

A faint, light blue world map is centered in the background of the slide, showing the continents and oceans.

Mud Line Cellar Construction for Arctic Wells

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Shell

Anchorage, AK

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Overview

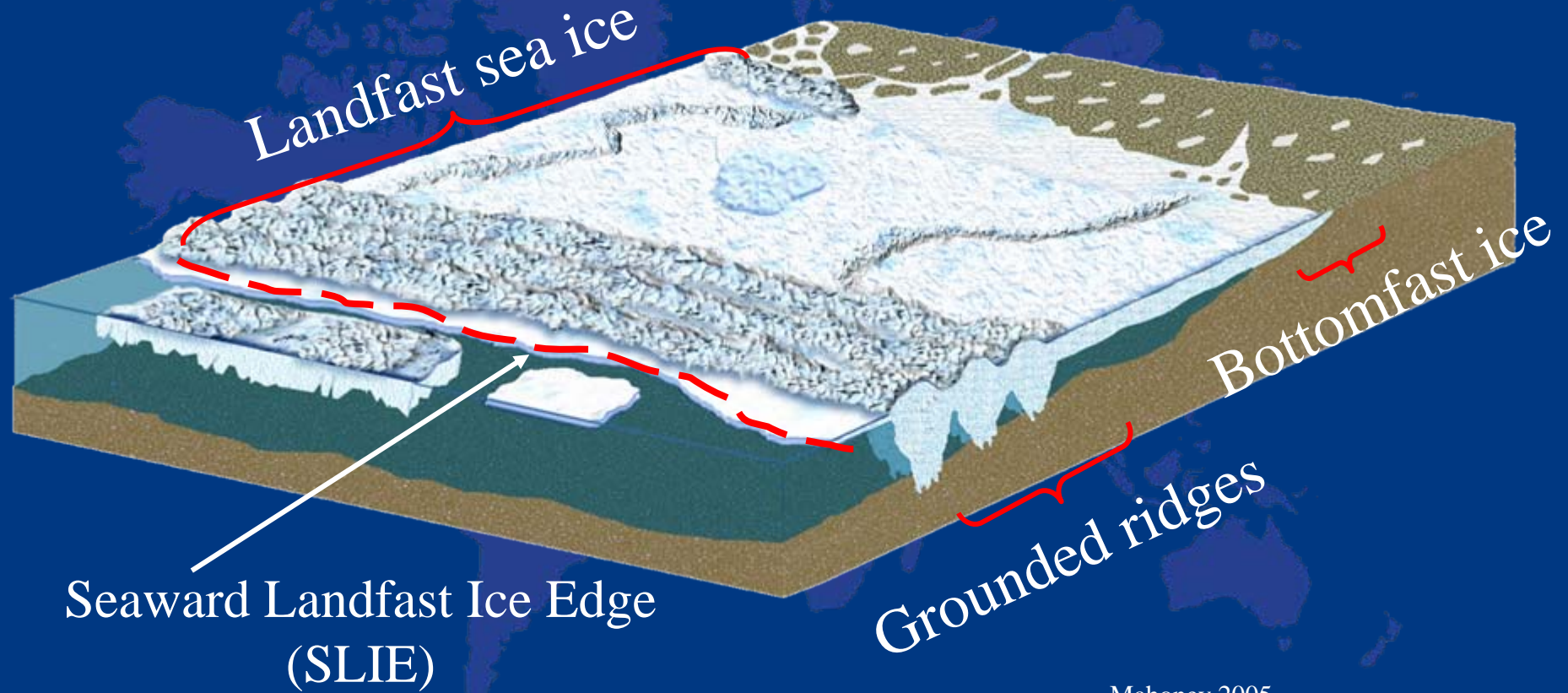
ALASKA EXPLORATION

- Why
- Mud Line Cellar Defined
- Challenges
- Construction Equipment



Why - Ice

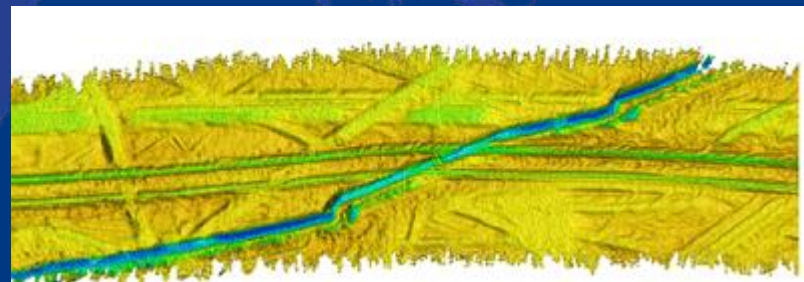
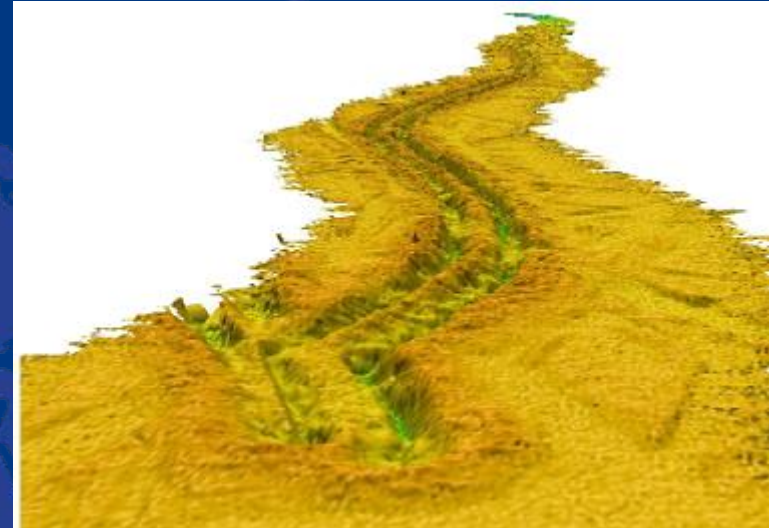
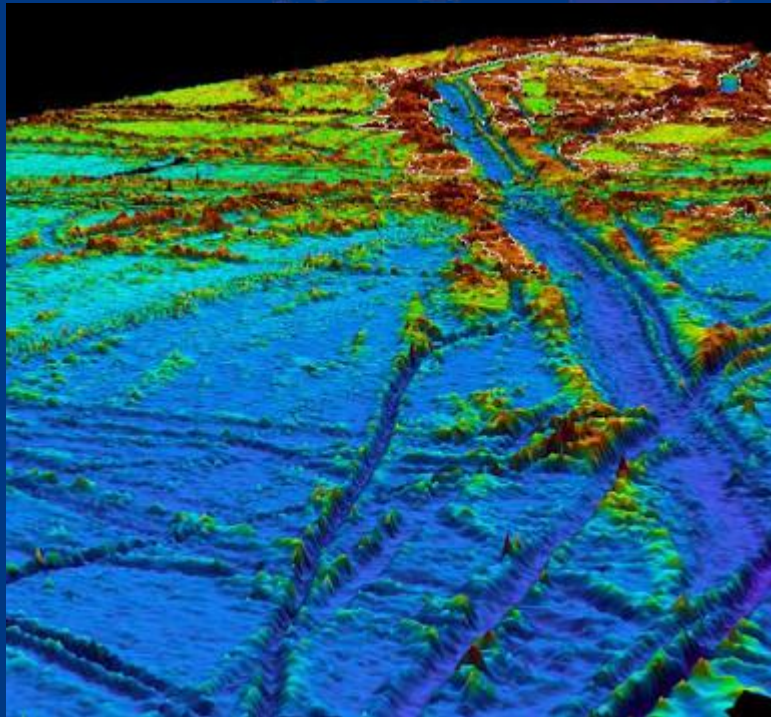
ALASKA EXPLORATION



Mahoney 2005

Why - Ice Scour

Multi-beam sonar images



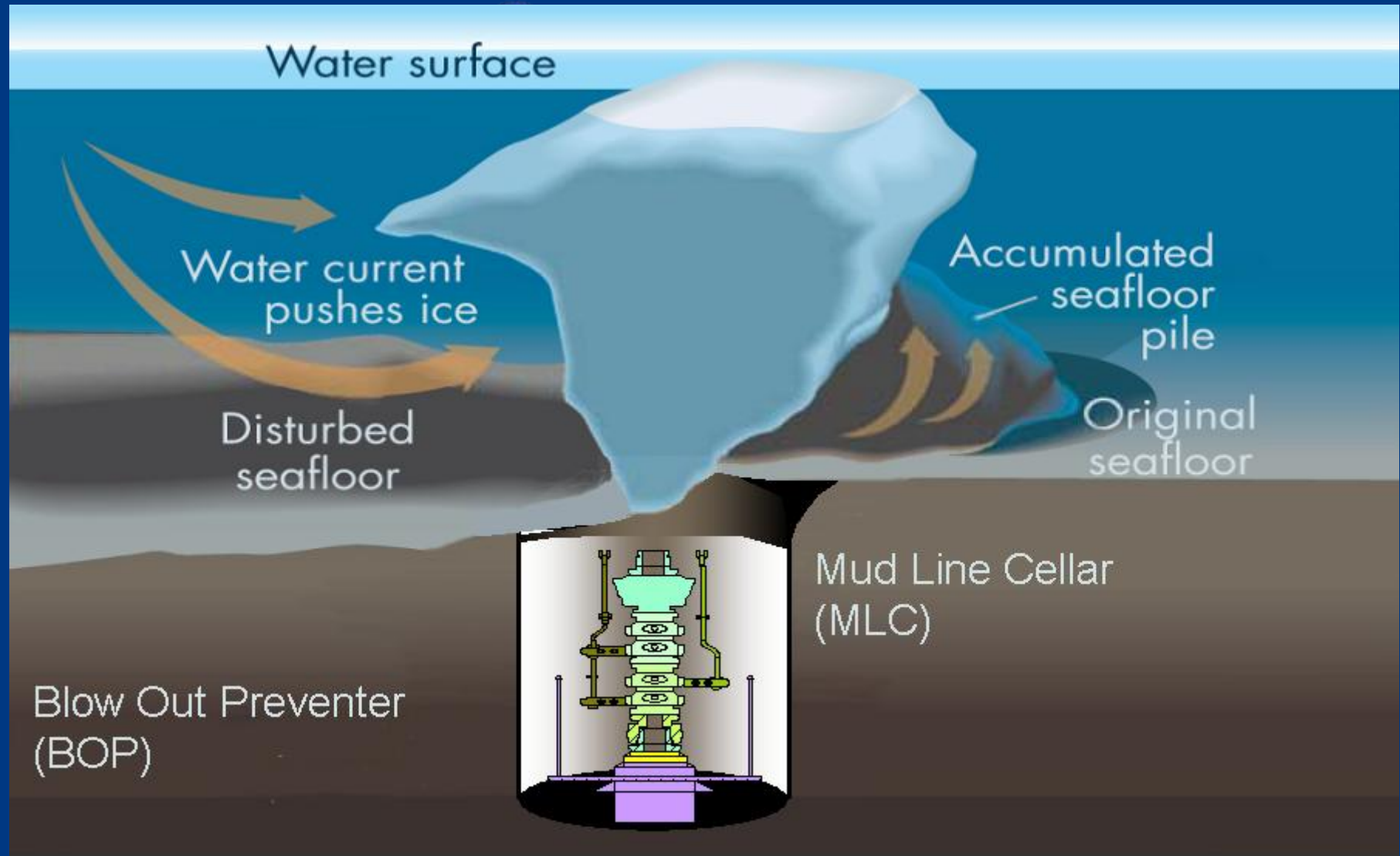
Mud Line Cellar Defined

ALASKA EXPLORATION

- MMS CFR § 250.451 (h)
 - If you encounter the following situation:
 - Use a sub-sea BOP system in an ice-scour area
 - Then you must:
 - Install the BOP stack in a mud line cellar. The mud line cellar must be deep enough to ensure that the top of the stack is below the deepest probable ice-scour depth.

Mud Line Cellar

ALASKA EXPLORATION



- Hydraulically powered rotary plow bit ~20ft diameter
- Drilling riser modified to transmit 250,000 ft-lbs
- High Pressure jet system (use C&K lines)
- Cuttings suction and discharge system
- Torque arrestor system

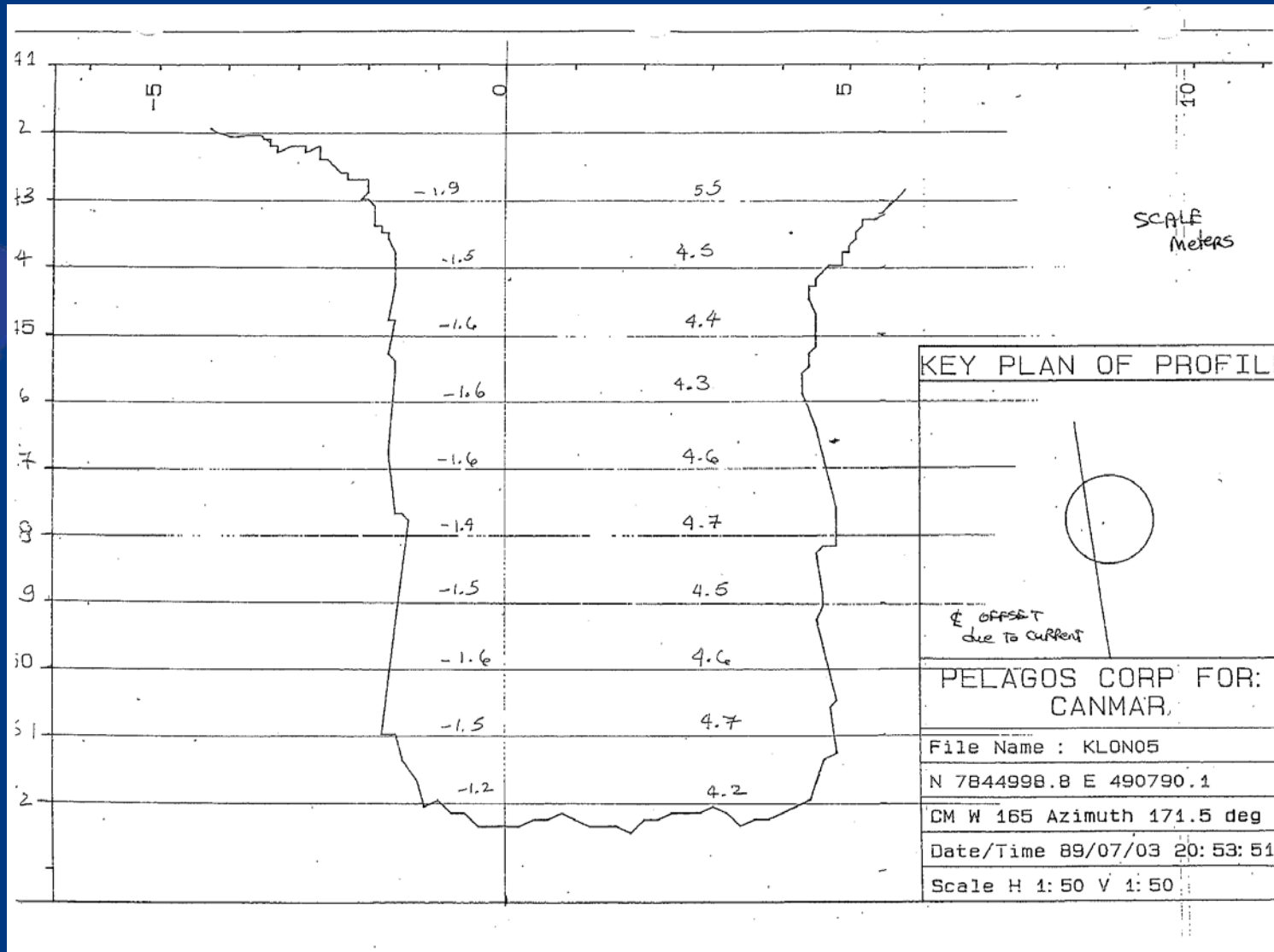
Auxiliary systems

- Air compressors
- Hydraulic power systems
- HP water
- Control system
- Data gathering and hole profiling



Actual Profile

ALASKA EXPLORATION



THANK YOU

ALASKA EXPLORATION

