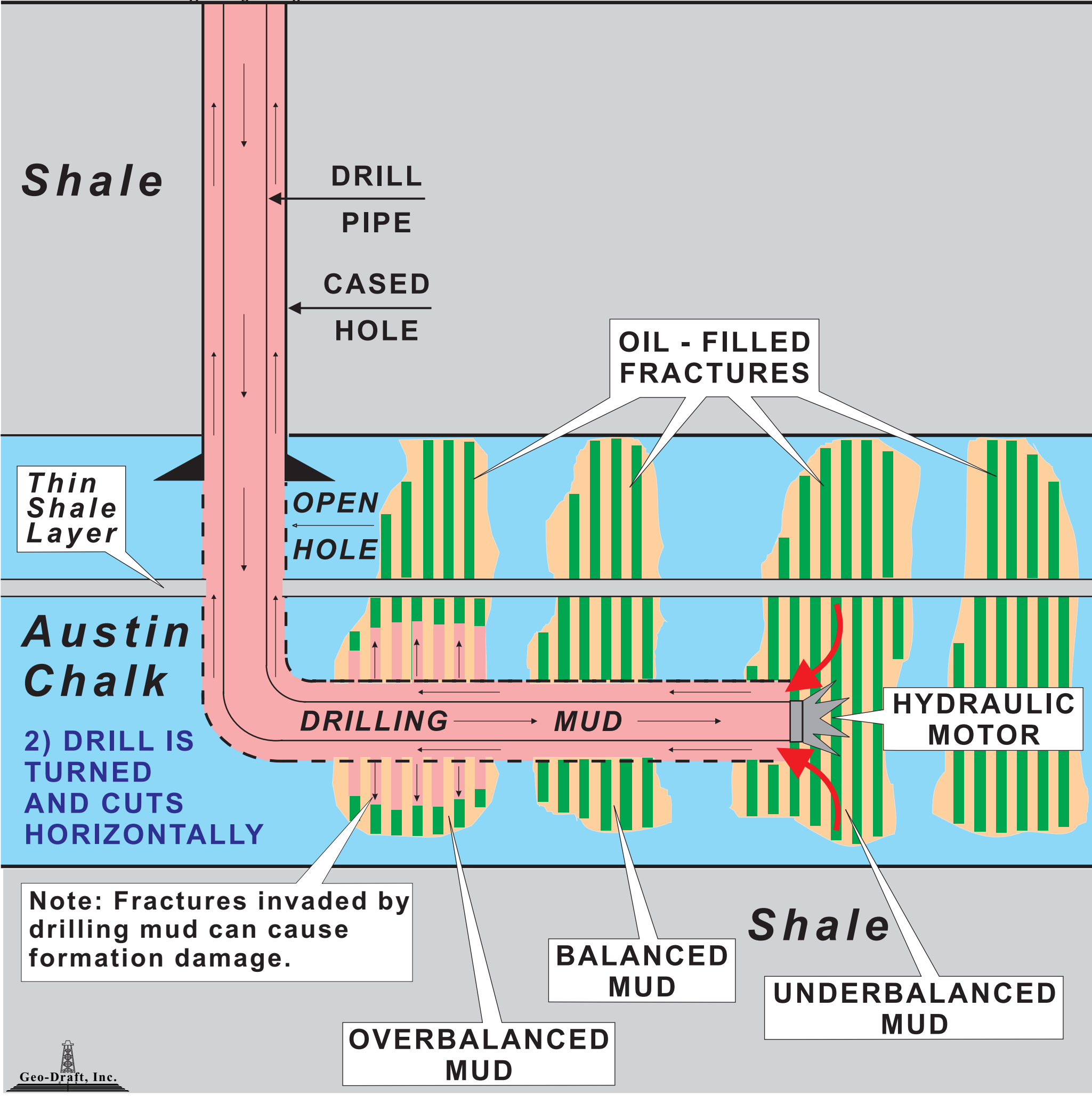
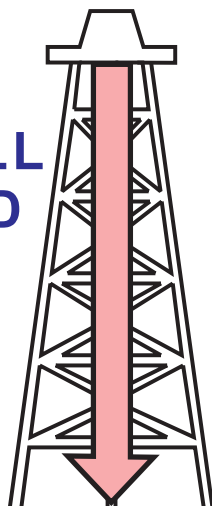


**- SCHEMATIC DIAGRAM -
HORIZONTAL DRILLING
AUSTIN CHALK TREND
VERTICALLY FRACTURED LIMESTONE**

1) OIL WELL IS DRILLED STRAIGHT DOWN

Horizontal drilling taps into several pockets of oil. Approached the old fashioned way, each pocket would require a separate vertical well, increasing cost and the possibility of failure.



Shale

Thin Shale Layer

Austin Chalk

2) DRILL IS TURNED AND CUTS HORIZONTALLY

Note: Fractures invaded by drilling mud can cause formation damage.



**DRILL PIPE
CASED HOLE**

OIL - FILLED FRACTURES

OPEN HOLE

DRILLING MUD

HYDRAULIC MOTOR

BALANCED MUD

OVERBALANCED MUD

Shale

UNDERBALANCED MUD