



COMISION FEDERAL DE ELECTRICIDAD EFFORTS ON CARBON STORAGE PROGRAM



OSCAR JIMENEZ and MOISES DAVILA

NACAP

November 1-3, 2010

OTTAWA, CANADA

1.- Origin of the CFE CCS Program origin.

Different Scope than NACAP but concurrent at last
Different Timing & Resources

2.- Objectives of CFE at this Workshop

To present the results of the CFE CCS Program
To cooperate with NACAP in getting its purposes (even modestly)
To take note about next compromises for the Ministry of Energy
To learn the best practices about CCS Atlas Project



Mexico CSS Atlas Stage



a.- PEMEX works on EOR only

Demostrative Project
CO₂ Natural Sources
Not for the Atlas

b.- Coal in 3 States

Coahuila shallow and under exploitation
Sonora and Oaxaca too complex geological structures

c.- Deep Brine Aquifers

CFE immediate target
Just published information

1.- Achievements up to now are at background level .

- Cartas Topográficas Digitales escala 1:250 000 serie III por estado en formato shp. Edición 2001.
- Marco Geoestadístico Municipal 2005 Versión 3.1.1 (MGM 2005).
- Conjunto de Datos Vectoriales del Continuo Nacional derivado de los conjuntos de Aguas Subterráneas.
- Conjuntos de Datos Vectoriales, en formato shp del Continuo Nacional derivado de cartografía impresa Aguas Superficiales escala.
- Conjuntos de Datos Vectoriales de la Carta Edafológica, en formato shp.
- Conjunto de Datos Vectoriales Geológicos. Continuo Nacional, en formato shp.
- Conjuntos de Datos Vectoriales de Carta de Uso del Suelo y Vegetación

Escala 1:50 000 DATUM

- Conjuntos de Datos Vectoriales de las Cartas Topográficas Digitales por clave de carta, 2316 cartas totales.
- Edición 2001. Las cuales contienen:

- ACUEDUCTO
- AEROPUERTO
- ÁREA DE CULTIVO
- ÁREA URBANA
- ÁREA VERDE URBANA
- BANCO DE MATERIAL
- BORDO
- CALLE
- CAMINO
- CANAL
- CARRETERA
- CASETA DE PEAJE
- CEMENTERIO
- CONDUCTO
- CORRIENTE DE AGUA
- CORRIENTE QUE DESAPARECE
- CUERPO DE AGUA
- CURVA DE NIVEL

- DEPÓSITO DE DESECHOS
- EDIFICACIÓN
- ENTRADA A GRUTA
- ESTANQUE
- ESTRUCTURA ELEVADA
- FARO RADIOFARO VOR
- INSTALACIÓN DE BOMBEO
- INSTALACIÓN DE COMUNICACIÓN
- INSTALACIÓN DIVERSA
- INSTALACIÓN DEPORTIVA O RECREATIVA
- INSTALACIÓN INDUSTRIAL
- LINDERO
- LÍNEA DE COMUNICACIÓN
- LÍNEA DE TRANSMISIÓN
- LOCALIDAD
- MALPAÍS
- MANANTIAL
- MINA

- PANTANO
- PISTA DE AVIACIÓN
- PISTA DE CARRERAS
- POZO DE EXPLOTACIÓN
- PRESA
- PUNTO ACOTADO
- PUENTE
- SALTO DE AGUA
- SUBESTACIÓN ELÉCTRICA
- TANQUE
- TANQUE DE AGUA
- TERRENO SUJETO A INUNDACIÓN
- TOPONIMO
- VADO
- VEGETACIÓN DENSA
- VÍA FÉRREA
- ZONA ARENOSA



2.- Telecommunication policy should be solved.
Special Web Server arrangements at Monterrey City, (Mexico)

3.- Hugo Leyva

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Direct: 55 52309370

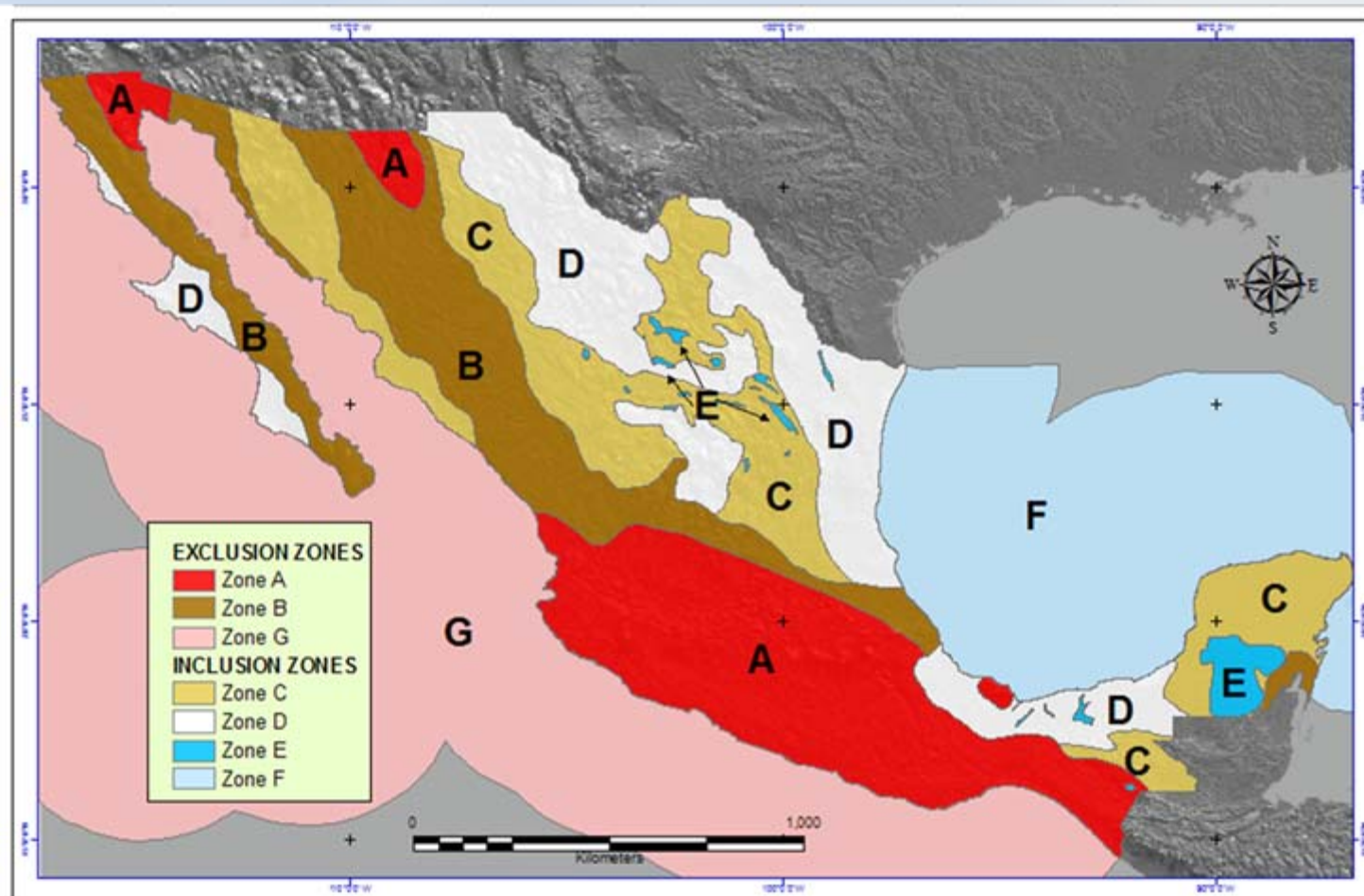
Mexico, DF



OUTLINE

- PREVIOUS WORK (2009)
- CURRENT ACHIEVEMENTS (2010)
- FUTURE TASKS (2011)

EXCLUSION AND INCLUSION ZONES



<http://www.academicjournals.org/ijps/abstracts/abstract2010/May/D%C3%A1vila%20et%20al.htm>

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Full Length Research Paper

A preliminary selection of regions in Mexico with potential for geological carbon storage

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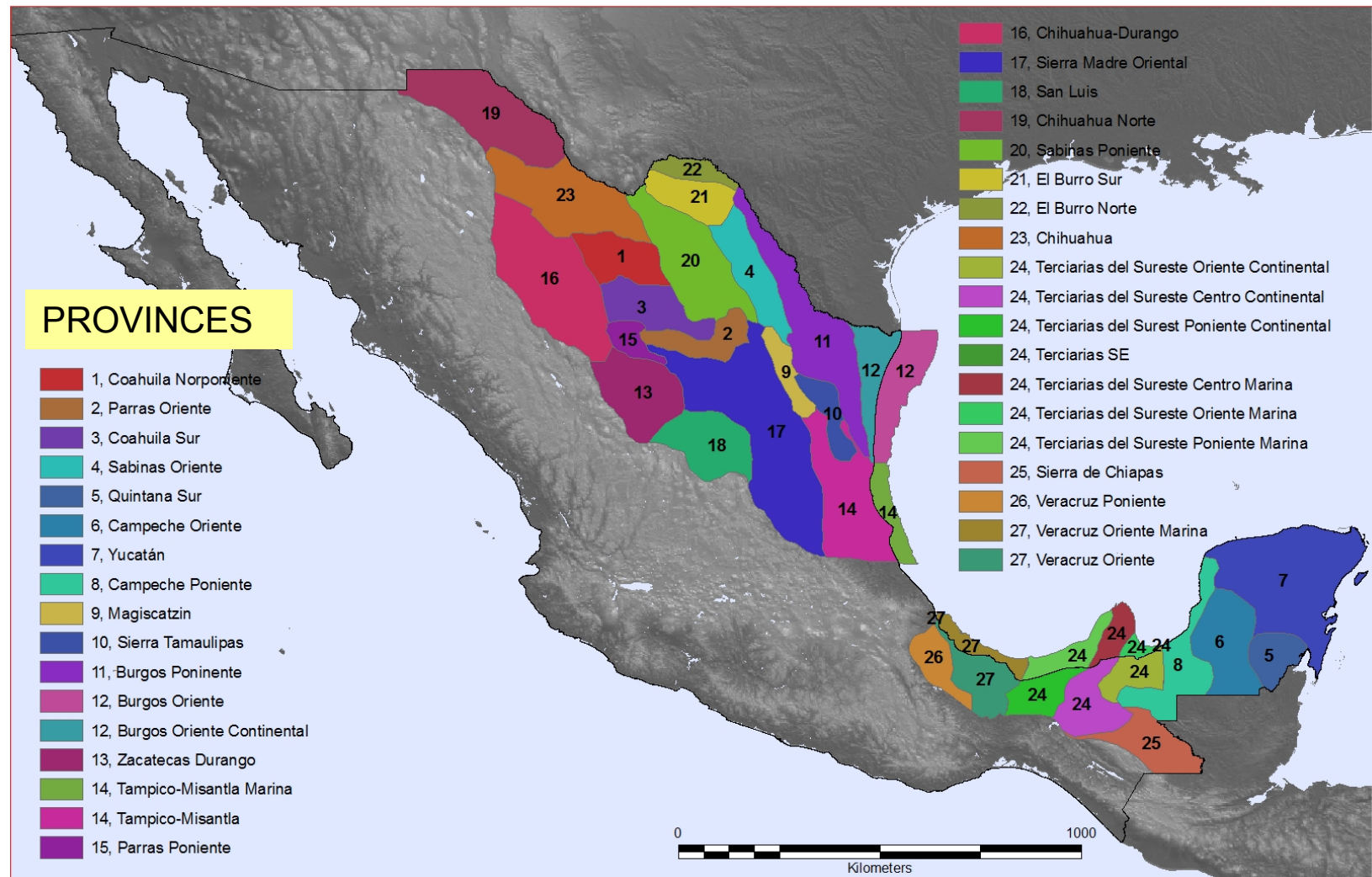
Accepted 2 April, 2010.

Abstract

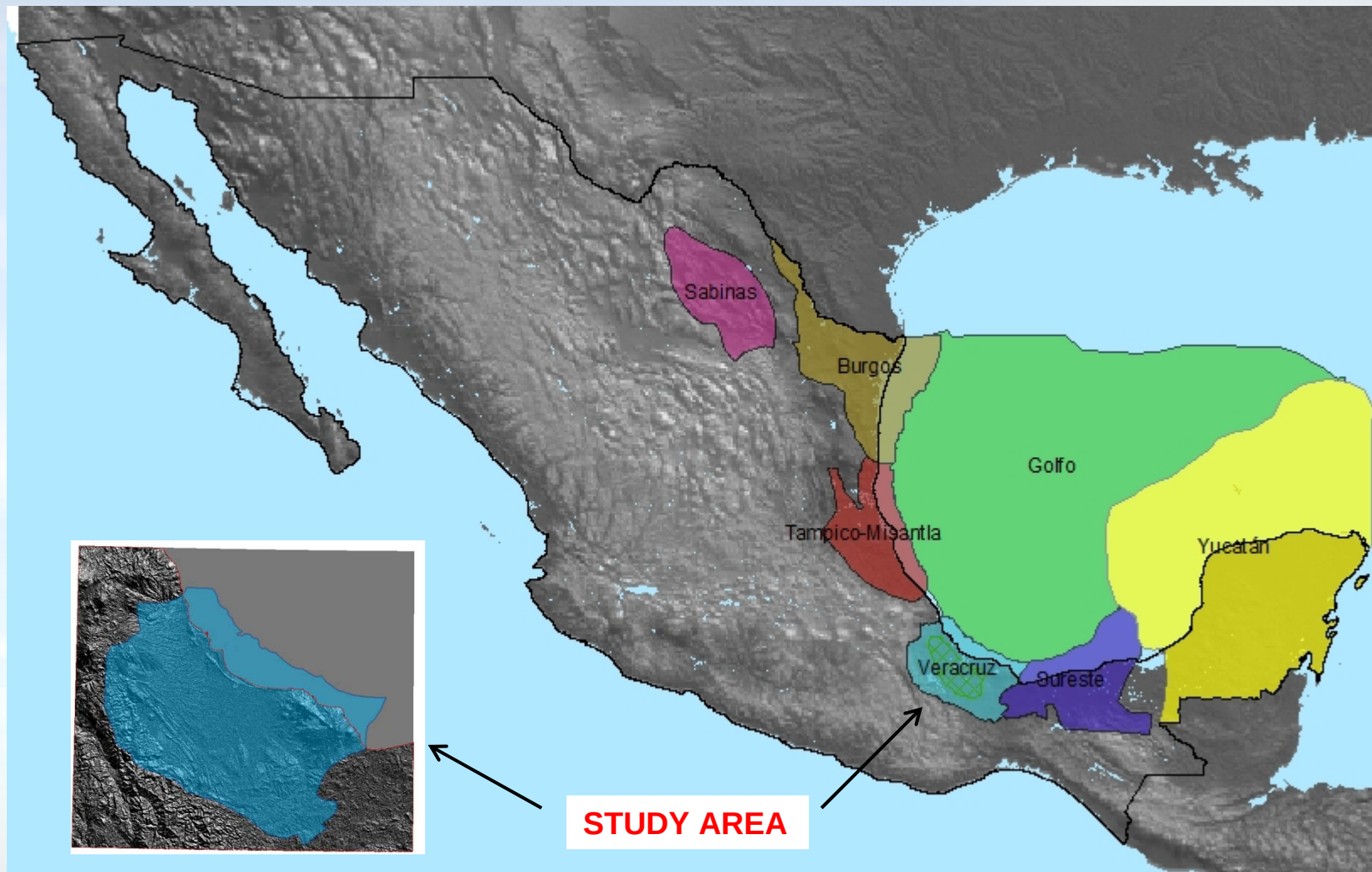
Using a compilation of information about Mexican surficial geology and recent tectonic activity, zones for possible geological carbon storage were defined. There were seven zones defined on the basis of volcanic, geologic, lithologic, seismic and tectonic features. Most importantly at this stage, zones of exclusion were defined in which geologic storage is not recommended. These zones will aid in further exploration of the geological carbon storage possibilities in Mexico.

Key words: Carbon dioxide, geological carbon storage, seismic, volcanic hazards,

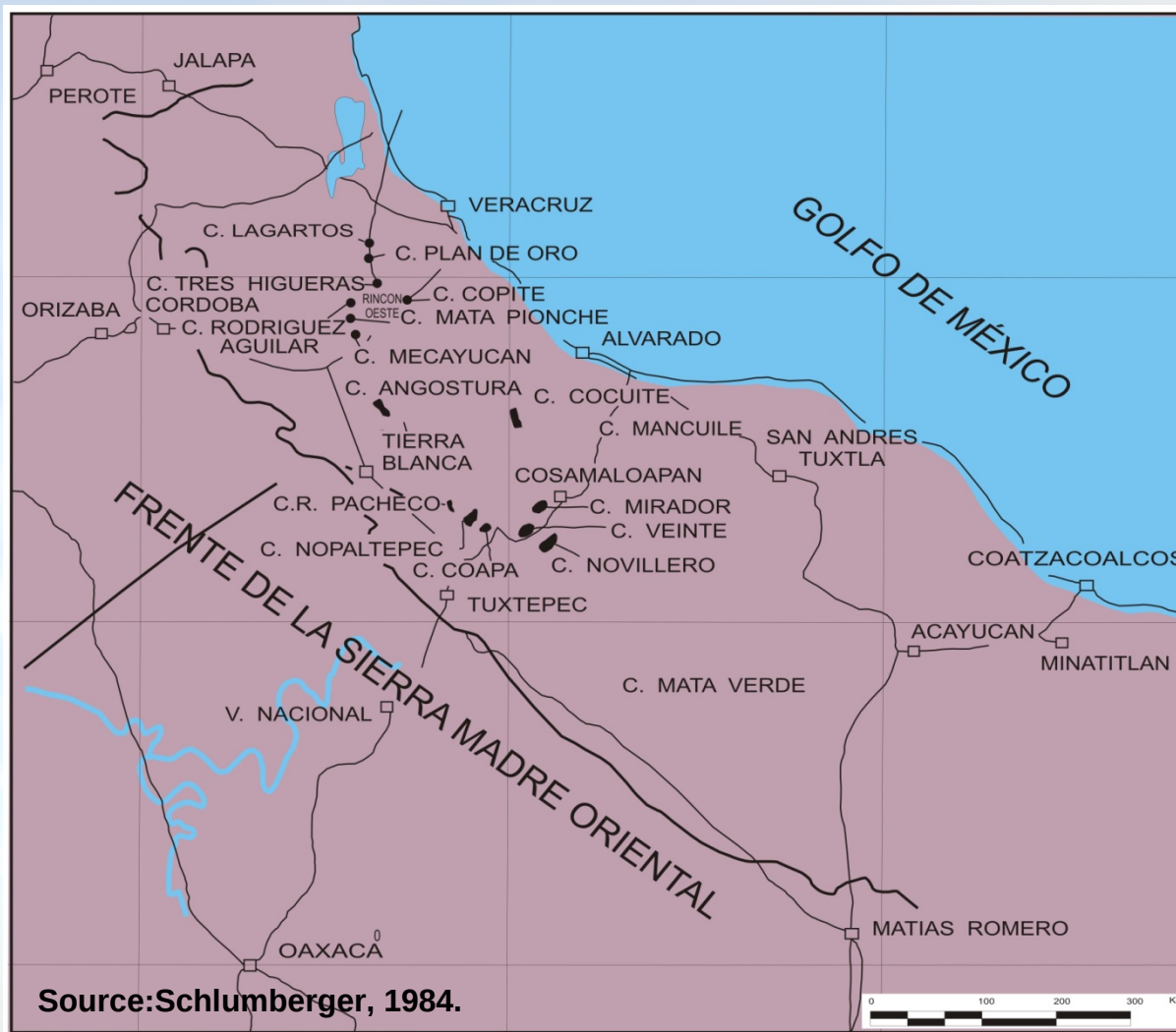
SUBDIVISION OF PROVINCES

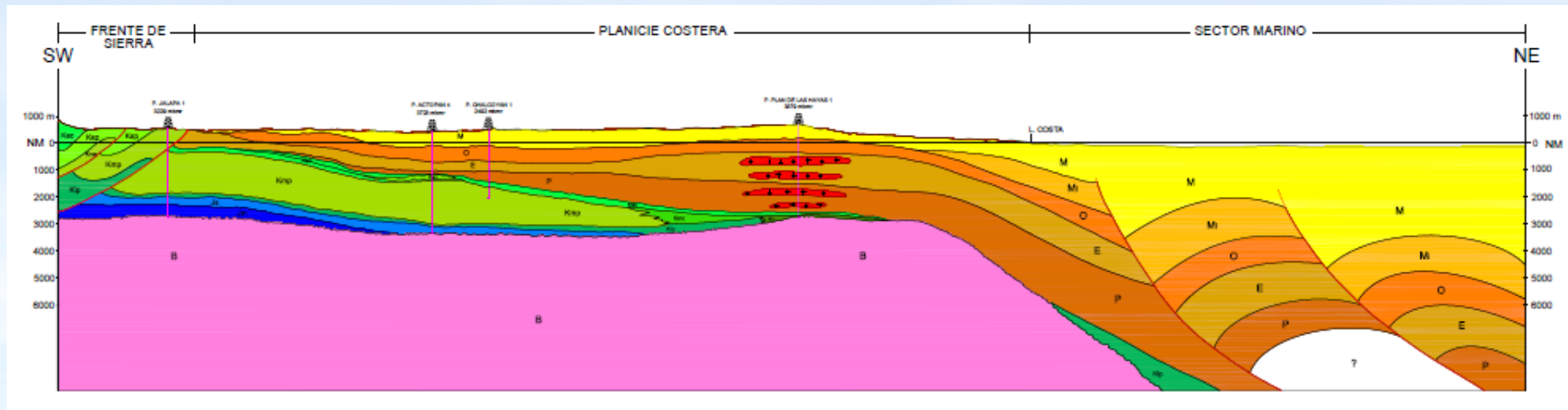


SELECTION OF BASINS

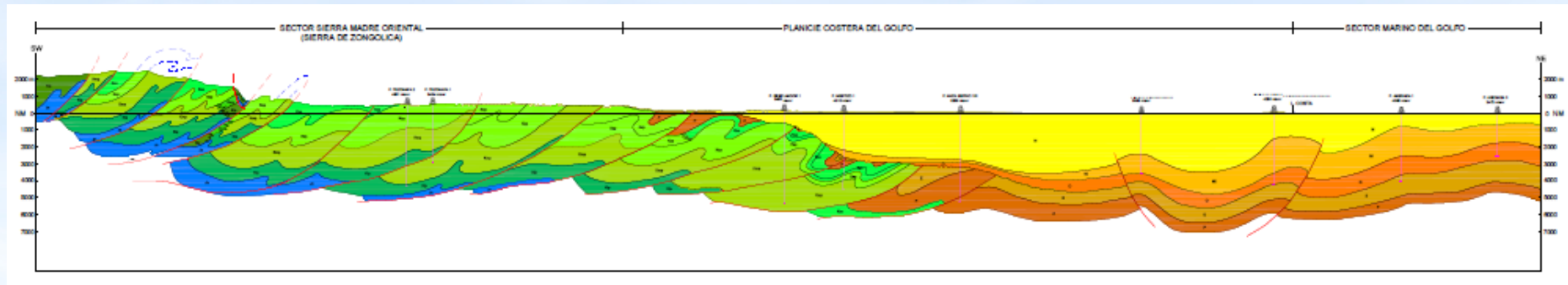


PETROLEUM DATA



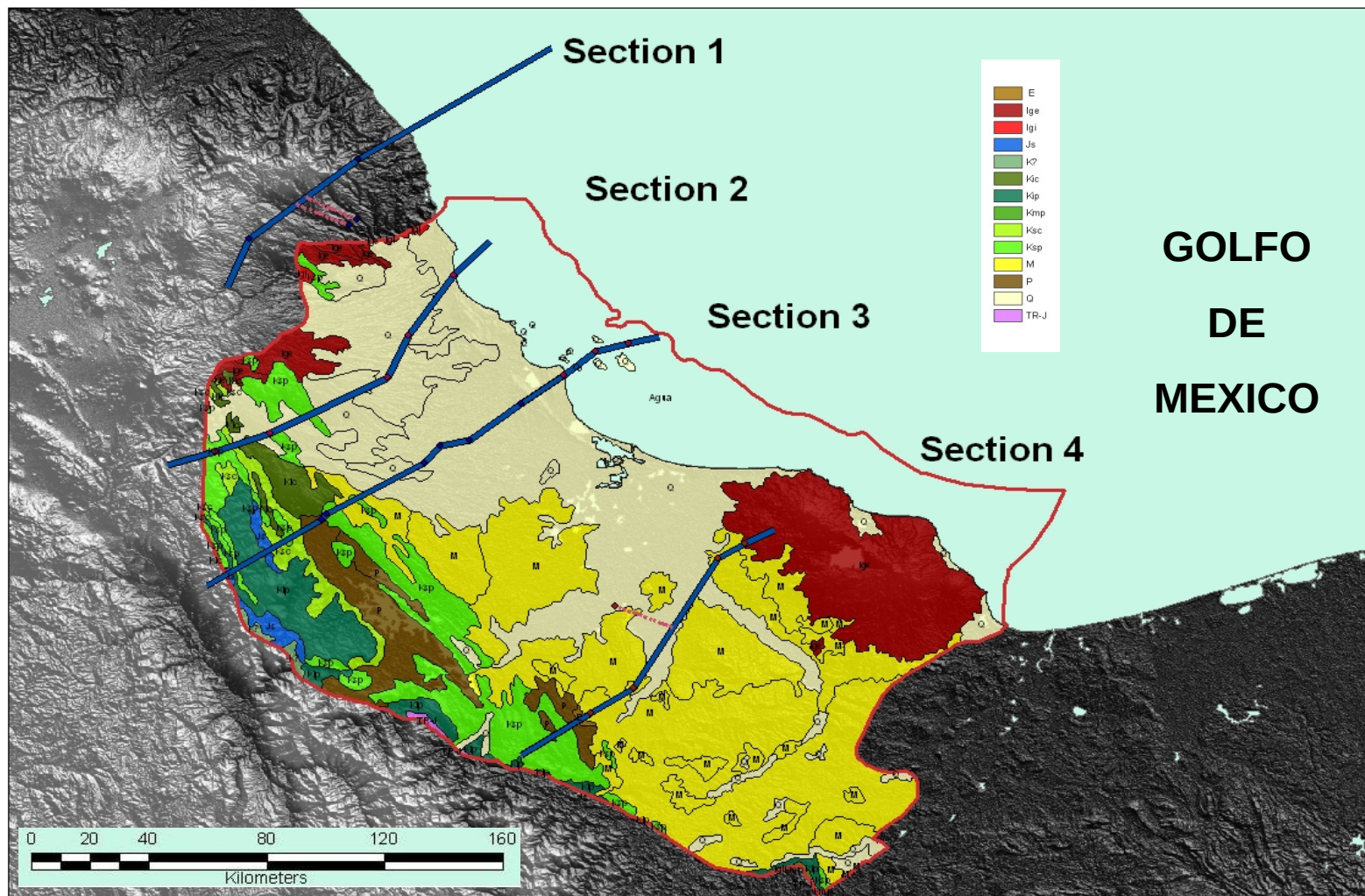


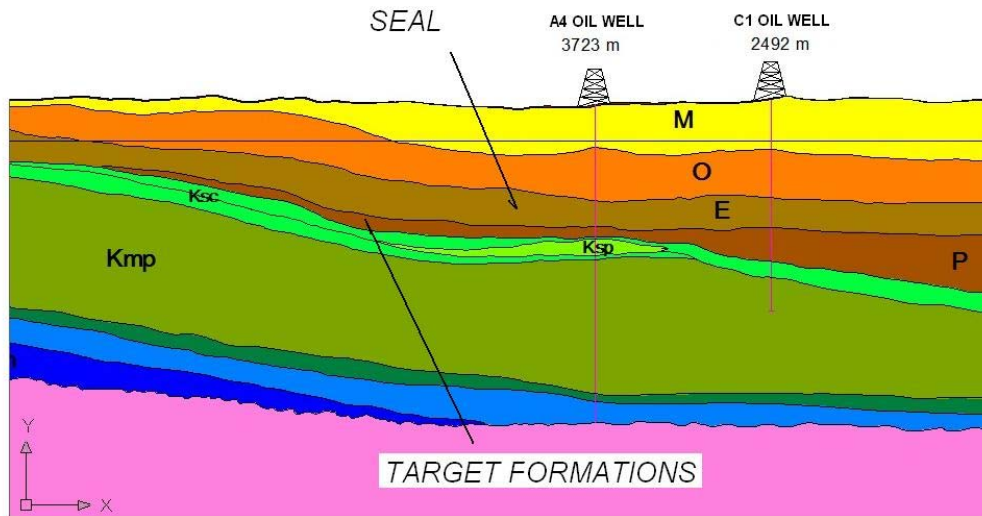
GEOLOGICAL SECTION 1



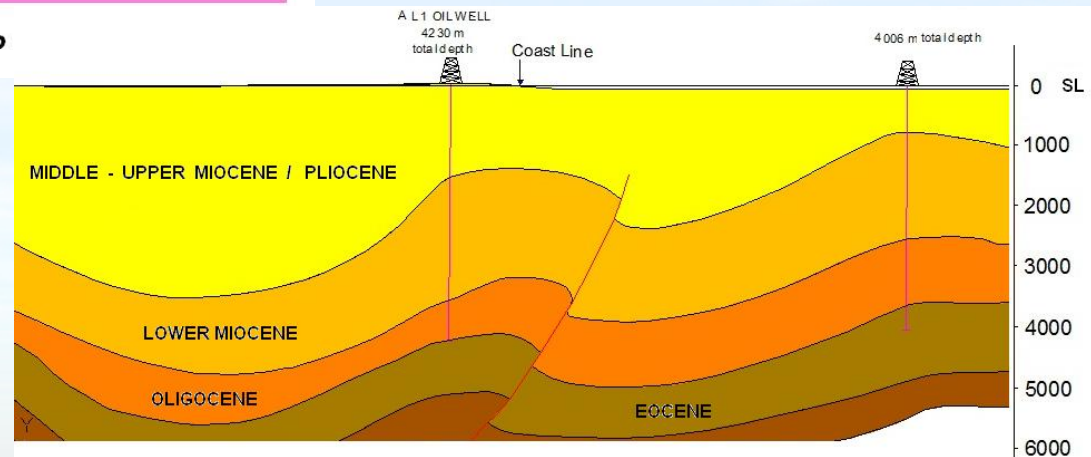
GEOLOGICAL SECTION 3

GEOLOGICAL DATA





STRATIGRAPHIC TRAP

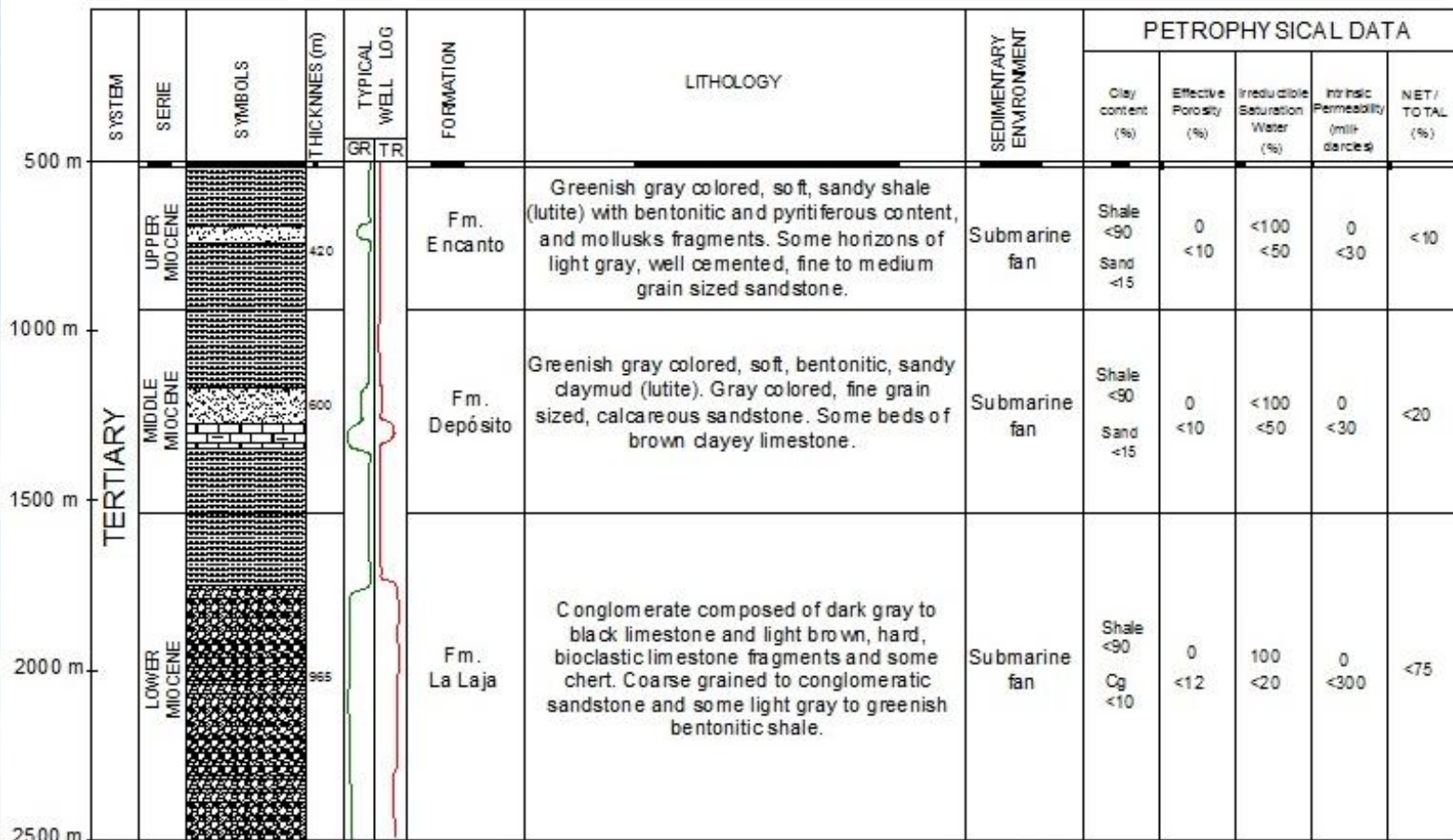


SECTION III

A.L.1 OIL WELL

SECTION III

VERACRUZ BASIN



Total depth 4230 m under rotary

GR = GAMMA RAY

TR = RESISTIVITY

NET/TOTAL. Relationship between net thickness and total thickness store

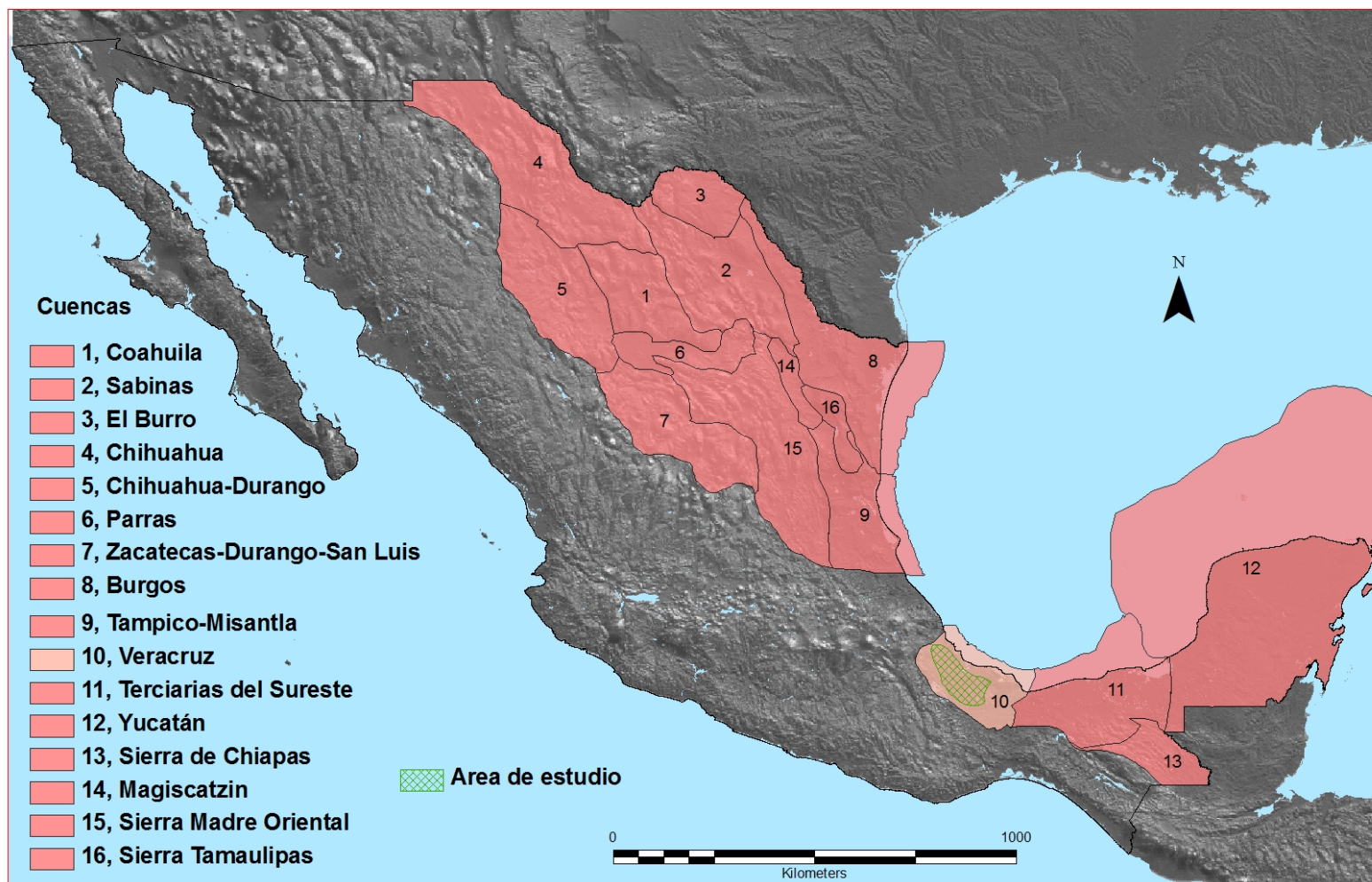
Following Bachu *et al.*, 2007:

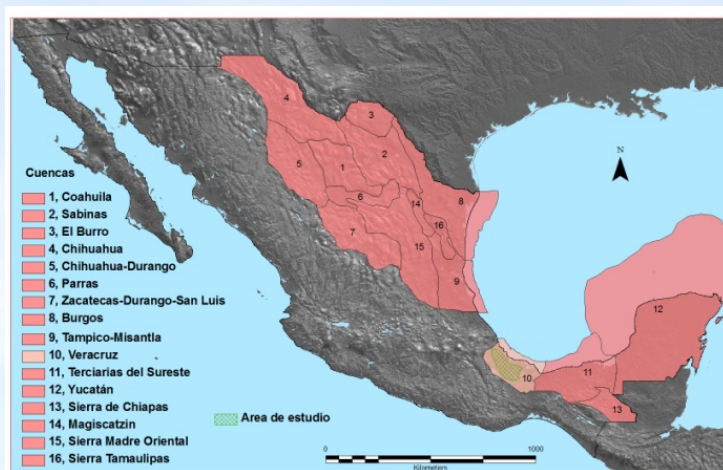
$$V_{\text{CO}_2\text{t}} = V_{\text{trap}} \phi (1 - S_{\text{wirr}}) \equiv A h \phi (1 - S_{\text{wirr}})$$

and, Brennan & Burrus, 2003 where $\rho_{\text{CO}_2} = 600 \text{ kg/m}^3$

We have,

$M_{\text{CO}_2\text{t}} = \underline{\mathbf{19 \text{ Gton}}}$ in the VERACRUZ BASIN





1.- Up to 16 assessments (BASIN LEVEL)

8 for april 2011

8 for november 2011

2.- DB & Web issues (for april 2011)

External server arrangements

Technical work



THANK YOU!



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