GrahamTek Explorations

Exploration for Oil & Gas, Minerals & Water

Outline

1. An introduction on ZAP
2. Parts of our potential that is presented
    - 2.1. The BMT method and its application in Oil & Gas exploration
    - 2.2. Geological services, Well design and supervision on drilling program
3. Seismic method

1. An Introduction to ZAP

- **ZAP (Zamin Ab Pey) Has been established in 2001 as a consultant in the field of modern Geosciences.**
- **ZAP Delivers Modern Geoscience Services**
  - Geophysics
  - Oil & Gas exploration
  - Geology
  - Mining
  - Geotechnics and engineering geology
- **ZAP is established as a Knowledge base consultant**

1. An Introduction to ZAP

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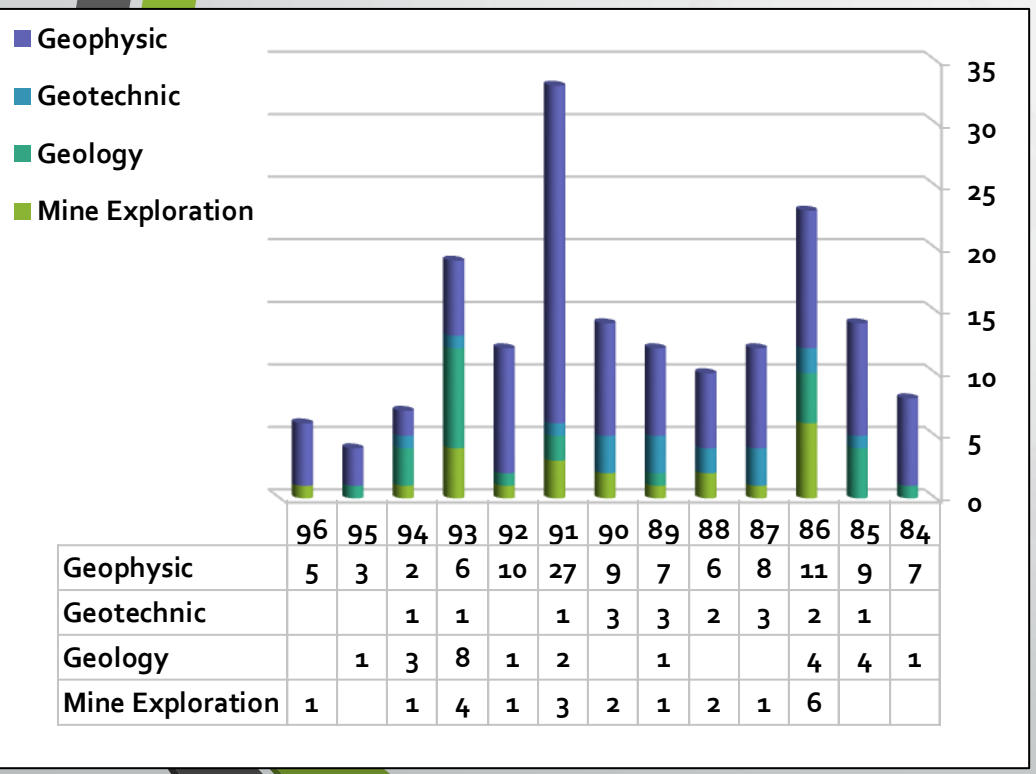
- More than 180 Projects during 2002 to 2018



	96	95	94	93	92	91	90	89	88	87	86	85	84
Geophysic	5	3	2	6	10	27	9	7	6	8	11	9	7
Geotechnic			1	1		1	3	3	2	3	2	1	
Geology		1	3	8	1	2		1			4	4	1
Mine Exploration	1		1	4	1	3	2	1	2	1	6		

2. Parts of our potential that is presented

2.1. The BMT method and its application in Oil & Gas exploration

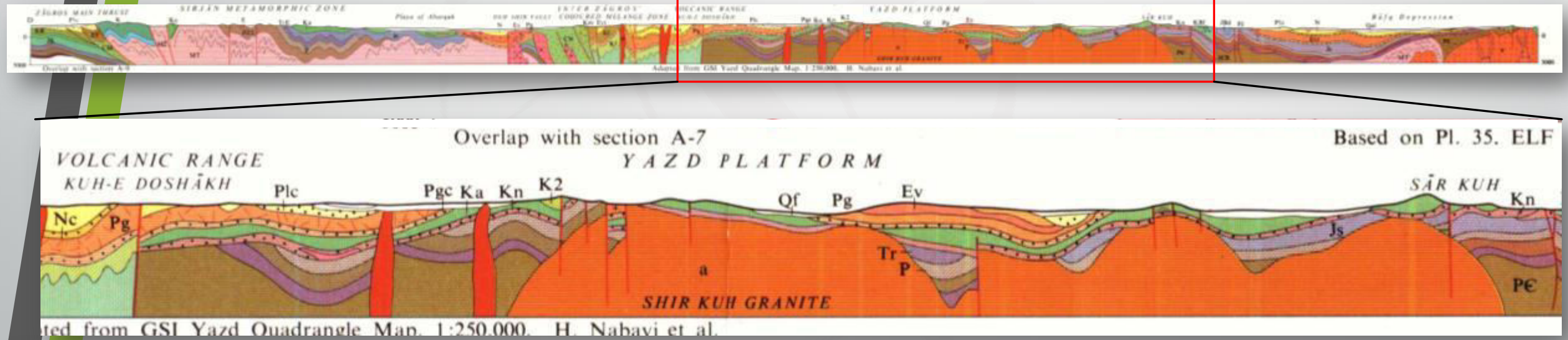
- **BMT (Broad Band Magnetotelluric)) is a technique for probing electrical conductivity structure of the Earth.**
- **MT utilizes a broad spectrum of naturally occurring geomagnetic variations as a power source for EM induction in the Earth.**
- **Its application in Oil & Gas Exploration**
  - **Exploration in an Unknown geological zones**
  - **Exploration in area that previous seismic investigations could not provide required information.**

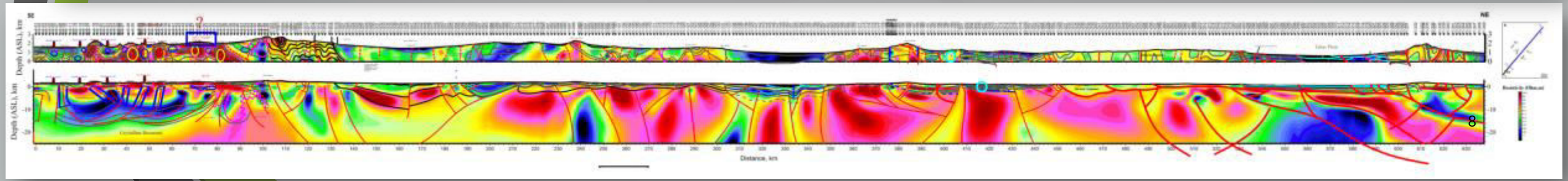
2. Parts of our potential that is presented

2.1. The BMT method and its application in Oil & Gas exploration

2.1.1. Exploration in an Unknown geological zones

Regional Profiles to resolve Geology and any Potentials for Oil, Gas and Mine.





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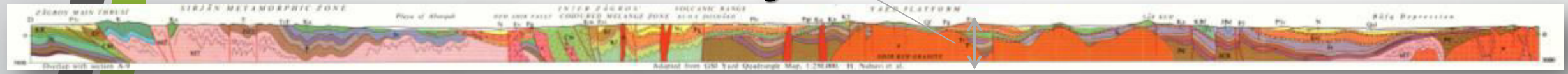
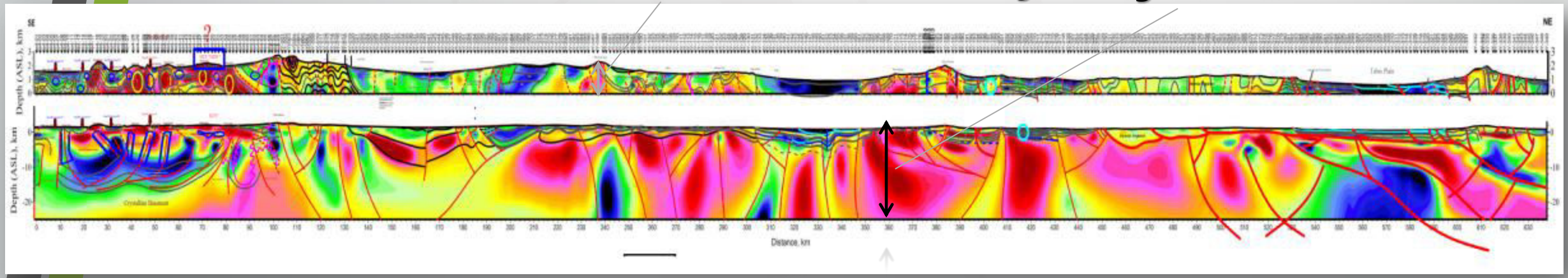
5 Km



2.5 Km High Resolution Section

25 Km Regional Section



Some examples from High Zagrous

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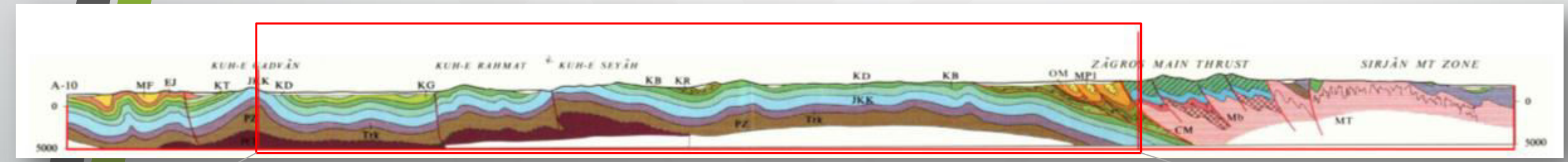

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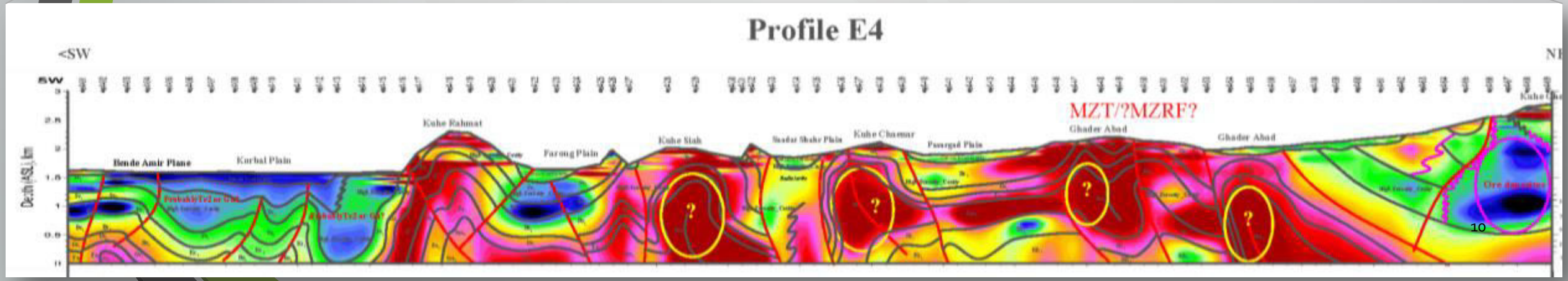

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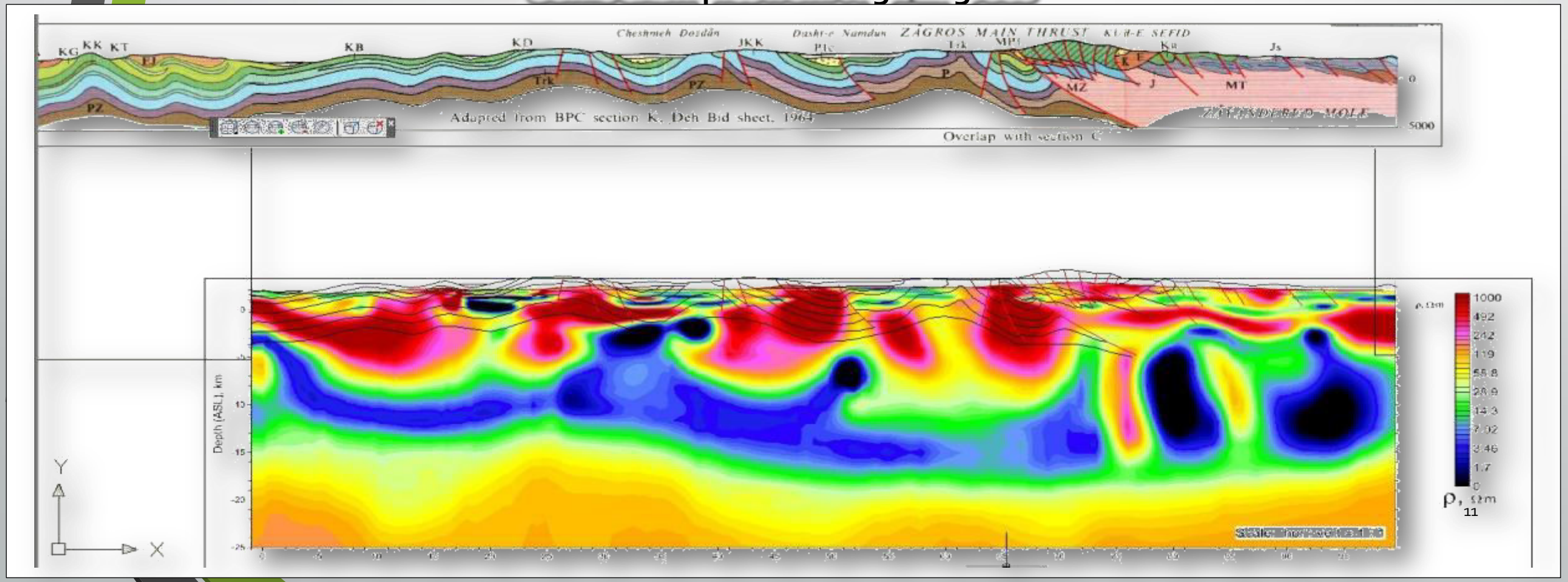

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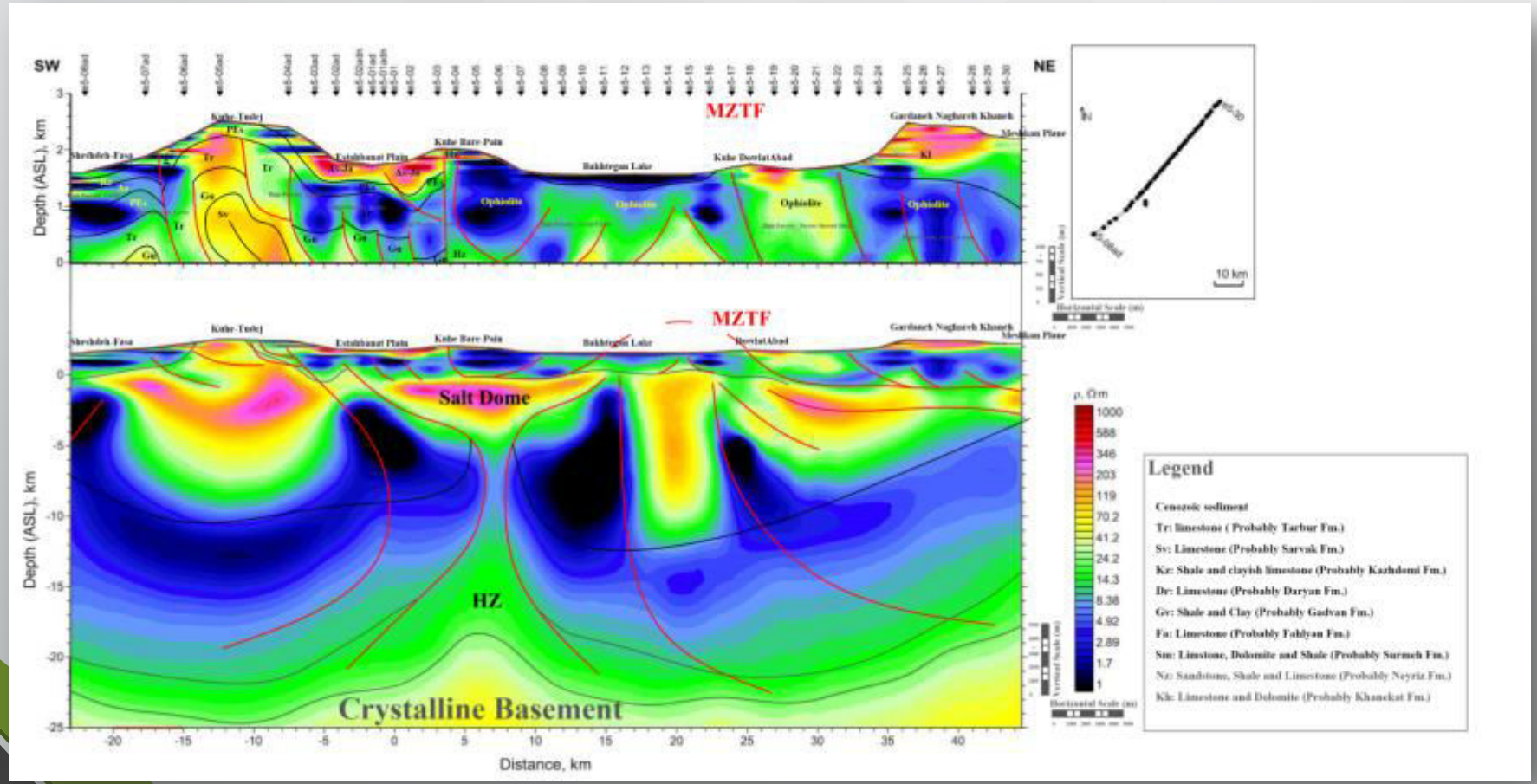
Precise mapping salt dome in Pillow stage

example from High Zagrous



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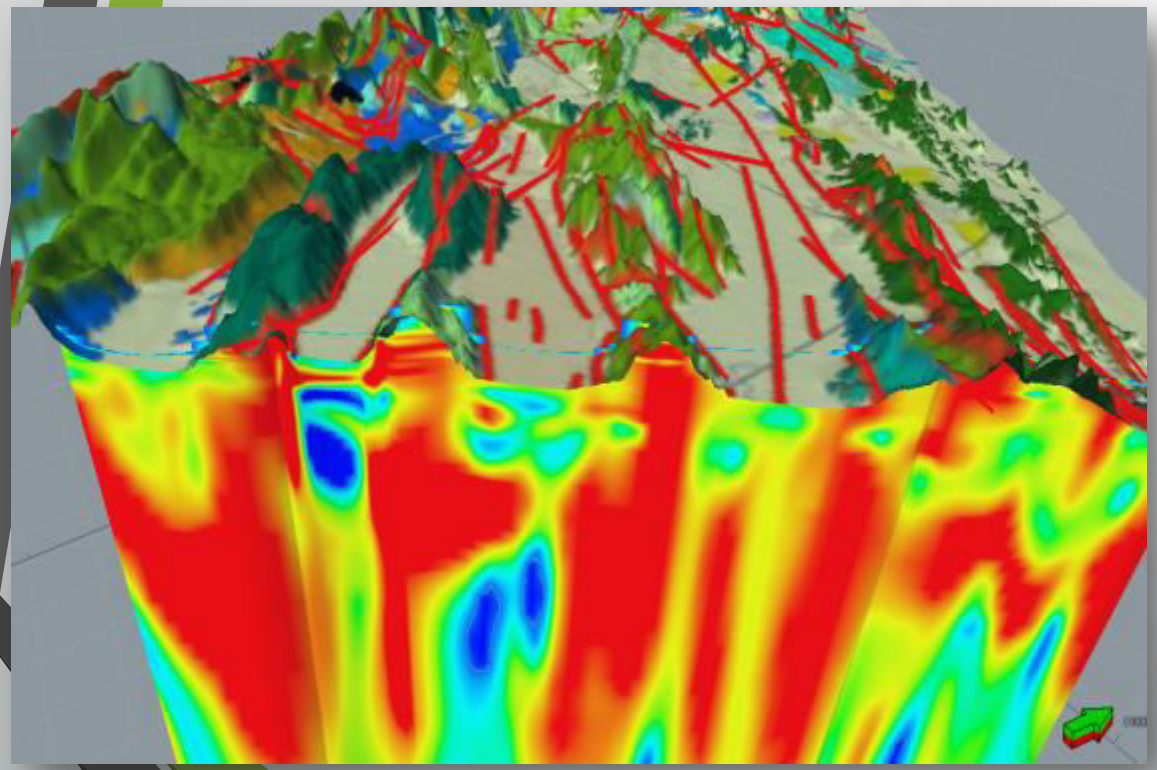
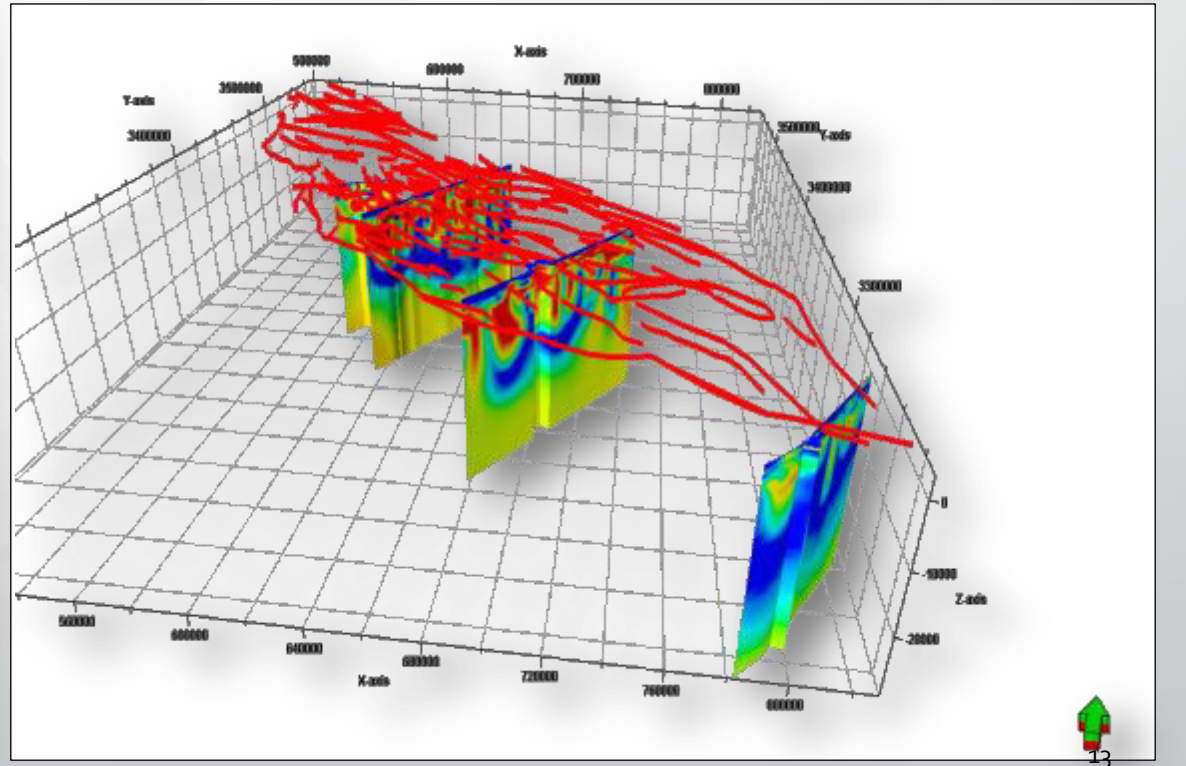




2. Parts of our potential that is presented

2.1. The BMT method and its application in Oil & Gas exploration

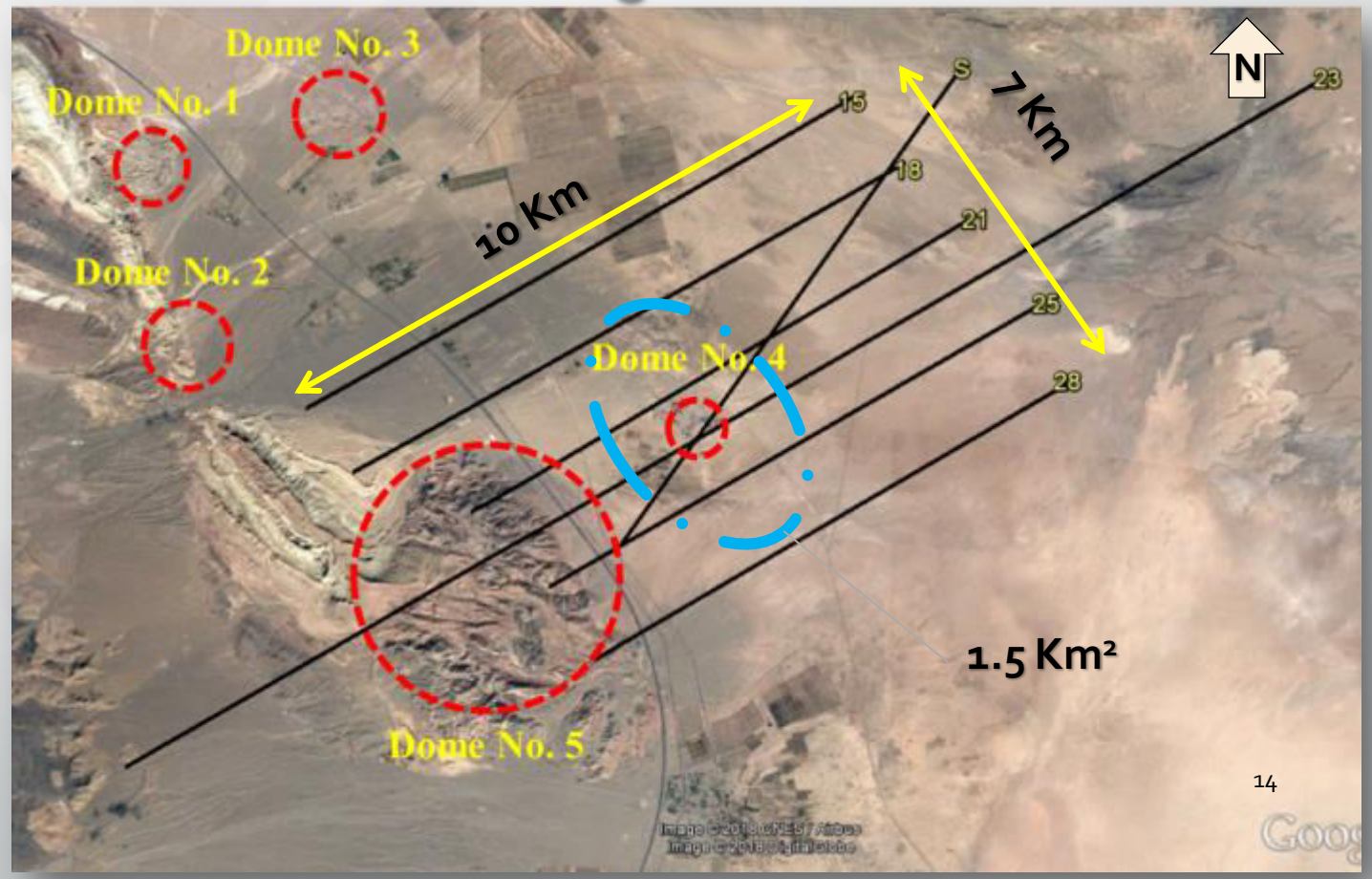
2.1.1. Exploration in an Unknown geological zones

Decrease the area for 3D seismic

- **Fast and accurate primary BMT investigation result in**
  1. **Decrease and delineate area for precise 3D seismic investigation**
  2. **Resolve regional tectonic and deep structures so fast and accurate**

70Km² is reduced to 1.5 Km²

Example from Central Iran



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2.1. The BMT method and its application in Oil & Gas exploration

2.1.1. Exploration in an Unknown geological zones

Exploration in the cases that seismic could not be a applicable method

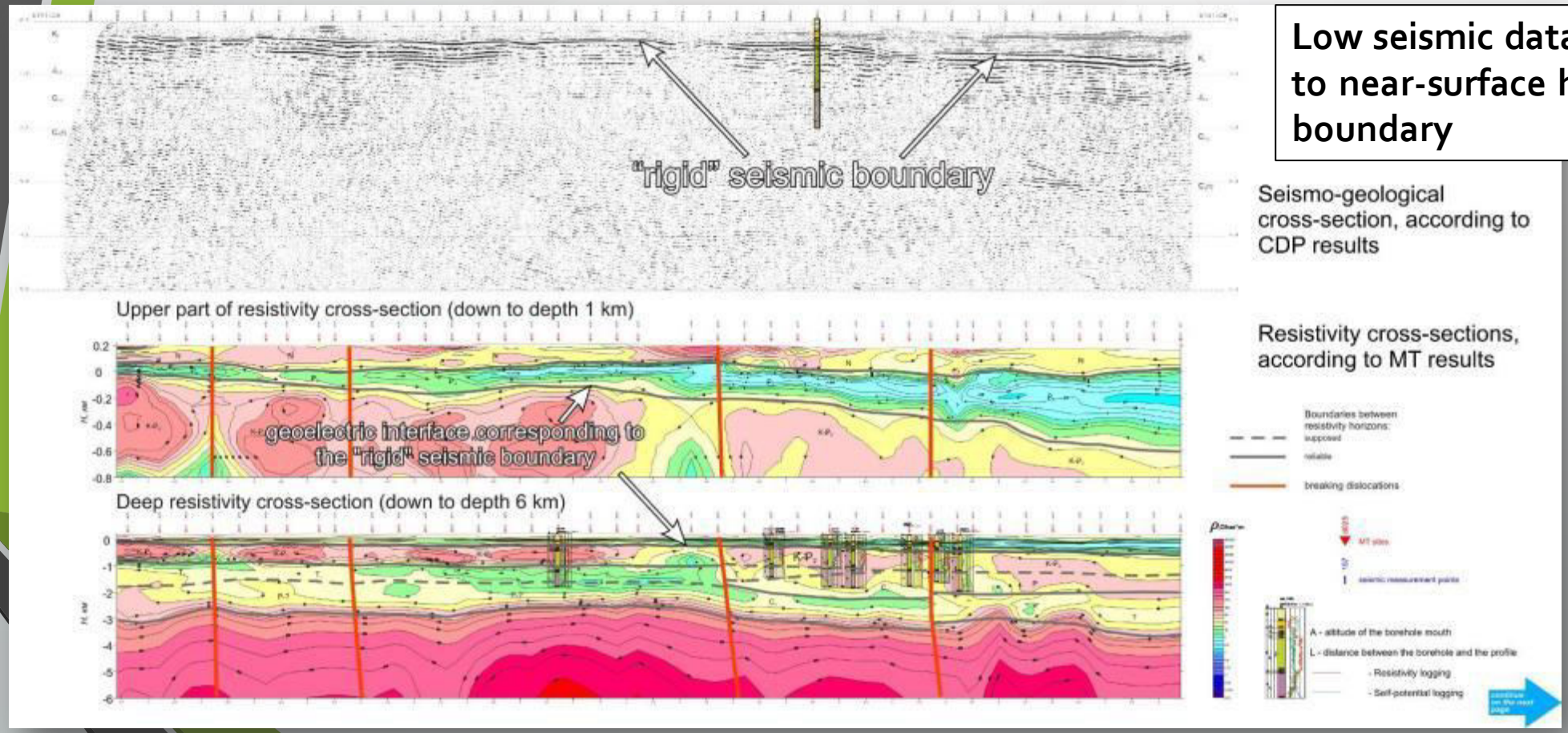
- **Seismic investigation provide week results in following cases:**
  - **Precise Shape of salt, specially flanks**
  - **Sub-salt**
  - **Sub volcanics**

2. Parts of our potential that is presented

2.1. The BMT method and its application in Oil & Gas exploration

2.1.1. Exploration in an Unknown geological zones

Exploration in the cases that seismic could not be a applicable method



Low seismic data informativeness due to near-surface high-contrast ("rigid") boundary

2. Parts of our potential that is presented

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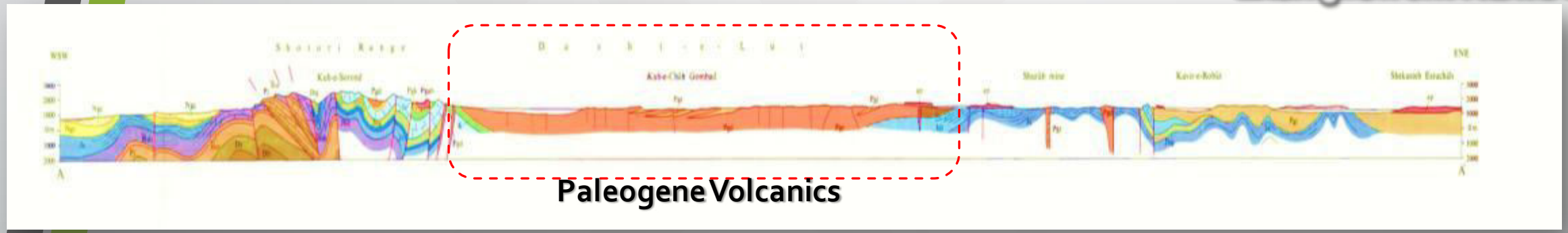
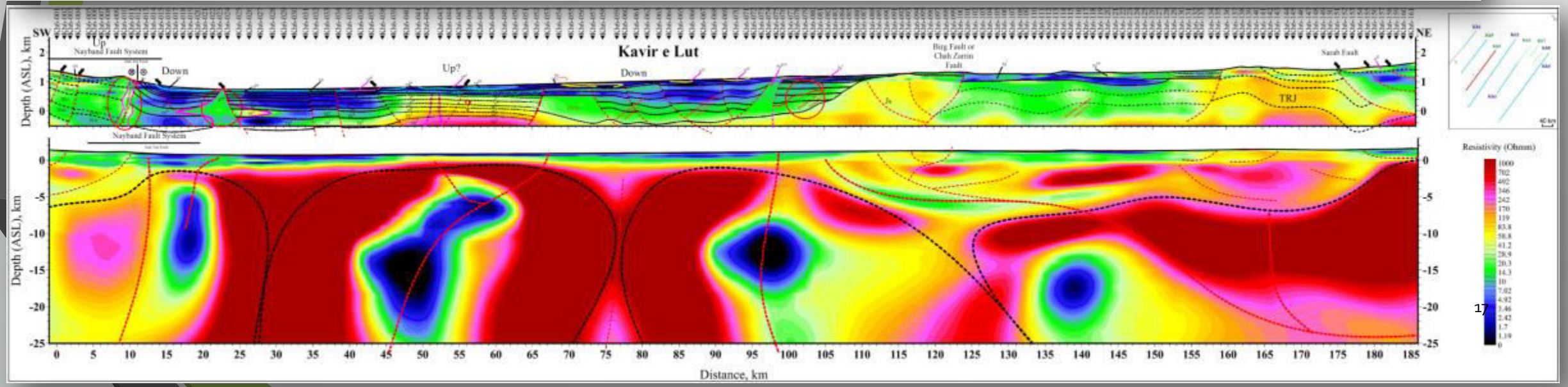
2.1.1. Exploration in an Unknown geological zones

Exploration in the cases that seismic could not be a applicable method

Example from NE IRAN



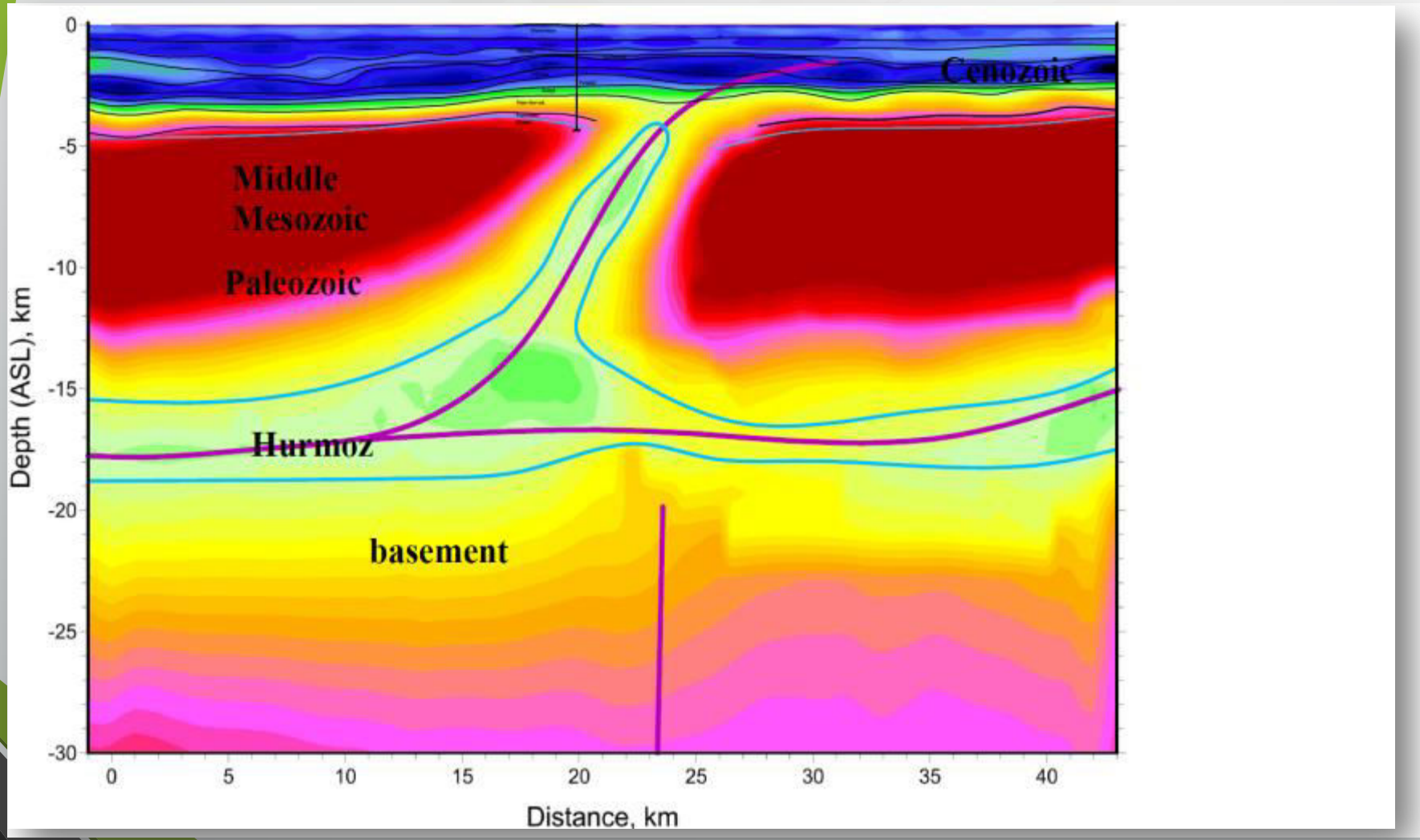


2. Parts of our potential that is presented

2.1. The BMT method and its application in Oil & Gas exploration

2.1.2. In the area that was previously investigated with seismic method

SW Iran



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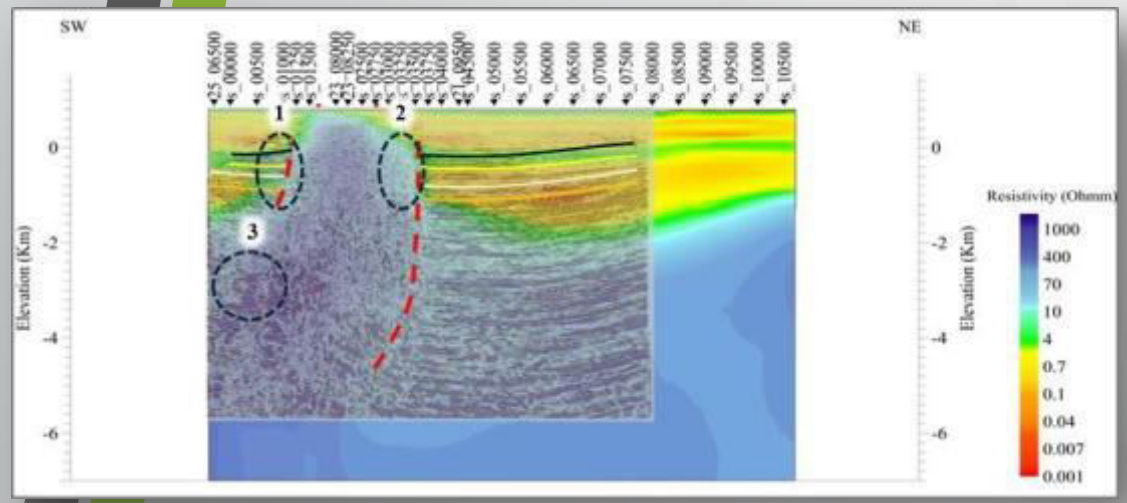
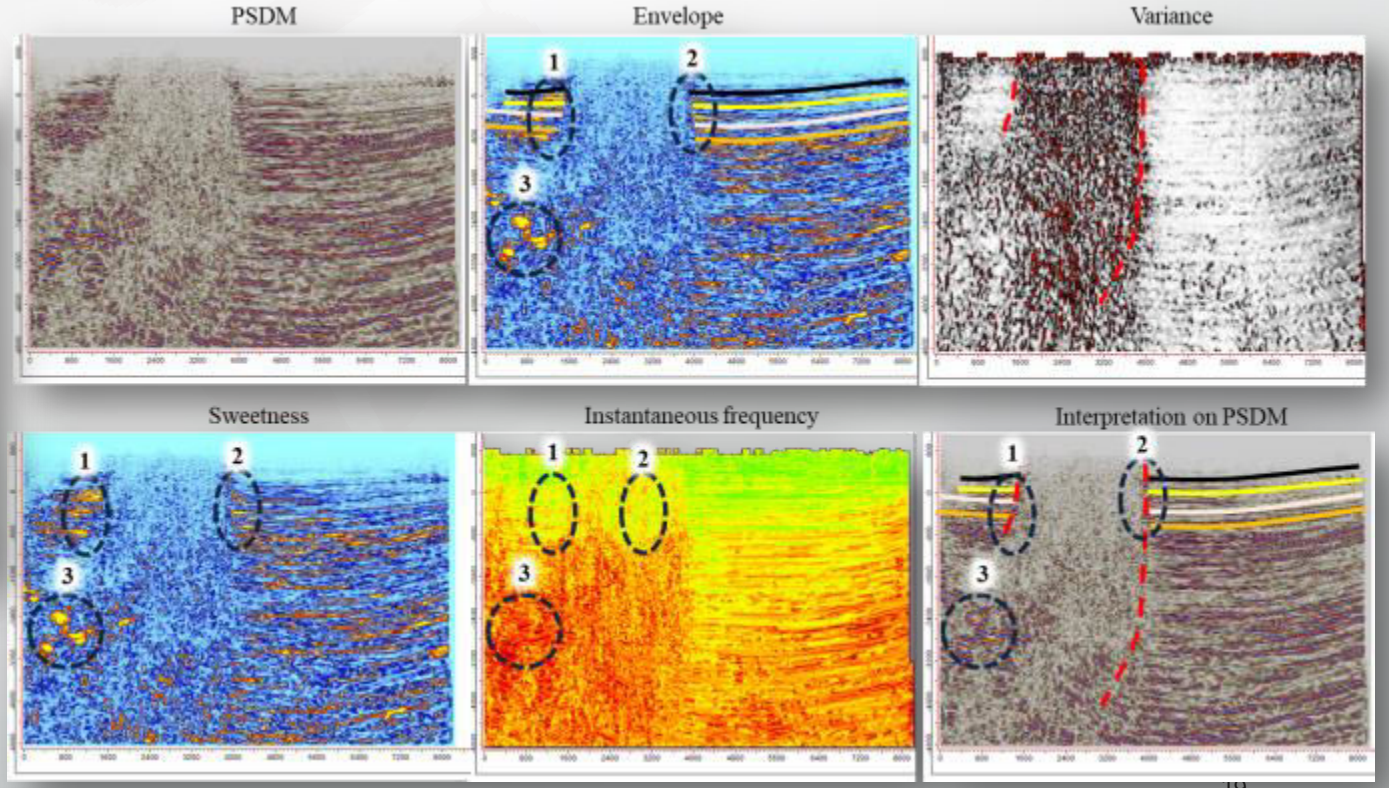
2.1.2. In the area that was previously investigated with seismic method

An integrated models of seismic and MT data



Gas traps



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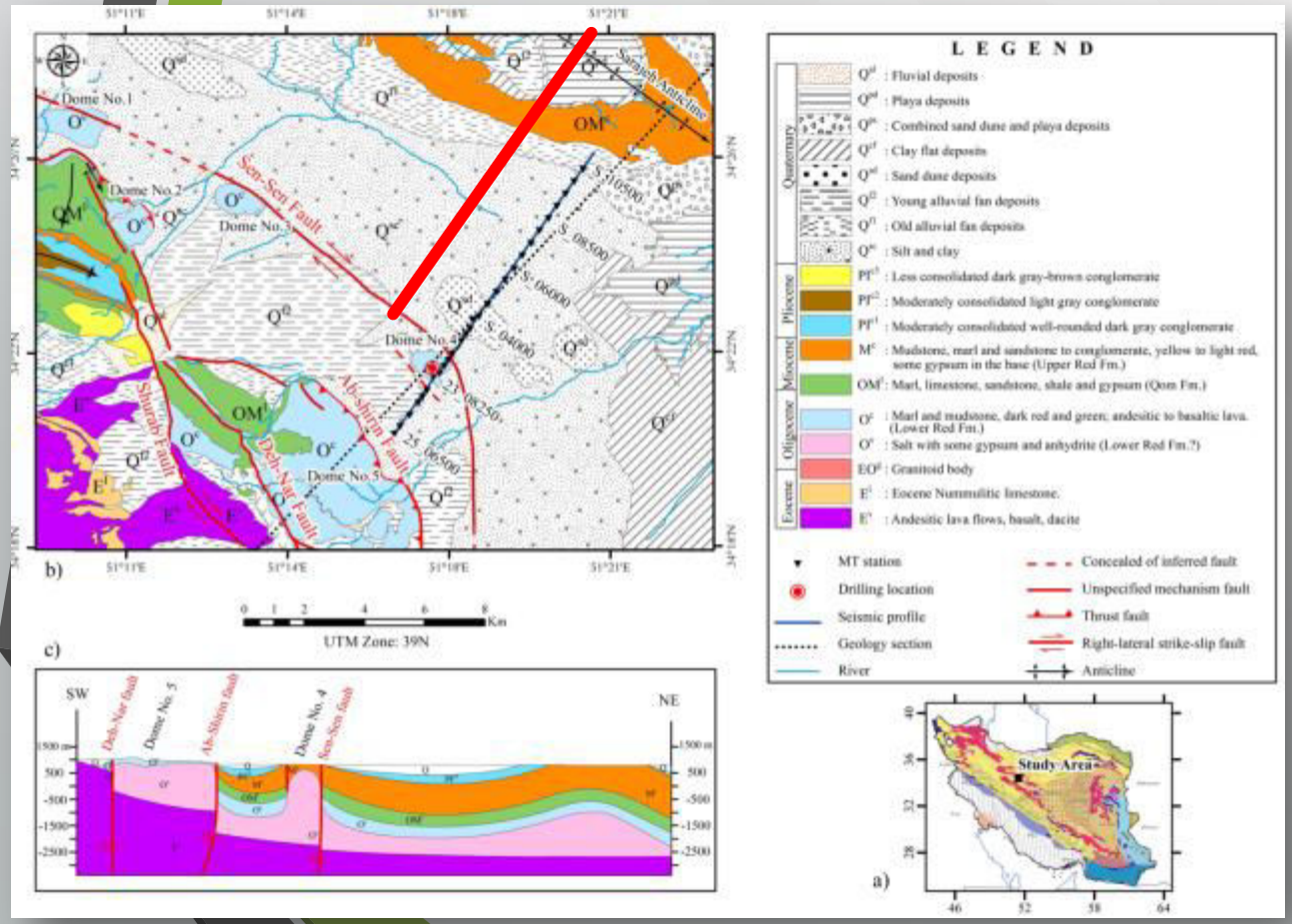
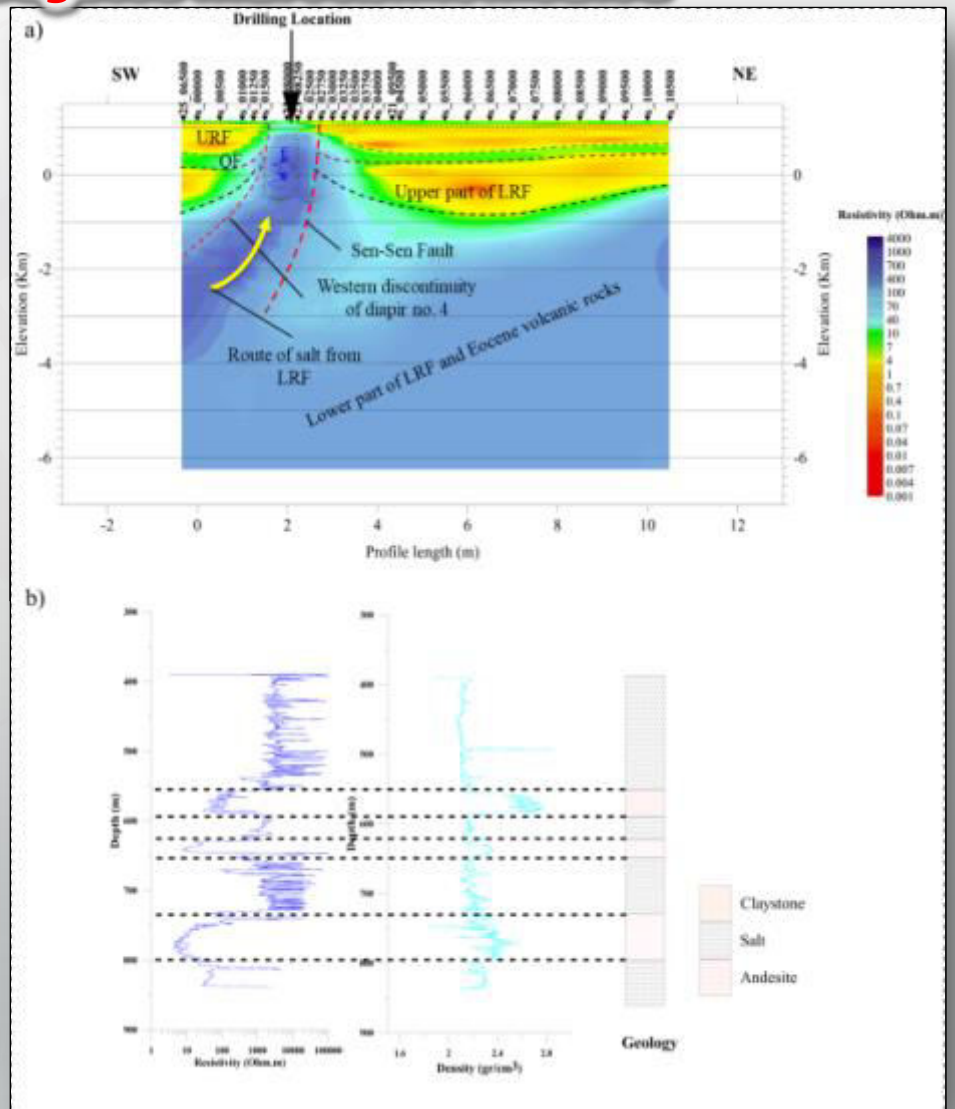
2.1. The BMT method and its application in Oil & Gas exploration

2.1.2. In the area that was previously investigated with seismic method

Joint Inversion of Seismic and MT data





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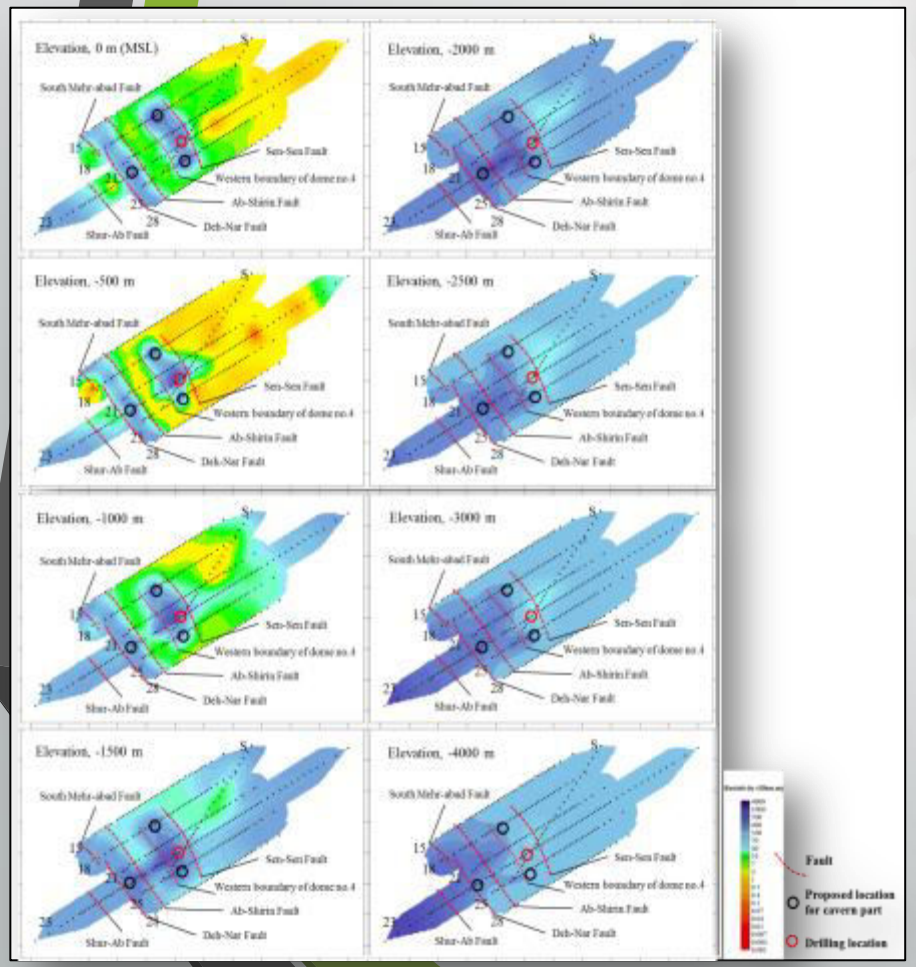
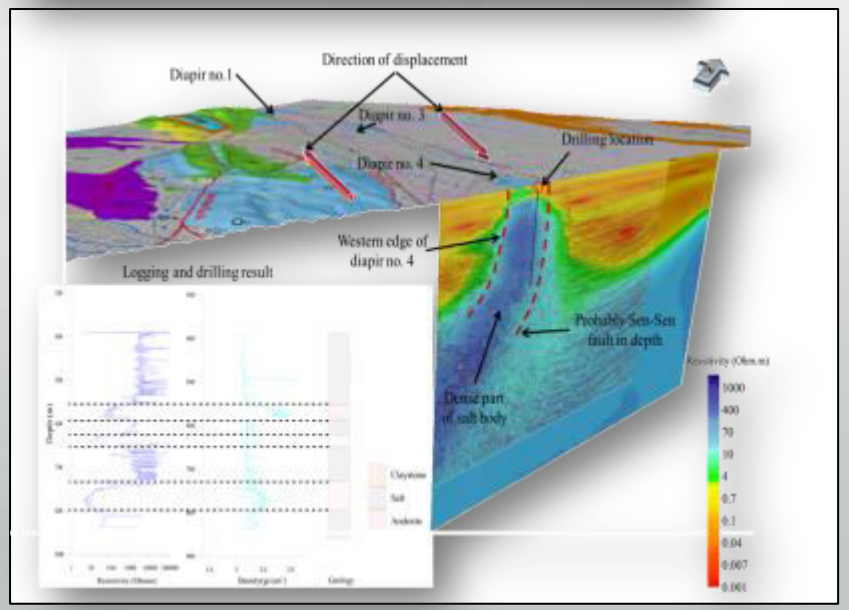
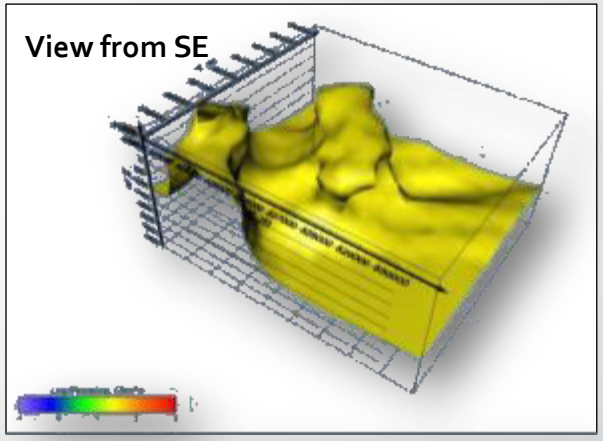
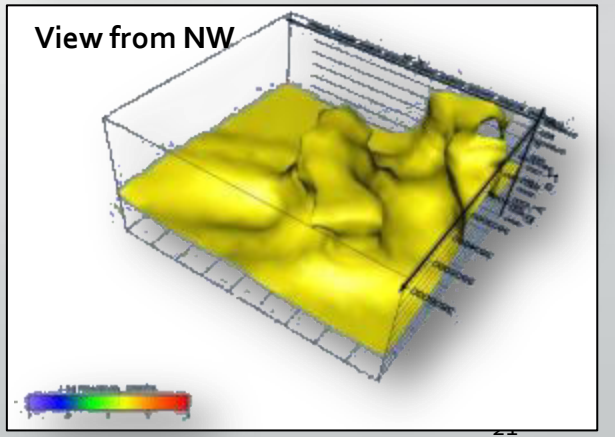
Joint Inversion of Seismic and MT data





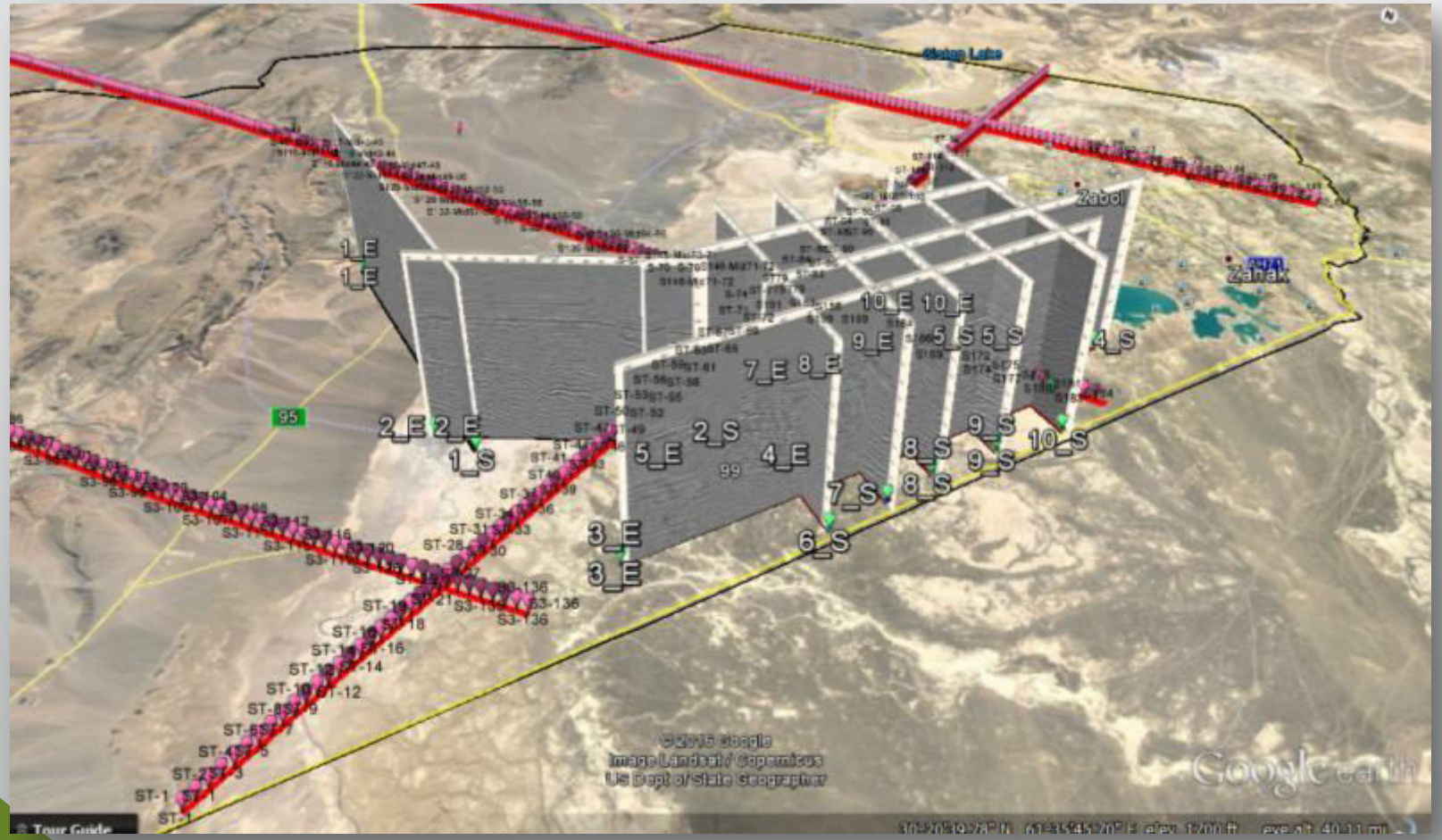




2. Parts of our potential that is presented

2.2. Geological services, Well design and supervision on drilling program

Deep water exploration



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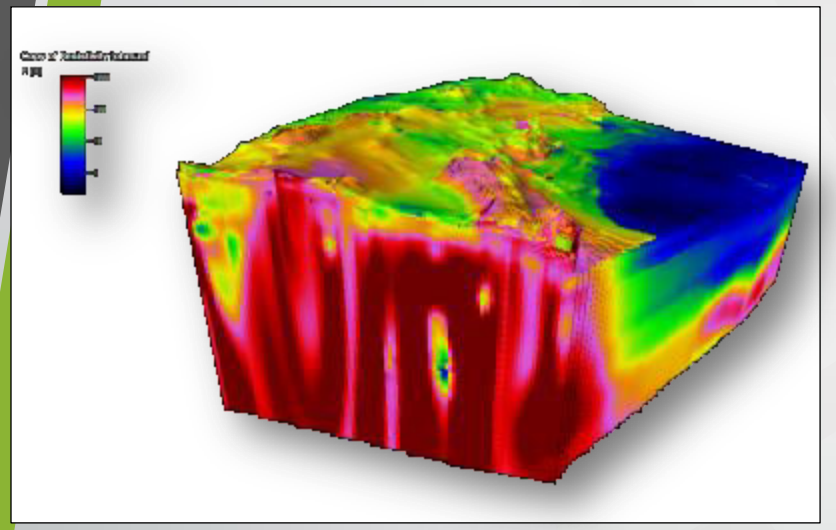
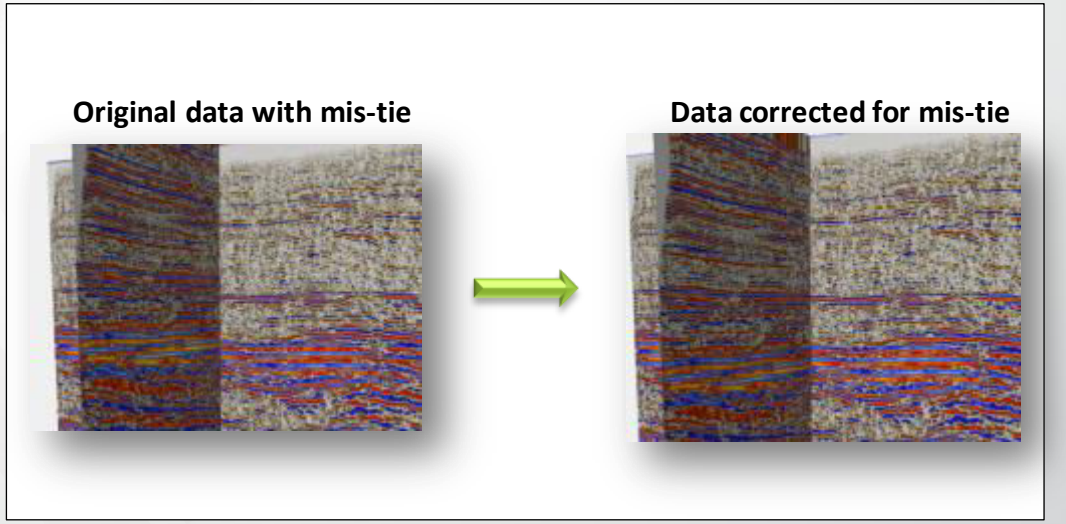
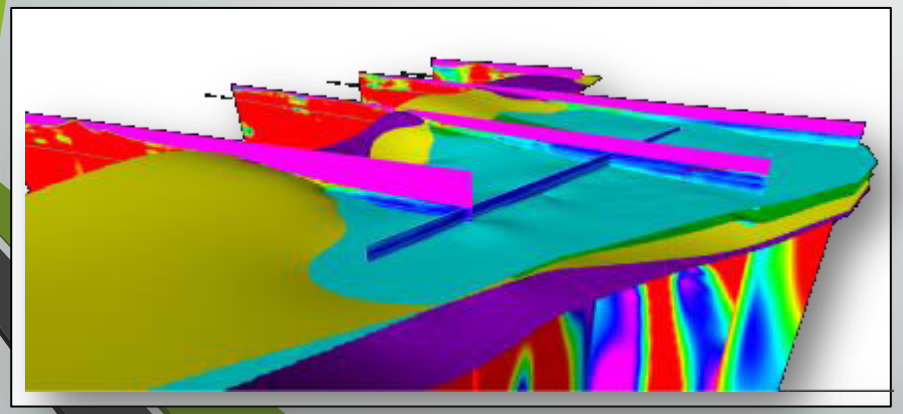
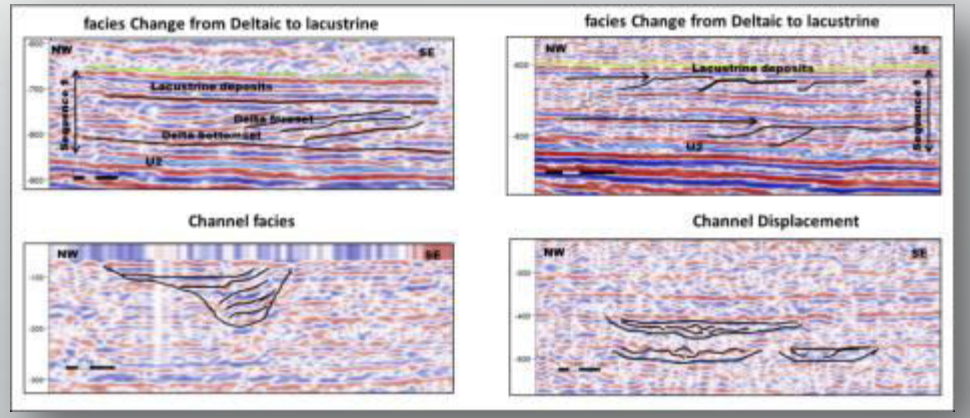
2.2. Geological services, Well design and supervision on drilling program

Integrated interpretation of seismic and MT data









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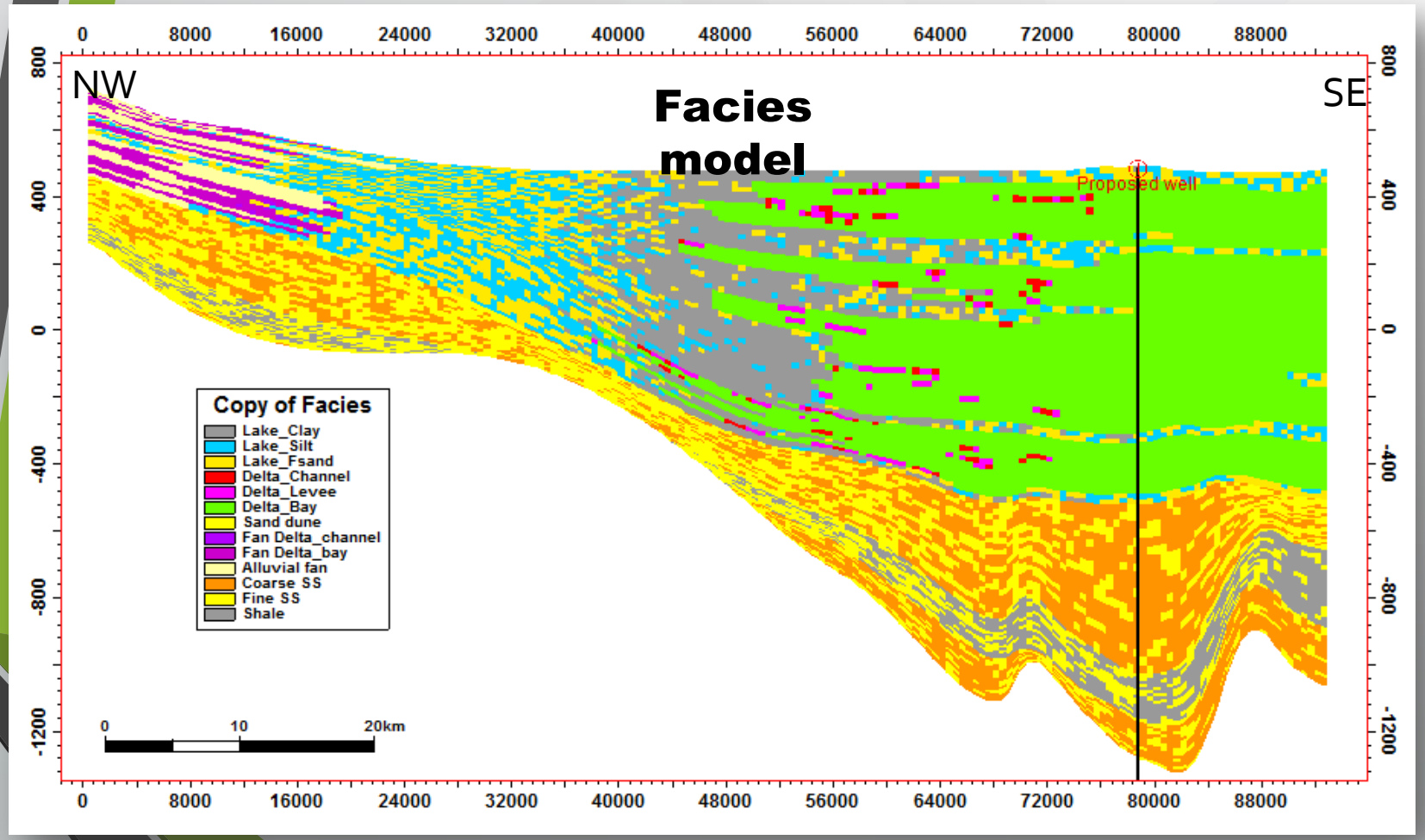
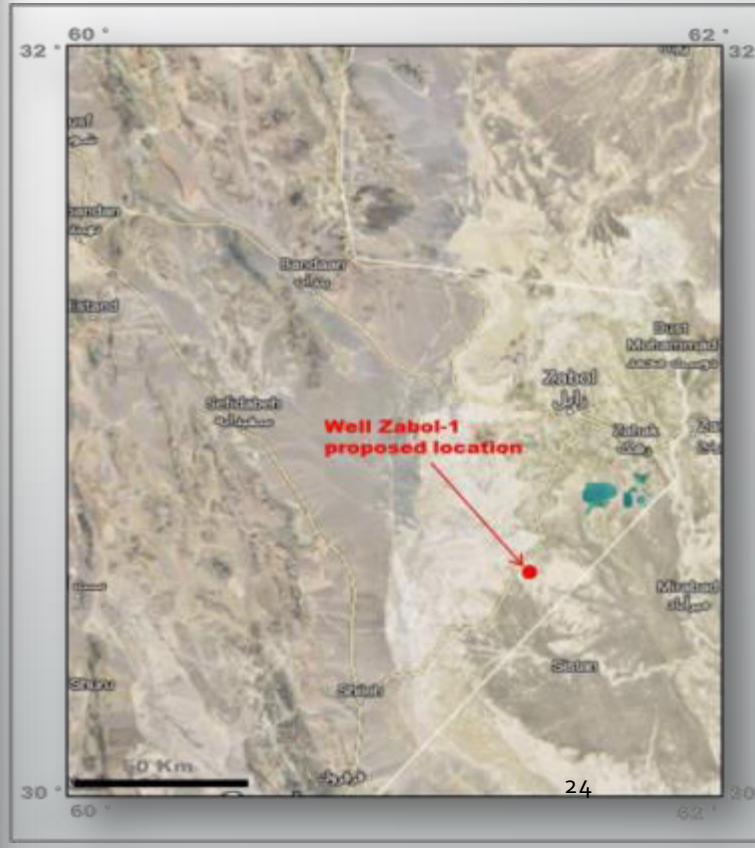
2.2. Geological services, Well design and supervision on drilling operations

Well design for a WILD CAT Exploration well

Example from SE IRAN





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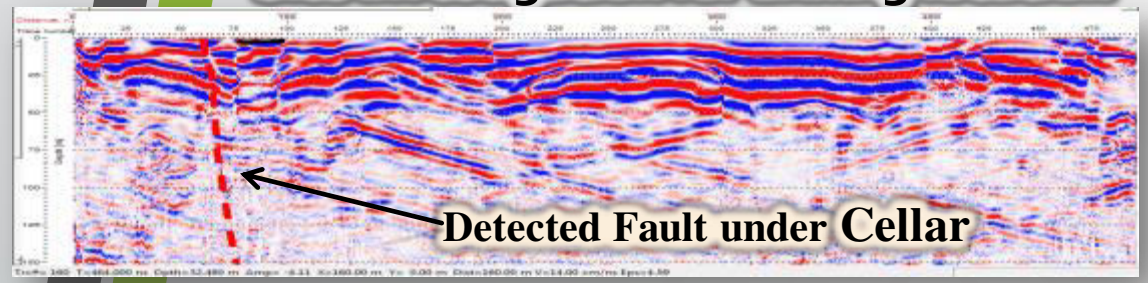
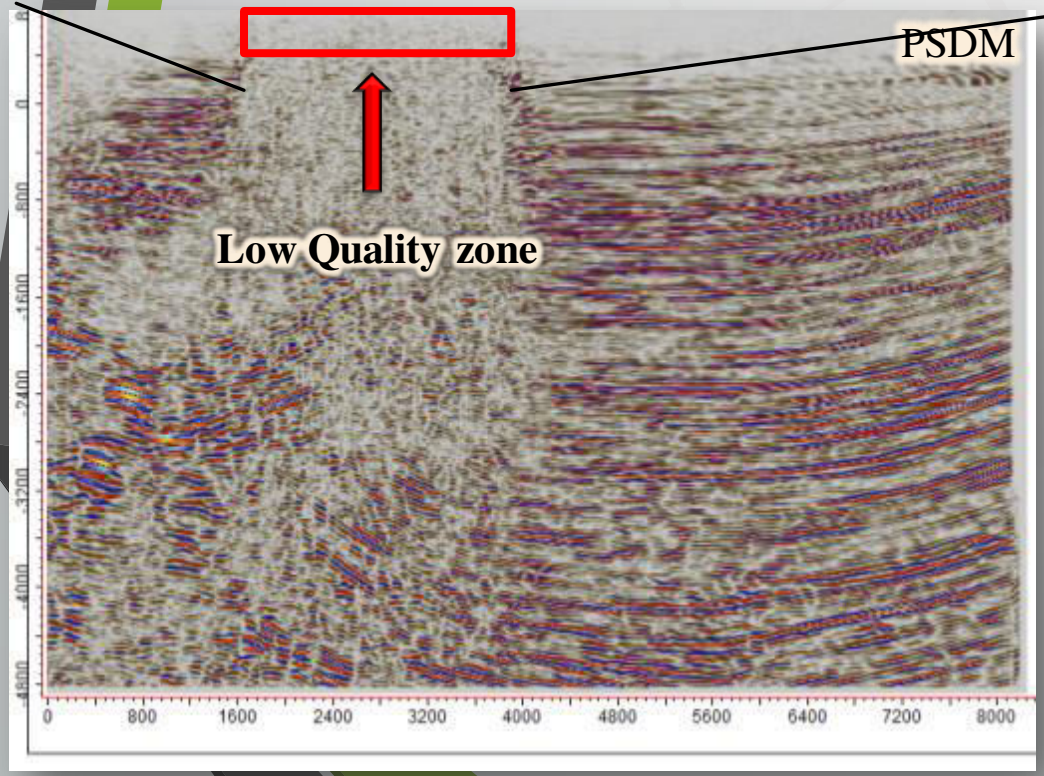
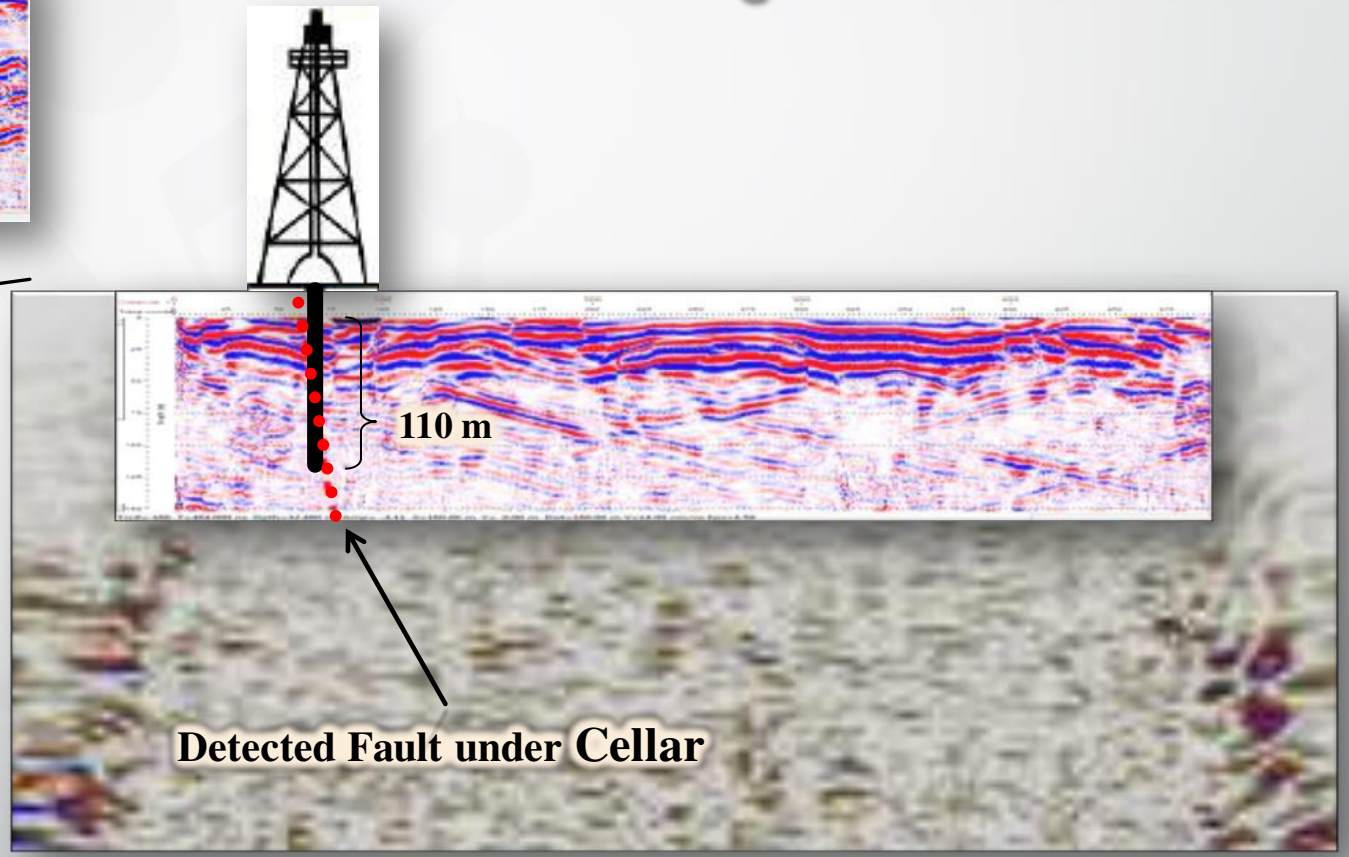
2.2. Geological services, Well design and supervision on drilling operations

Site investigation for drilling location





Example from Central IRAN



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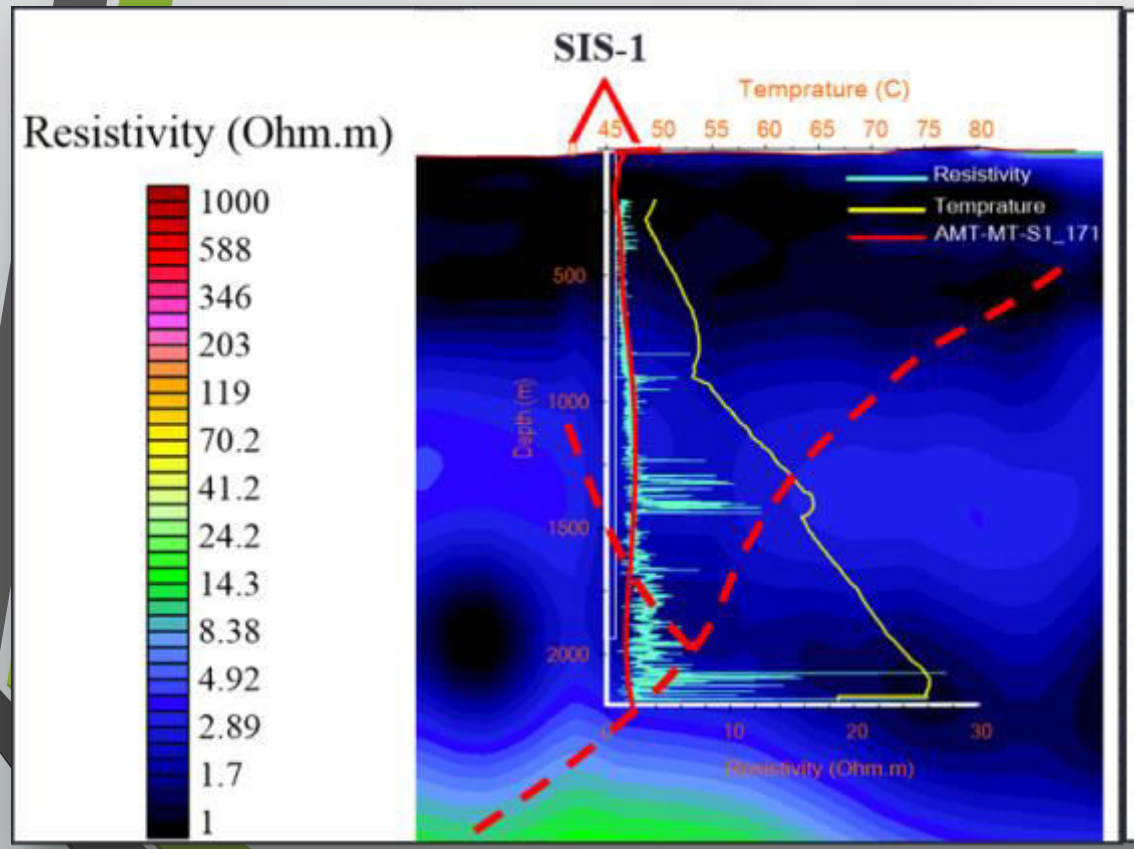
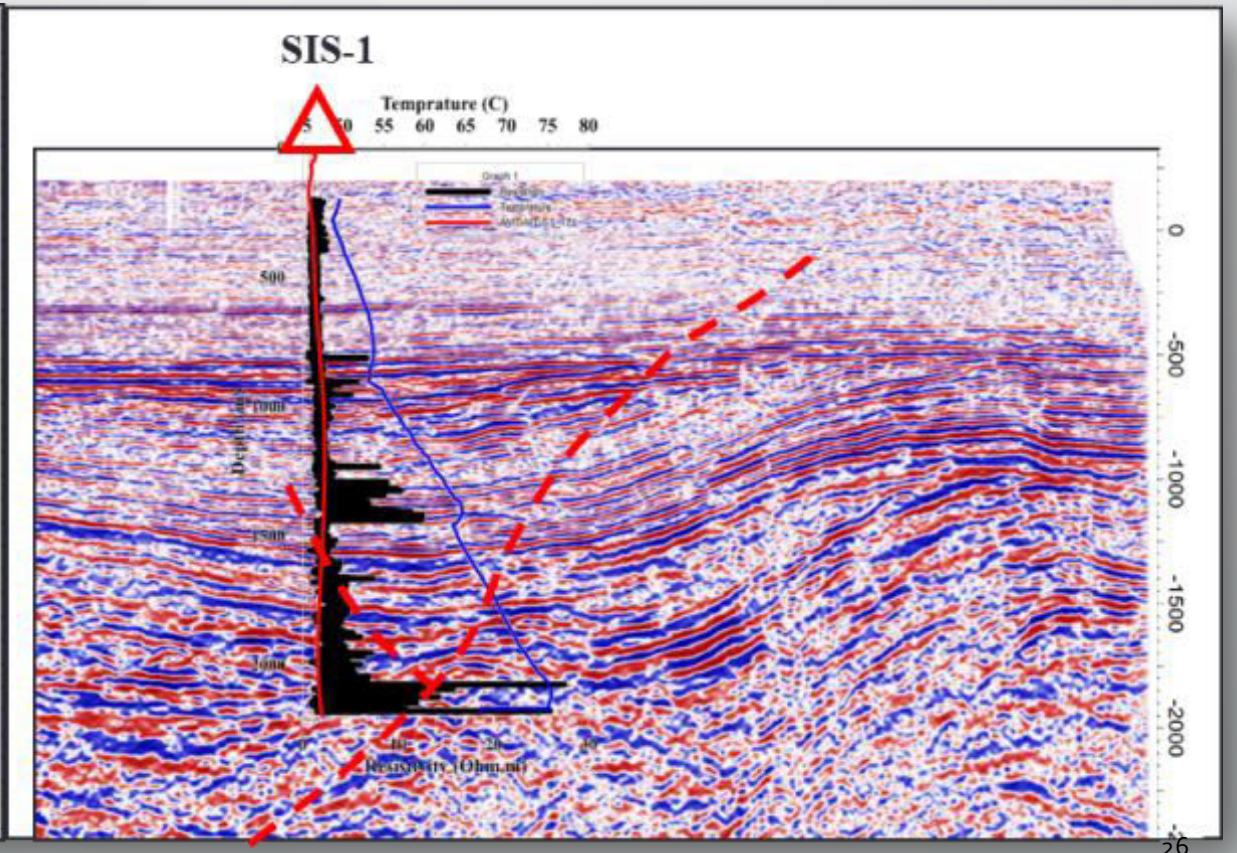
2.2. Geological services, Well design and supervision on drilling operations

supervision on drilling program

SE IRAN





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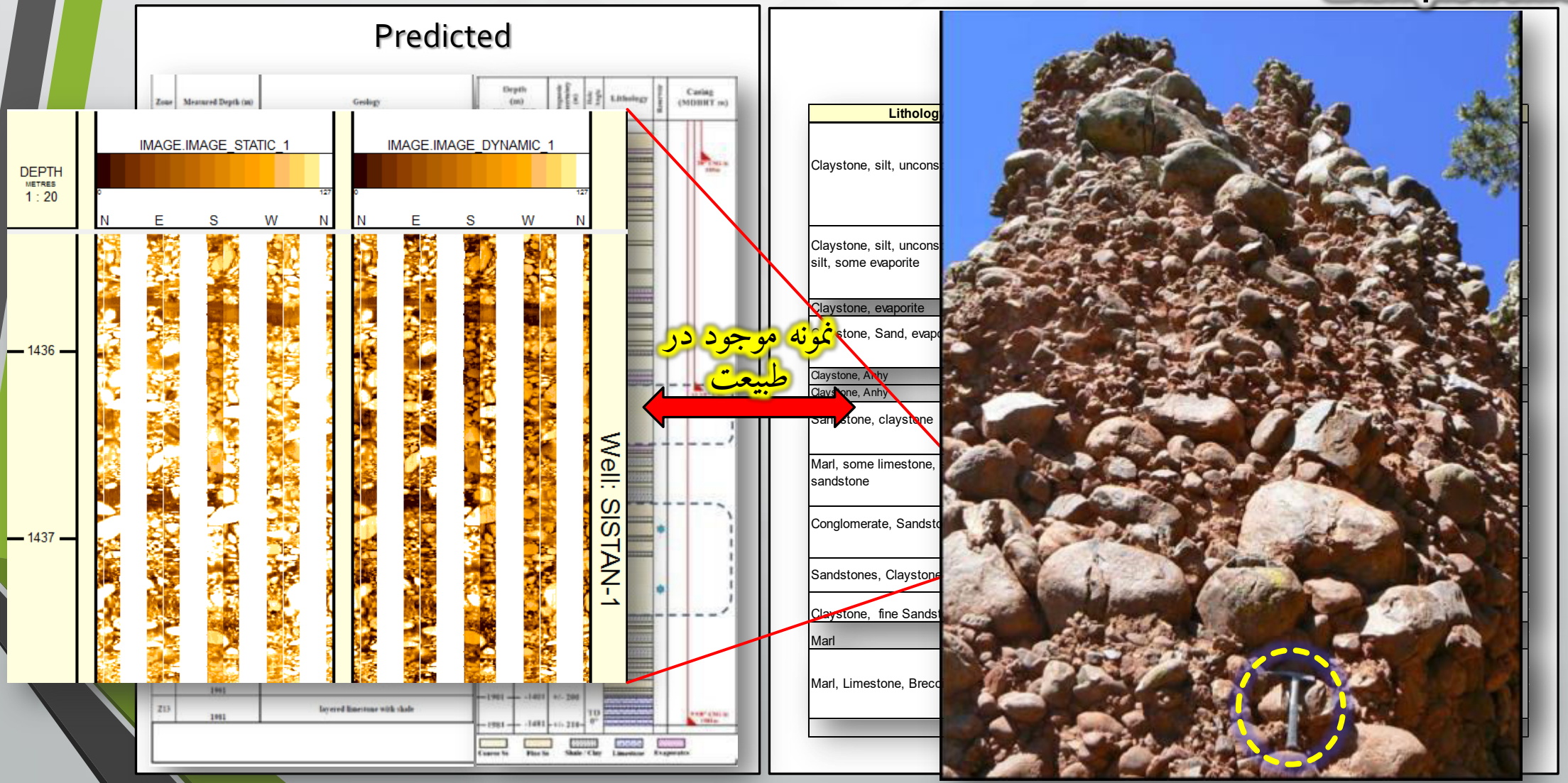
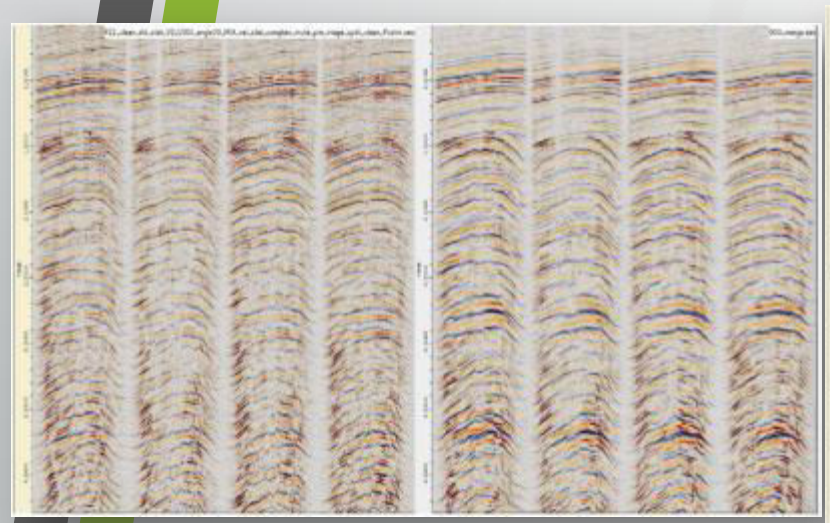


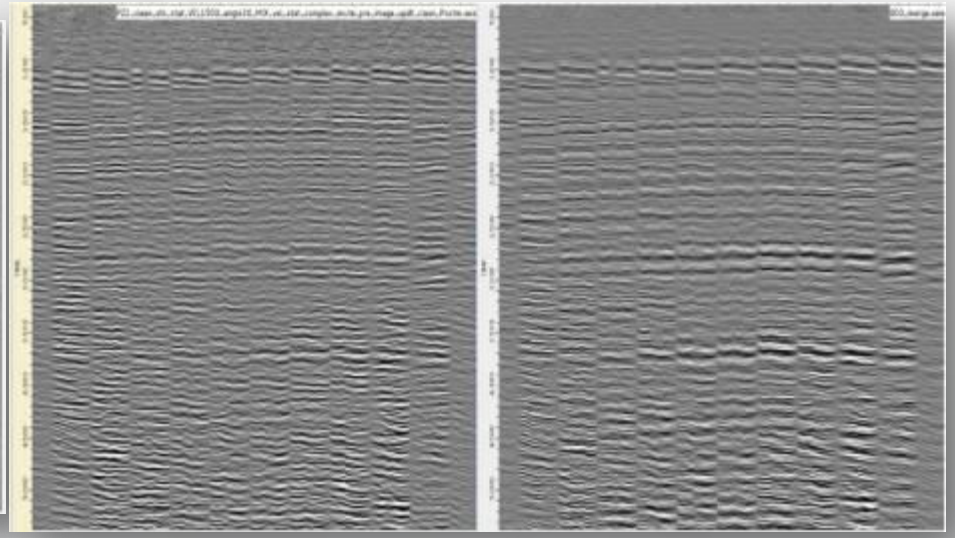
3. Seismic

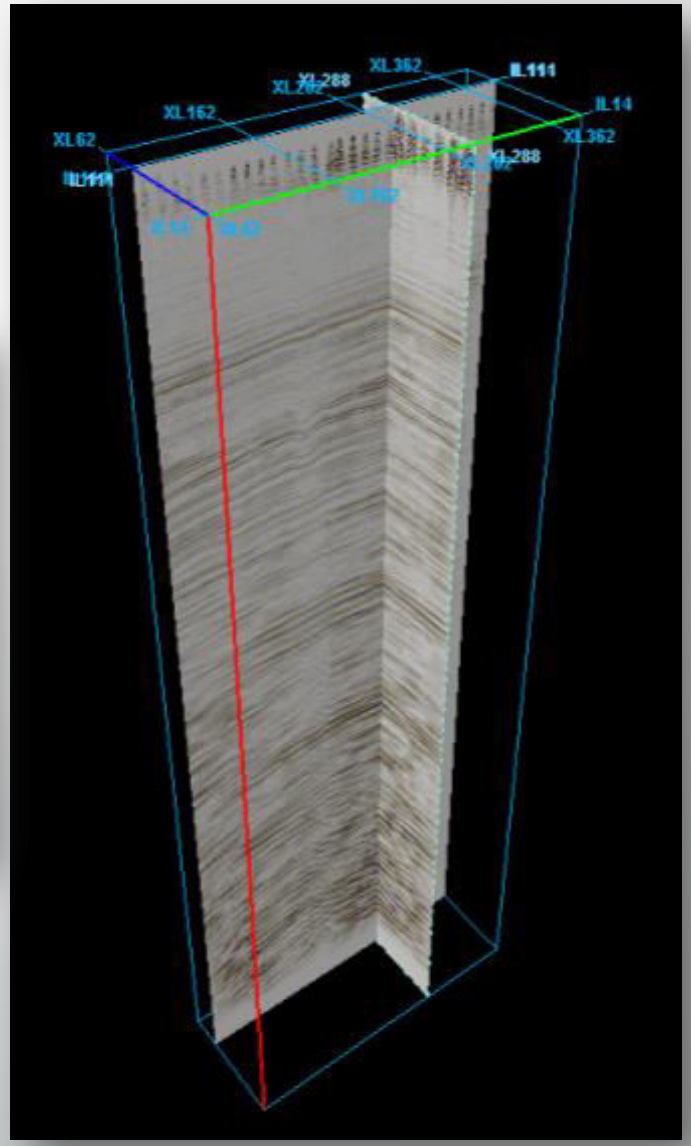
3.1. Improvement seismic processing

2.1.1. Exploration in an Unknown geological zones

Test Processing for Ocean Bottom Cable (OBC)







Thank You

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