (7 d.): Second Sercel Trials – streamer and noise tests -

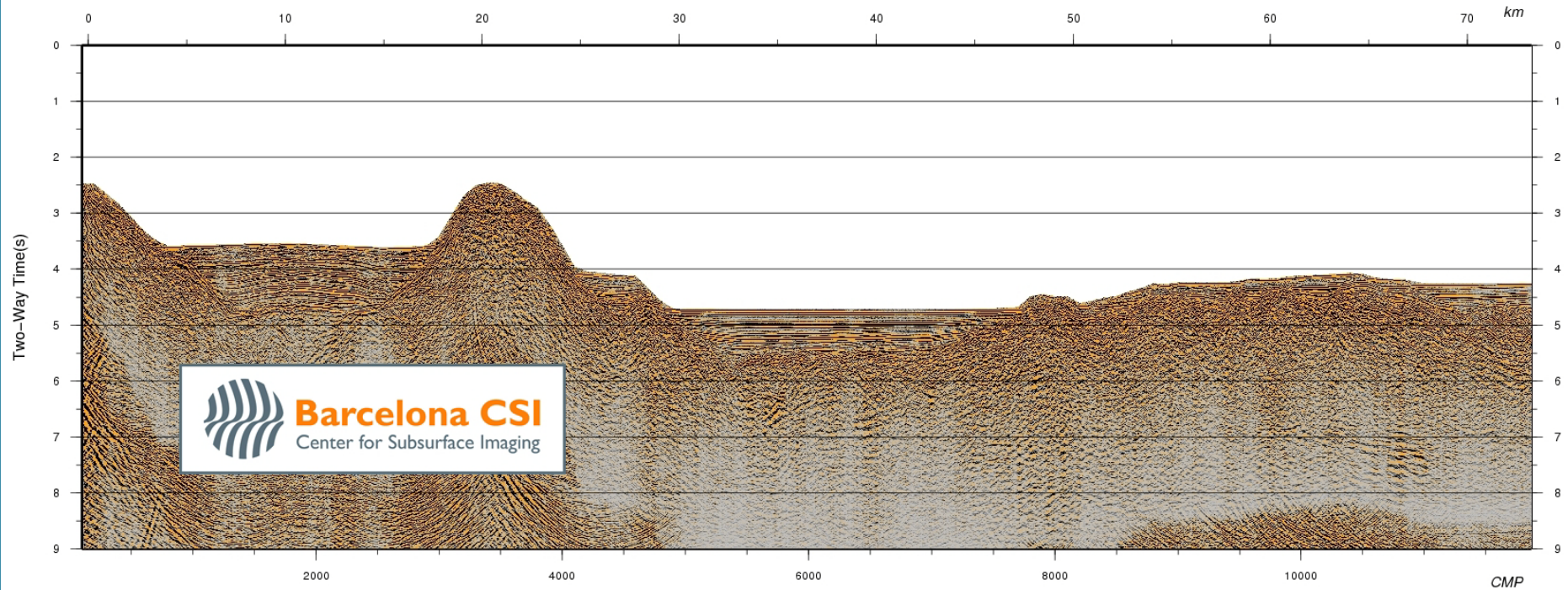
JULY (15 d.): NOC (Iceland) – 2 km UTM streamer NOC energy source & winch -

SEPT/OCT (25 d.) CONTOURIBER (Gibraltar Stretch) – High resolution seismics -

OCT (10 d.): GRAN BURATO (Atlantic Ocean) - 2 km multichannel streamer -

- Sea trials: 14 days
- CSIC Cruises: 110 days
- NOC cruises: 15 days

MEDOC 13 – post-stack time migration



MEDOC Cruise

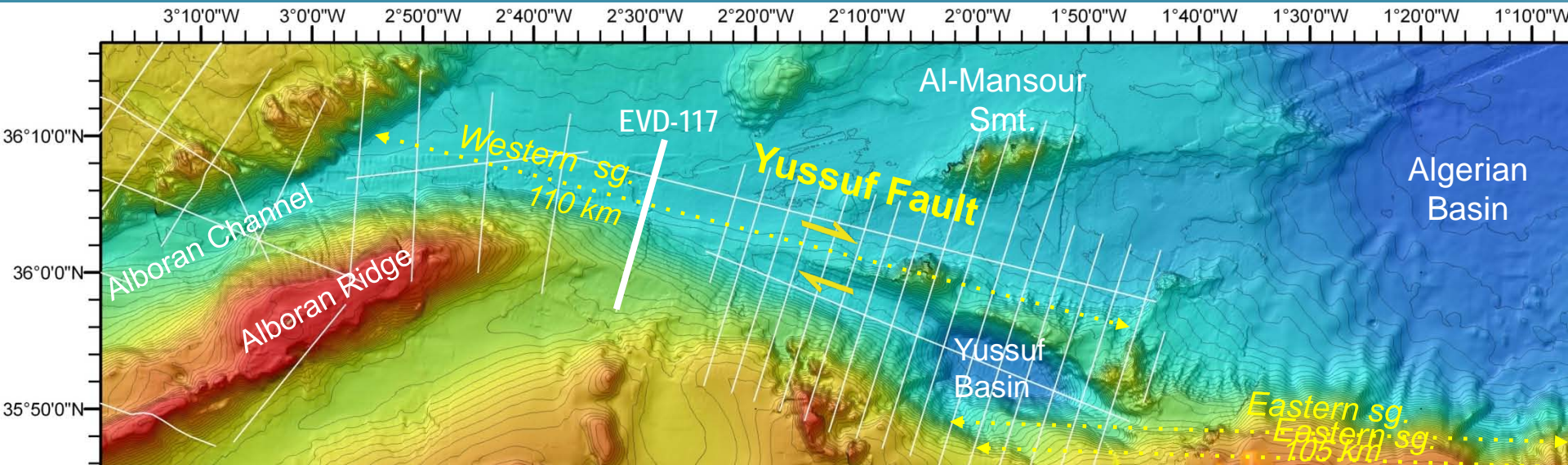
RV Sarmiento de Gamboa, April/May 2010

Source: G-GUNII Sercel guns at 2.5 m depth. Total volume: 800 cu. in.

Seal Streamer: 3000 m long, 96 channels, 125 m channel spacing.

IP: César r. Ranero (ICREA - BCSI - CSIC)

High-Resolution MCS Imaging of active faults



EVENT-DEEP Cruise

Project CGL2006-12861-C02

RV Sarmiento de Gamboa, 11 May – 7 June 2010

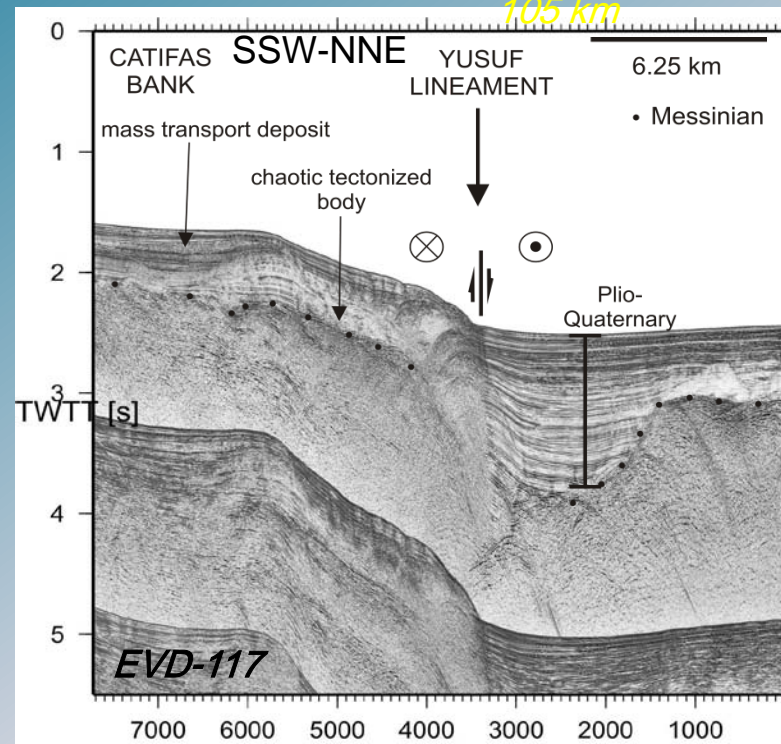
Source: G-GUNII Sercel guns at 2.5 m depth

Total volume: 800 cu. in.

Seal Streamer: 600 m long, 96 channels,
6.25 m channel spacing

IP: Eulàlia Gràcia (UTM-CSIC)

Chief Scientist: Rafael Bartolomé (UTM-CSIC)



2010 SUMMARY

Trials: 6

km plus Sercel

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2011 OBJECTIVES...

- Objective 1: Get fundings for spares / equipment and shiptime..
- Objective 2: Improve Human resources.
- Objective 3: Improve CSIC/NOC collaboration