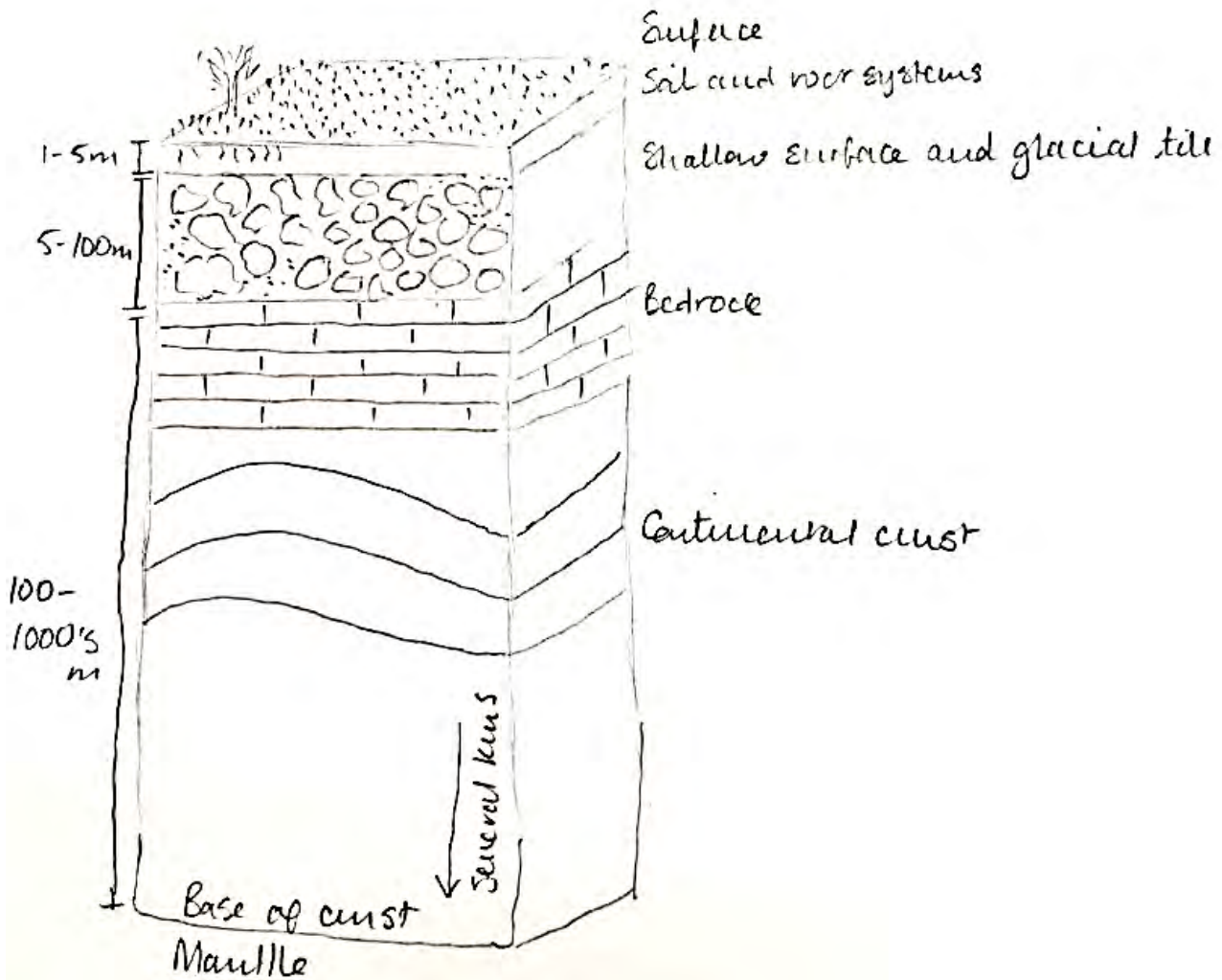
Subsurface

Please sketch the ground under your feet down to any depth within the Earth/beneath the ground

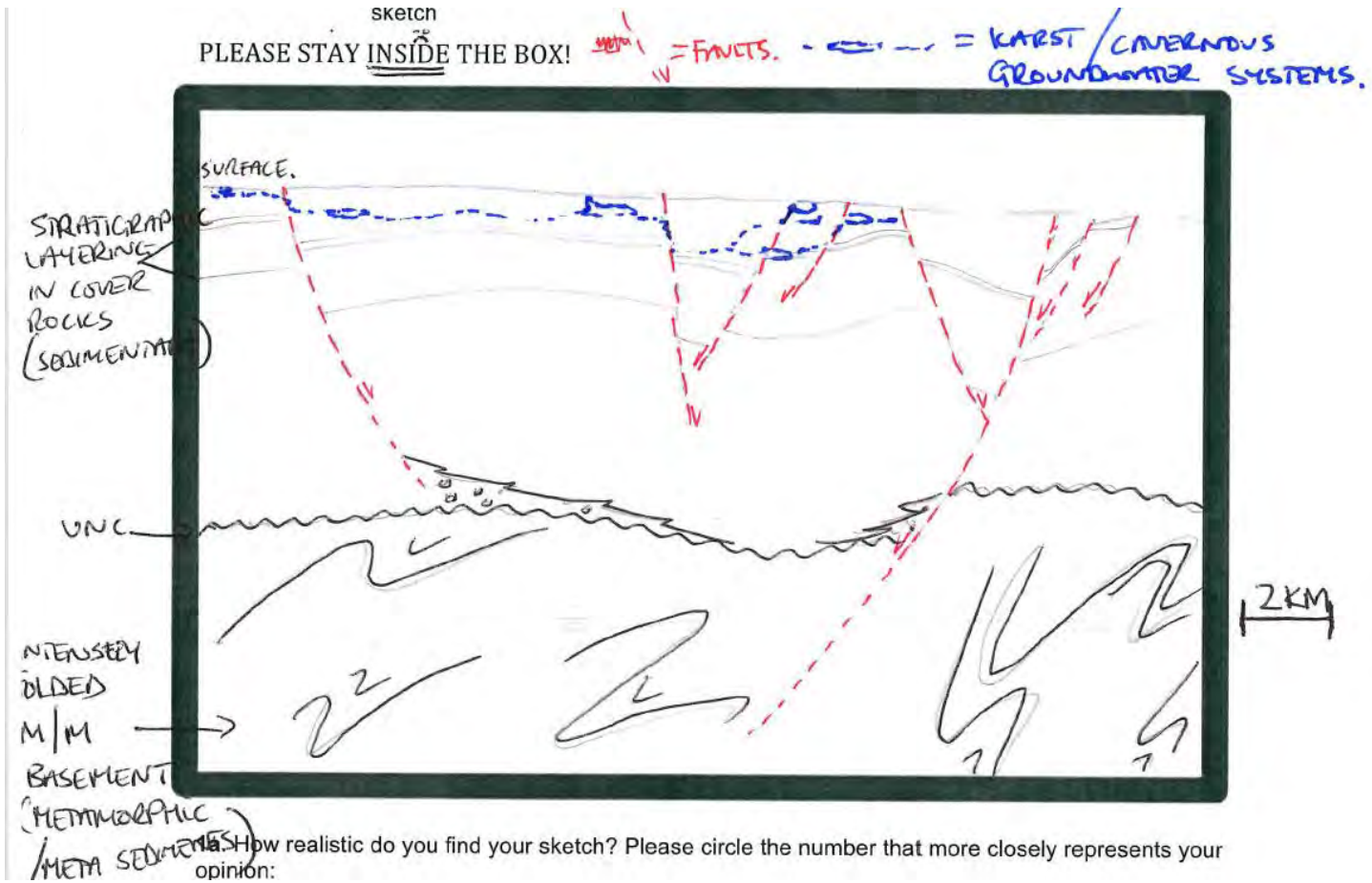

Surface
Soil and river systems
1-5m
Shallow surface and glacial till
5-100m
Bedrock
Continental crust
100-
1000's
m
several kms
Base of crust
Mantle

Expert

Expert

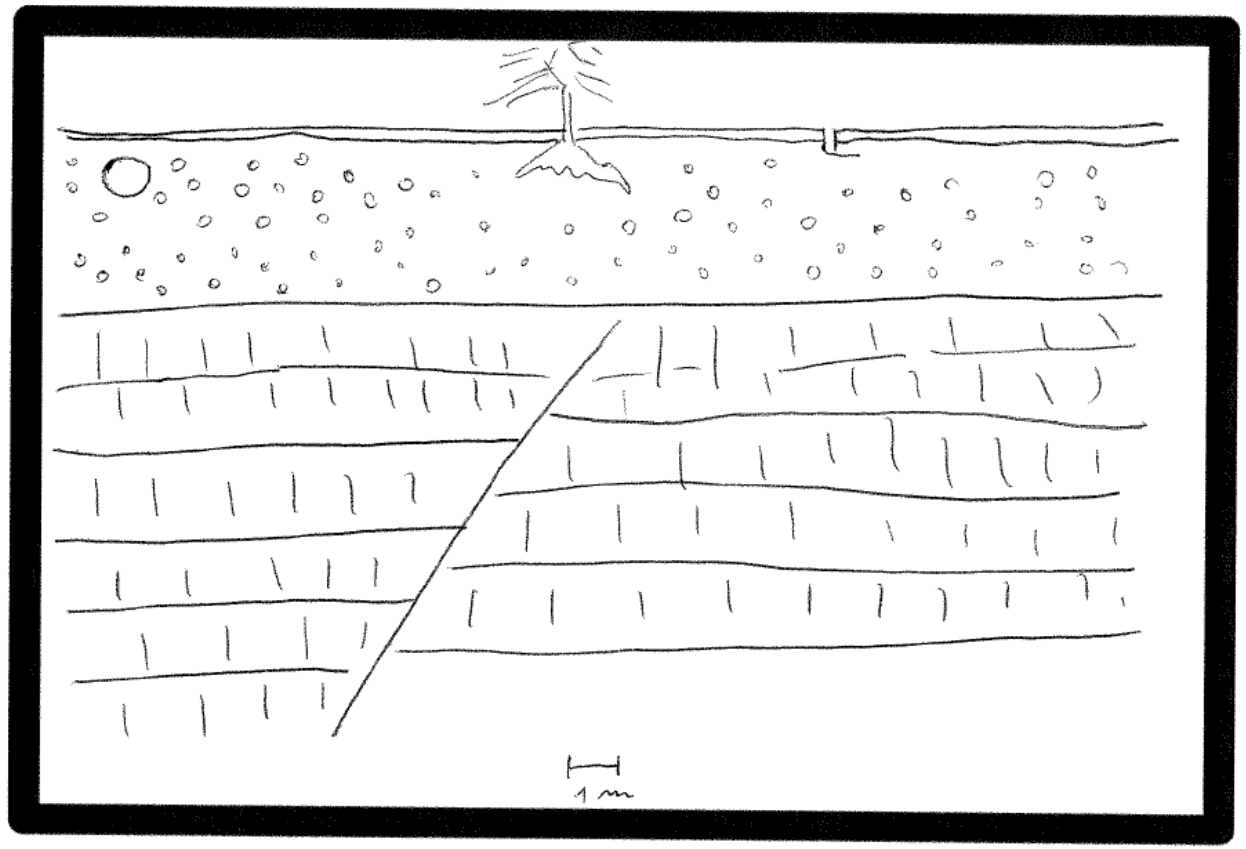
sketch

PLEASE STAY INSIDE THE BOX!



1a. How realistic do you find your sketch? Please circle the number that more closely represents your opinion:

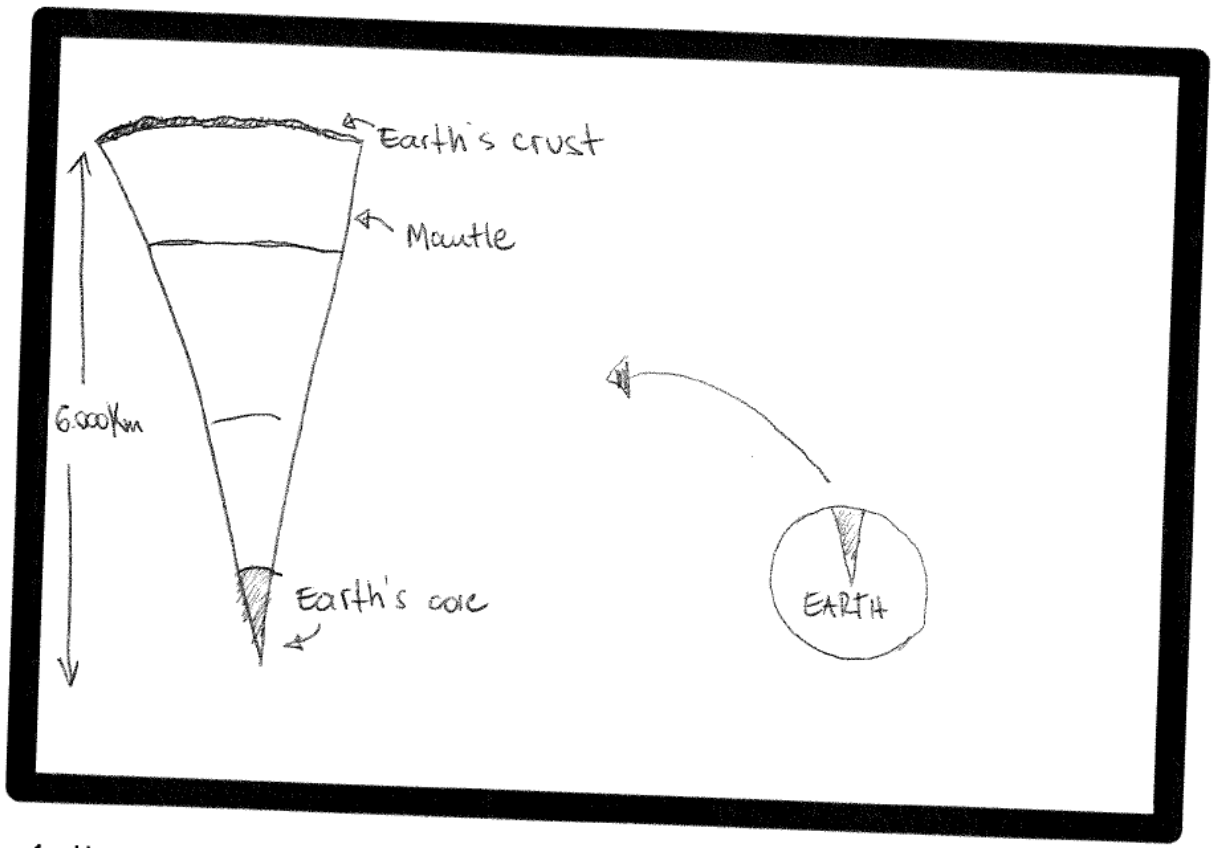
PLEASE STAY INSIDE THE BOX!



Expert

sketch

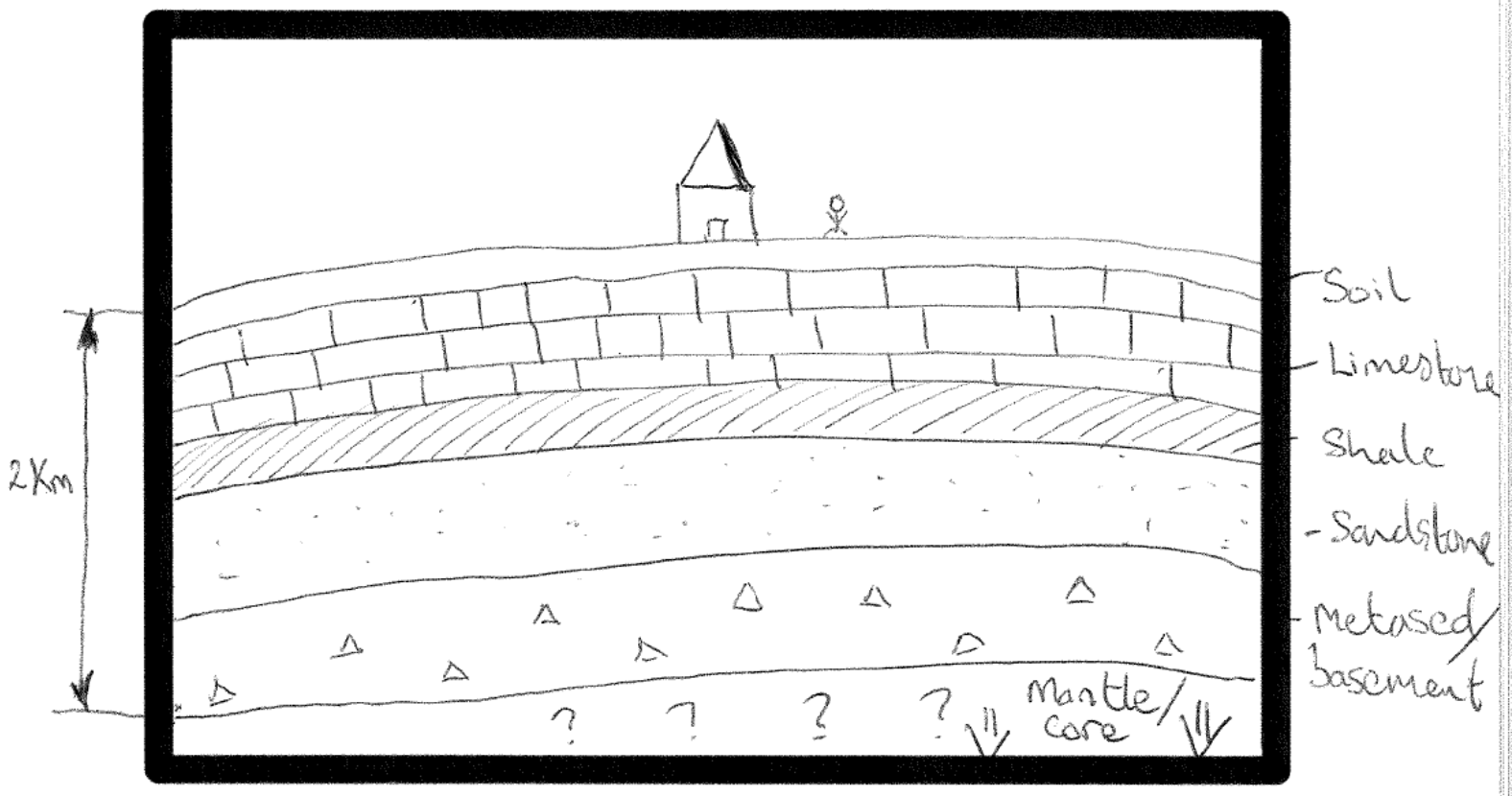
PLEASE STAY INSIDE THE BOX!



Expert

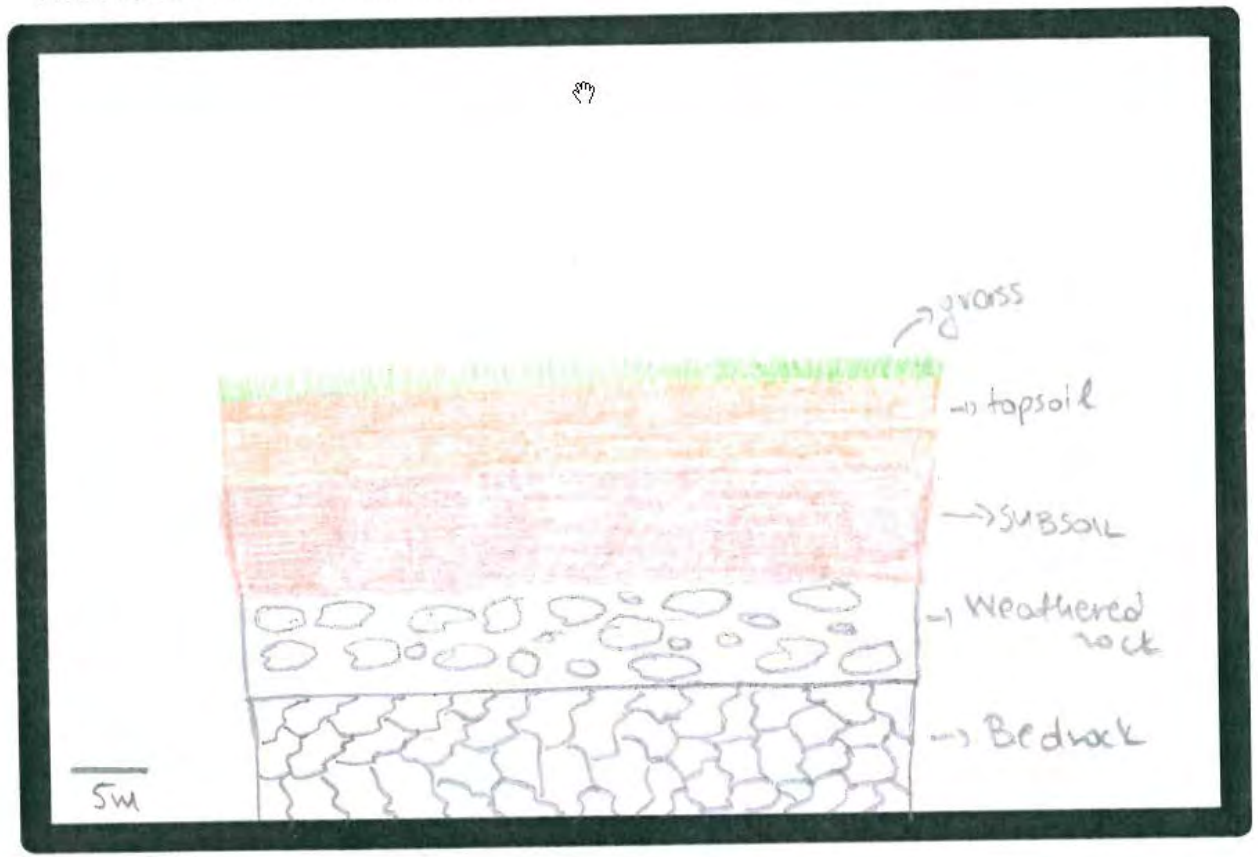
Sketch

PLEASE STAY INSIDE THE BOX!



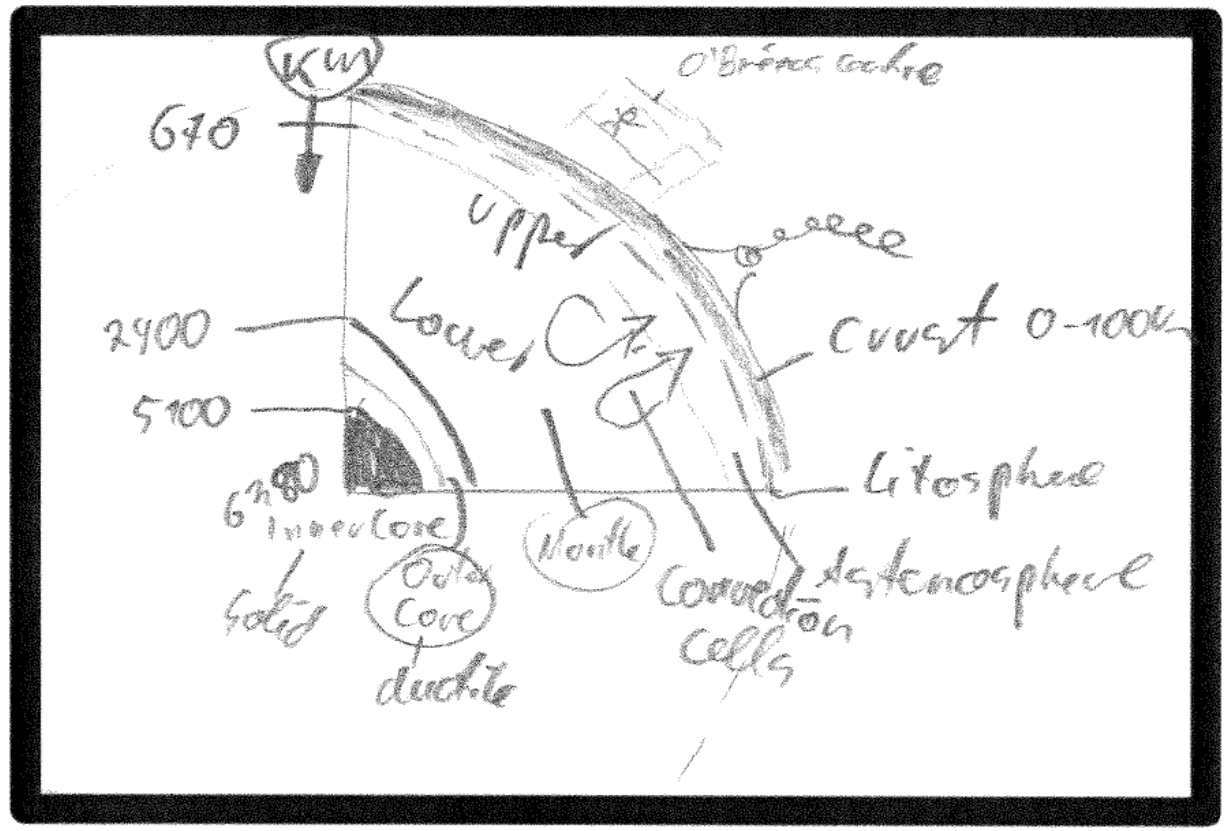
Expert

PLEASE STAY INSIDE THE BOX!



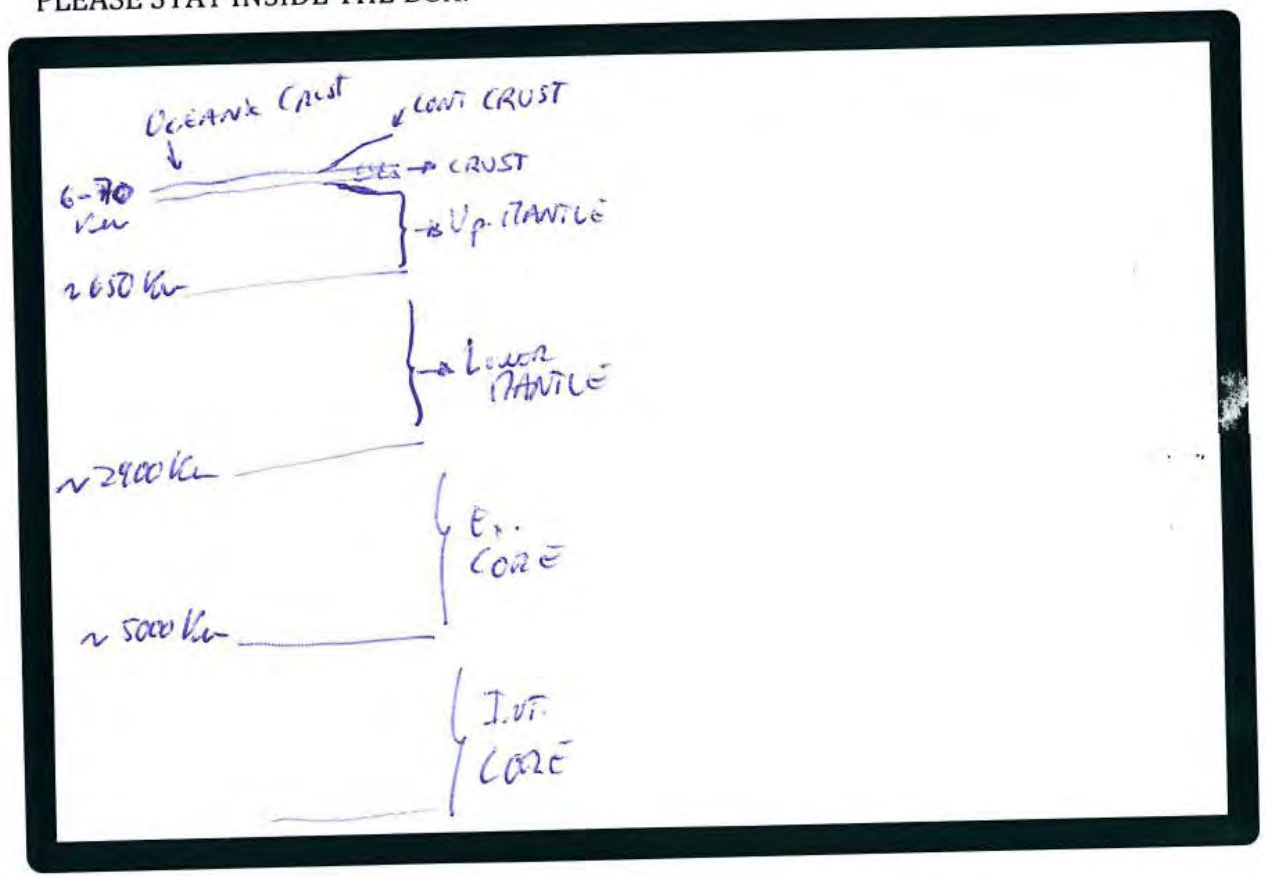
Expert

PLEASE STAY INSIDE THE BOX!



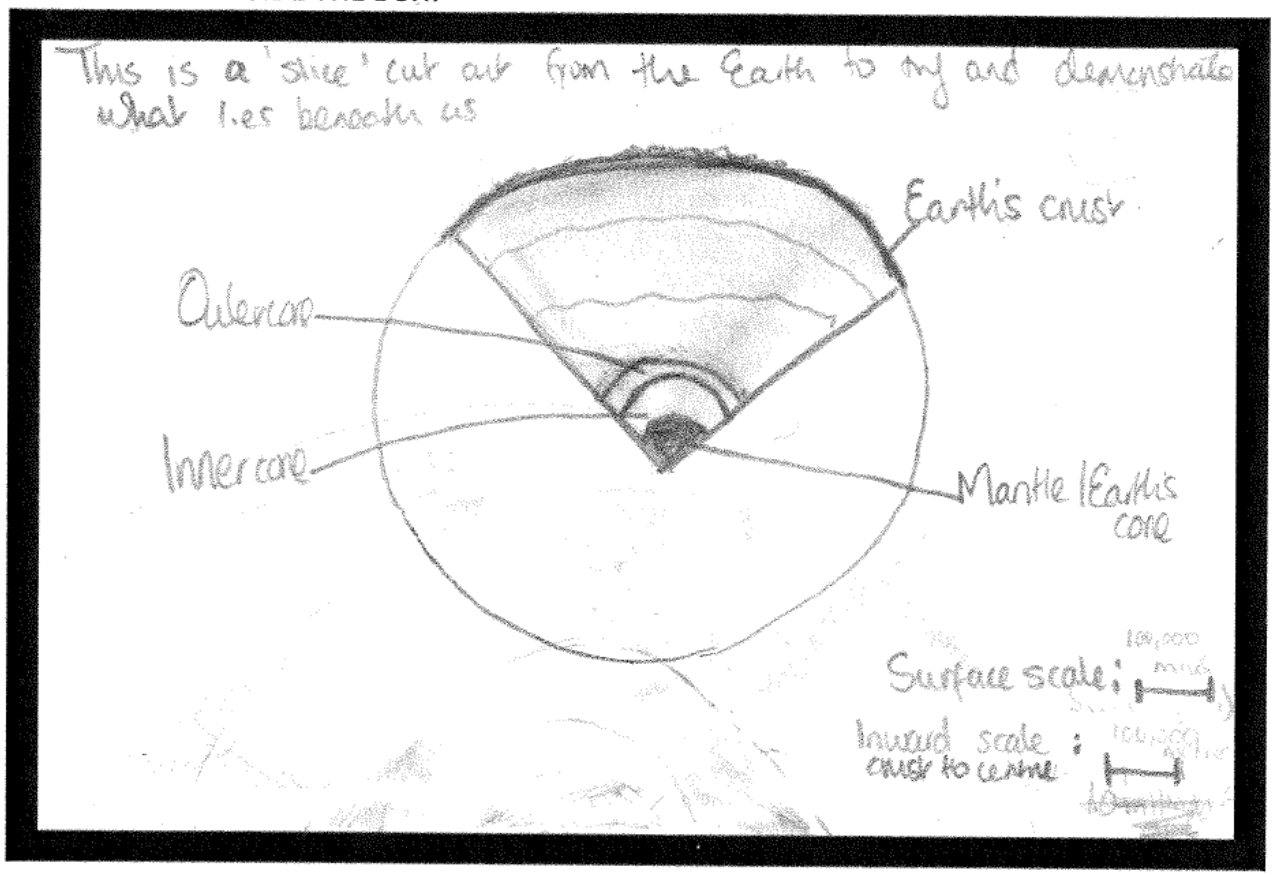
Expert

PLEASE STAY INSIDE THE BOX!



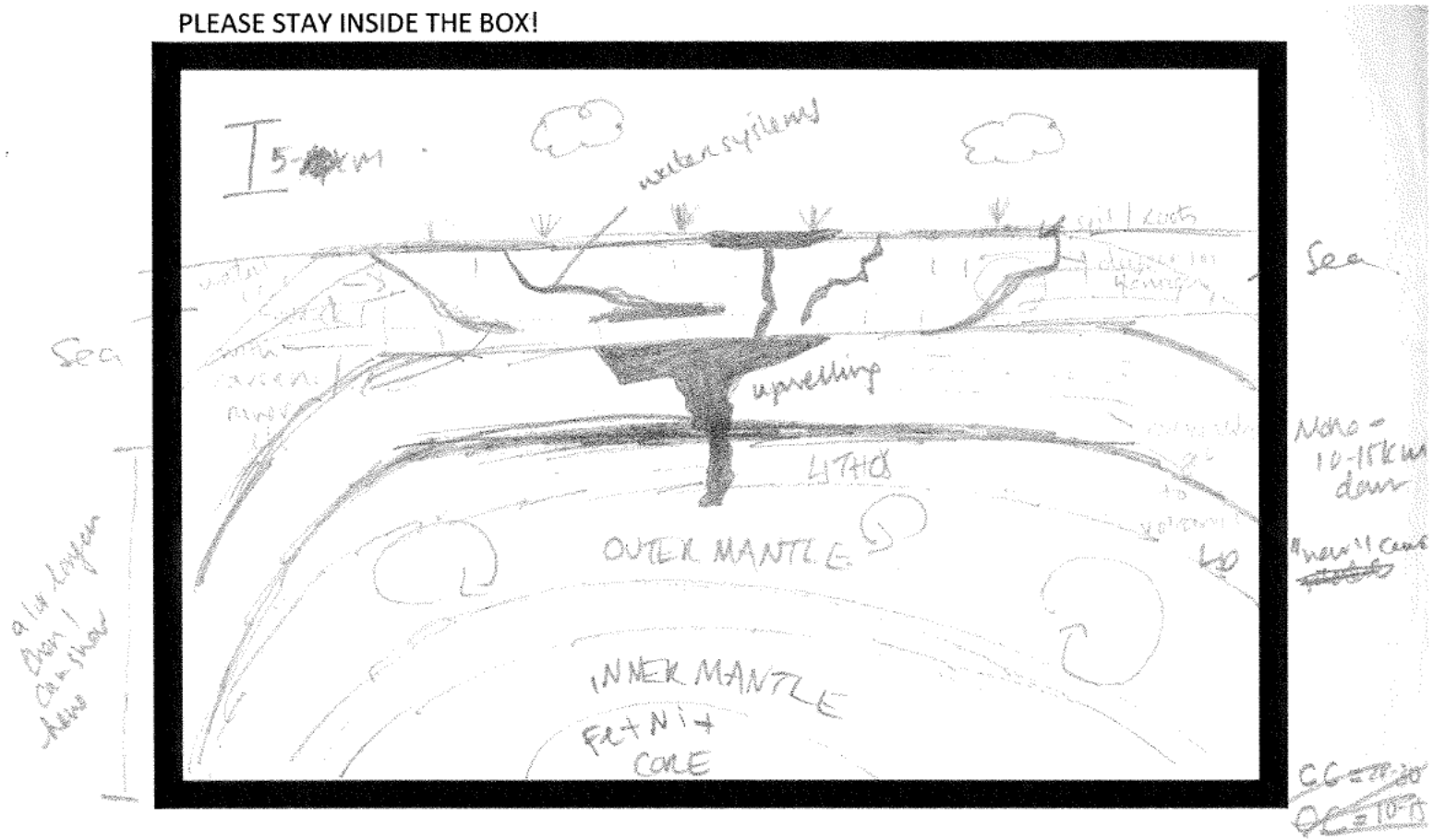
Expert

PLEASE STAY INSIDE THE BOX!

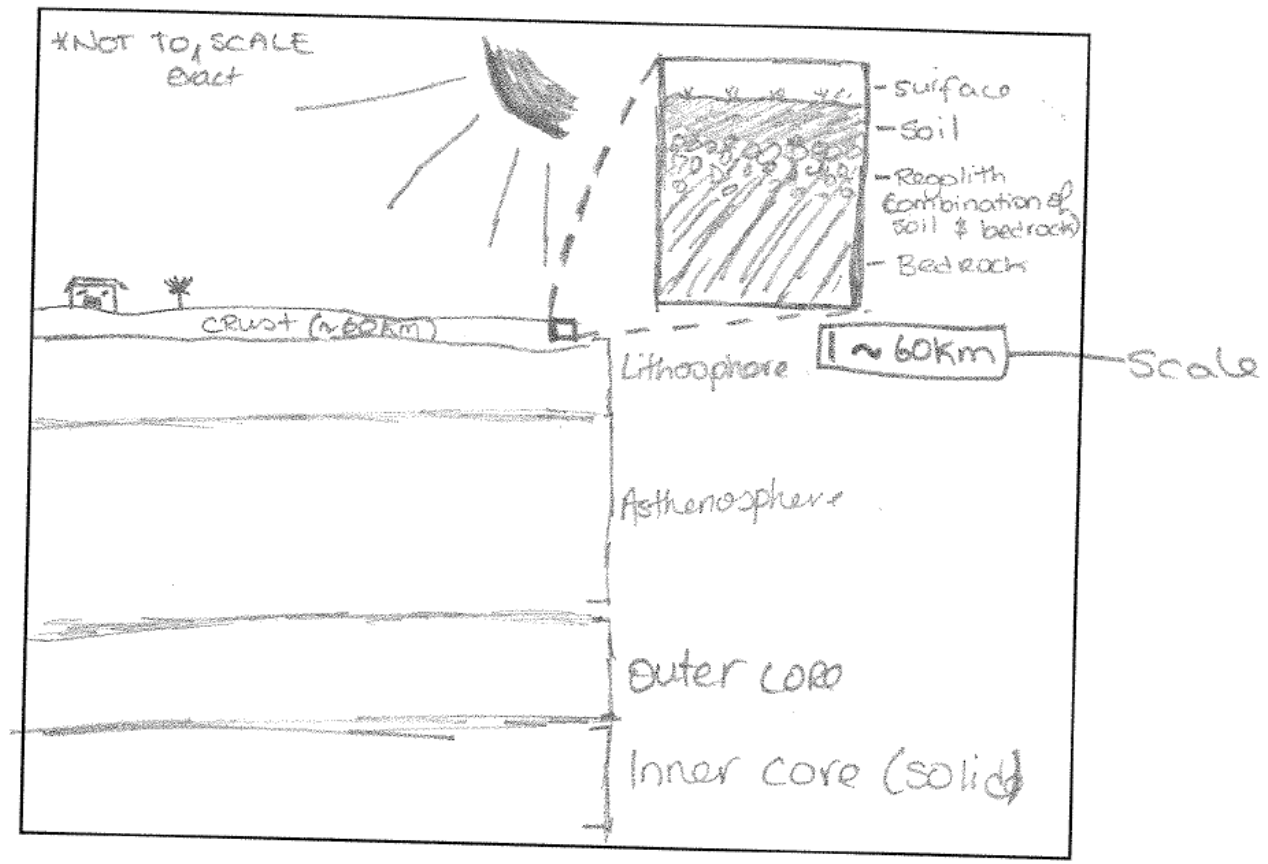


Expert

PLEASE STAY INSIDE THE BOX!

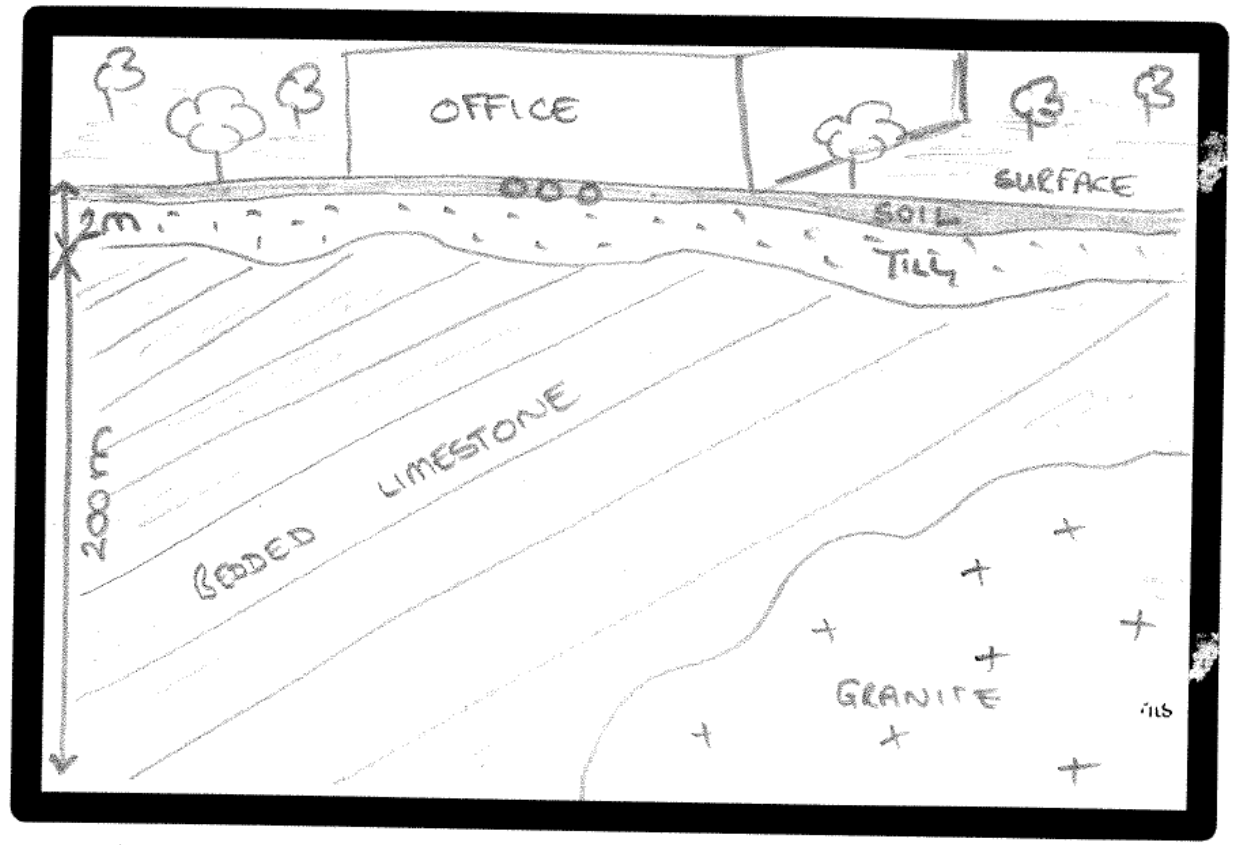


Expert


*NOT TO SCALE
exact
surface
Soil
Regolith
(combination of
soil & bedrock)
Bedrock
crust (~60km)
Lithosphere
~60km
Scale
Asthenosphere
Outer core
Inner core (solid)

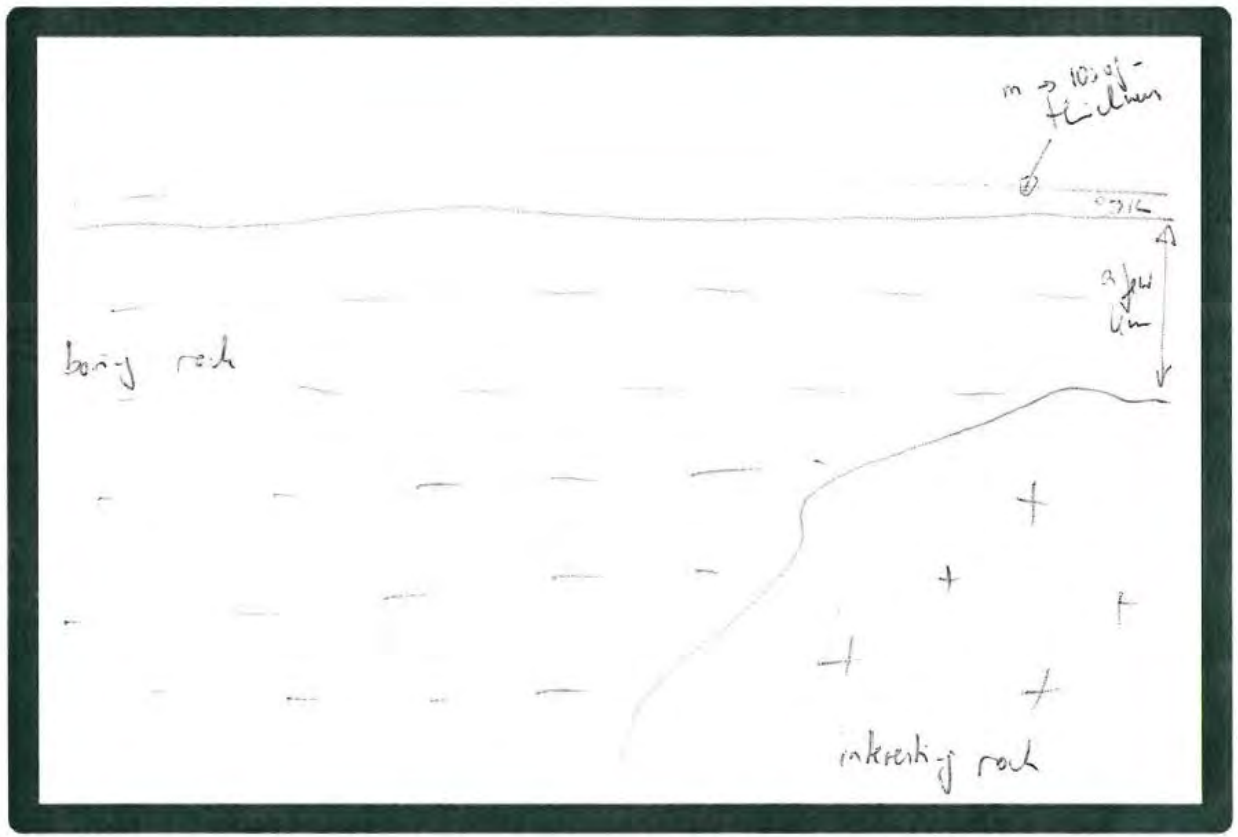
Expert

PLEASE STAY INSIDE THE BOX!



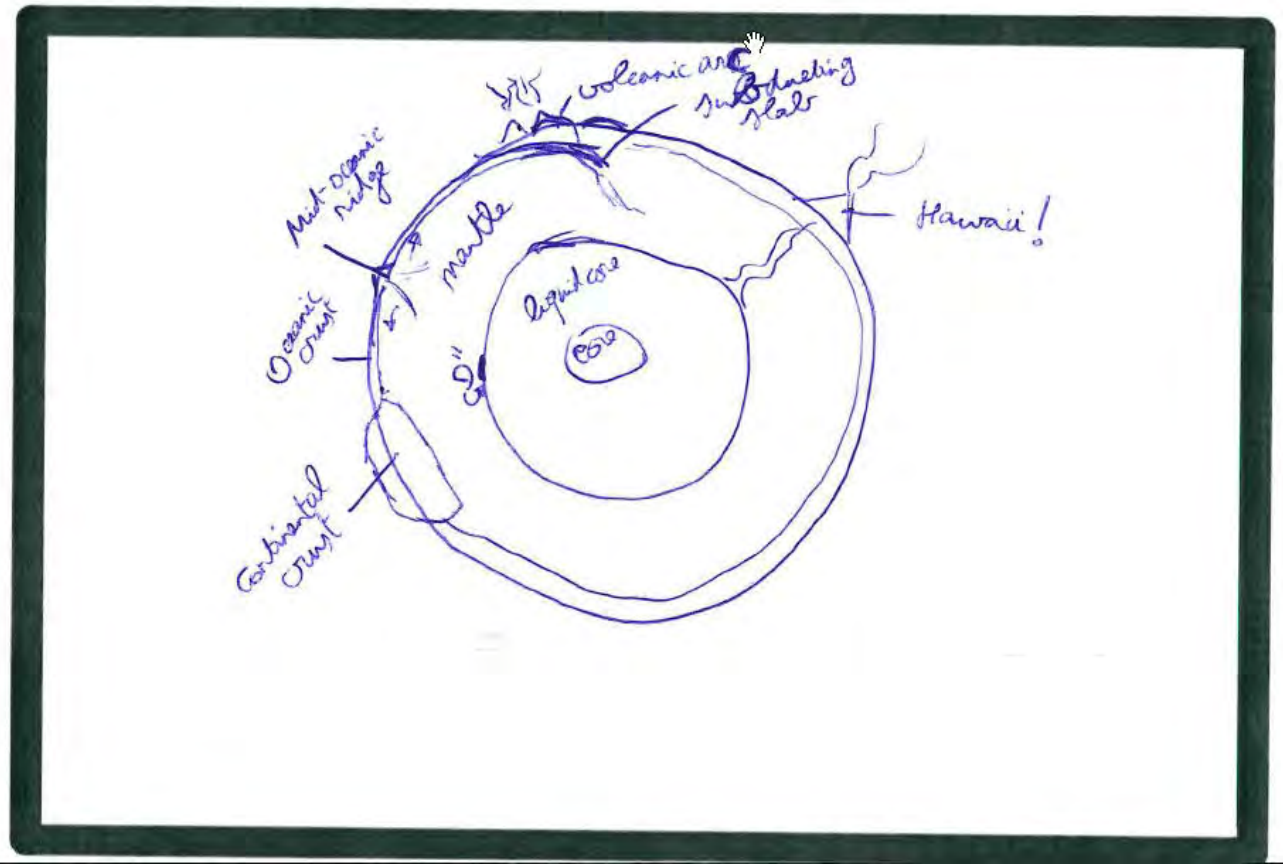
Expert

PLEASE STAY INSIDE THE BOX!



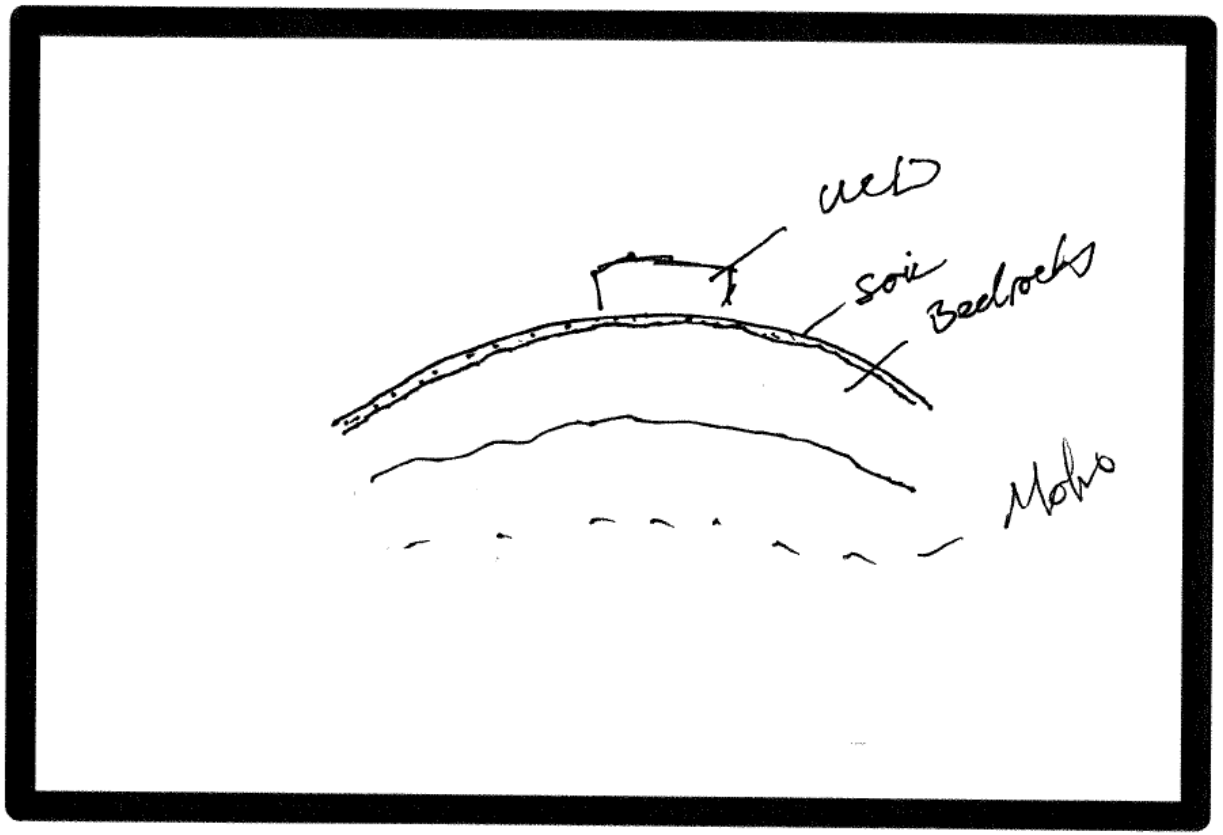
Expert

PLEASE STAY INSIDE THE BOX!

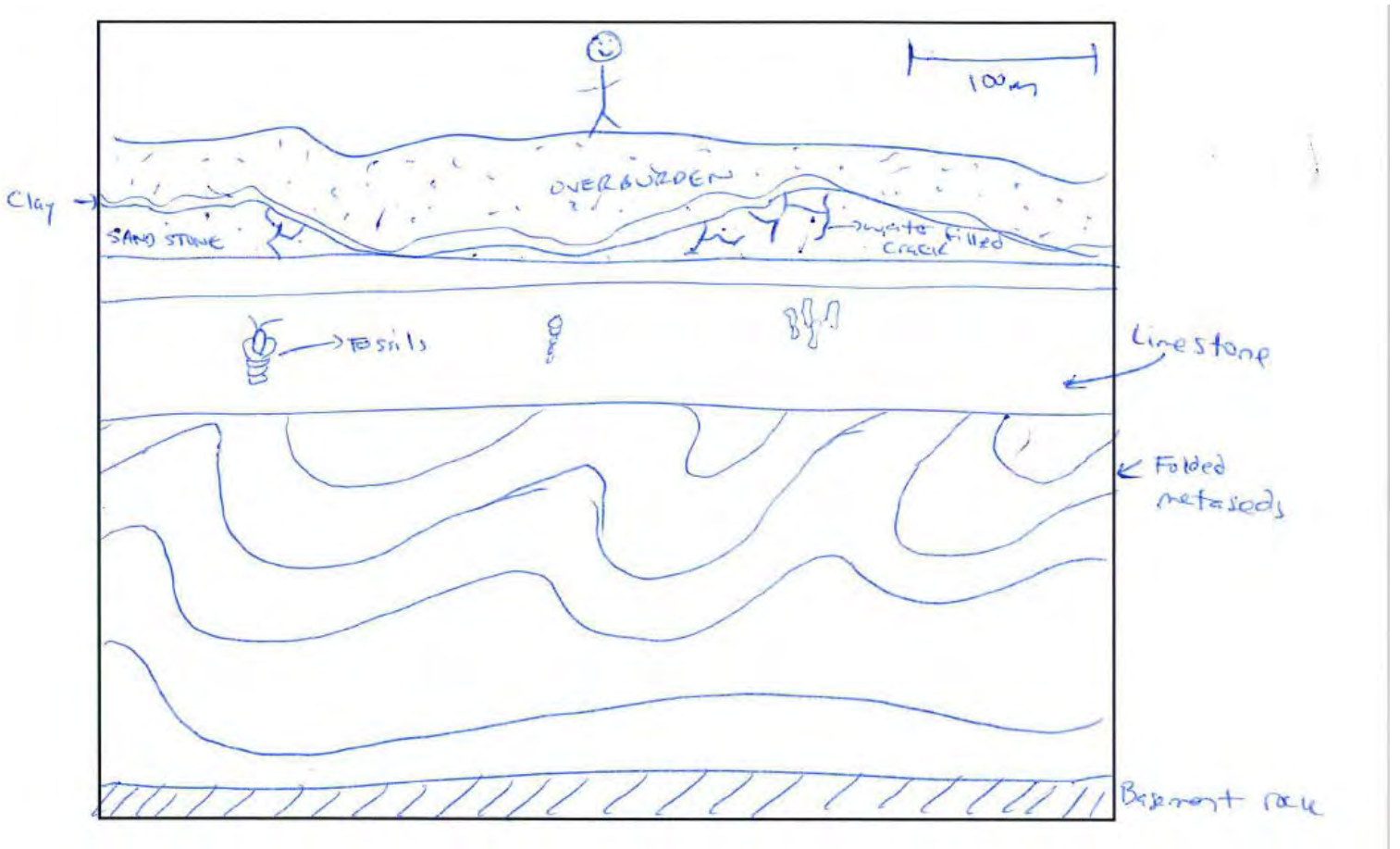


Expert

PLEASE STAY INSIDE THE BOX!

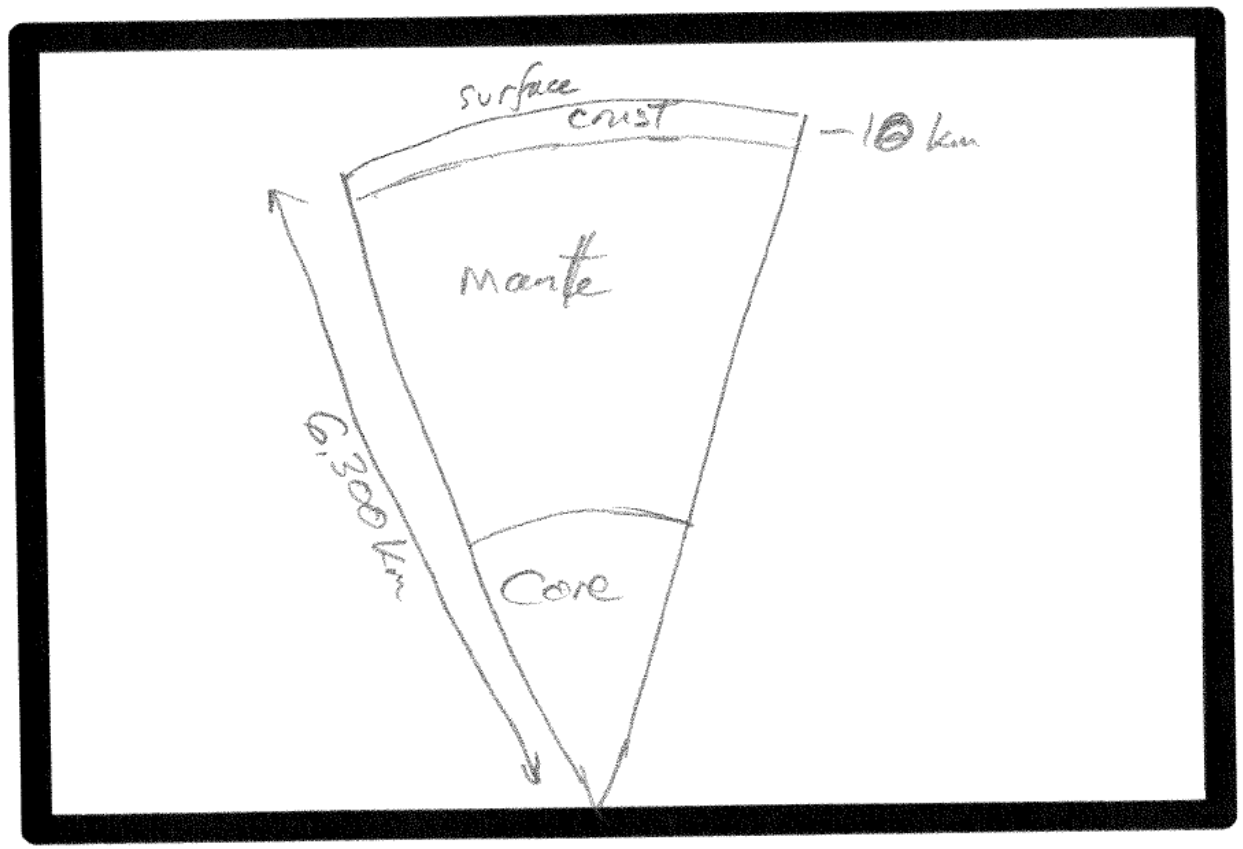


Expert


100m
Clay
OVERBURDEN
SAND STONE
Fossils
Limestone
Folded
Basement rock

Expert

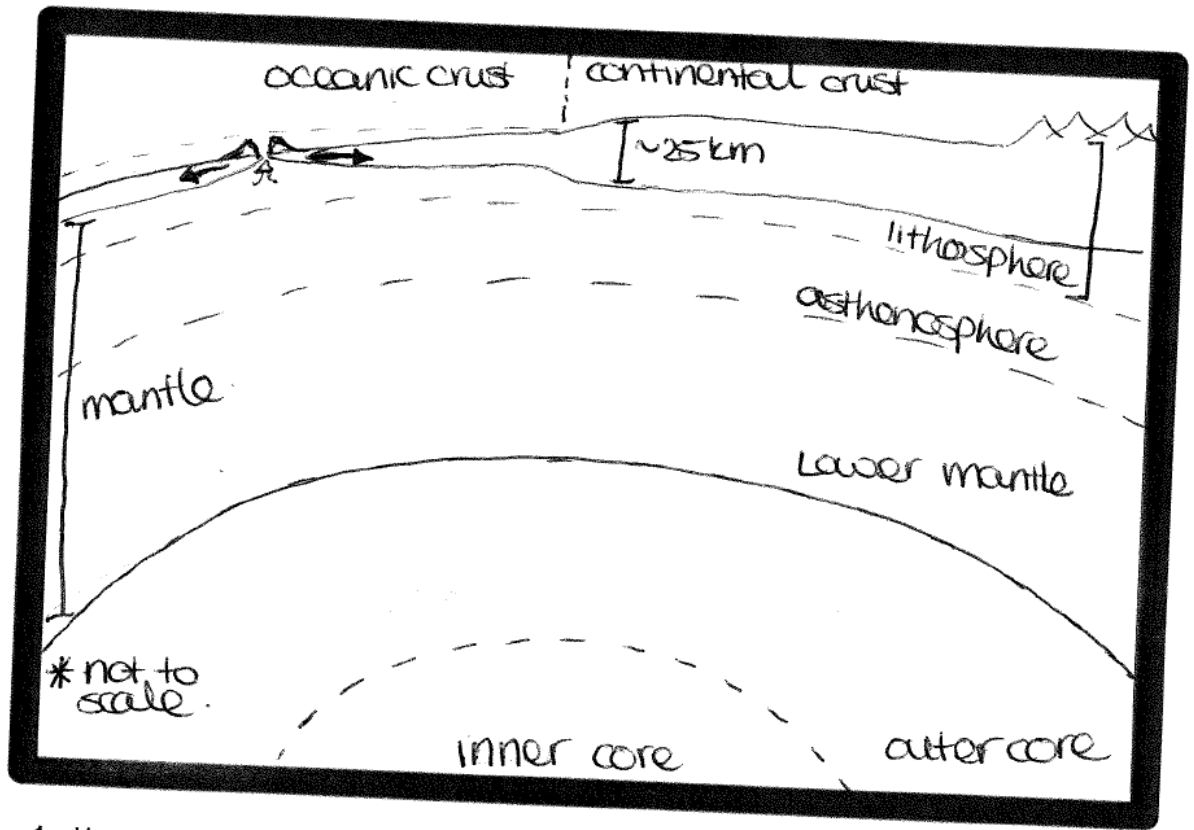
PLEASE STAY INSIDE THE BOX!



Expert

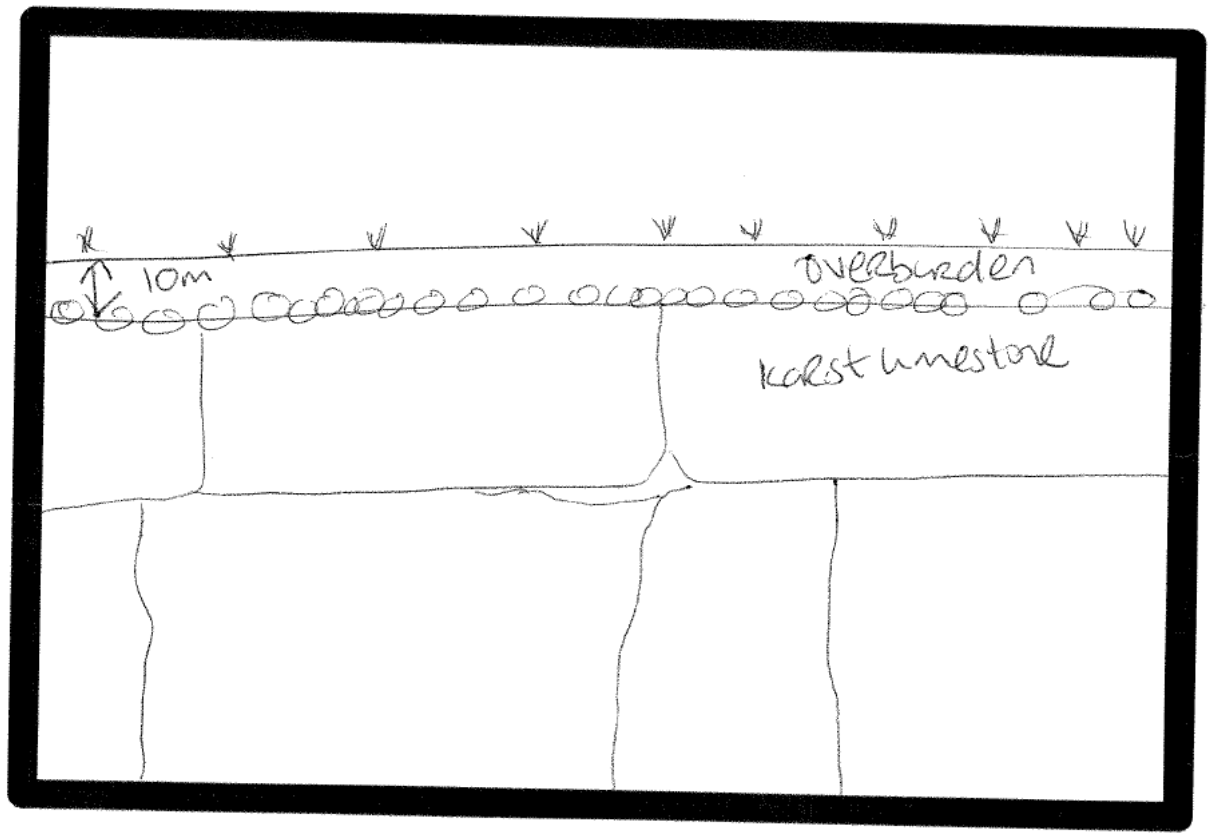
Expert

PLEASE STAY INSIDE THE BOX!



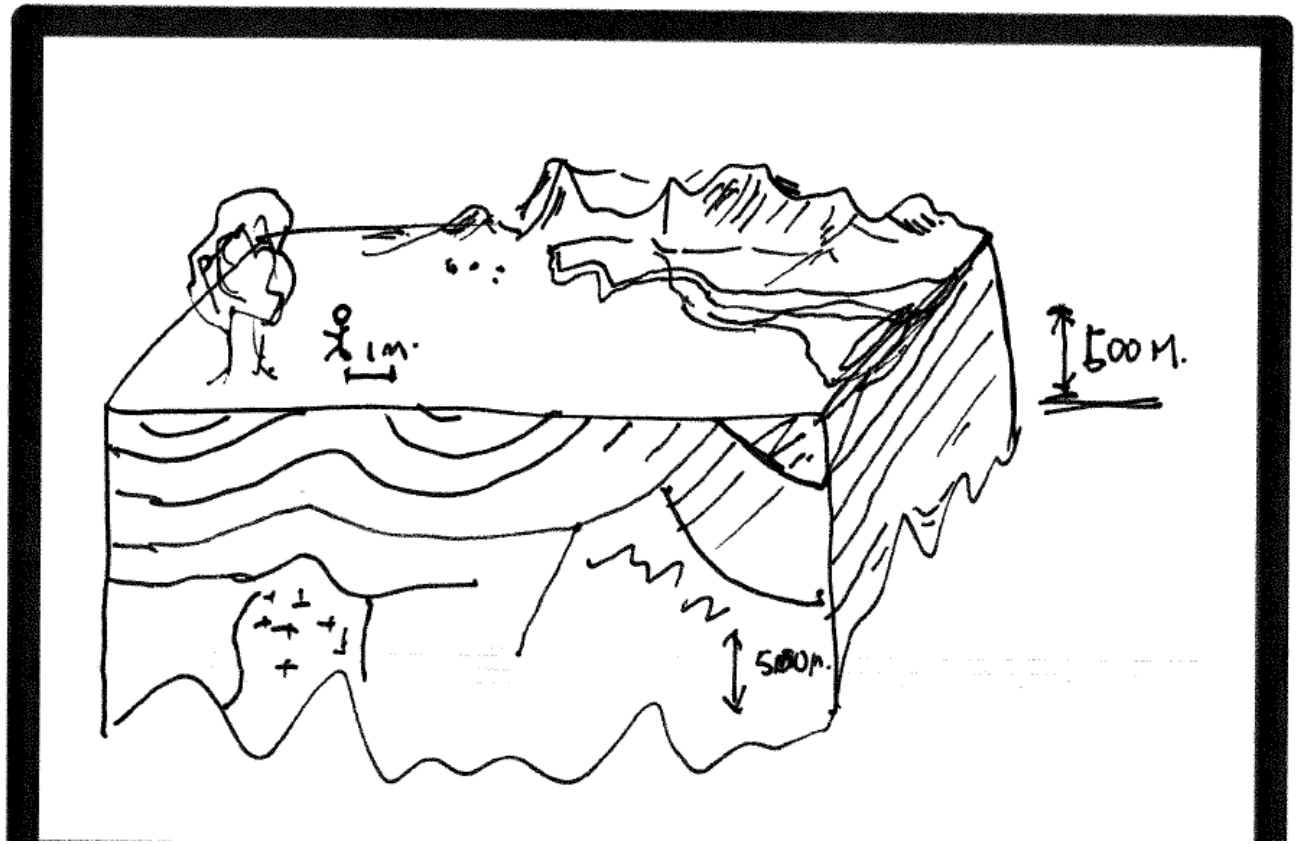
1a. How realistic do you find your sketch? Please circle the numb

PLEASE STAY INSIDE THE BOX!



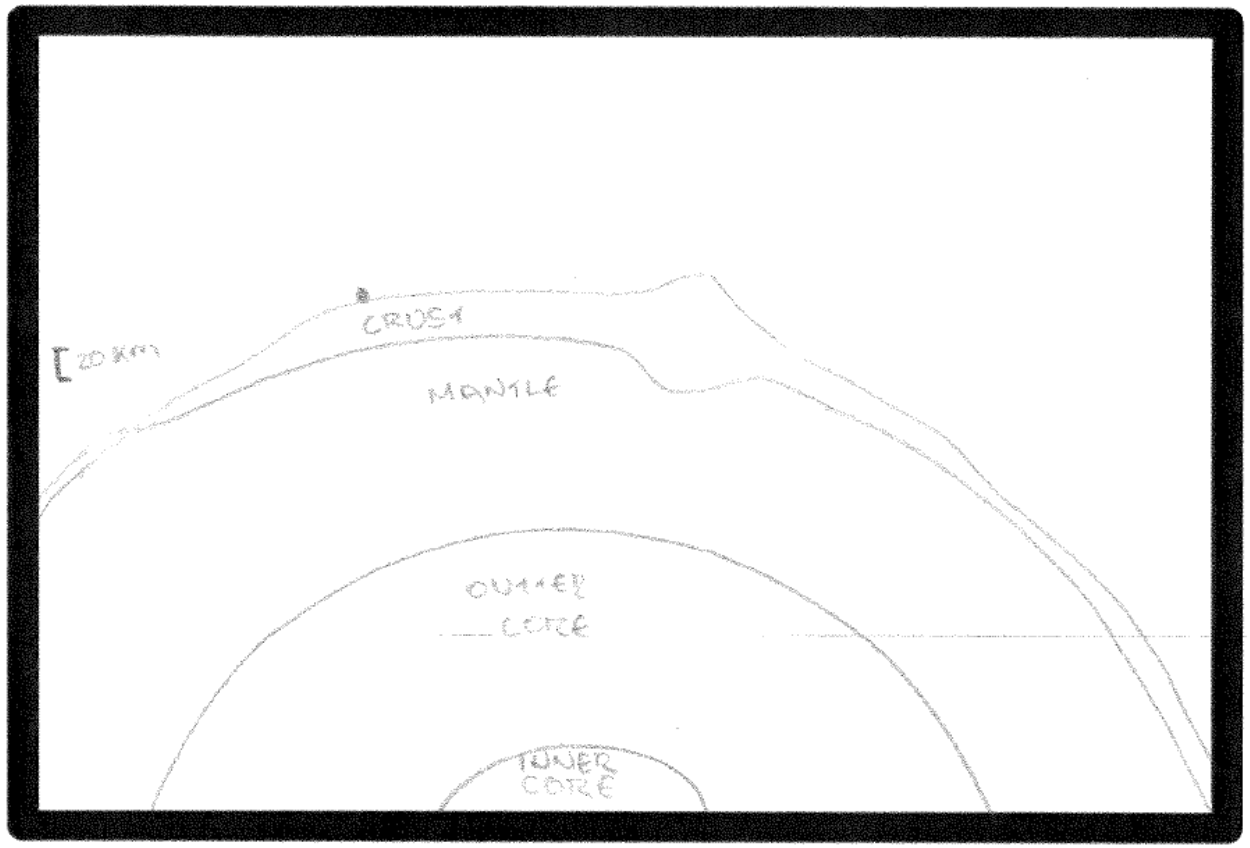
Expert

PLEASE STAY INSIDE THE BOX!



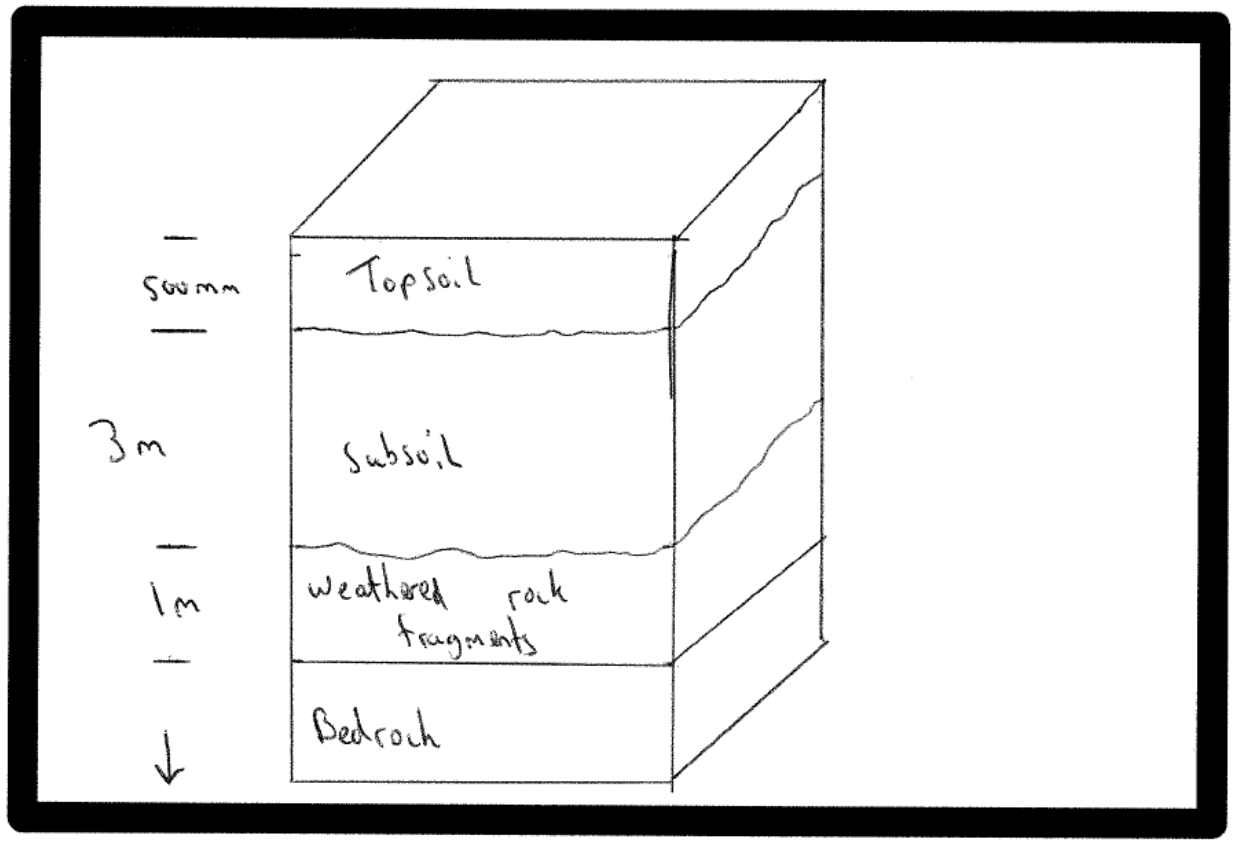
Expert

PLEASE STAY INSIDE THE BOX!

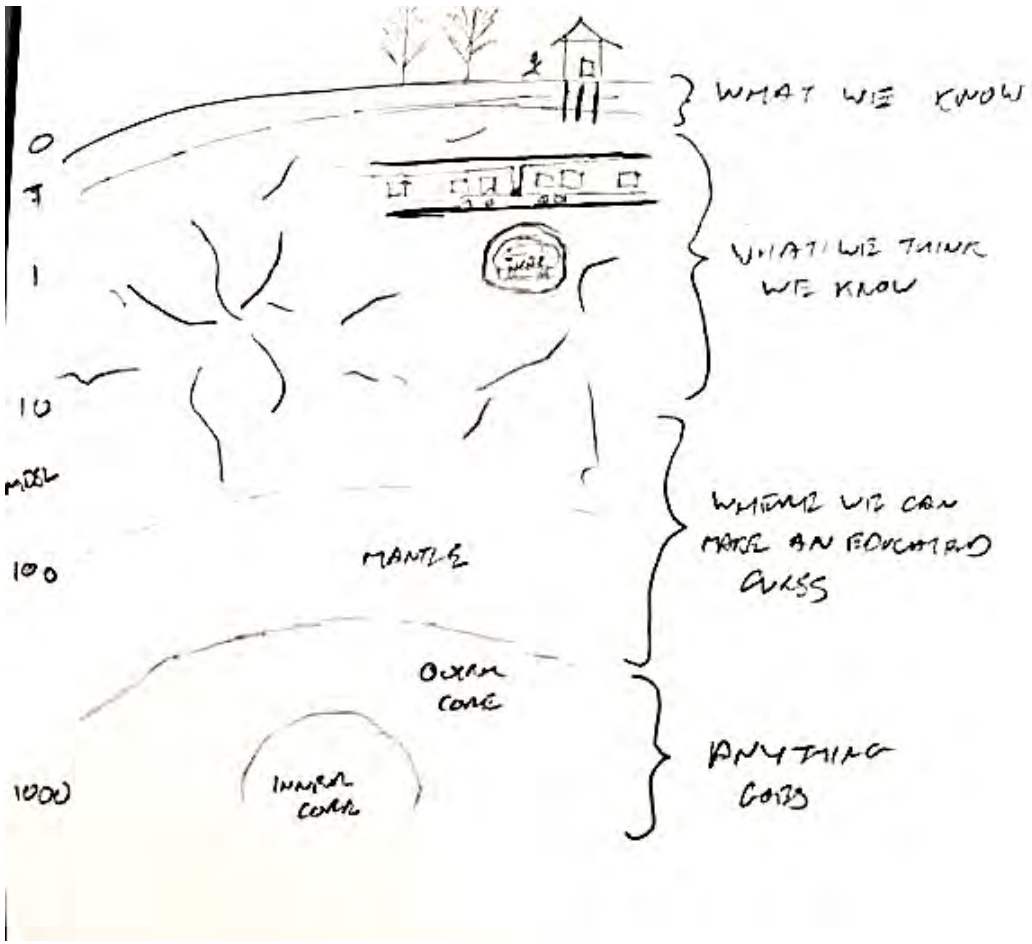


Expert

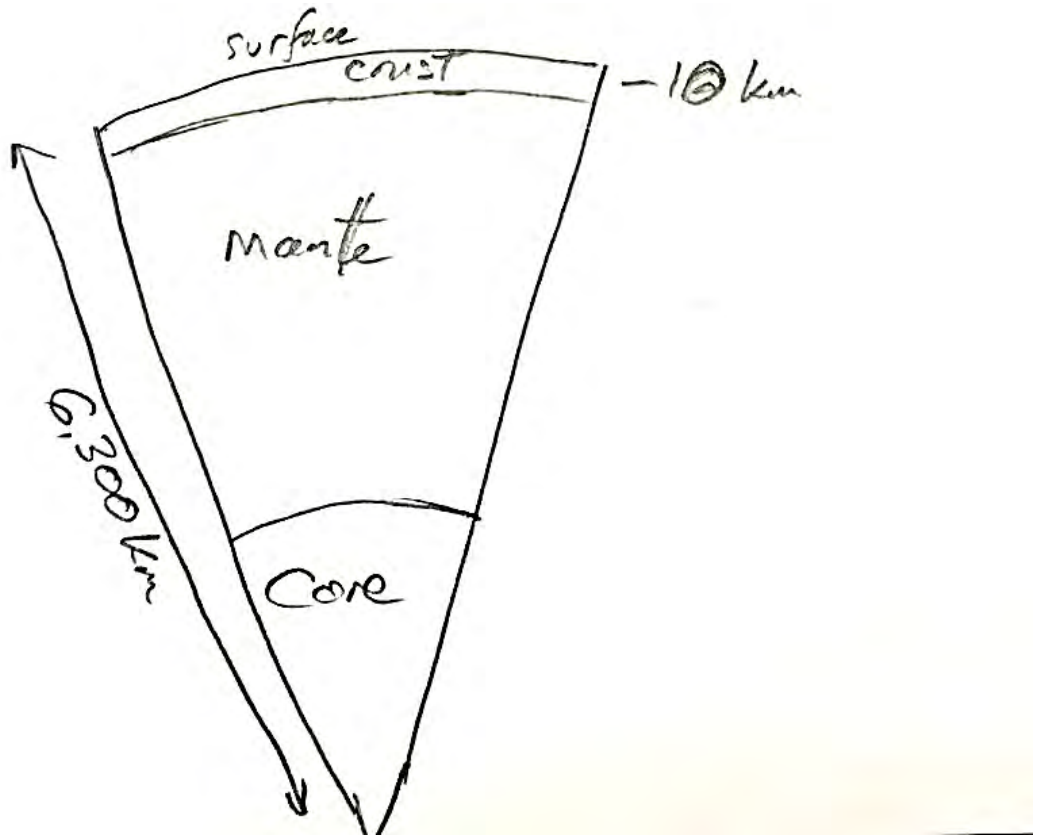
PLEASE STAY INSIDE THE BOX!



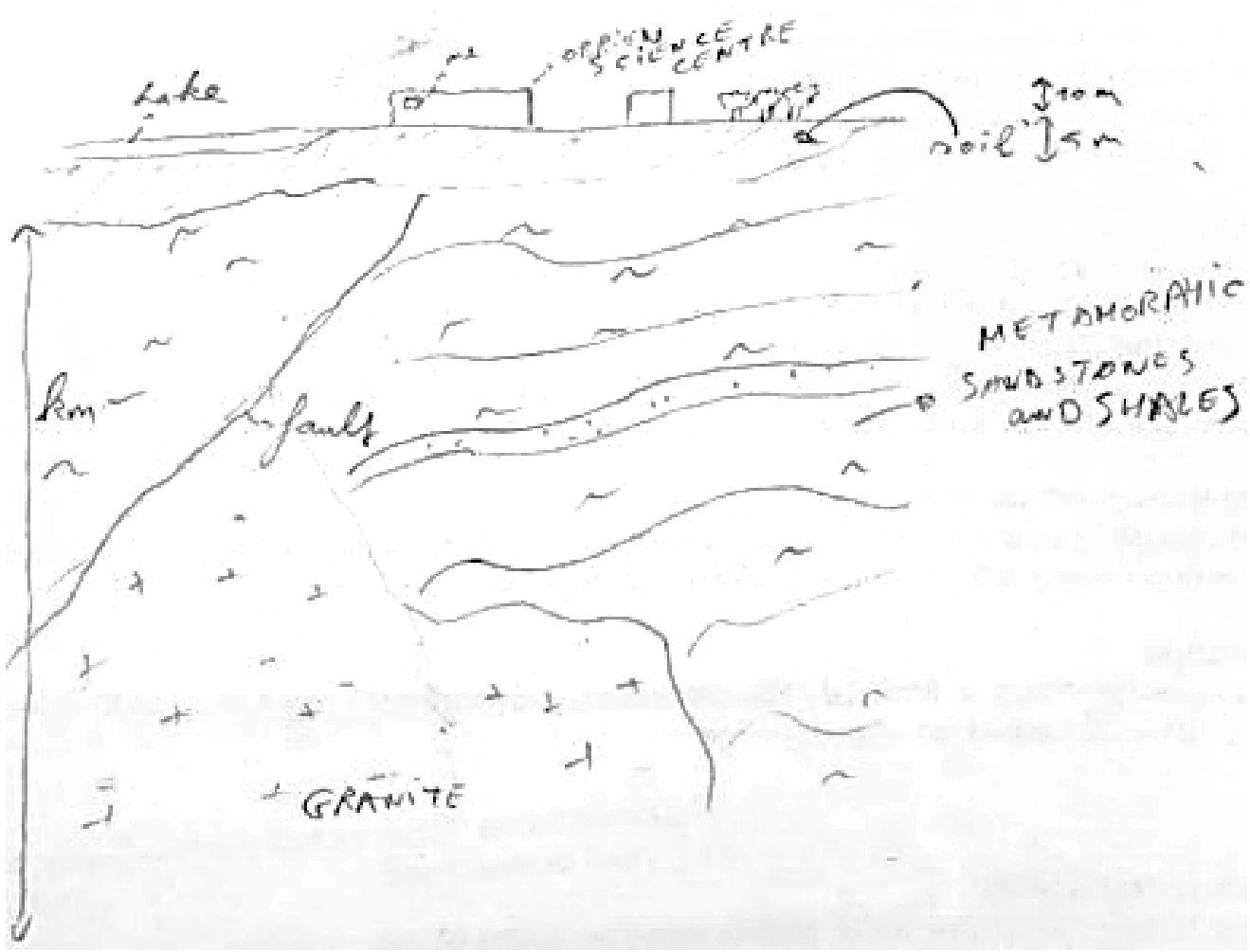
Expert


0
1
10
100
1000
MANTLE
OUTER CORE
INNER CORE
WHAT WE KNOW
WHAT WE THINK WE KNOW
WHERE WE CAN MAKE AN EDUCATED GUESS
ANYTHING GOES

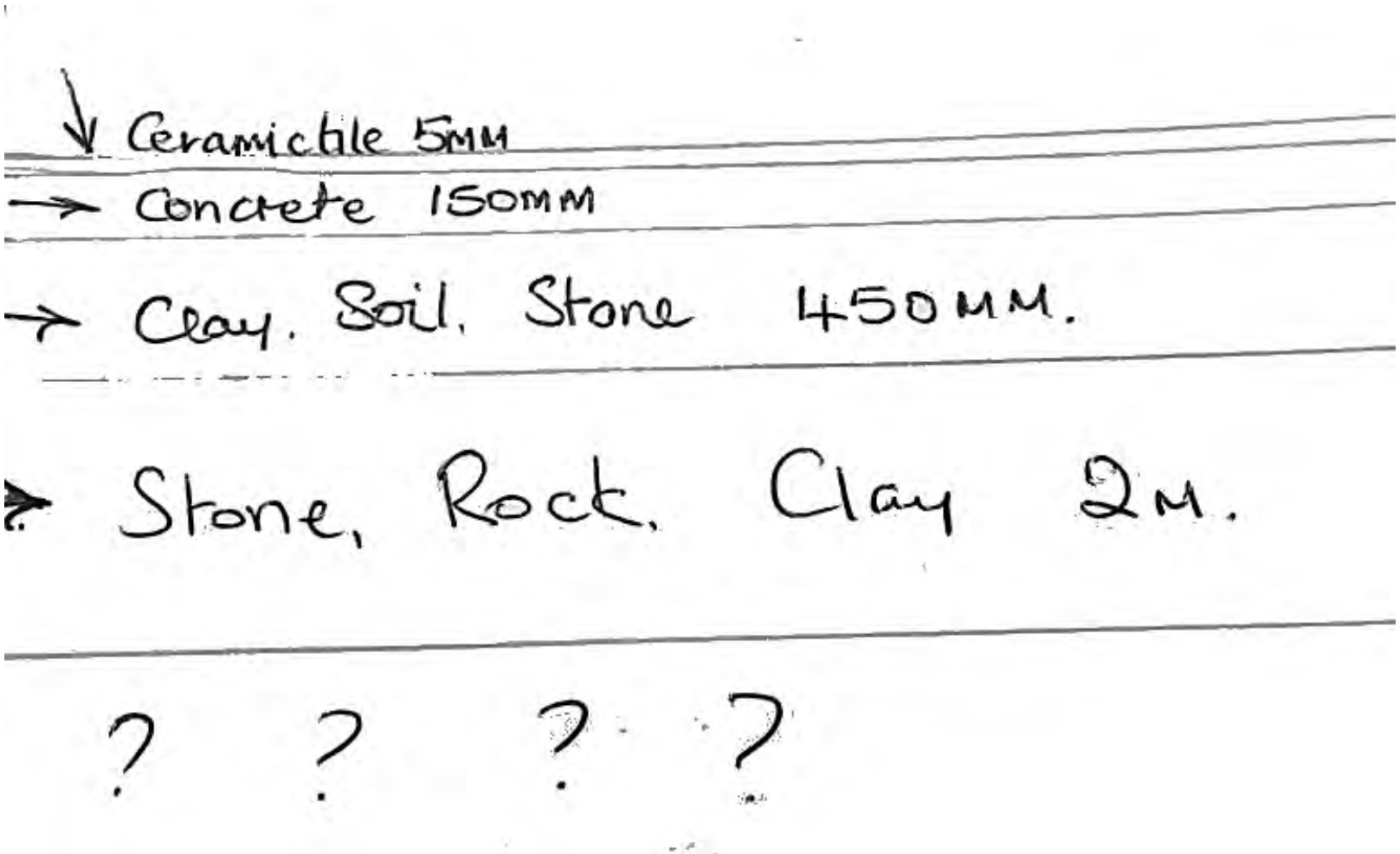
Expert



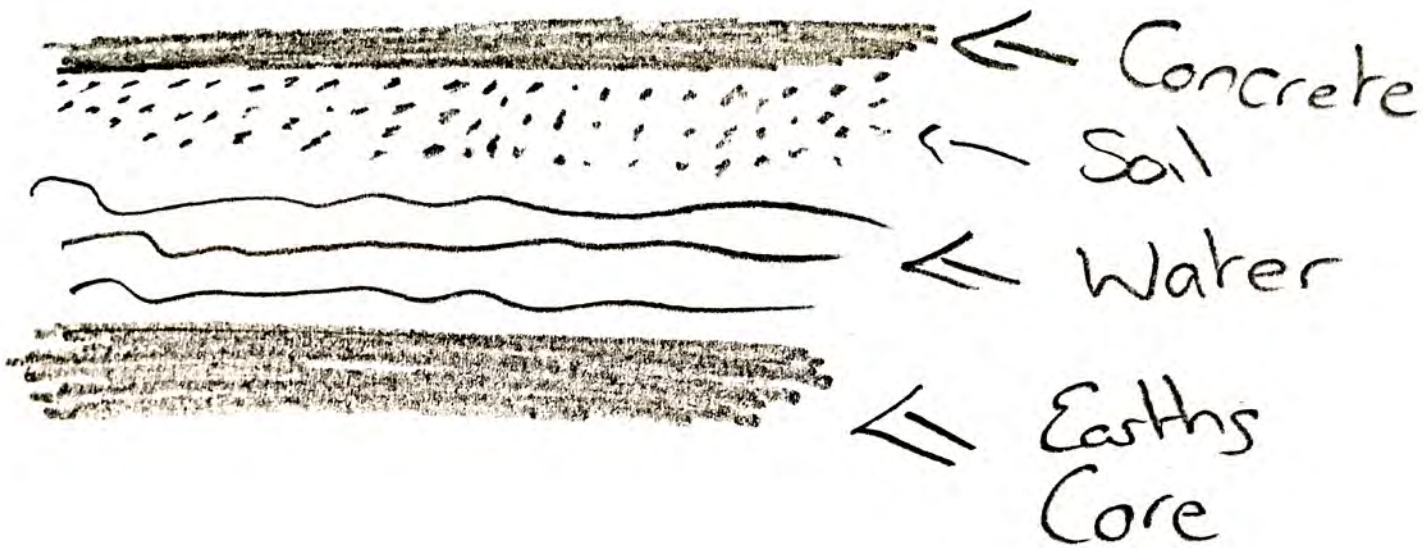
Expert


Lake
SCIENCE CENTRE
soil
10 m
5 m
km
fault
METAMORPHIC
SANDSTONES
AND SHALES
GRANITE

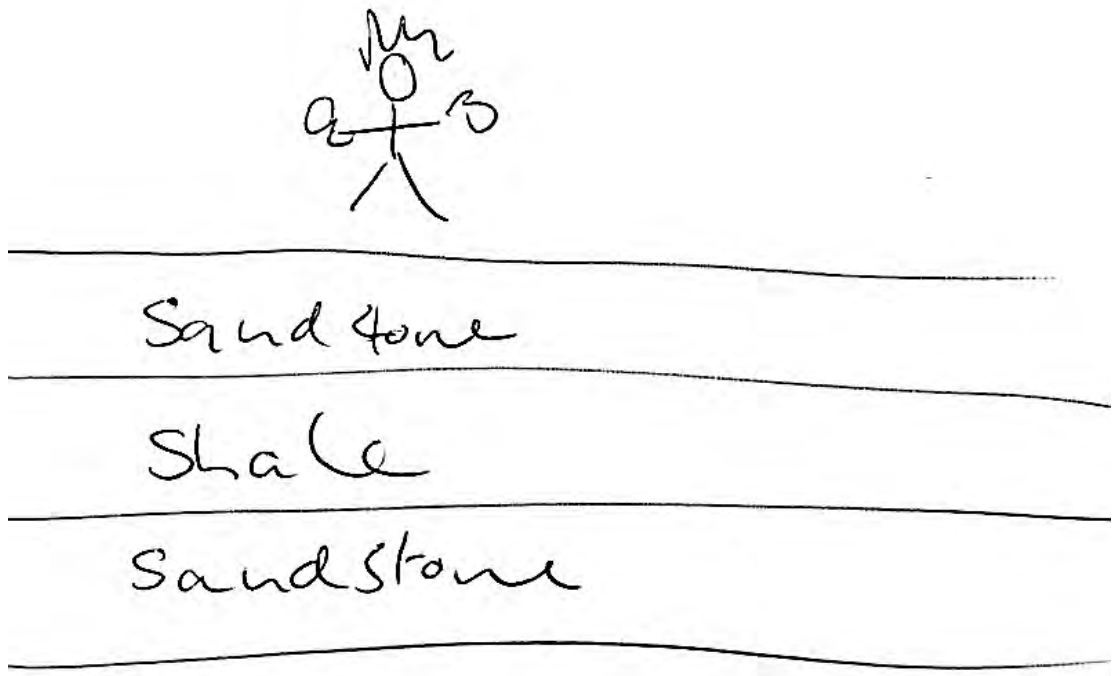
Expert


Ceramic tile 5MM
Concrete 150MM
Clay. Soil. Stone 450MM.
Stone, Rock. Clay 2M.
? ? ? ?

Non-expert



Non-expert

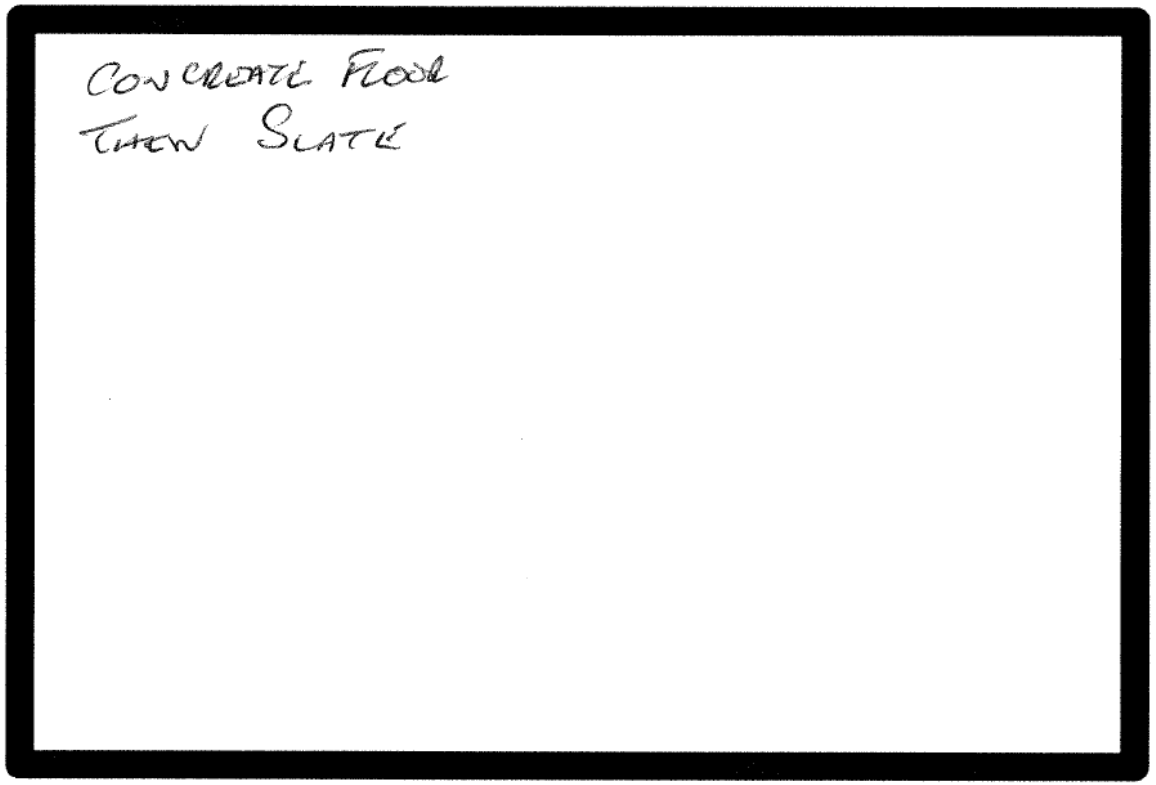


Non-expert

Non-expert

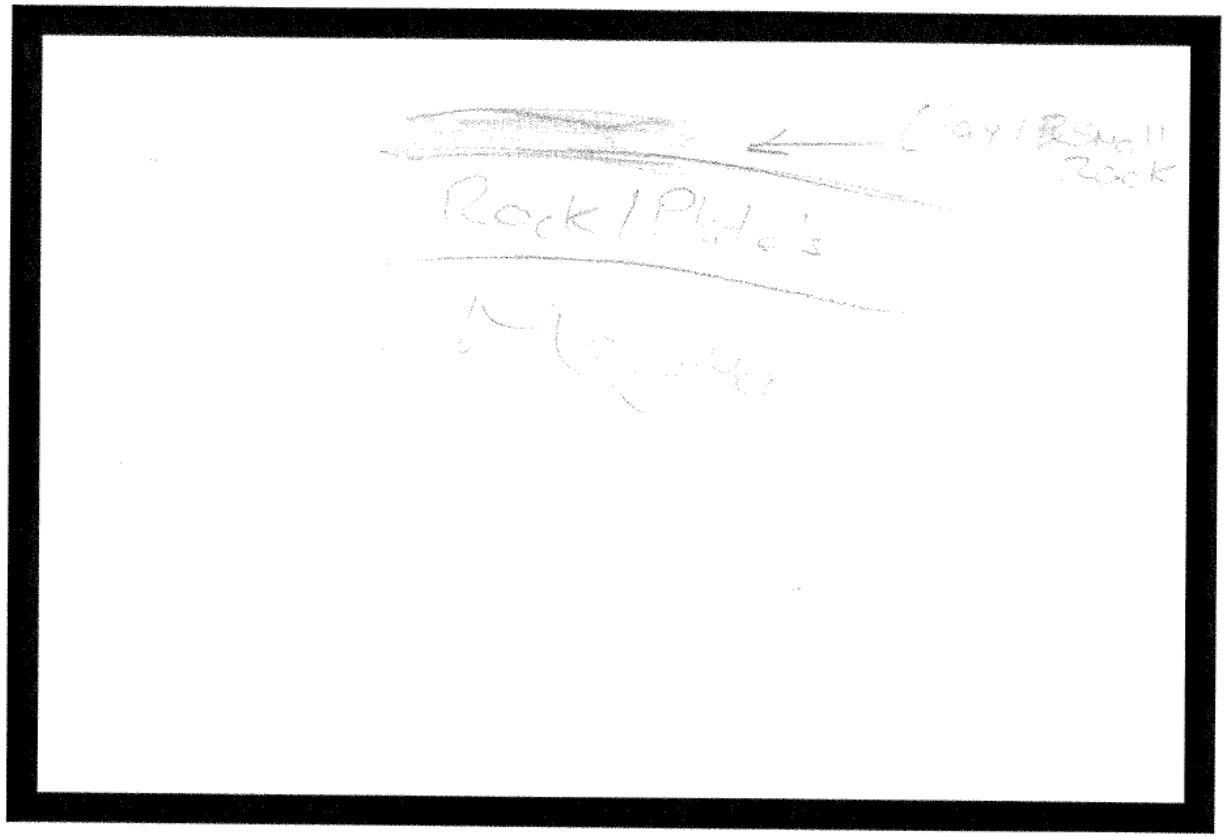
sketch

PLEASE STAY INSIDE THE BOX!



Non-expert

PLEASE STAY INSIDE THE BOX!

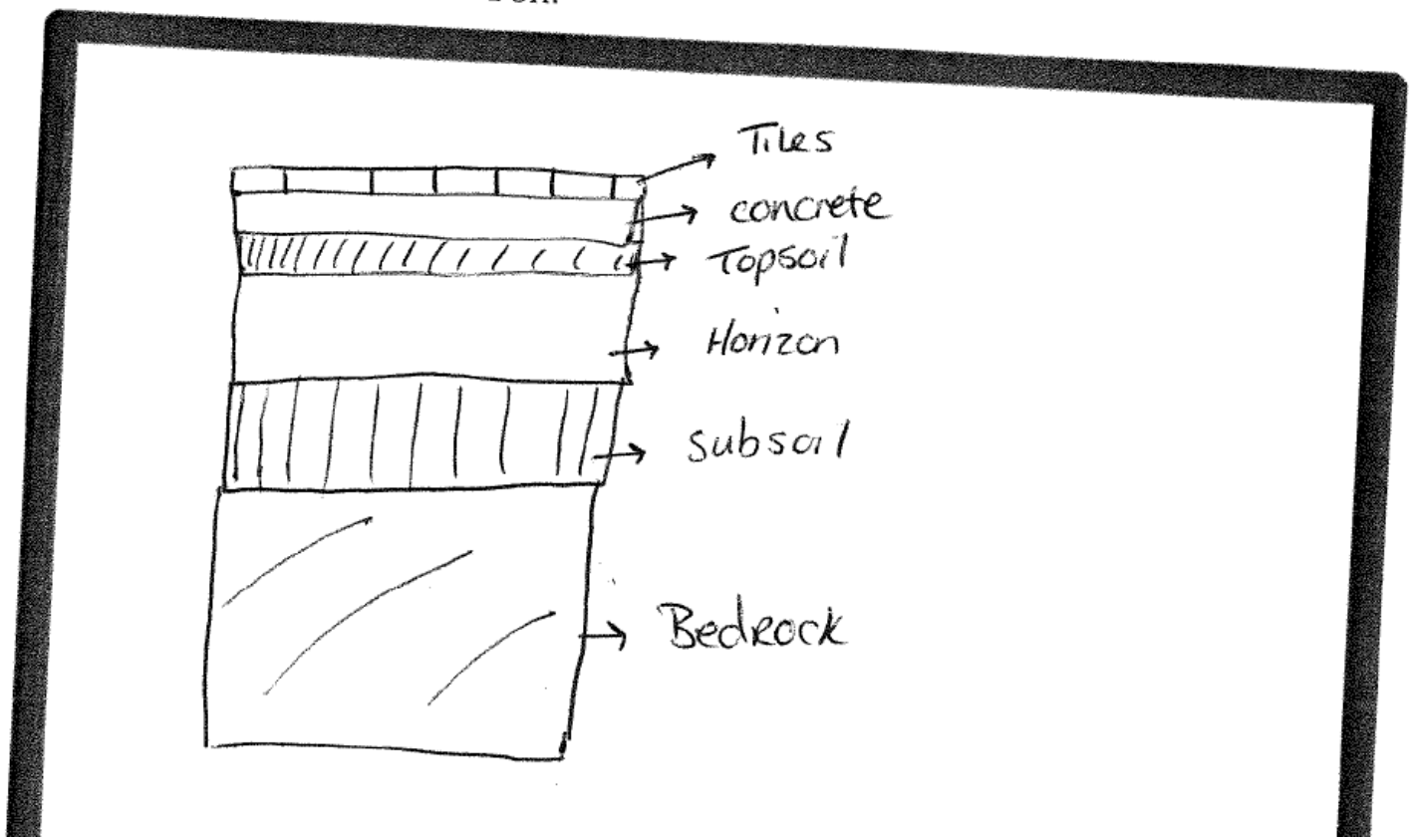


Non-expert

sketch

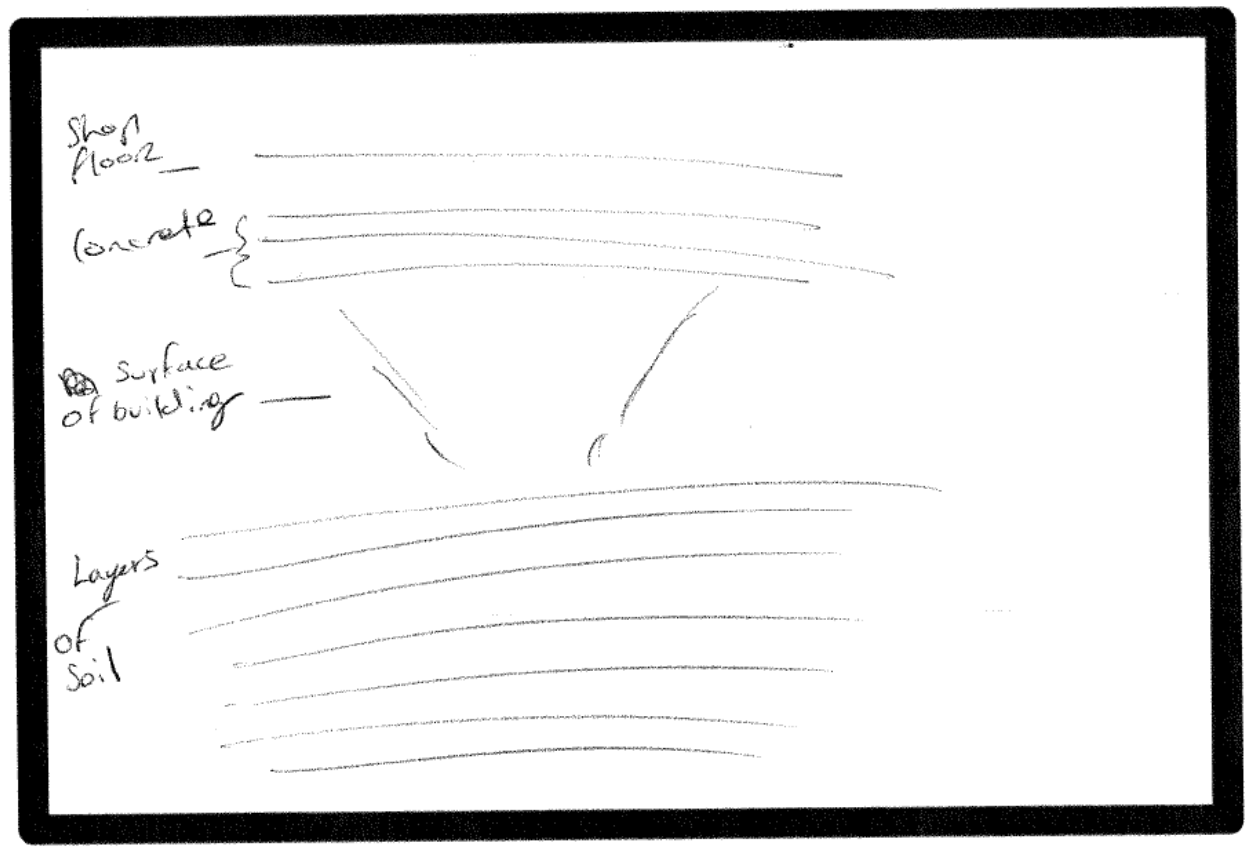
centimetre/kilometre etc.) in your

PLEASE STAY INSIDE THE BOX!



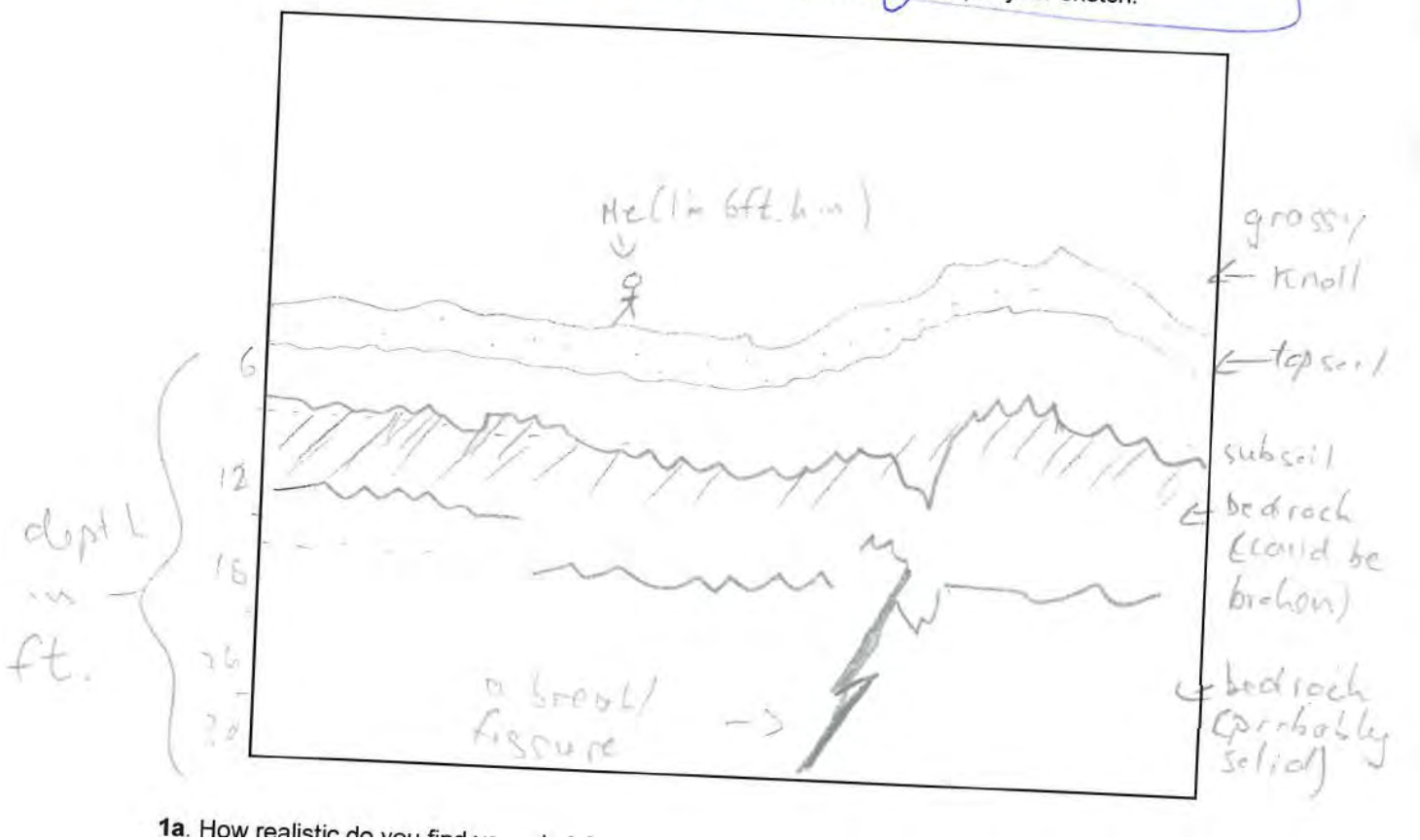
Non-expert

PLEASE STAY INSIDE THE BOX!



Non-expert

features you are drawing in an appropriate unit (m/cm/Km etc) in your sketch:



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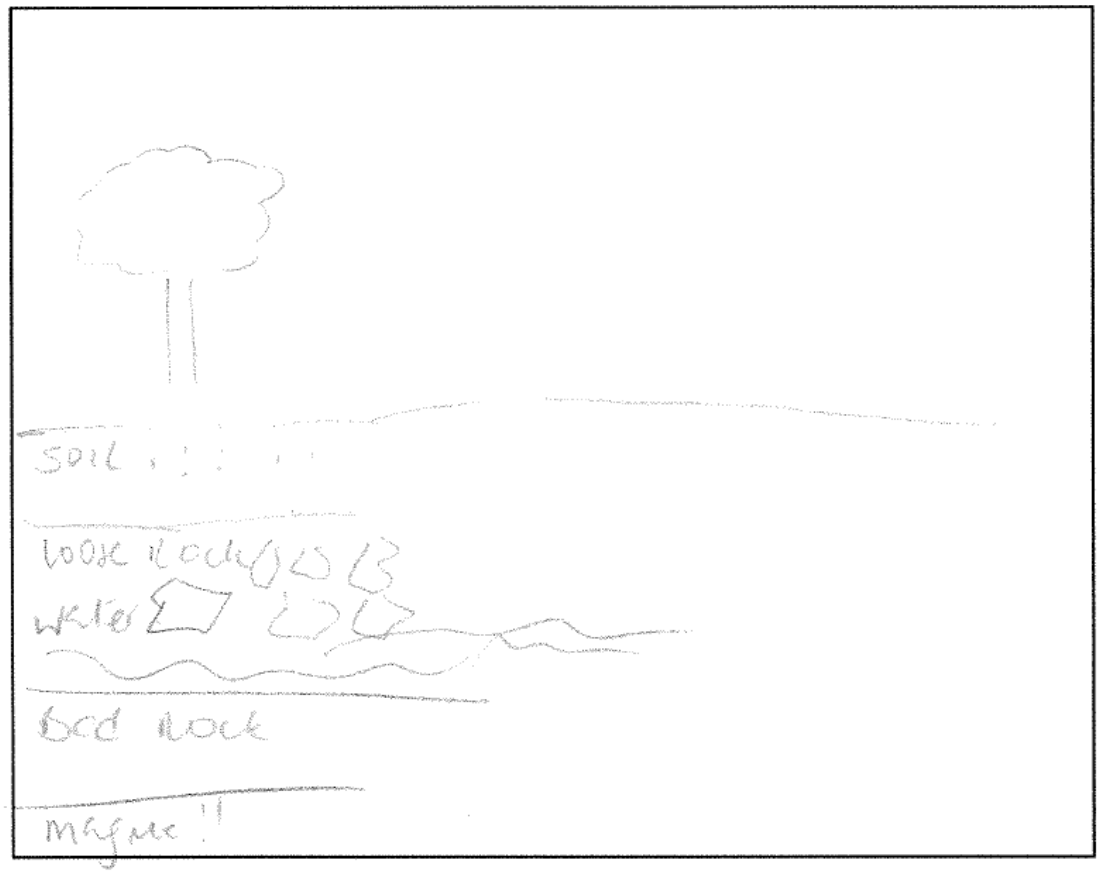
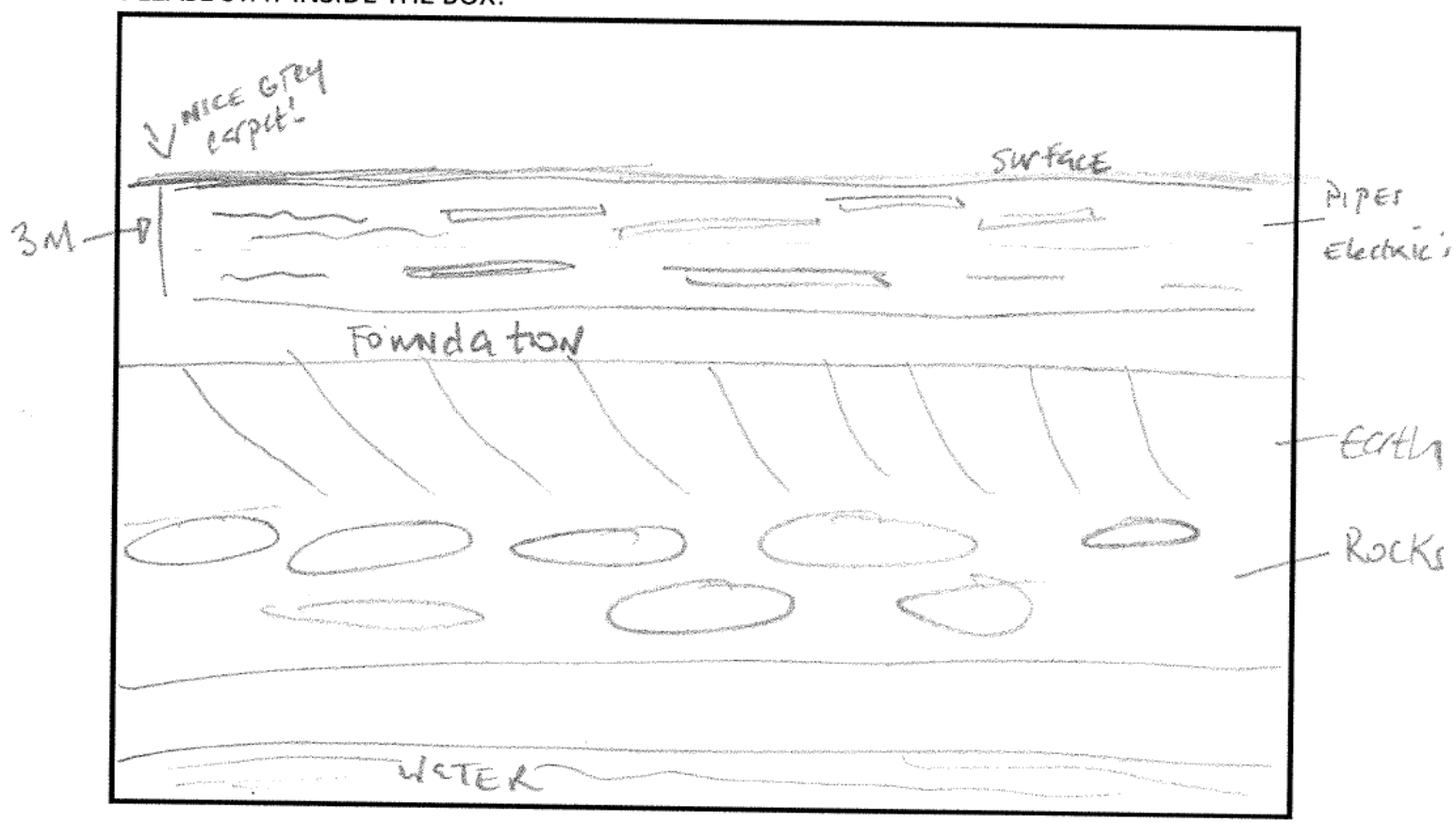


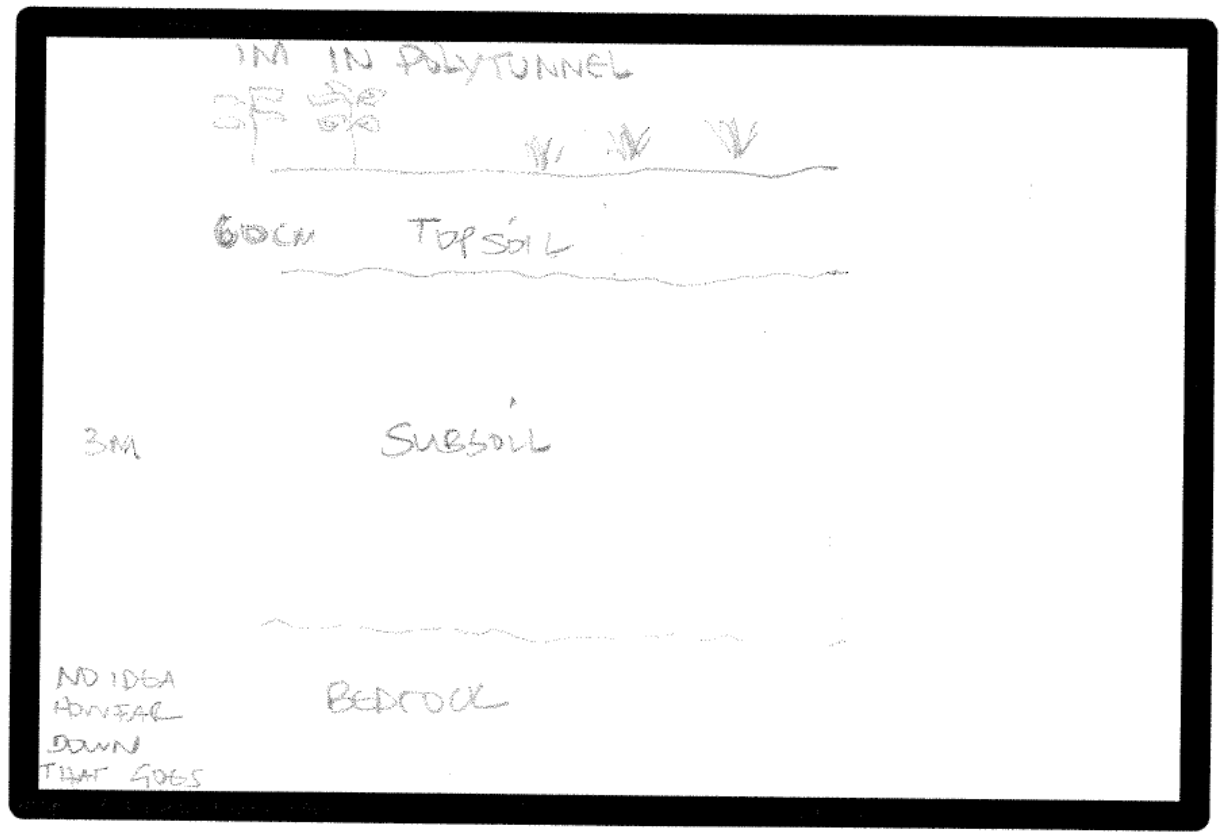
Non-expert

PLEASE STAY INSIDE THE BOX!



Non-expert

PLEASE STAY INSIDE THE BOX!

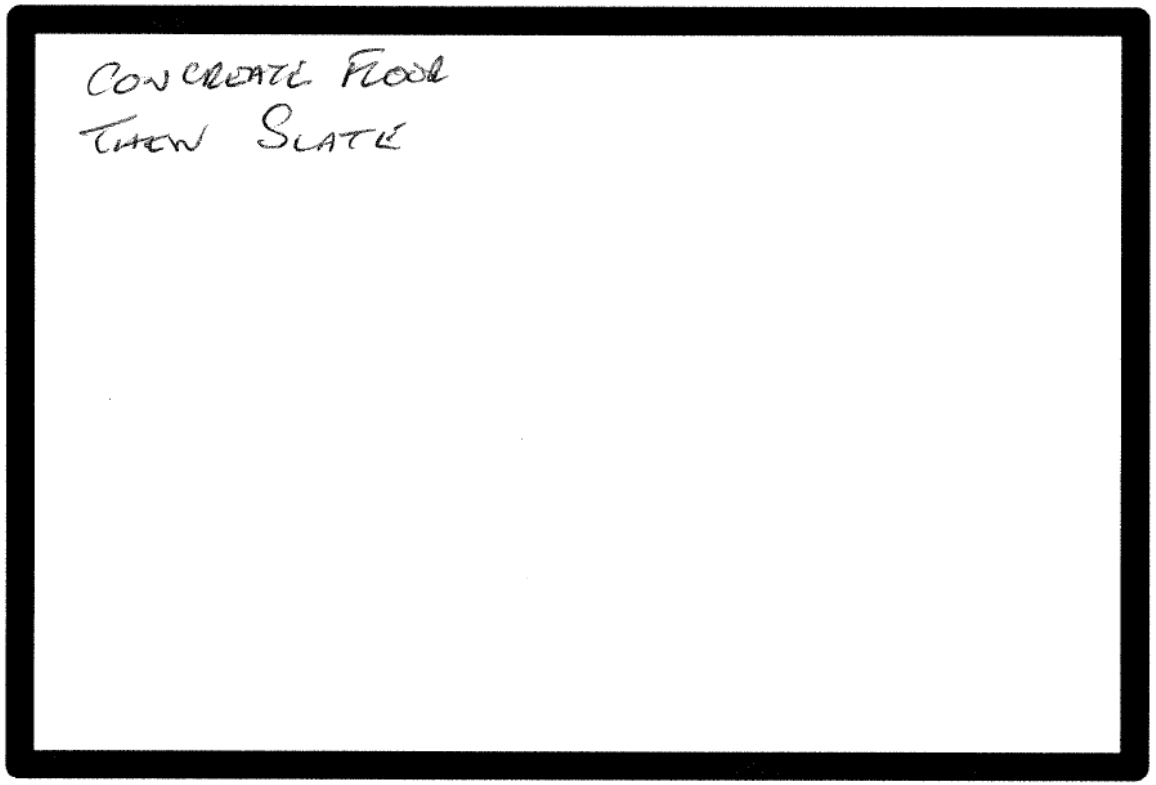


Non-expert

Non-expert

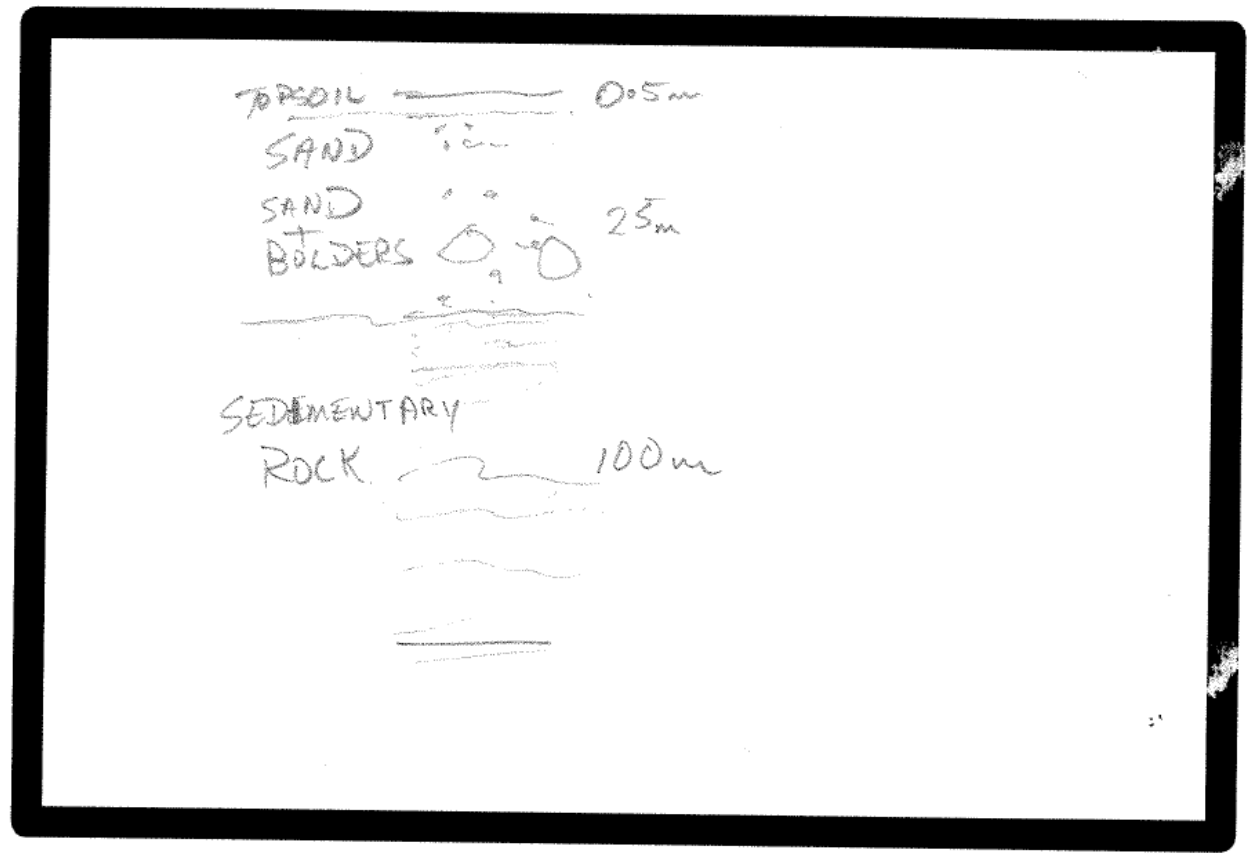
sketch

PLEASE STAY INSIDE THE BOX!



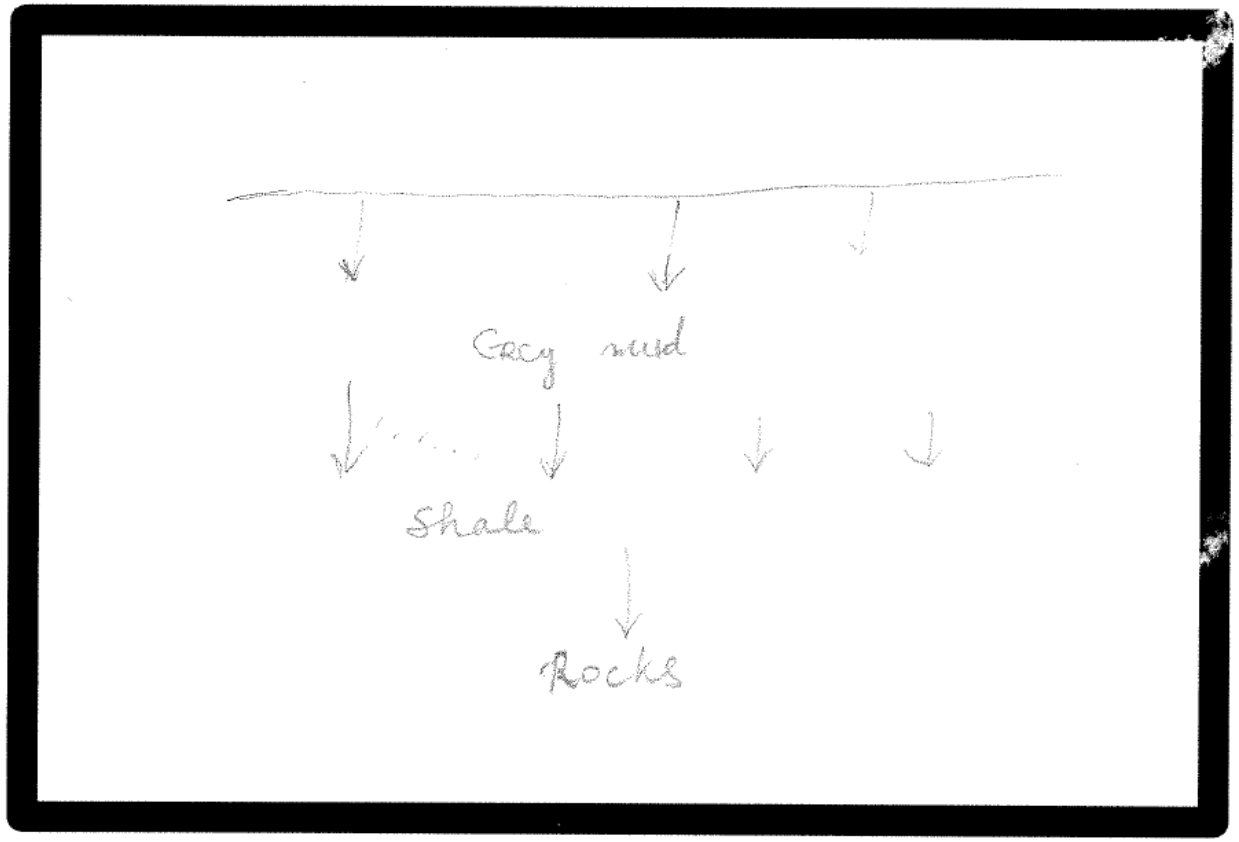
Non-expert

PLEASE STAY INSIDE THE BOX!



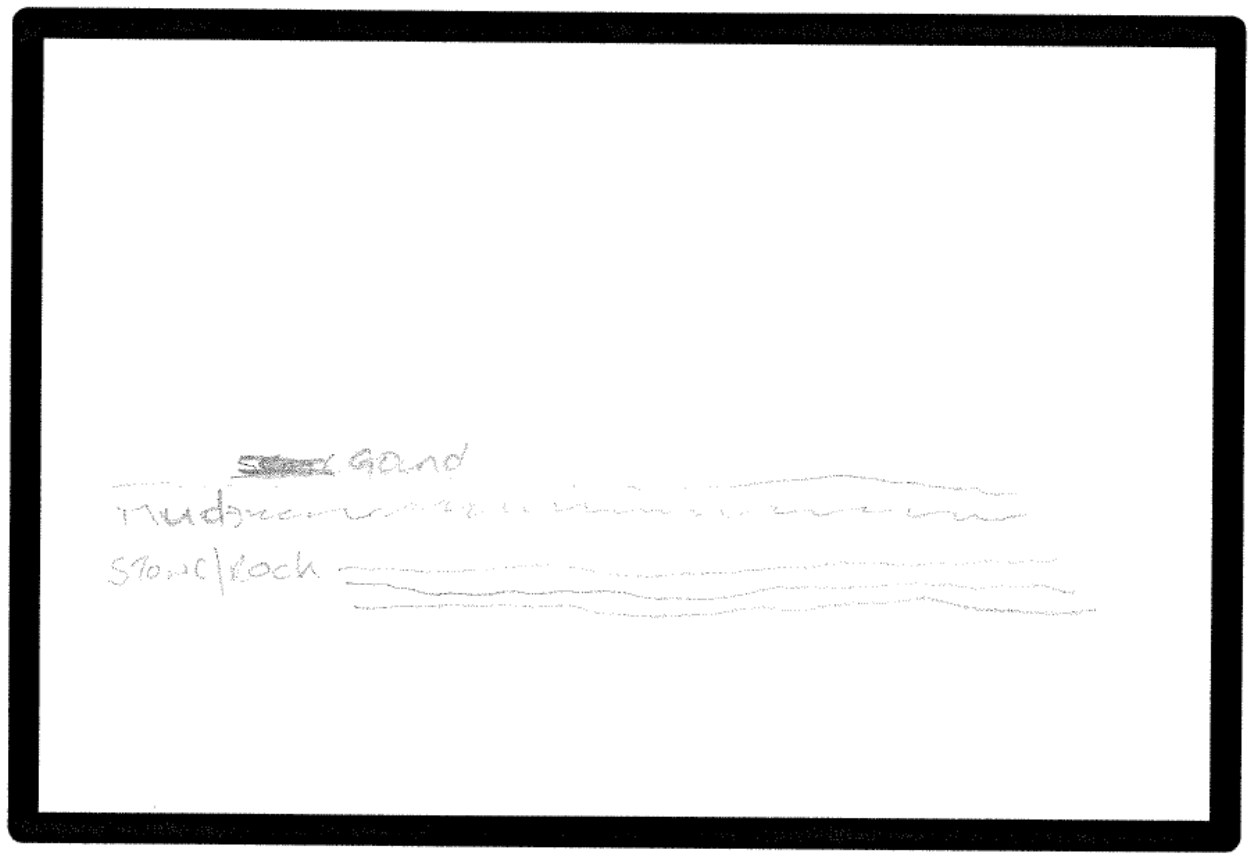
Non-expert

PLEASE STAY INSIDE THE BOX!



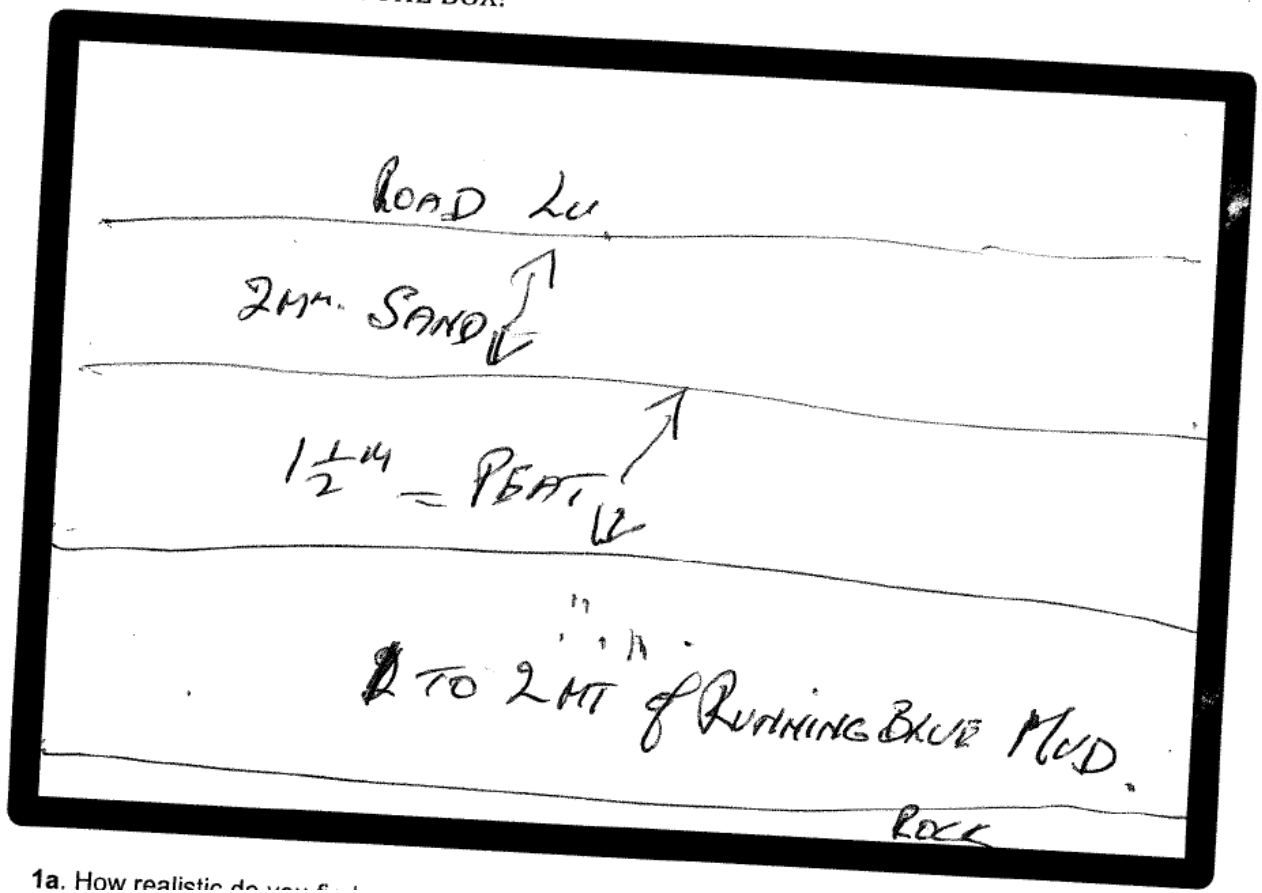
Non-expert

PLEASE STAY INSIDE THE BOX!



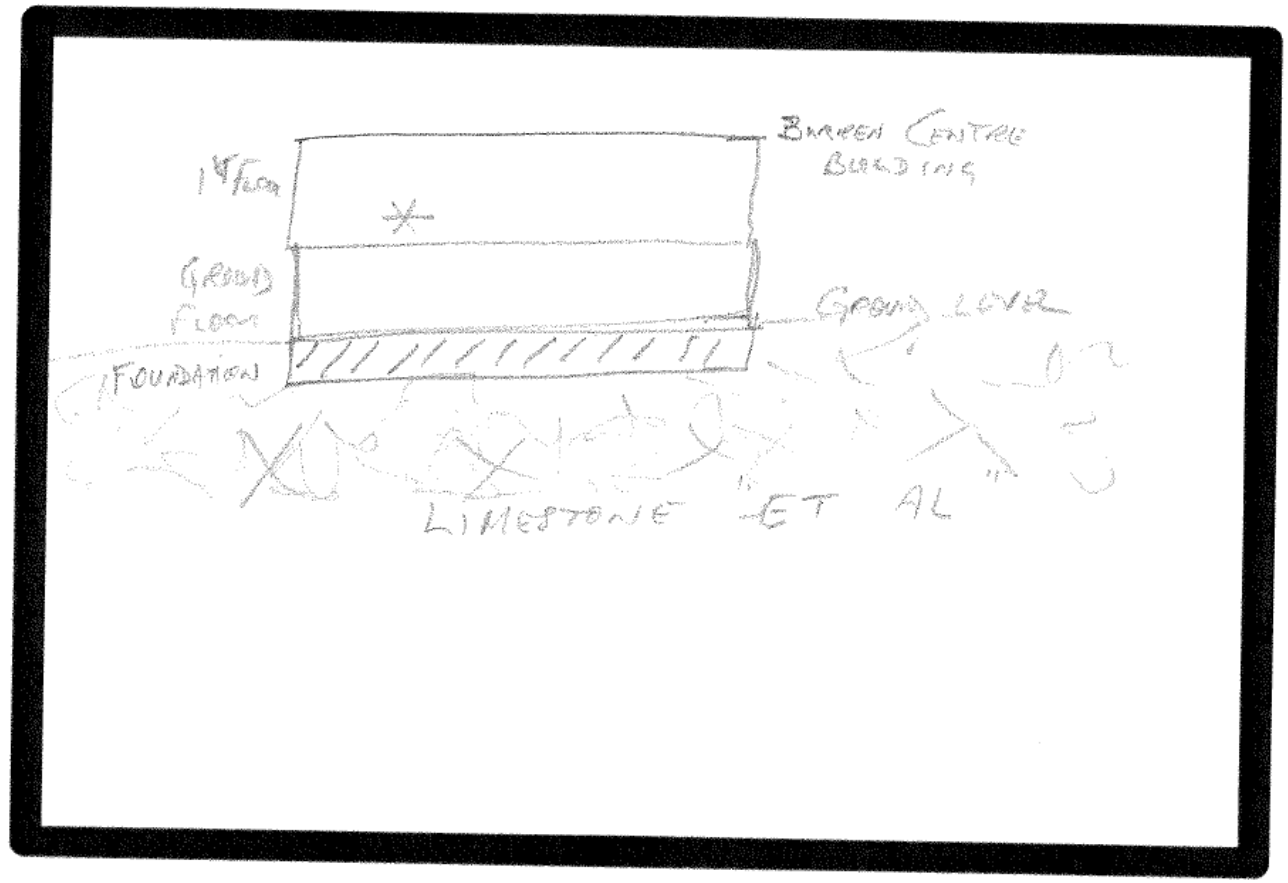
Non-expert

PLEASE STAY INSIDE THE BOX!

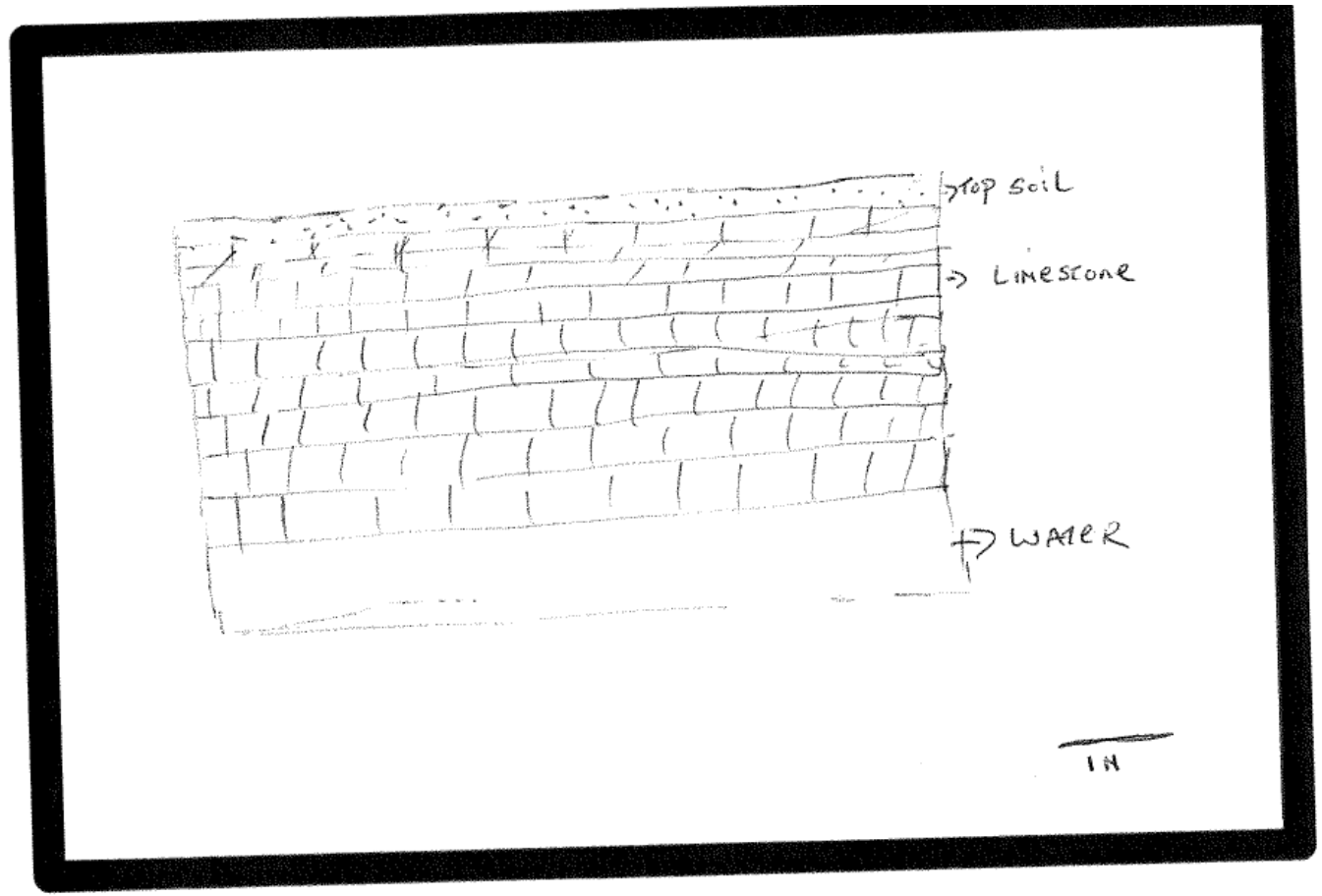


1a. How realistic do you f

Non-expert

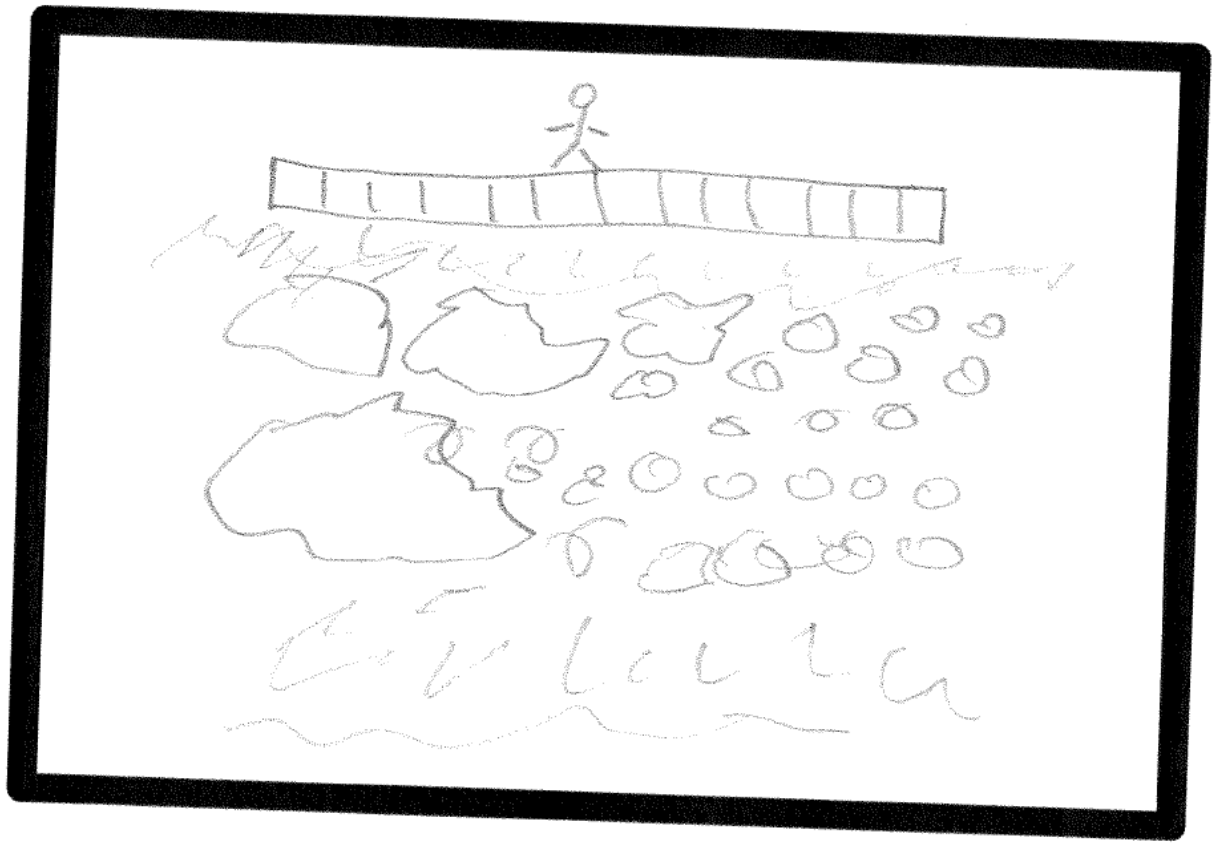

BARREN CENTRE BUILDING
1ST FLOOR
GROUND FLOOR
FOUNDATION
GROUND LEVEL
LIMESTONE "ET AL"

Non-expert



Non-expert

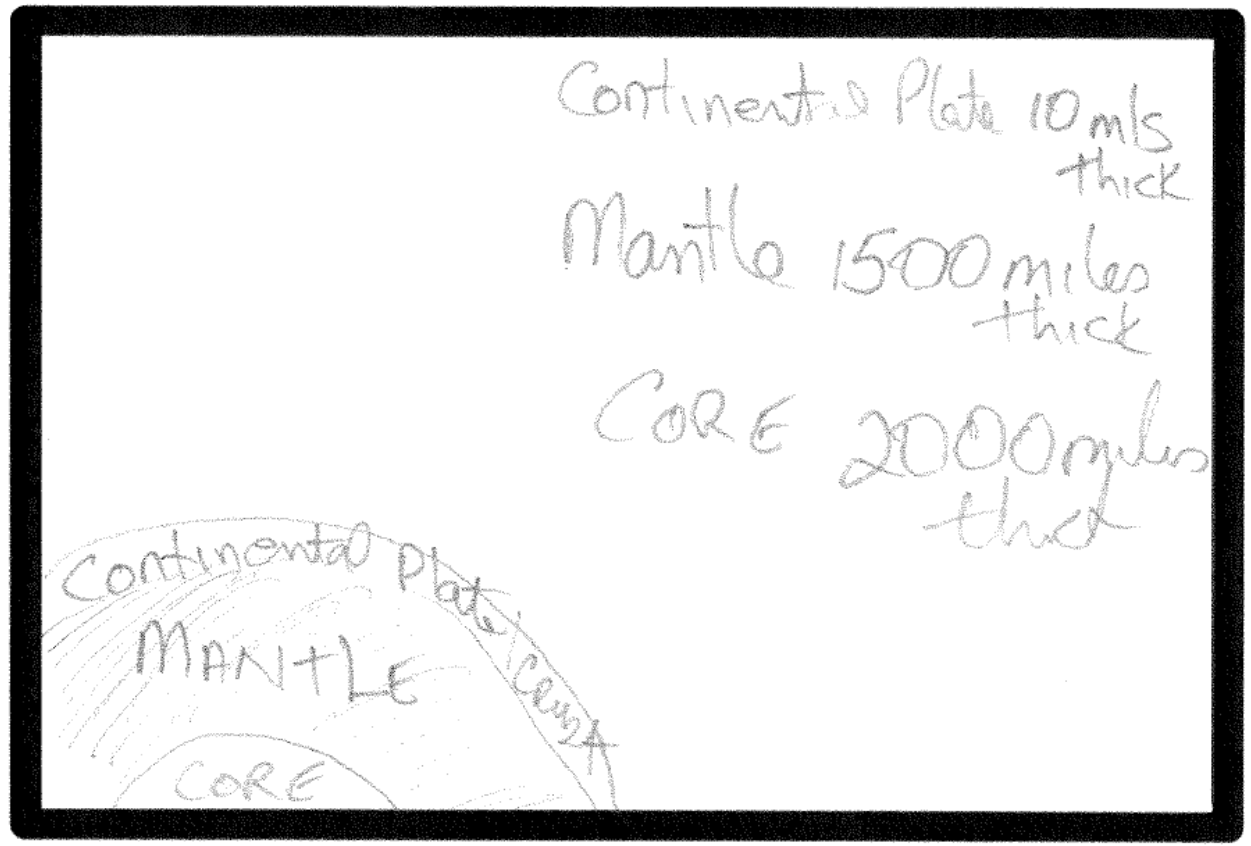
PLEASE STAY INSIDE THE BOX!



1a. How realistic do

Non-expert

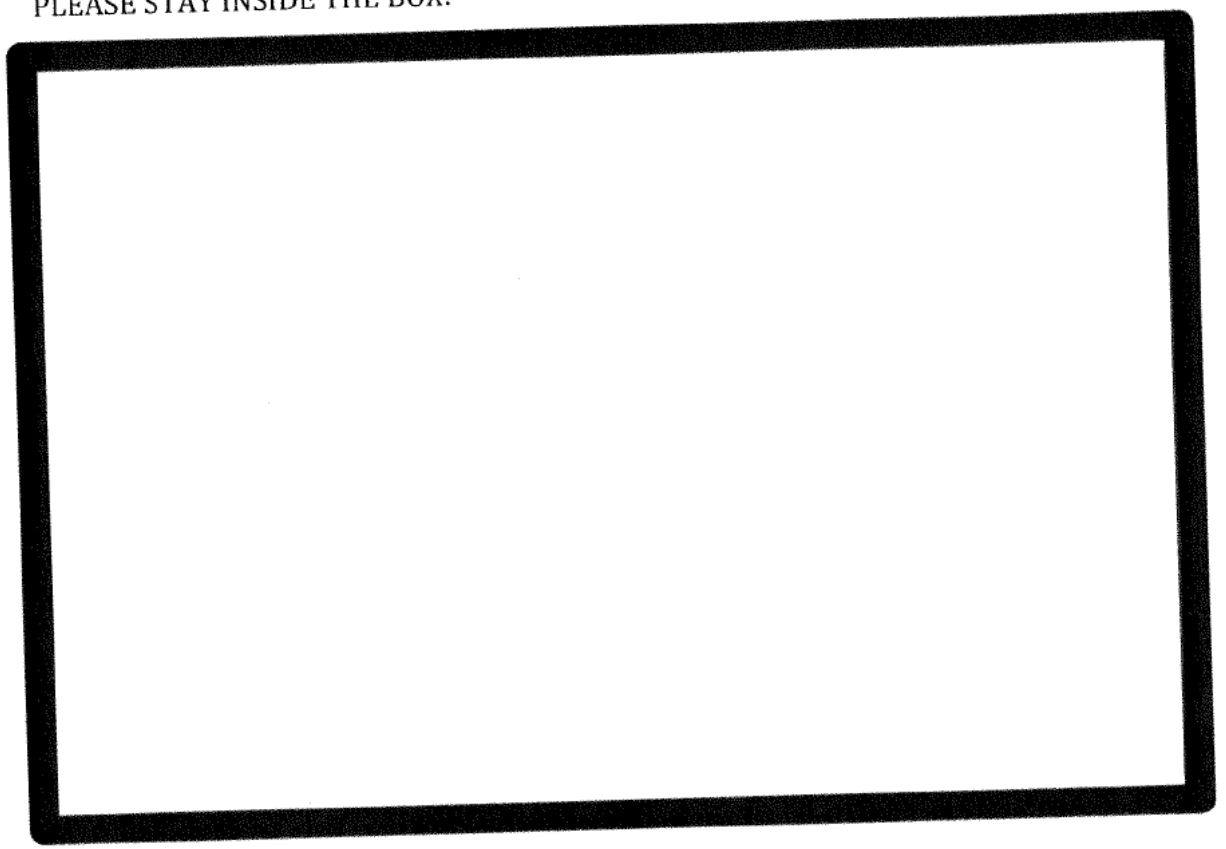
PLEASE STAY INSIDE THE BOX!



Non-expert

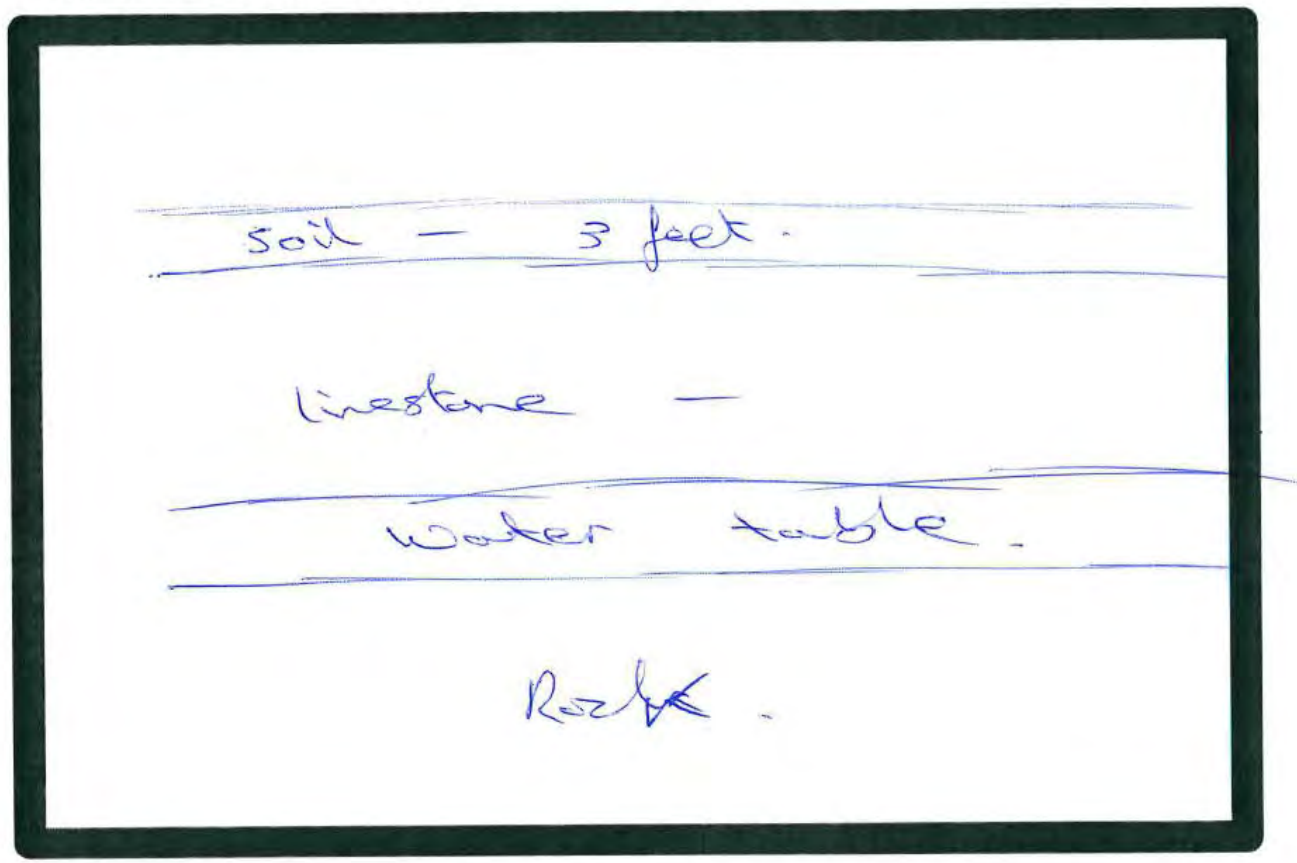
sketch

PLEASE STAY INSIDE THE BOX!



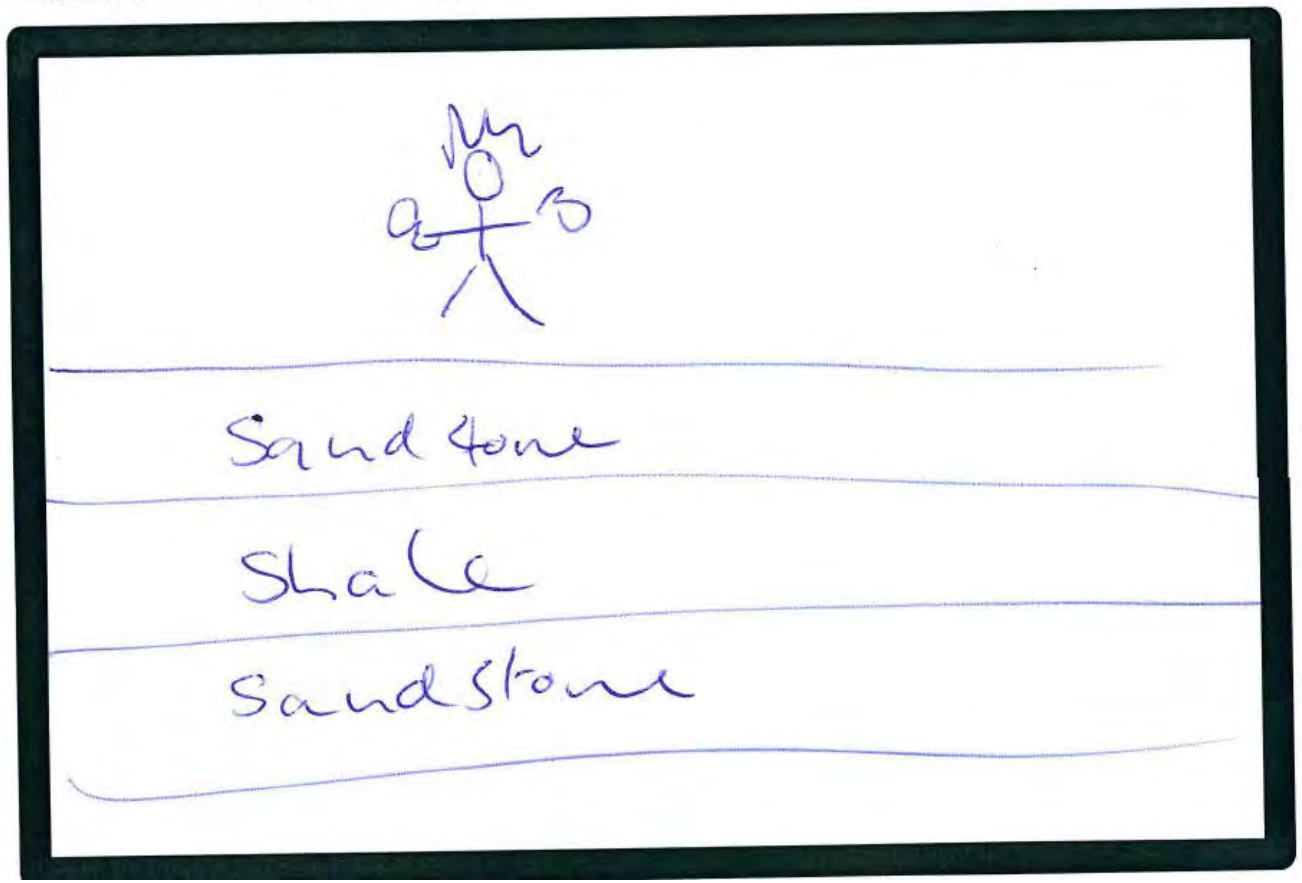
Non-expert

PLEASE STAY INSIDE THE BOX!



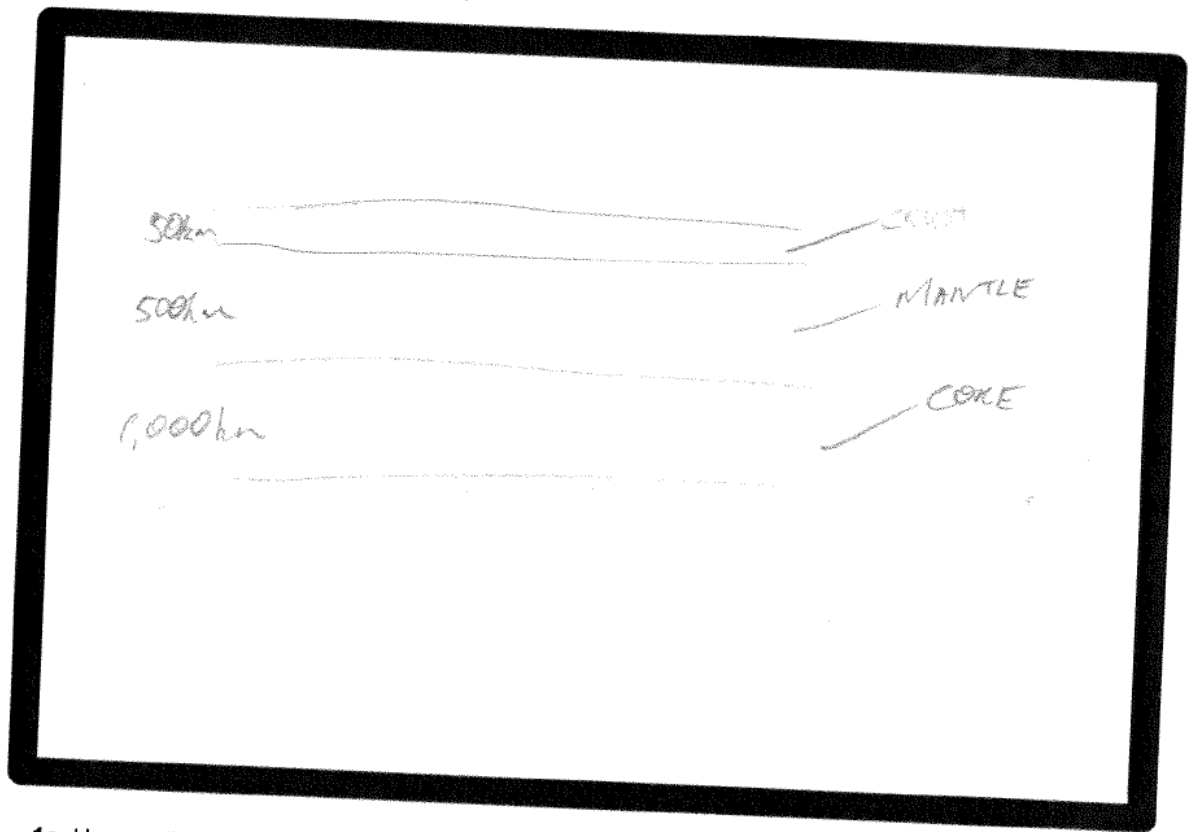
Non-expert

PLEASE STAY INSIDE THE BOX!



Non-expert

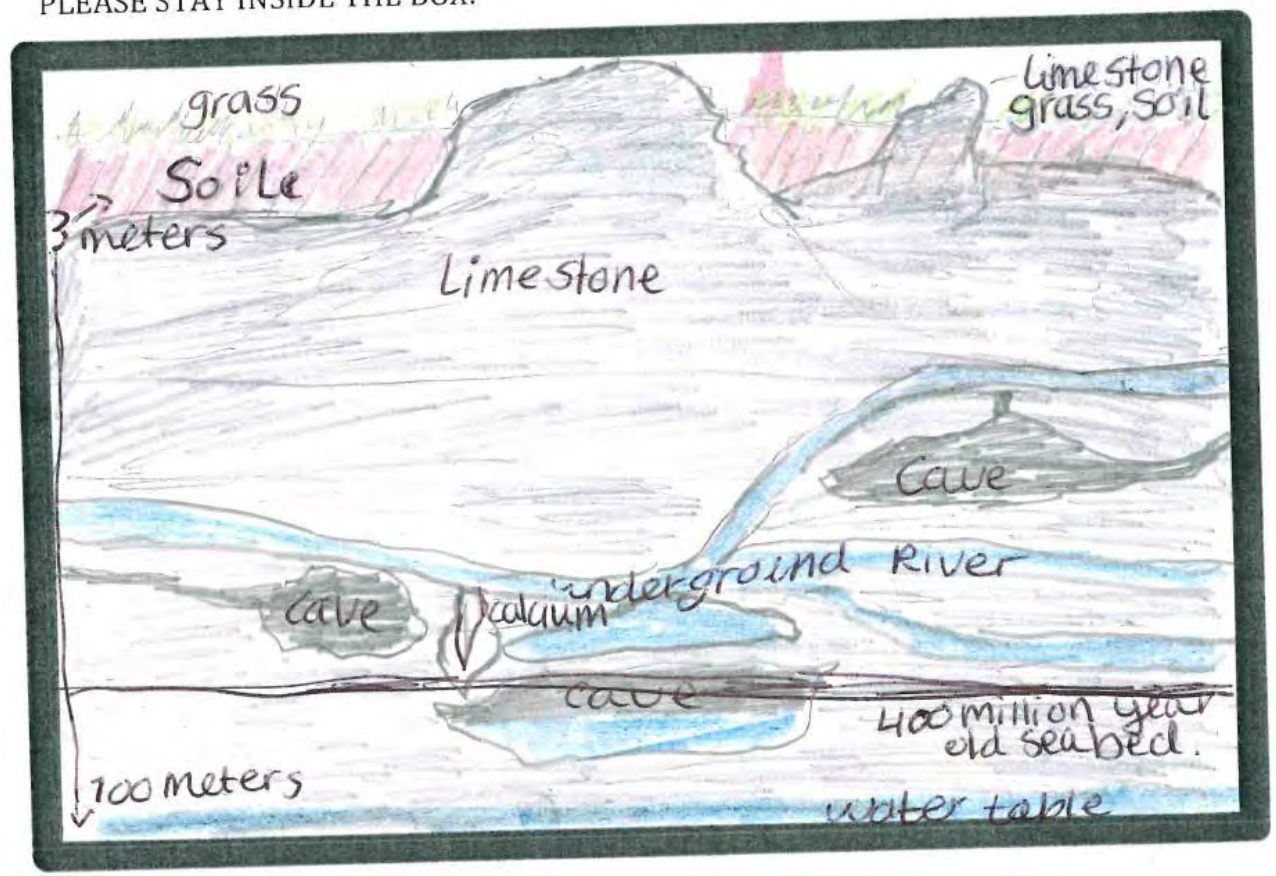
PLEASE STAY INSIDE THE BOX!



1a. How realistic do you find your sketch? Please circle the

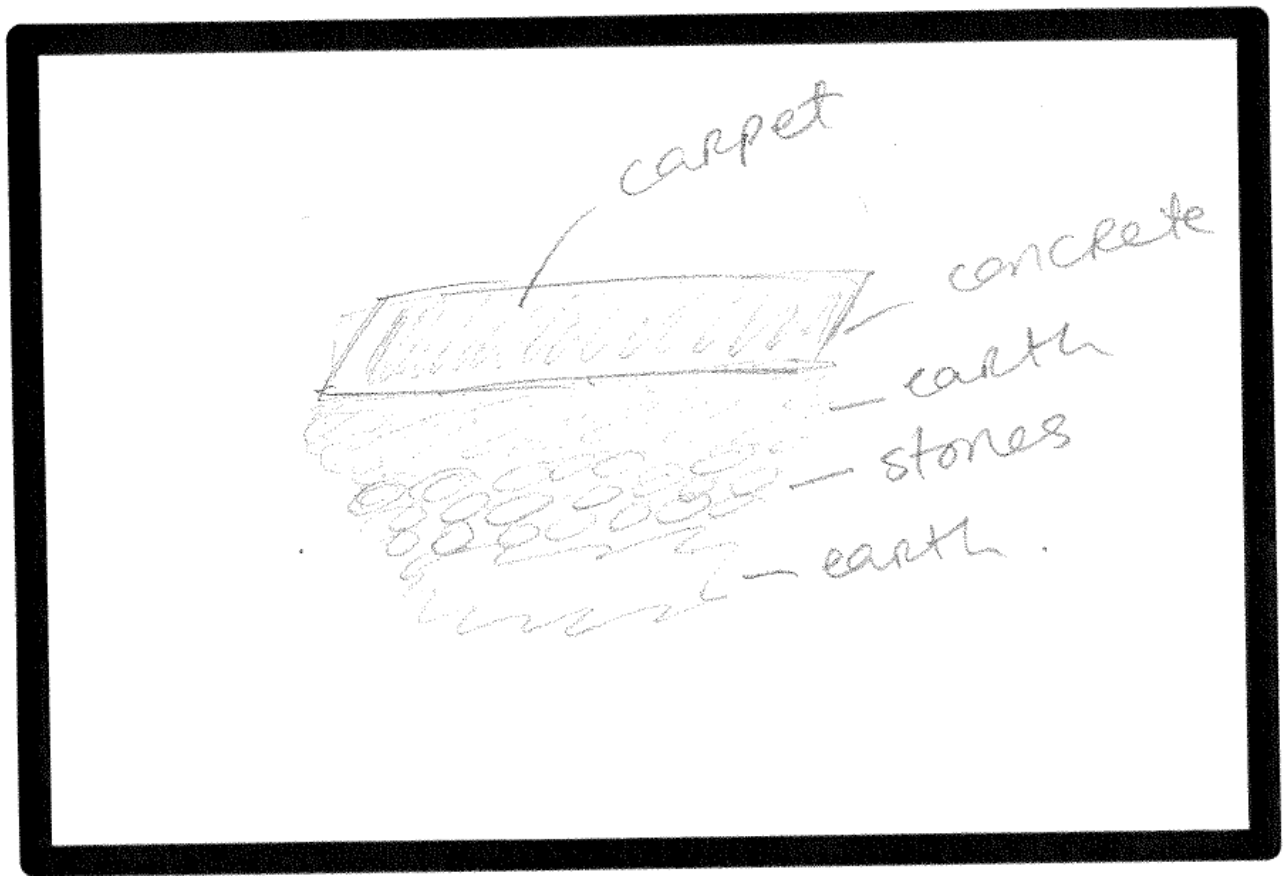
Non-expert

PLEASE STAY INSIDE THE BOX!



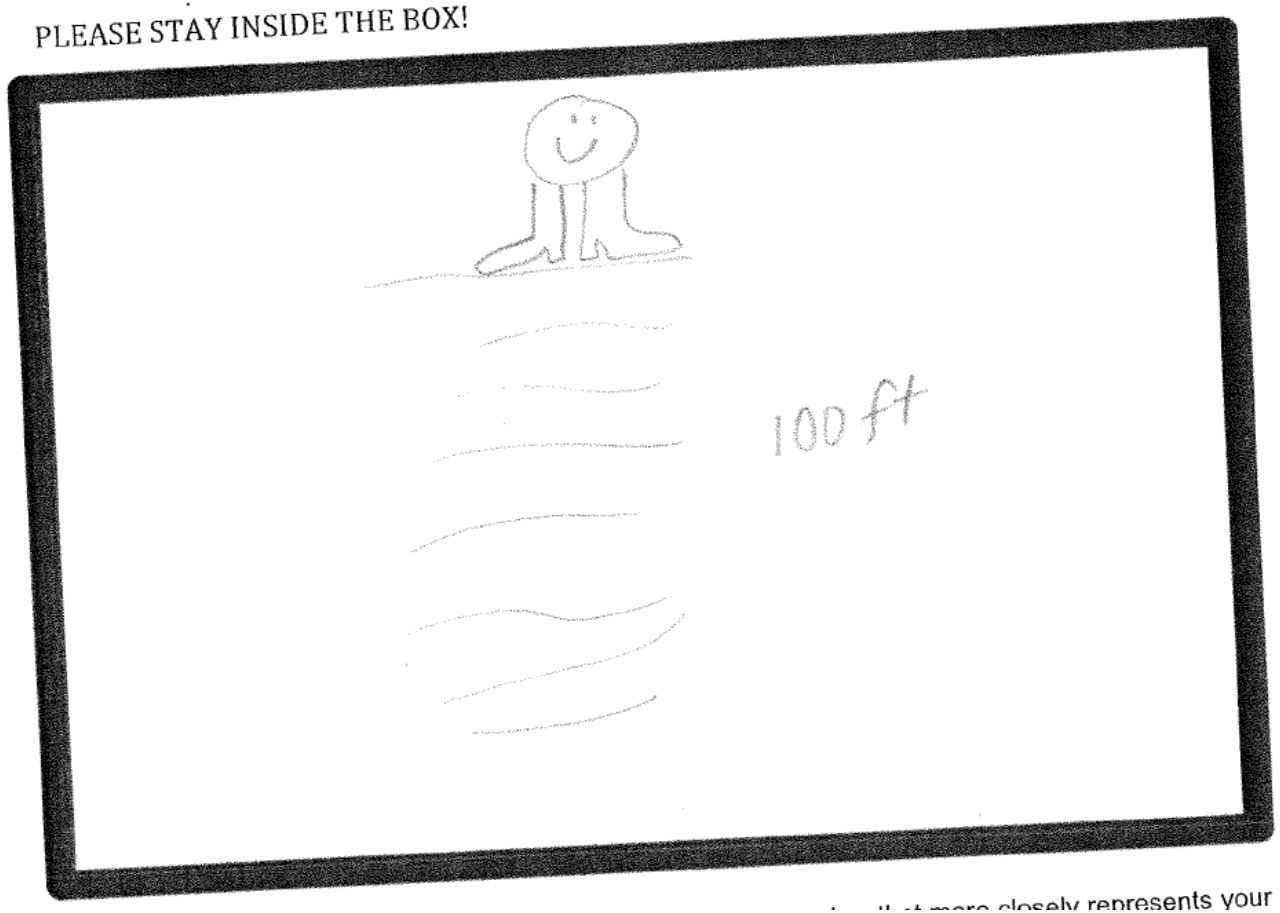
Non-expert

PLEASE STAY INSIDE THE BOX!



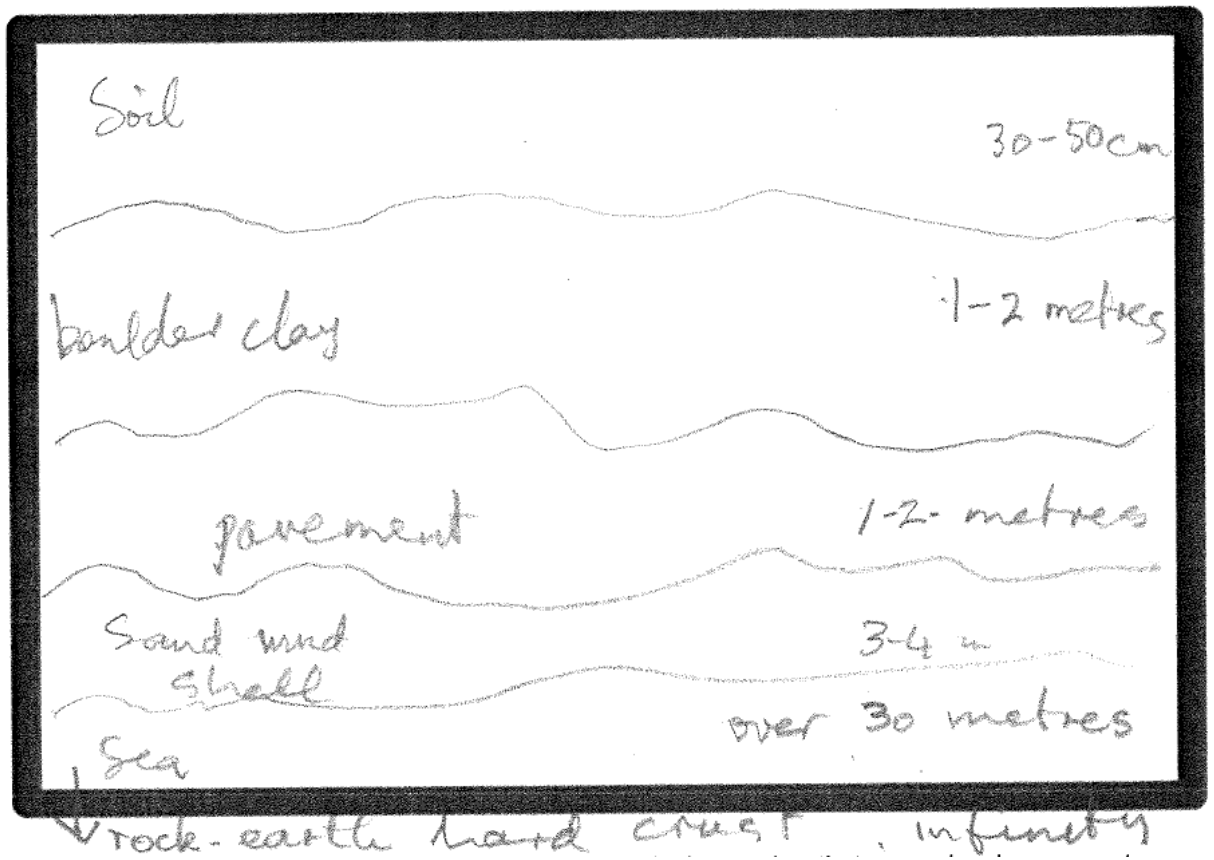
Non-expert

PLEASE STAY INSIDE THE BOX!



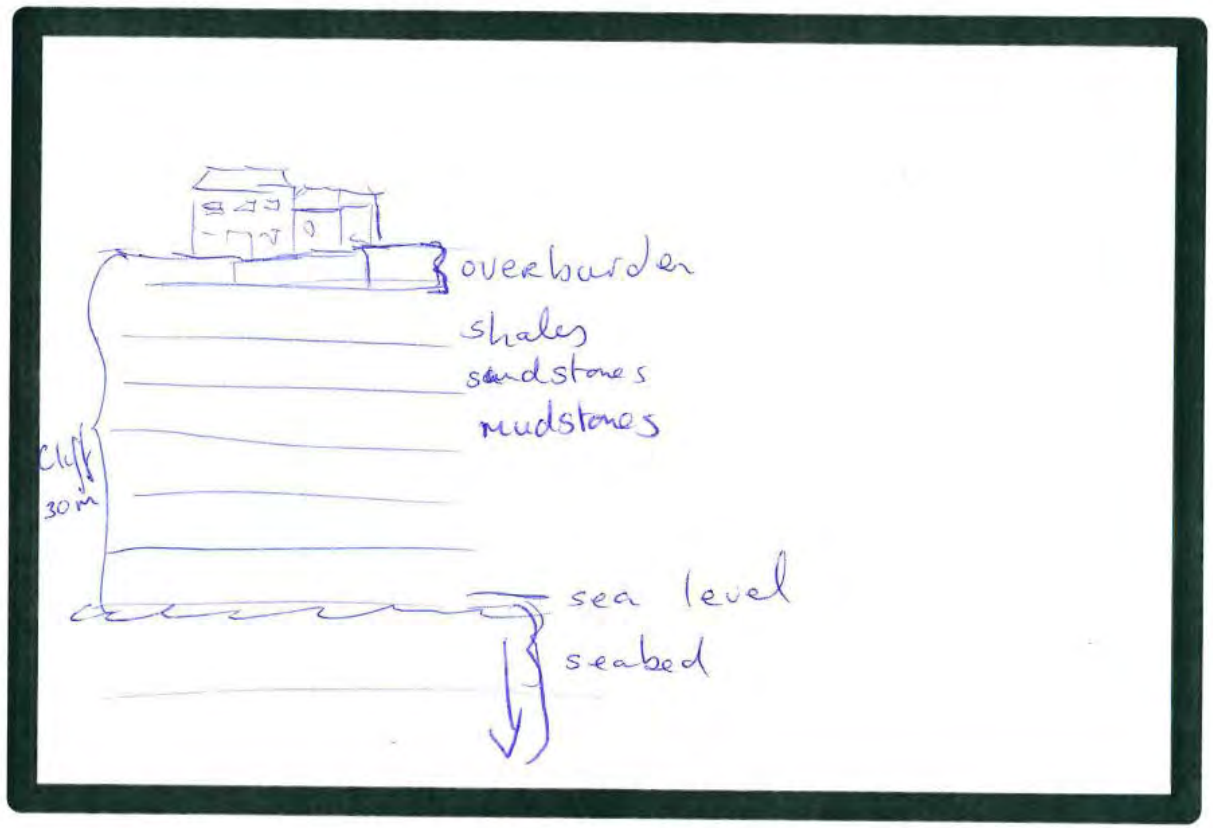
Non-expert

PLEASE STAY INSIDE THE BOX!



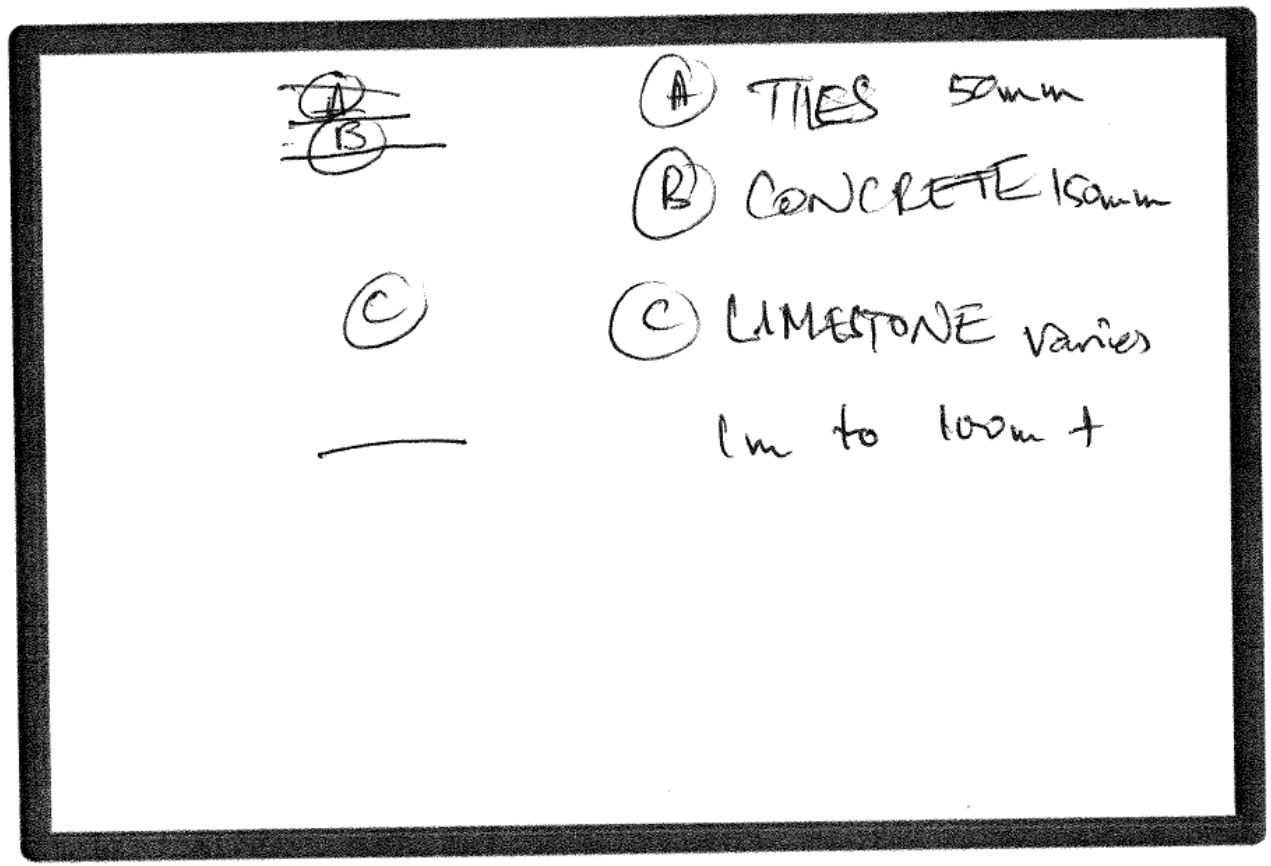
Non-expert

PLEASE STAY INSIDE THE BOX!



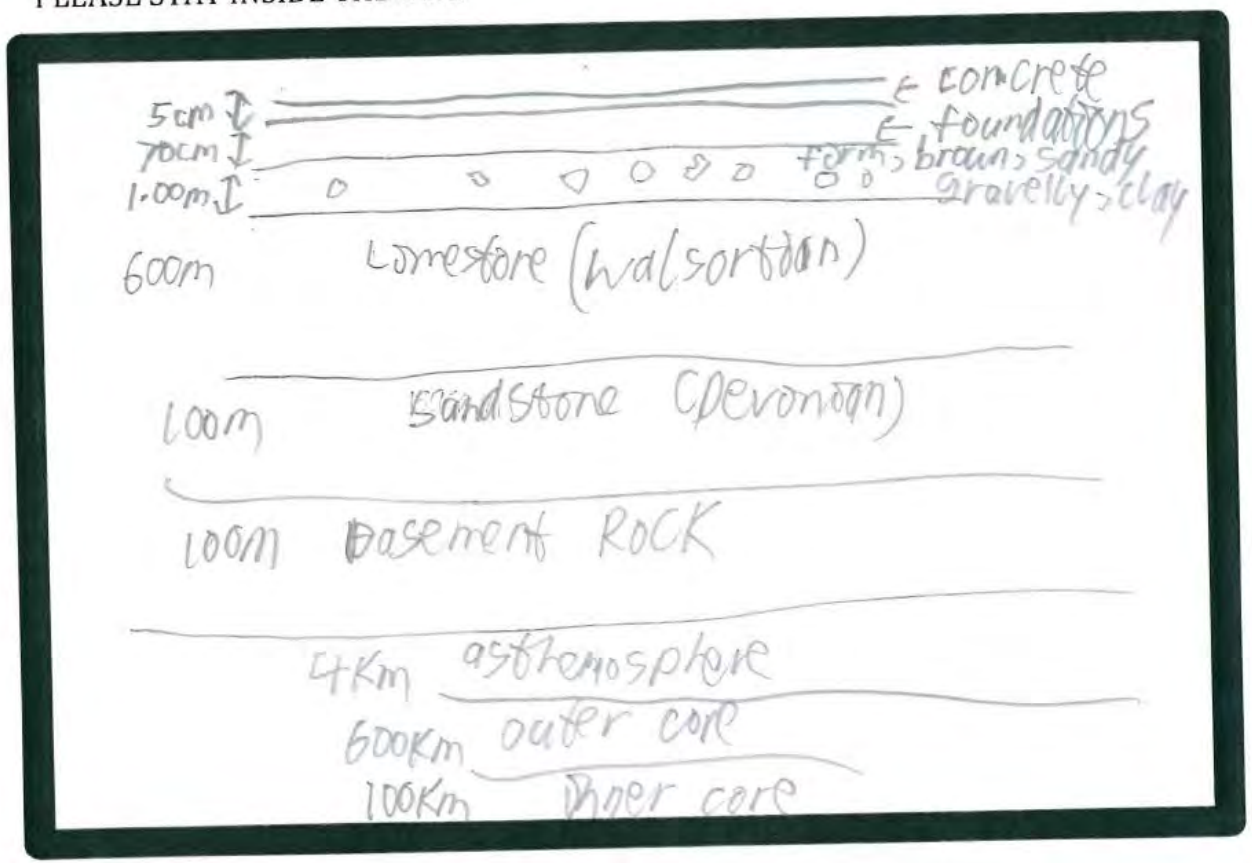
Non-expert

PLEASE STAY INSIDE THE BOX!



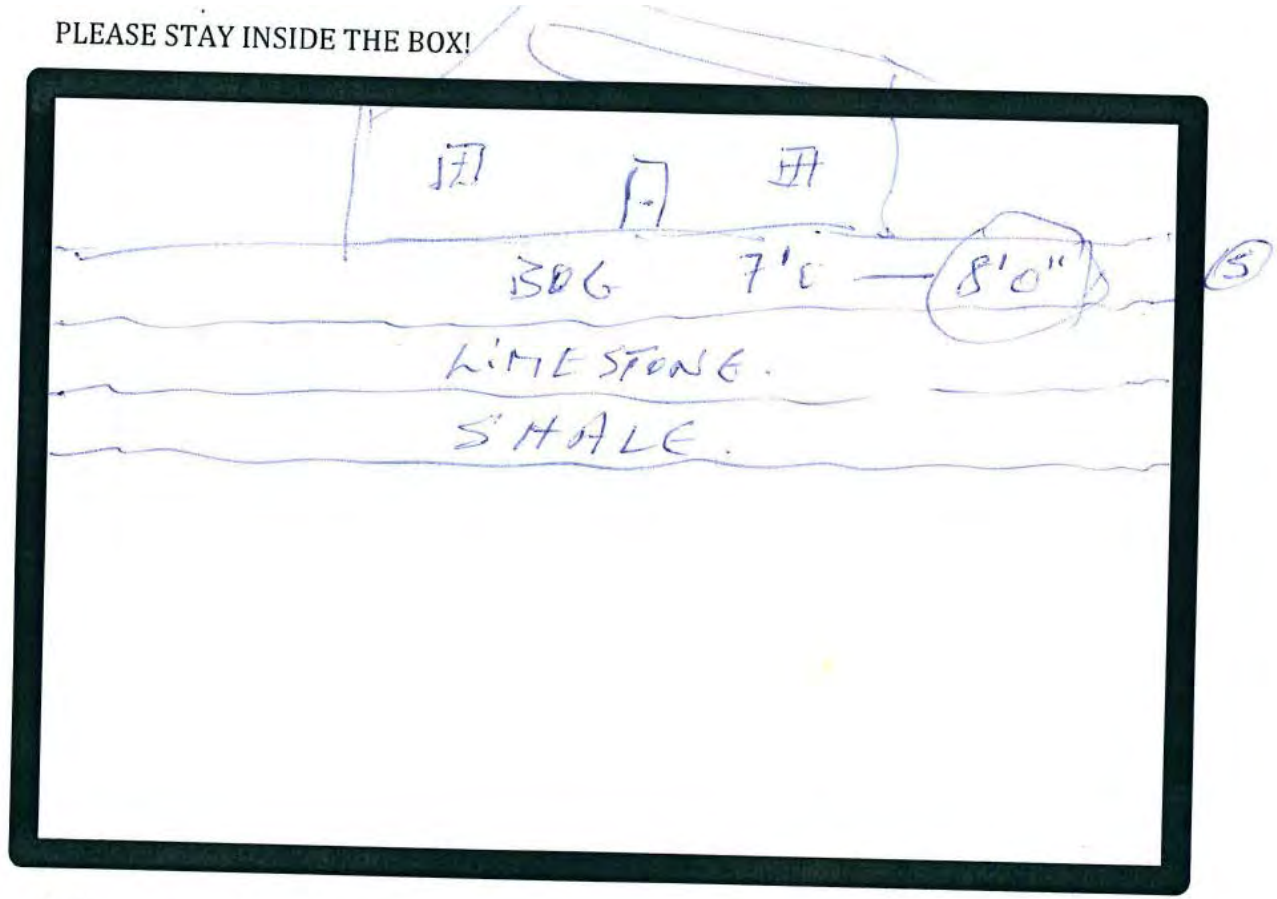
Non-expert

PLEASE STAY INSIDE THE BOX!



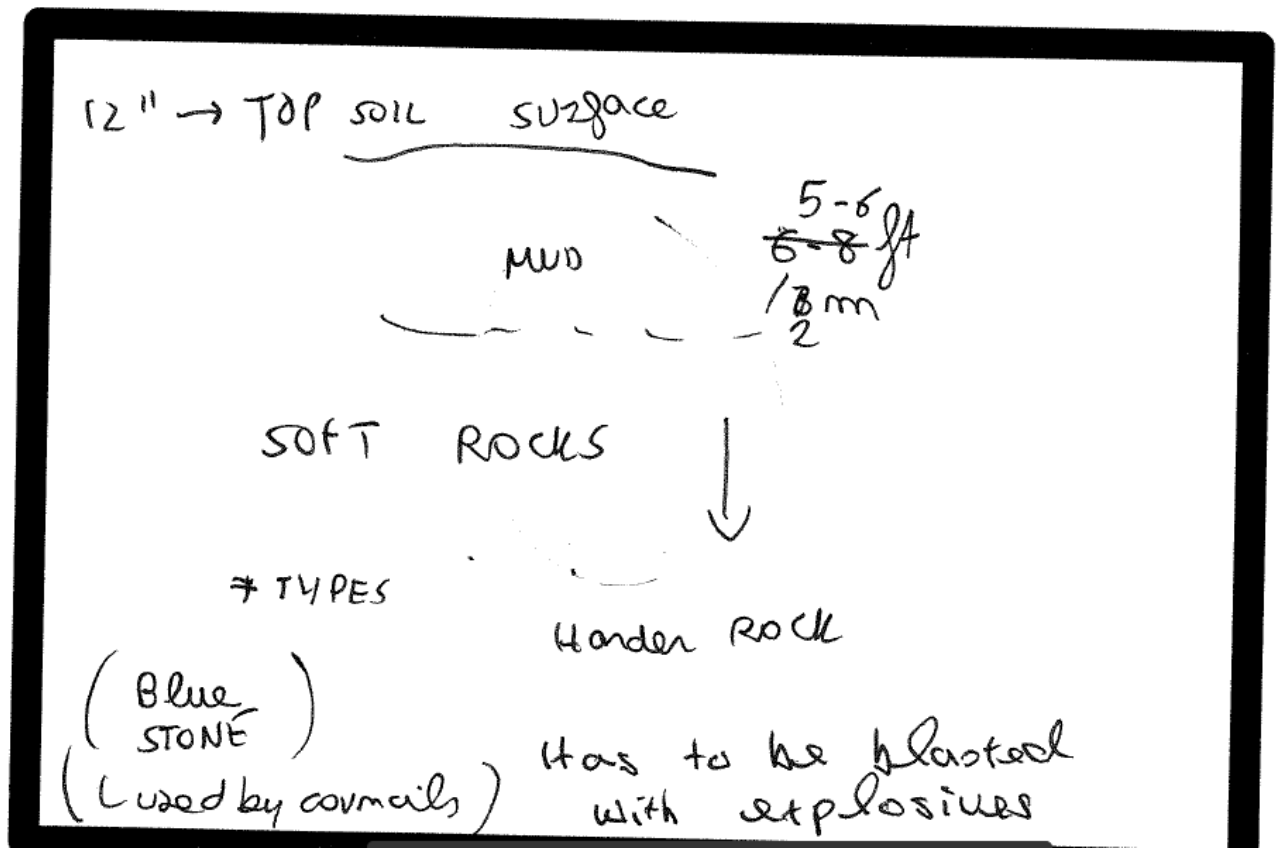
Non-expert

PLEASE STAY INSIDE THE BOX!



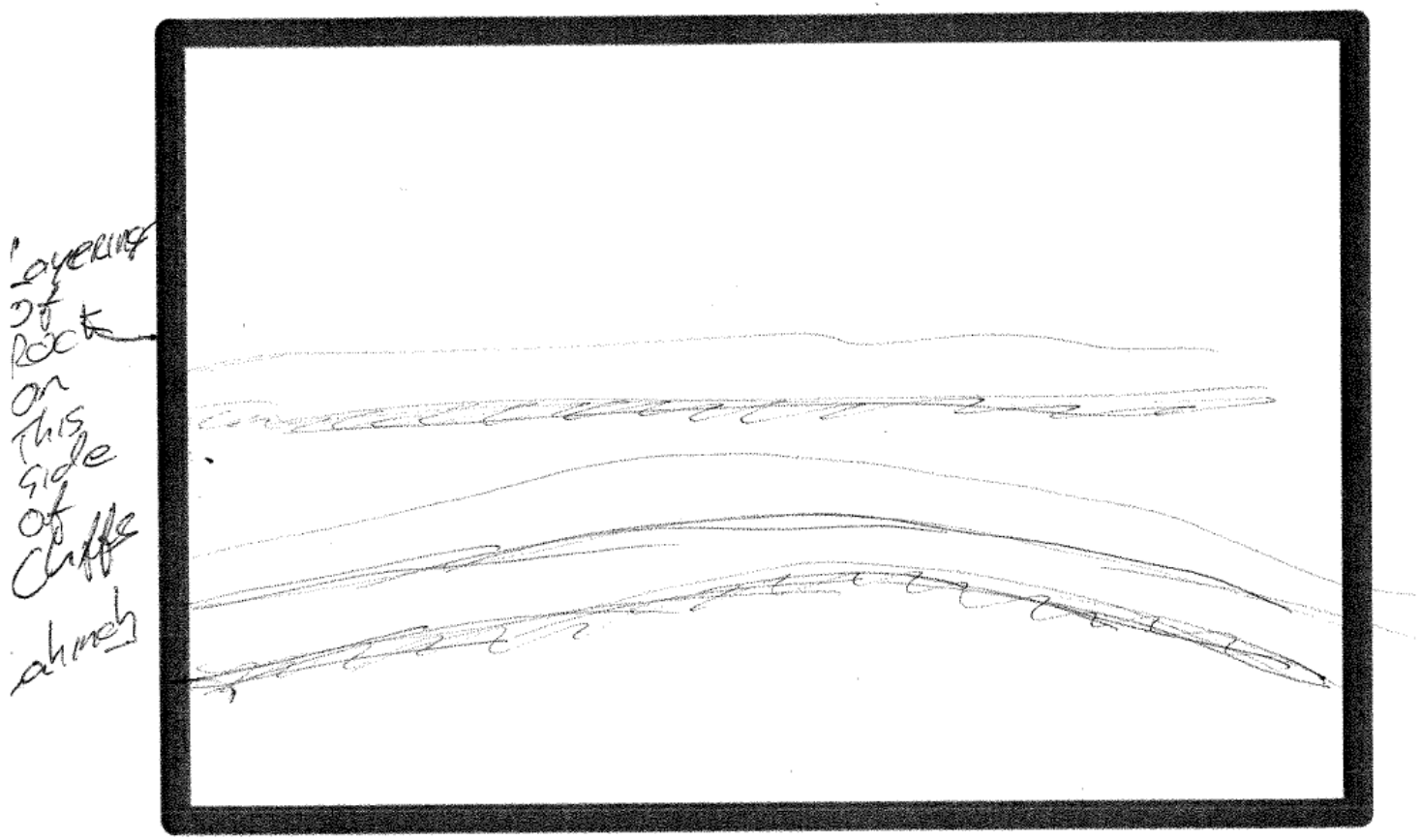
Non-expert

PLEASE STAY INSIDE THE BOX!



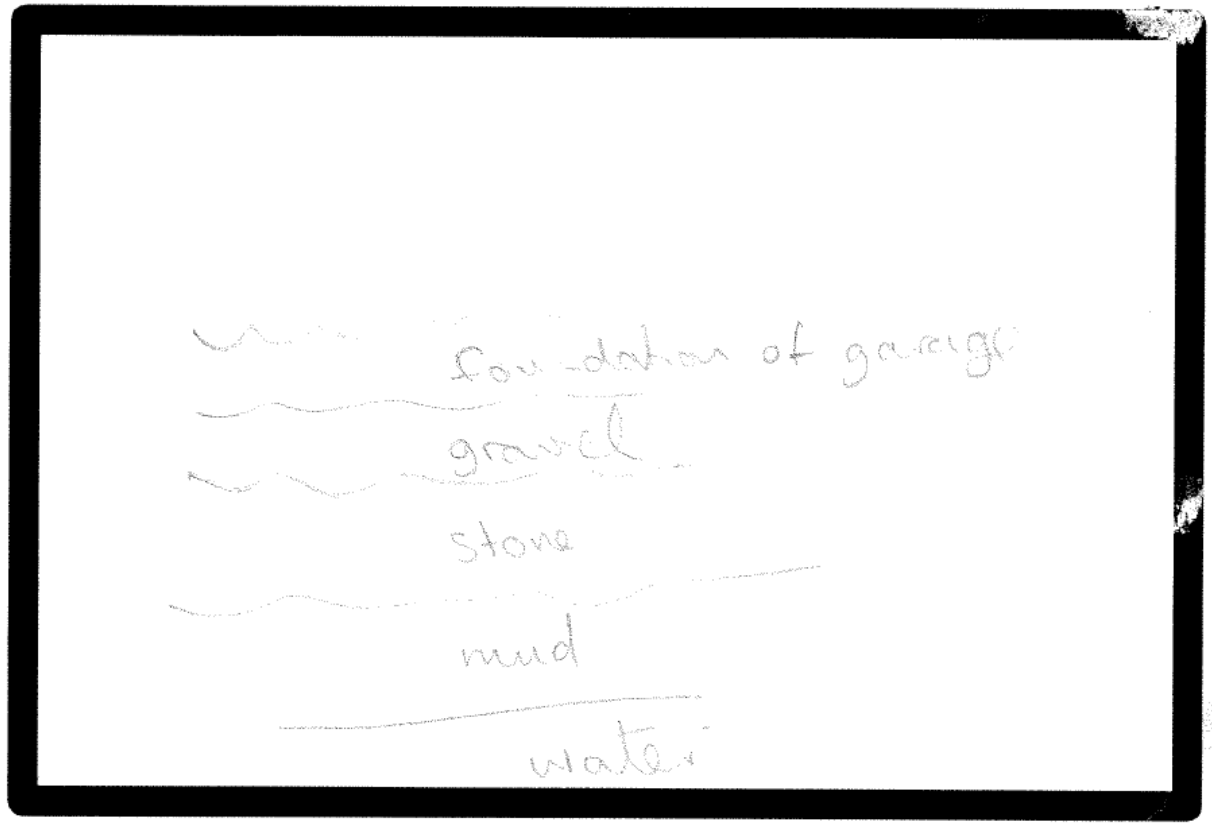
Non-expert

PLEASE STAY INSIDE THE BOX!



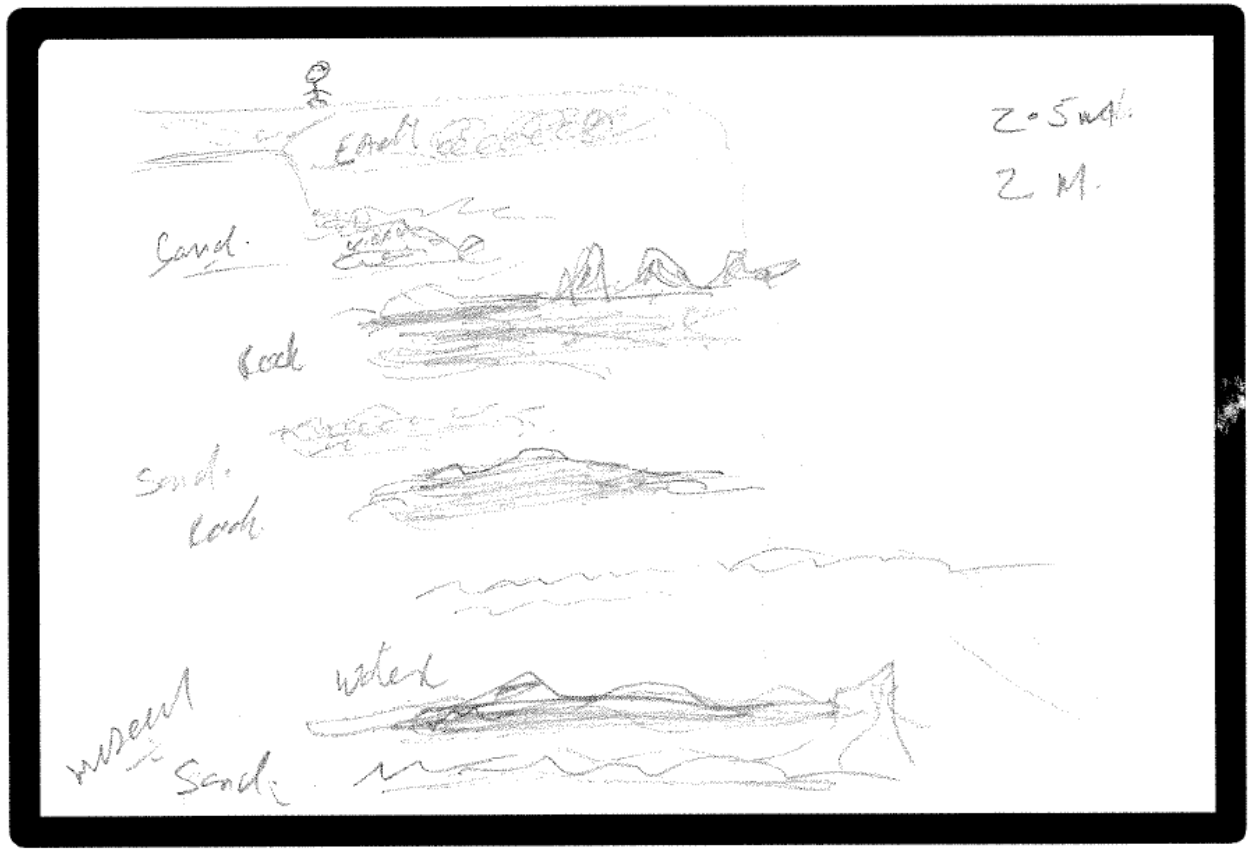
Non-expert

PLEASE STAY INSIDE THE BOX!



Non-expert

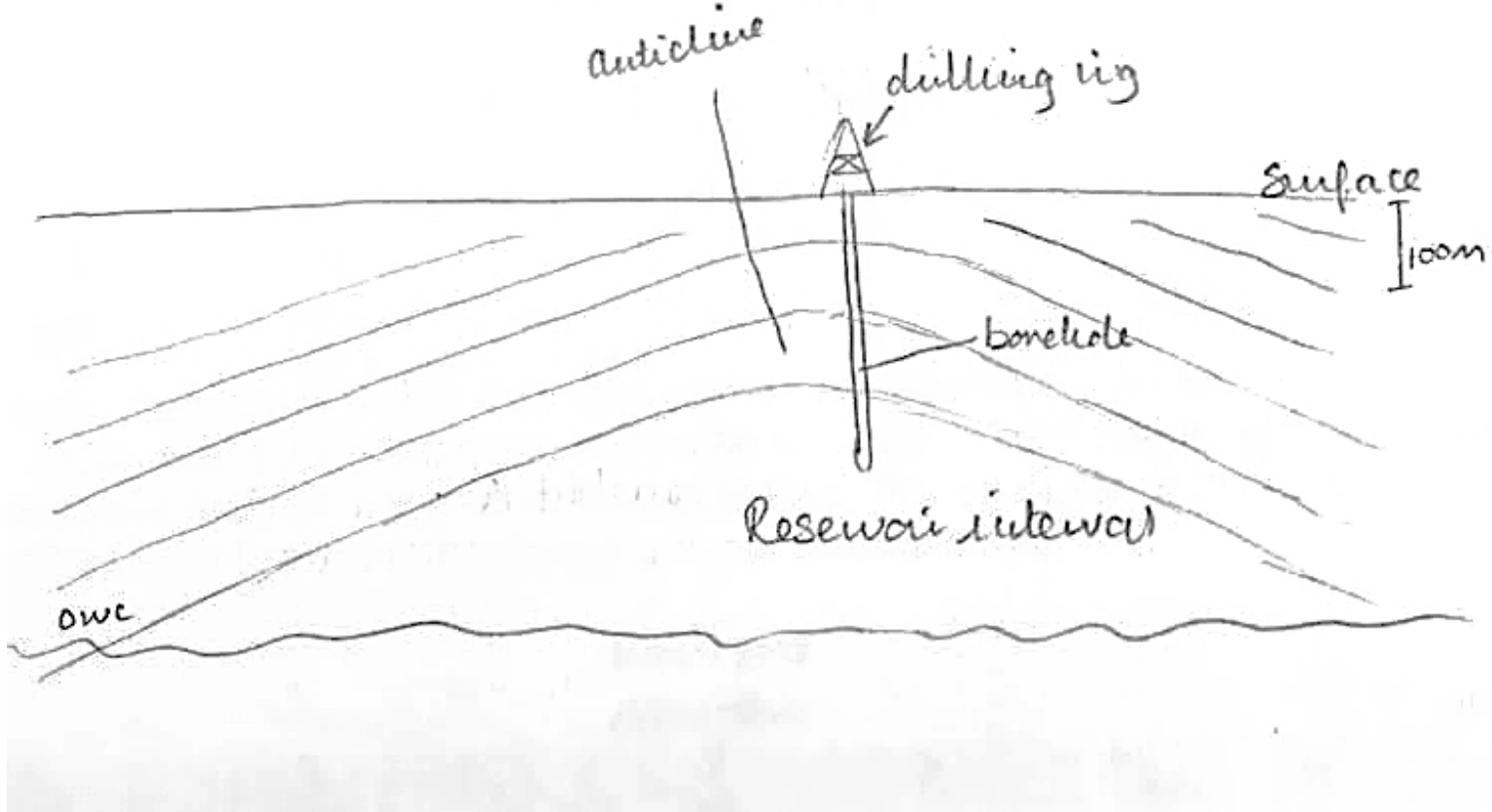
PLEASE STAY INSIDE THE BOX!



Non-expert

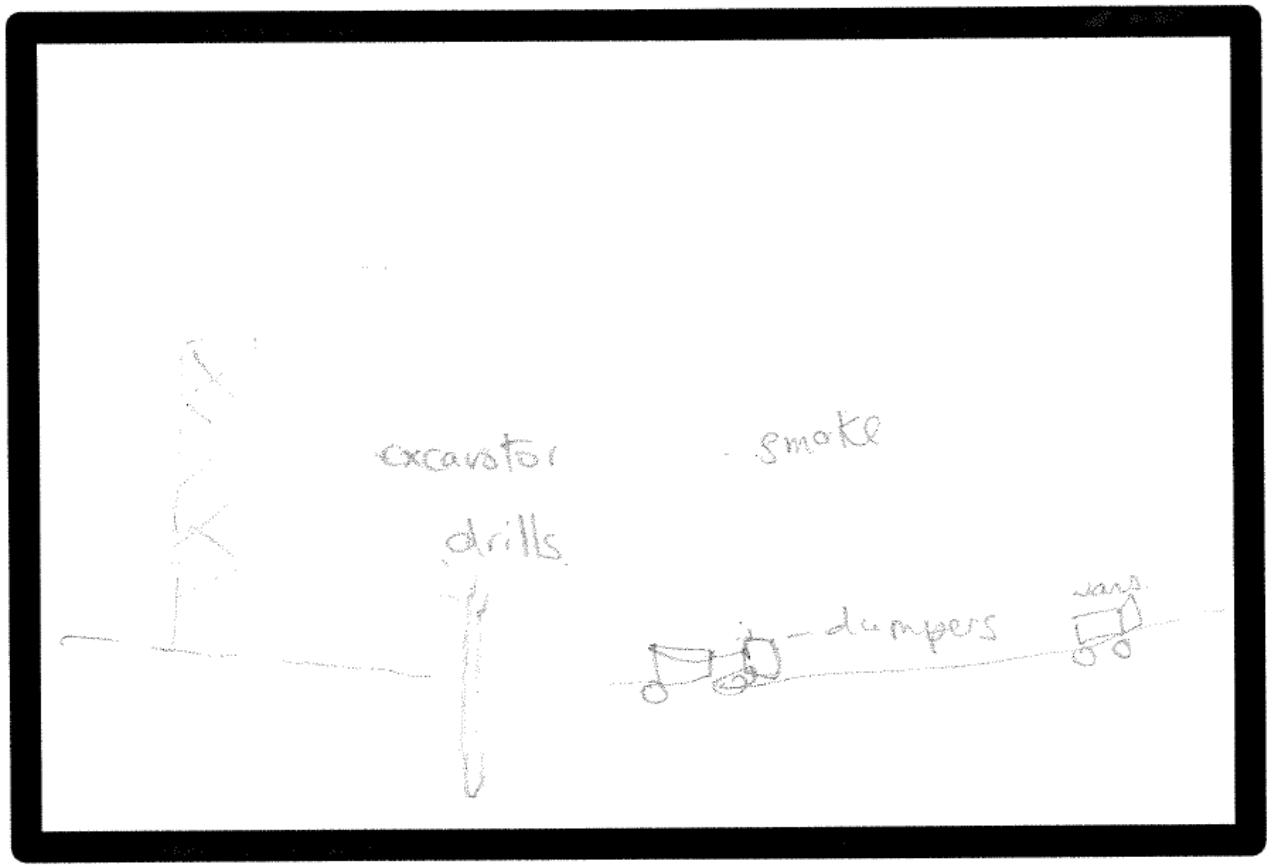
Drilling

Imagine a company is interested in drilling a hole in the ground through the rock in Co. Clare. Please sketch what the drilling process would look like

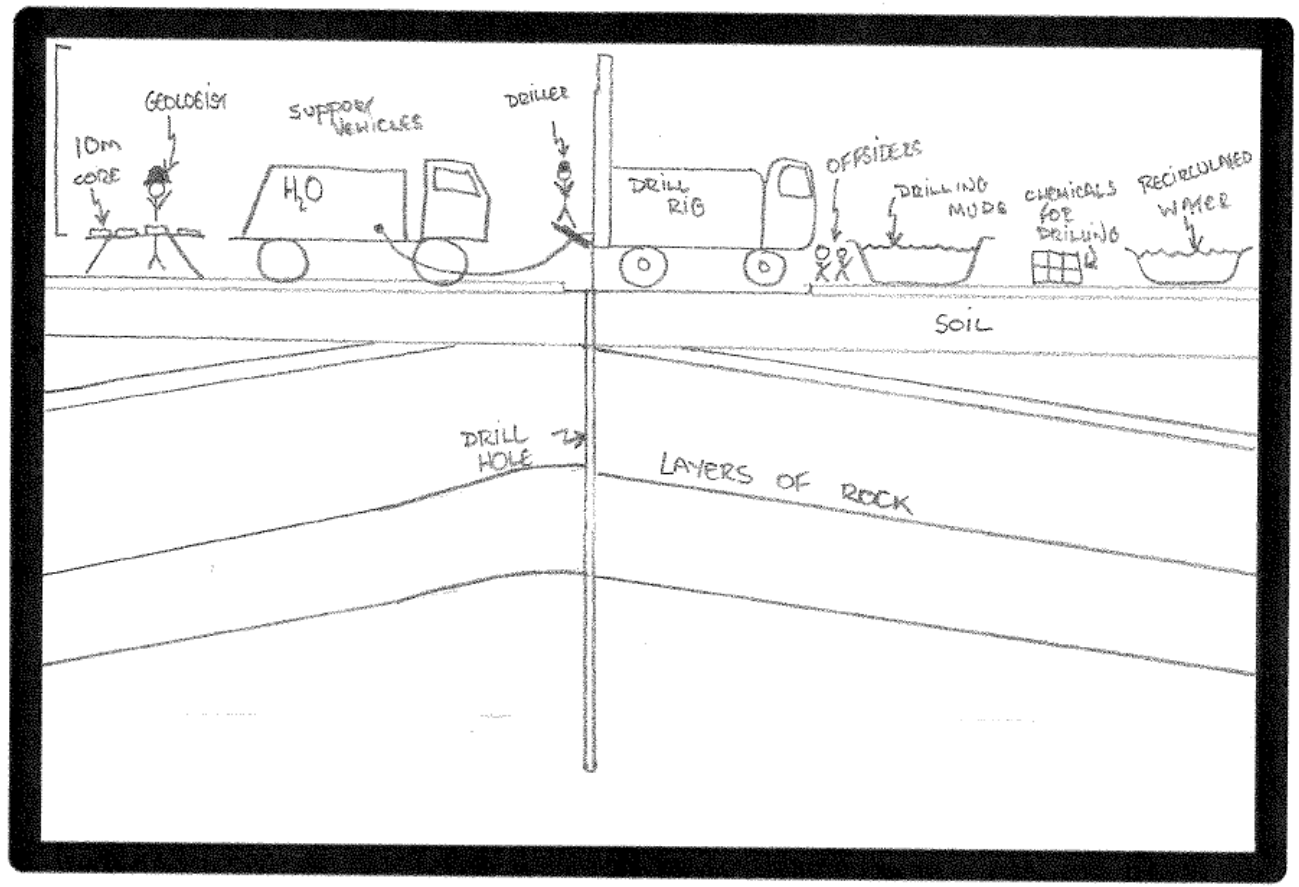

anticline
drilling rig
surface
100m
borehole
Reservoir interval
owc

Expert

PLEASE STAY INSIDE THE BOX!



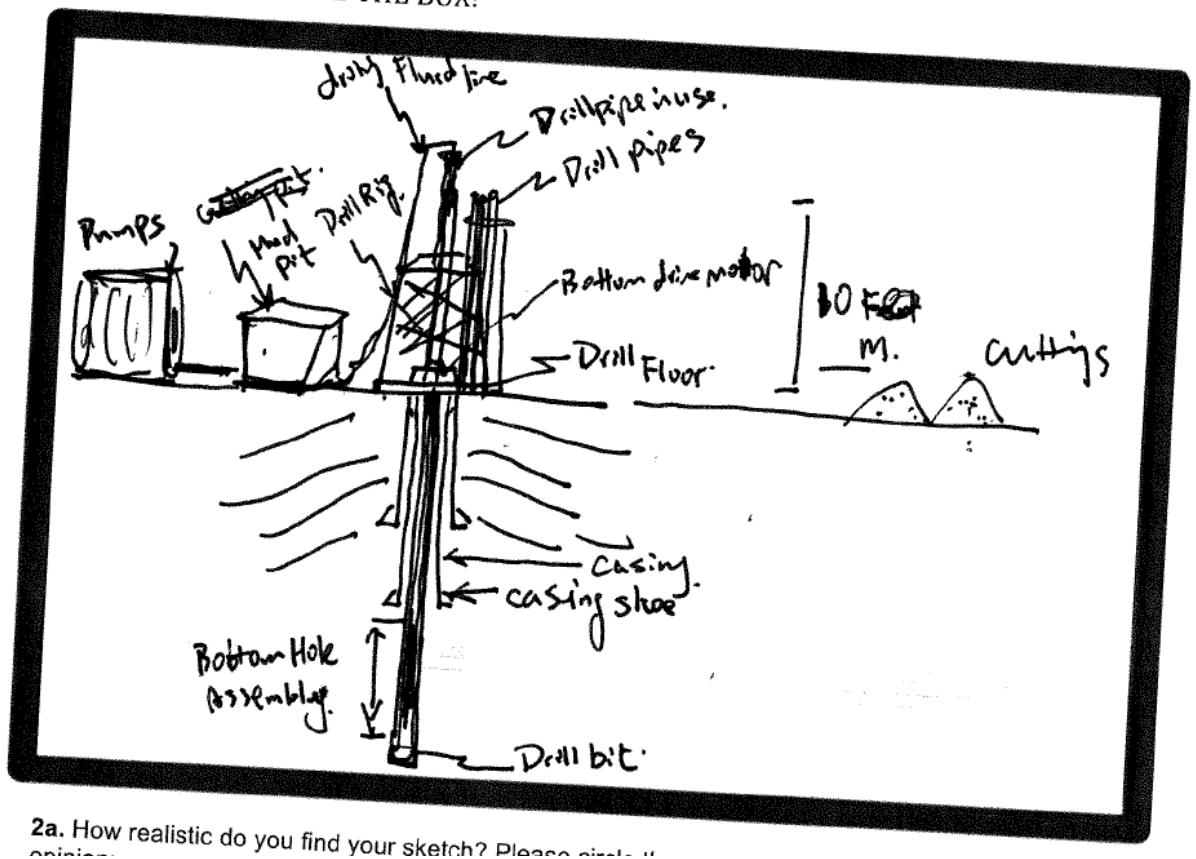
Expert


GEOLOGIST
SUPPORT VEHICLES
DRILLER
10m CORE
H_2O
DRILL RIG
OFFSIDERS
DRILLING MUDS
CHEMICALS FOR DRILLING
RECIRCULATED WATER
SOIL
DRILL HOLE
LAYERS OF ROCK

Expert

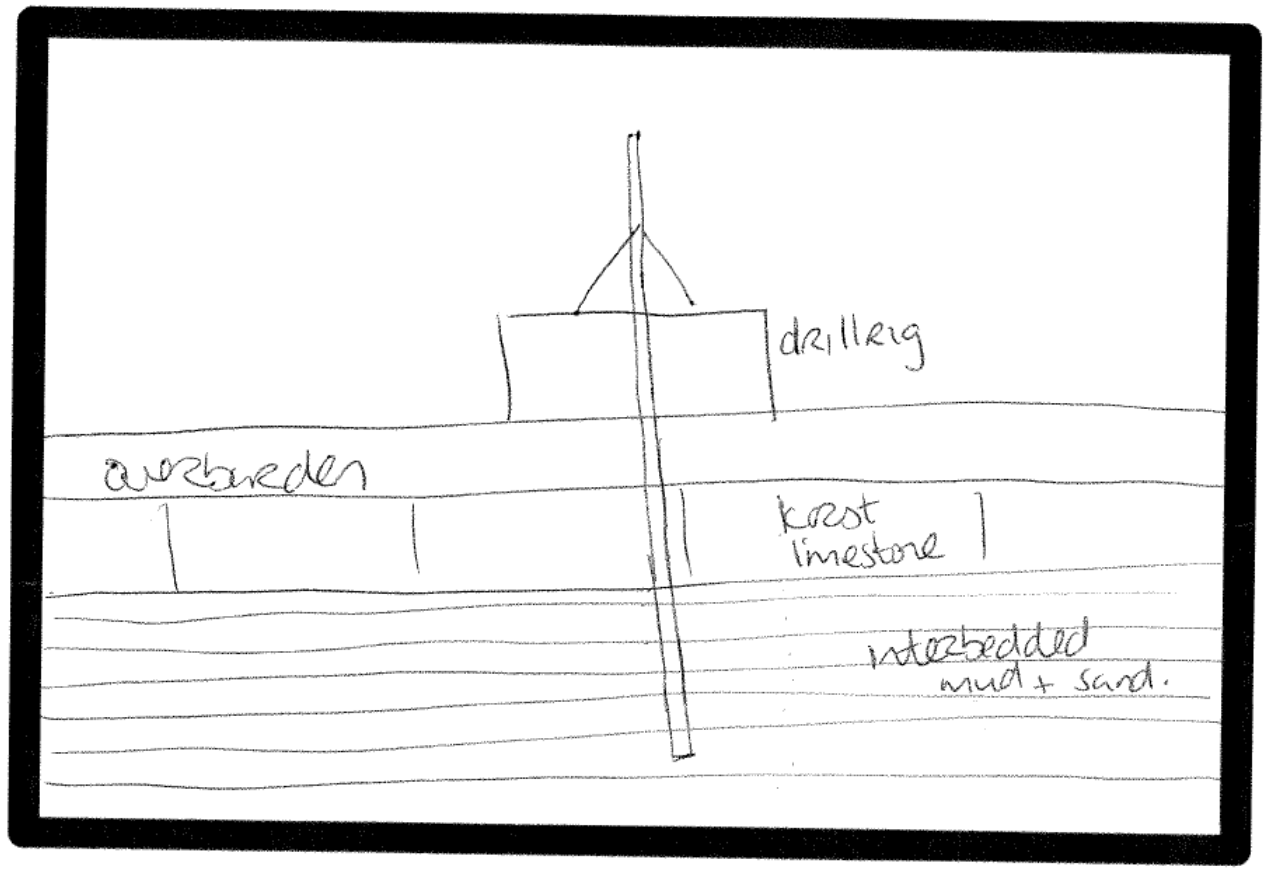
Expert

PLEASE STAY INSIDE THE BOX!



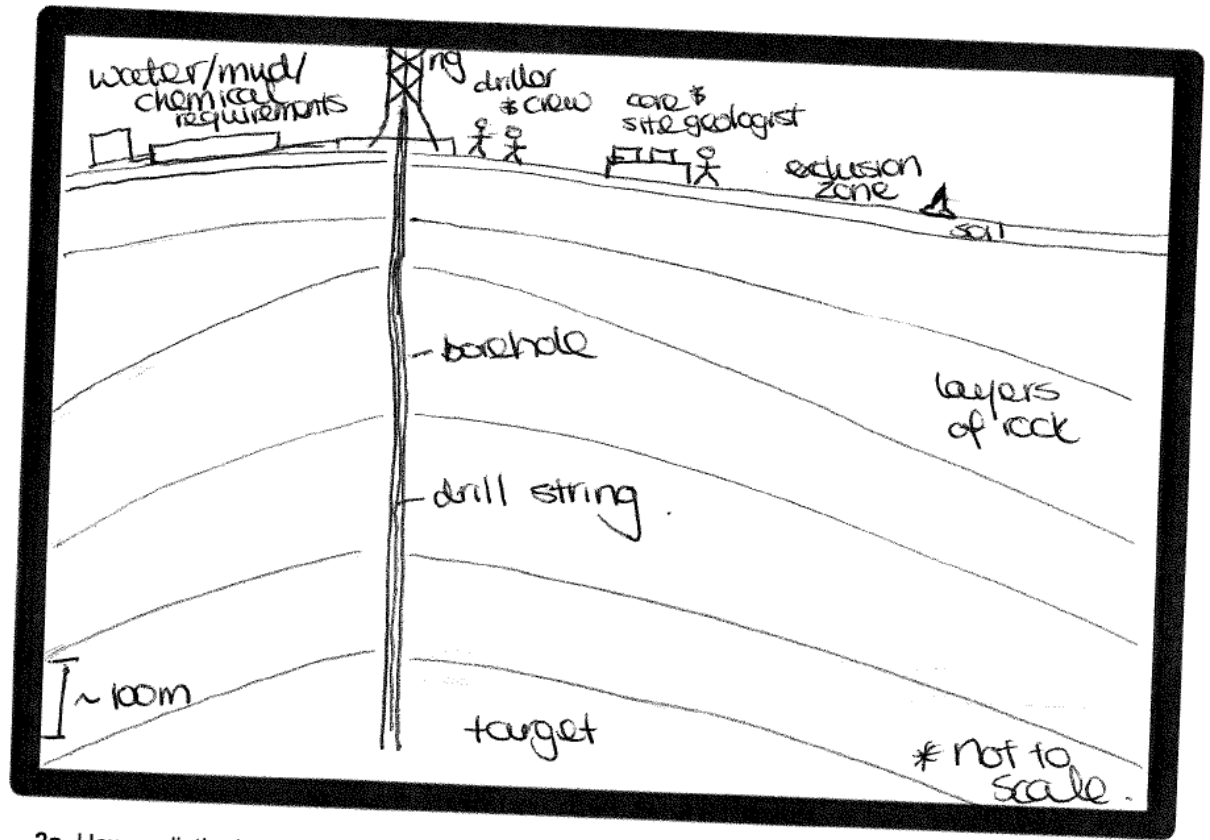
2a. How realistic do you find your sketch? Please circle

PLEASE STAY INSIDE THE BOX!



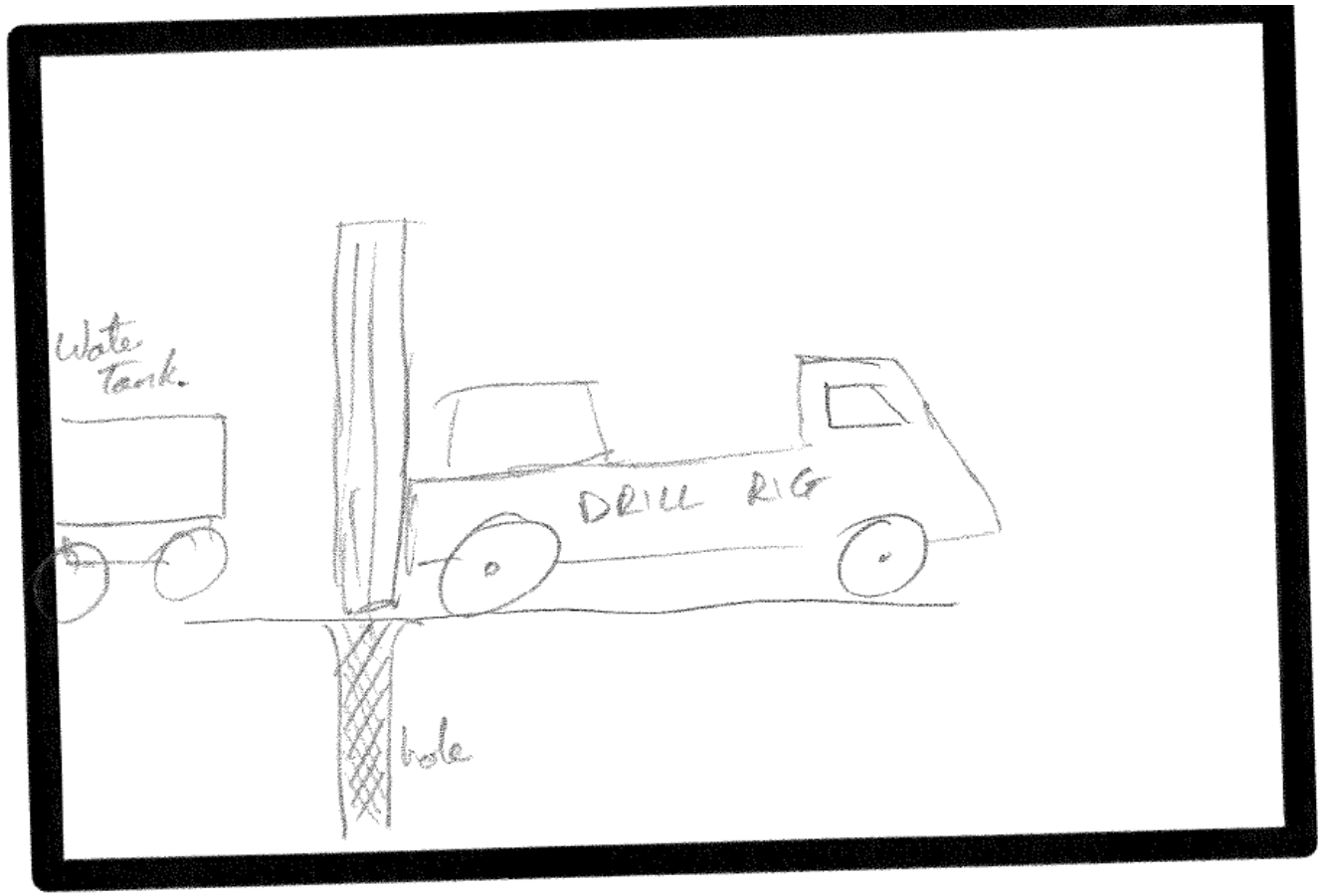
Expert

PLEASE STAY INSIDE THE BOX!



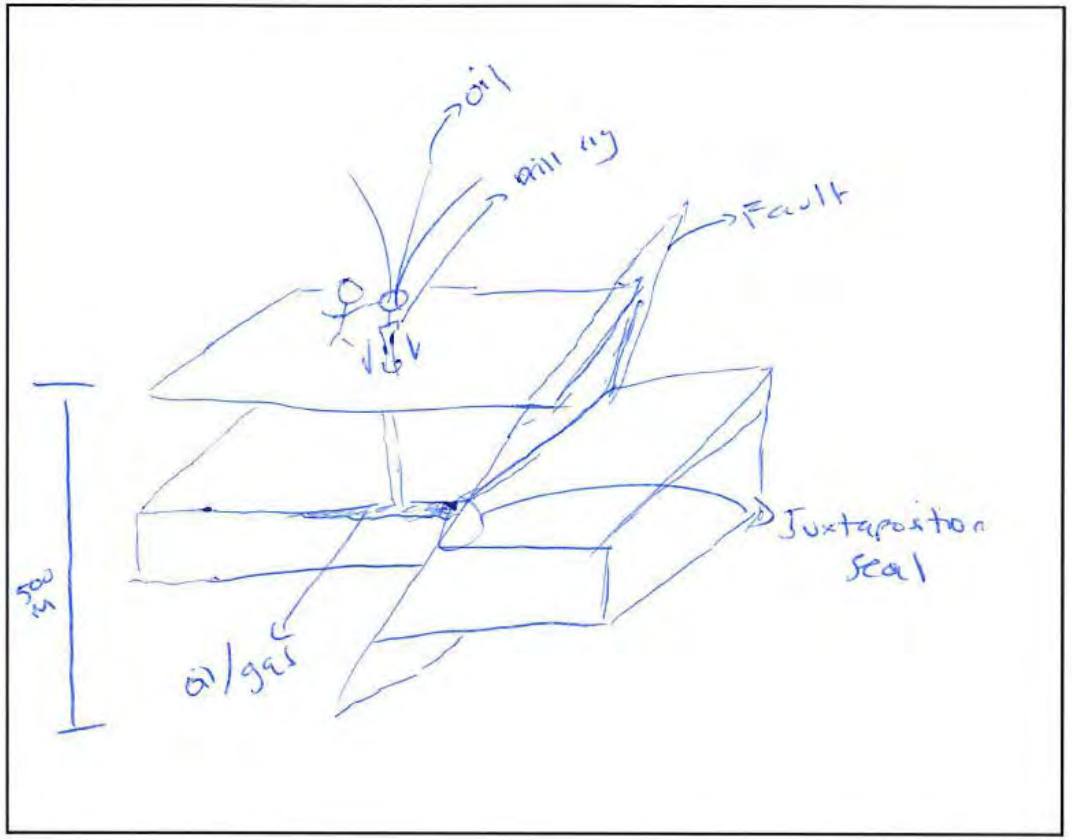
2a. How realistic do you find your sketch? Pl

Expert



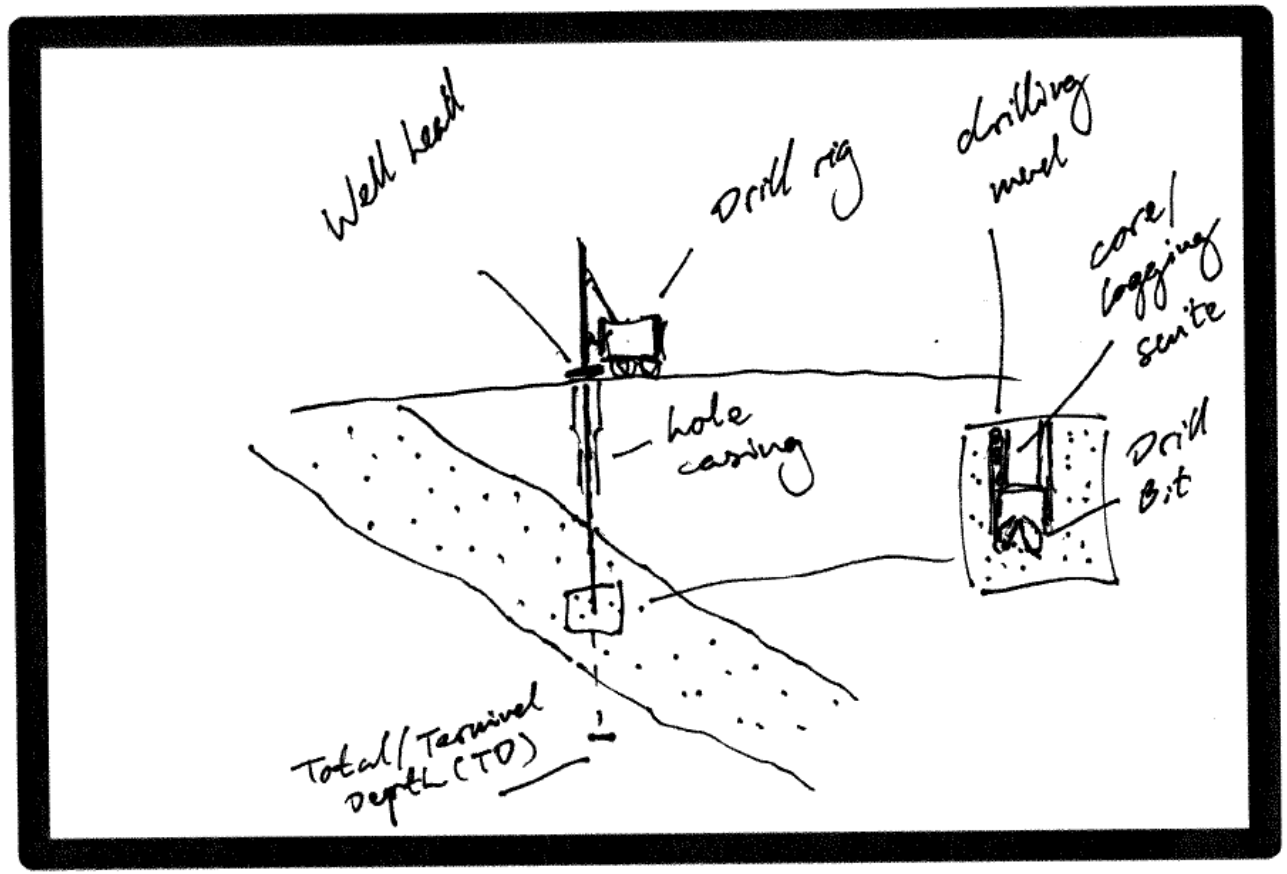
Expert

the real length of the features you are drawing in an appropriate unit (m/cm/Km etc).



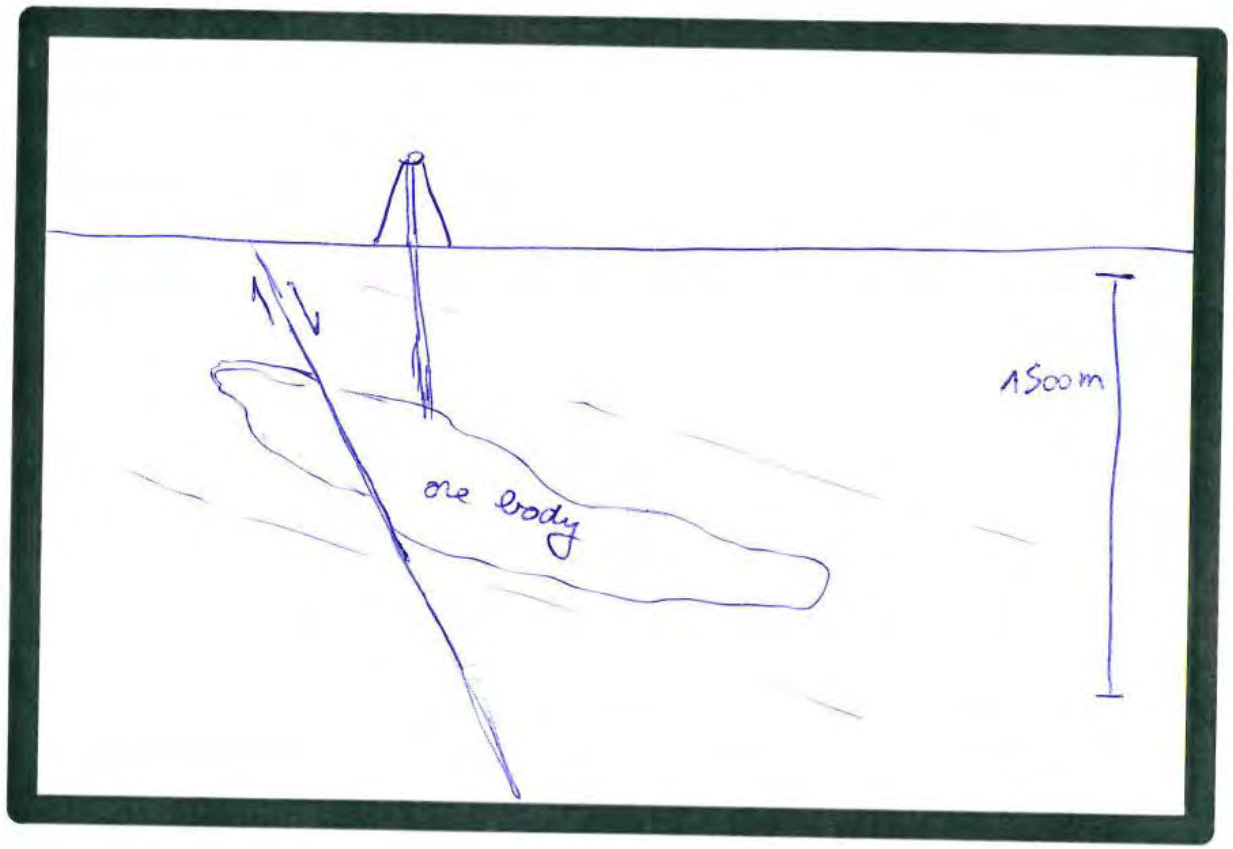
Expert

PLEASE STAY INSIDE THE BOX!



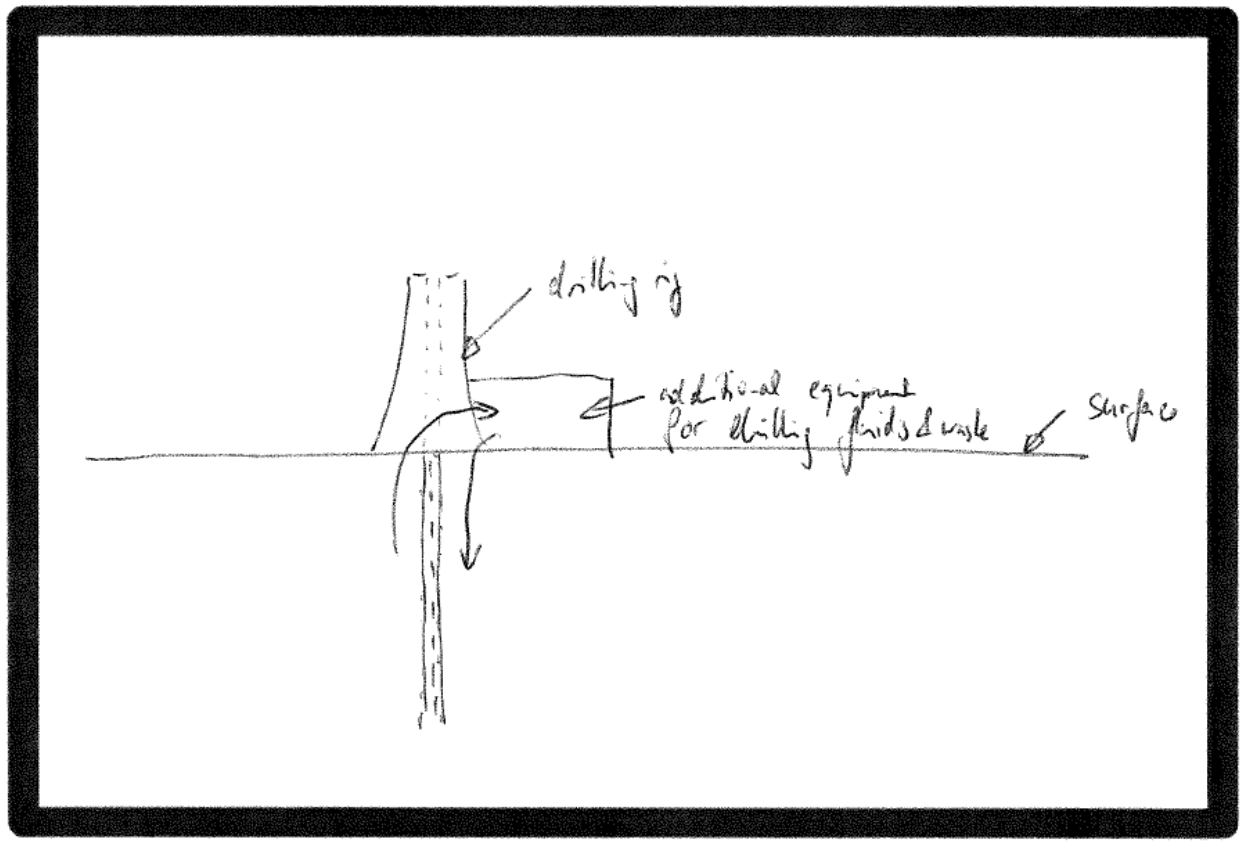
Expert

PLEASE STAY INSIDE THE BOX!

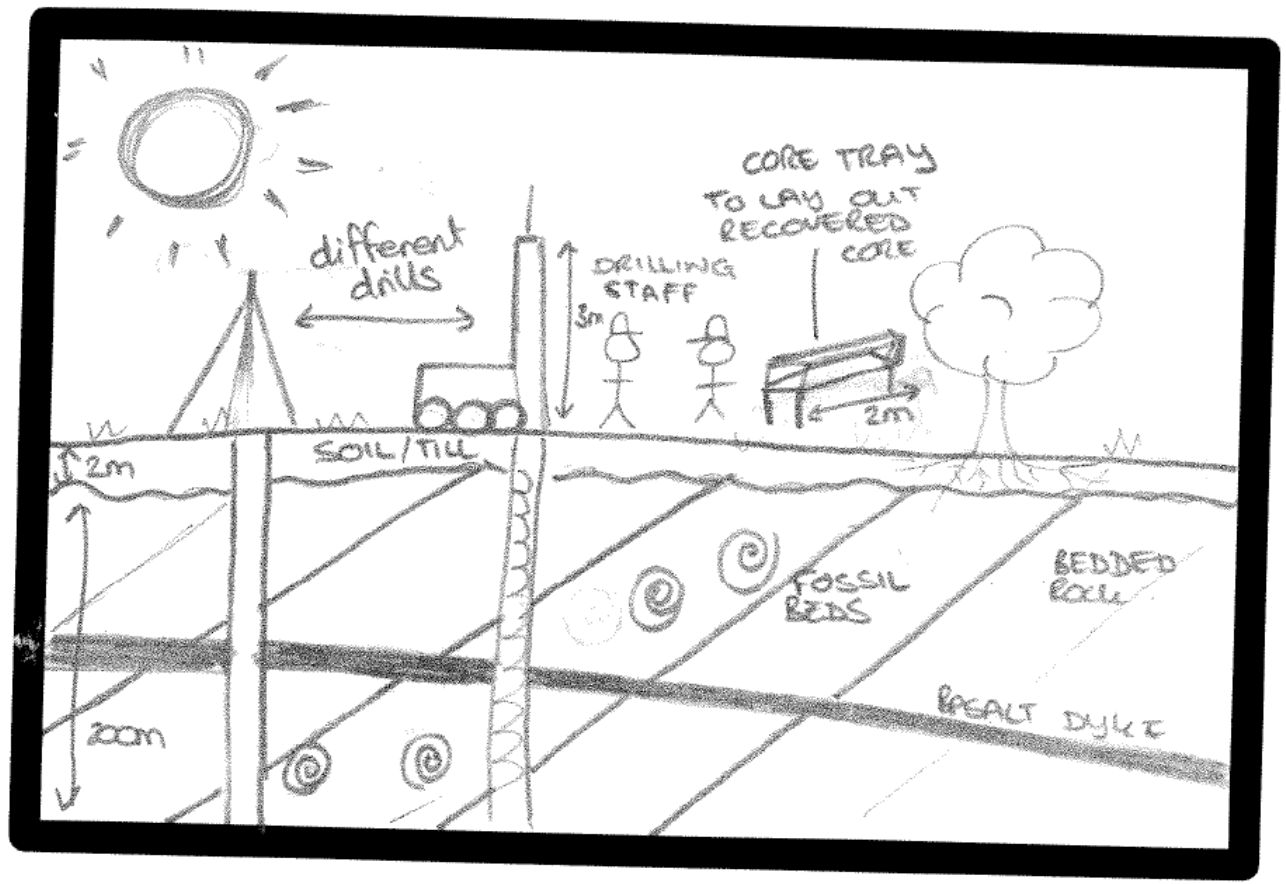


Expert

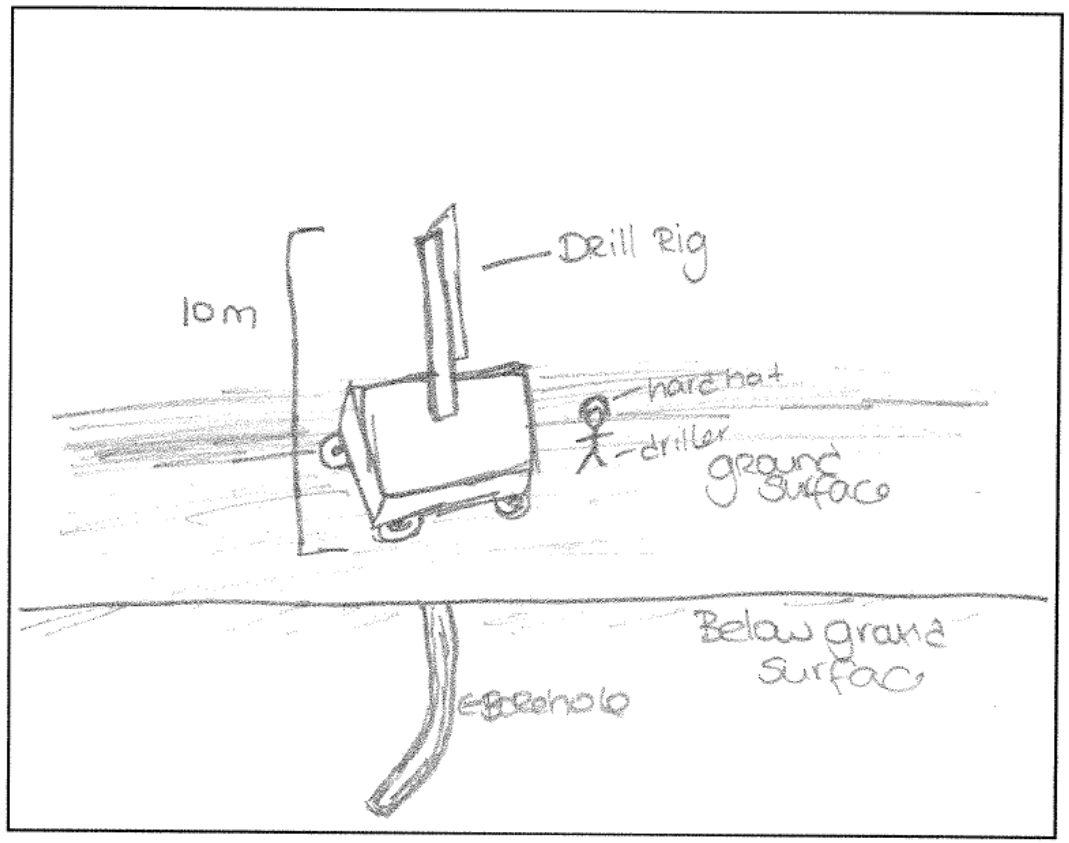
PLEASE STAY INSIDE THE BOX!



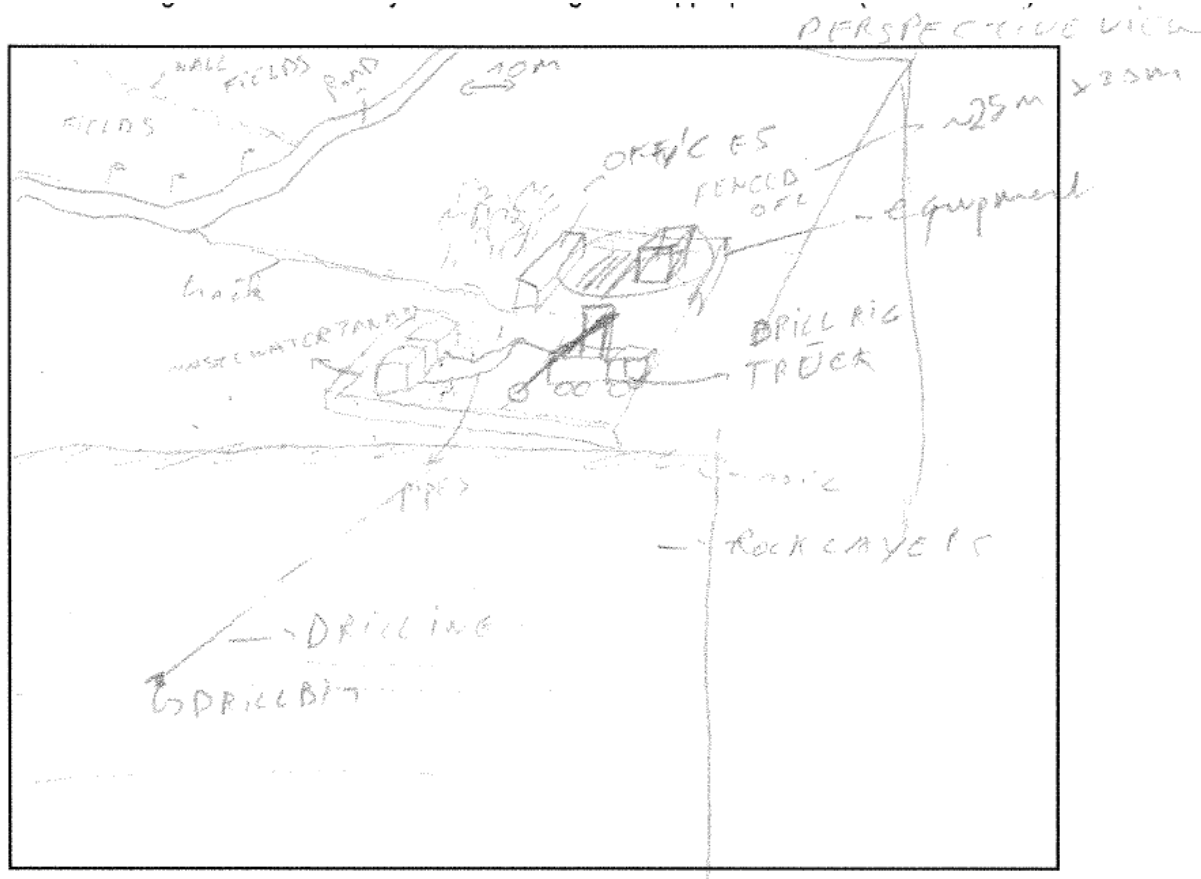
Expert


different drills
DRILLING STAFF
3m
CORE TRAY
TO LAY OUT RECOVERED CORE
2m
SOIL/TILL
2m
20m
FOSSIL BEDS
BEDDED ROCK
BASALT DYKE

Expert

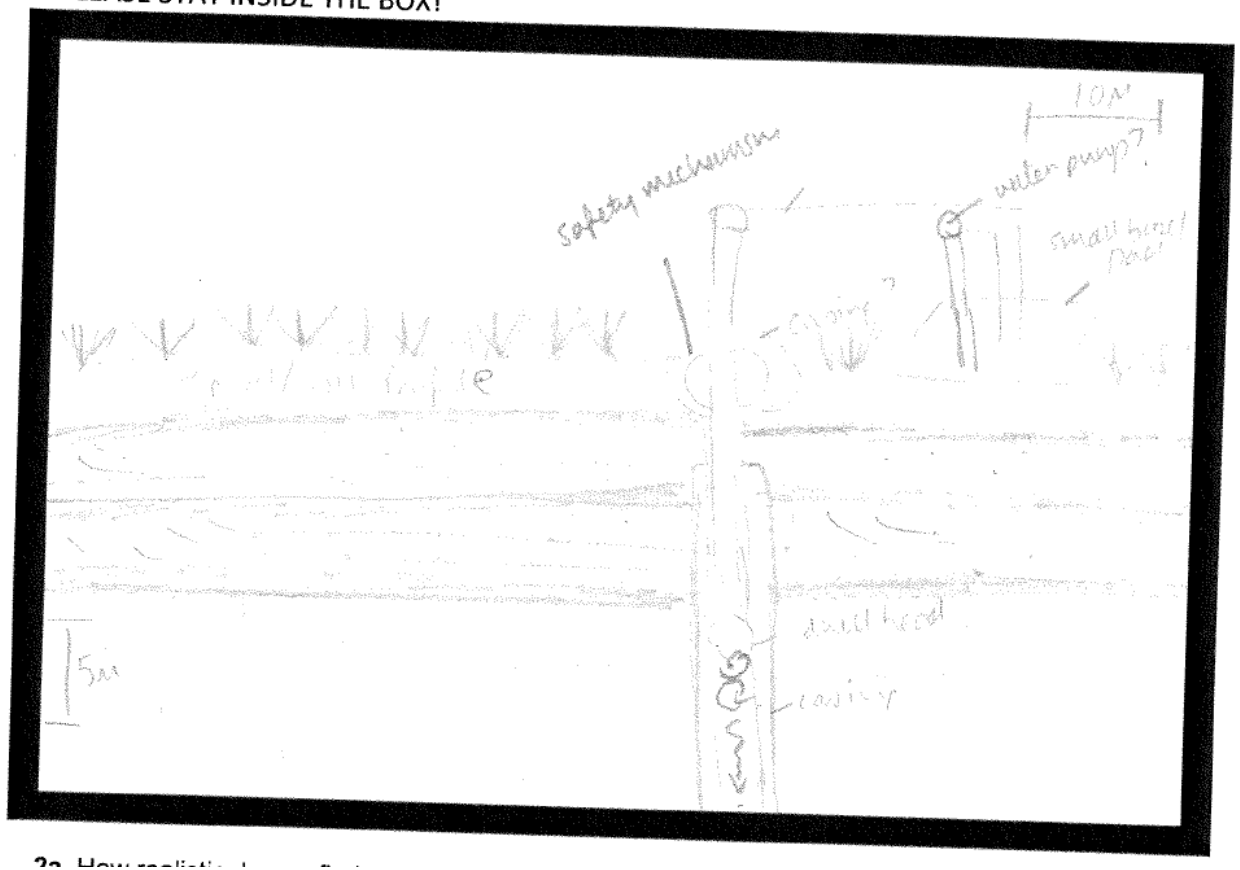

Drill Rig
10m
hard hat
driller
ground surface
Below ground surface
exploration hole

Expert


PERSPECTIVE VIEW
WALL
FIELDS
FIELDS
10M
~25M x 20M
OFFICES
FENCED OFF
equipment
track
WASTEWATER TANKS
DRILL RIG
TRUCK
PIPES
ROCK LAYERS
DRILLING
DRILLBIT

Expert

PLEASE STAY INSIDE THE BOX!



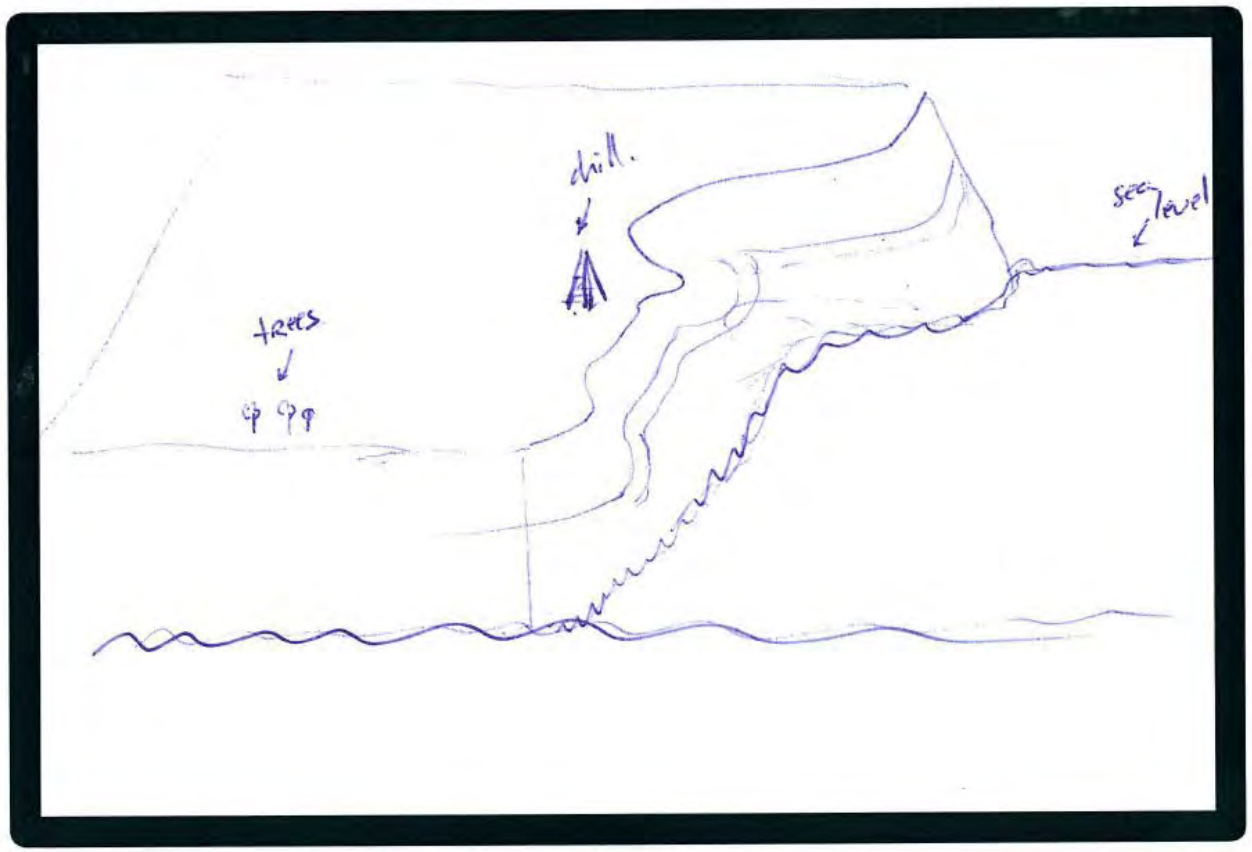
Expert

PLEASE STAY INSIDE THE BOX!

3a How realistic do you find your sketch

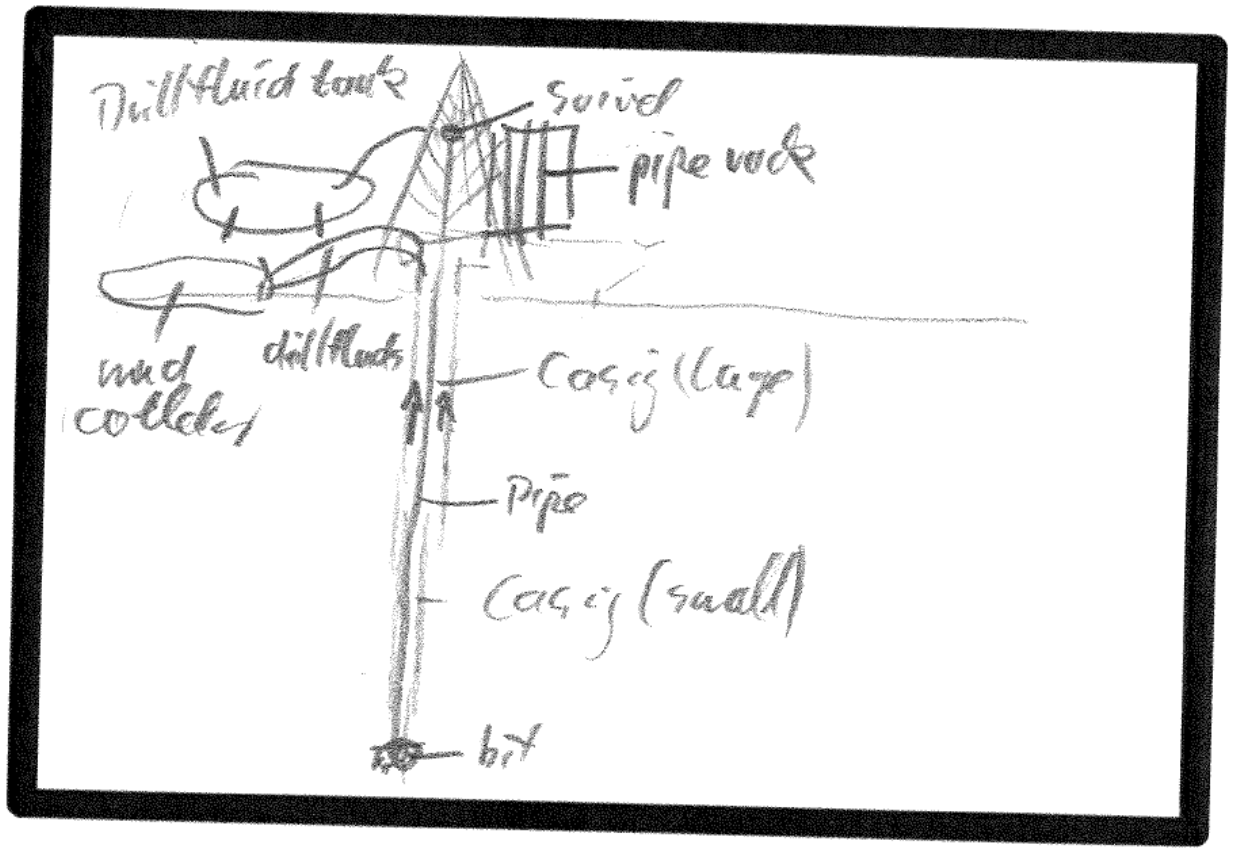
Expert

PLEASE STAY INSIDE THE BOX!



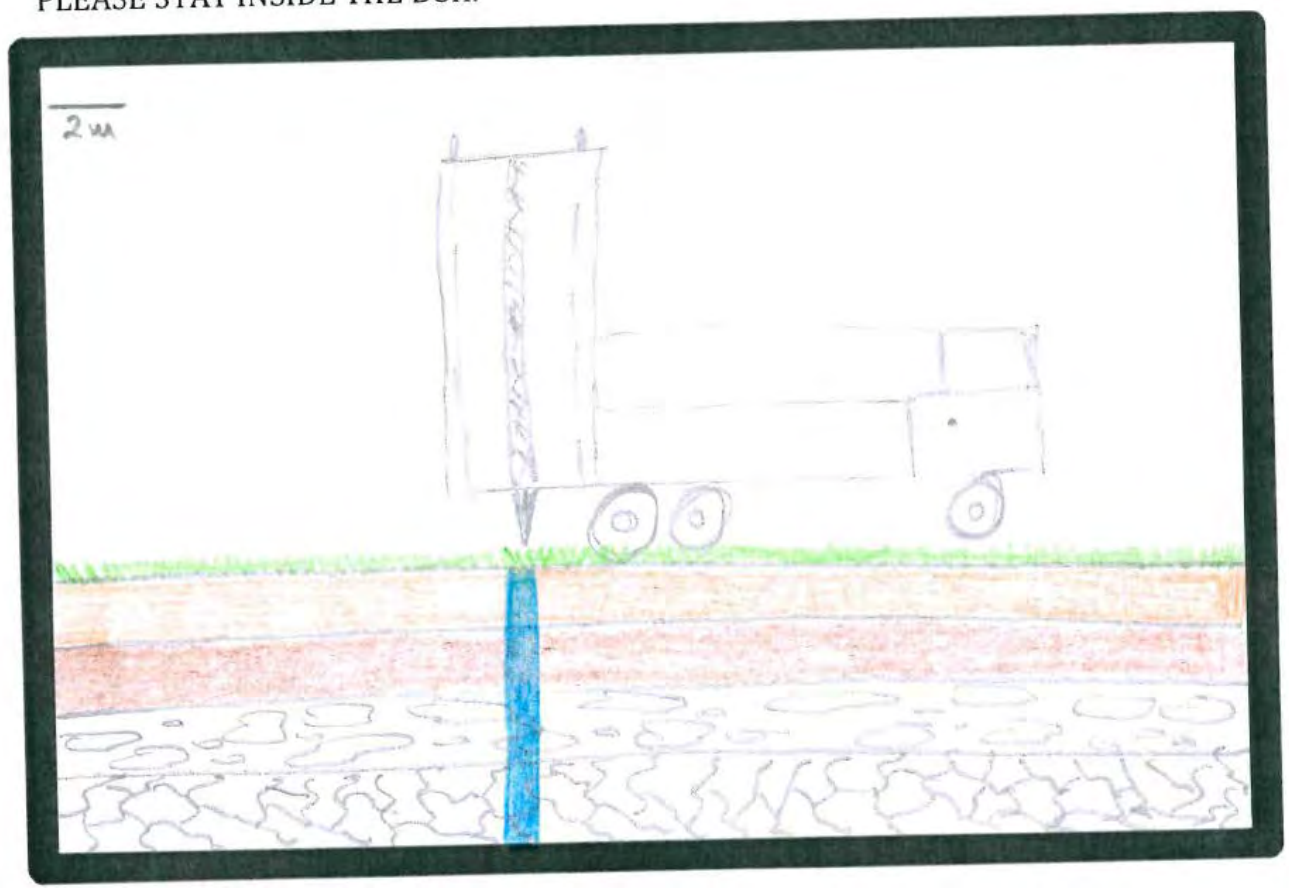
Expert

PLEASE STAY INSIDE THE BOX!



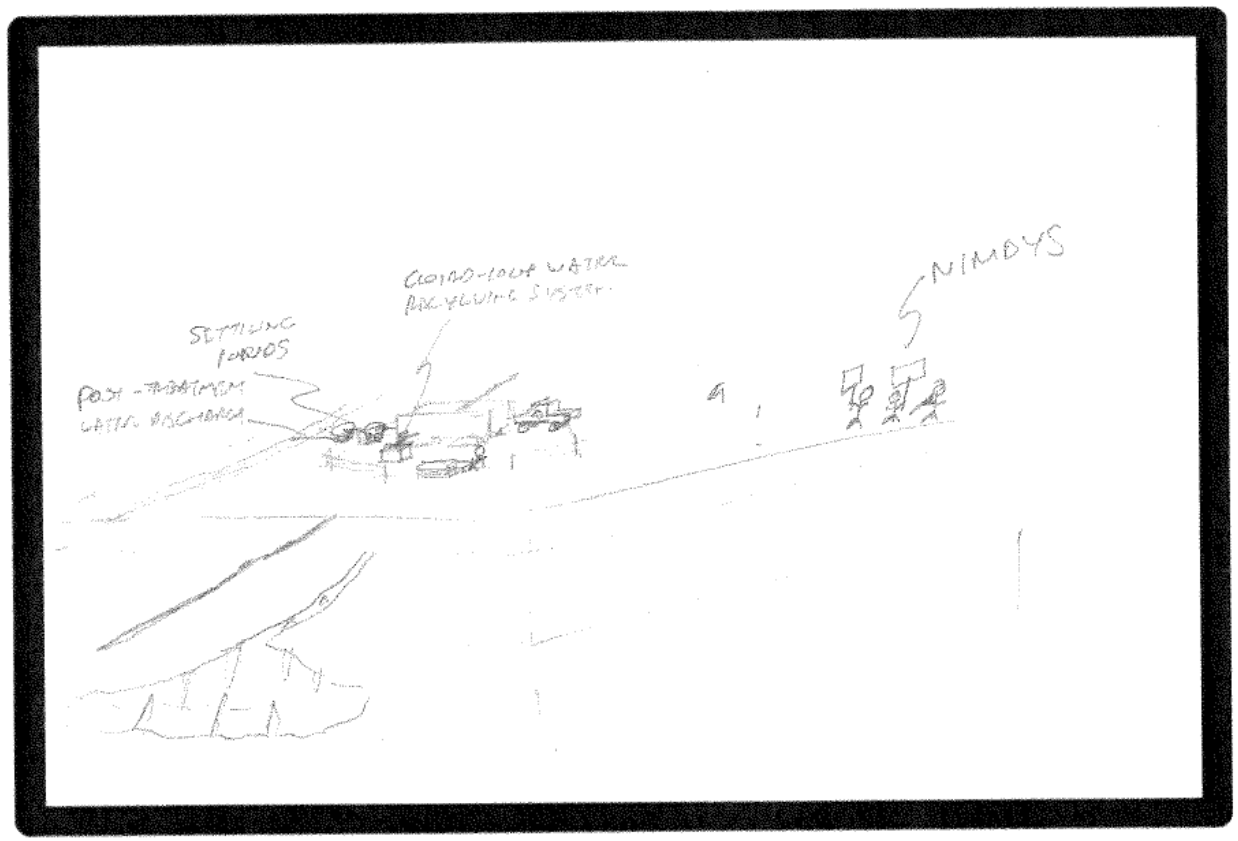
Expert

PLEASE STAY INSIDE THE BOX!



Expert

PLEASE STAY INSIDE THE BOX!



Expert

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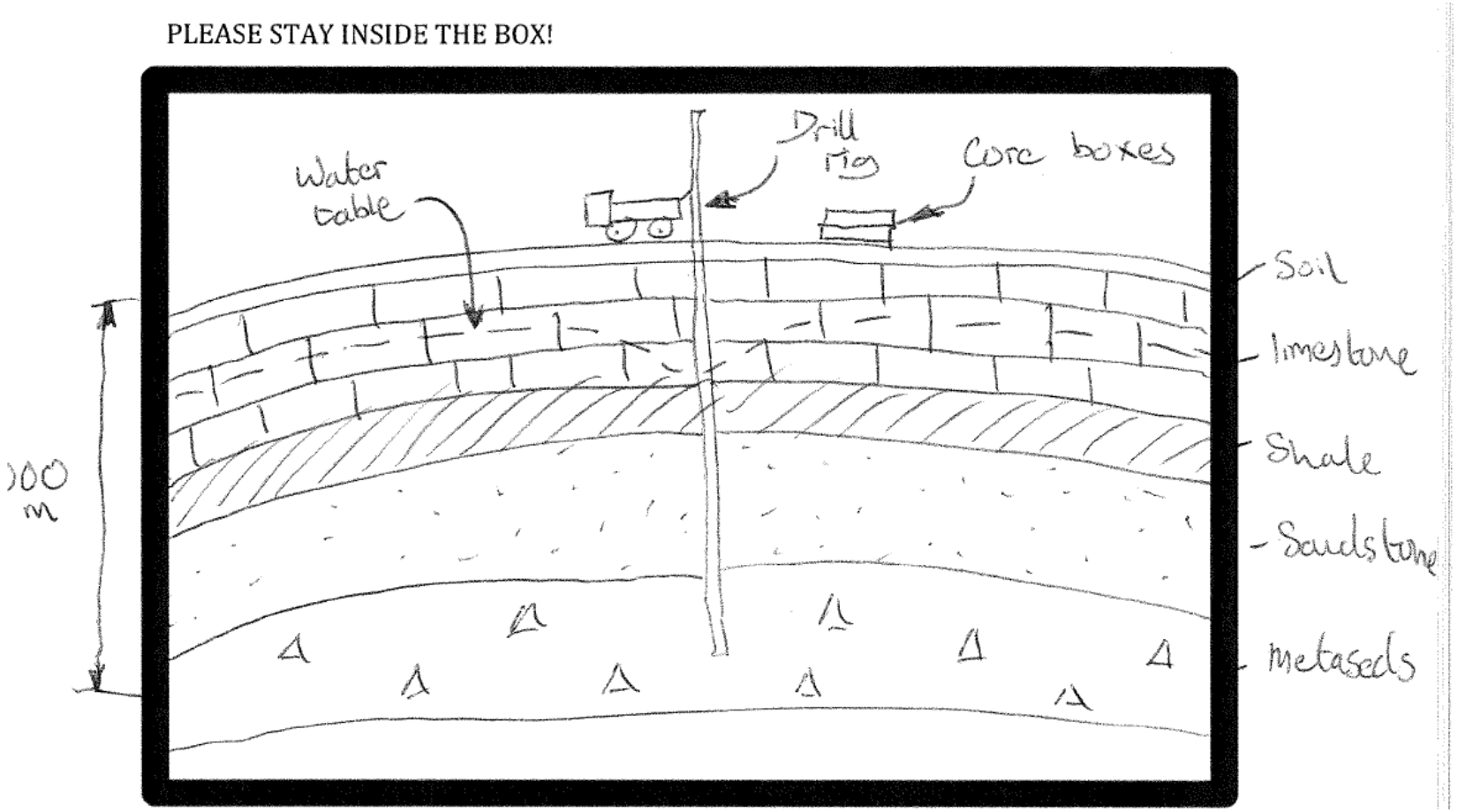
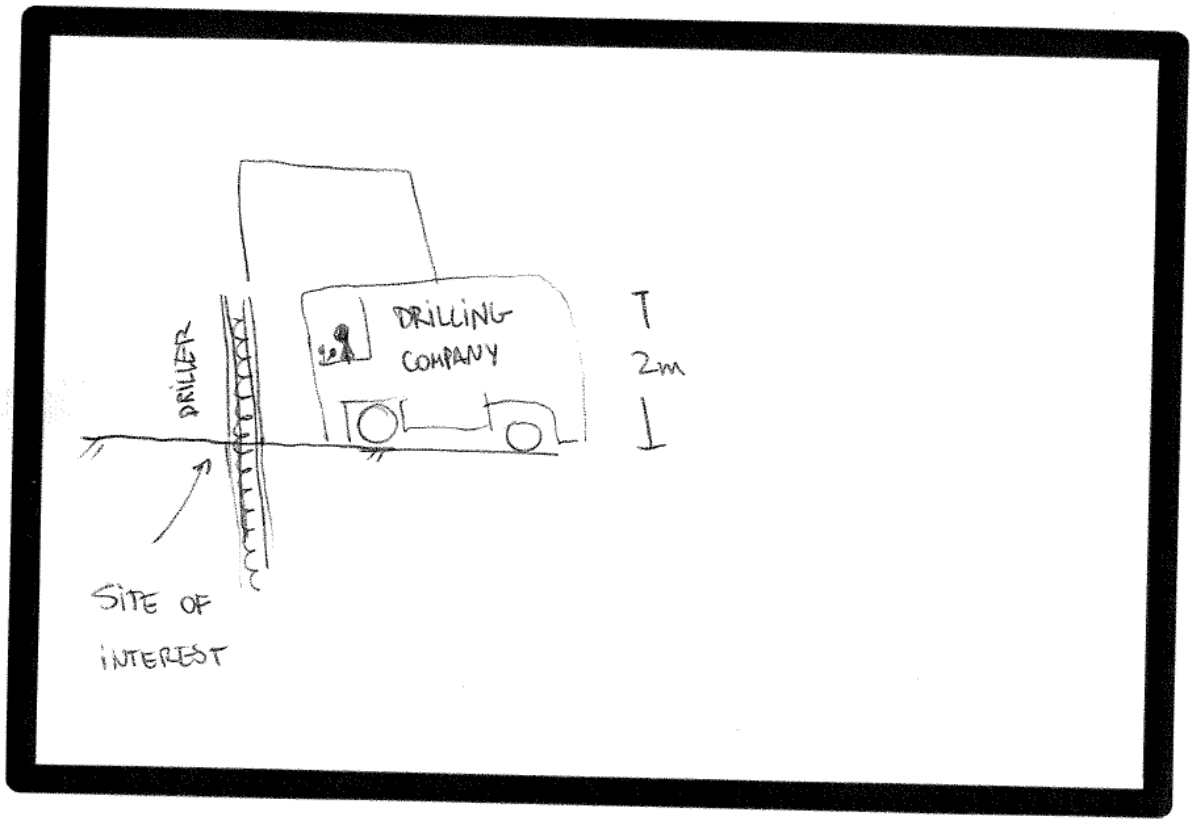


Expert

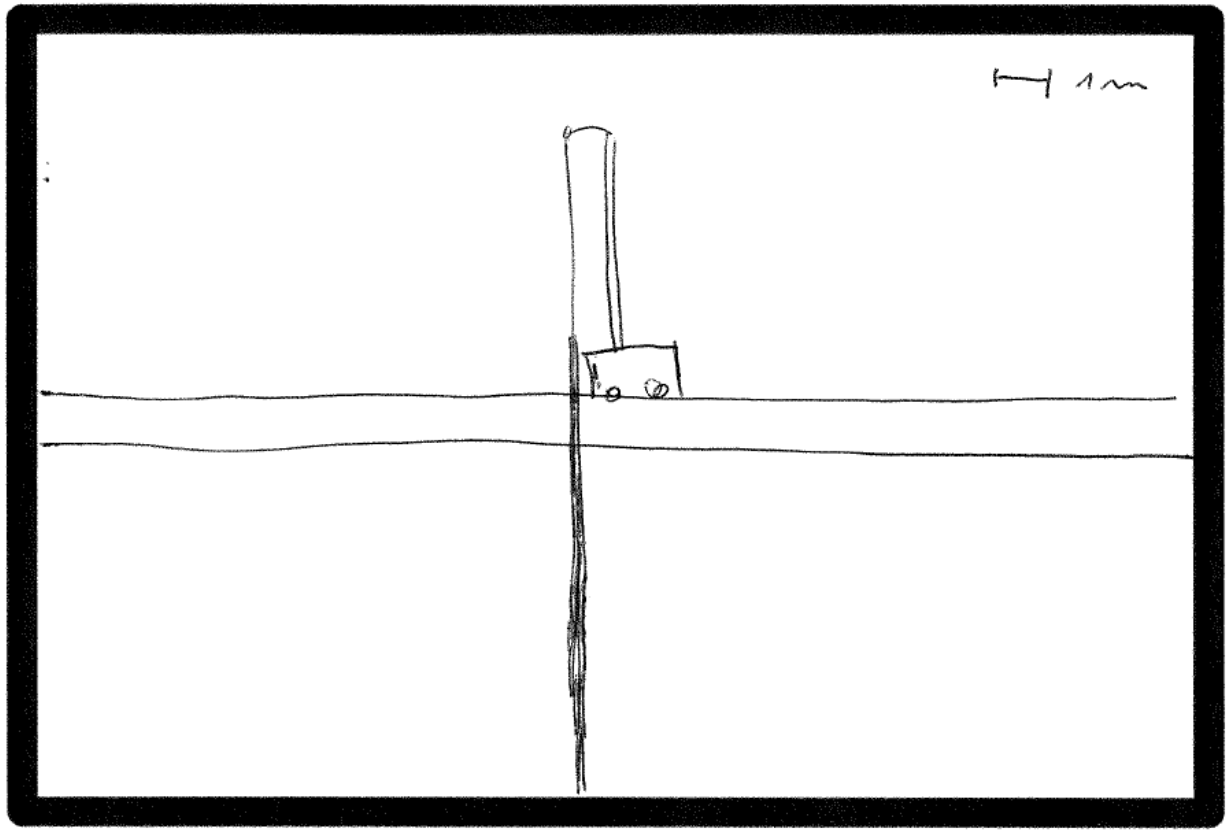
PLEASE STAY INSIDE THE BOX!



2a. How realistic do you find your sketch? Please circle the

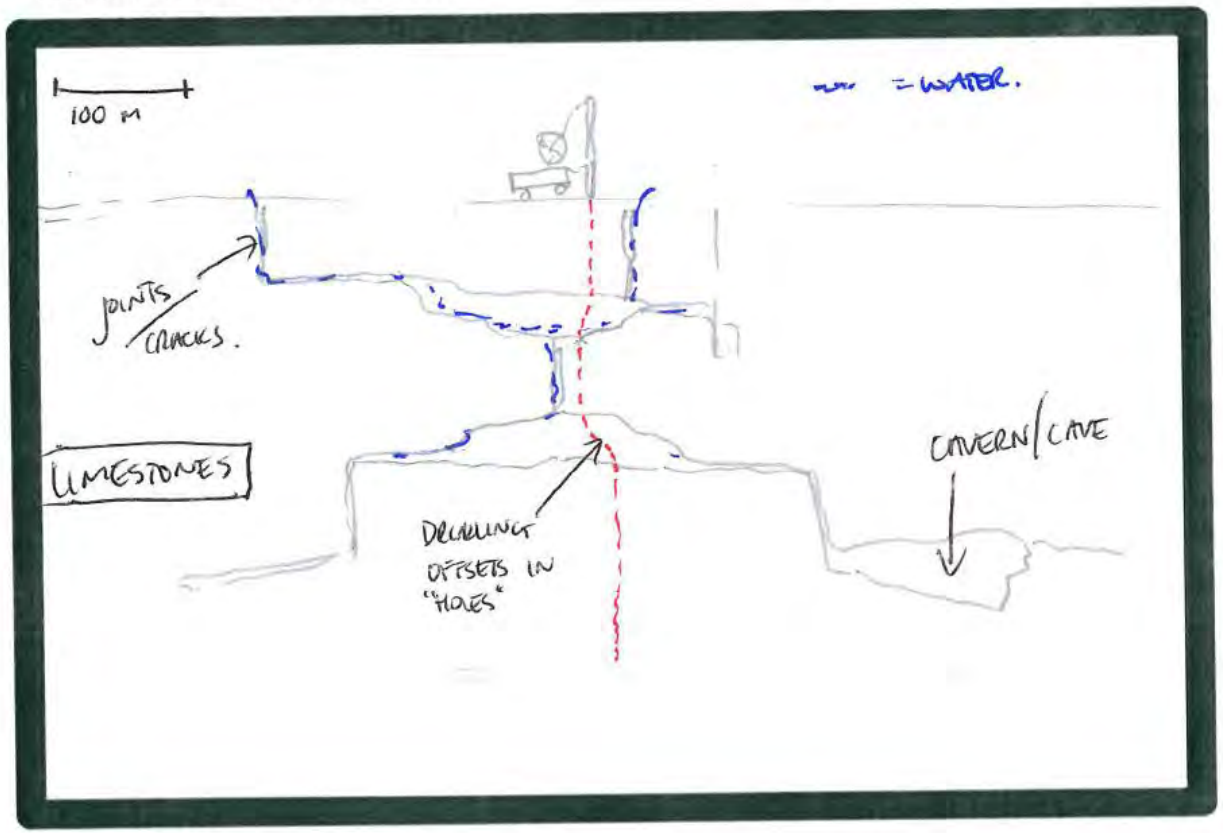
Expert

PLEASE STAY INSIDE THE BOX!

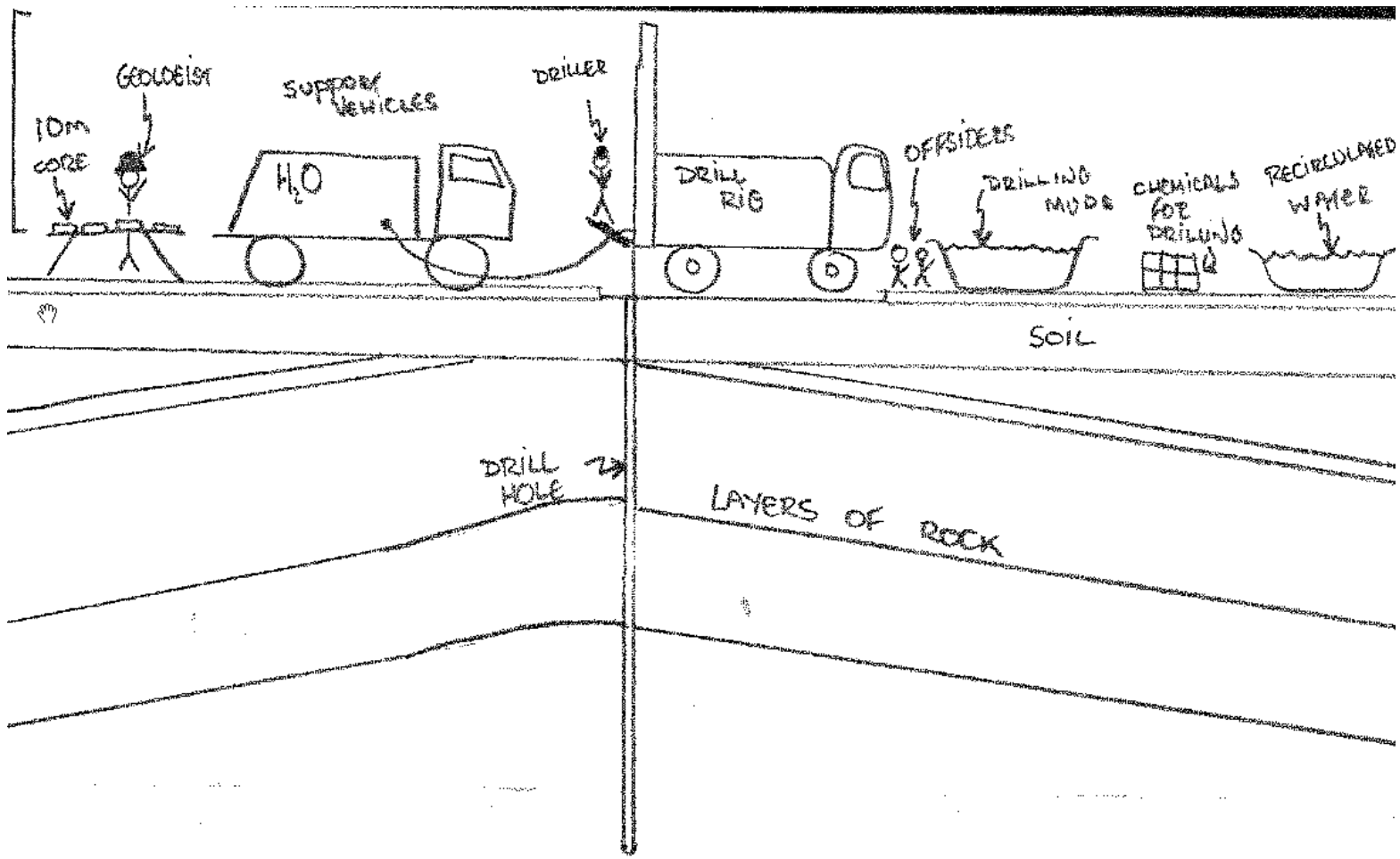


Expert

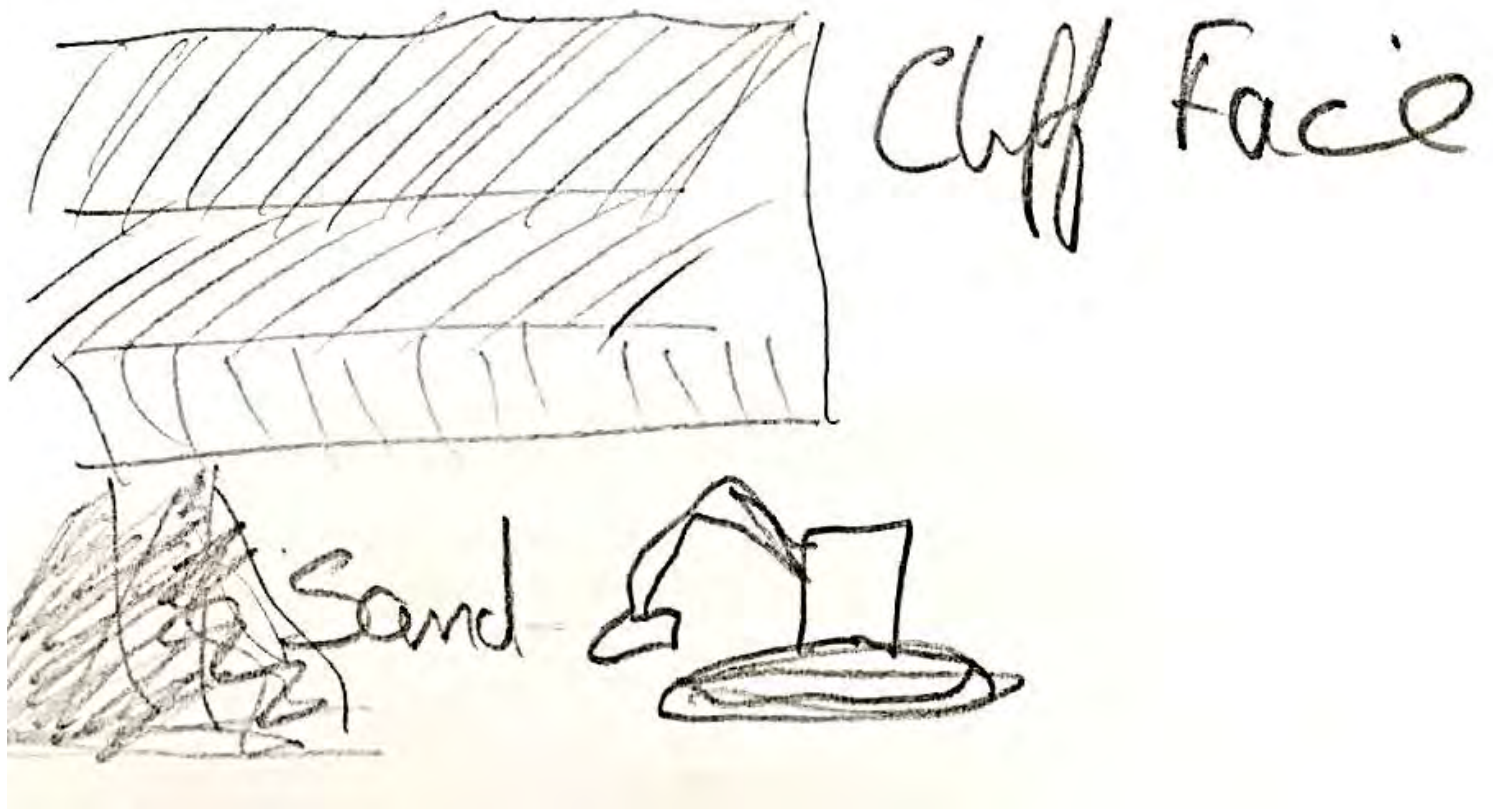
PLEASE STAY INSIDE THE BOX!



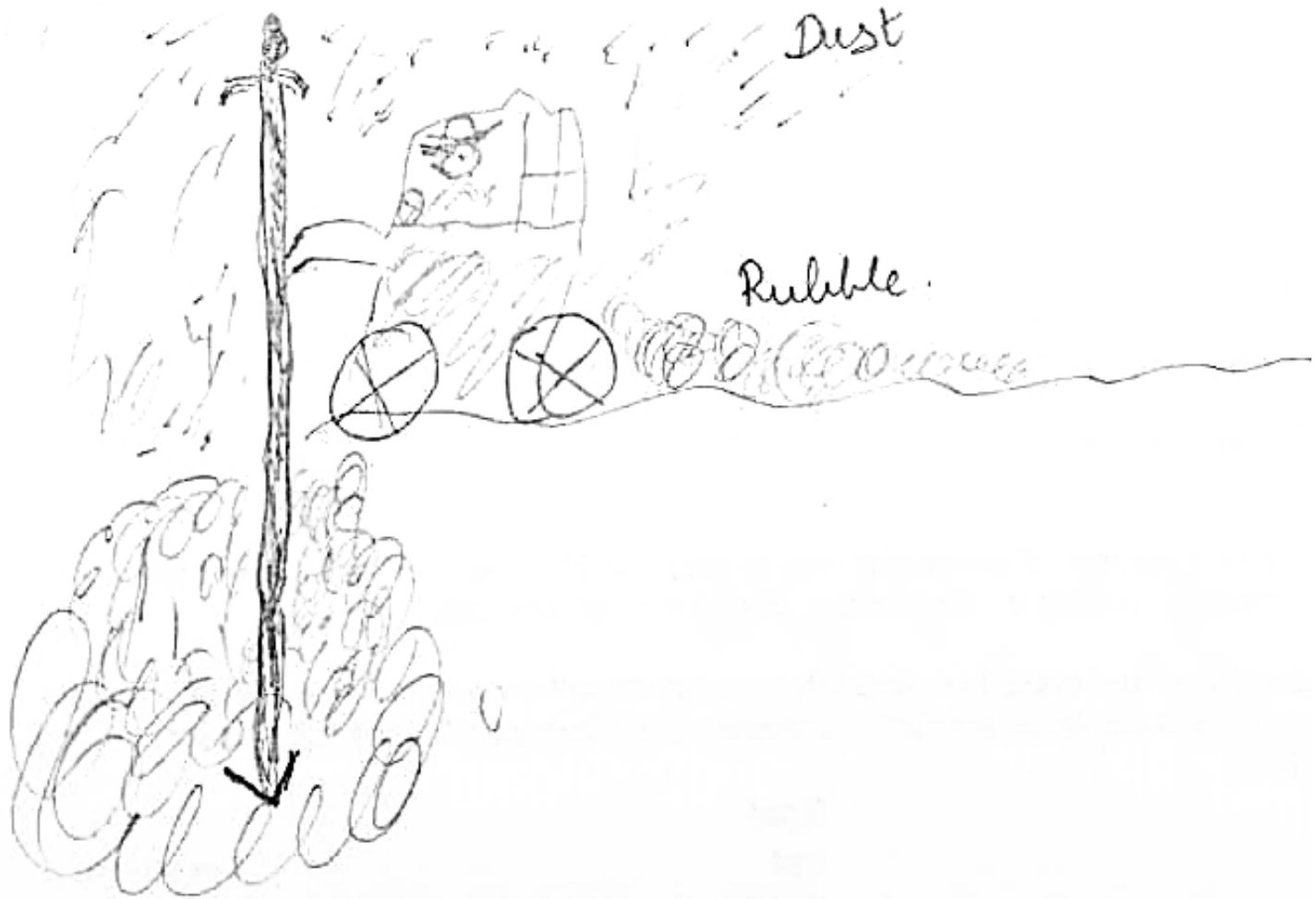
Expert


GEOLOGIST
10m CORE
SUPPORT VEHICLES
H_2O
DRILLER
DRILL RIG
OFFSIDERS
DRILLING MUDS
CHEMICALS FOR DRILLING
RECIRCULATED WATER
SOIL
DRILL HOLE
LAYERS OF ROCK

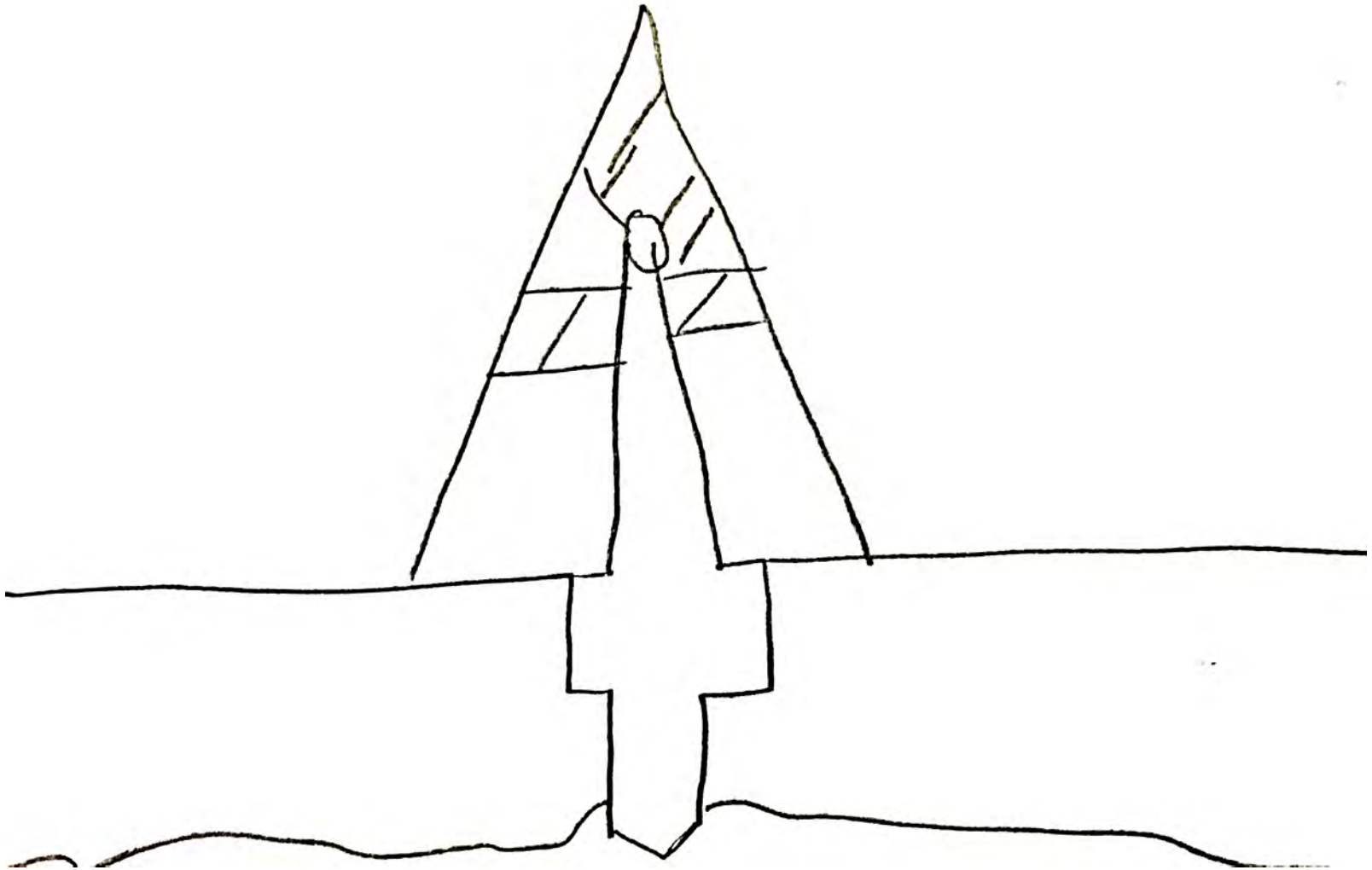
Expert



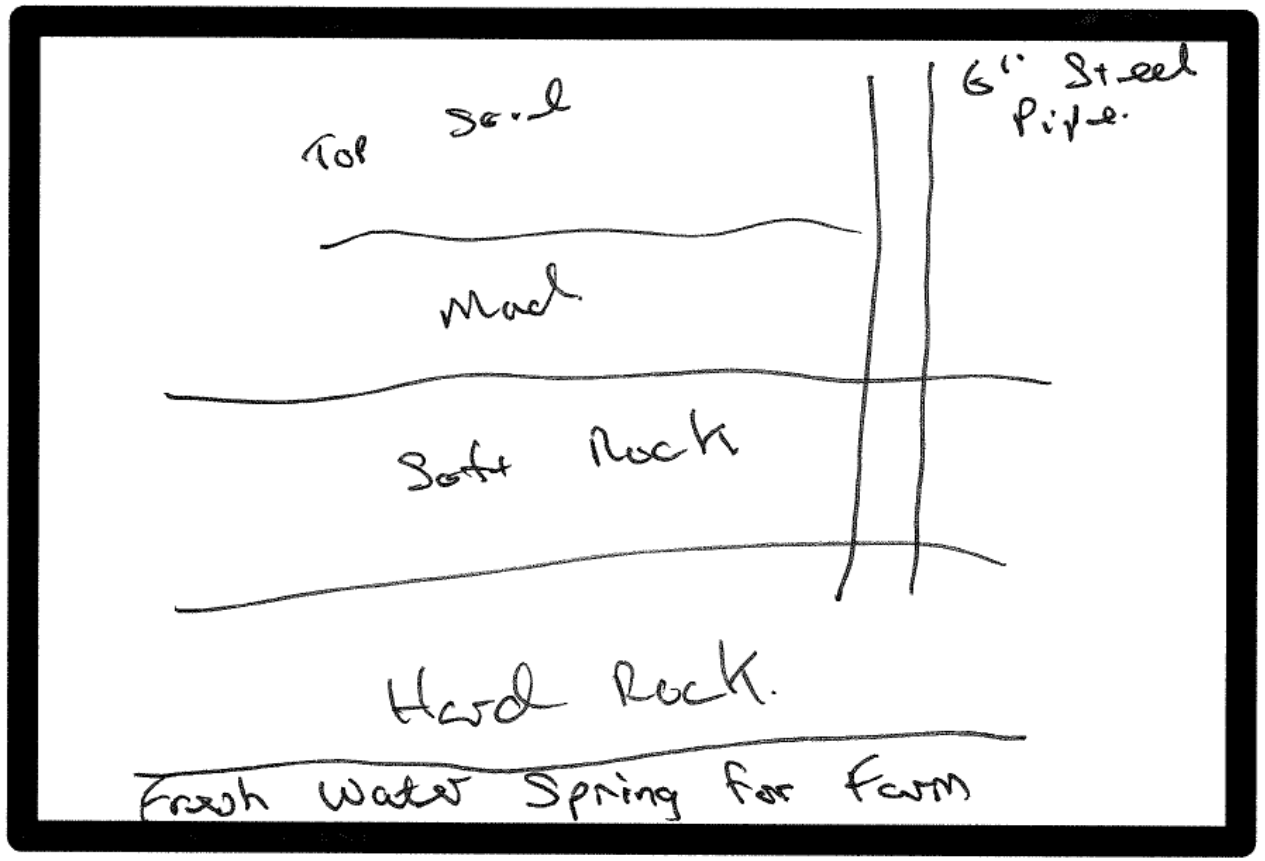
Non-expert



Non-expert

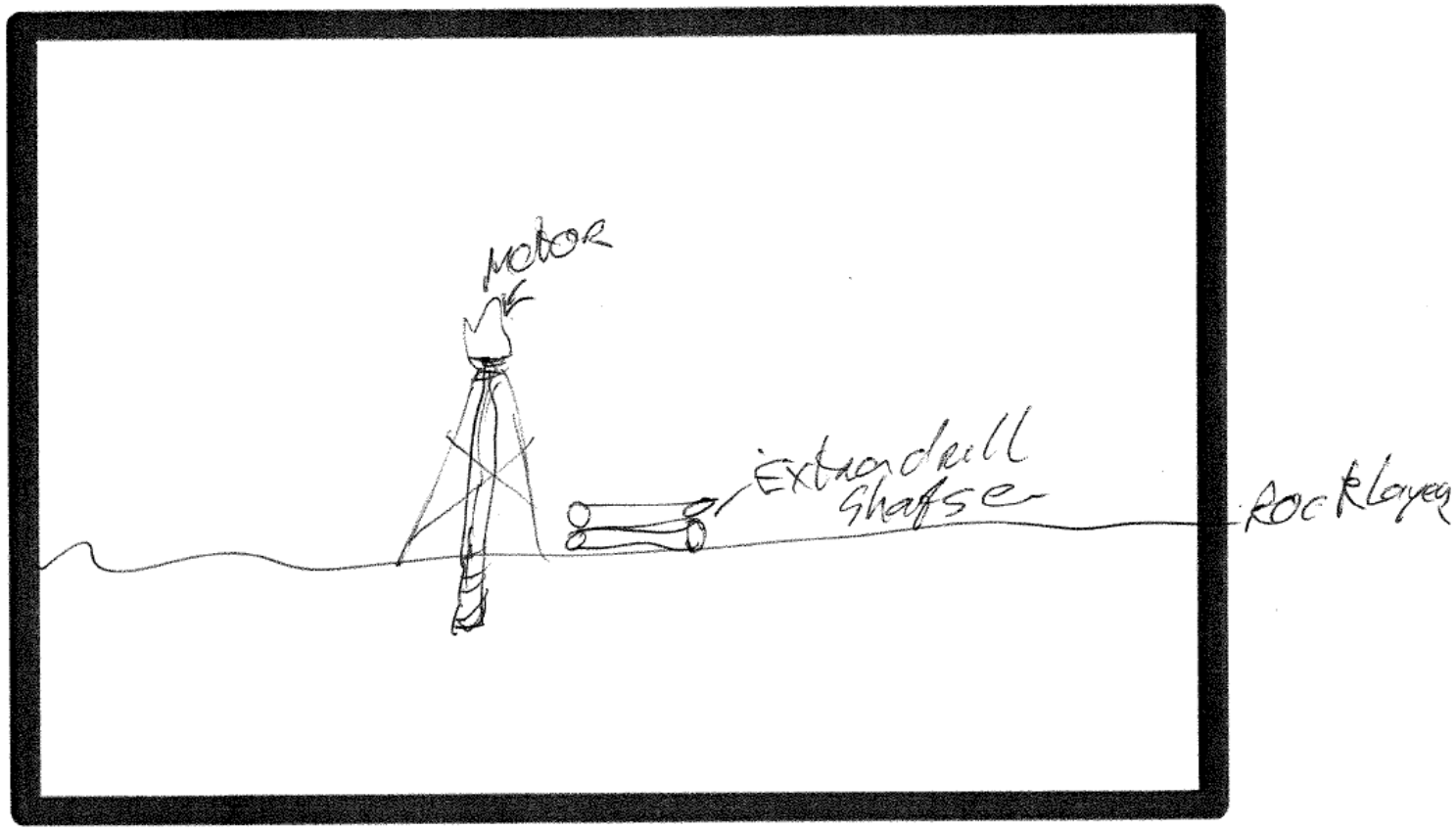


Non-expert


Top Soil
6" Steel Pipe.
Mud
Soft Rock
Hard Rock.
Fresh Water Spring for Farm

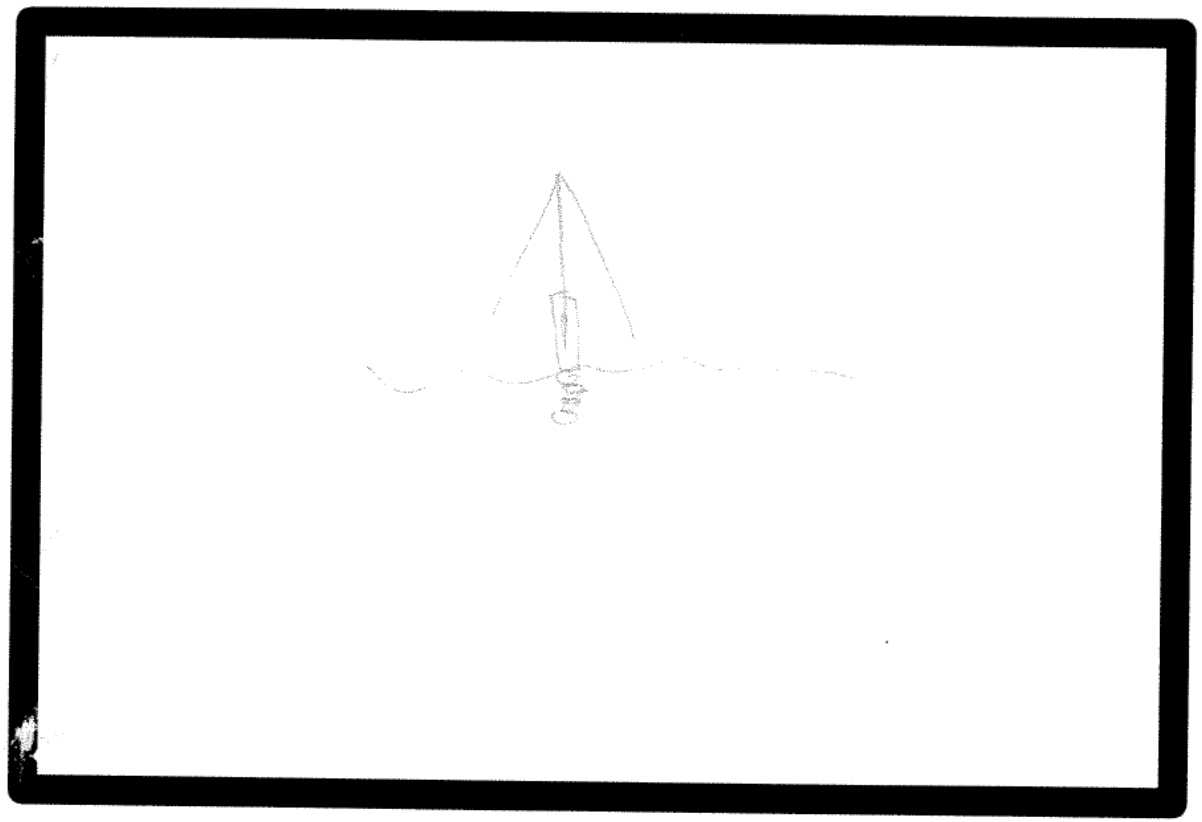
Non-expert

PLEASE STAY INSIDE THE BOX!



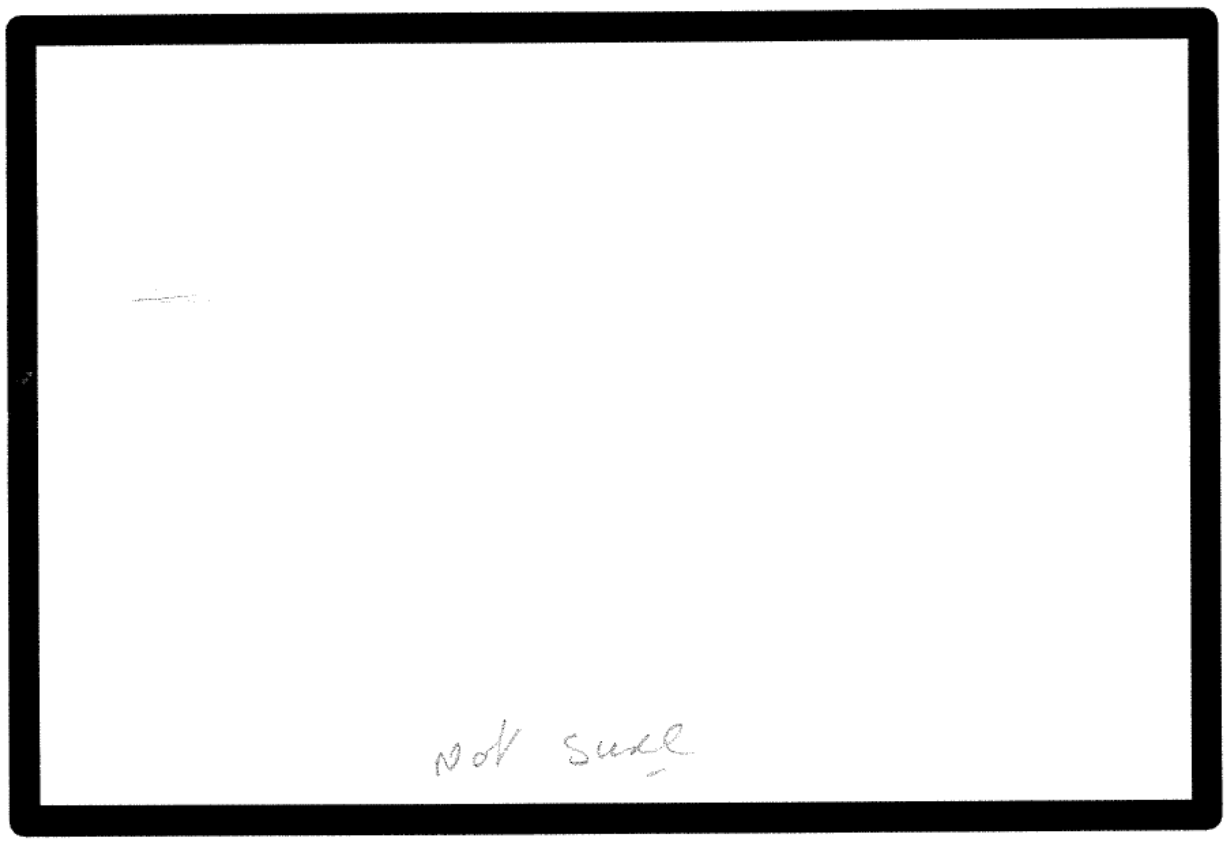
Non-expert

PLEASE STAY INSIDE THE BOX!



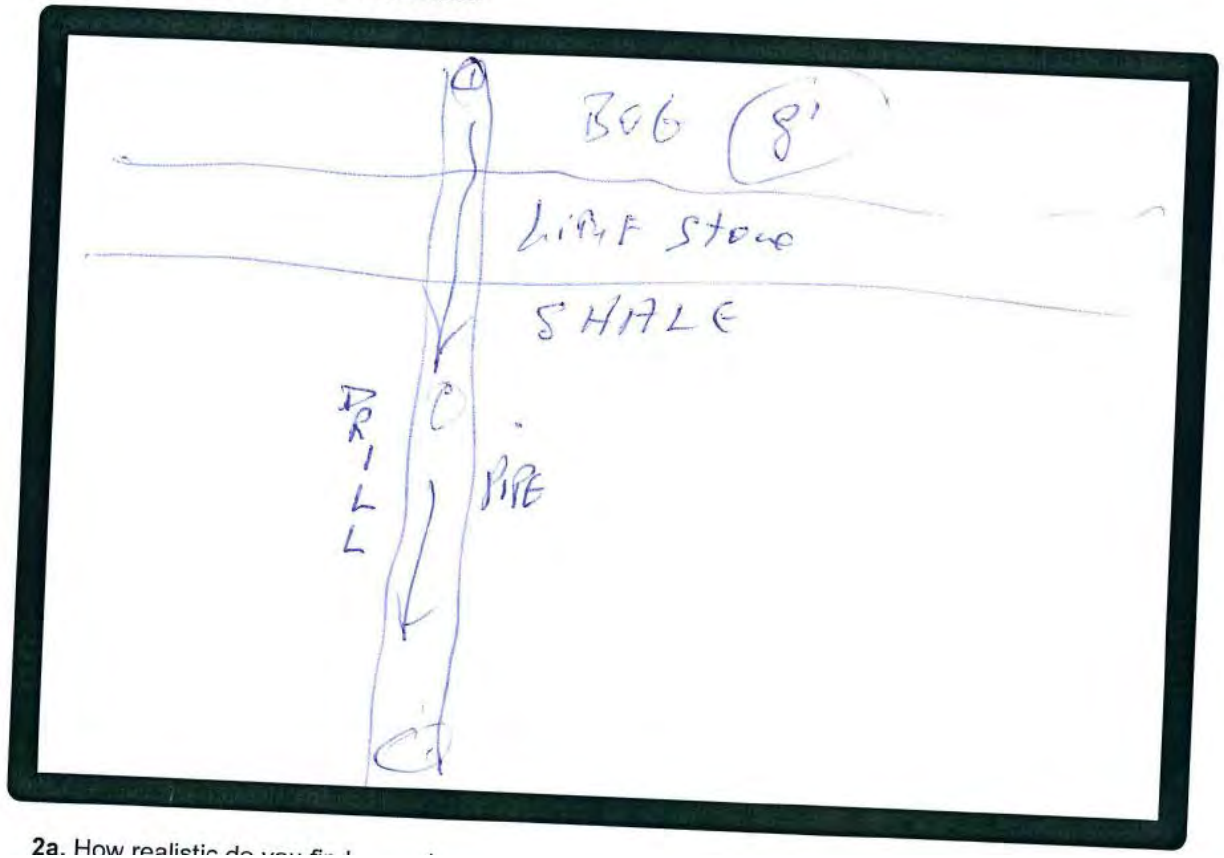
Non-expert

PLEASE STAY INSIDE THE BOX!



Non-expert

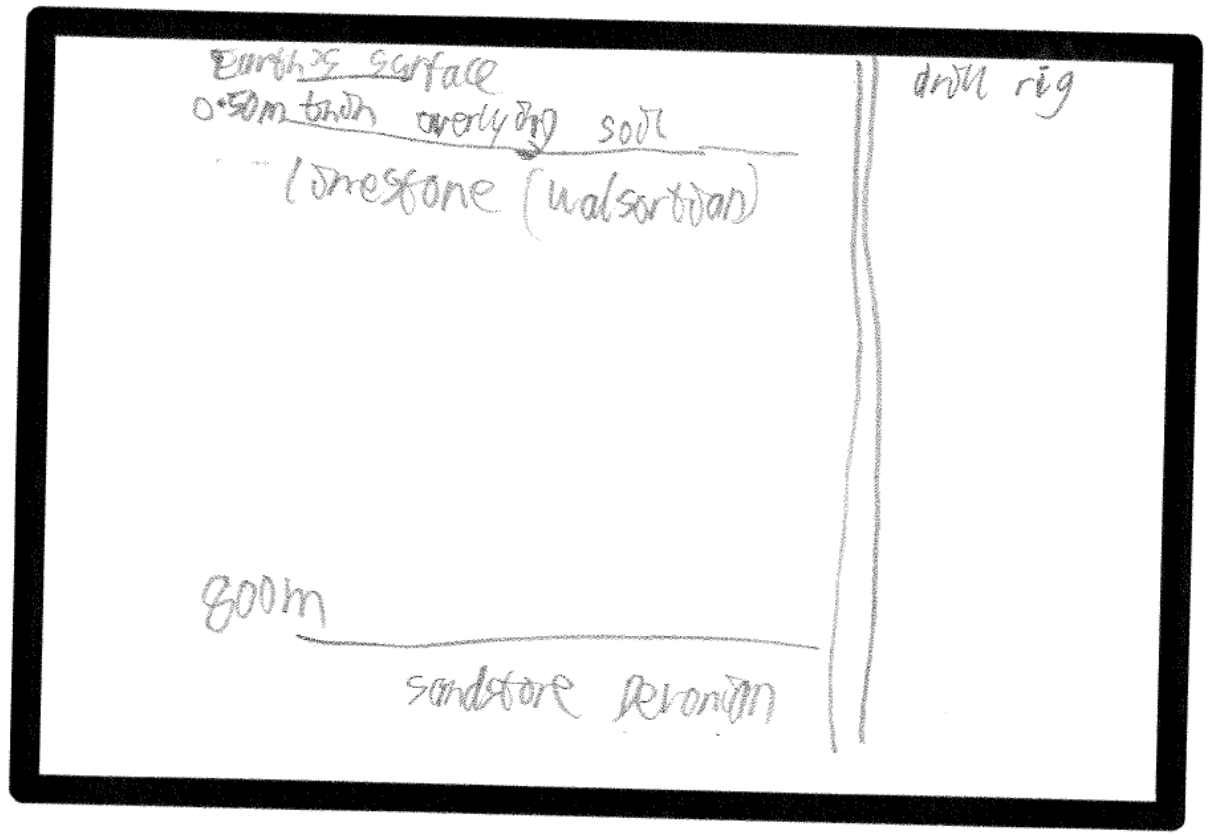
PLEASE STAY INSIDE THE BOX!



2a. How realistic do you fi

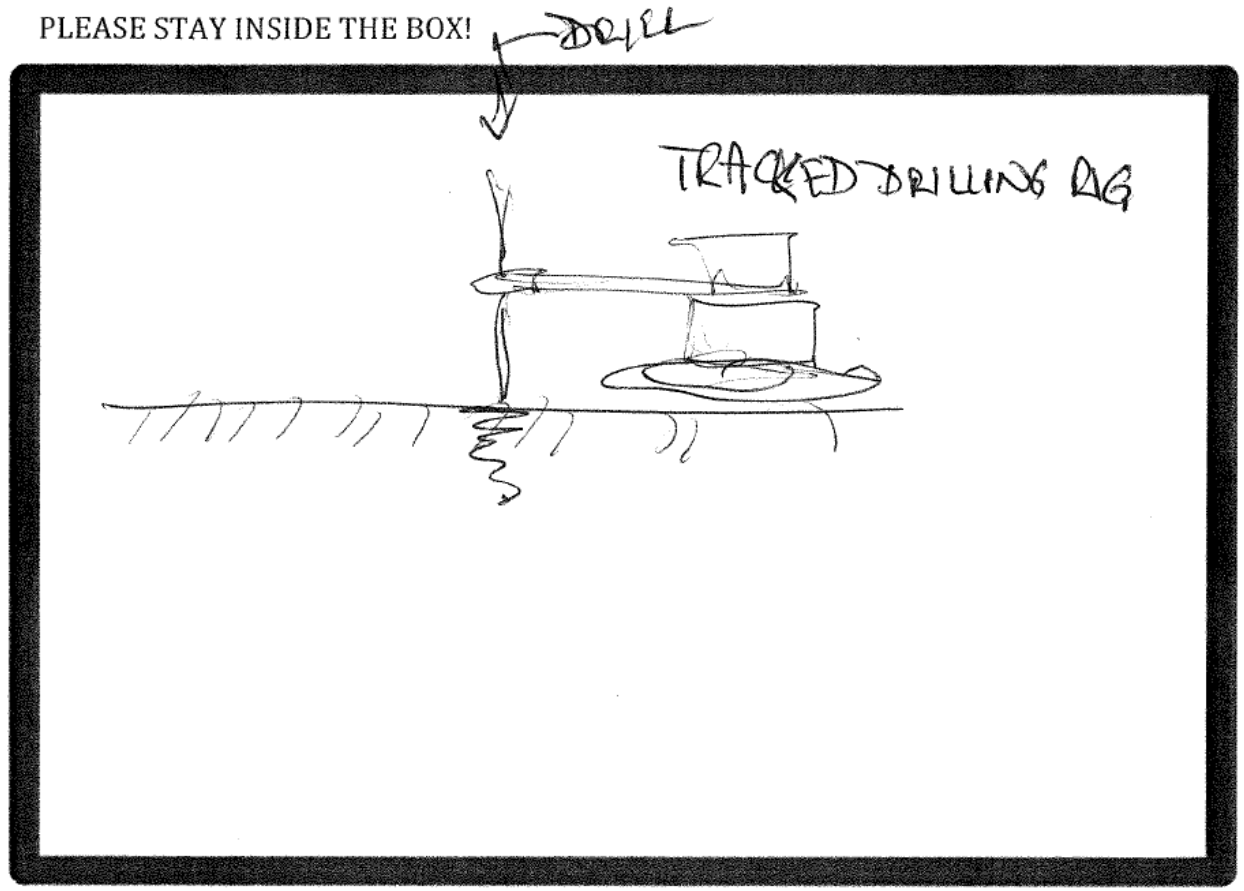
Non-expert

PLEASE STAY INSIDE THE BOX!

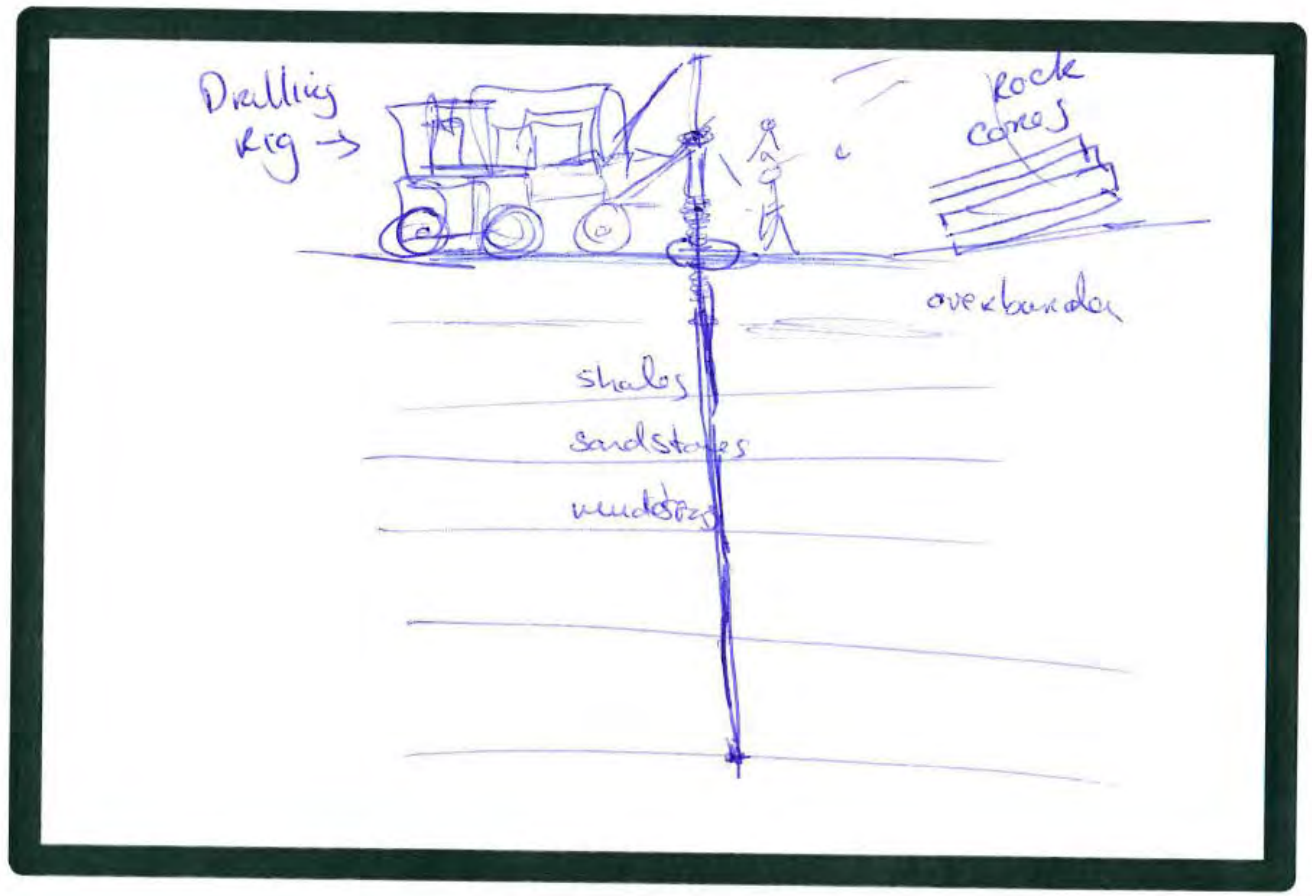


2a. How realistic do you find your sketch? Pl

Non-expert

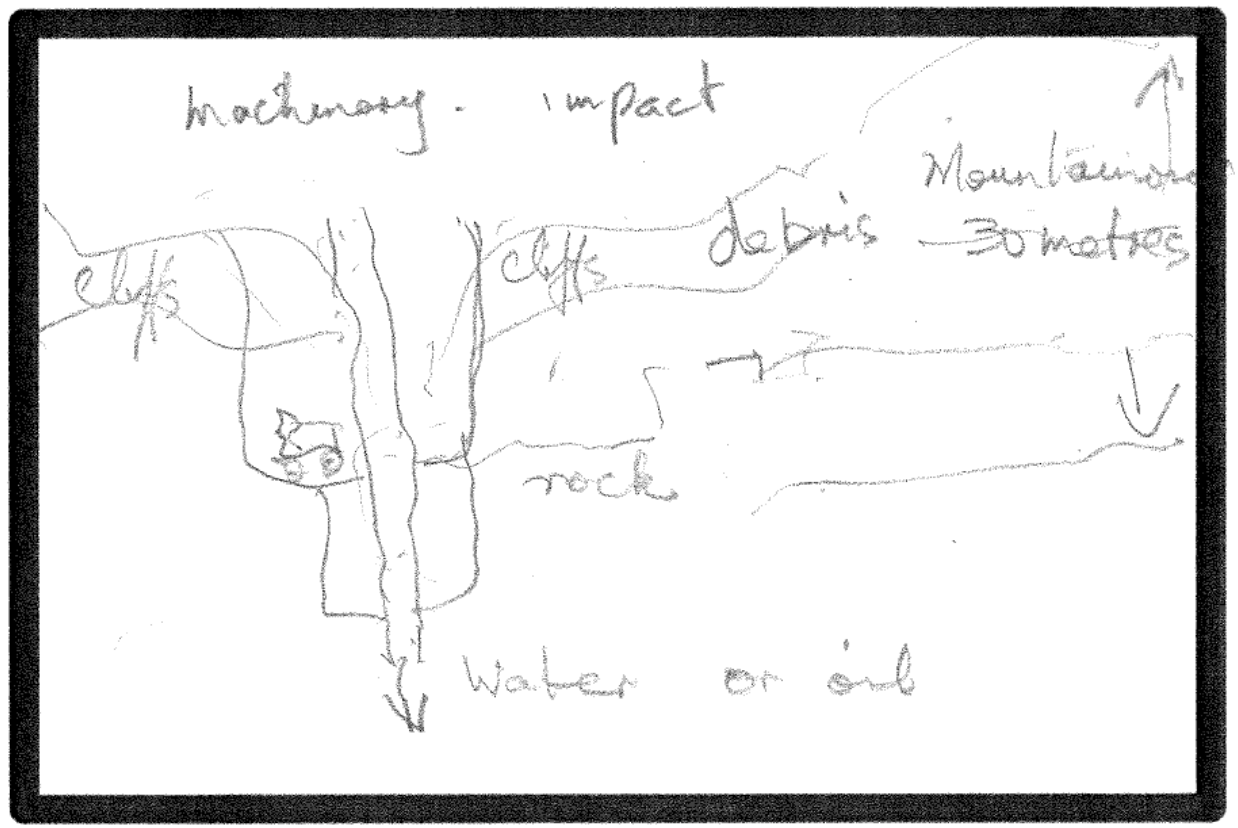


Non-expert


Drilling rig
rock cores
overburden
shales
sandstones
mudstones

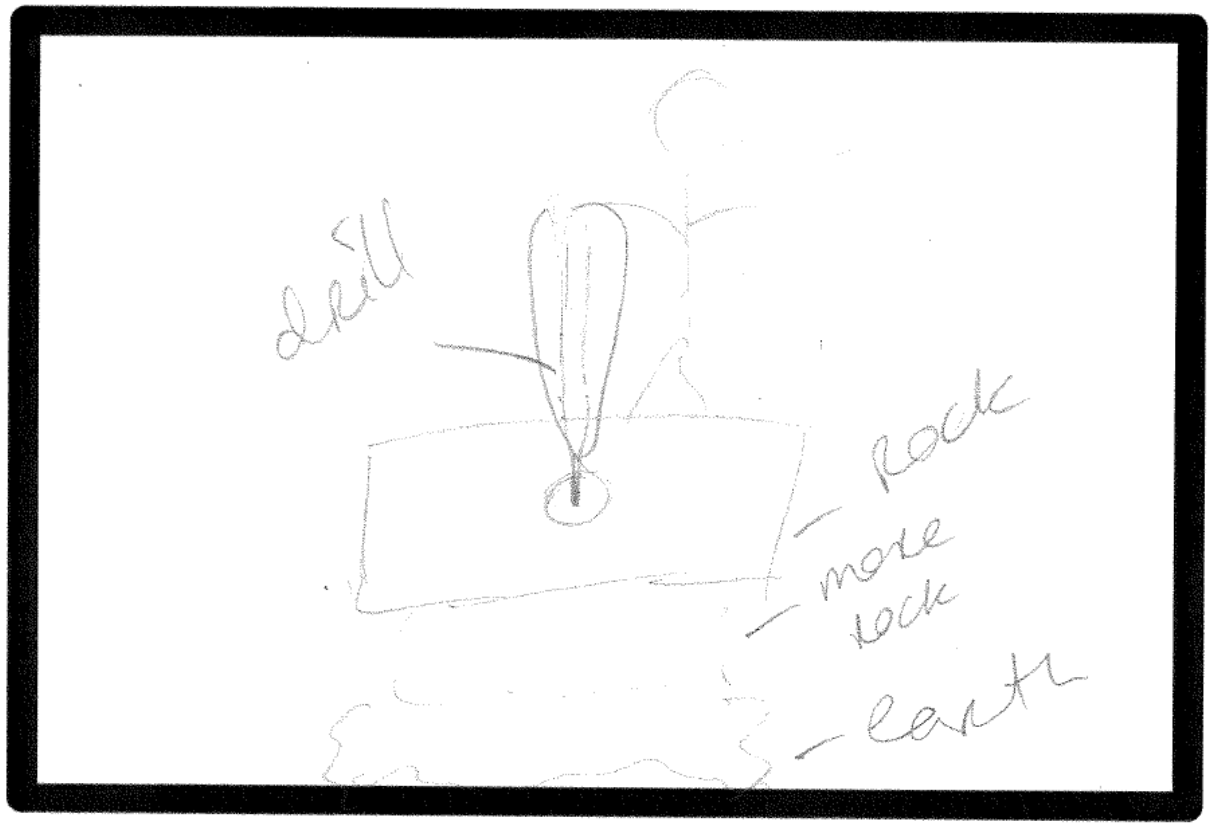
Non-expert

PLEASE STAY INSIDE THE BOX!

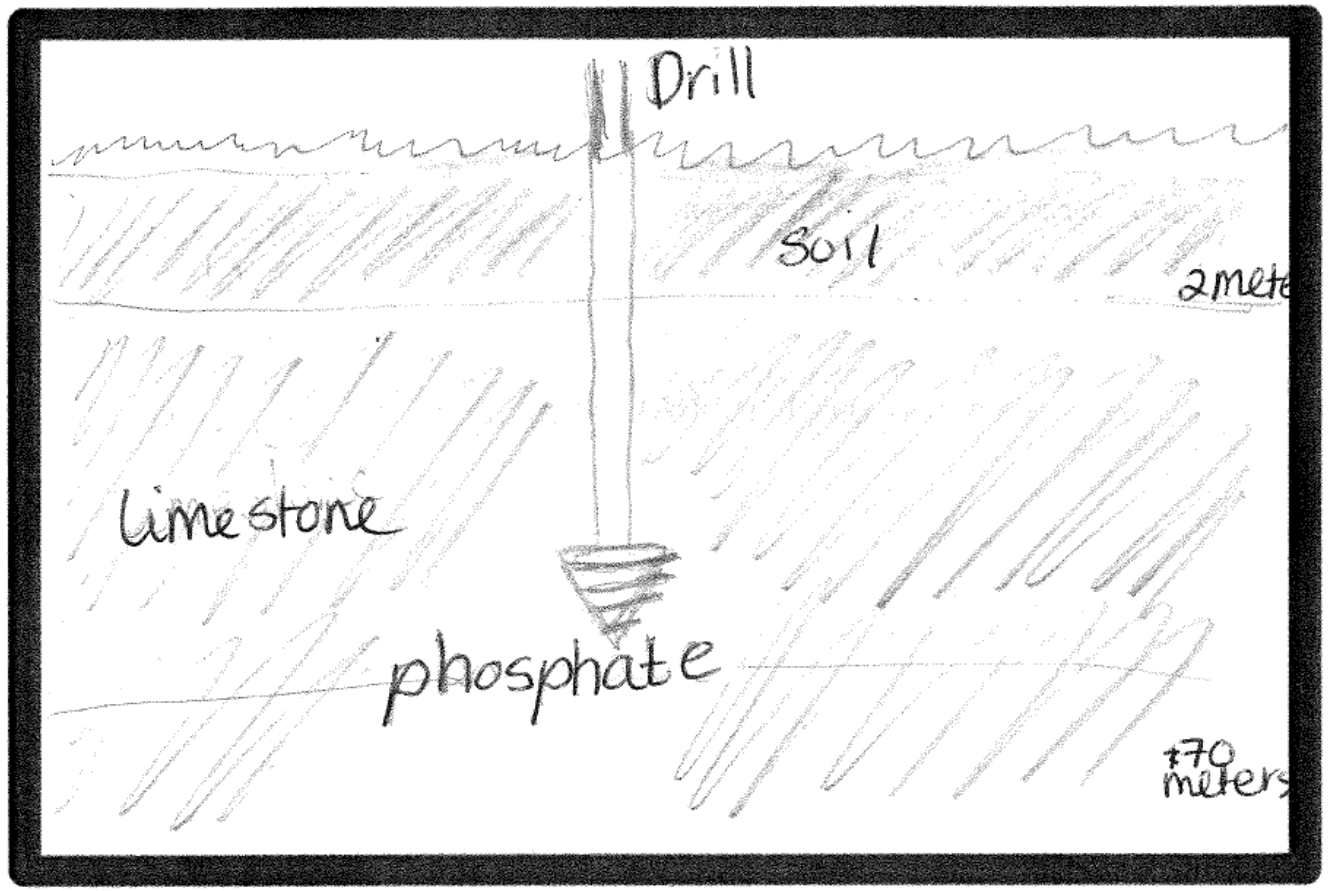


Non-expert

PLEASE STAY INSIDE THE BOX!

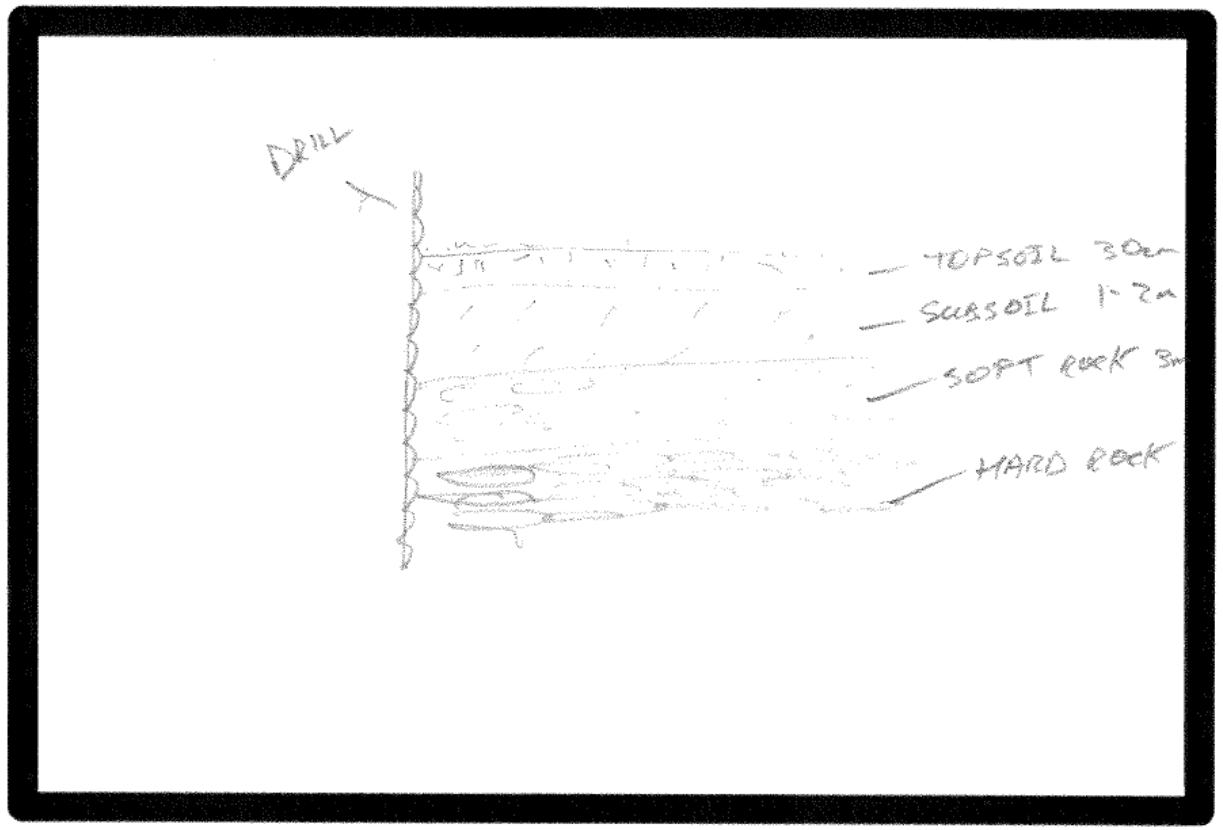


Non-expert



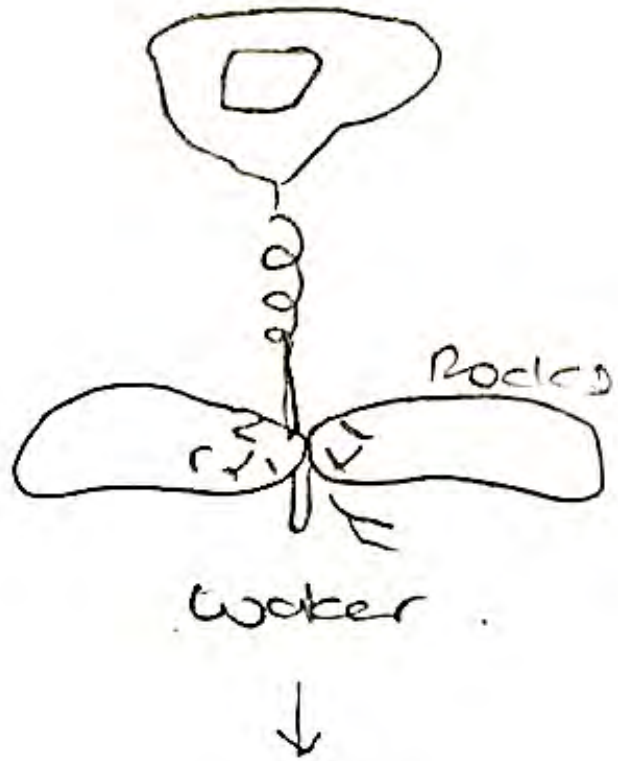
Non-expert

PLEASE STAY INSIDE THE BOX!



Non-expert

Non-expert



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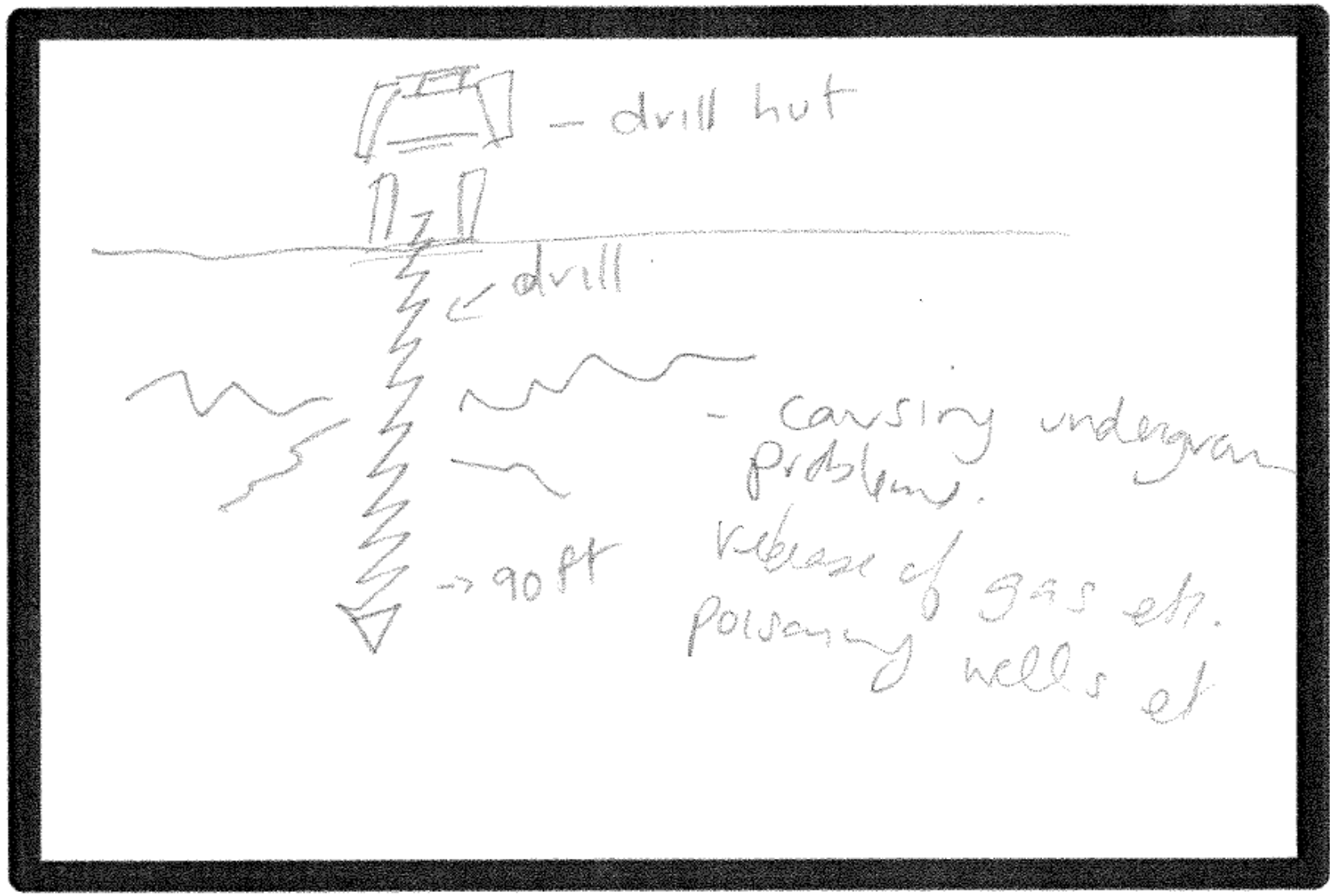

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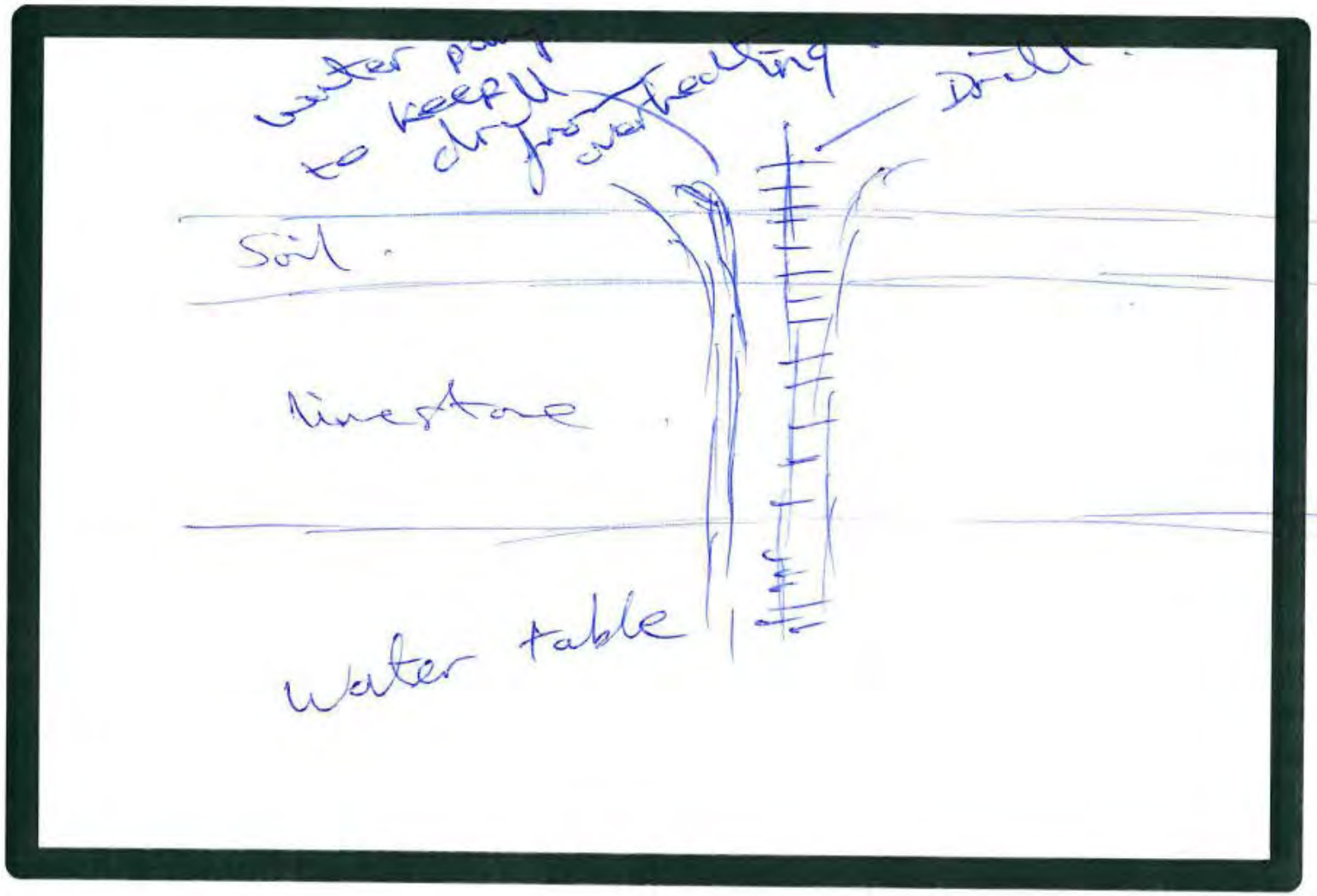

Non-expert

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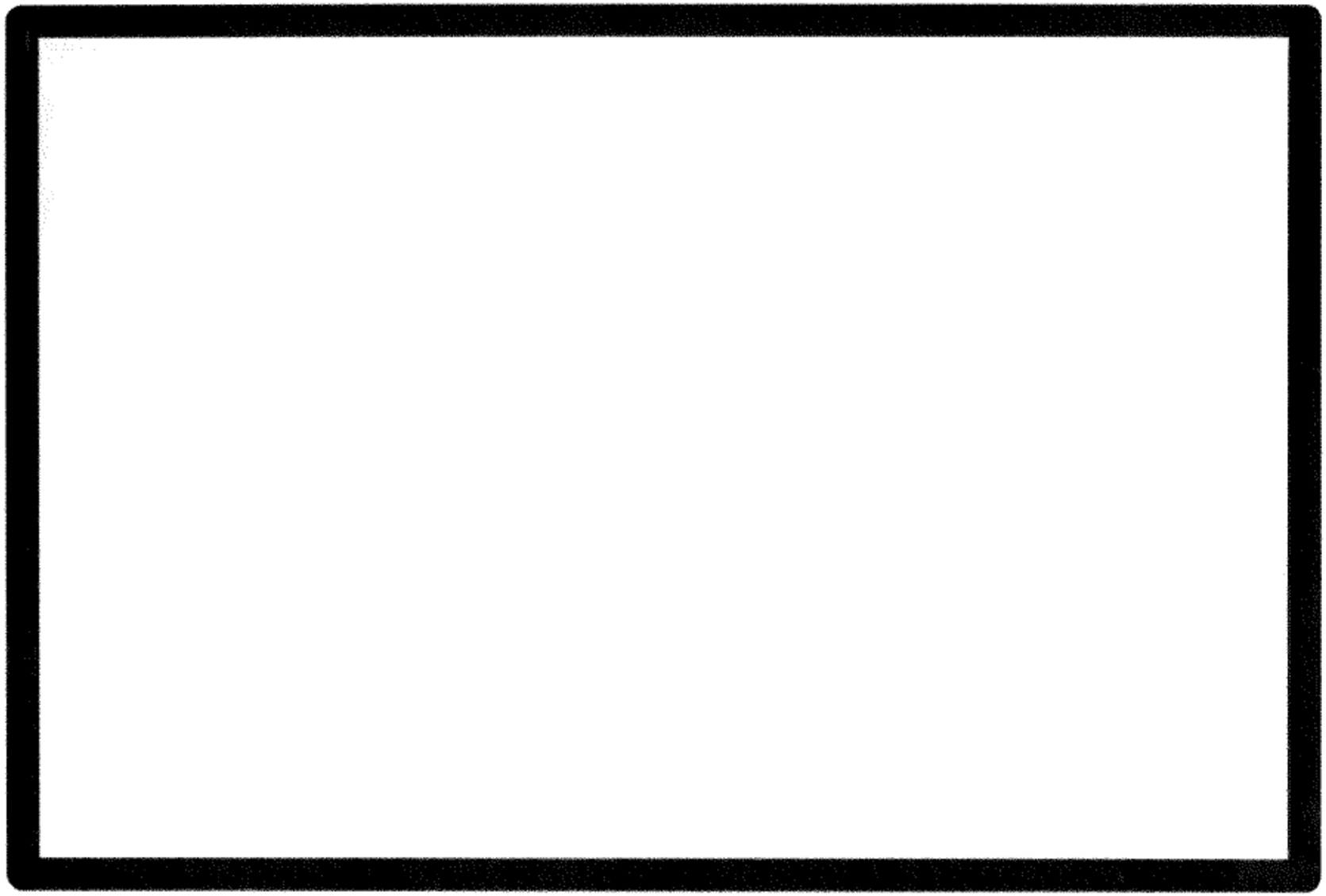
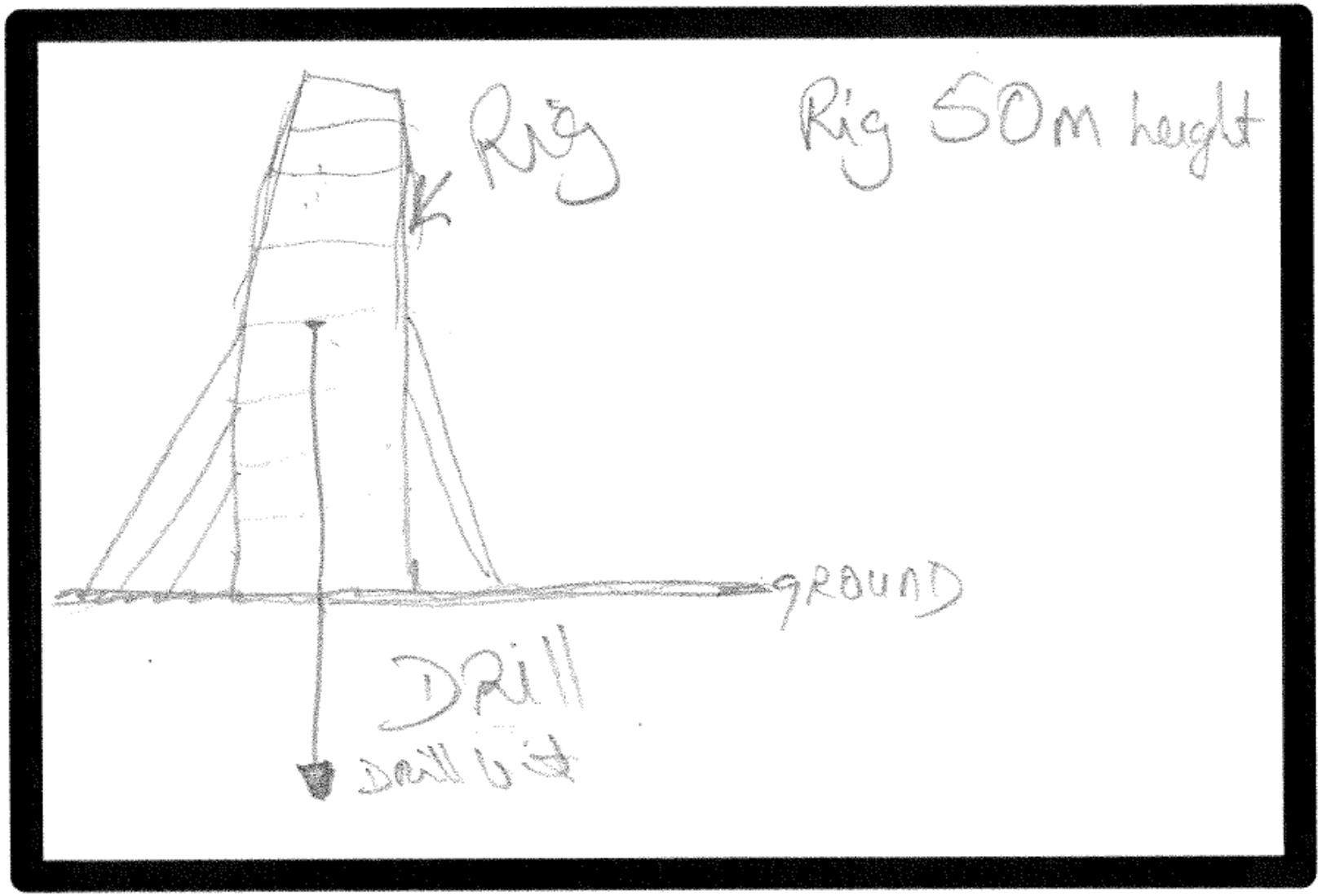


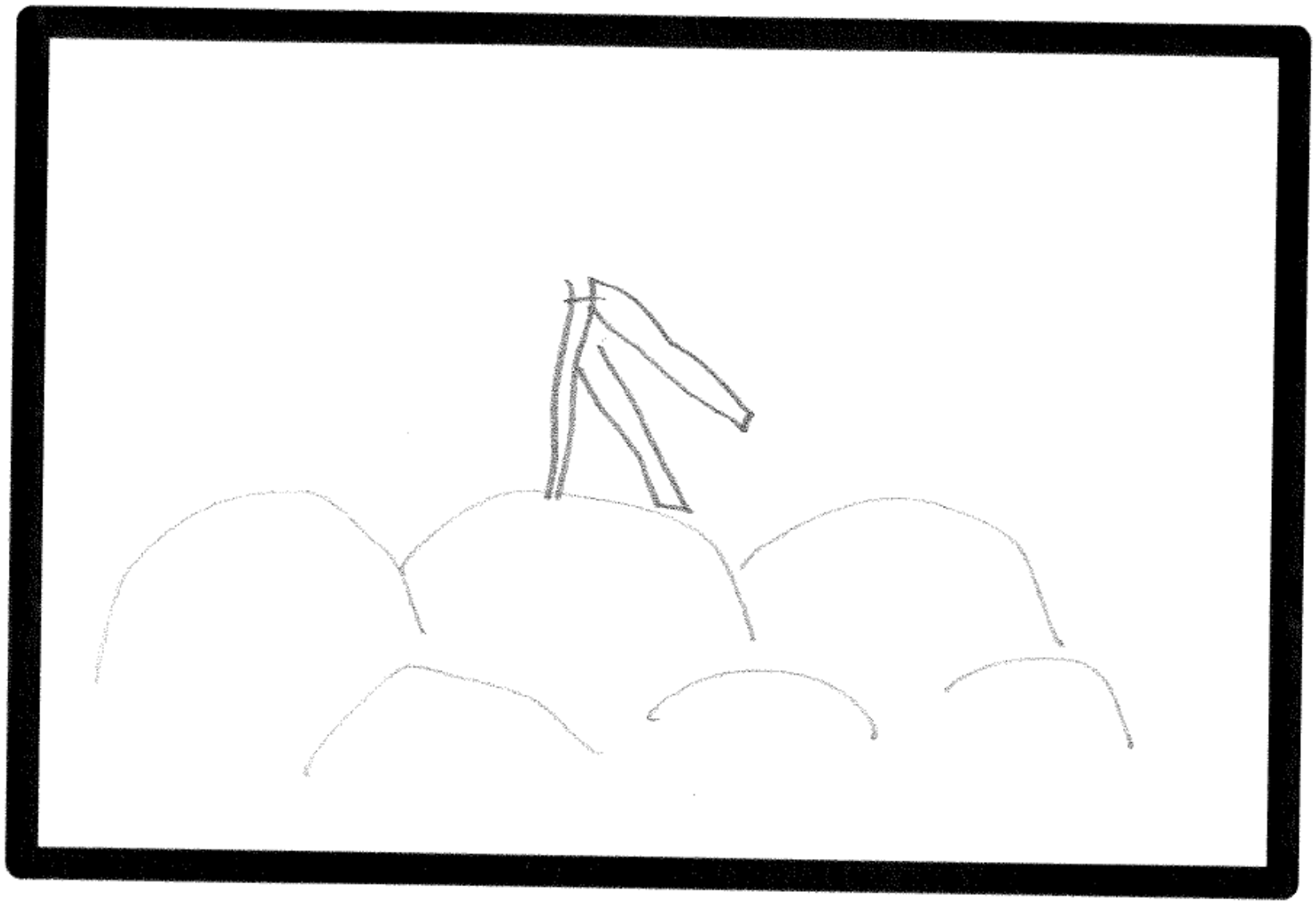
Non-expert

PLEASE STAY INSIDE THE BOX!



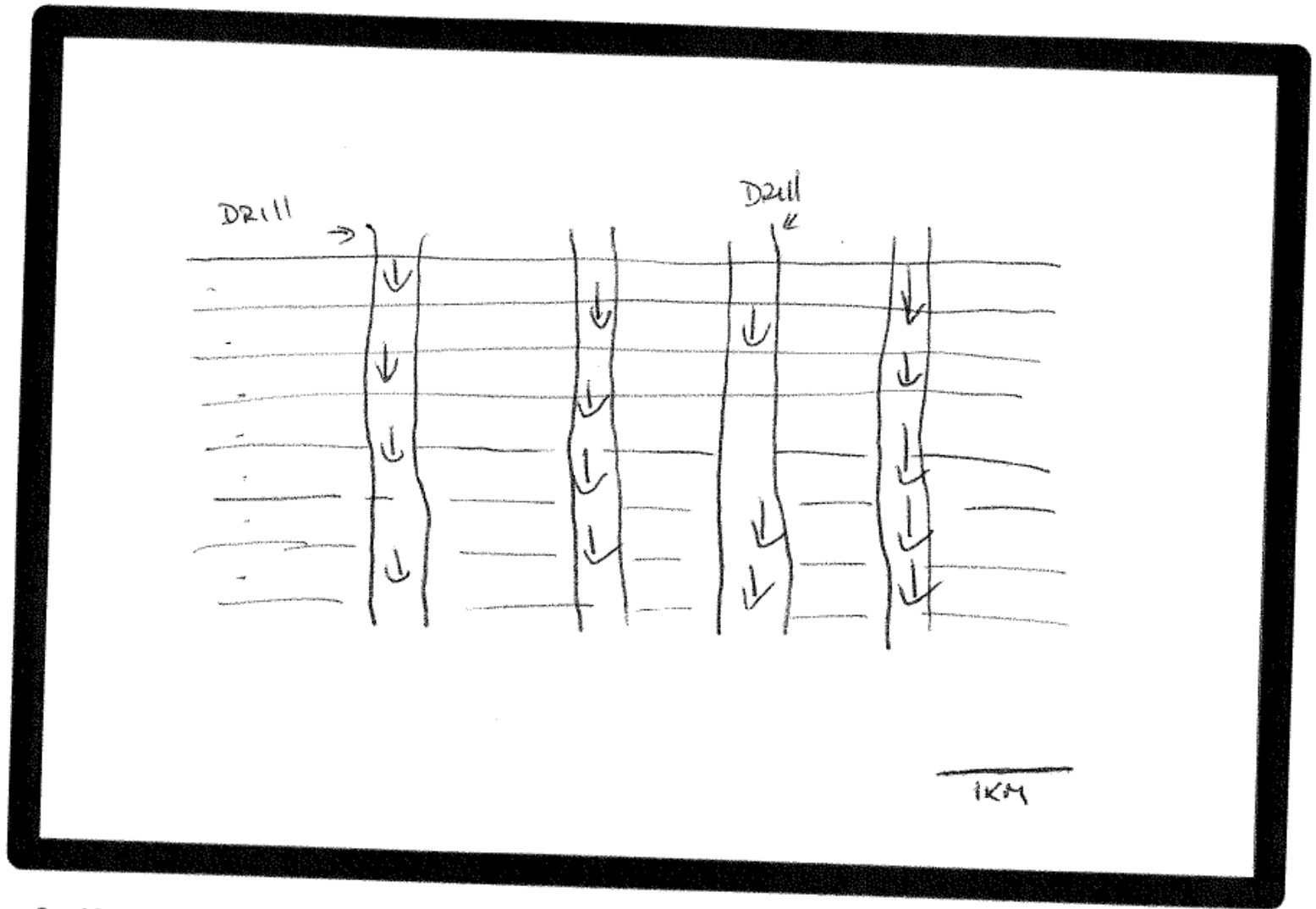
Non-expert

PLEASE STAY INSIDE THE BOX!



Non-expert

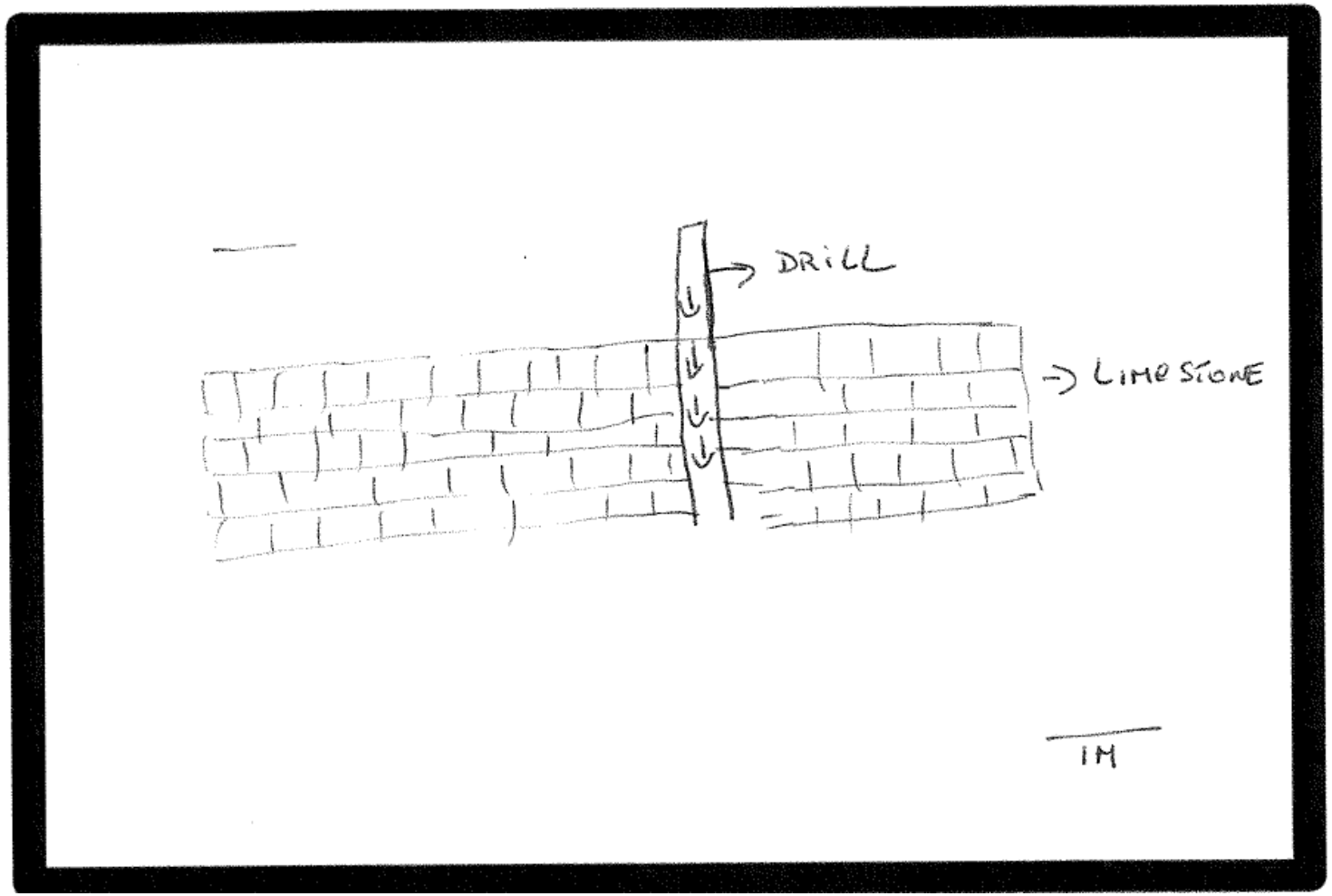
PLEASE STAY INSIDE THE BOX!



Non-expert

3a. How realistic do you find your sketch? Pl

PLEASE STAY INSIDE THE BOX!



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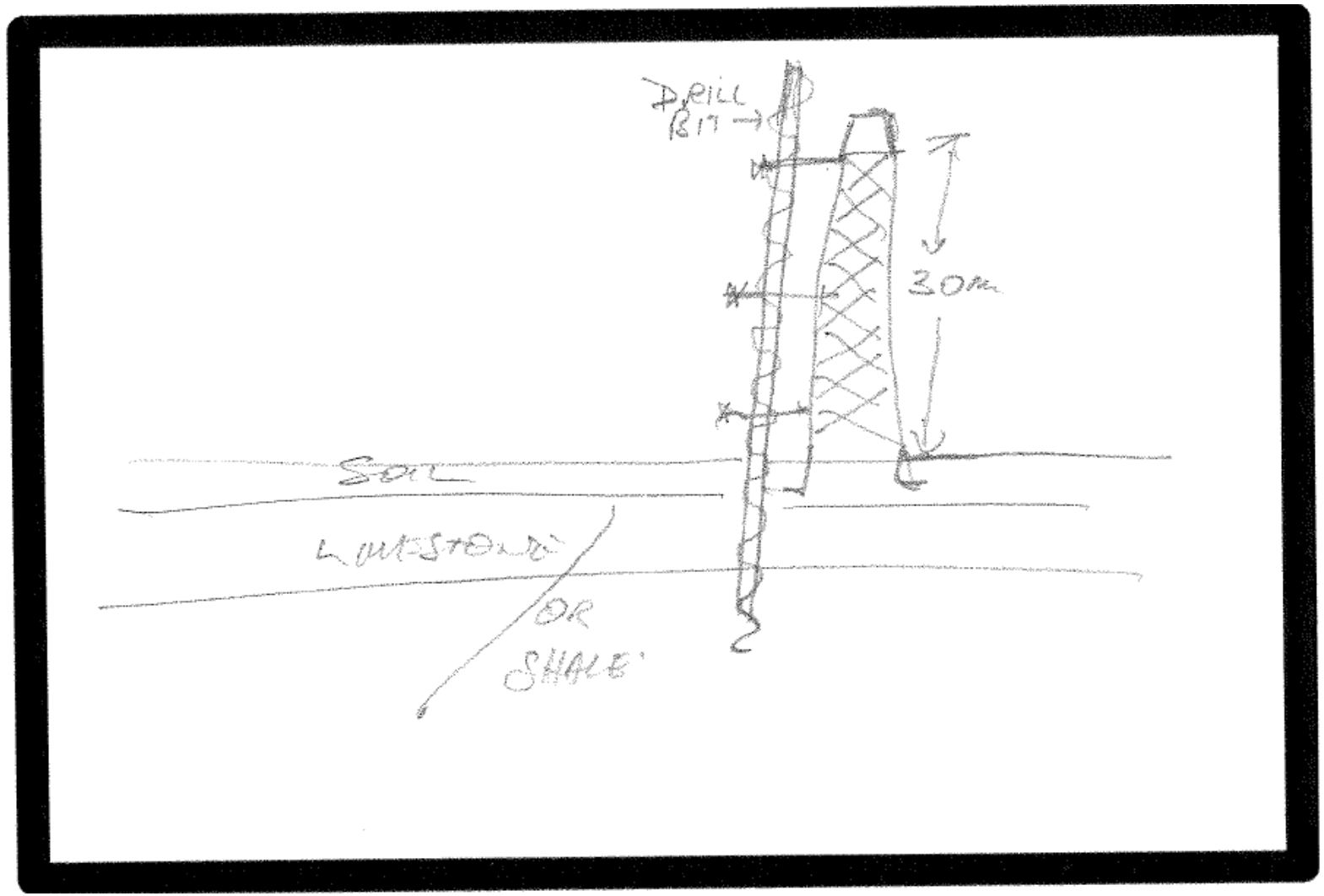
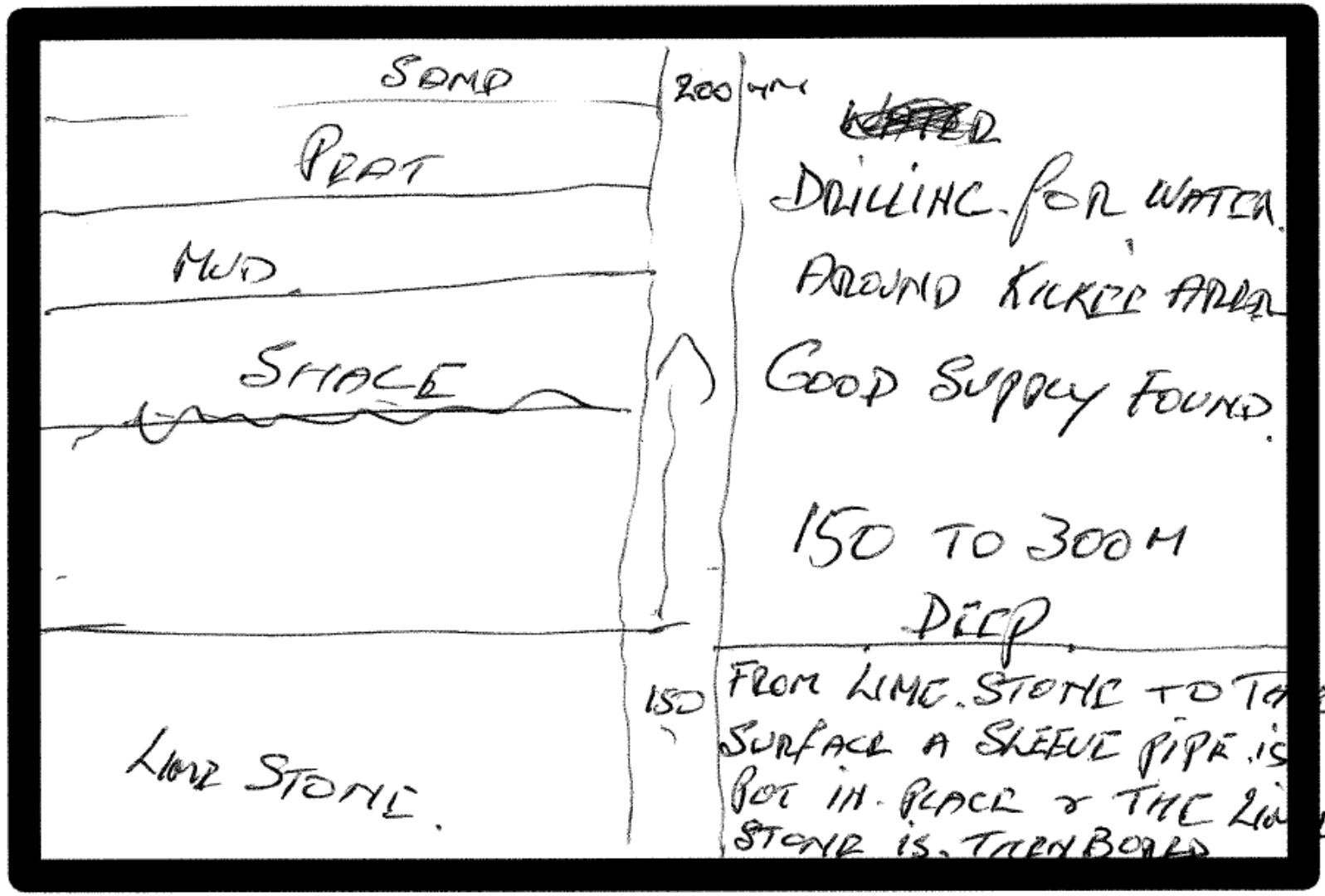


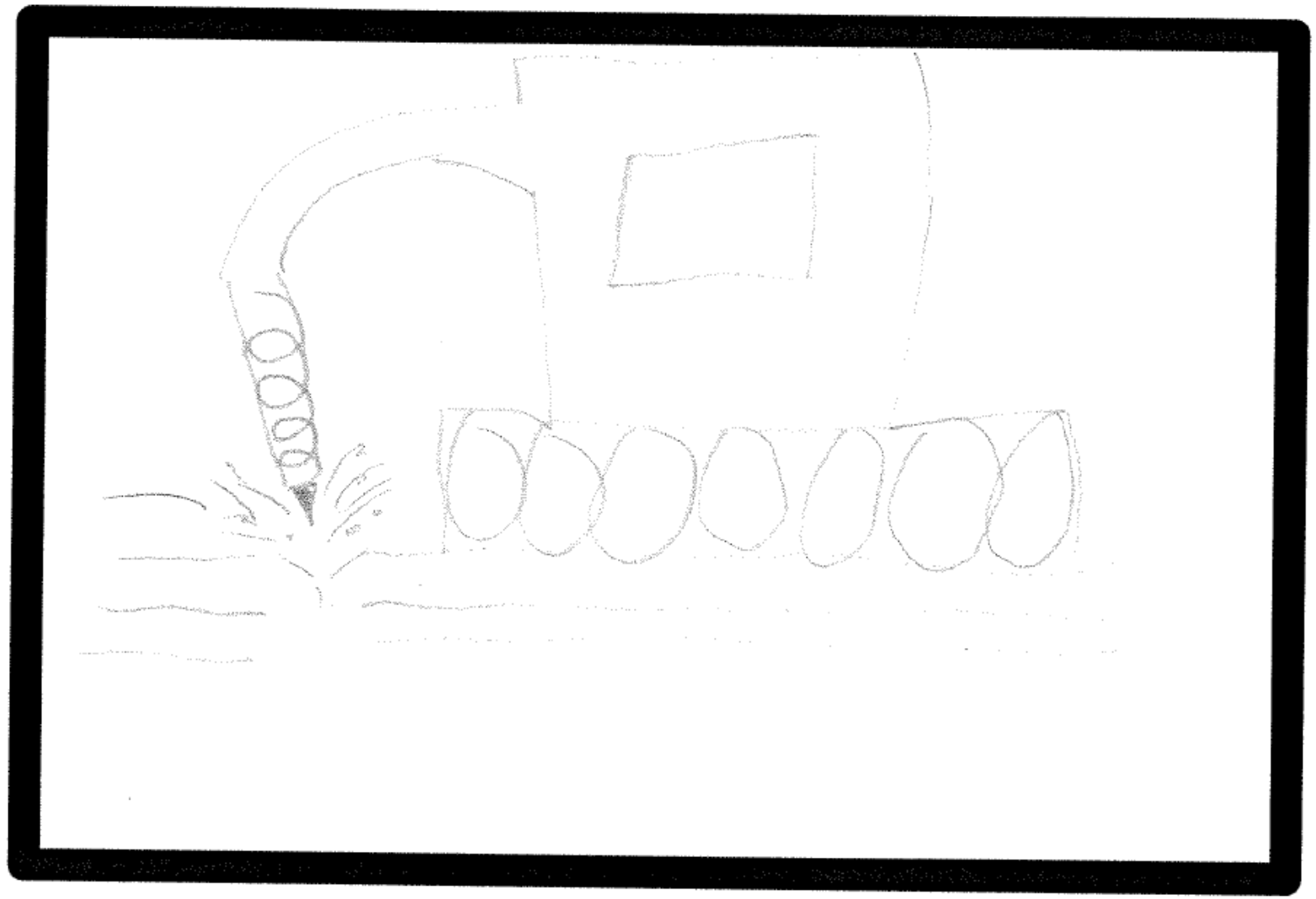
Non-expert

PLEASE STAY INSIDE THE BOX!



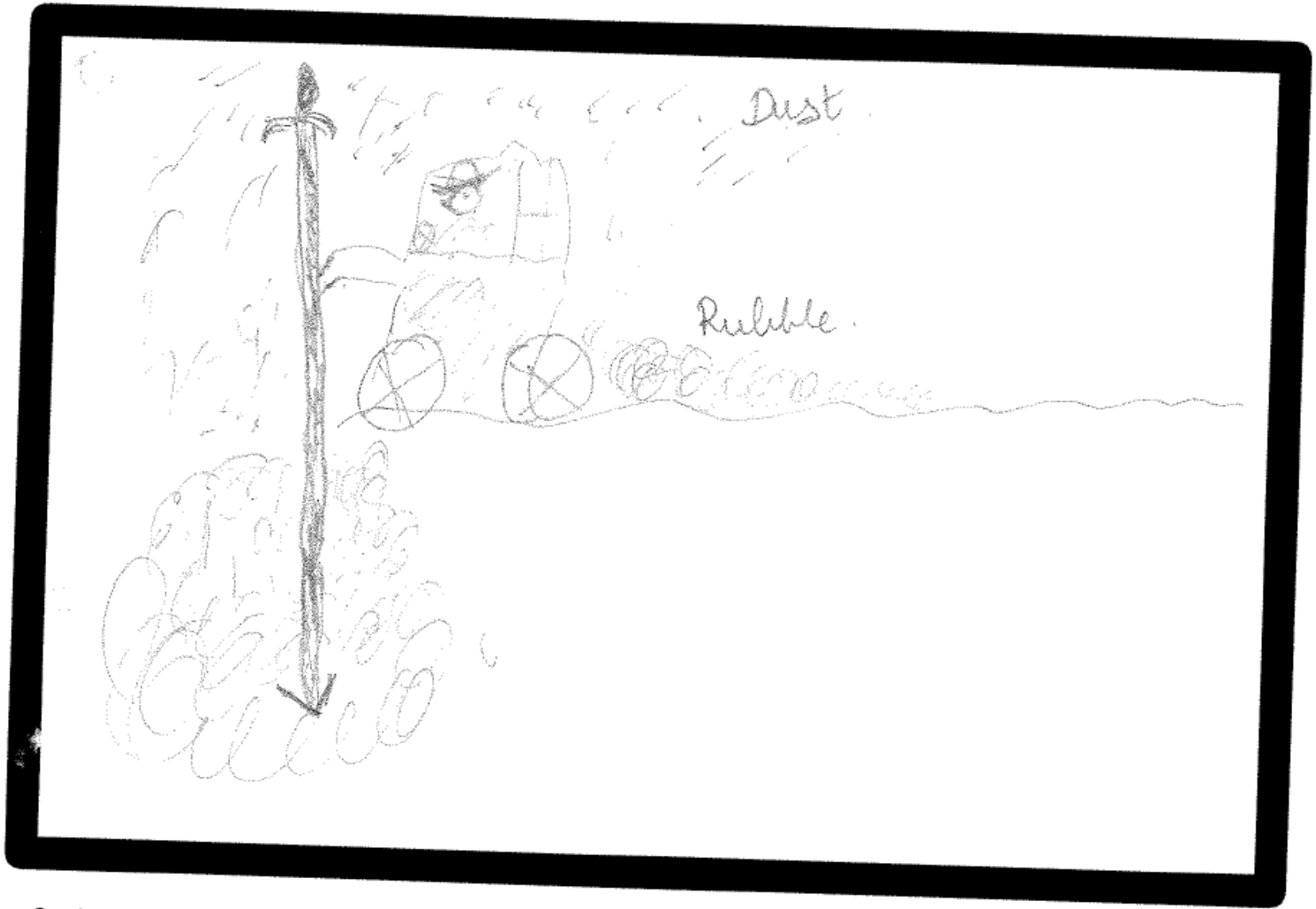
Non-expert

PLEASE STAY INSIDE THE BOX!



Non-expert

PLEASE STAY INSIDE THE BOX!

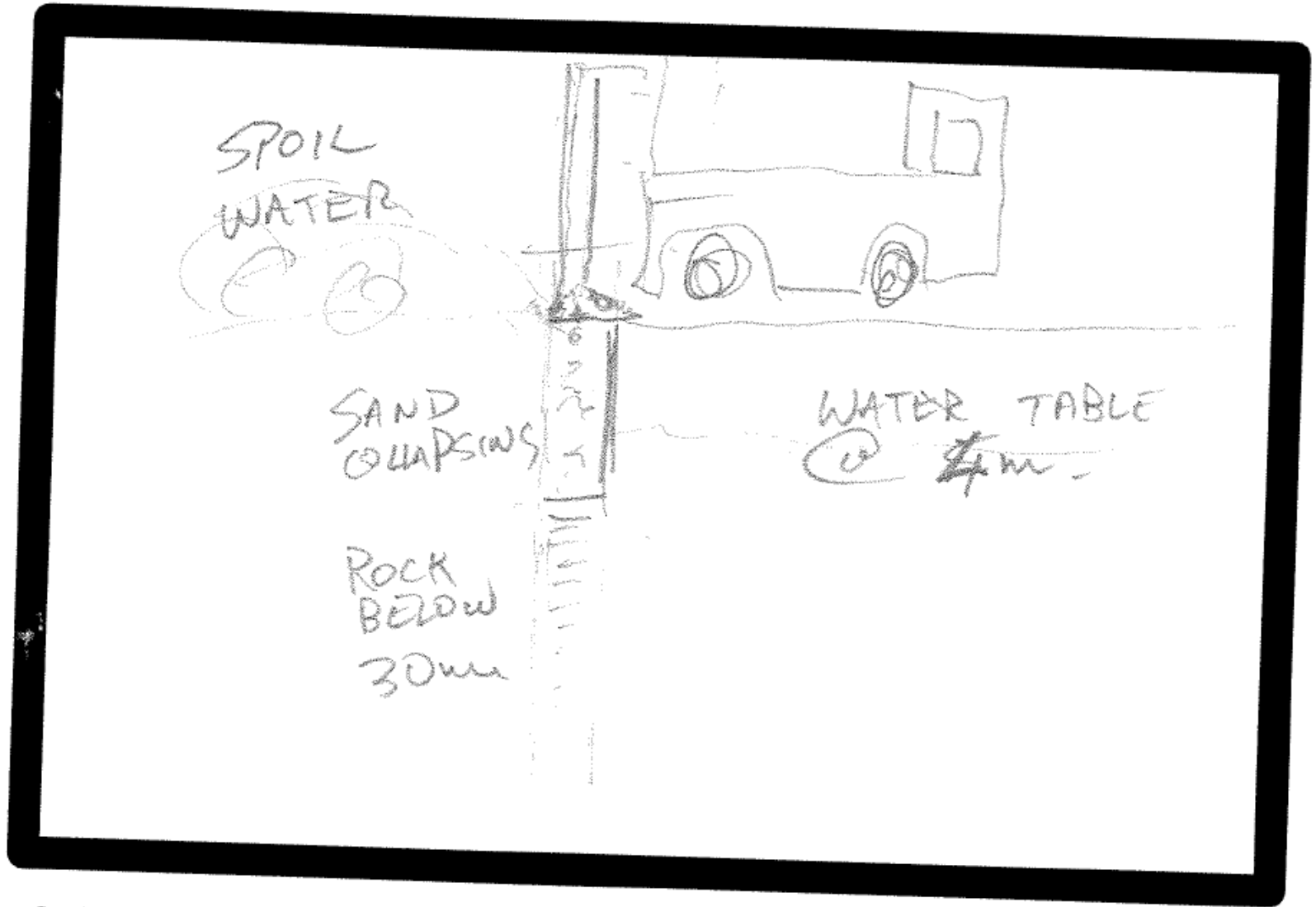


Non-expert

2a. How realistic do you find your sketch? Please circle th

sketch

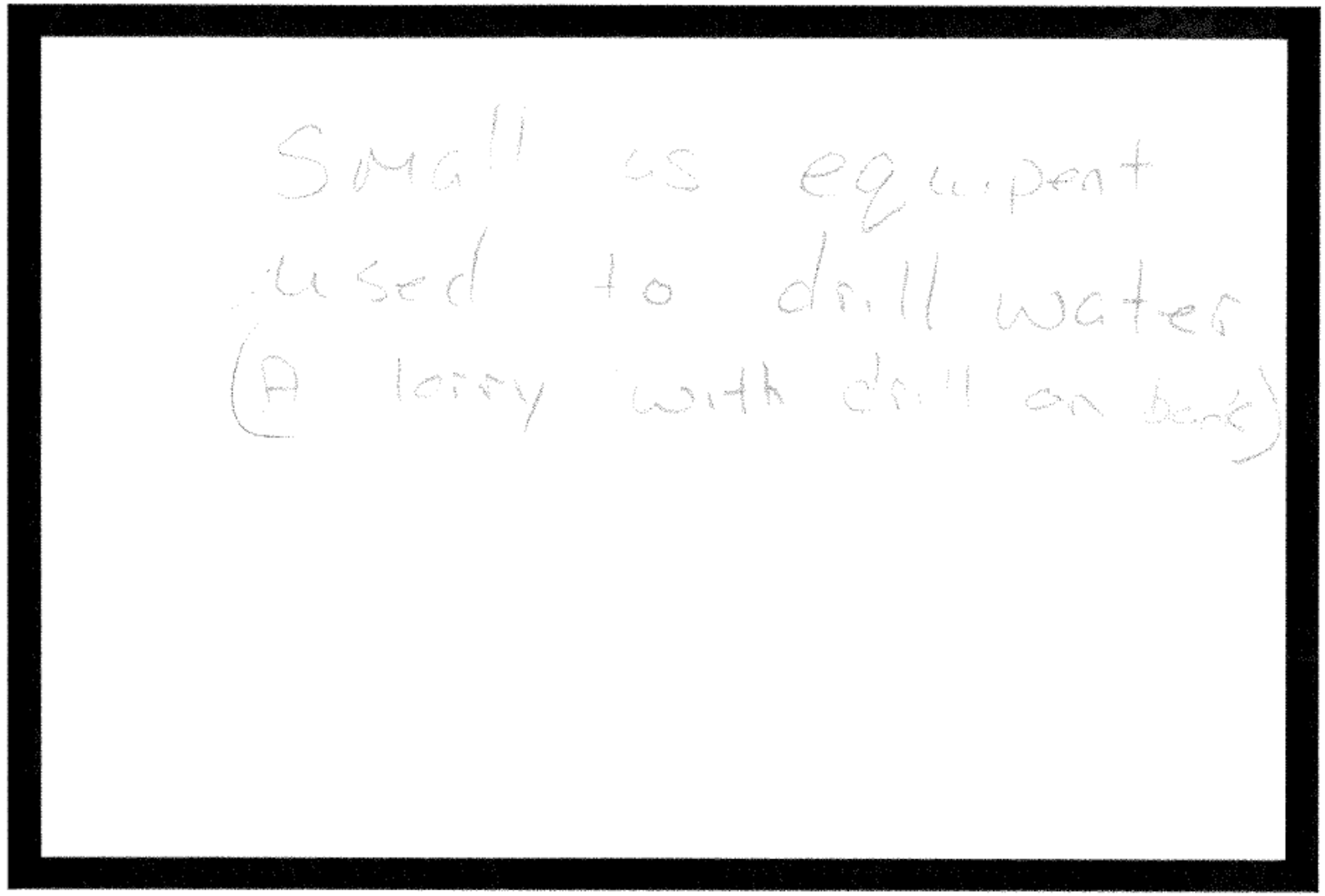
PLEASE STAY INSIDE THE BOX!



2a. How realistic do you find your sketch? Pl

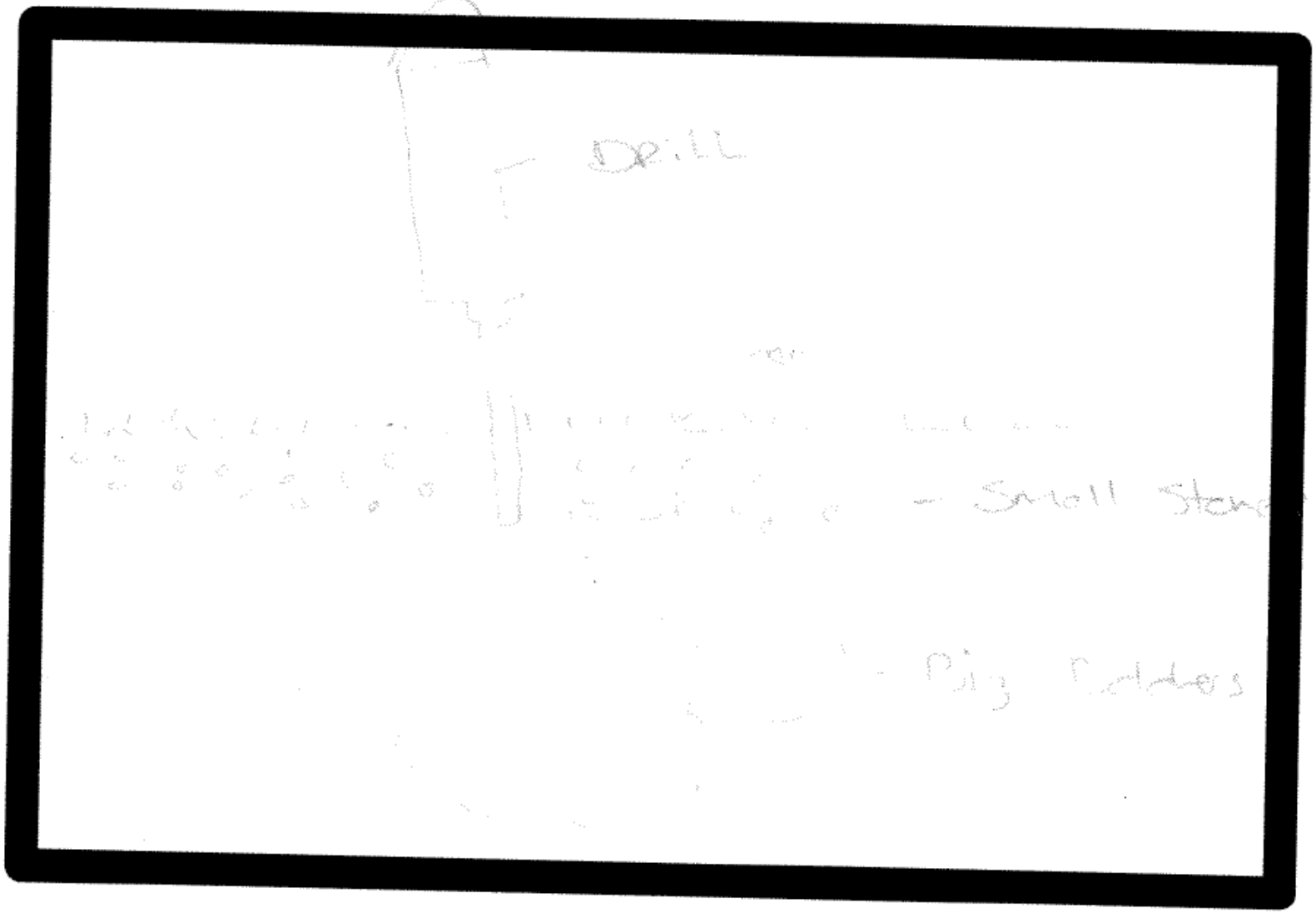
Non-expert

PLEASE STAY INSIDE THE BOX!



Non-expert

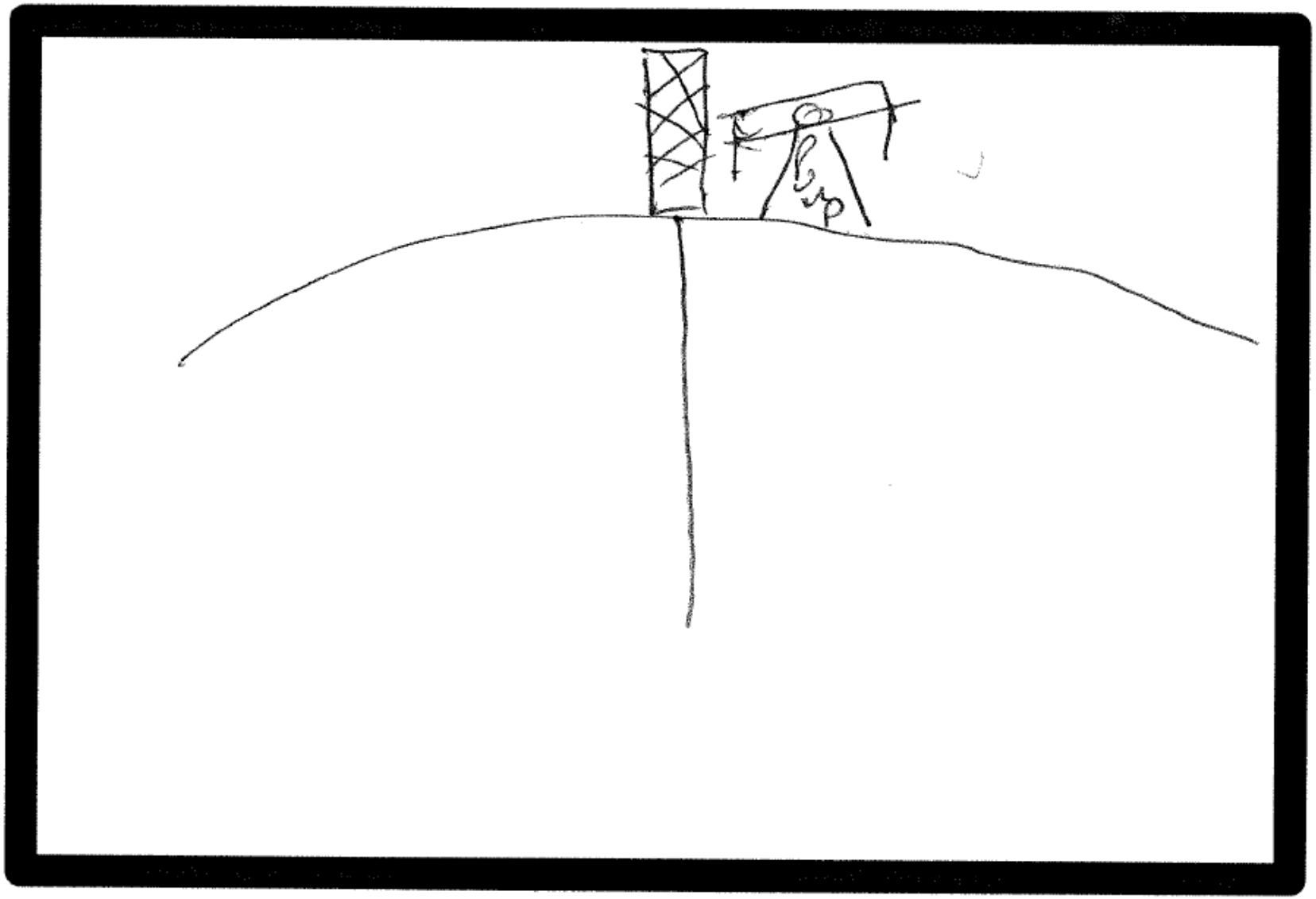
PLEASE STAY INSIDE THE BOX!



Non-expert

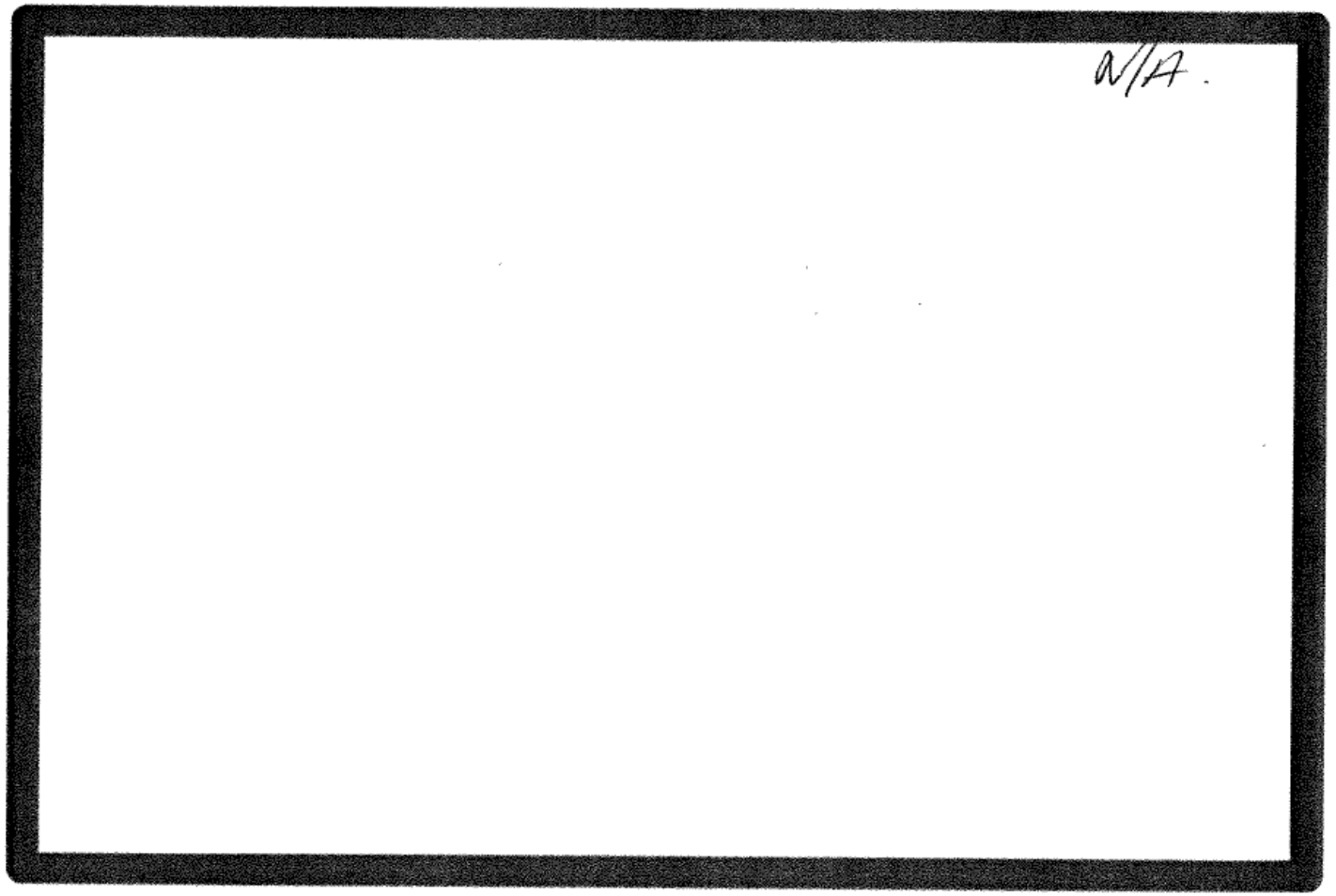
2a. How realistic do you find your sketch? Please circle the number that more closely

PLEASE STAY INSIDE THE BOX!



Non-exp

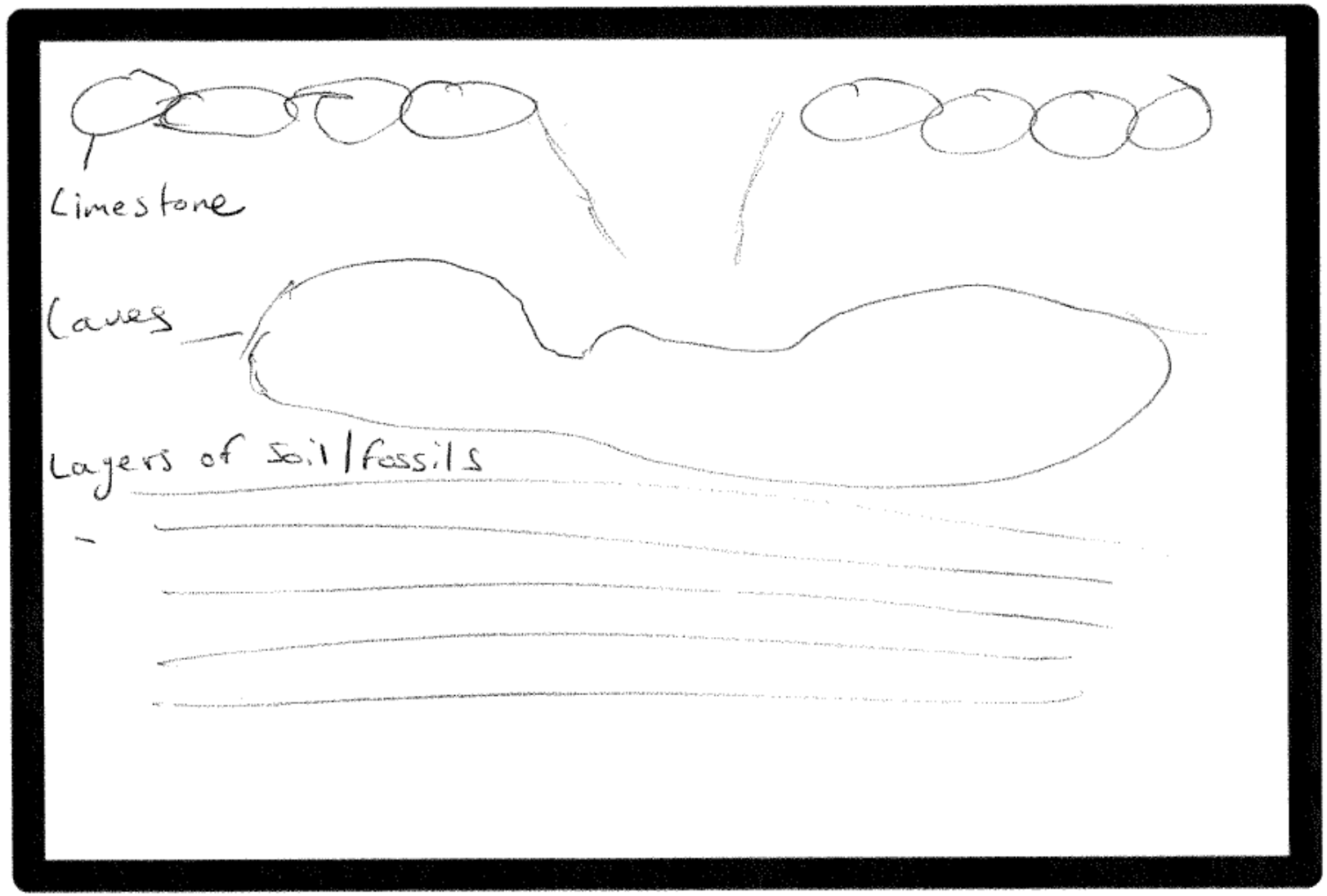
PLEASE STAY INSIDE THE BOX!



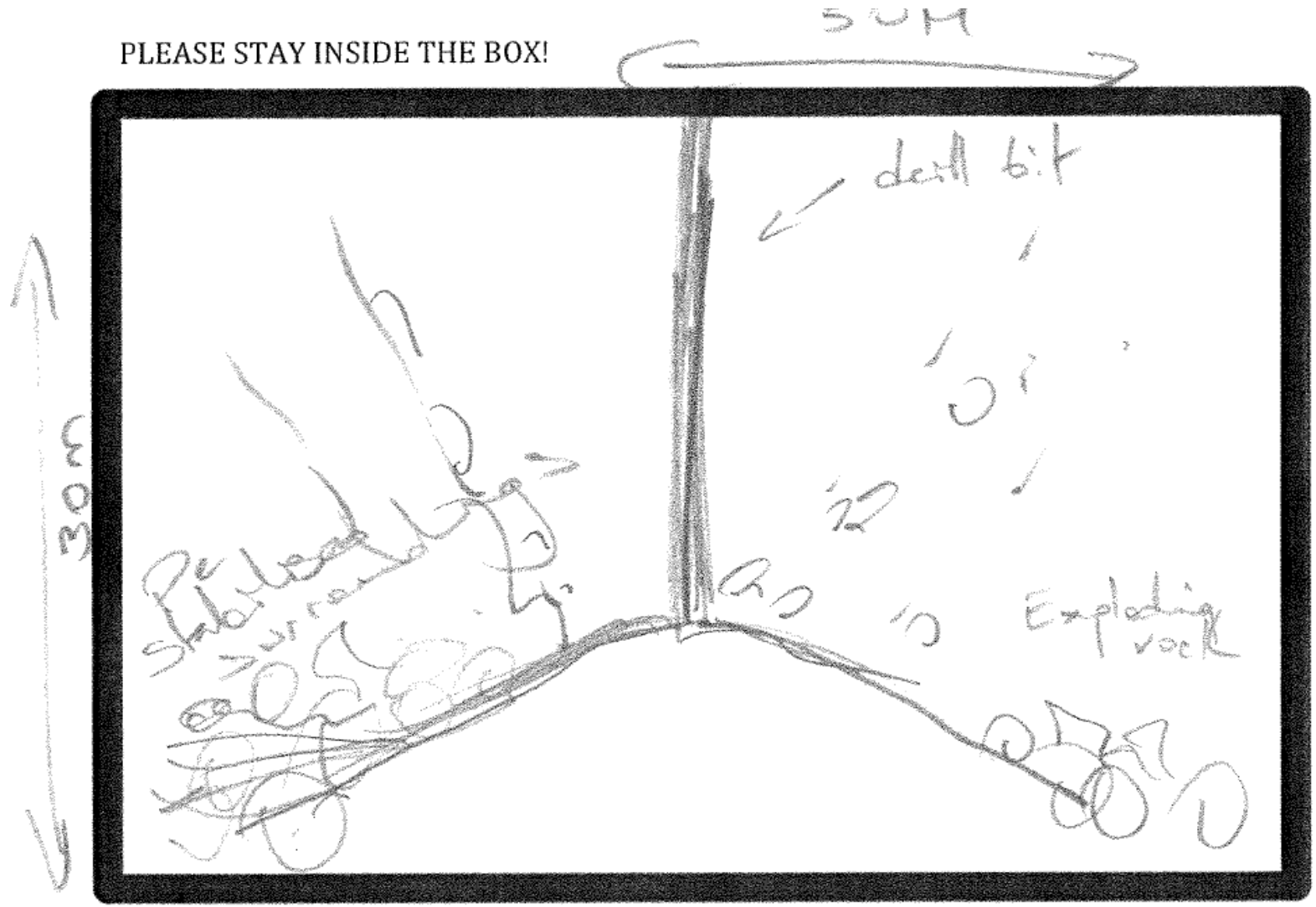
2a. How realistic do you find your sketch? Please circle the number that more closely represents your

Non-expert

PLEASE STAY INSIDE THE BOX!

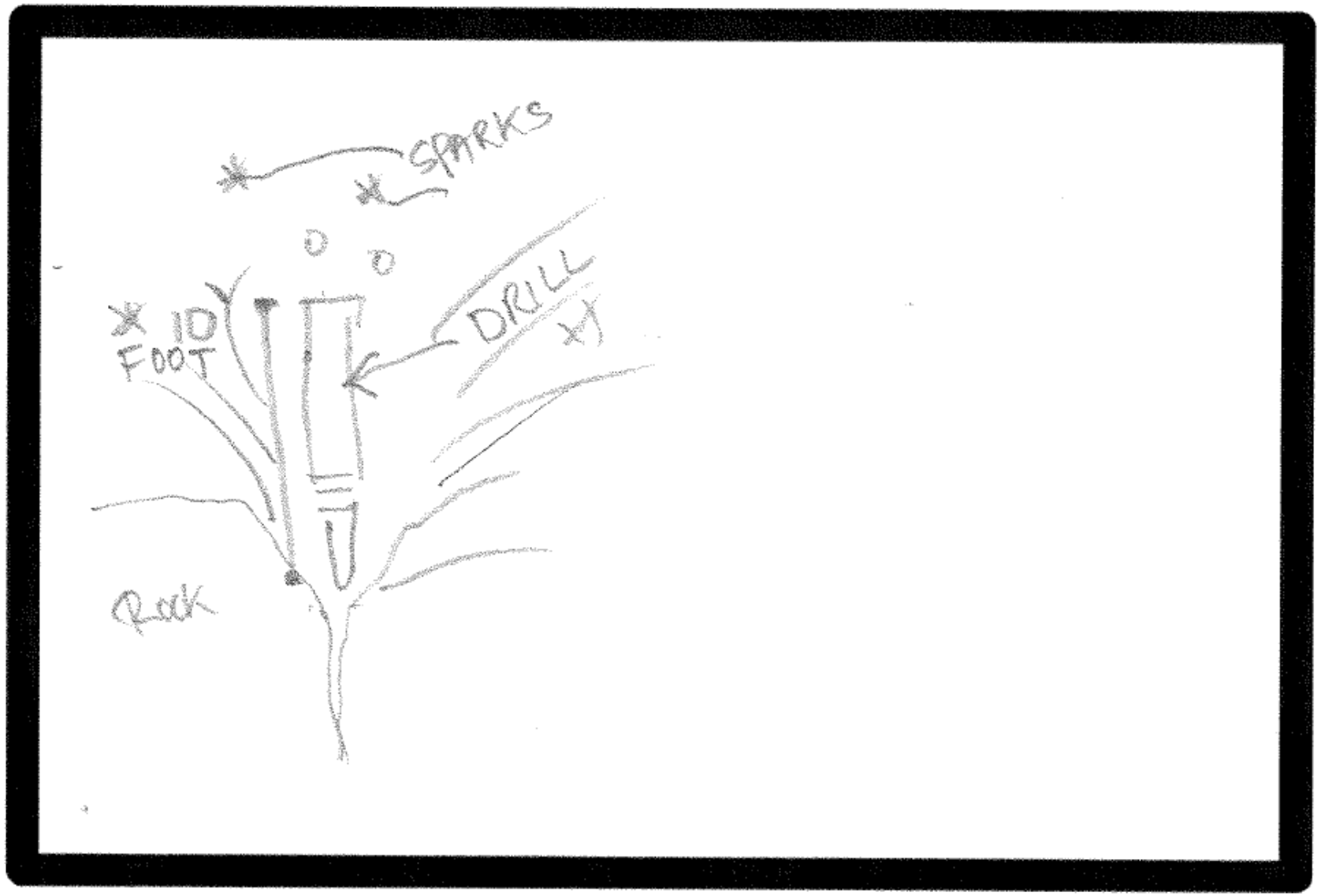


Non-expert

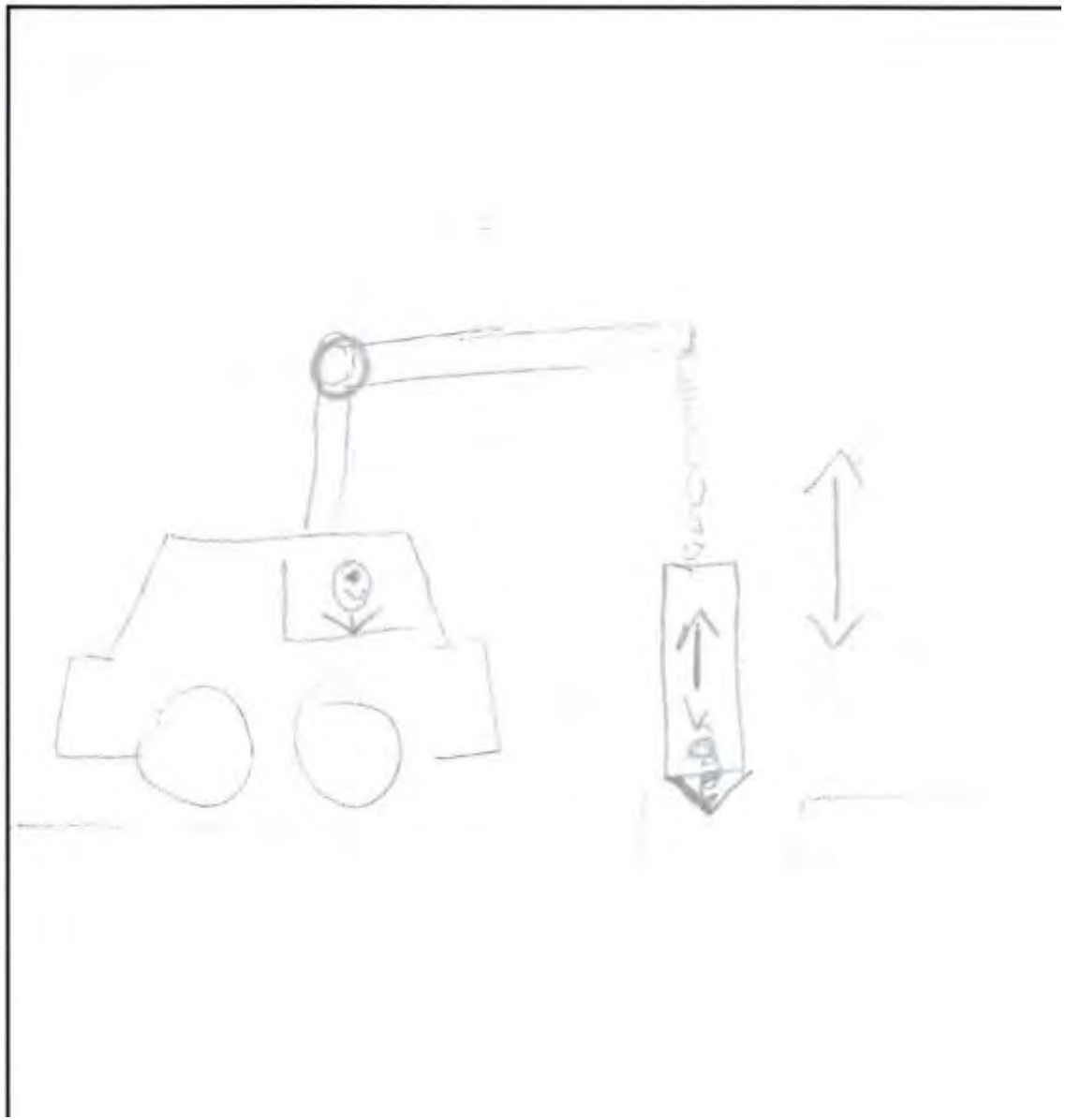


Non-expert

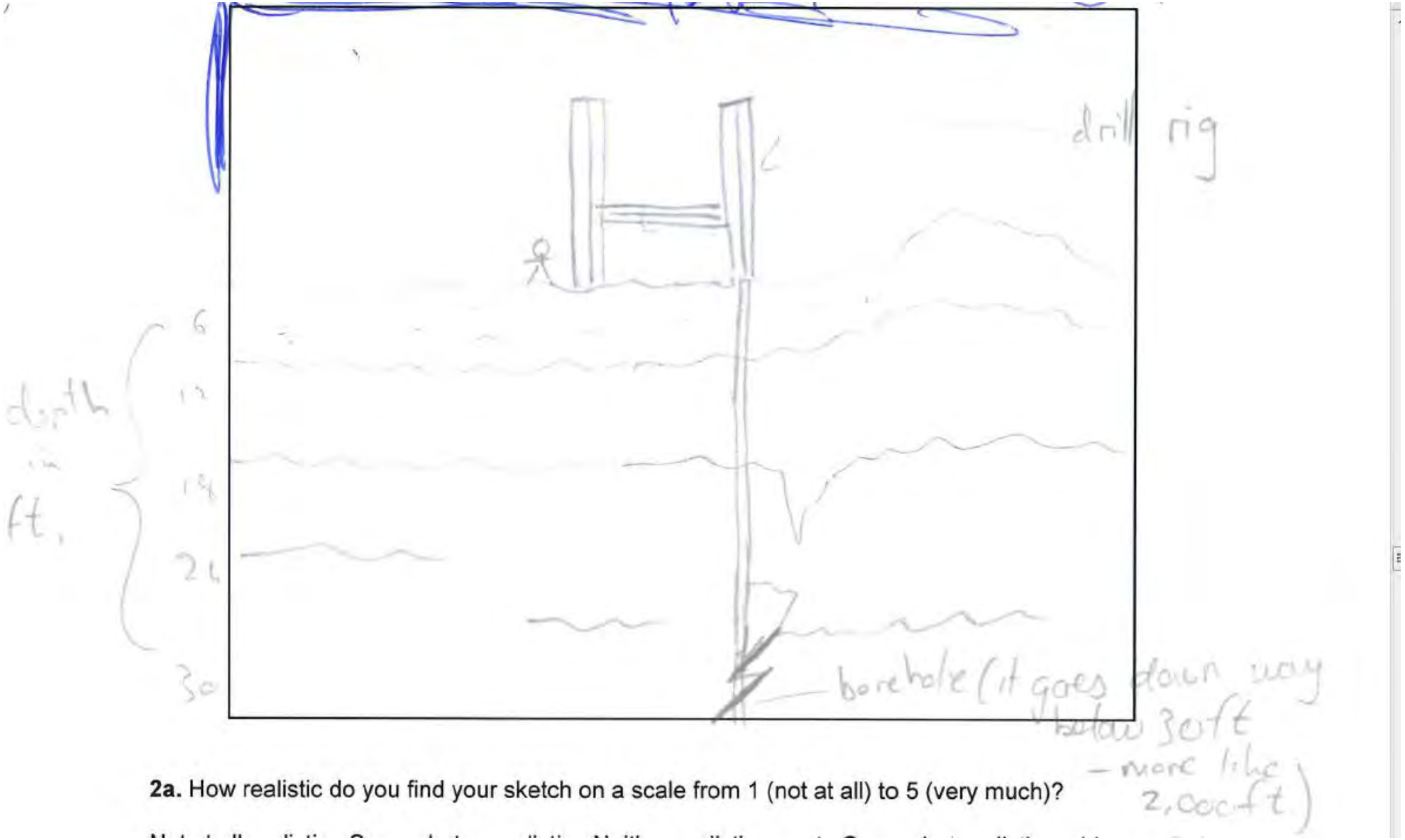
PLEASE STAY INSIDE THE BOX!



Non-expert



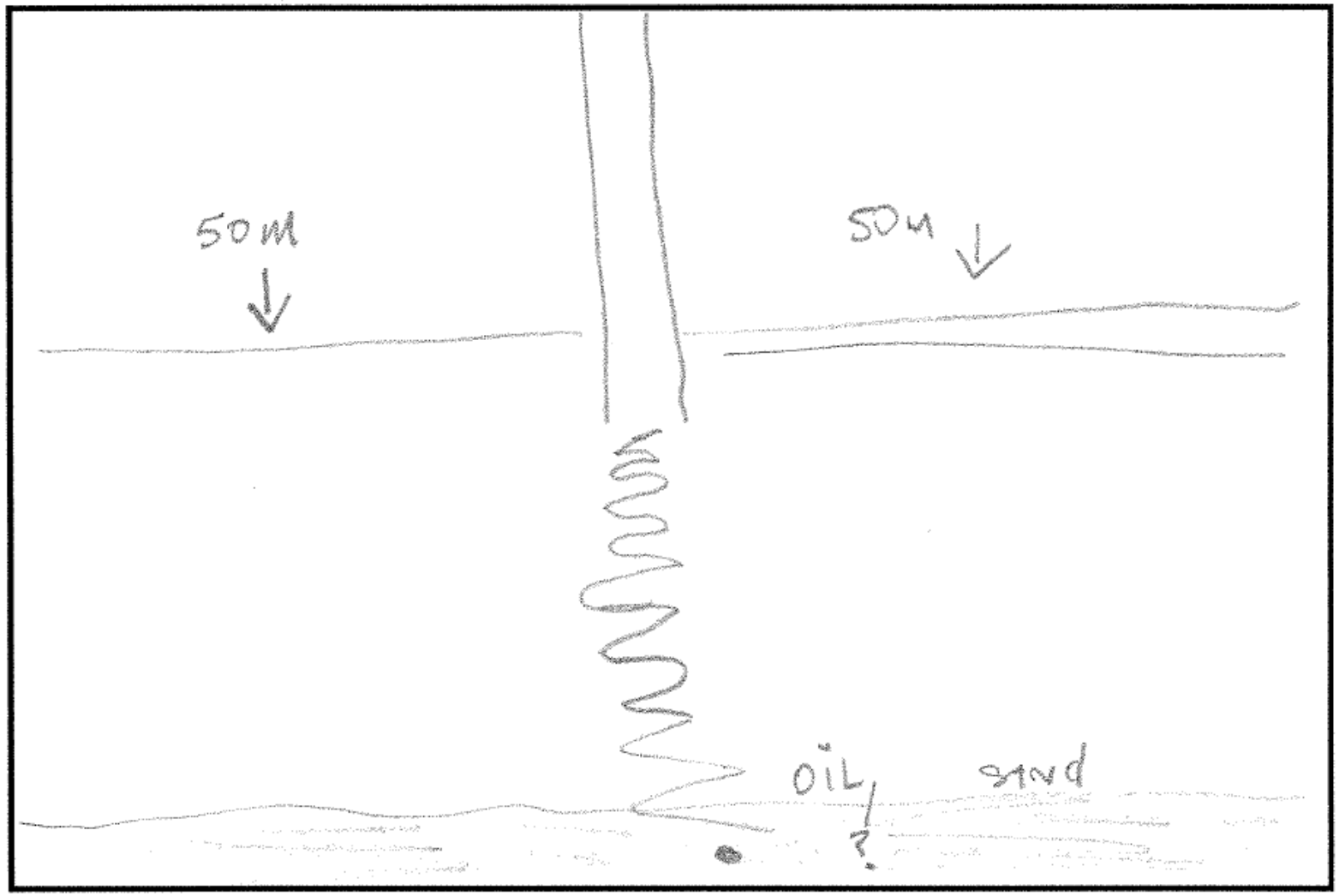
Non-expert



2a. How realistic do you find your sketch on a scale from 1 (not at all) to 5 (very much)?

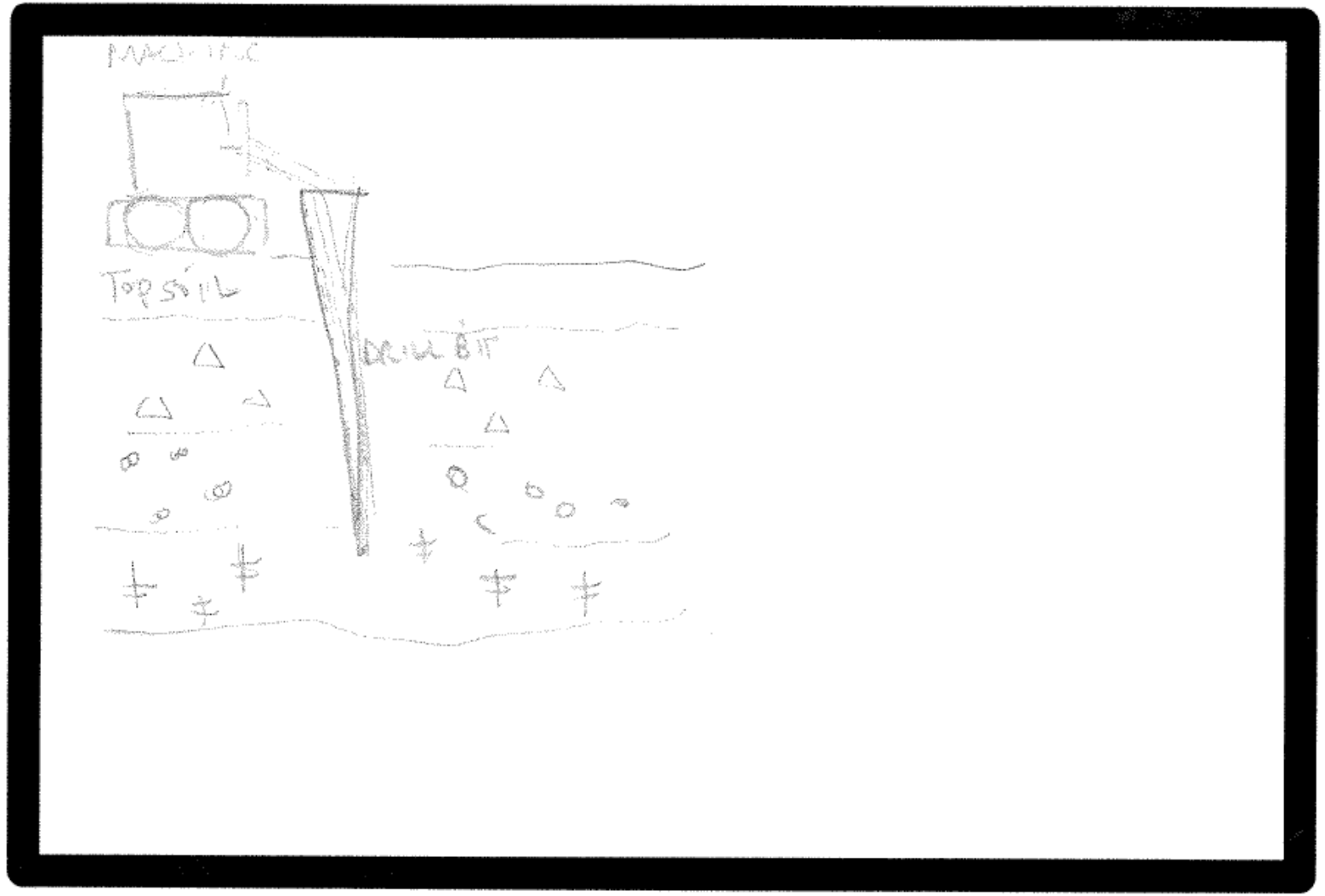
Non-expert

PLEASE STAY INSIDE THE BOX!

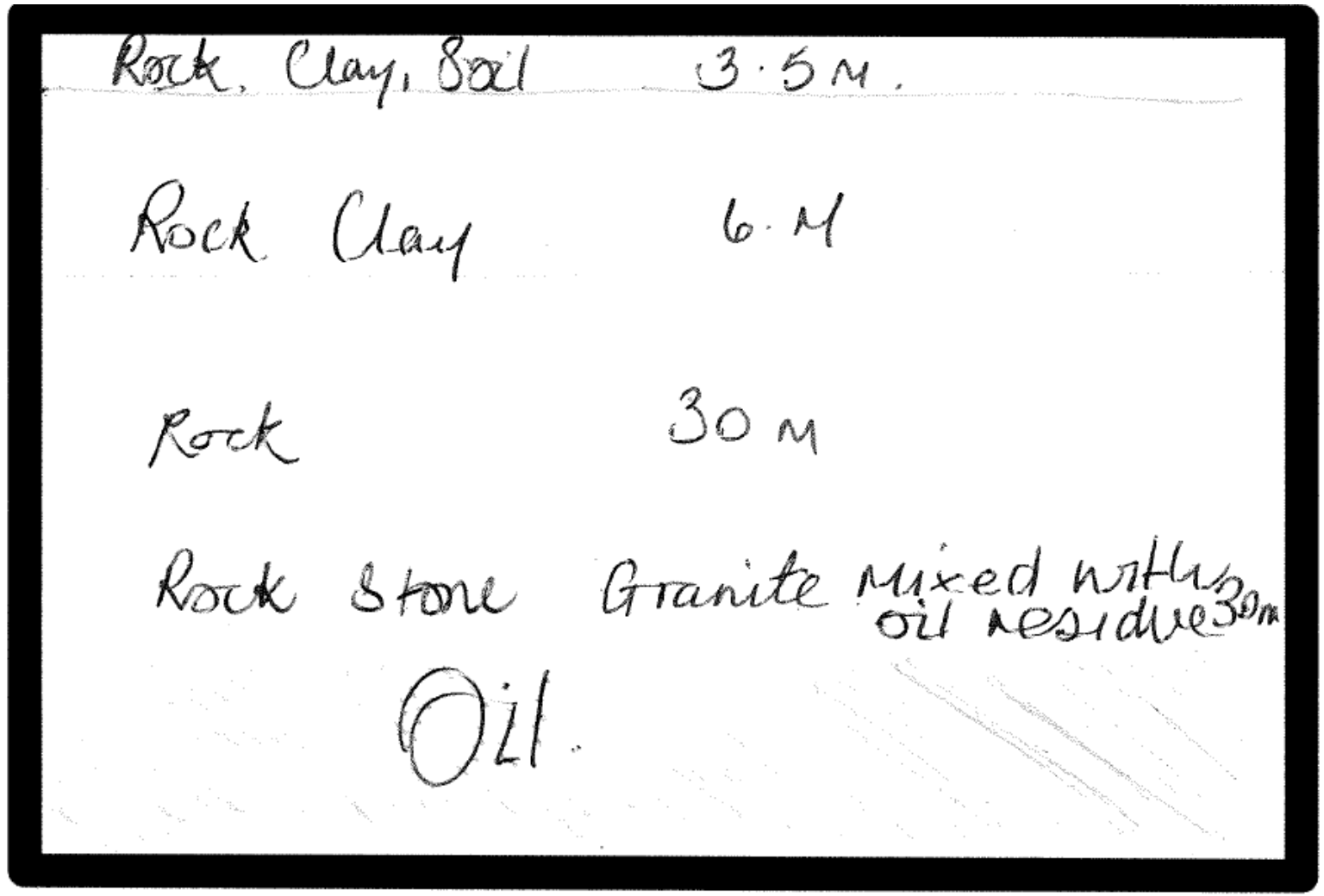


Non-expert

PLEASE STAY INSIDE THE BOX!



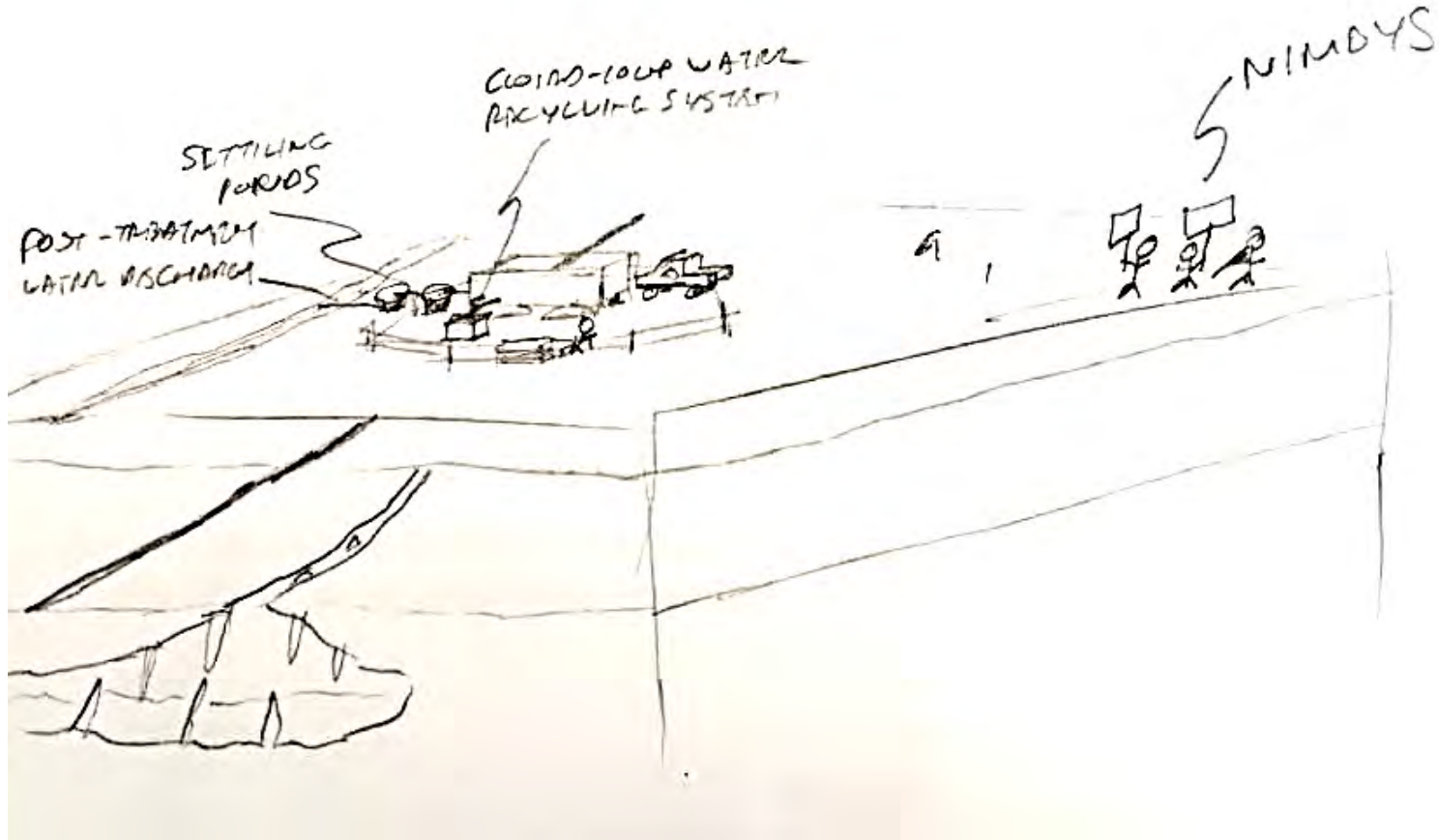
Non-expert


Rock, Clay, Soil 3.5M.
Rock Clay 6.M
Rock 30 M
Rock Stone Granite Mixed with oil residue 30m
Oil.

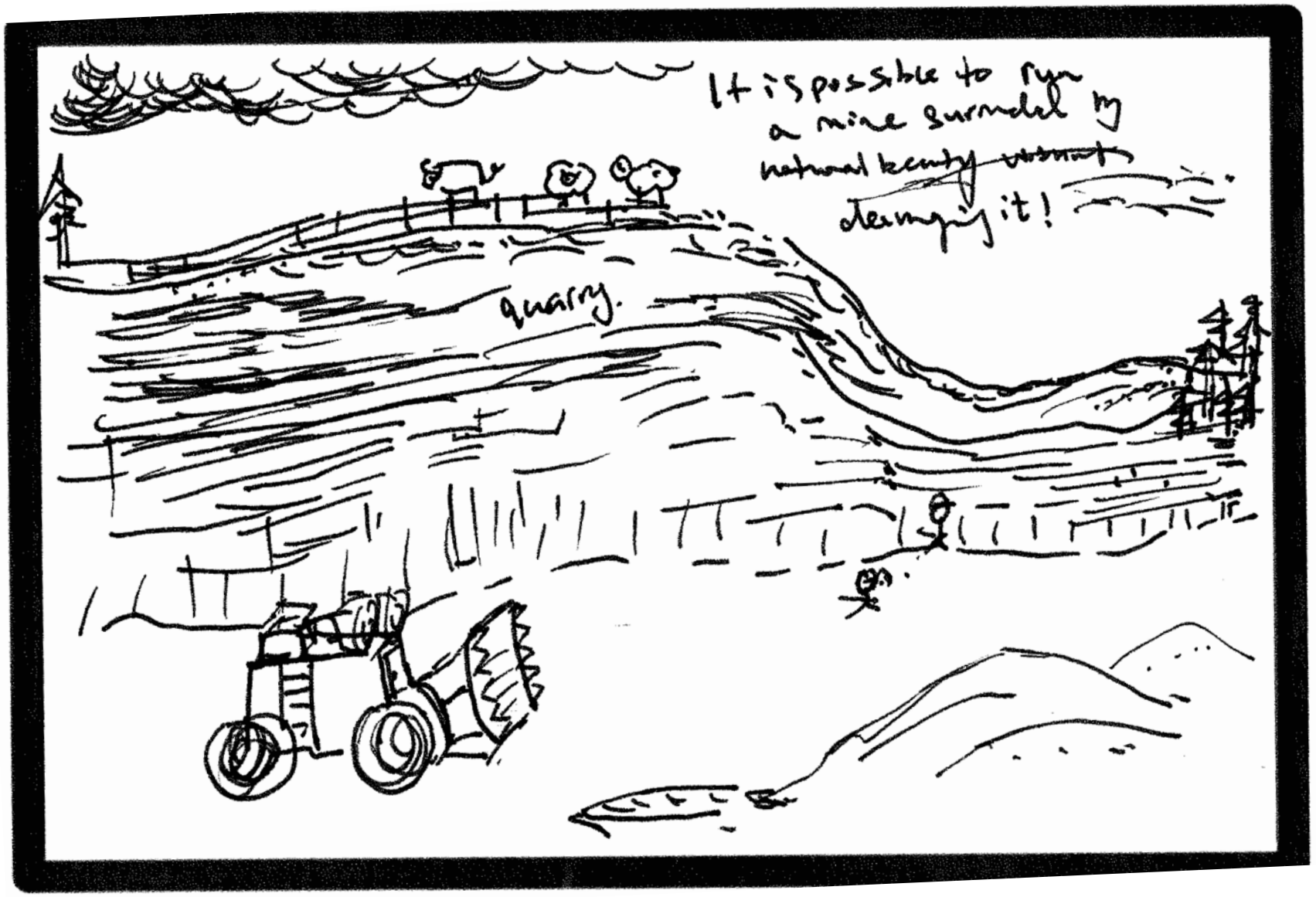
Non-expert

Mining/quarrying

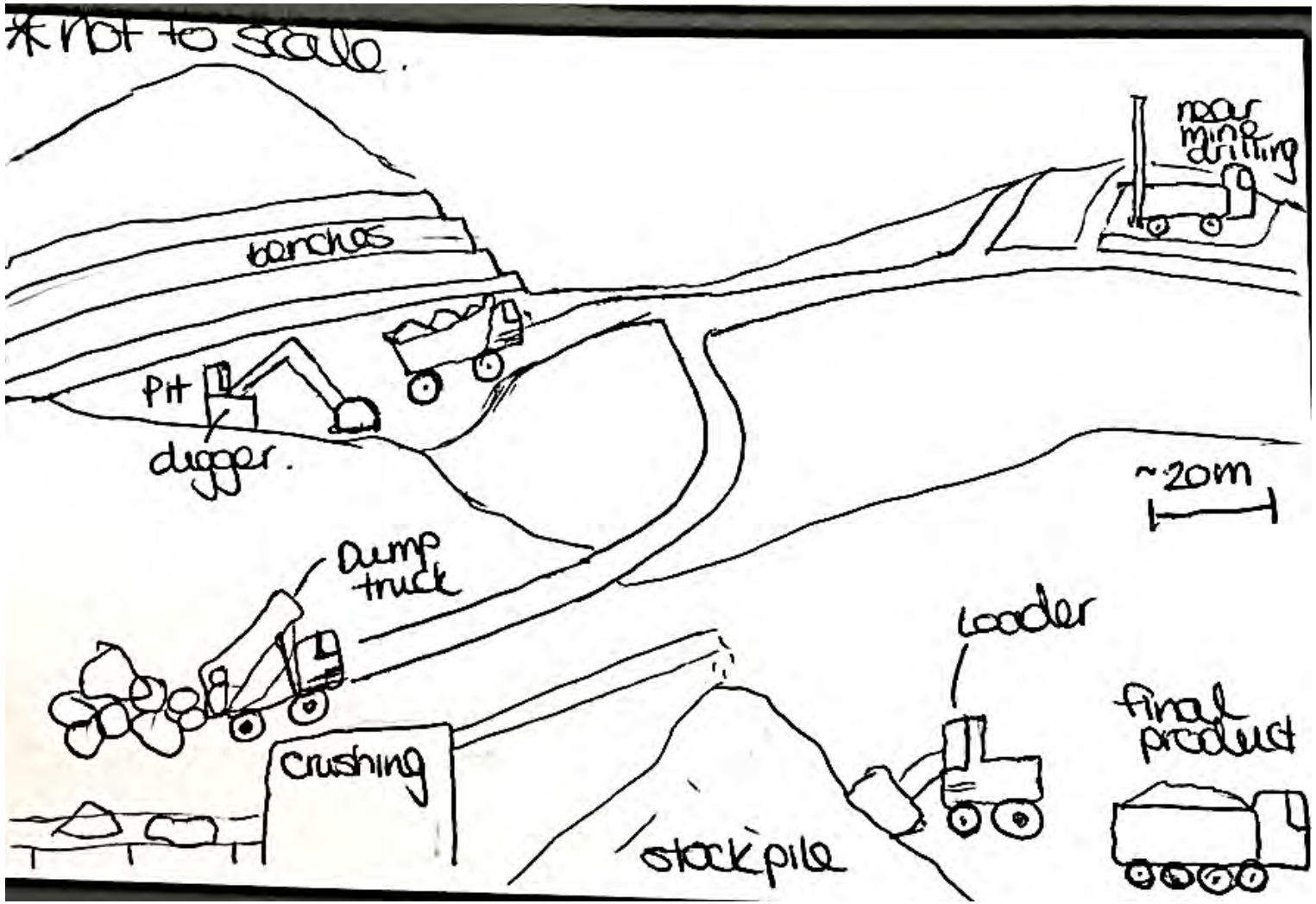
- *Imagine that a mining or quarrying company has come to County Clare. Please sketch what the quarrying or mining activity would look like*


SETTLING PONDS
POST-TREATMENT WATER DISCHARGE
CLOSED-LOOP WATER RECYCLING SYSTEM
NIMBYS

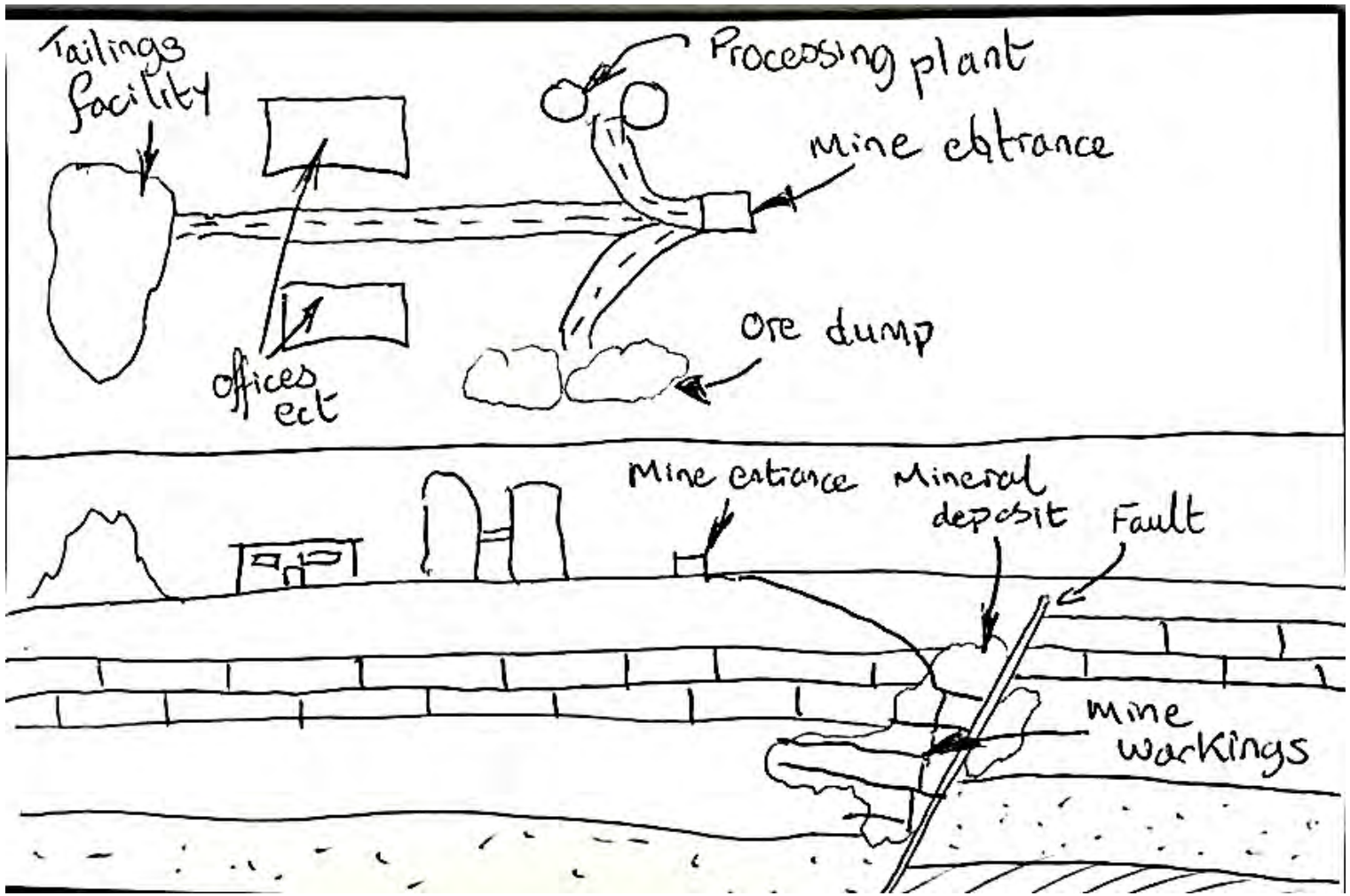
Expert


It is possible to run
a mine surrounded by
natural beauty
damaging it!
quarry.

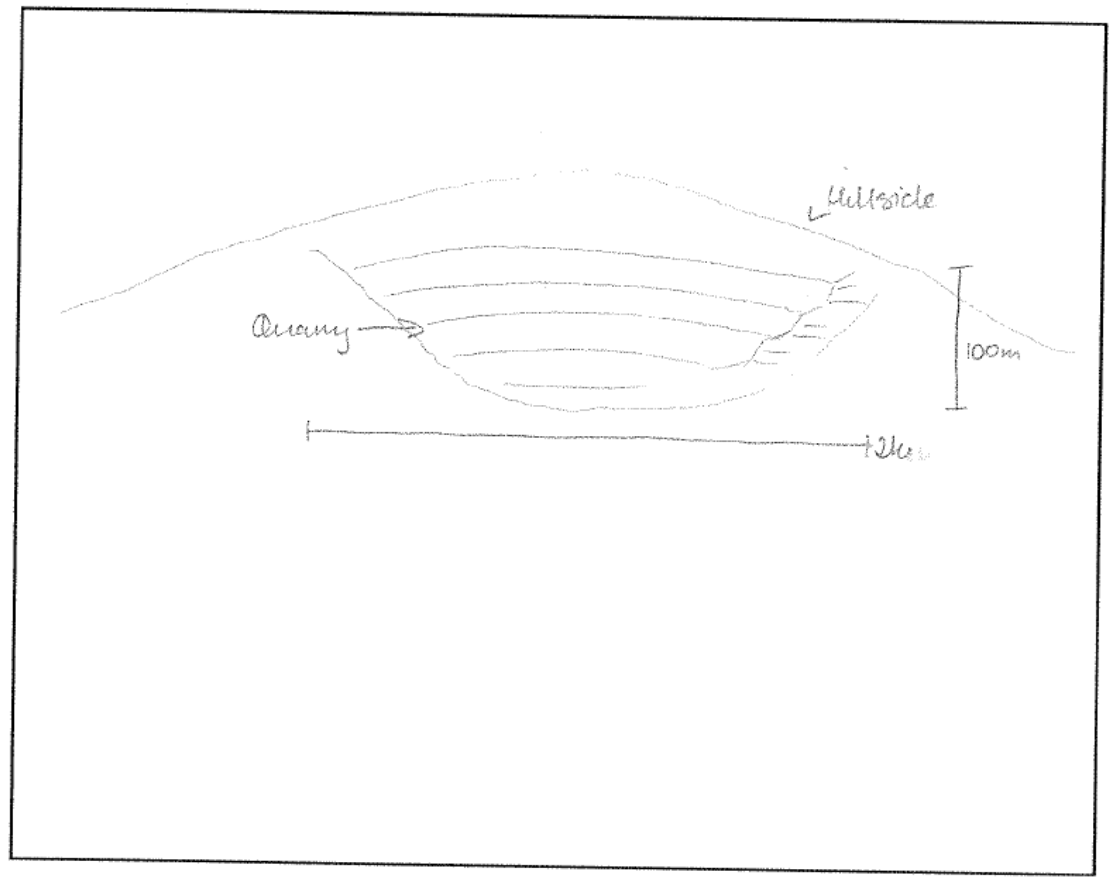
Expert


*not to scale.
near mine drilling
benches
Pit
digger.
~20m
dump truck
loader
final product
crushing
stockpile

Expert

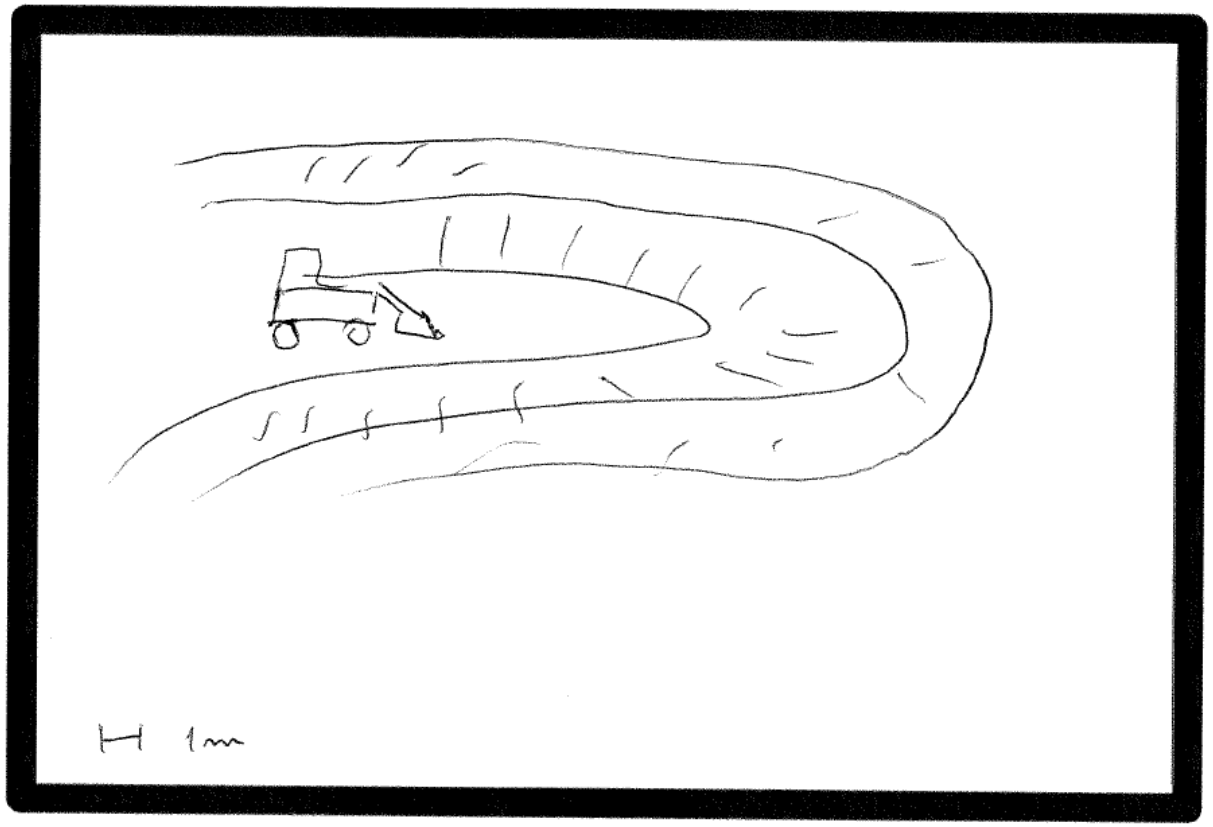

Tailings facility
Processing plant
Mine entrance
Ore dump
offices ect
Mine entrance
Mineral deposit
Fault
mine workings

Expert



Expert

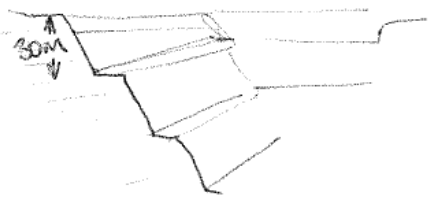
PLEASE STAY INSIDE THE BOX!



Expert

PLEASE STAY INSIDE THE BOX!

MINERALS



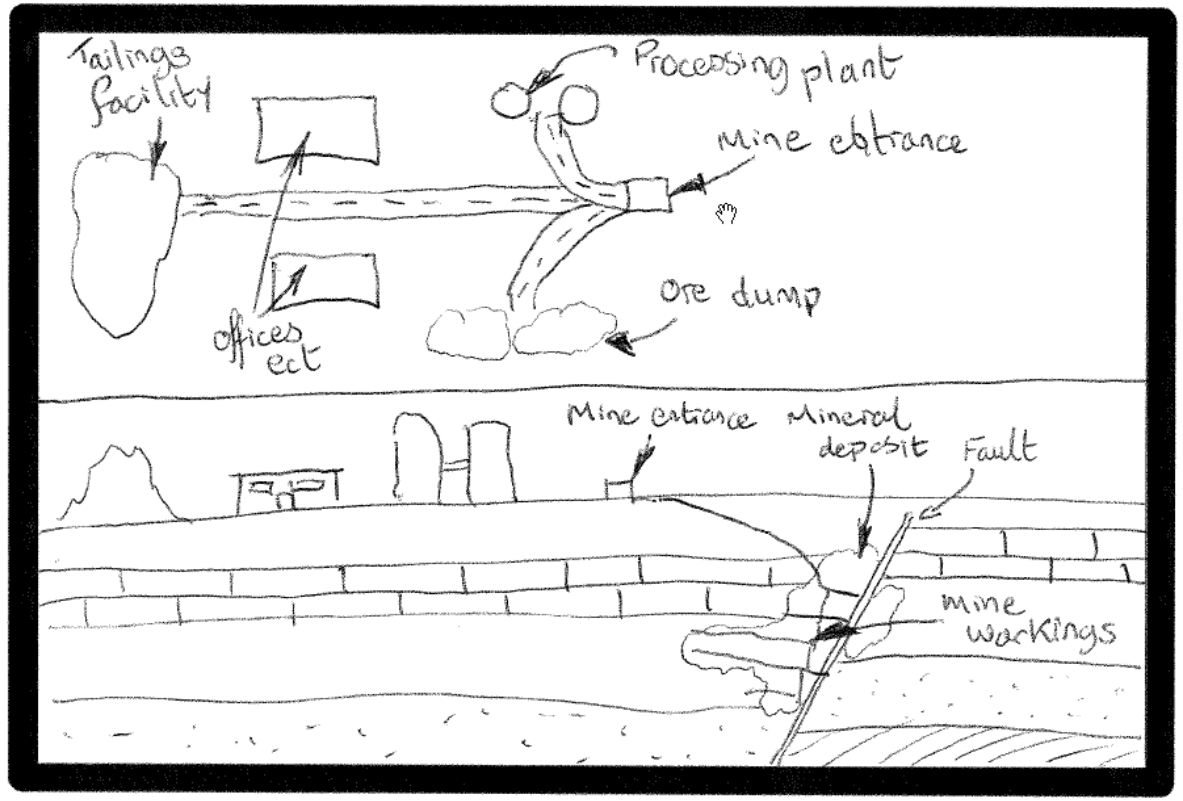
OPEN PIT MINE

AGGREGATE

TRUCK TAKING OF THE AGGREGATES

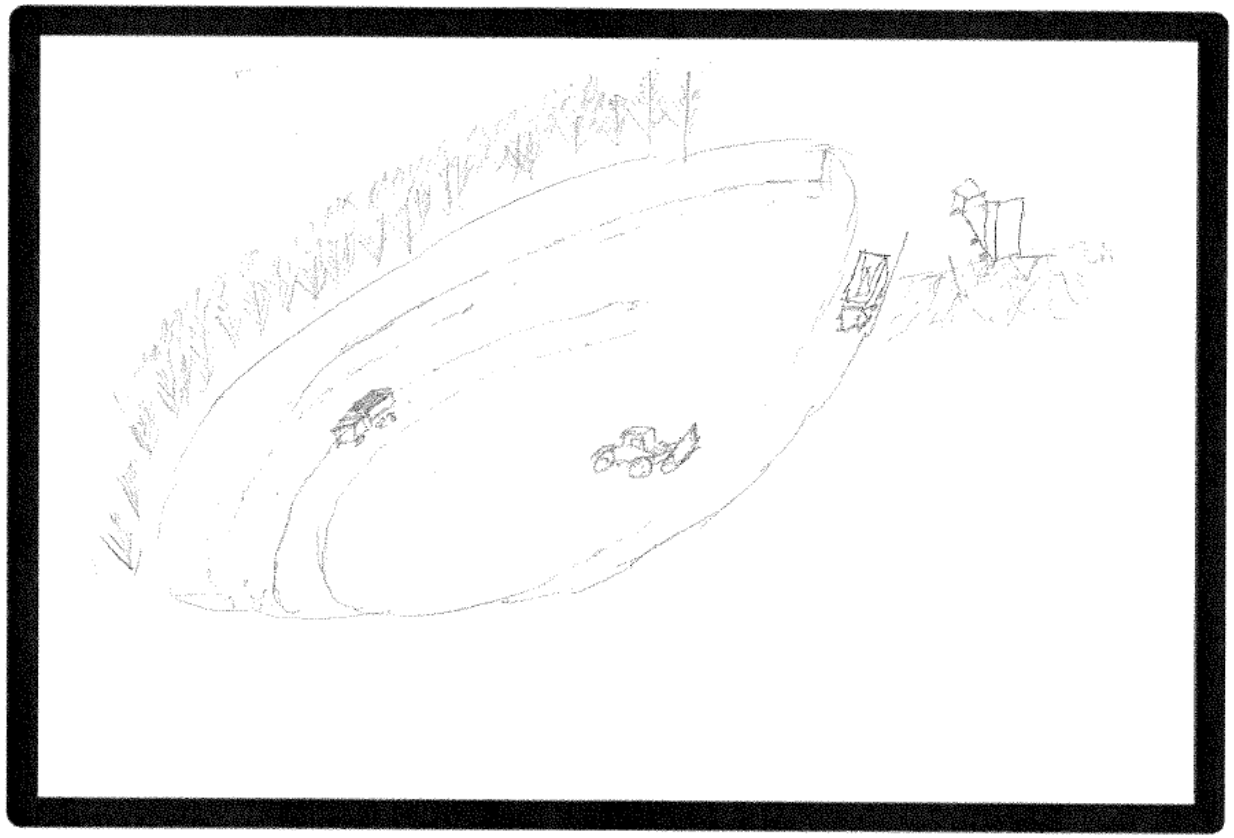
Expert

PLEASE STAY INSIDE THE BOX!



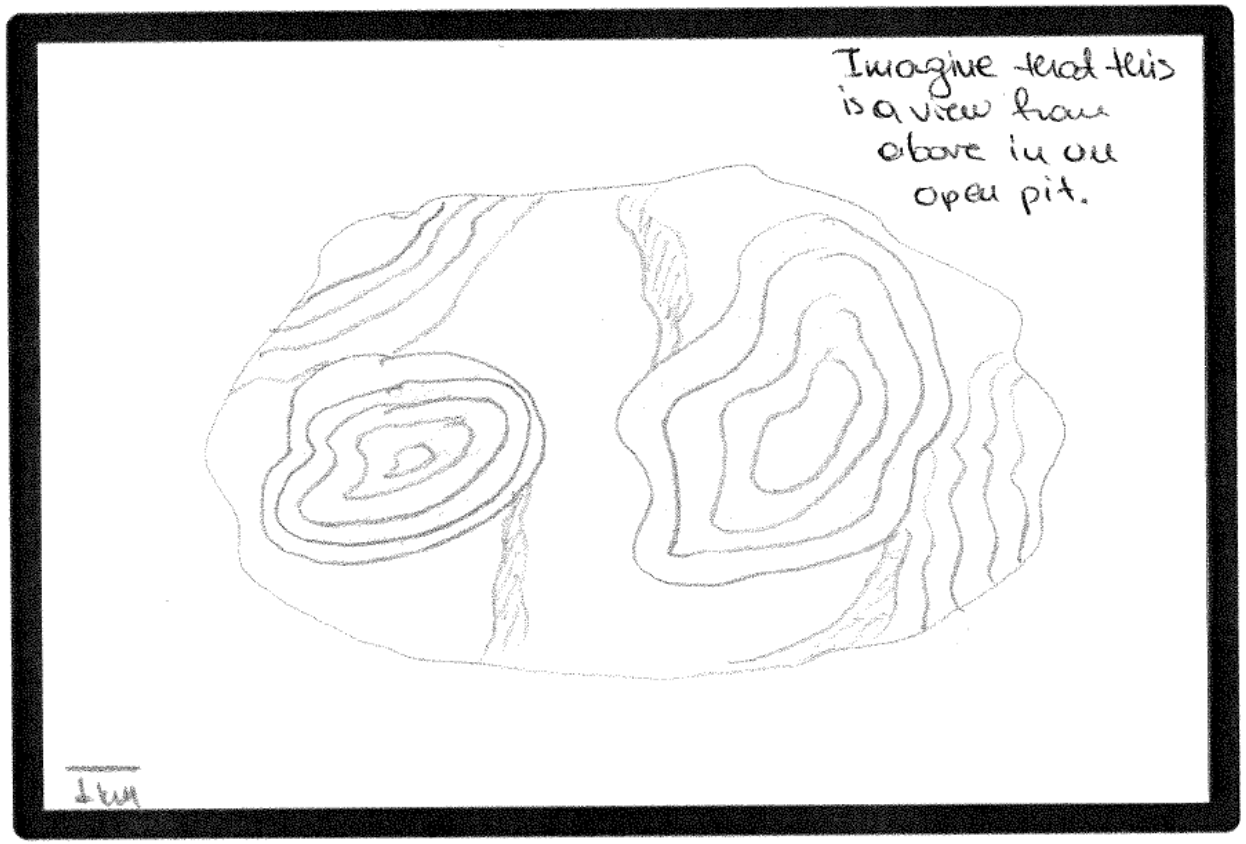
Expert

PLEASE STAY INSIDE THE BOX!



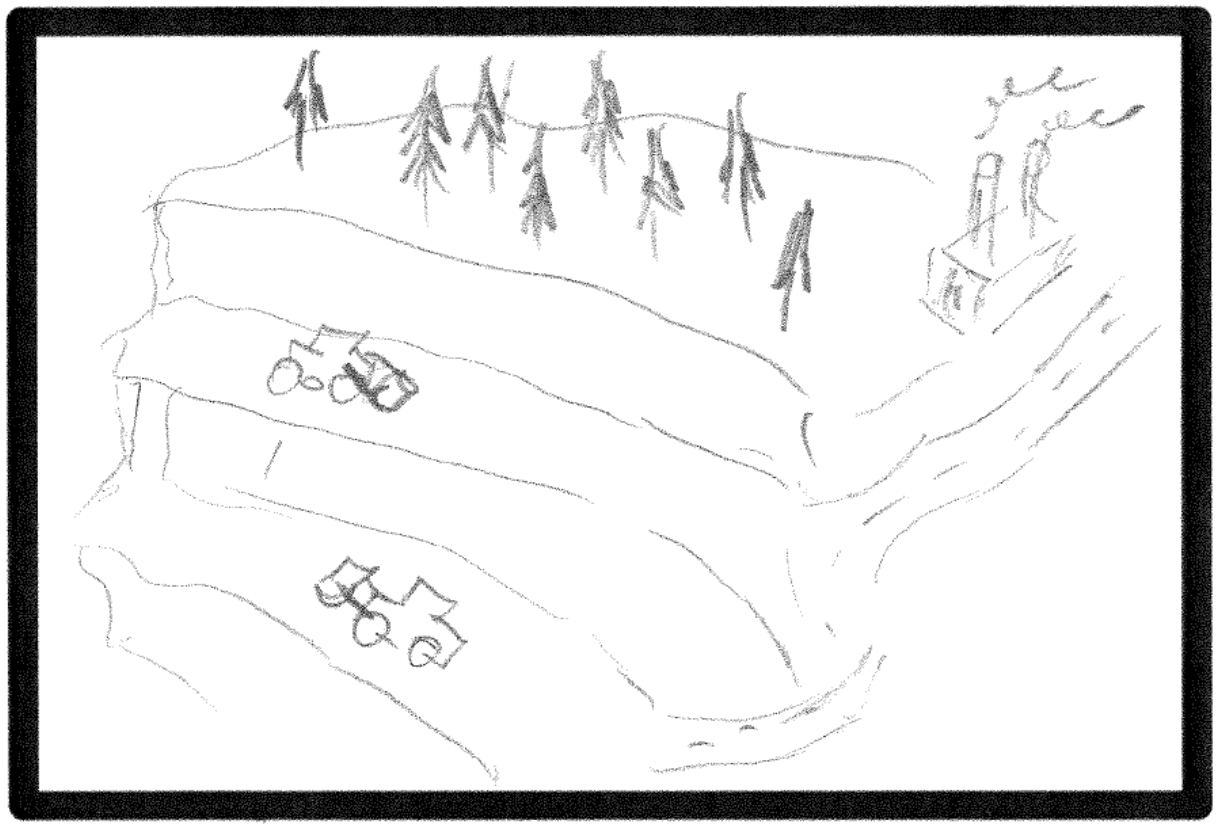
Expert

PLEASE STAY INSIDE THE BOX!



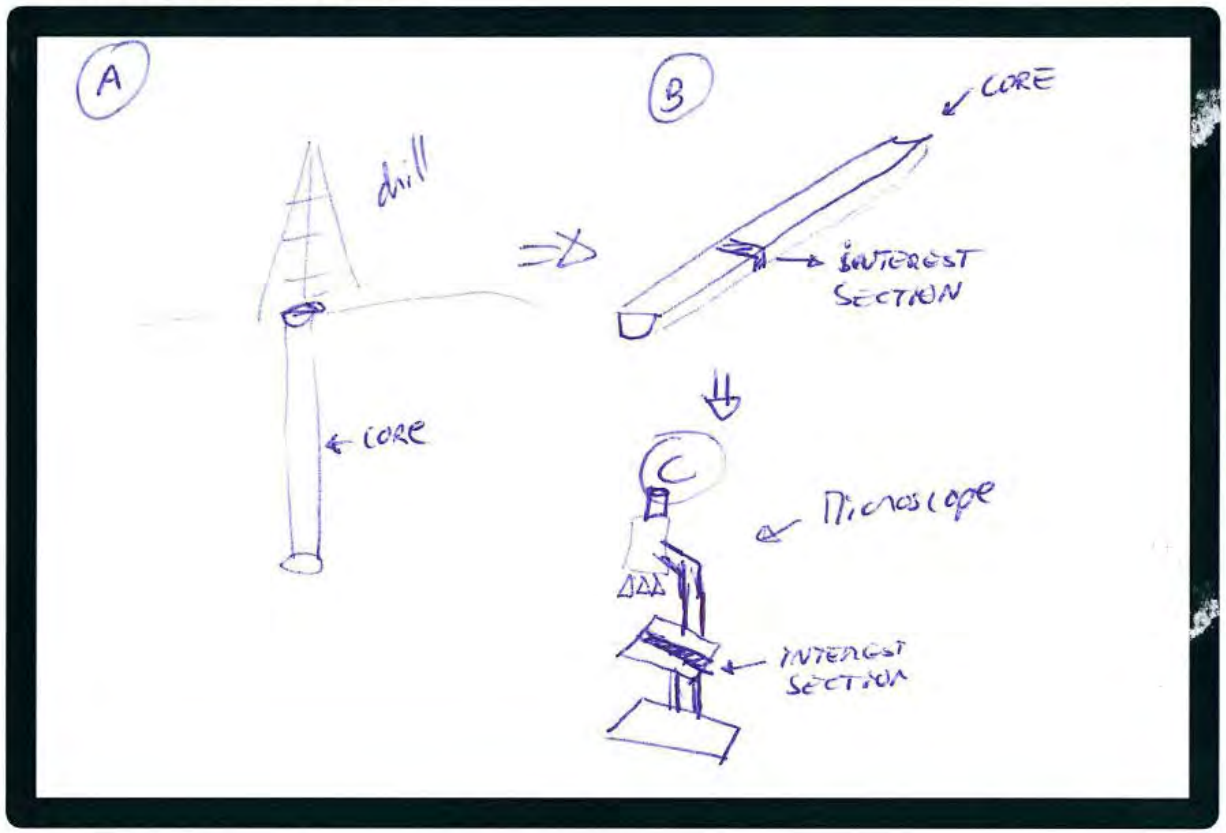
Expert

PLEASE STAY INSIDE THE BOX!

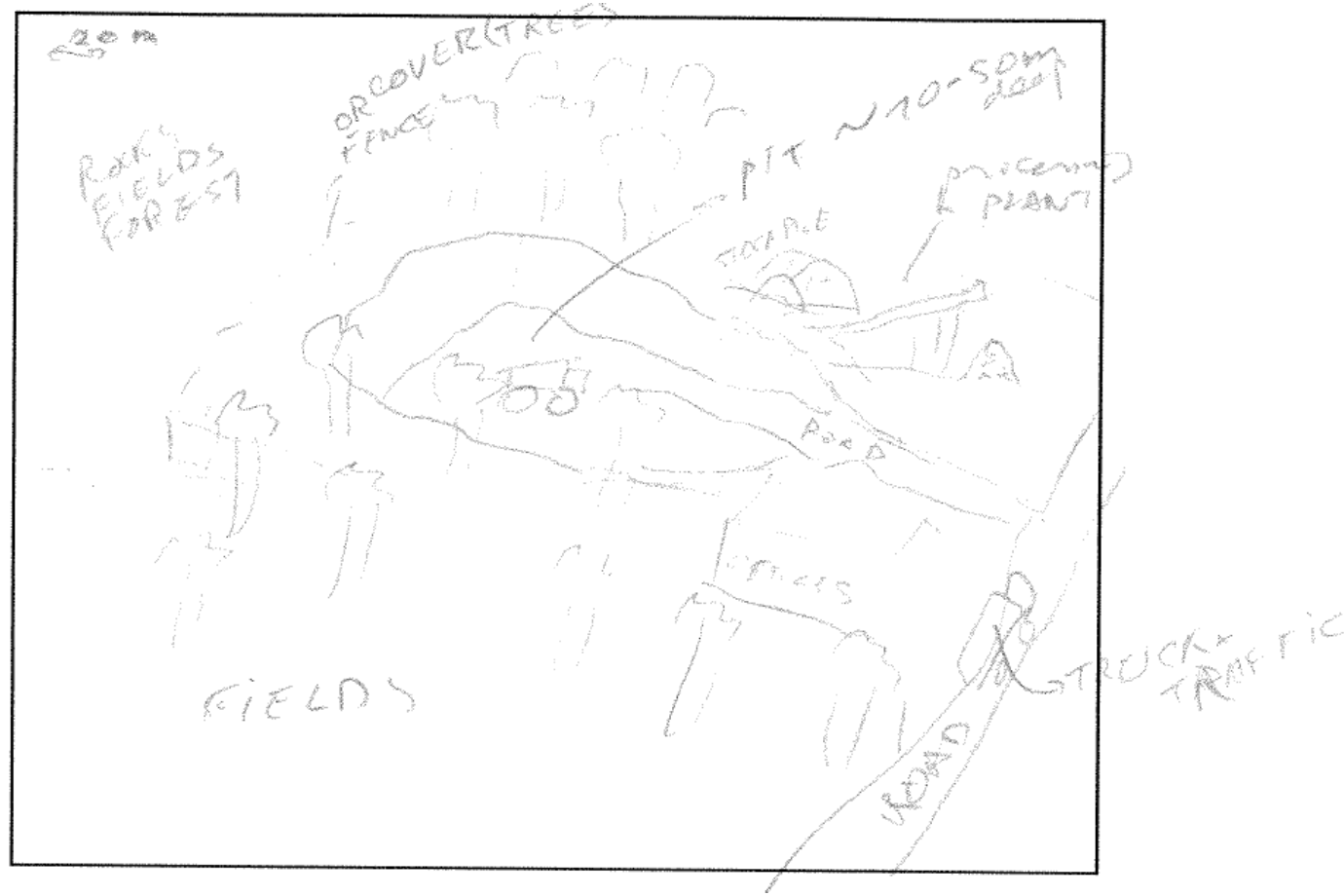


Expert

PLEASE STAY INSIDE THE BOX!

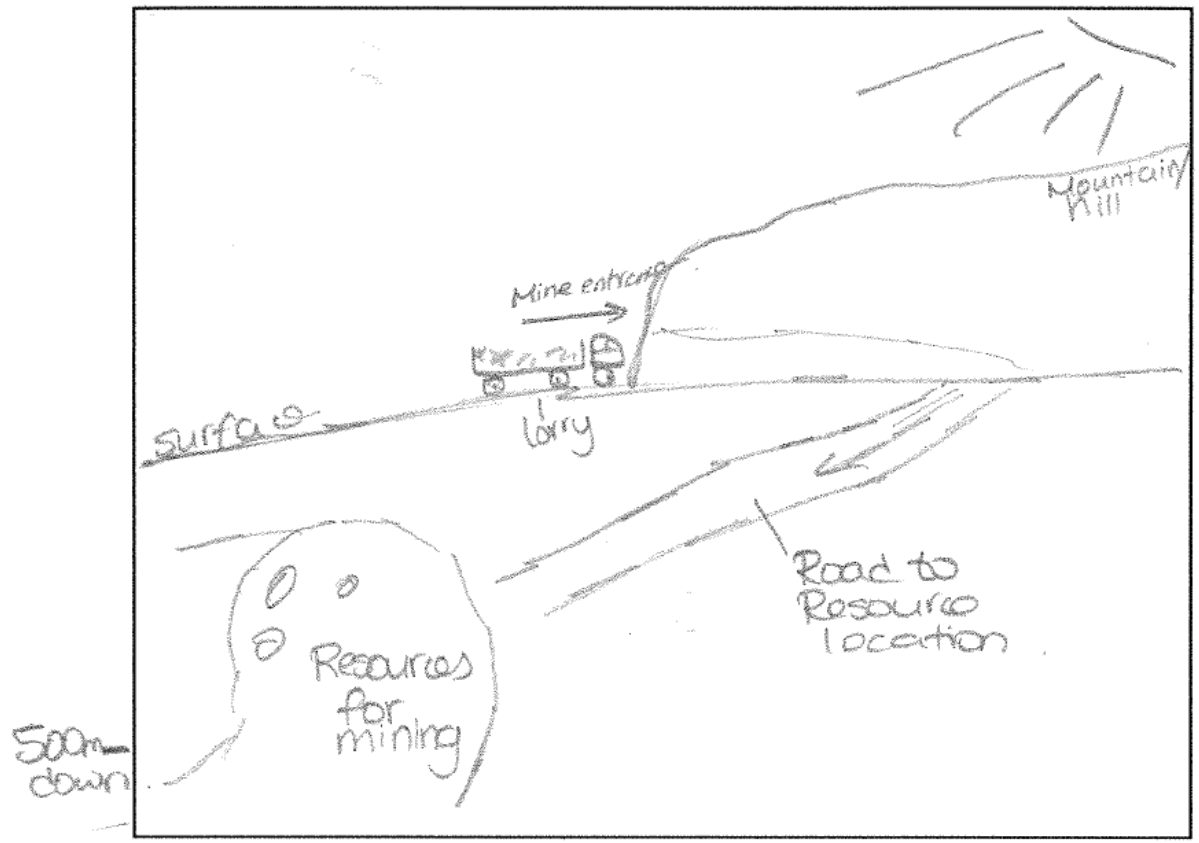


Expert


20 m
OR COVER (TREES)
FENCE
~10-50m
PIT
PROCESSING PLANT
ROAD
FIELDS
FIELDS
TRUCK TRAFFIC
ROAD

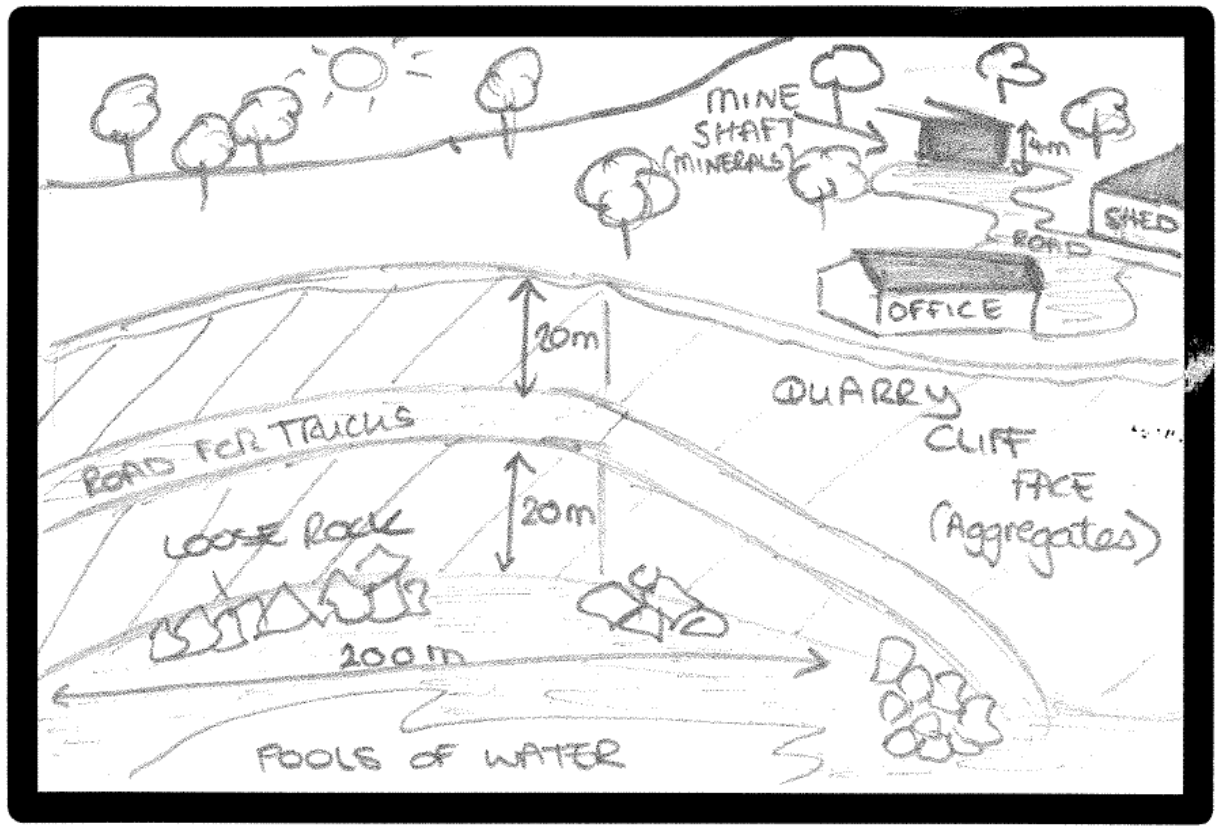
Expert

drawing in an appropriate unit (m/cm/km etc).



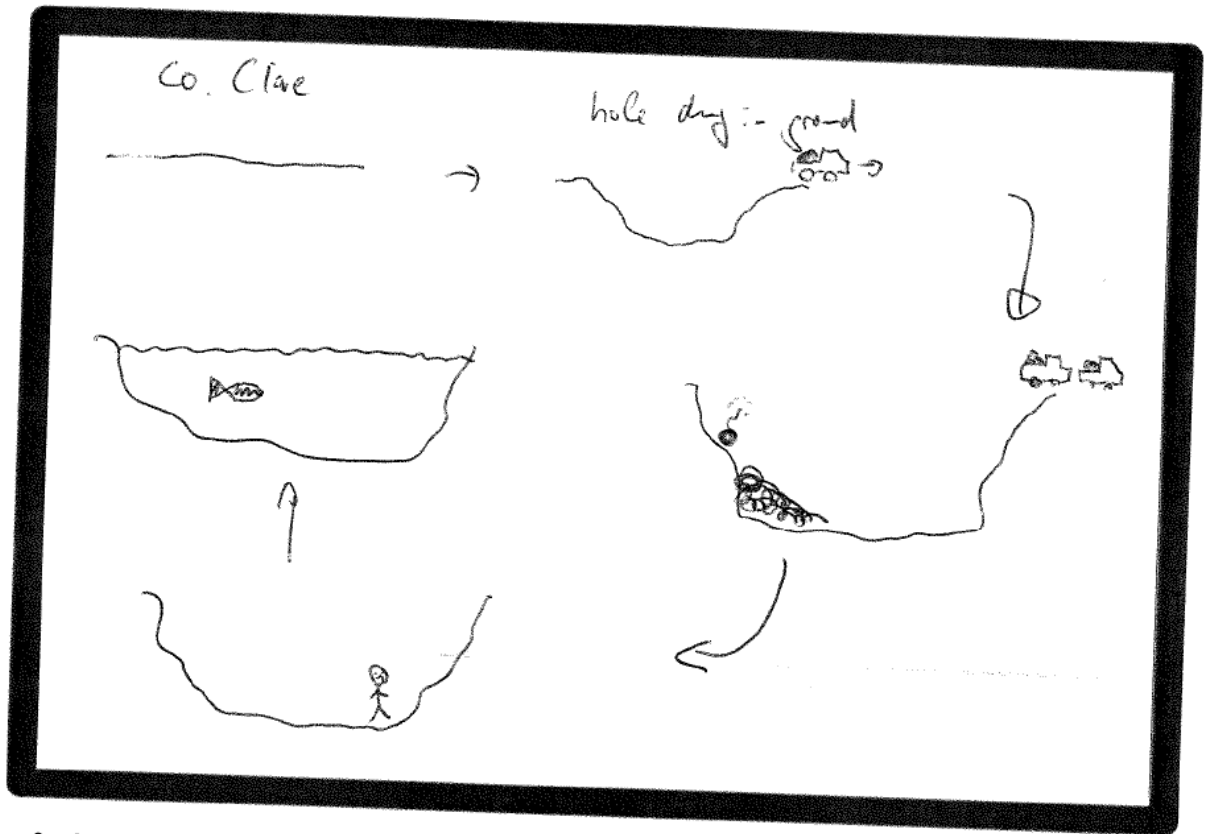
Expert

PLEASE STAY INSIDE THE BOX!



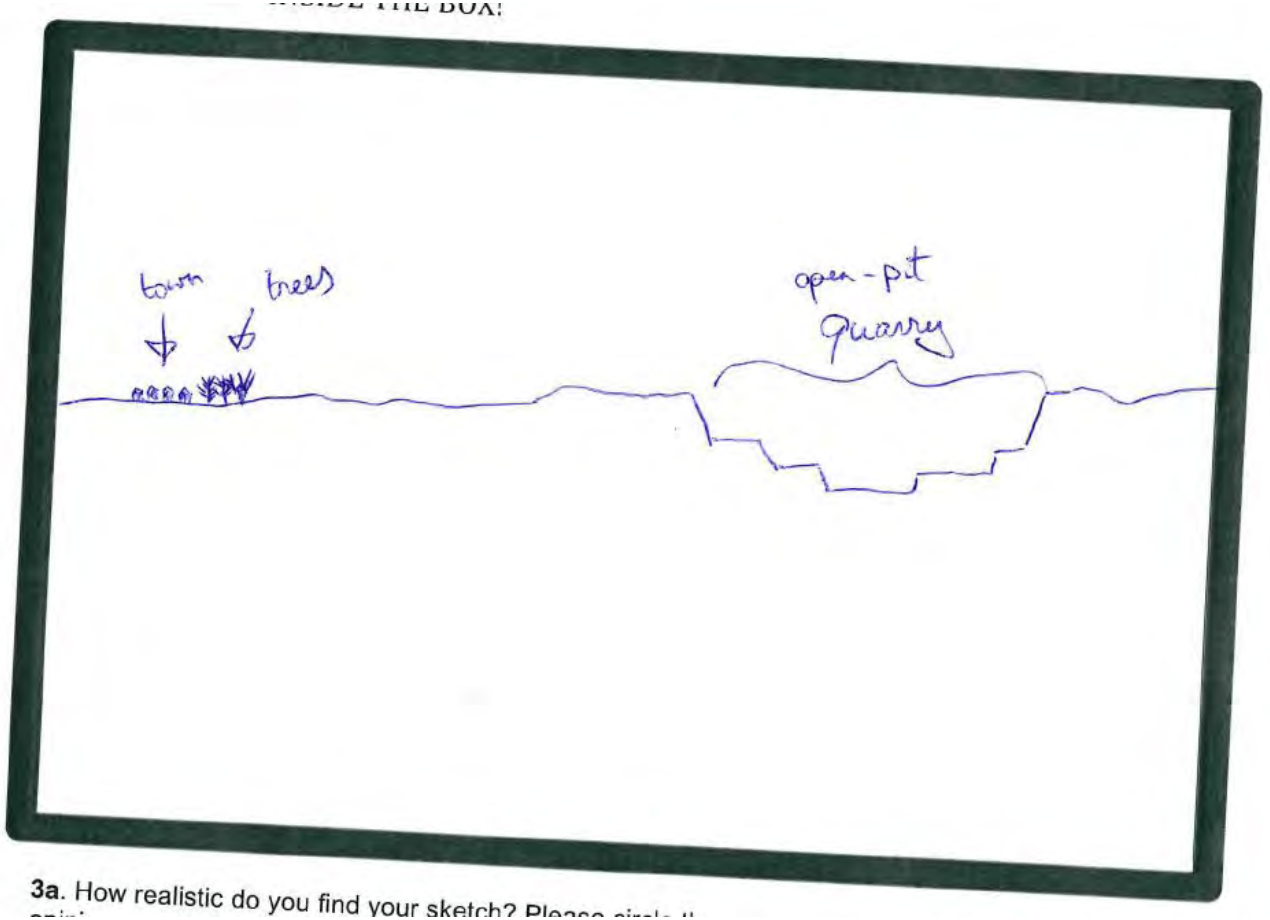
Expert

PLEASE STAY INSIDE THE BOX!



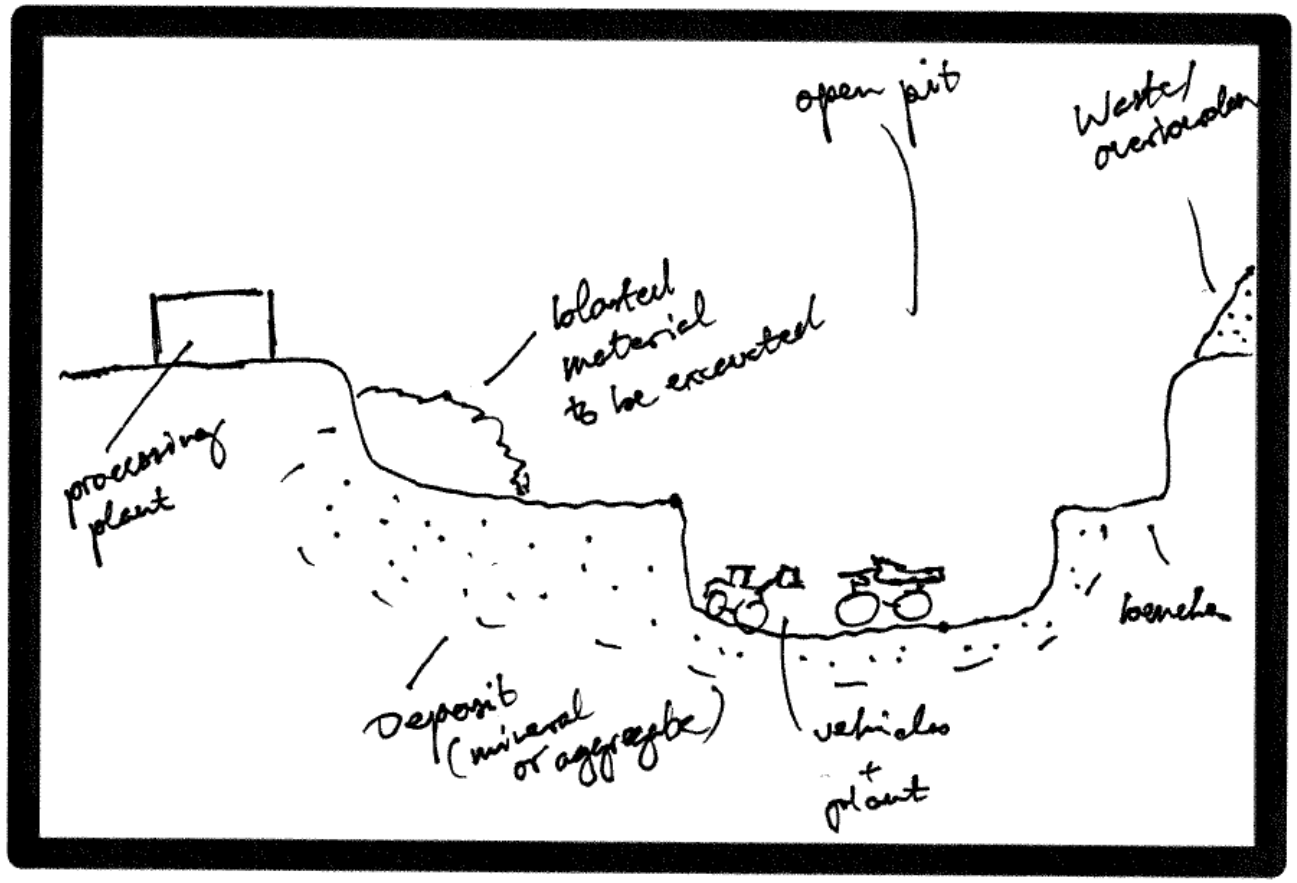
3a. How realistic do you find your sketch? Please circle

Expert

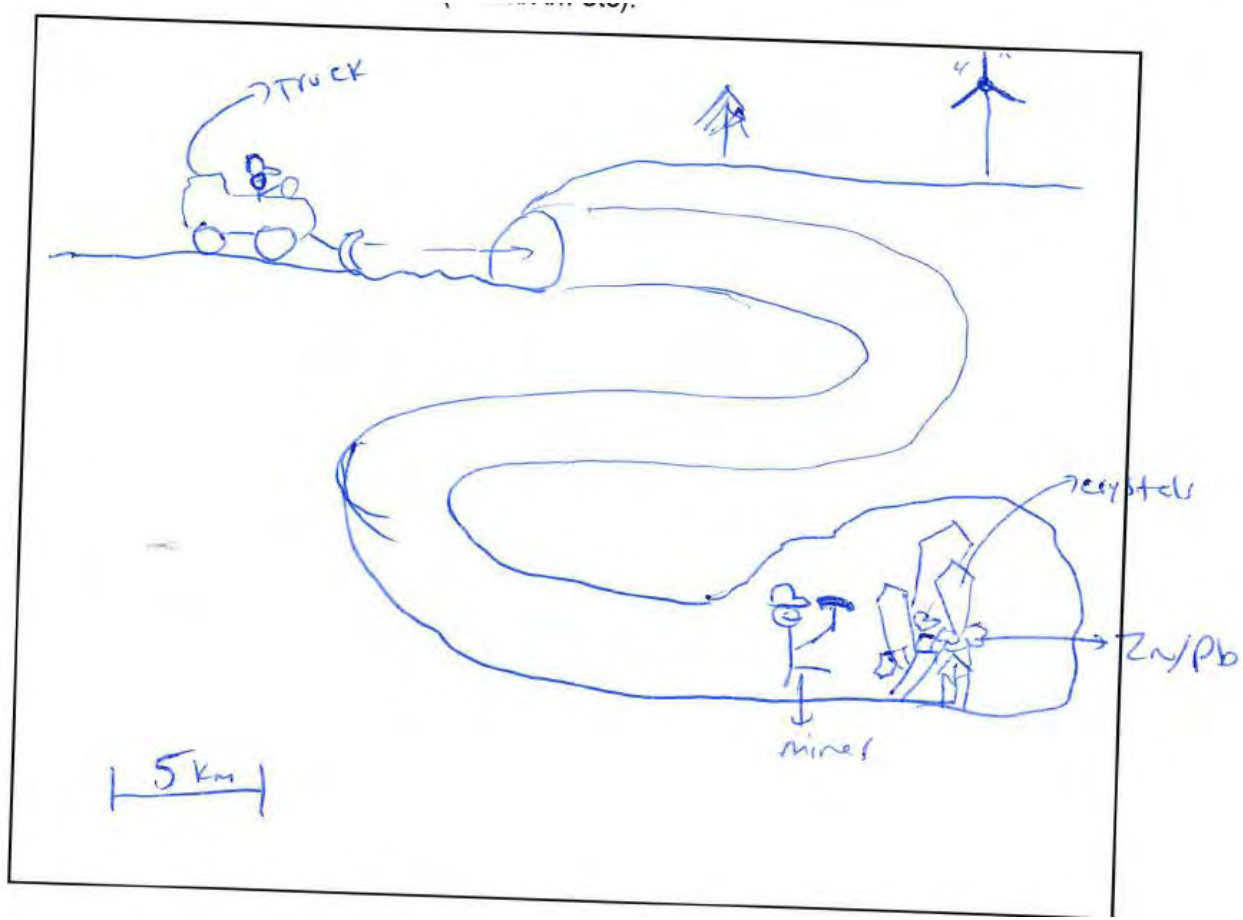


3a. How realistic do you find your sketch? Please circle it

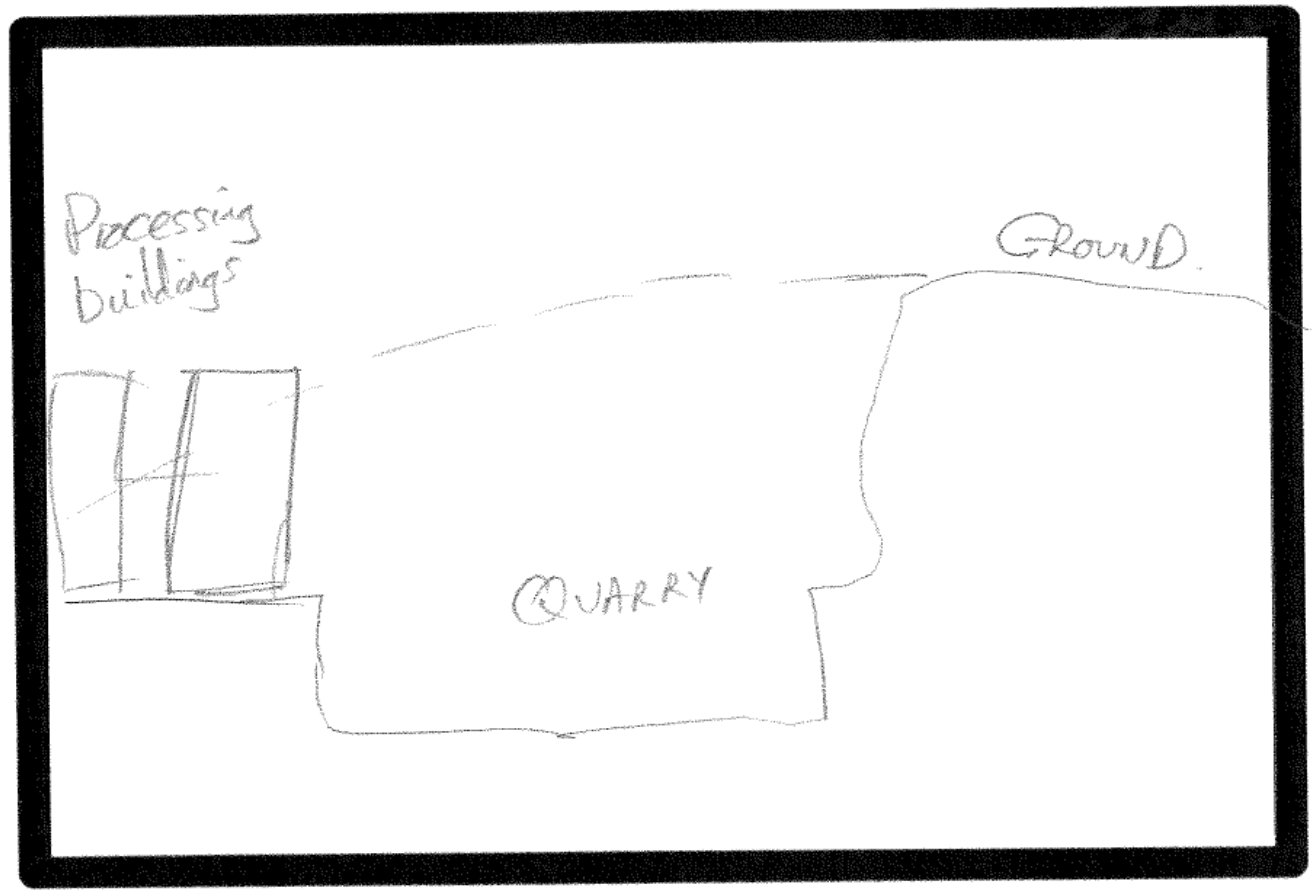
Expert


open pit
Waste/ overburden
blasted material to be excavated
processing plant
bench
deposit (mineral or aggregate)
vehicles + plant

Expert

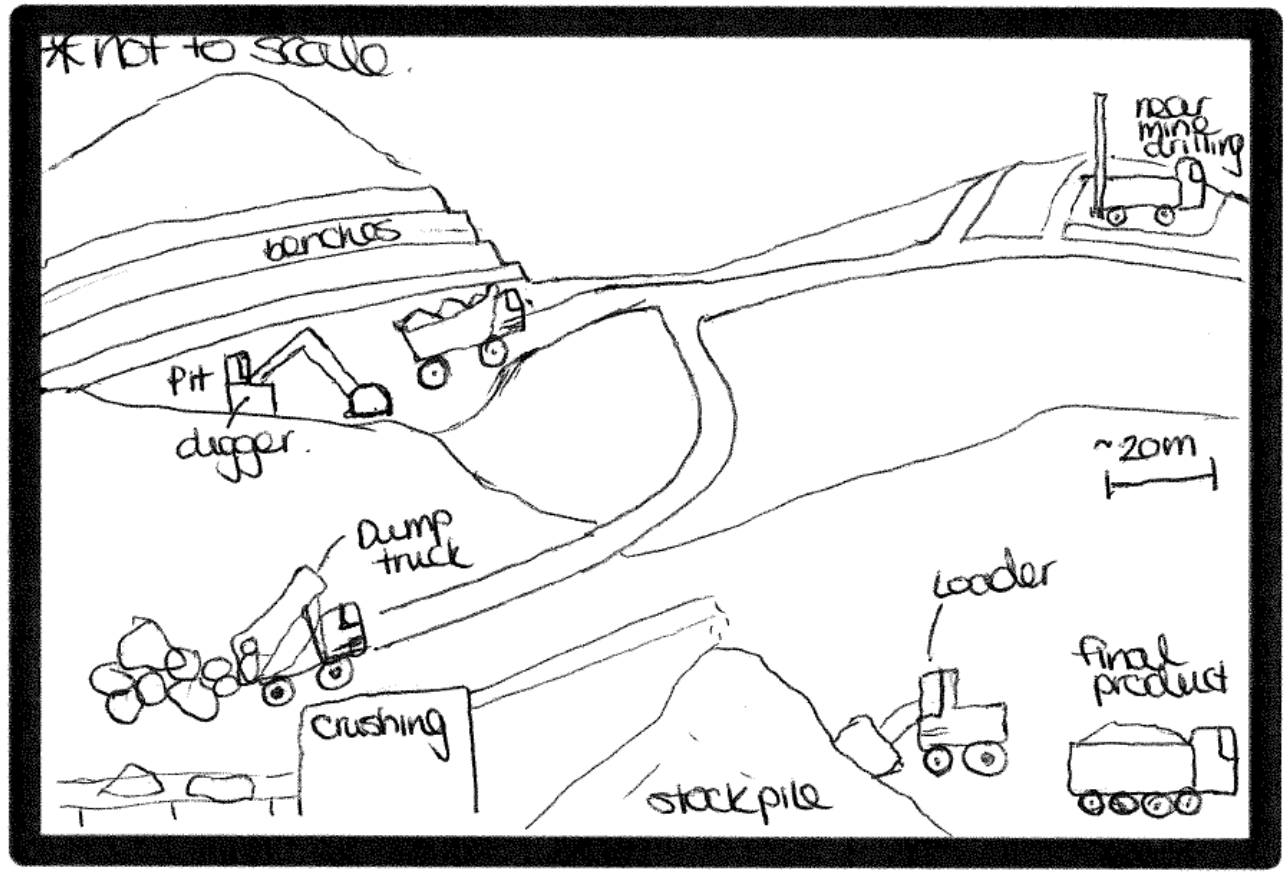


Expert



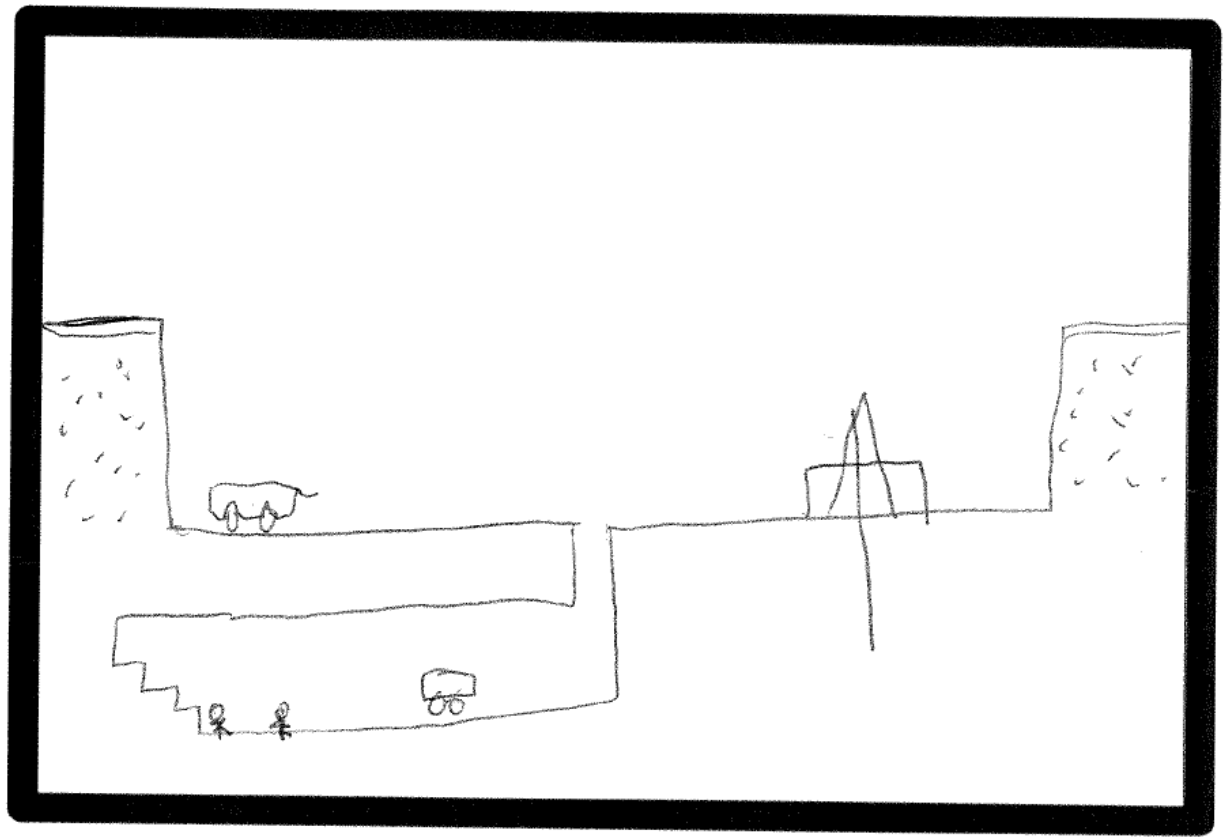
Expert

PLEASE STAY INSIDE THE BOX!

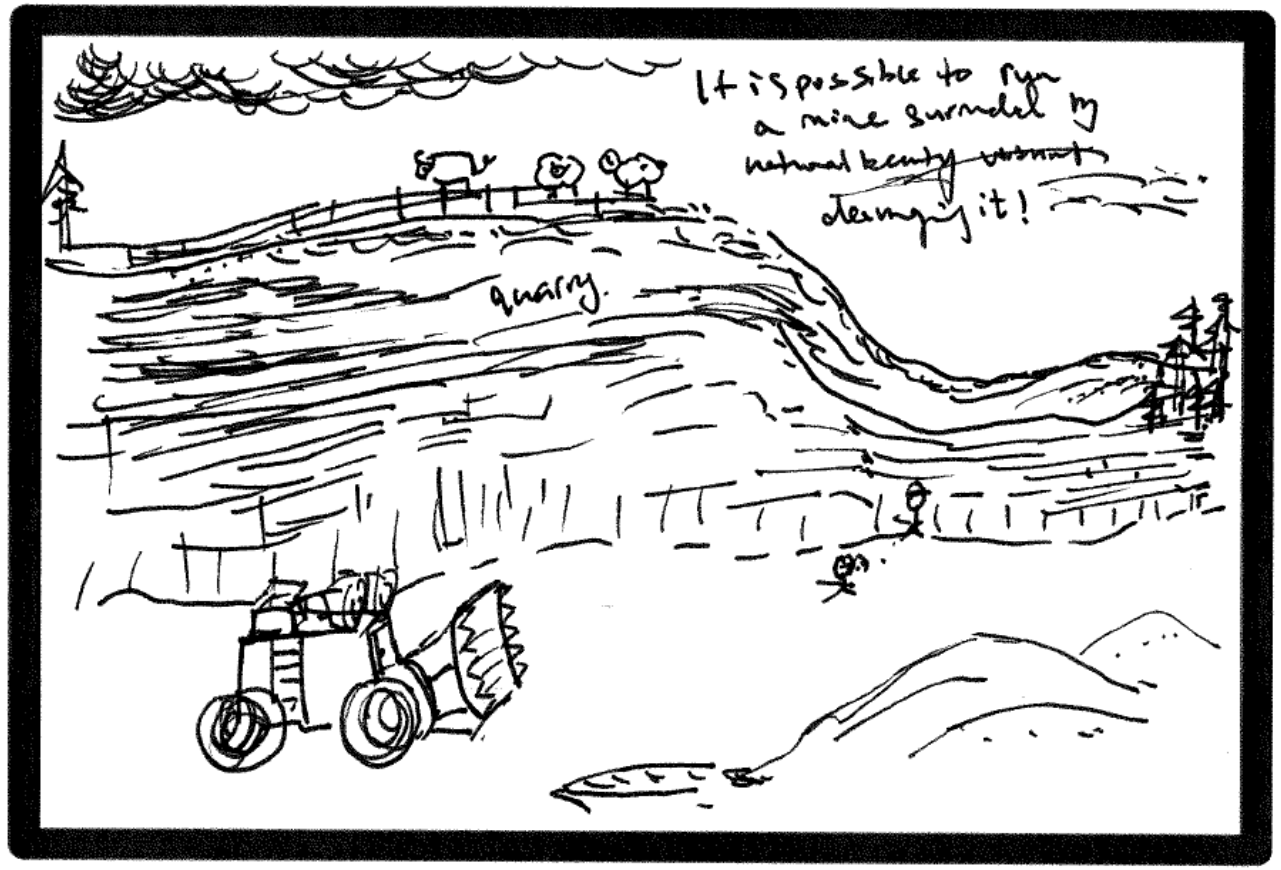


Expert

PLEASE STAY INSIDE THE BOX!

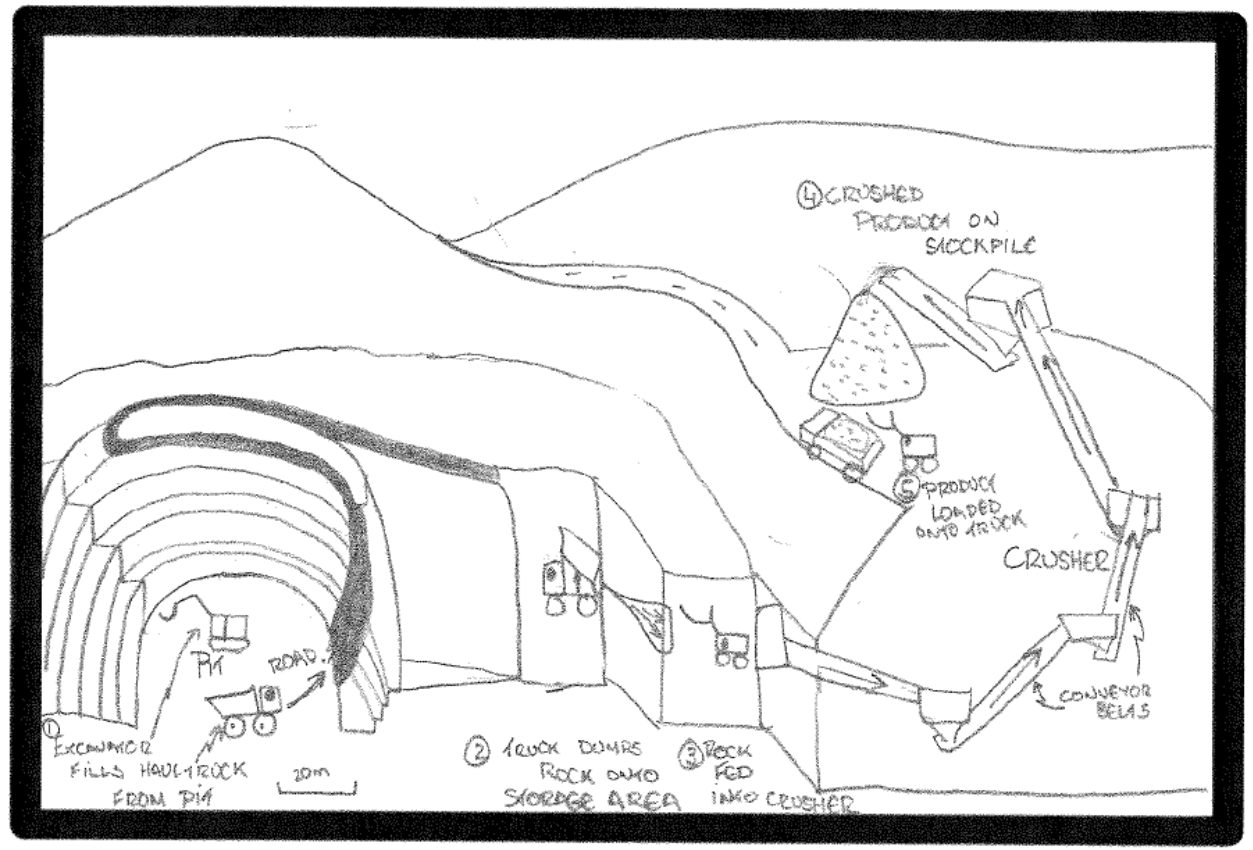


Expert


It is possible to run a mine surrounded by natural beauty without destroying it!
quarry.

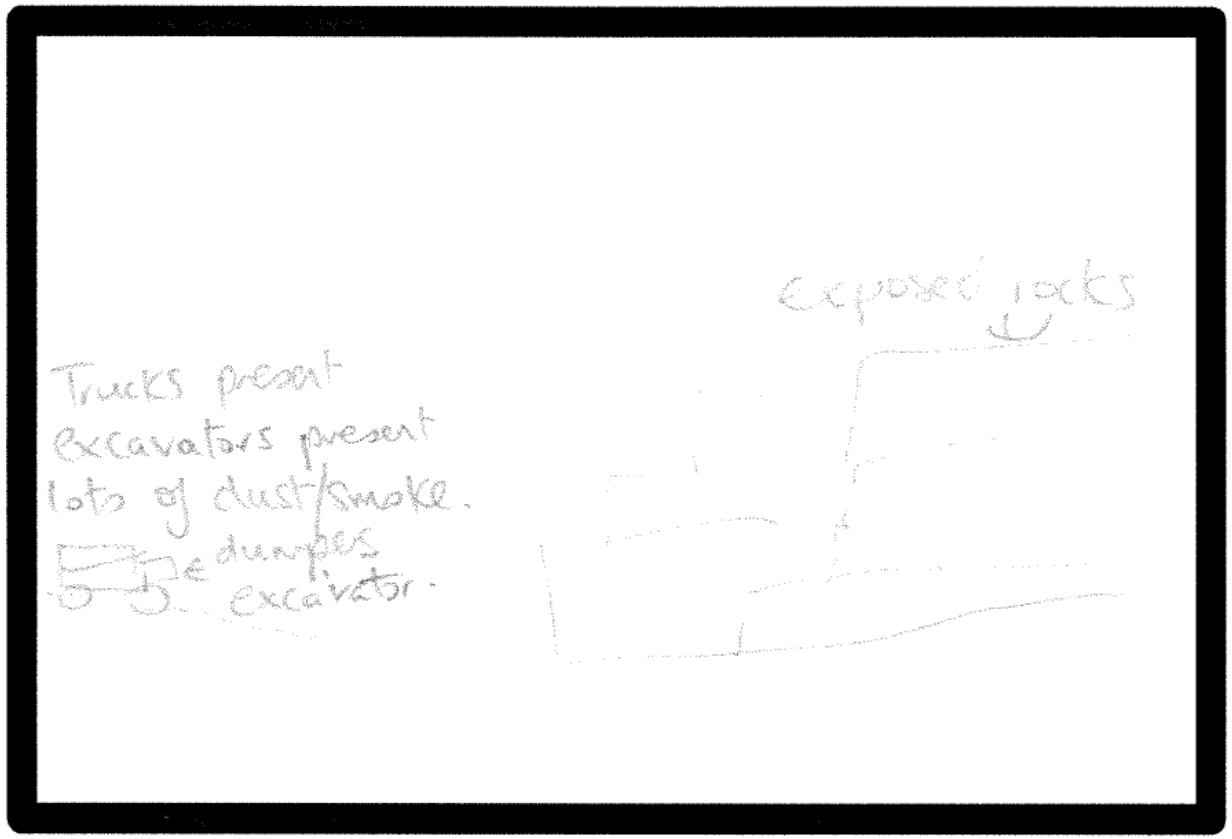
Expert

PLEASE STAY INSIDE THE BOX!

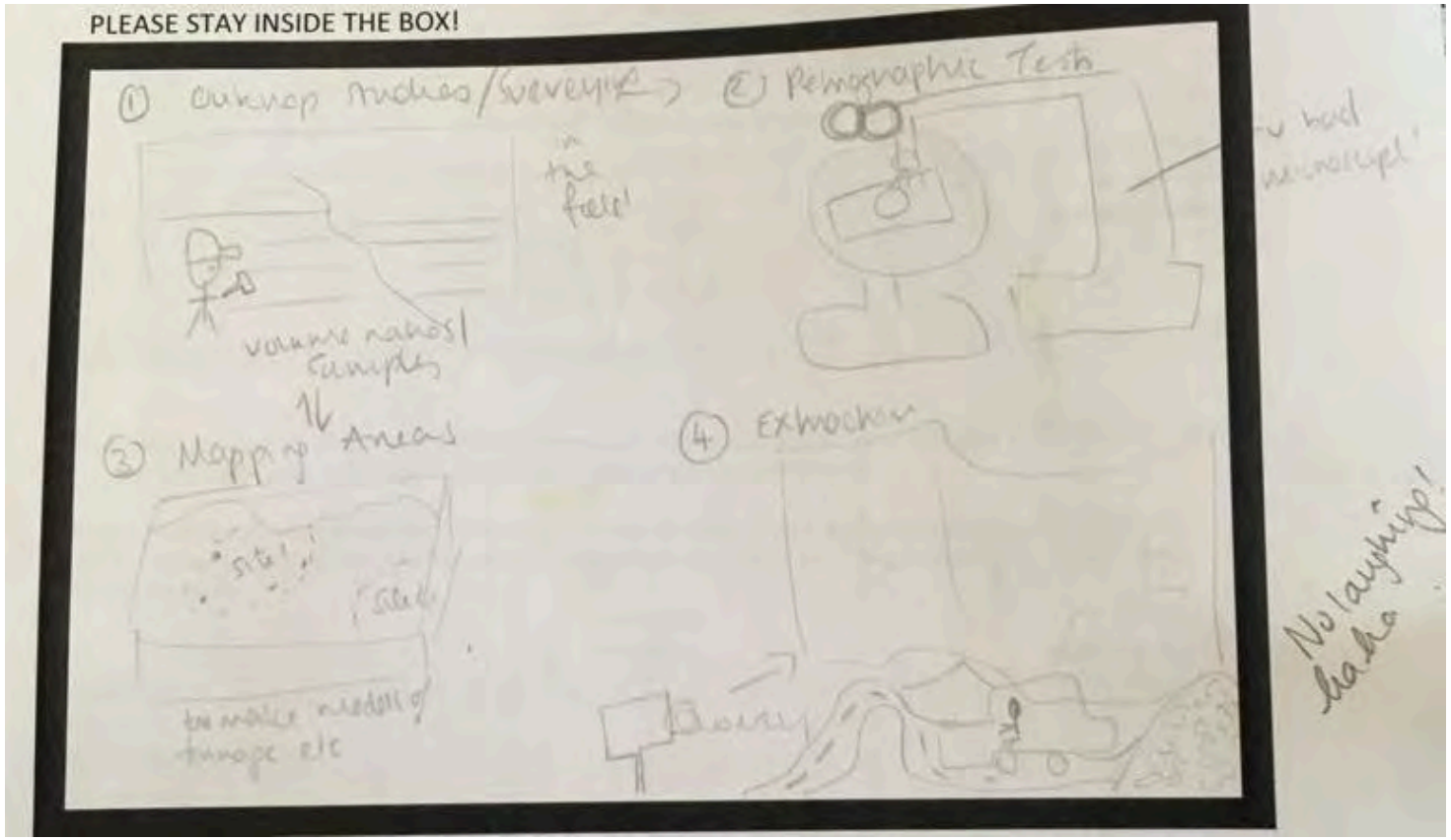


Expert

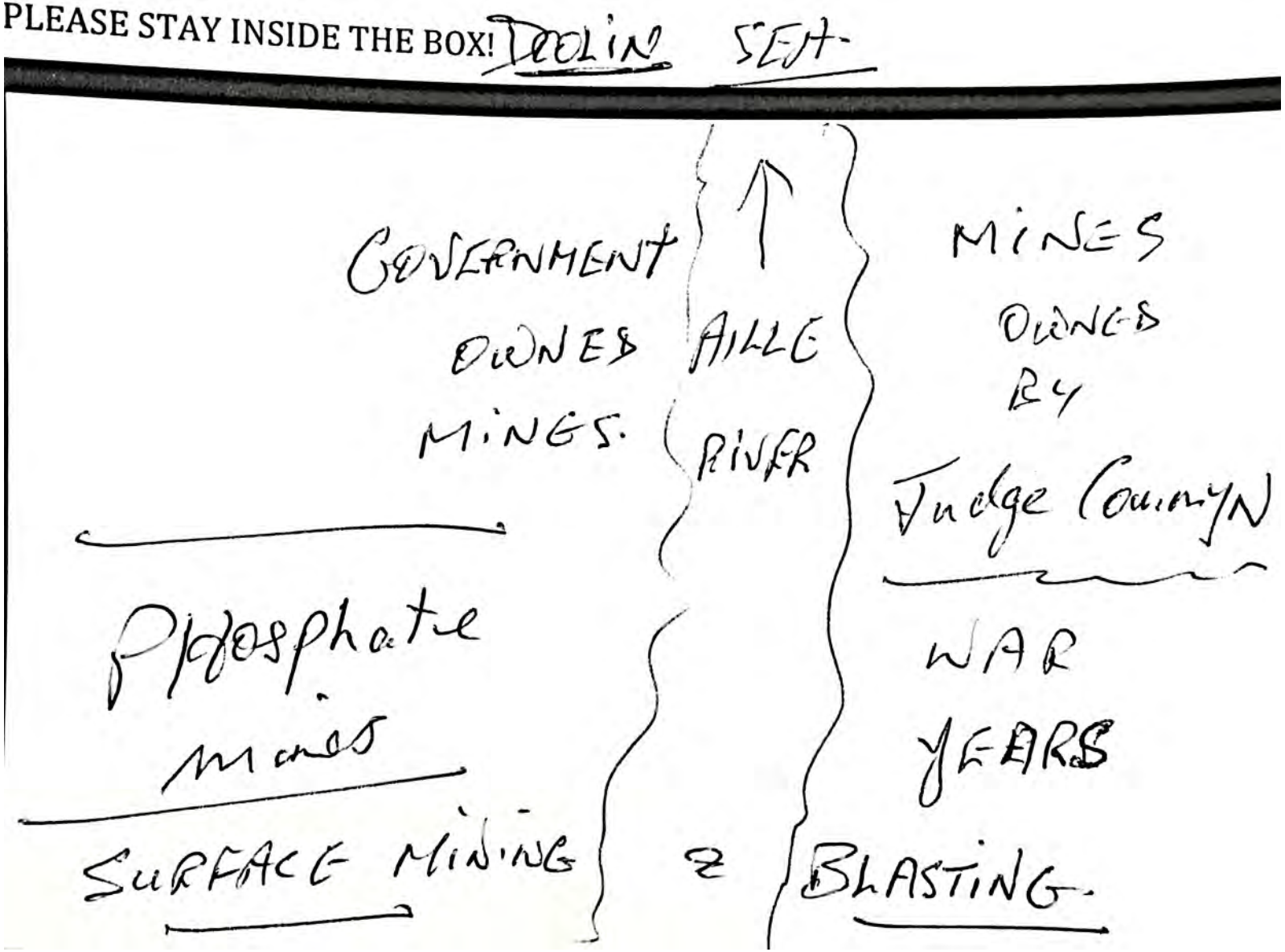
PLEASE STAY INSIDE THE BOX!



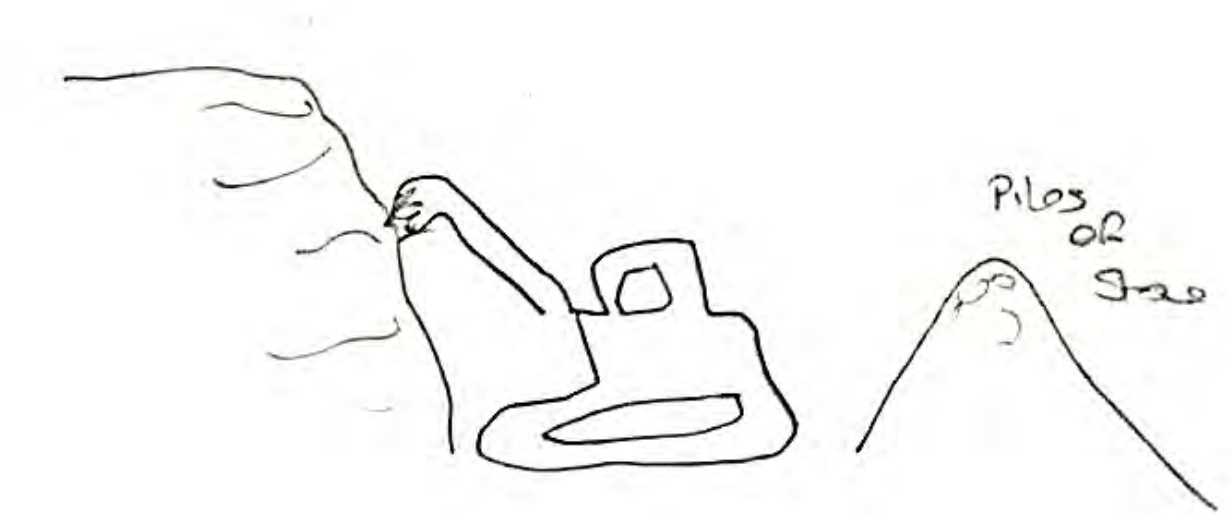
Expert


PLEASE STAY INSIDE THE BOX!
① Outcrop Studies/Surveying
in the field!
volume nanos/ samples
② Petrographic Tests
③ Mapping Areas
site!
site!
④ Extraction
No laughing! haha

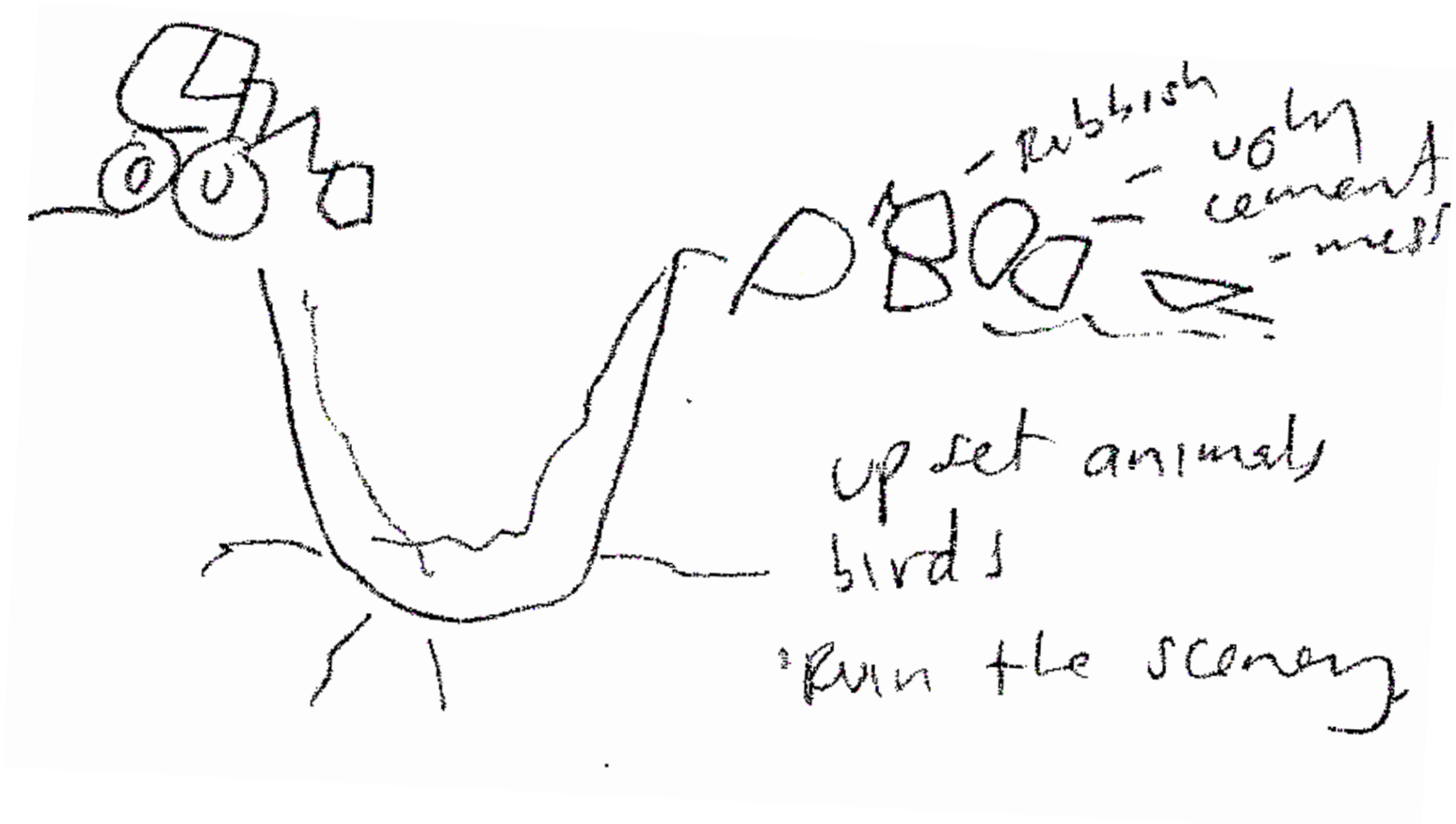
Expert


PLEASE STAY INSIDE THE BOX!
GOVERNMENT OWNED MINES.
Phosphate mines
SURFACE MINING
ALLC RIVER
MINES OWNED BY Judge Courtney
WAR YEARS
BLASTING.

Non-expert

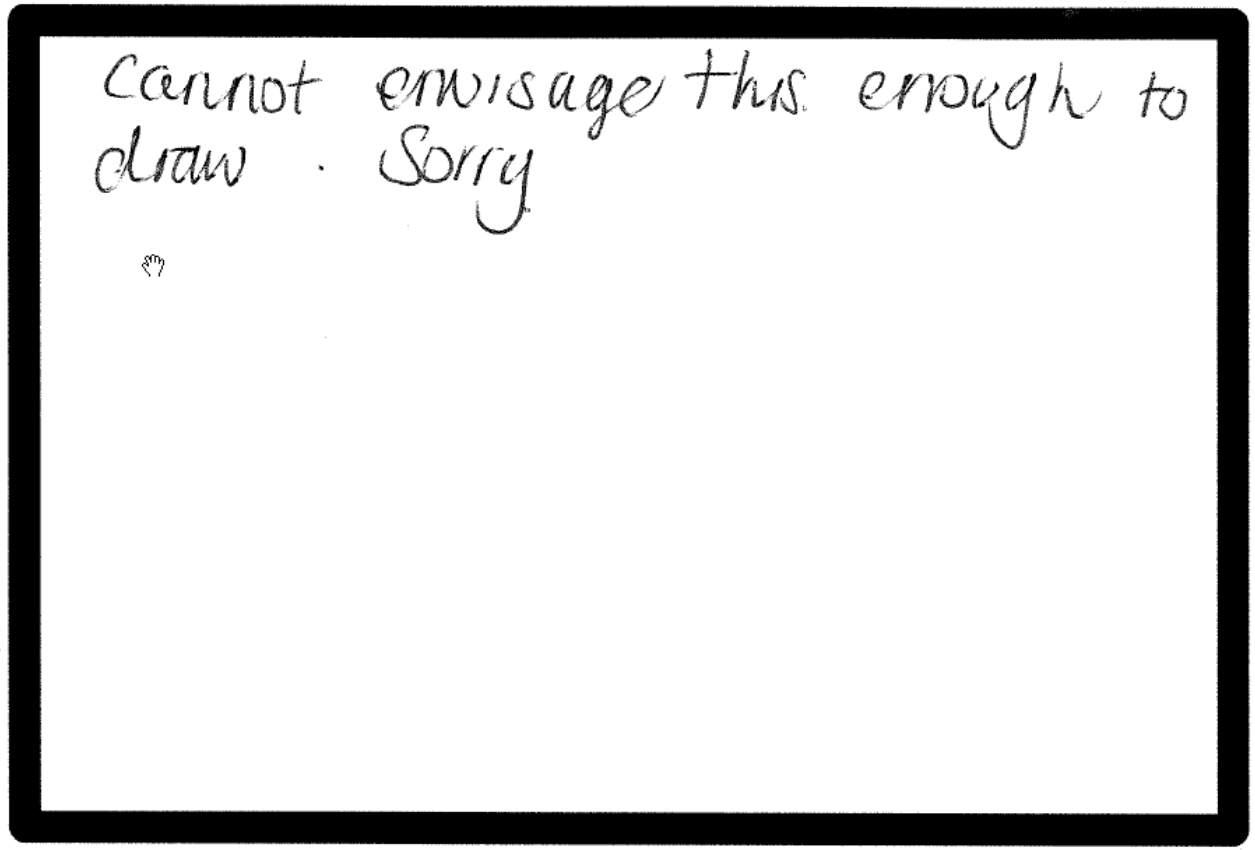


Non-expert



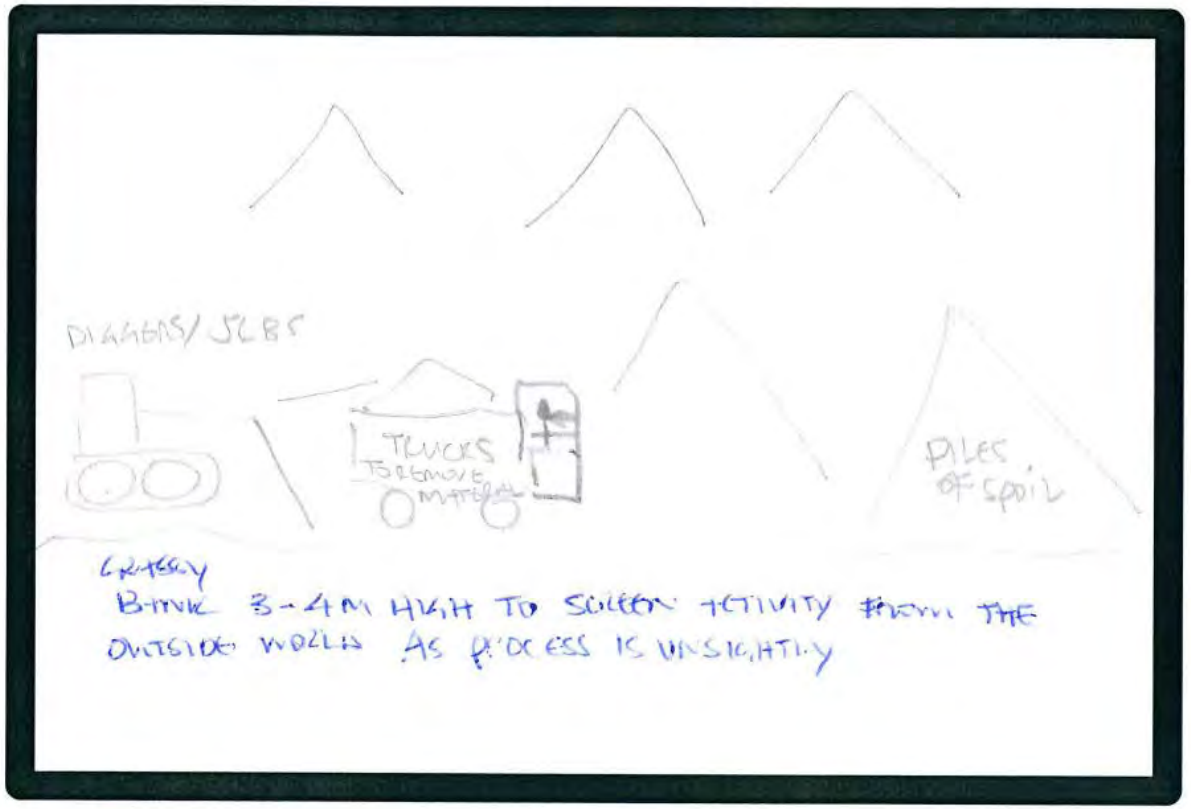
Non-expert

PLEASE STAY INSIDE THE BOX!



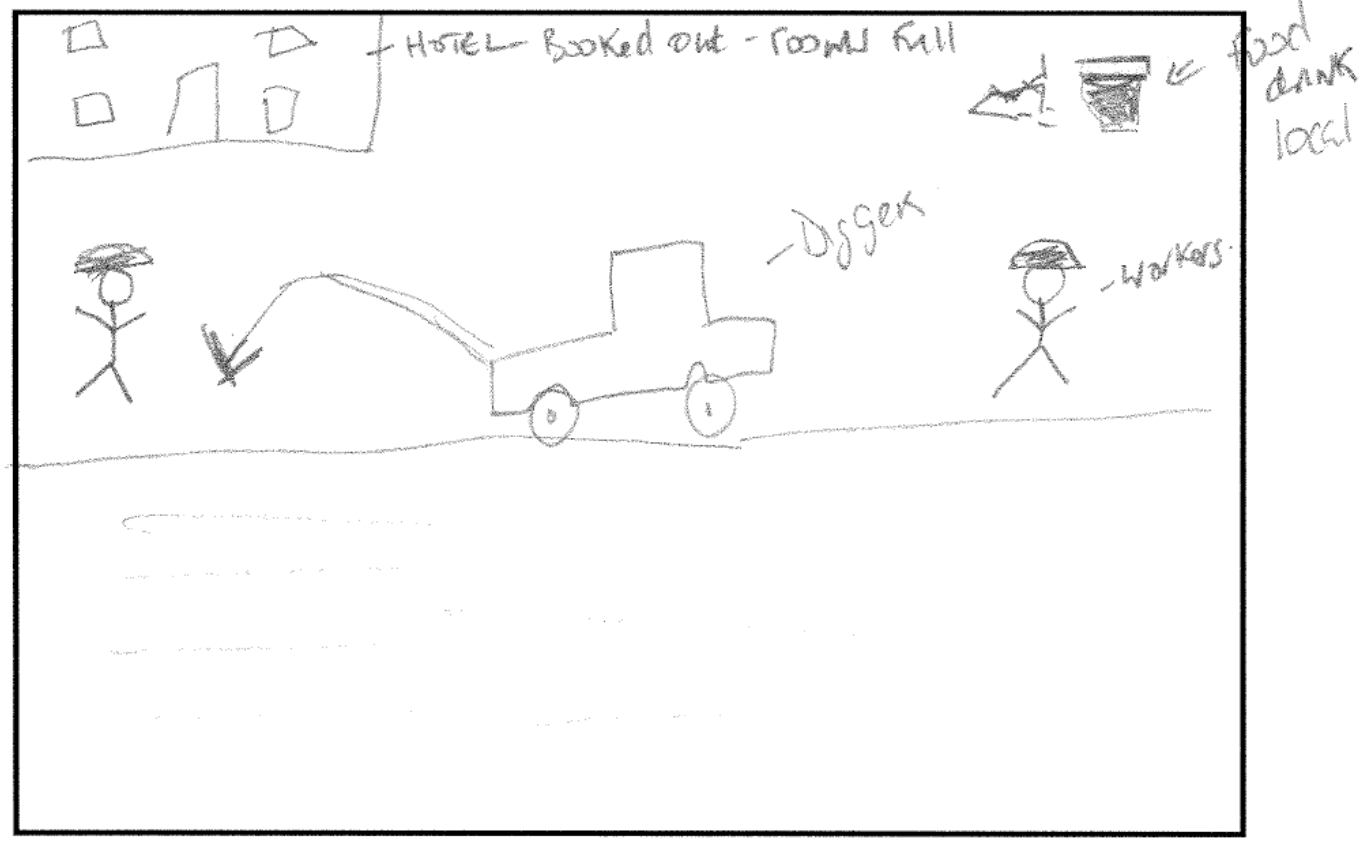
Non-expert

PLEASE STAY INSIDE THE BOX!

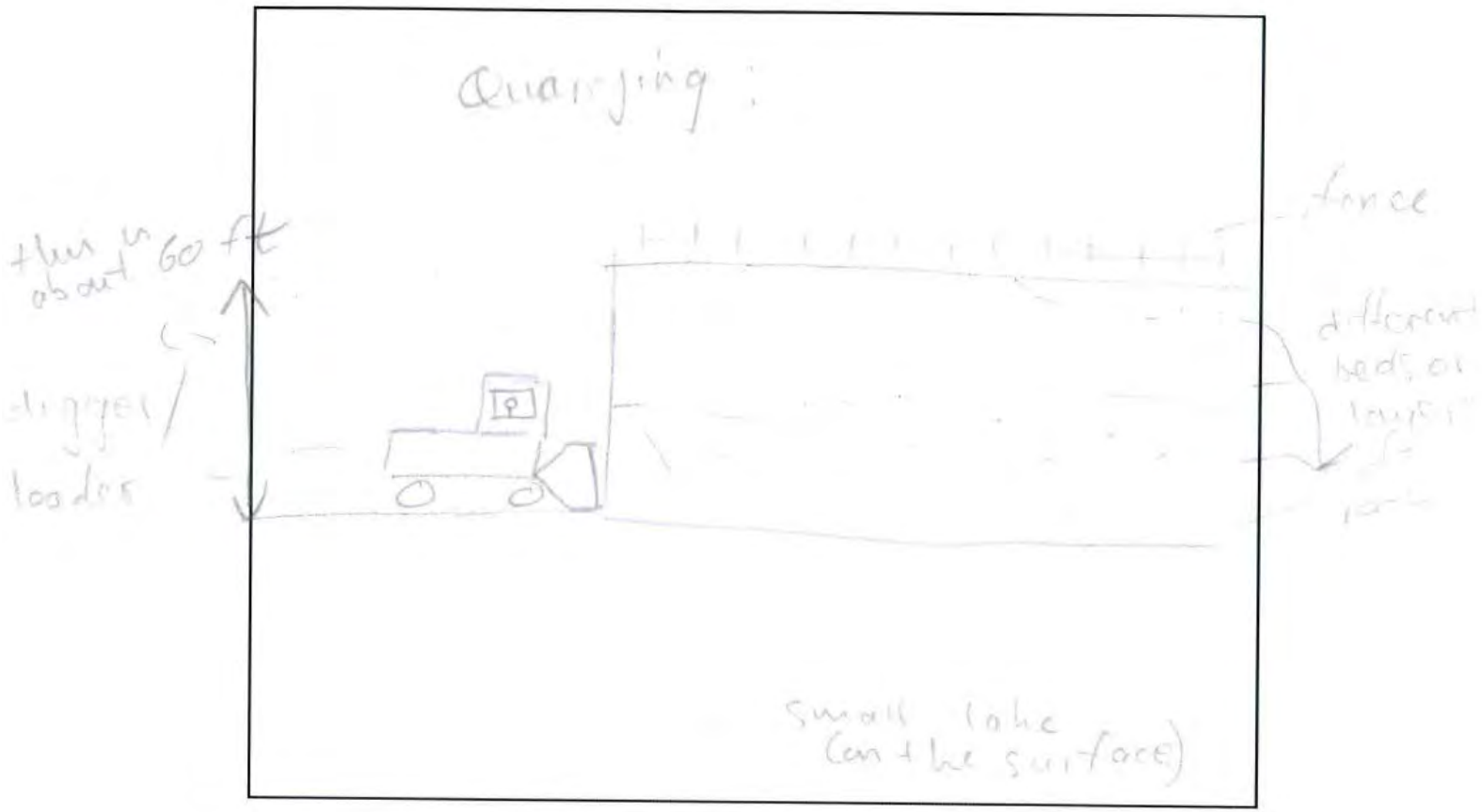


Non-expert

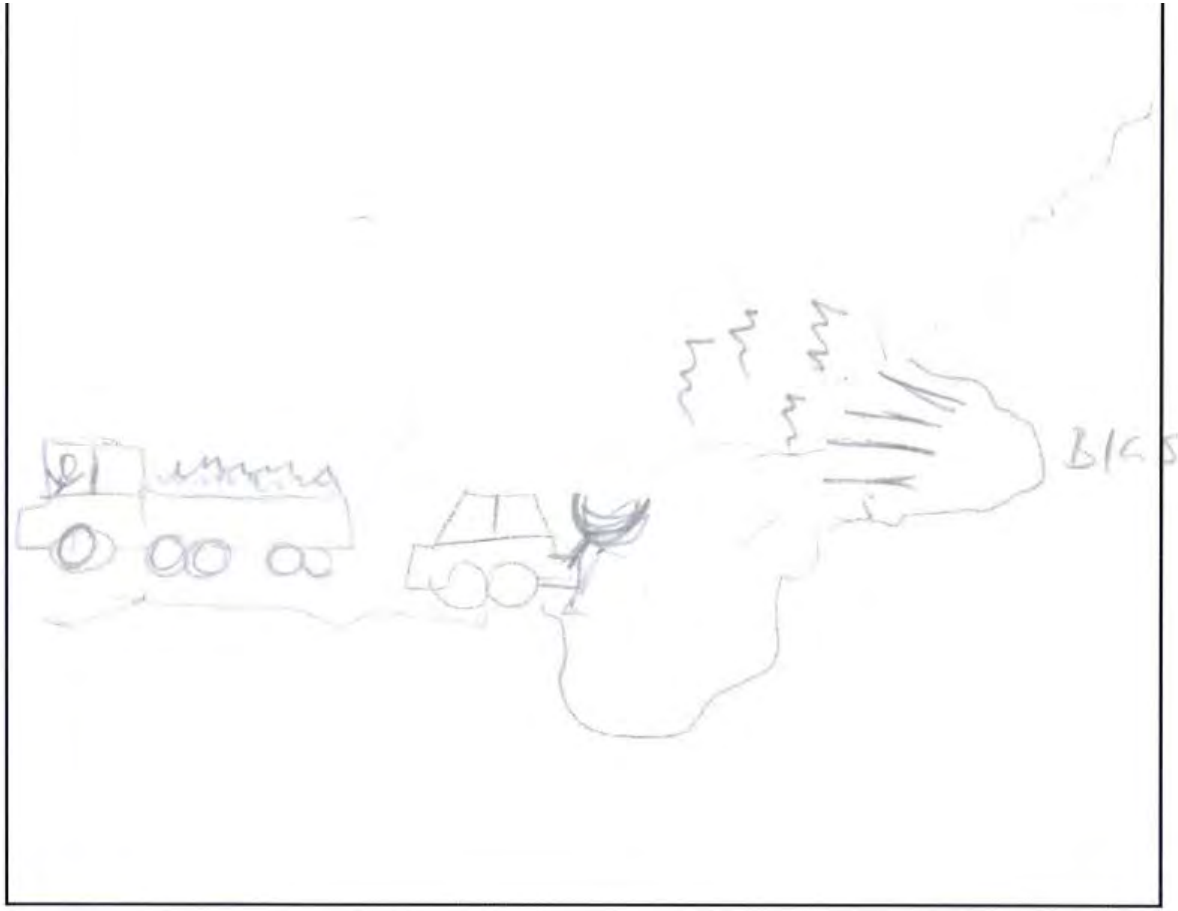
PLEASE STAY INSIDE THE BOX!



Non-expert

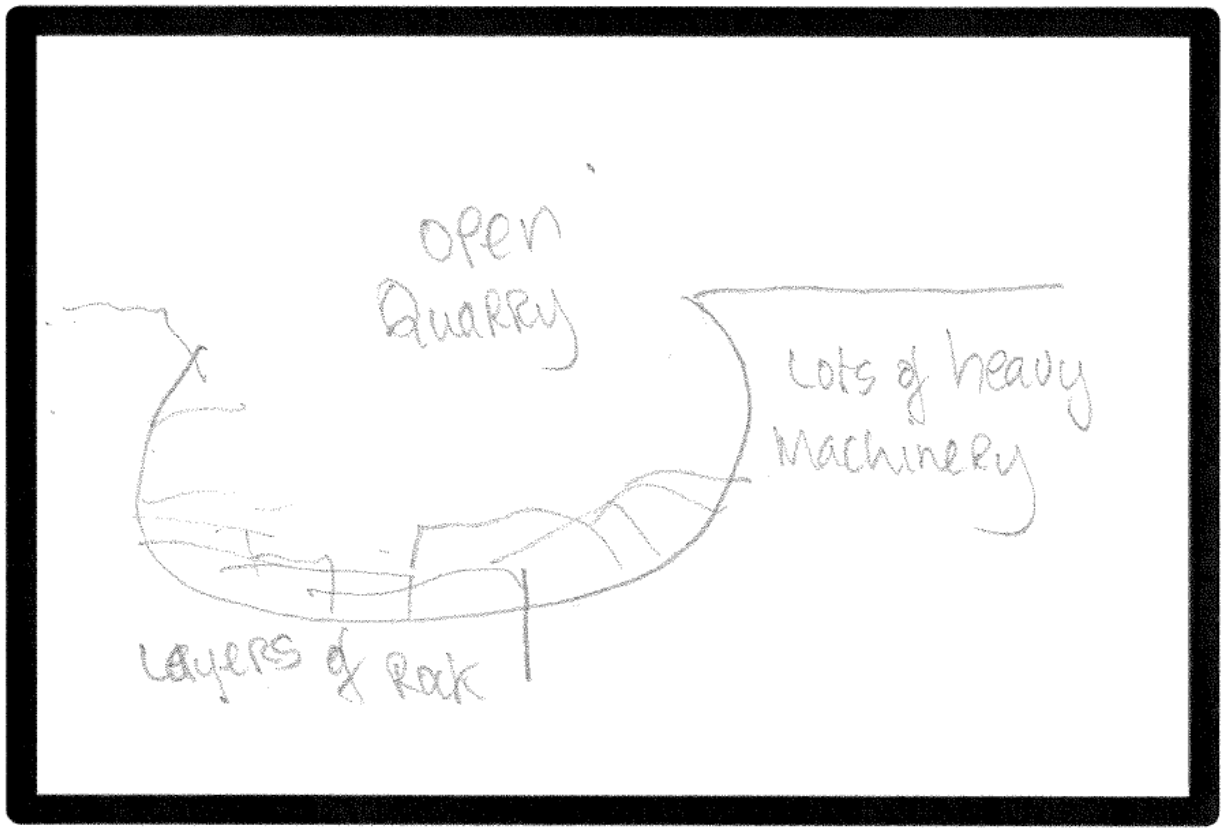

Quarrying :
force
different beds or layers
digger / loader
small lake (on the surface)

Non-expert



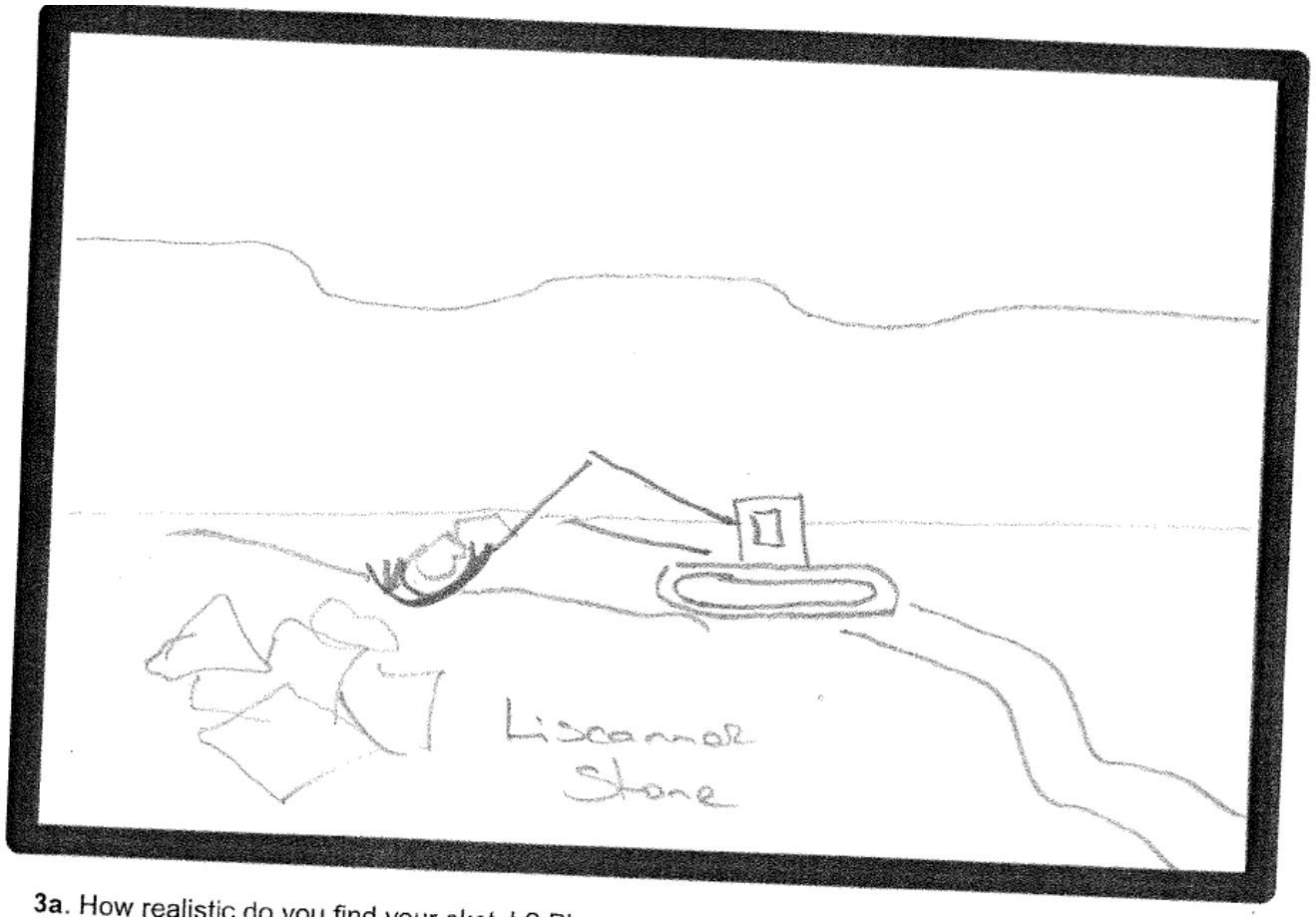
Non-expert

PLEASE STAY INSIDE THE BOX!



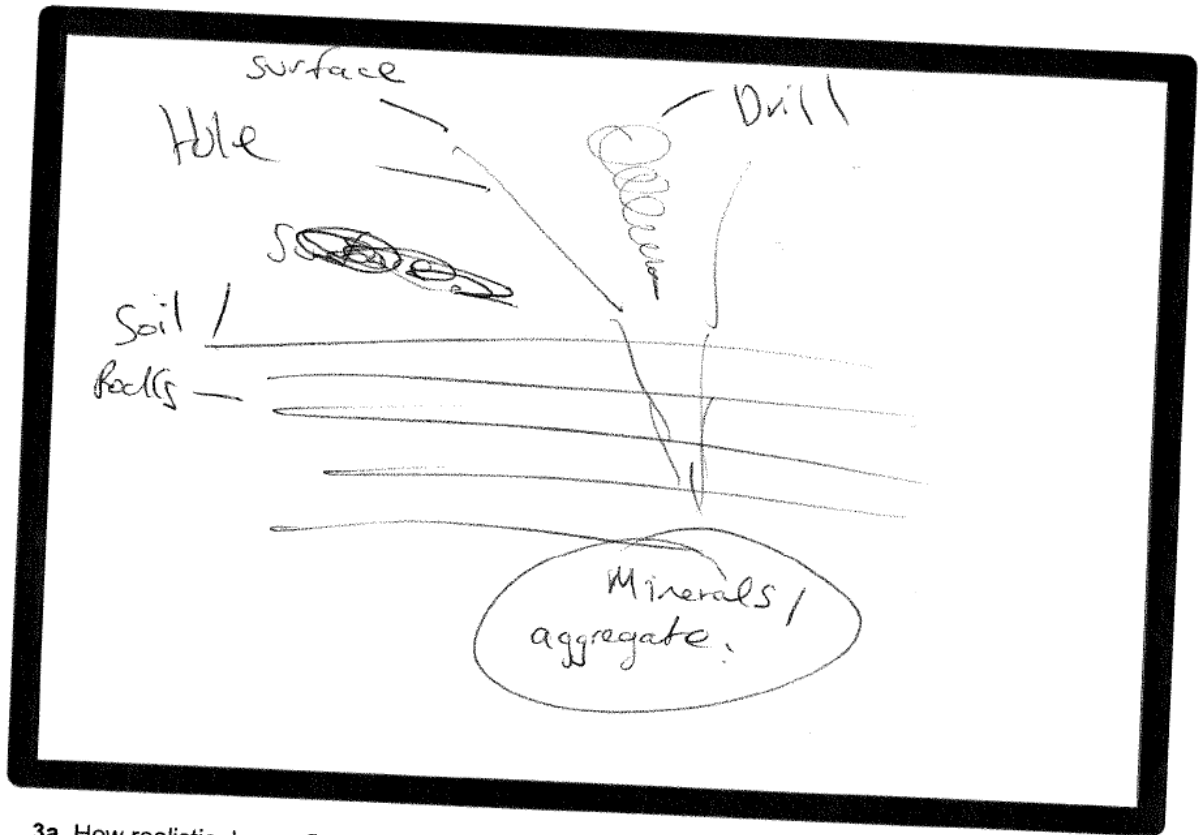
Non-expert

Non-expert



3a. How realistic do you find your

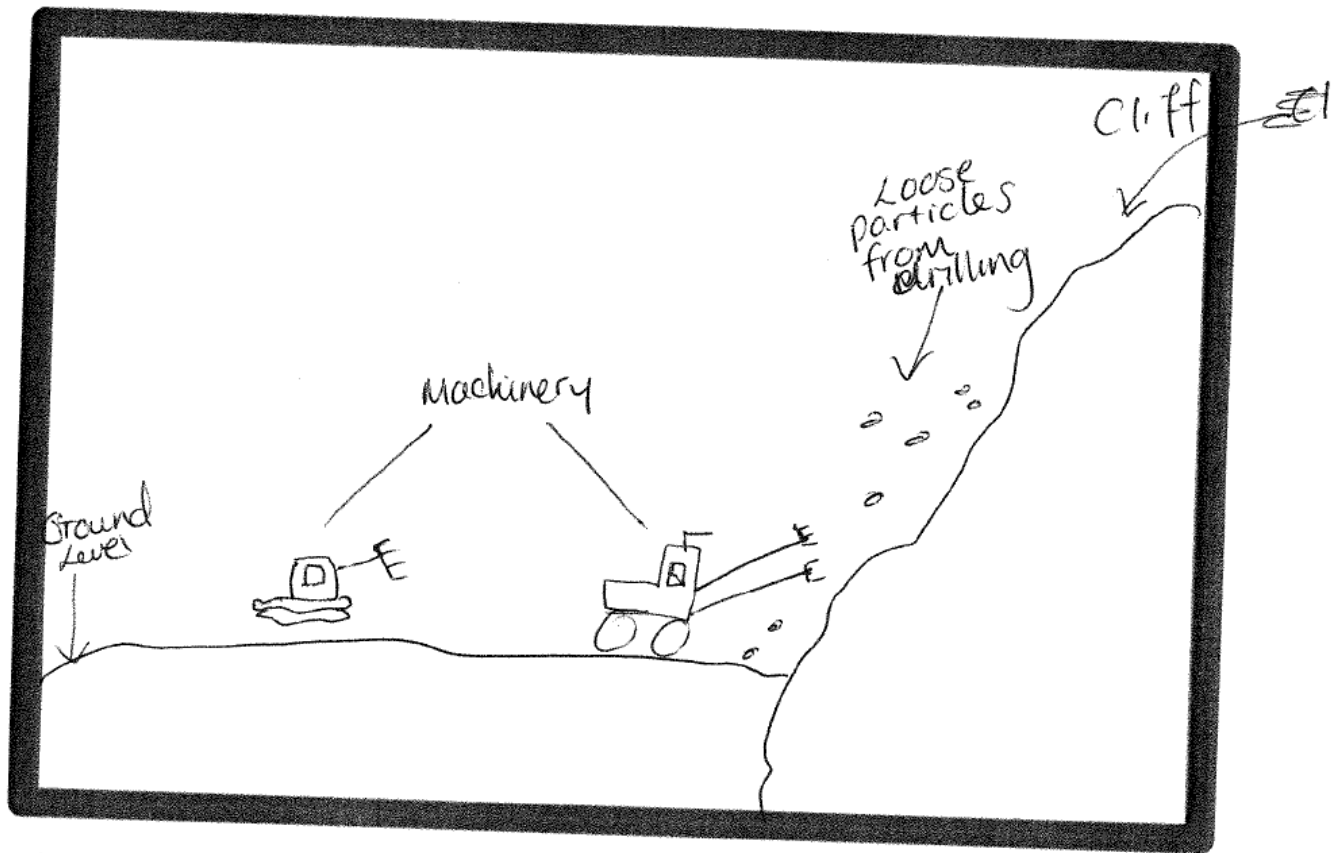
PLEASE STAY INSIDE THE BOX!



3a. How realistic do you find your sketch? Please circle

Non-expert

PLEASE STAY INSIDE THE BOX!



3a. How realistic do you f

Non-expert

PLEASE STAY INSIDE THE BOX!

OPEN CAST MINING

START WITH DIGGING A LARGE HOLE THEN KEEP GOING ROUND AND ROUND TO MAKE IT BIGGER AND DEEPER

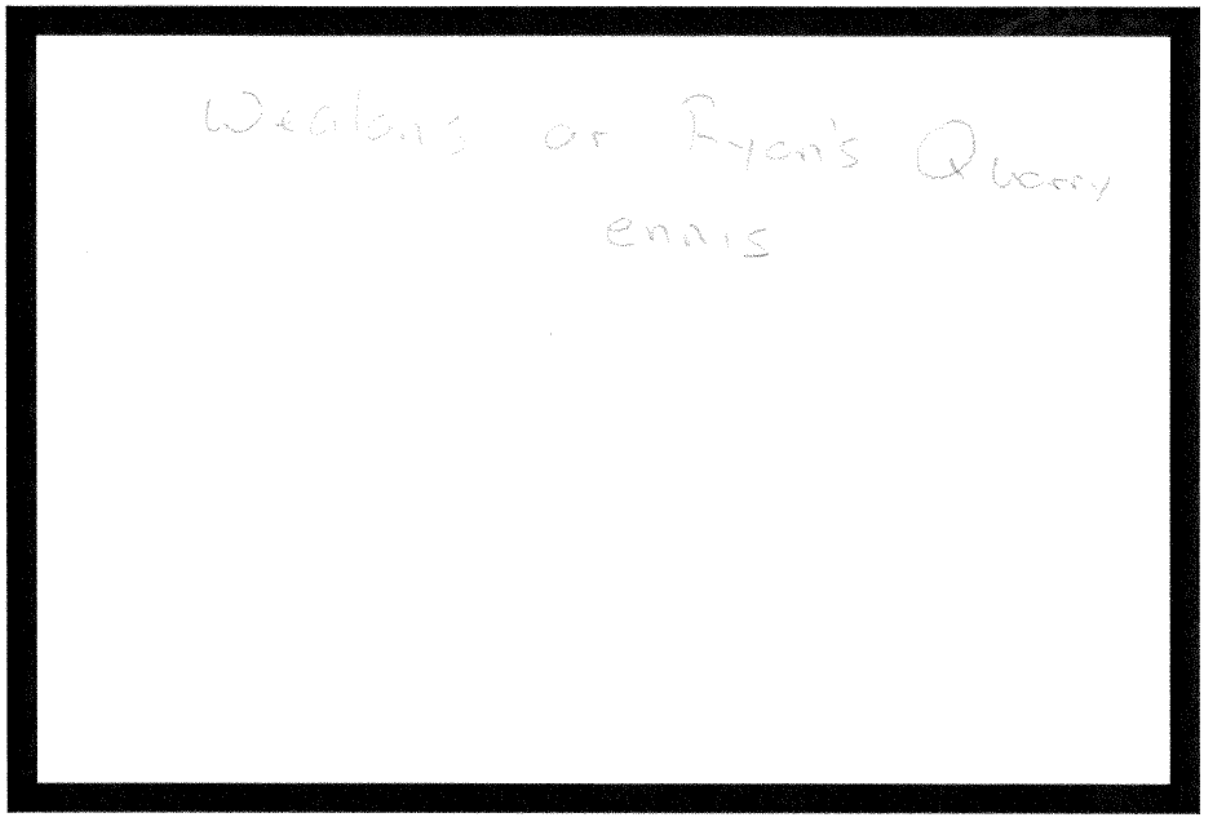
Non-expert

PLEASE STAY INSIDE THE BOX!

3a. How realistic do you find your

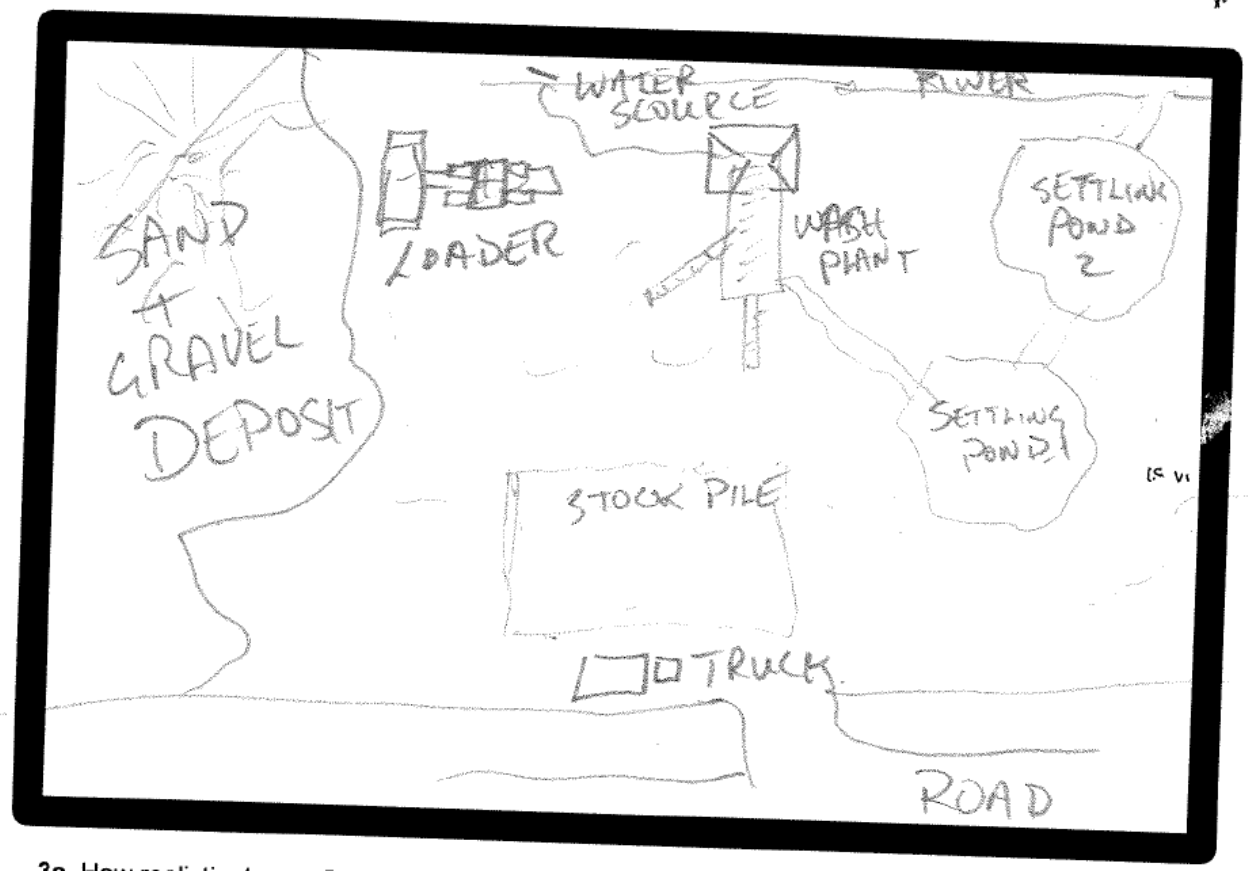
Non-expert

PLEASE STAY INSIDE THE BOX!

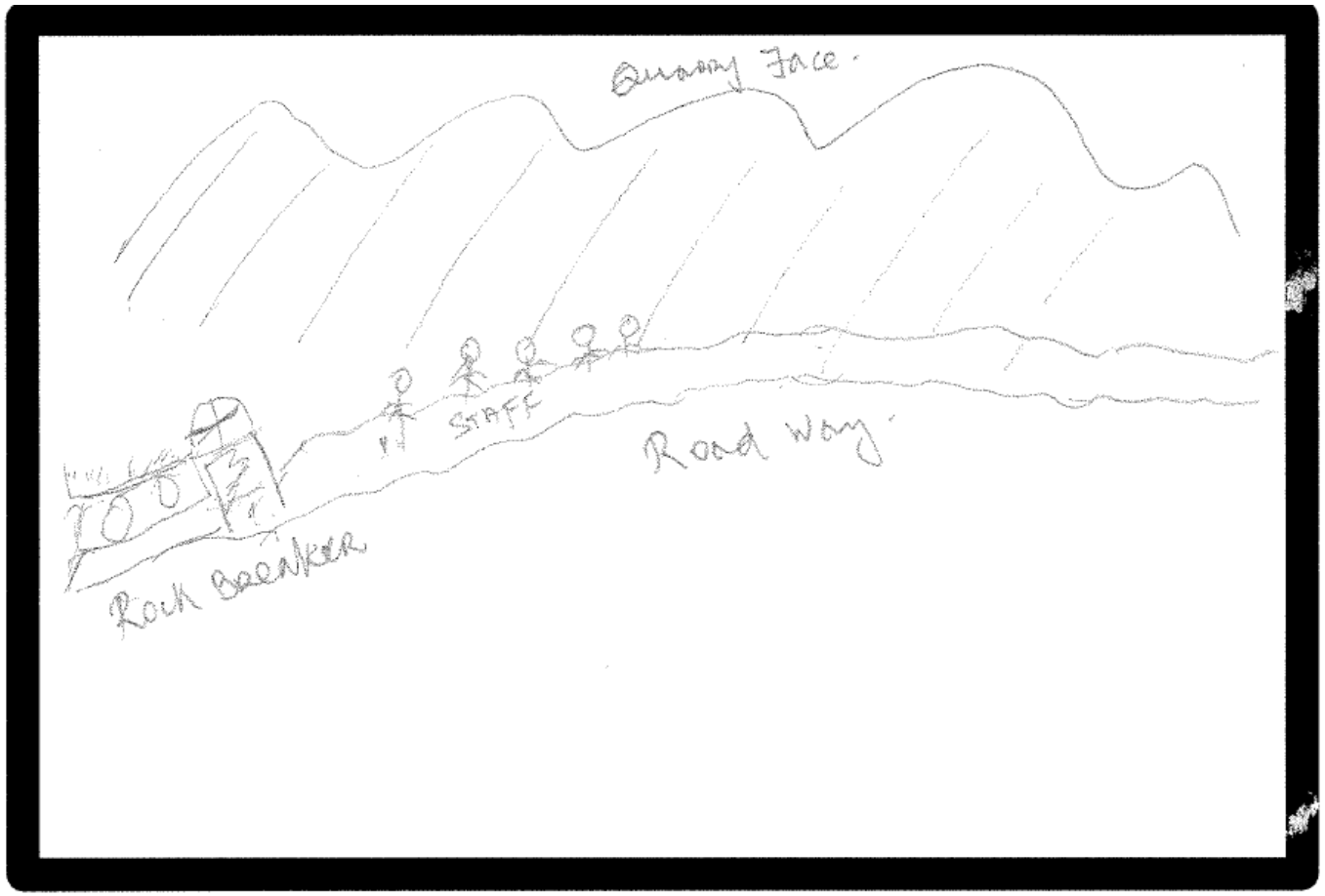


Non-expert

PLEASE STAY INSIDE THE BOX!

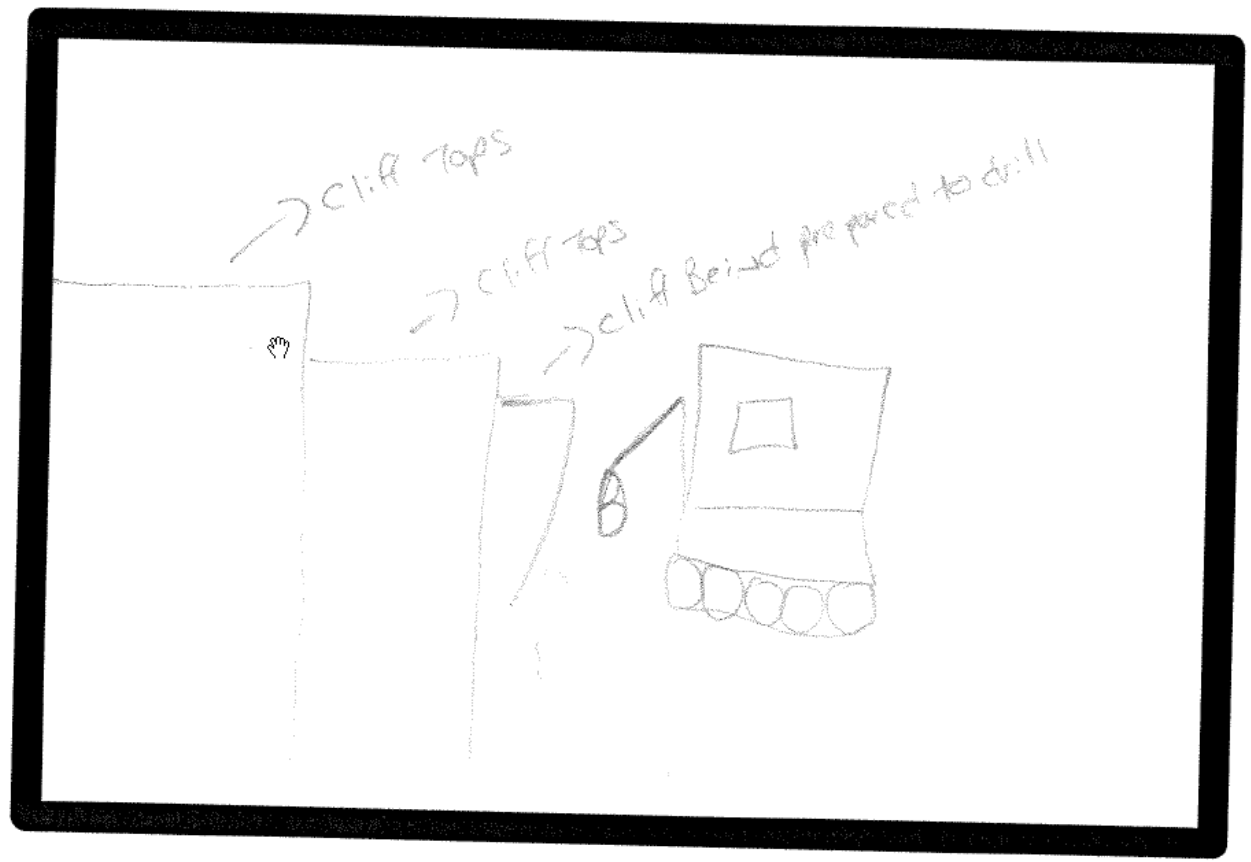


Non-expert

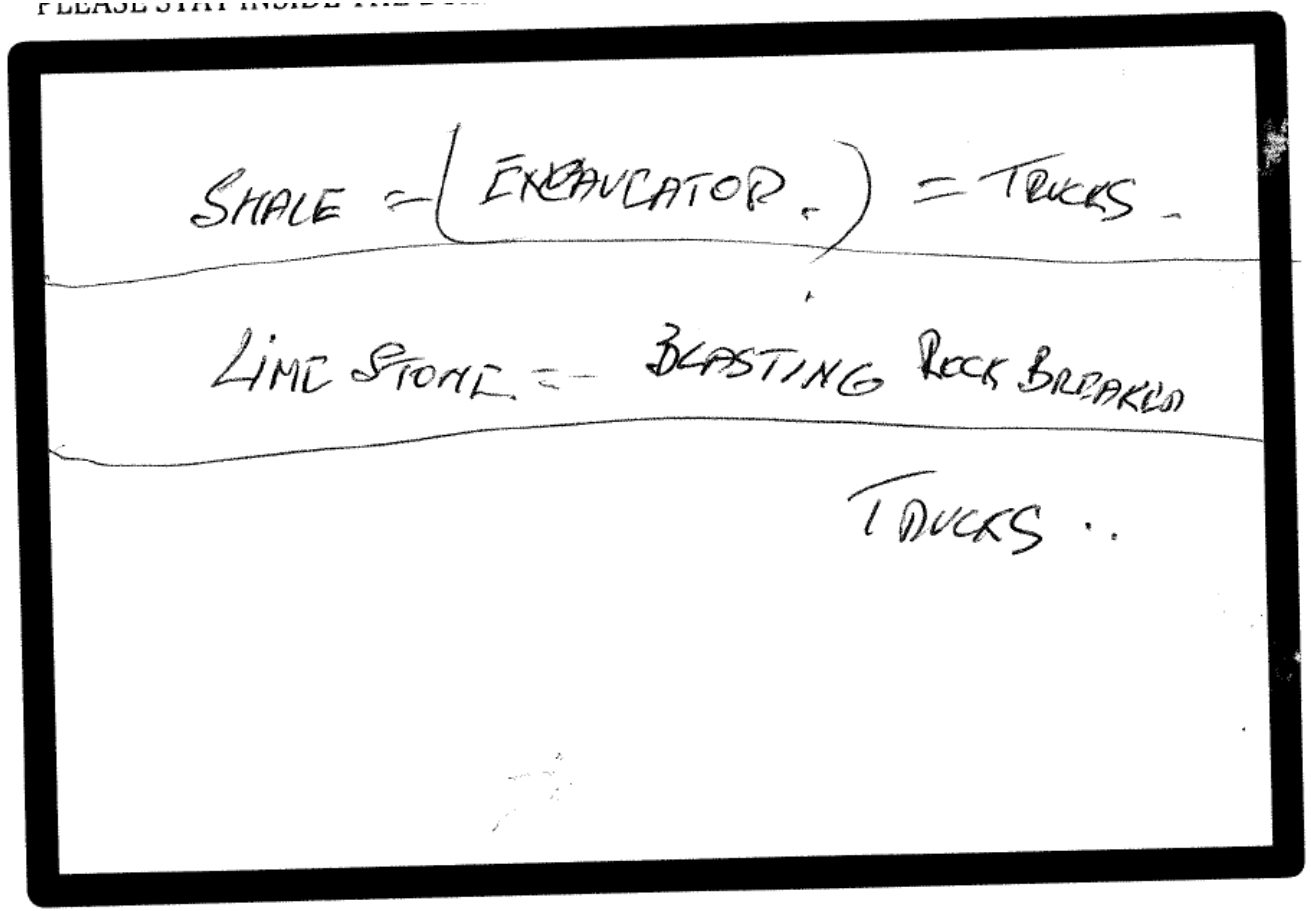


Non-expert

PLEASE STAY INSIDE THE BOX!

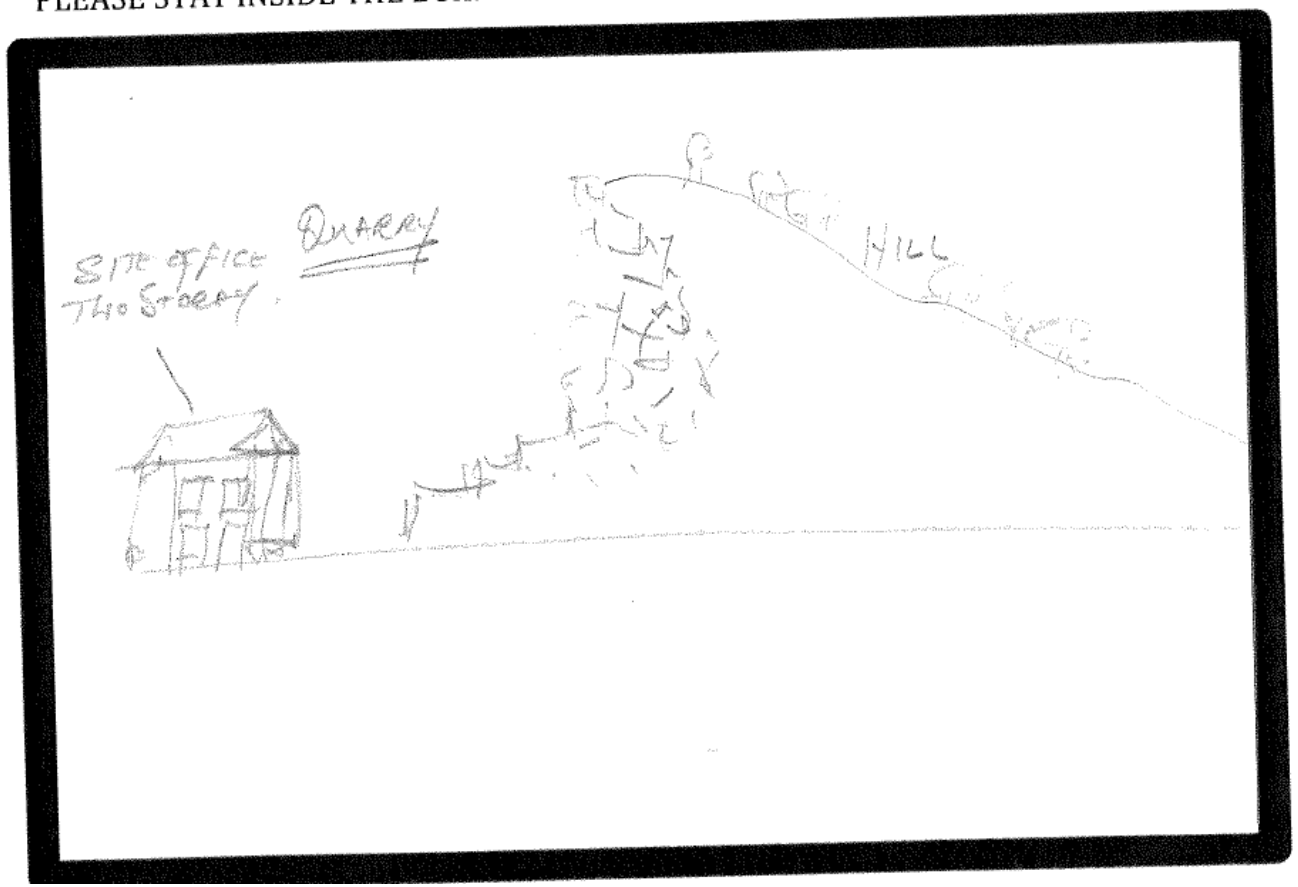


Non-expert


SHALE = (EXCAVATOR .) = TRUCKS .
LIME STONE = BLASTING ROCK BREAKER
TRUCKS ..

Non-expert

PLEASE STAY INSIDE THE BOX!

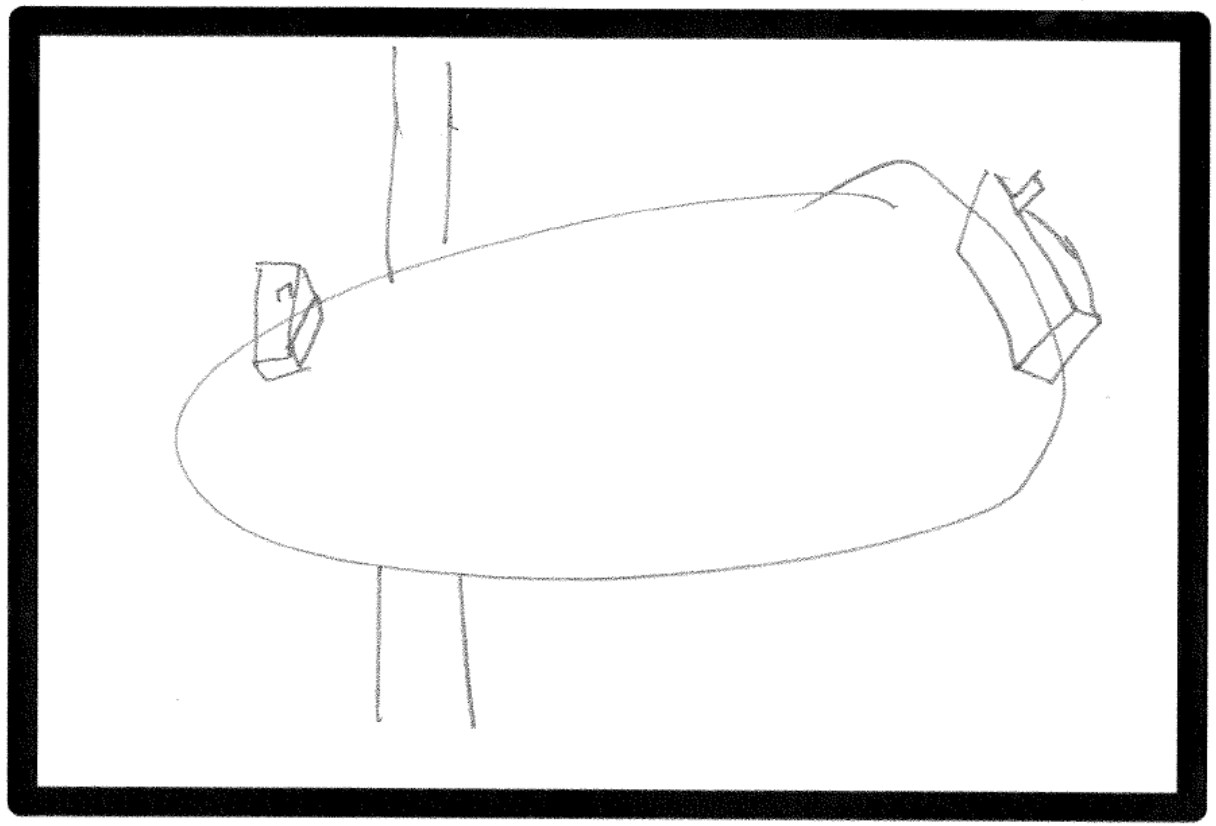


Non-expert

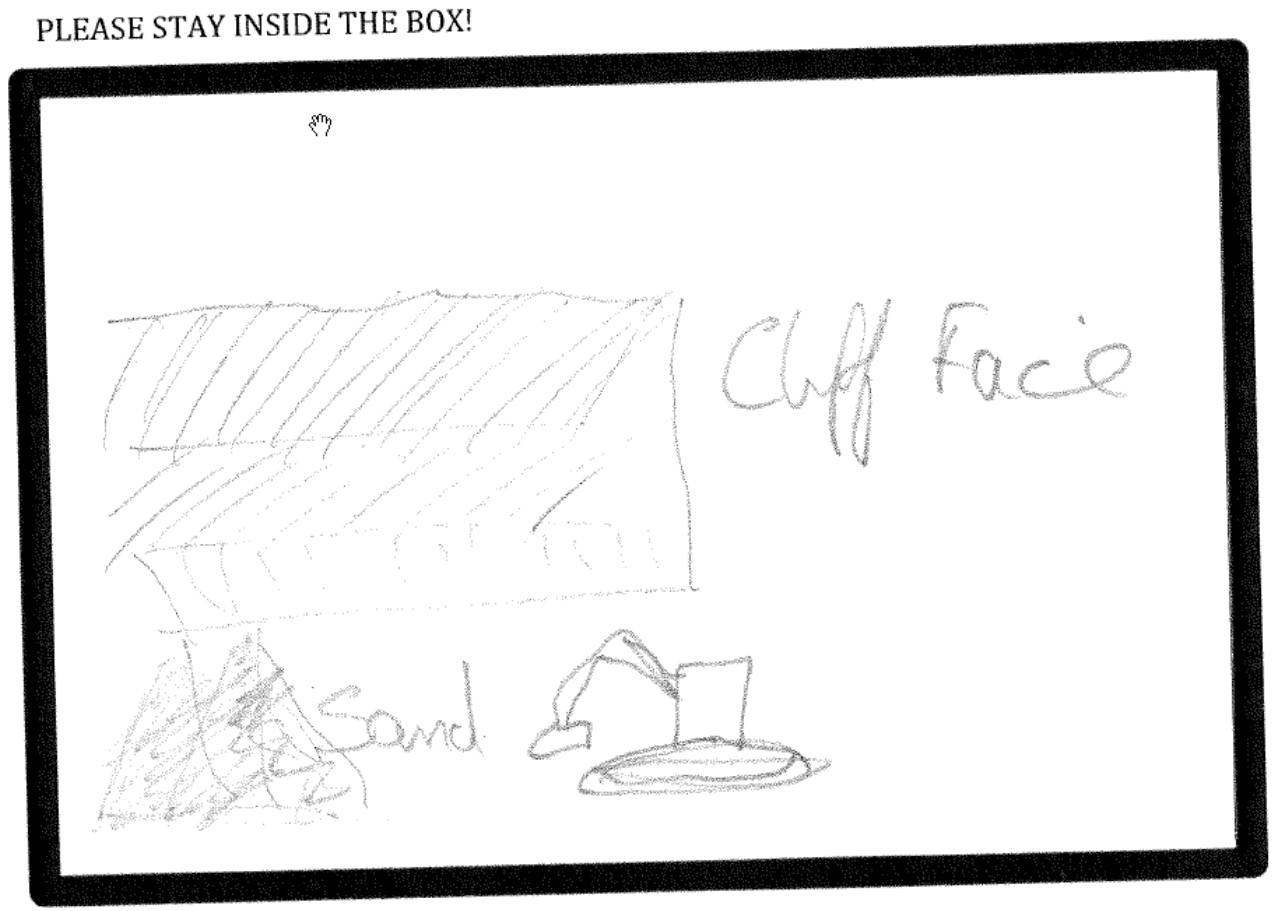
PLEASE STAY INSIDE THE BOX!

Non-expert

PLEASE STAY INSIDE THE BOX!



Non-expert



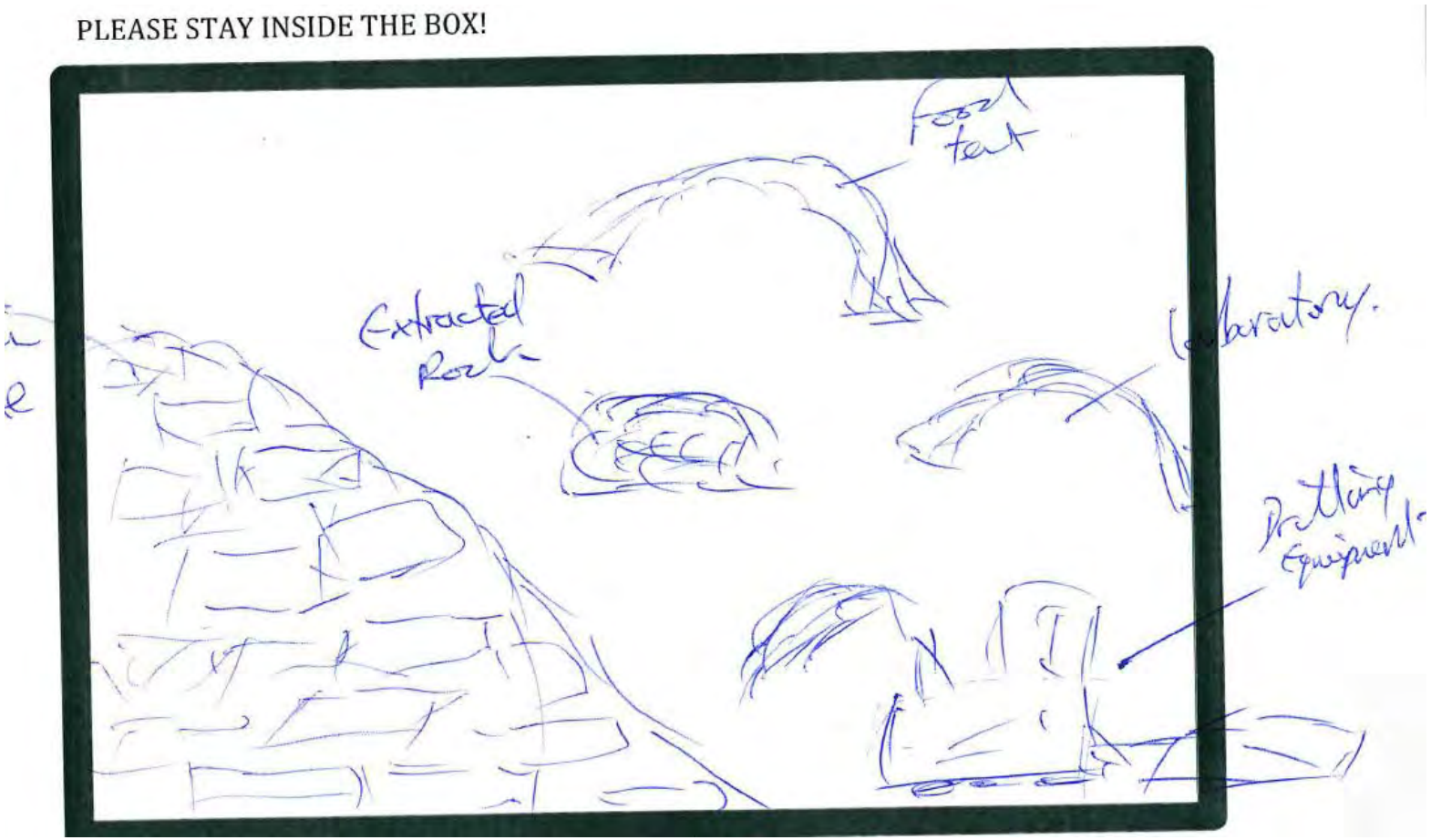
Non-expert

PLEASE STAY INSIDE THE BOX!

3a. How realistic do you find your sketch? Please circle the
opinion:

Non-expert

PLEASE STAY INSIDE THE BOX!



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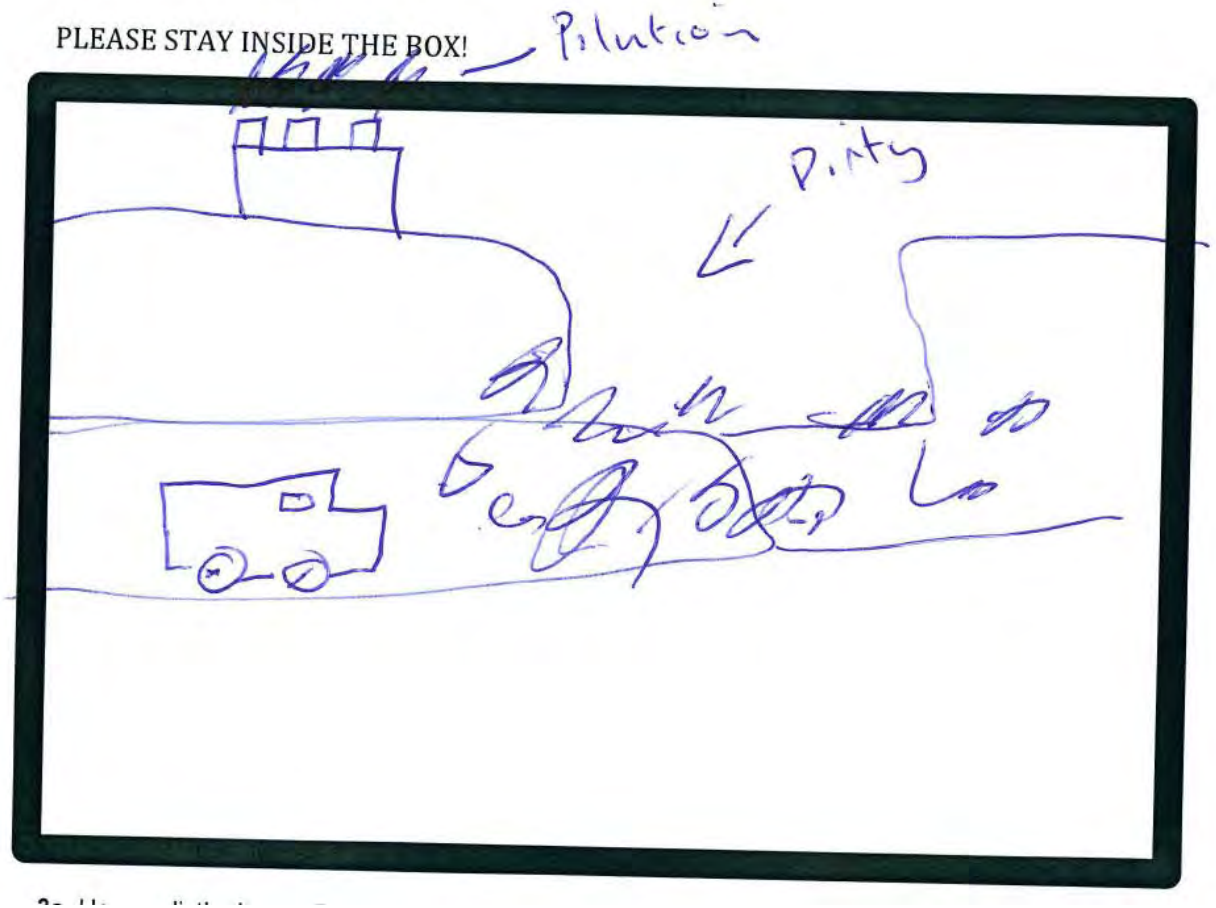
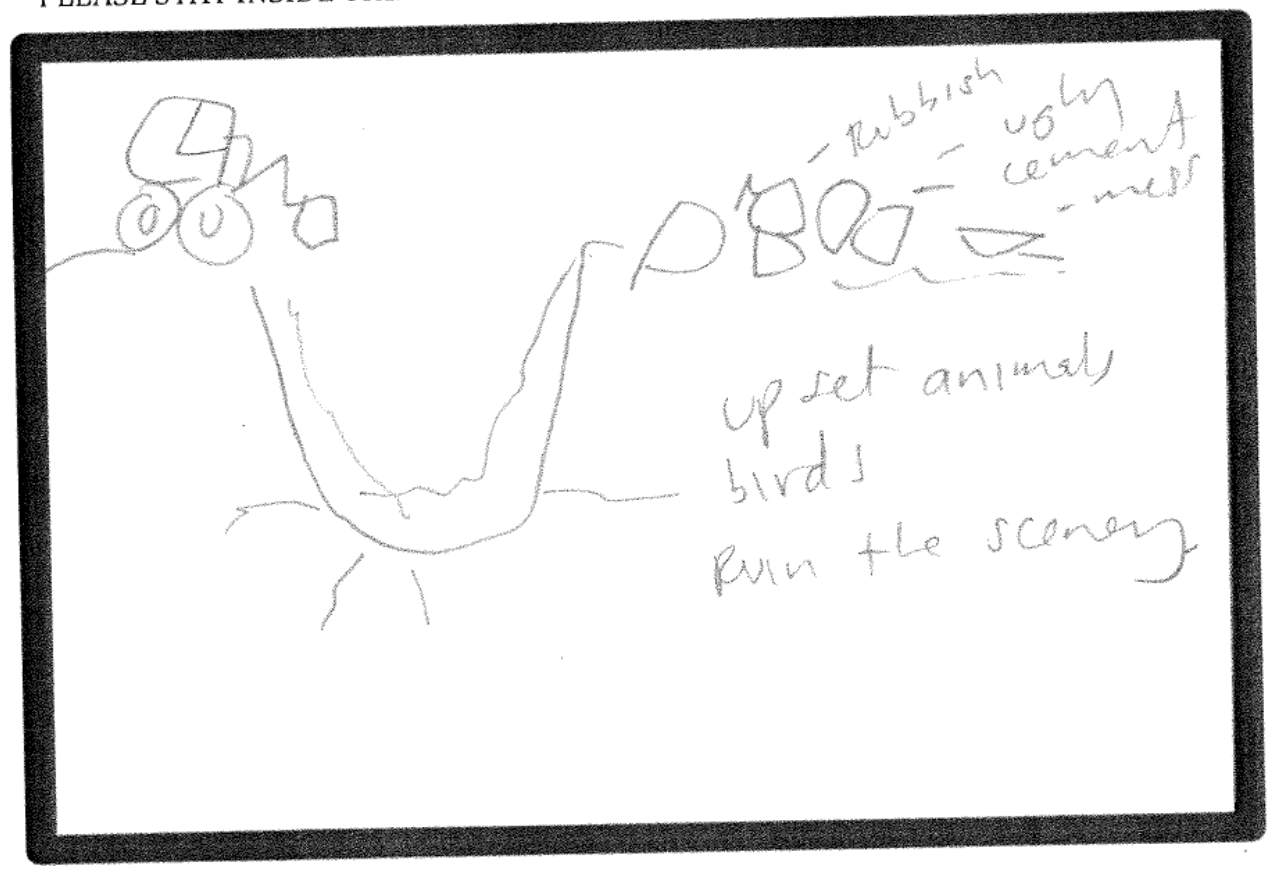


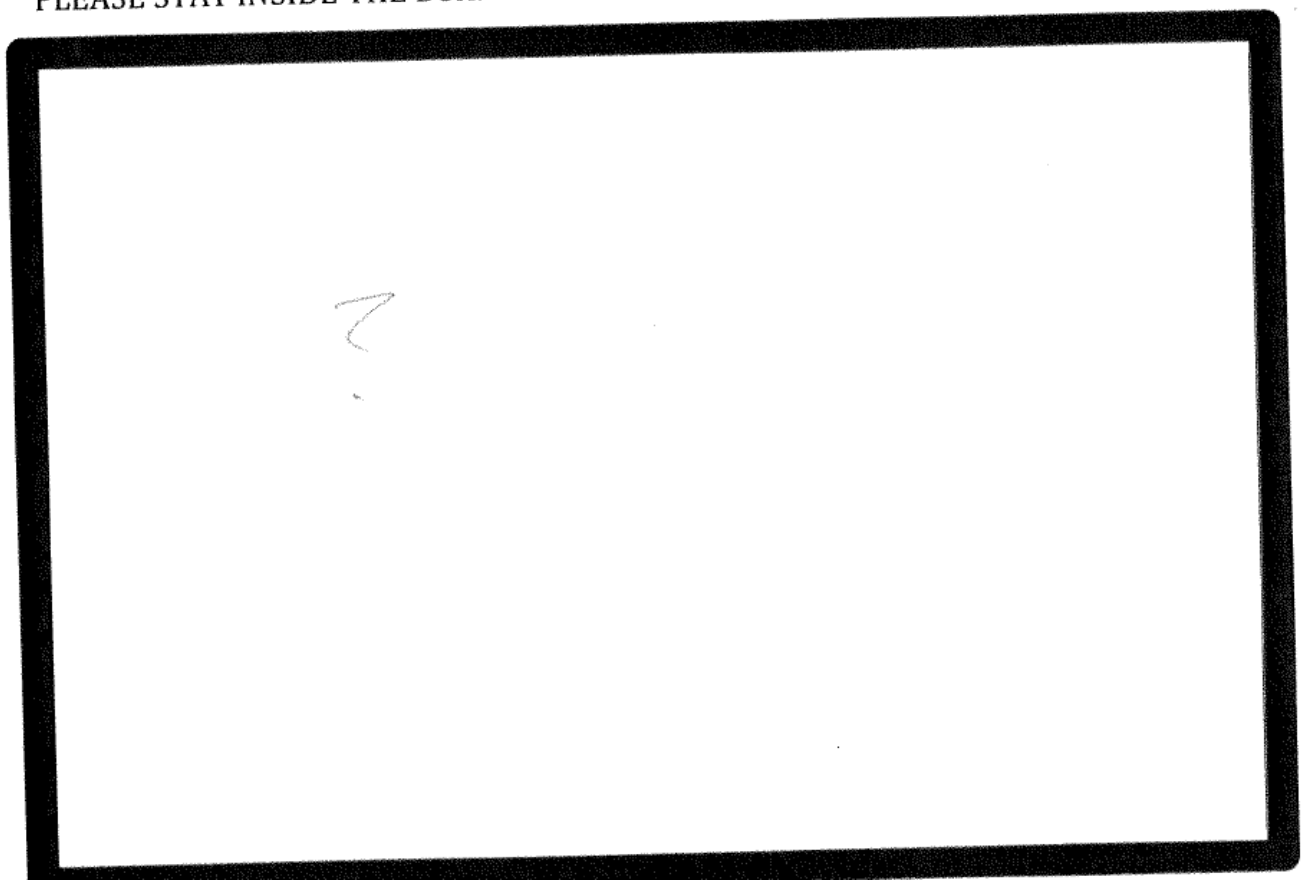
Non-expert

PLEASE STAY INSIDE THE BOX!

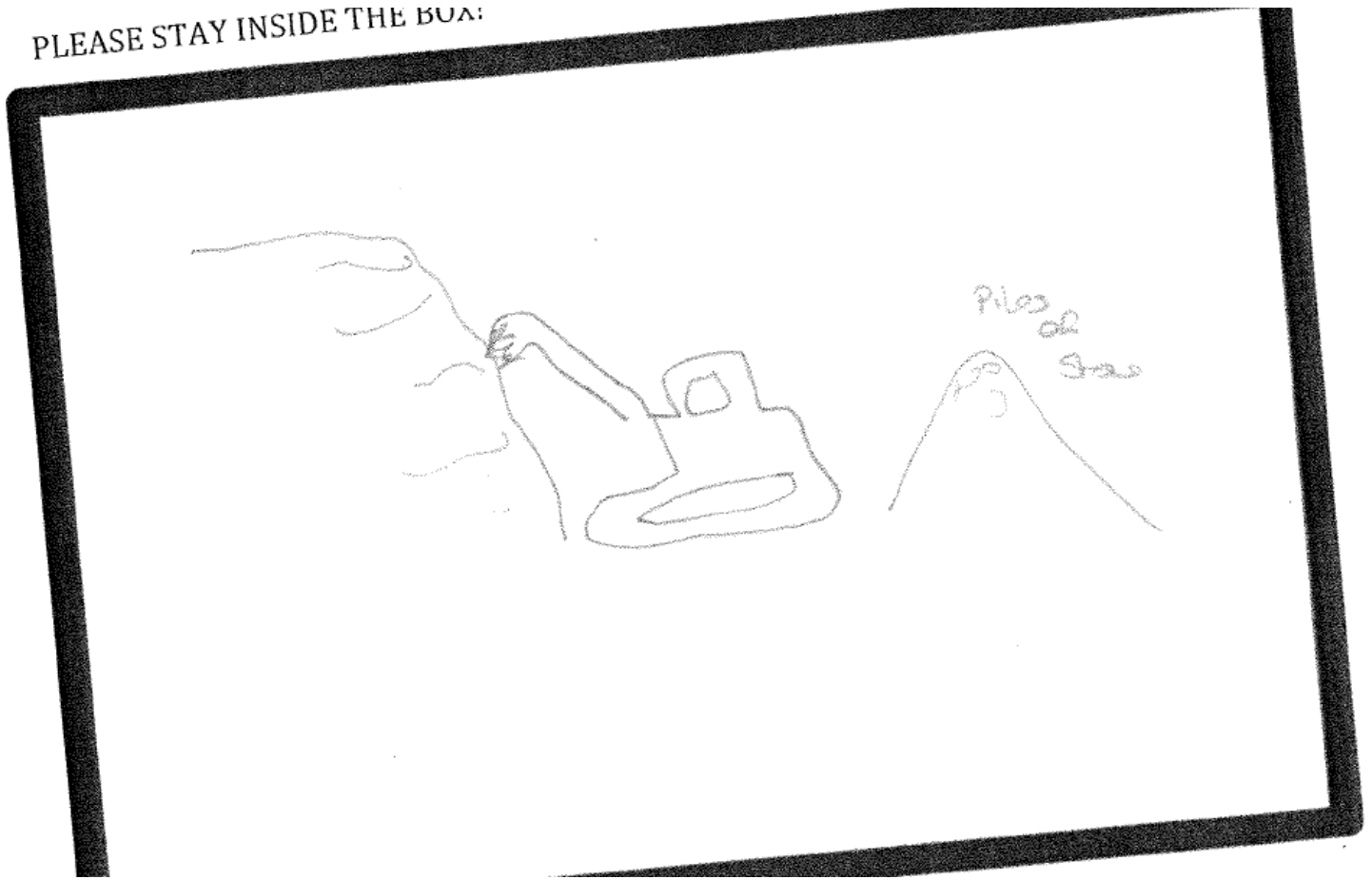


Non-expert

PLEASE STAY INSIDE THE BOX!

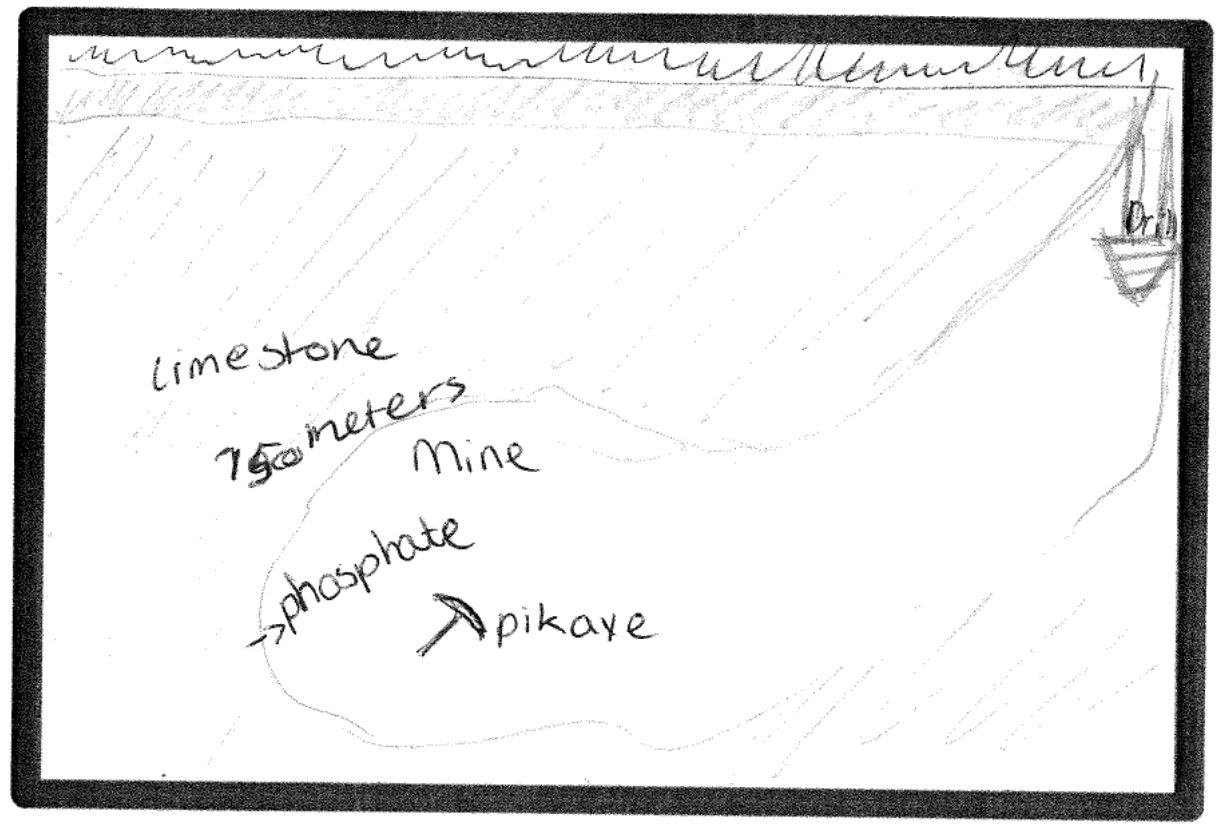


Non-expert



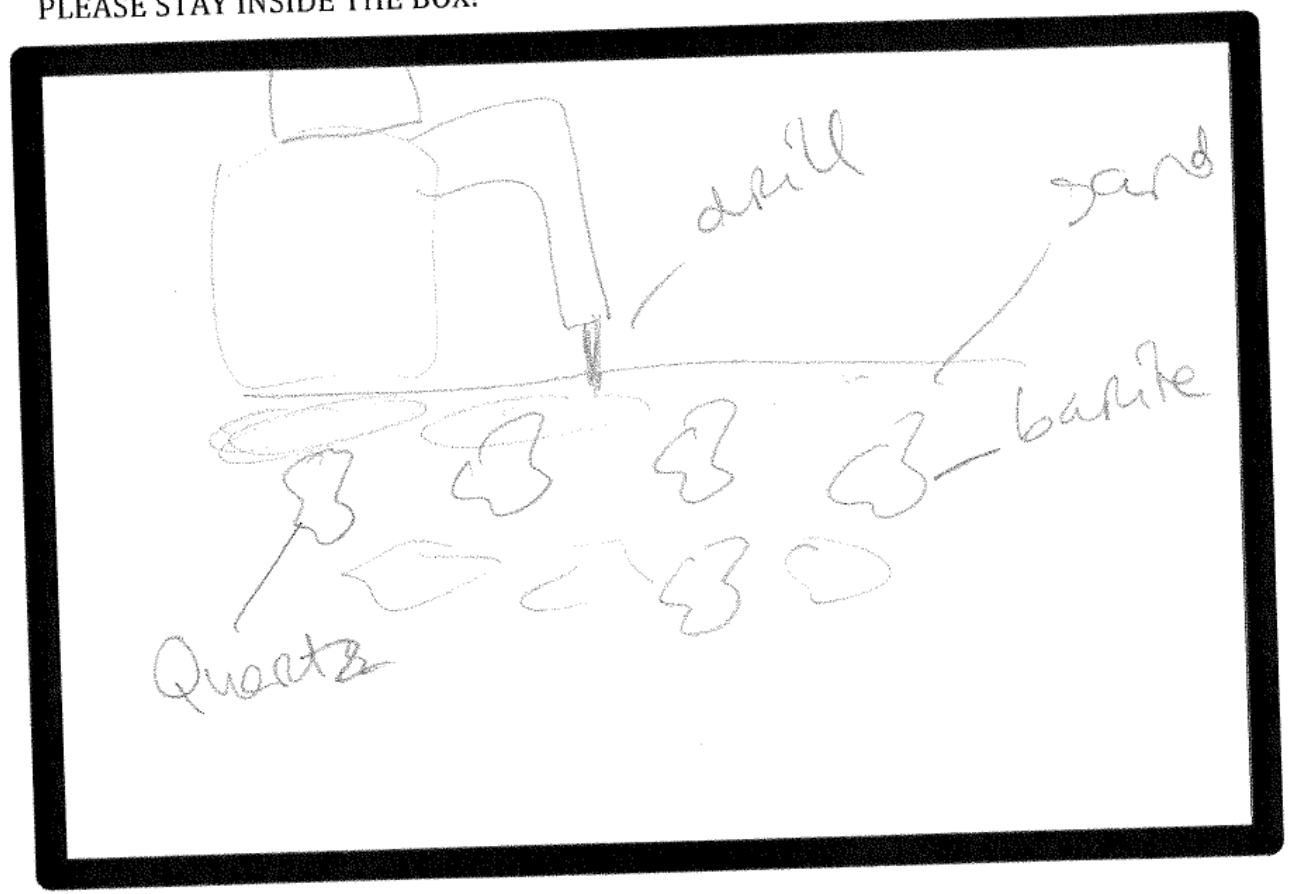
Non-expert

PLEASE STAY INSIDE THE BOX!

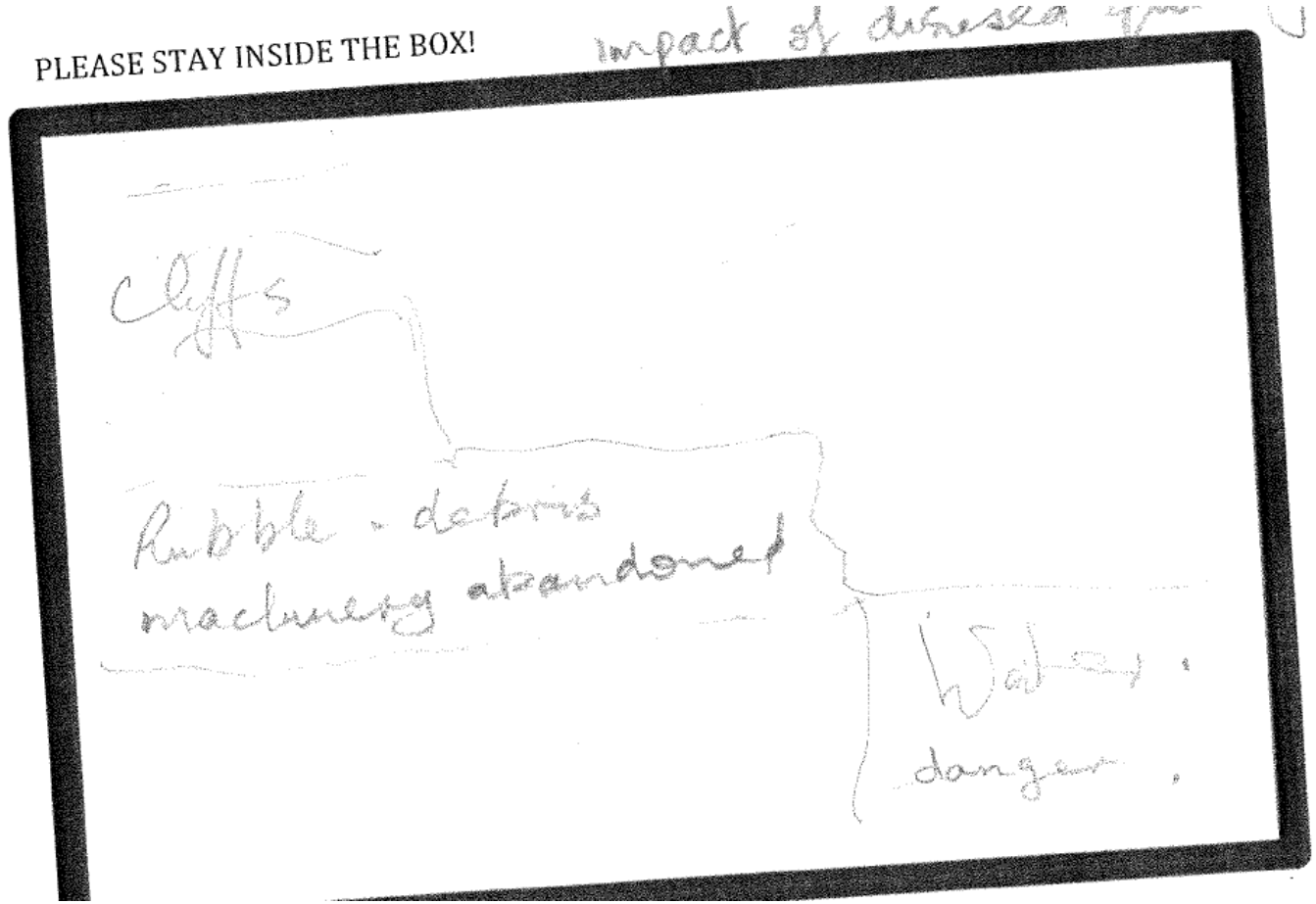


Non-expert

PLEASE STAY INSIDE THE BOX!

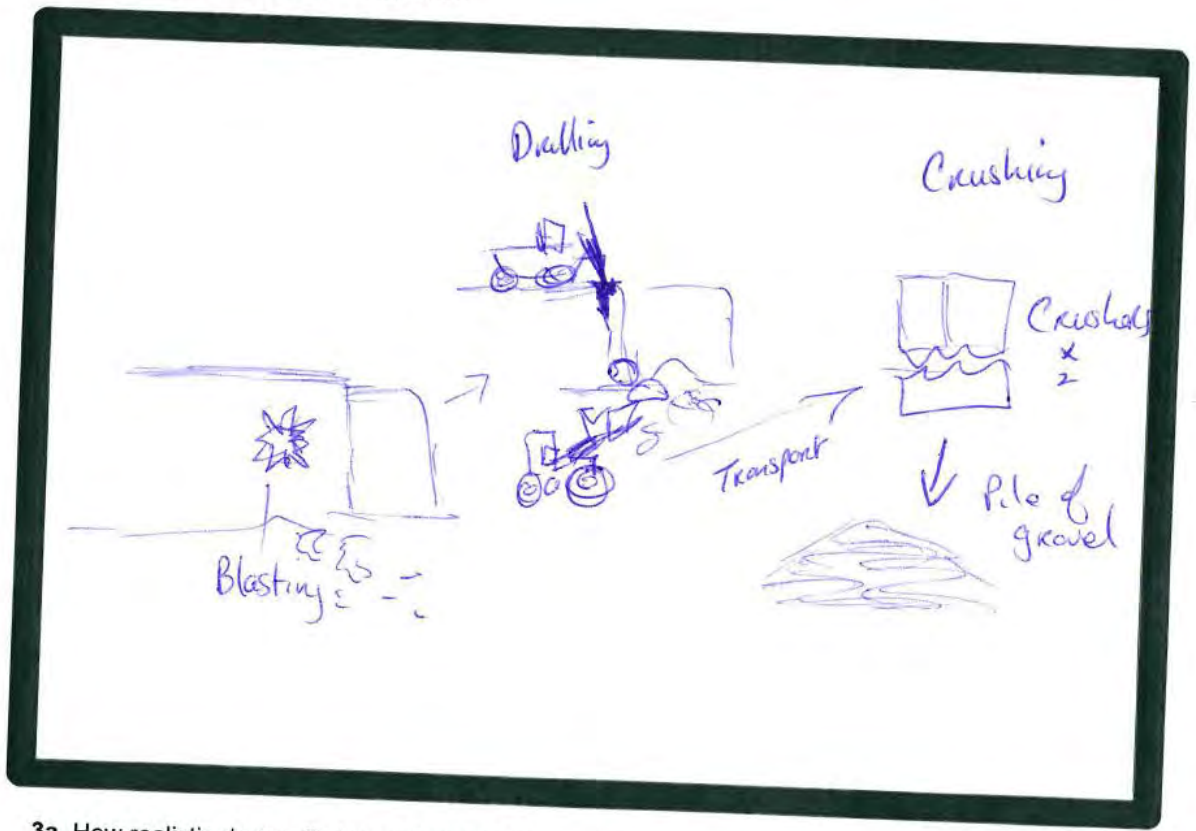


Non-expert


PLEASE STAY INSIDE THE BOX!
impact of diseases
cliffs
Rubble - debris
machinery abandoned
Water -
danger -

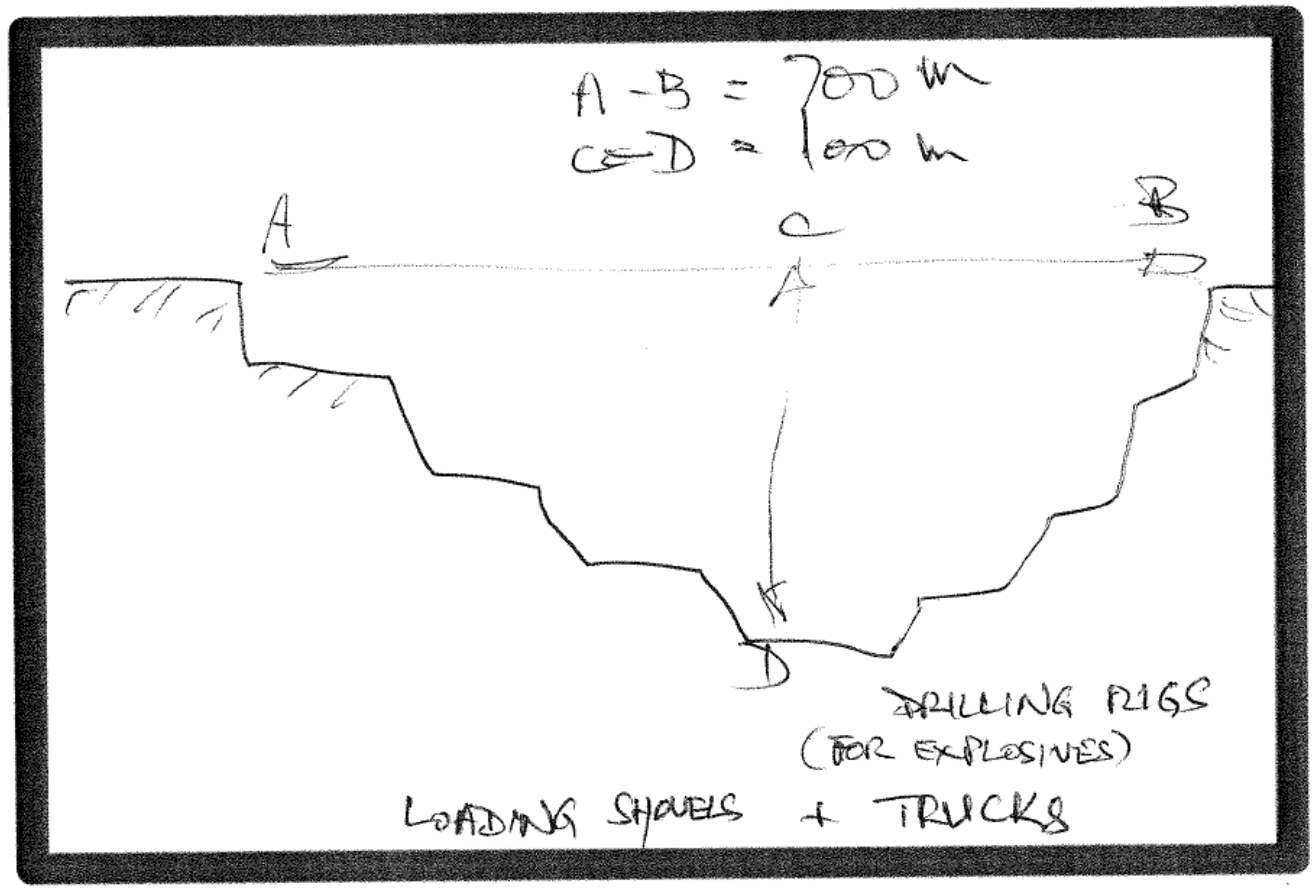
Non-expert

PLEASE STAY INSIDE THE BOX!



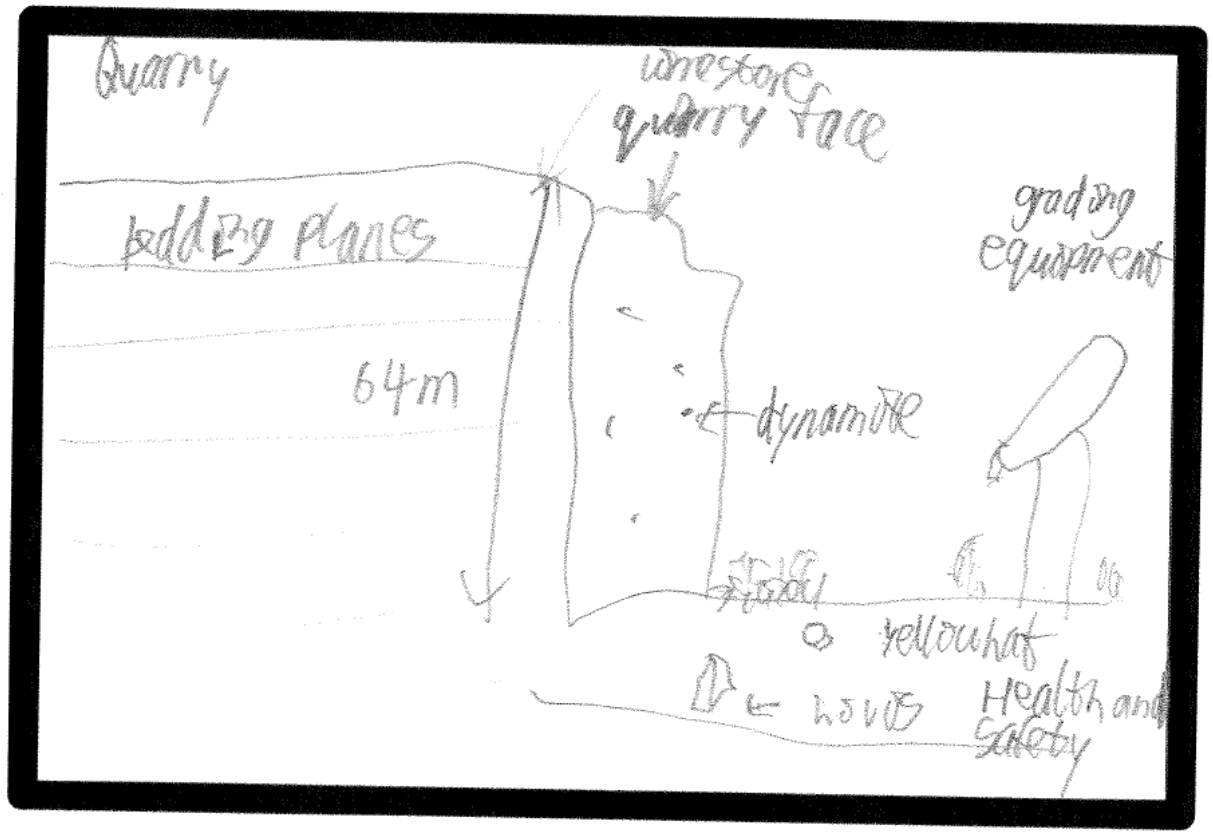
3a. How realistic do you find your sketch? Please circle th

Non-expert

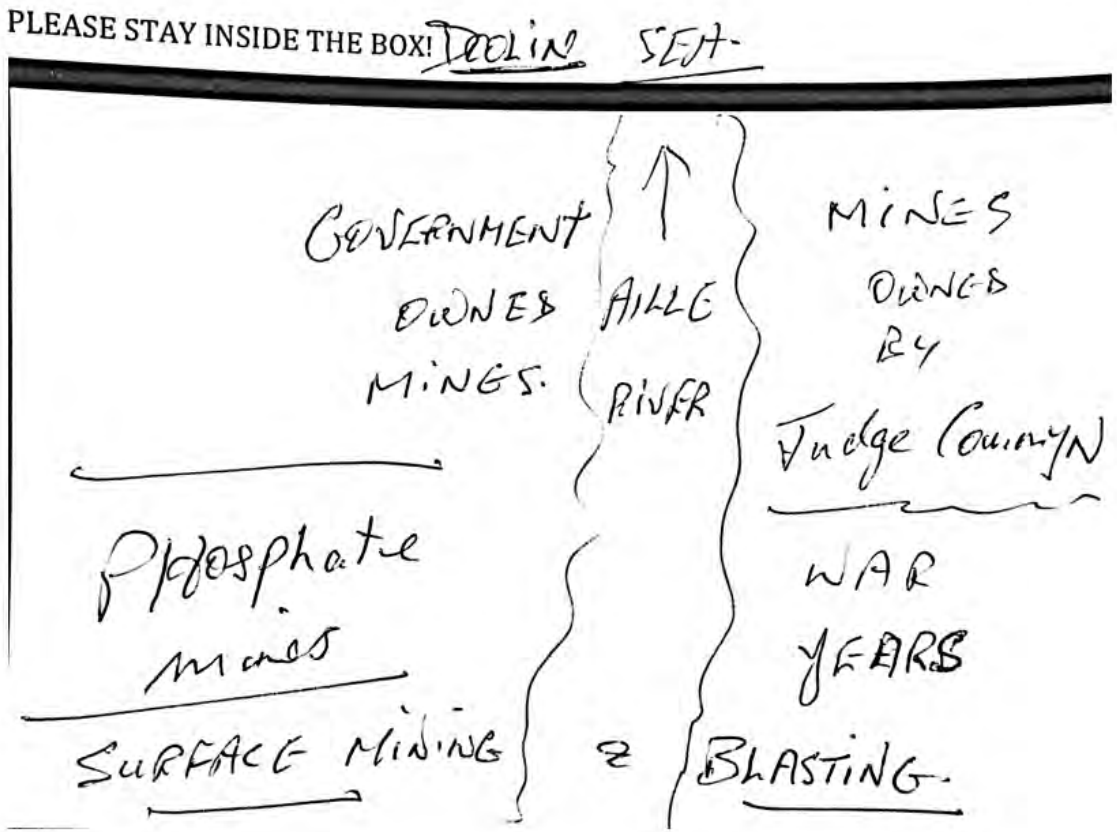

A - B = 700 m
C - D = 1000 m
A
C
B
D
DRILLING RIGS
(FOR EXPLOSIVES)
LOADING SHOVELS + TRUCKS

Non-expert

PLEASE STAY INSIDE THE BOX!

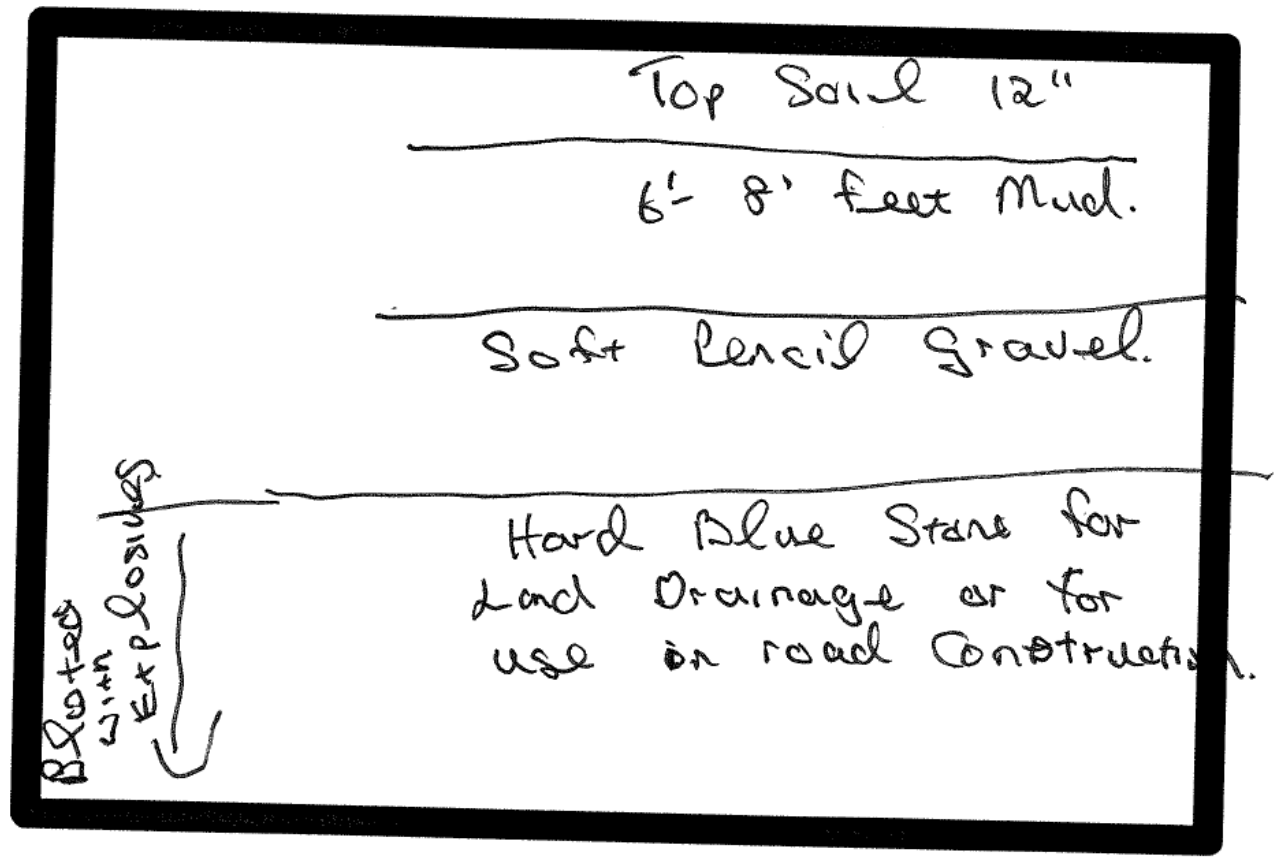


Non-expert

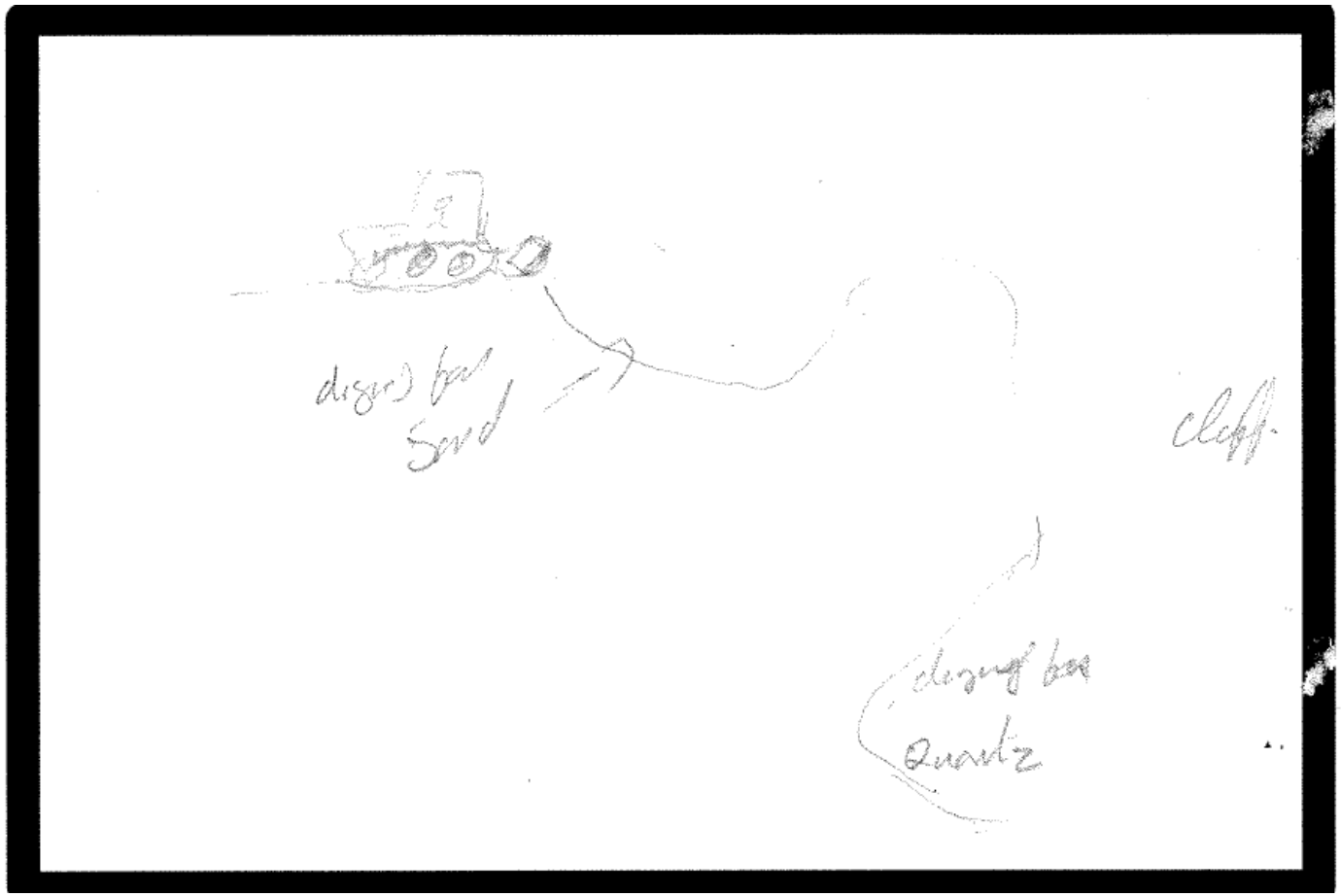

PLEASE STAY INSIDE THE BOX!
GOVERNMENT OWNED MINES.
PHOSPHATE MINES
SURFACE MINING
ALLE RIVER
MINES OWNED BY Judge Courtney
WAR YEARS
BLASTING.

Non-expert

PLEASE STAY INSIDE THE BOX!

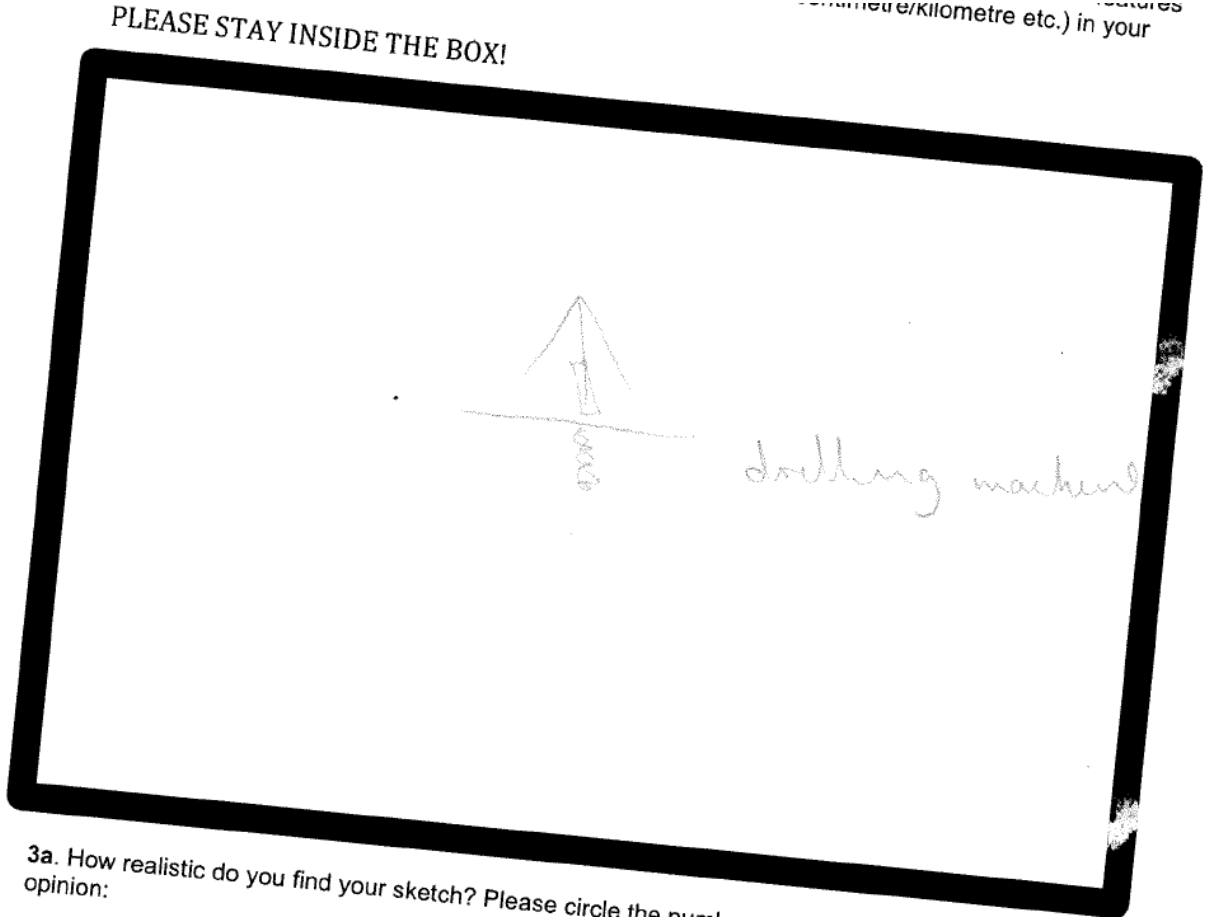


Non-expert



Non-expert

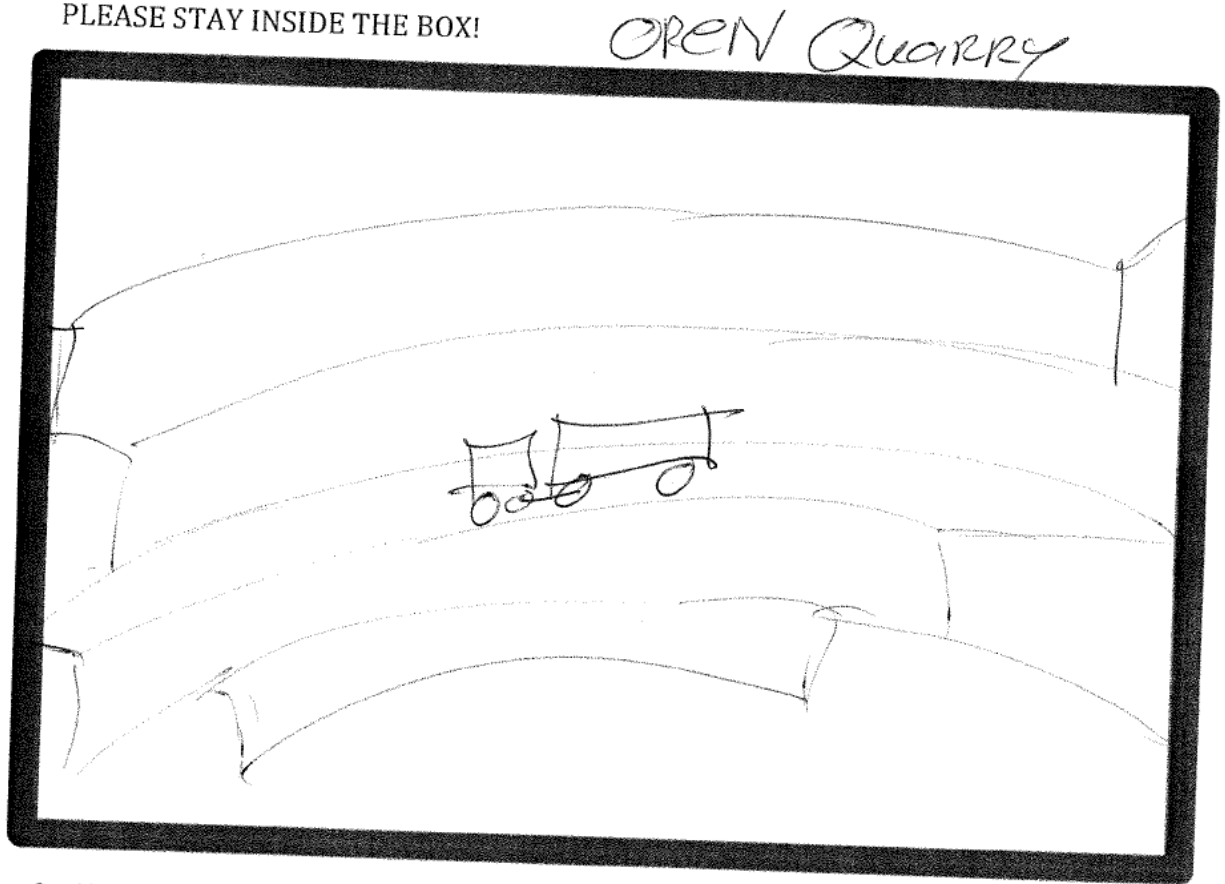
PLEASE STAY INSIDE THE BOX!



3a. How realistic do you find your sketch? Please circle the pu
opinion:

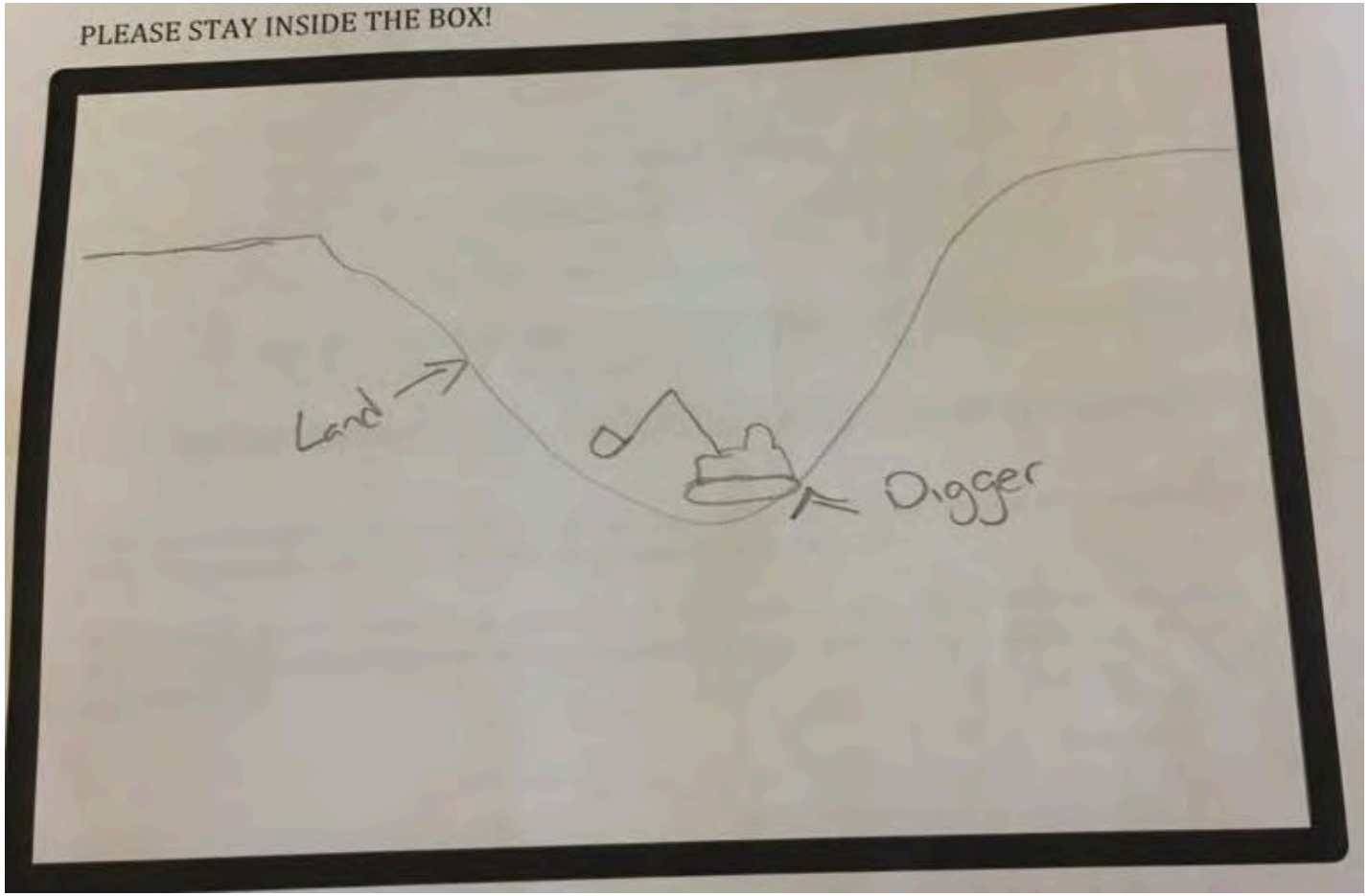
Non-expert

PLEASE STAY INSIDE THE BOX!



3a. How realistic do you find your sketch? Please

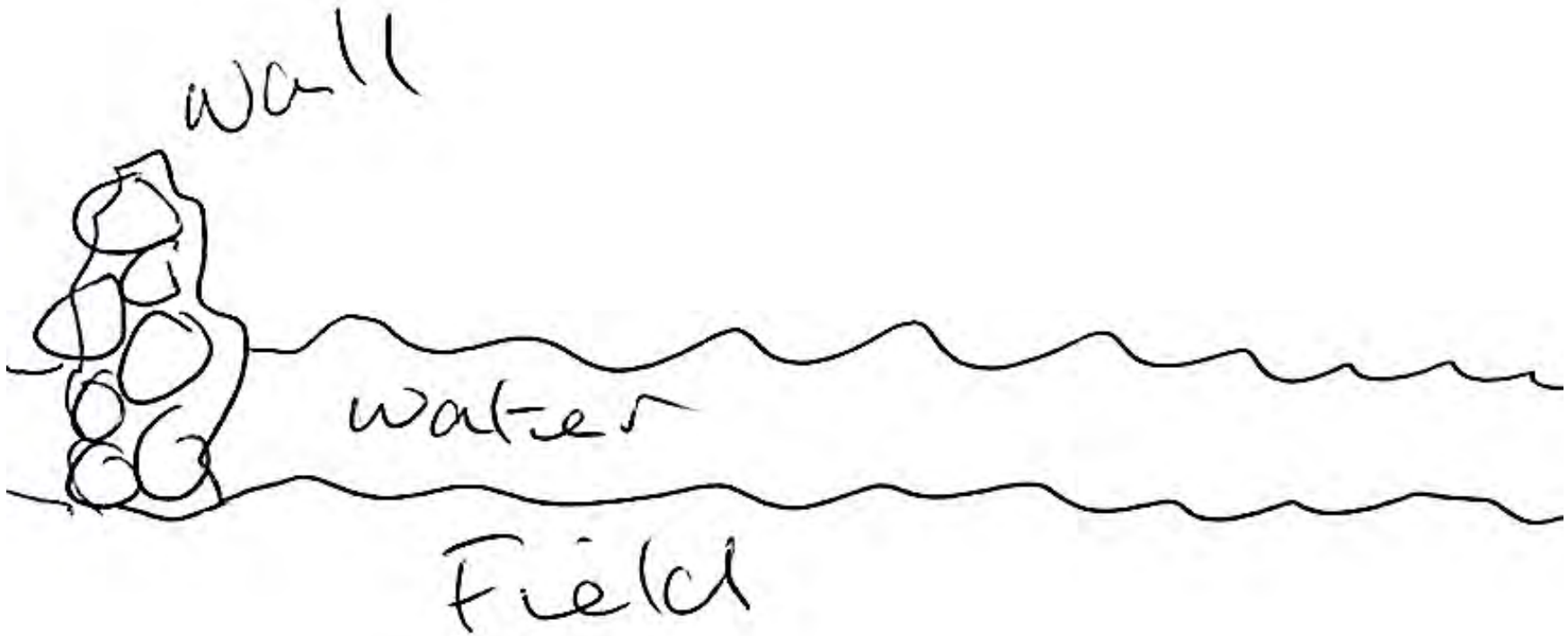
Non-expert



Non-expert

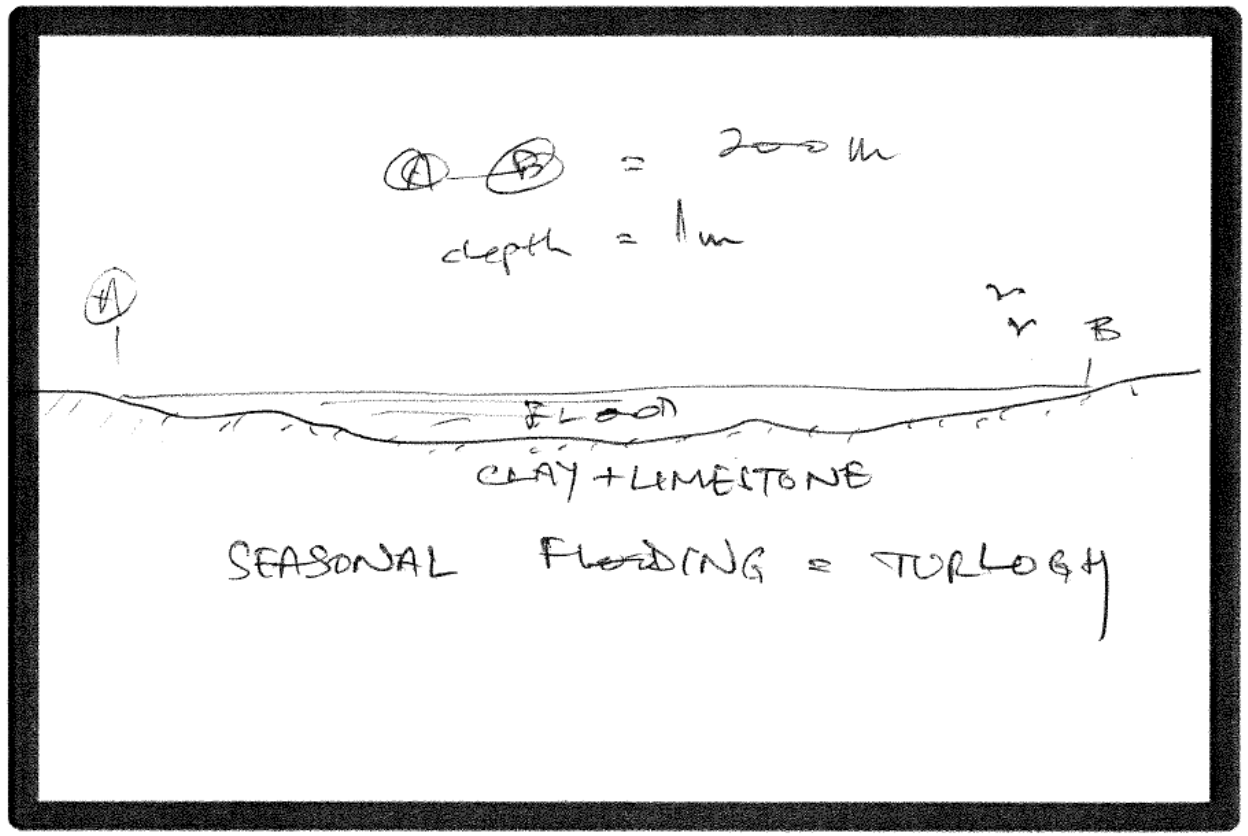
Flooding

- *Imagine that a field or land area in County Clare is currently flooded. Please sketch what the flooding would look like*



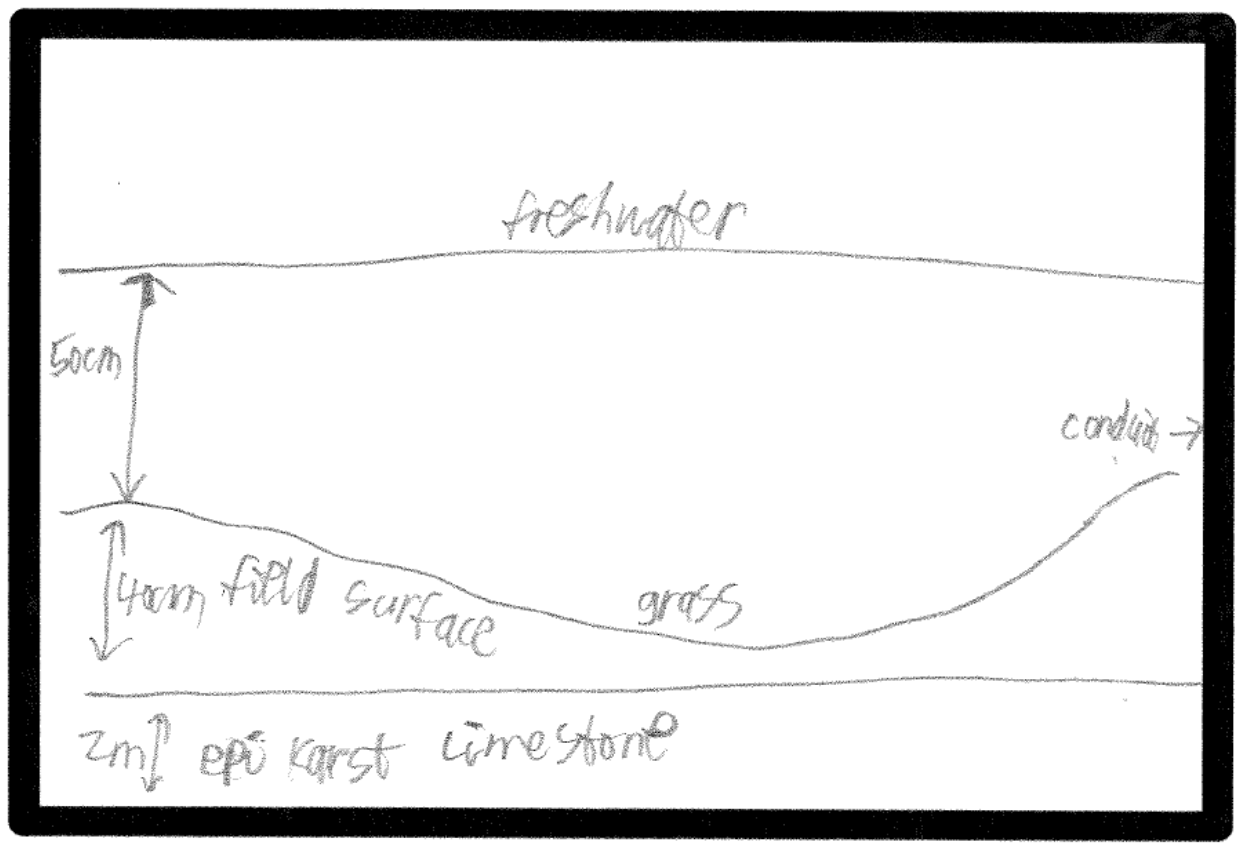
Non-expert

PLEASE STAY INSIDE THE BOX!

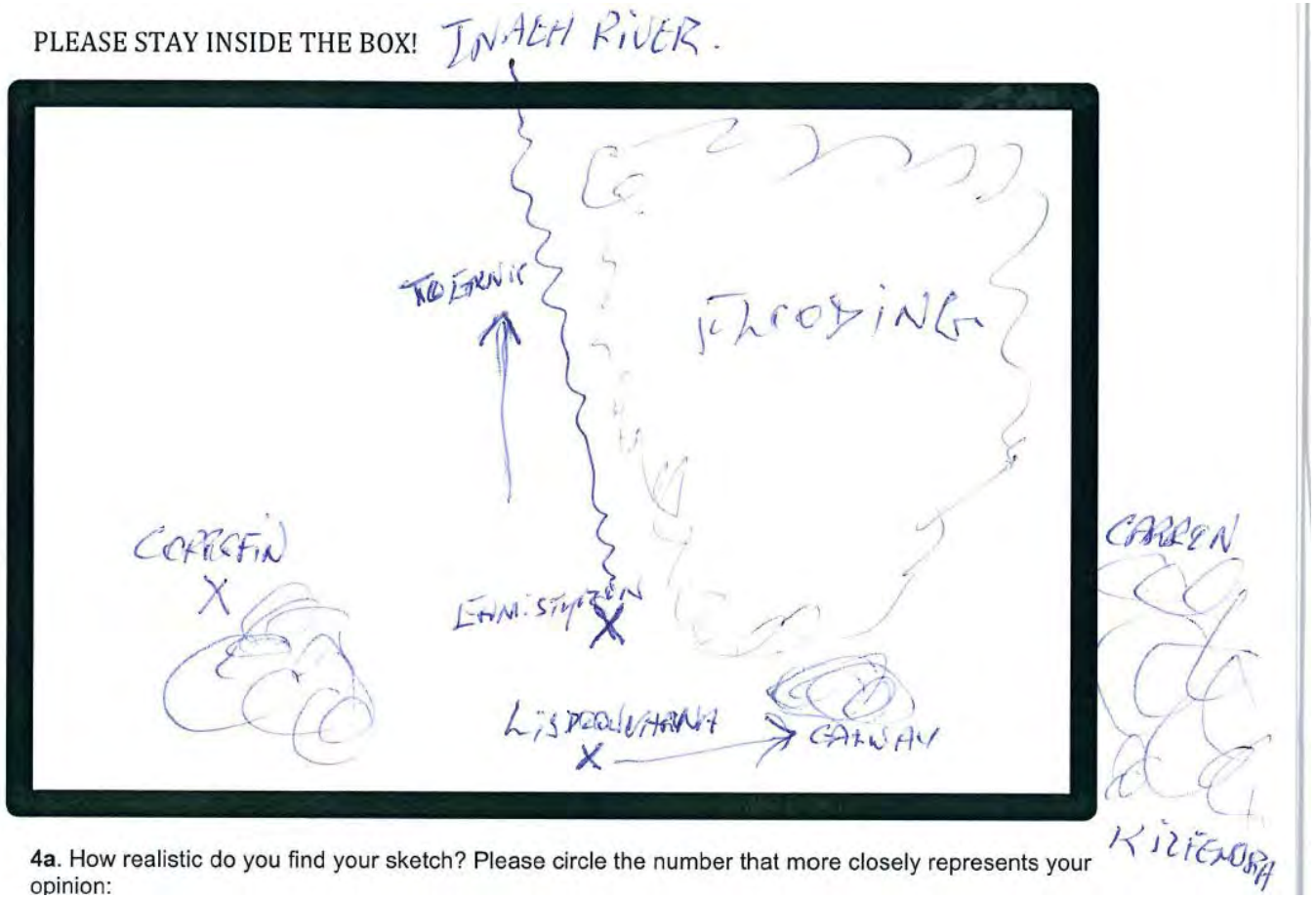


Non-expert

PLEASE STAY INSIDE THE BOX!



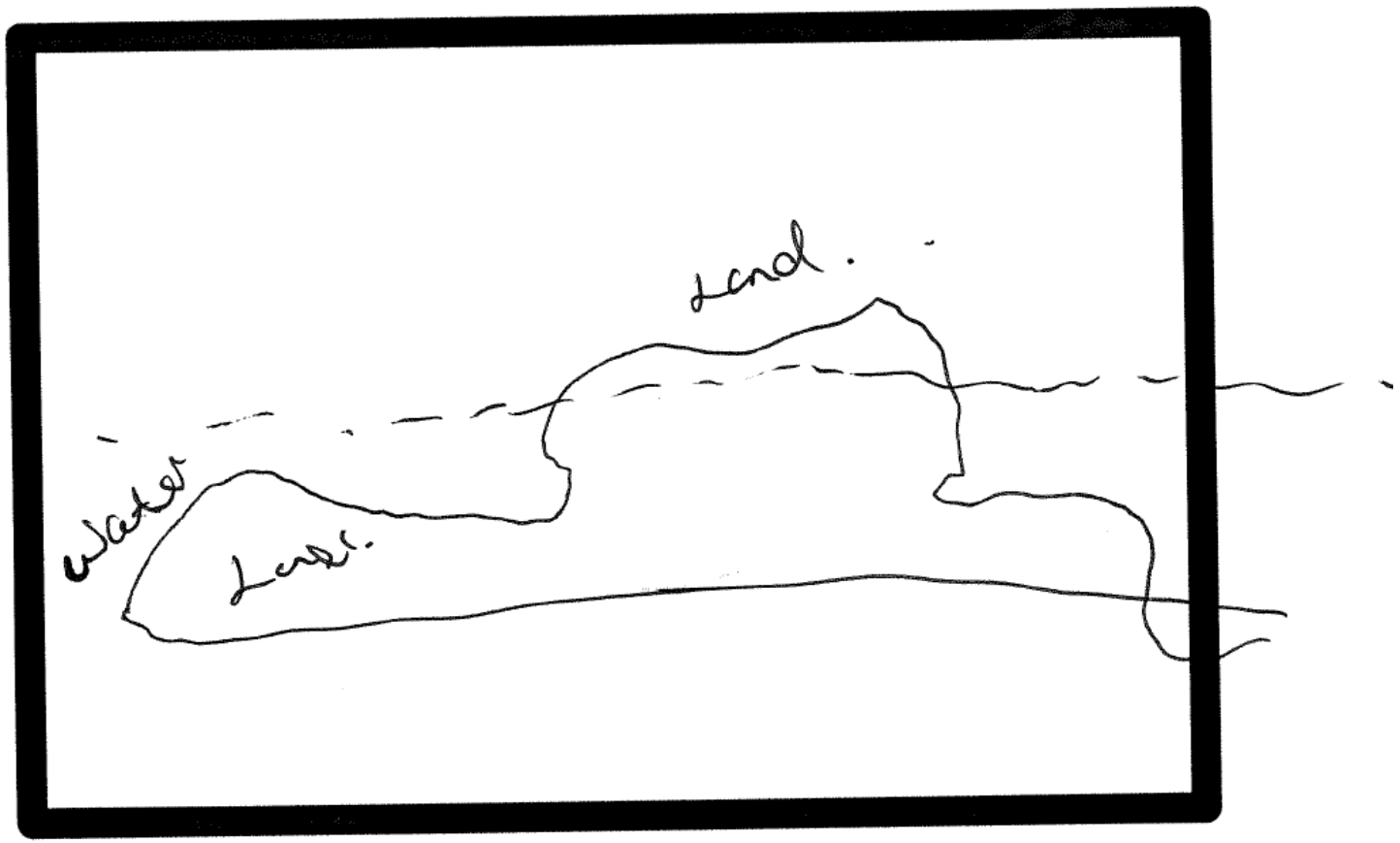
Non-expert



4a. How realistic do you find your sketch? Please circle the number that more closely represents your opinion:

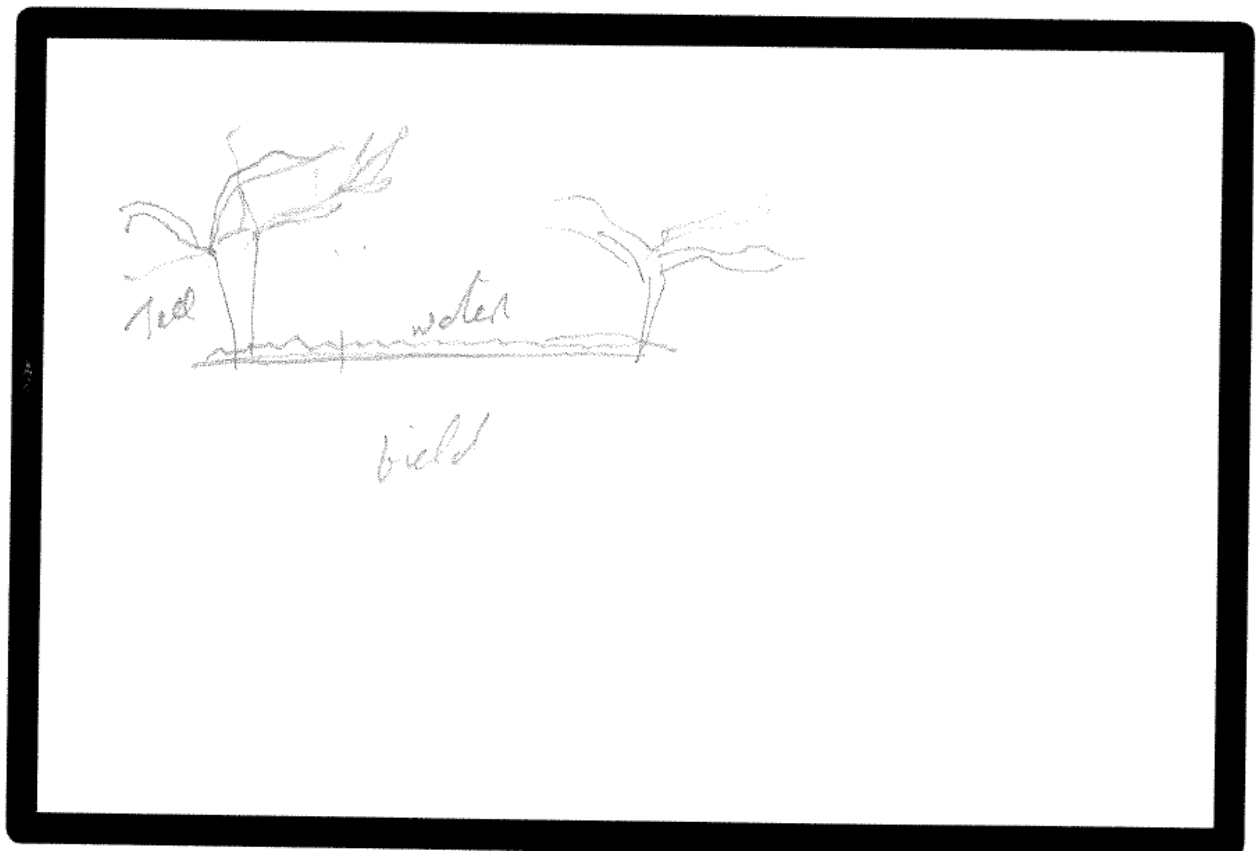
Non-expert

PLEASE STAY INSIDE THE BOX!



Non-expert

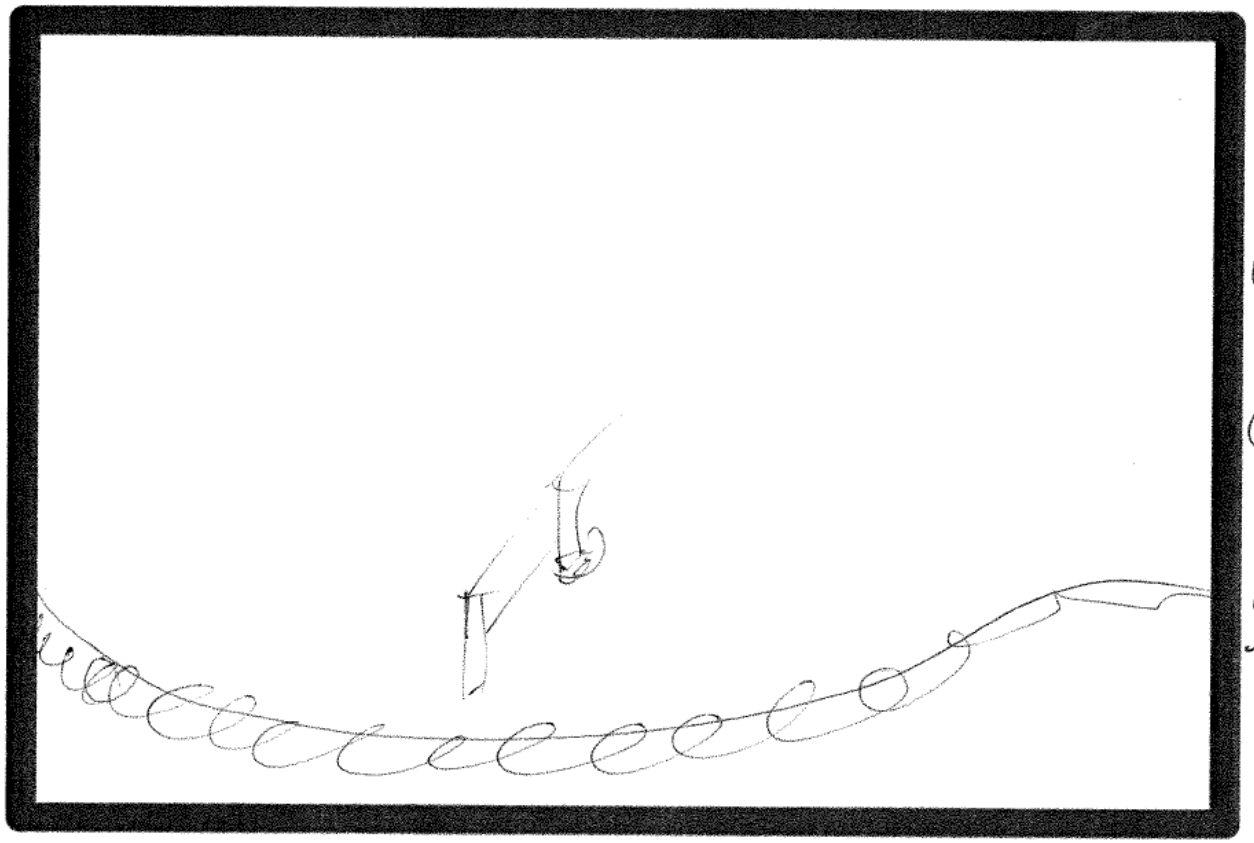
PLEASE STAY INSIDE THE BOX!



Non-expert

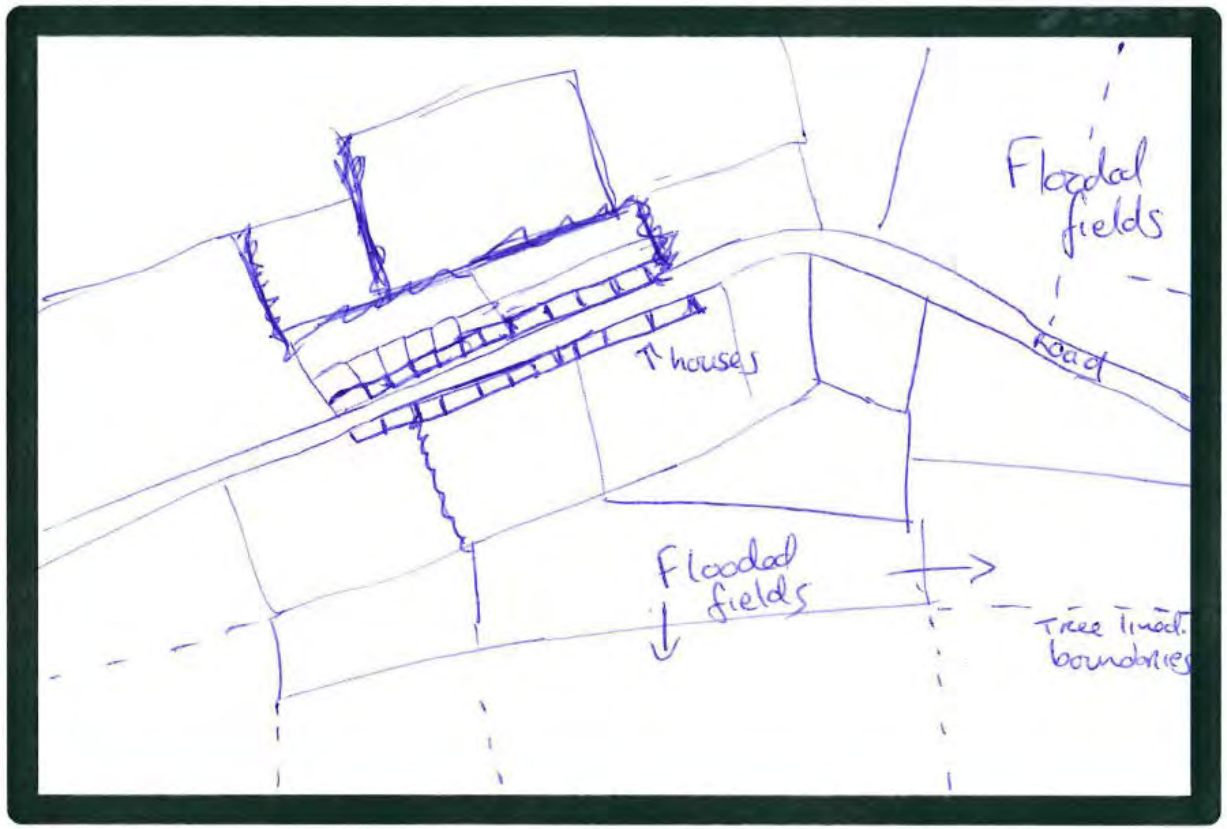
Non-expert

PLEASE STAY INSIDE THE BOX!



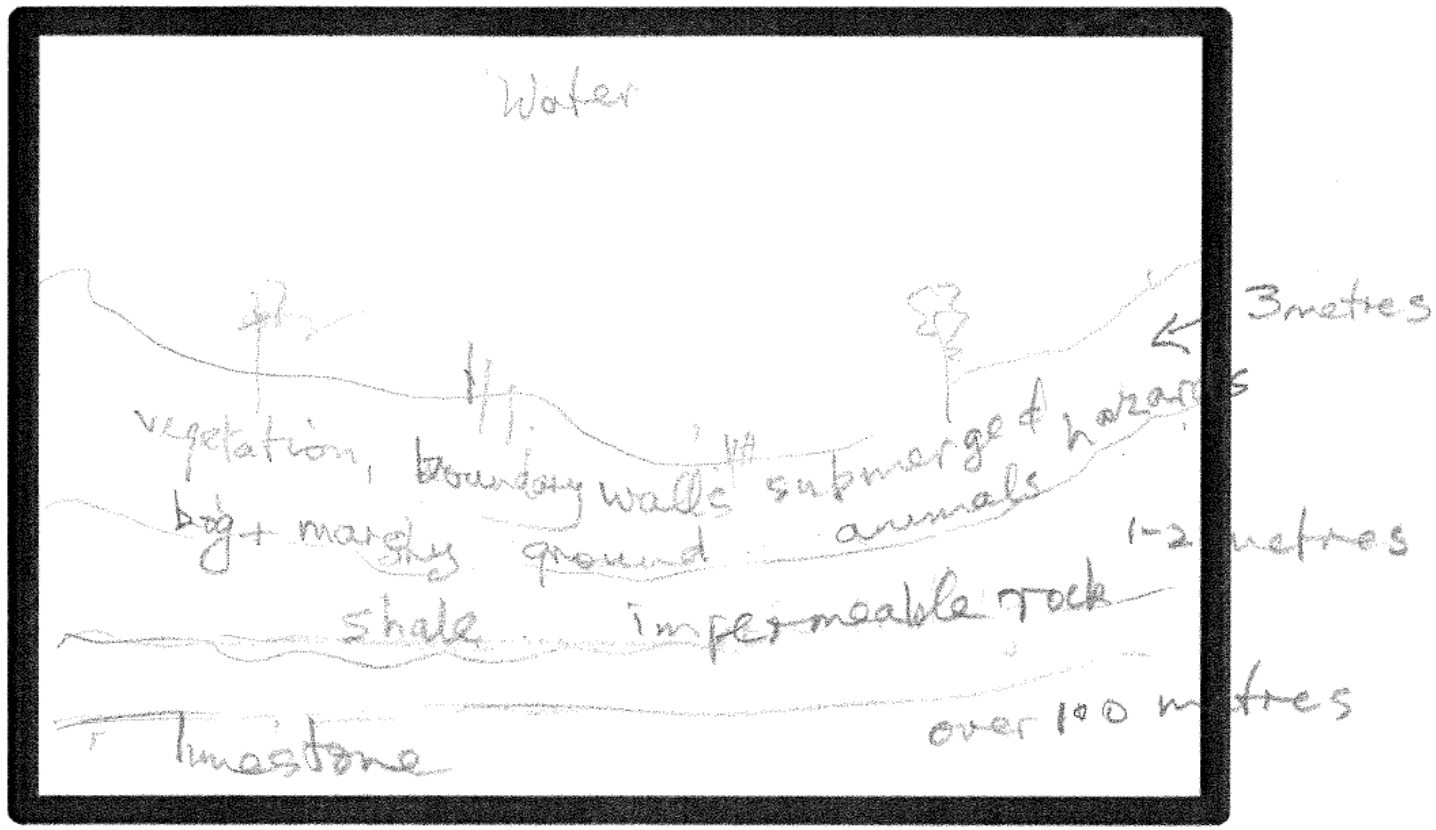
Non-expert

PLEASE STAY INSIDE THE BOX!



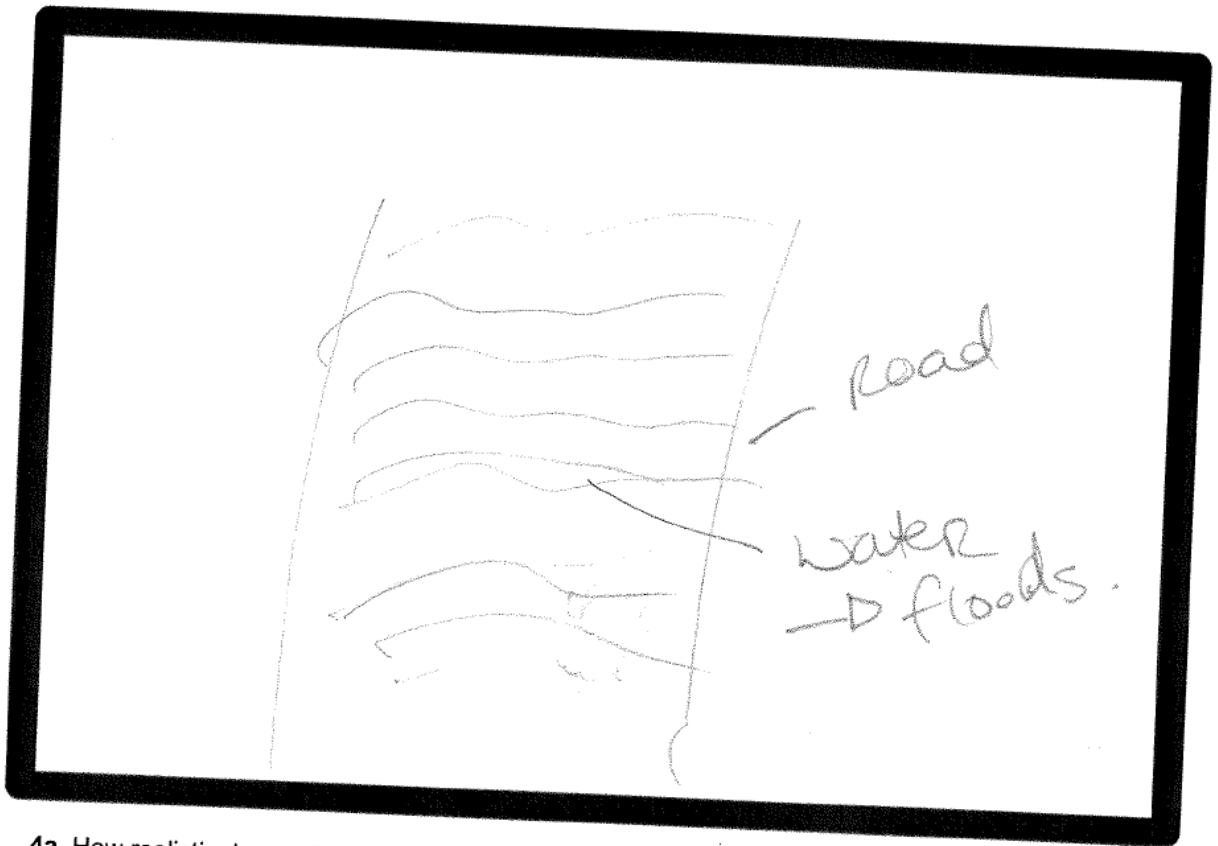
Non-expert

PLEASE STAY INSIDE THE BOX!



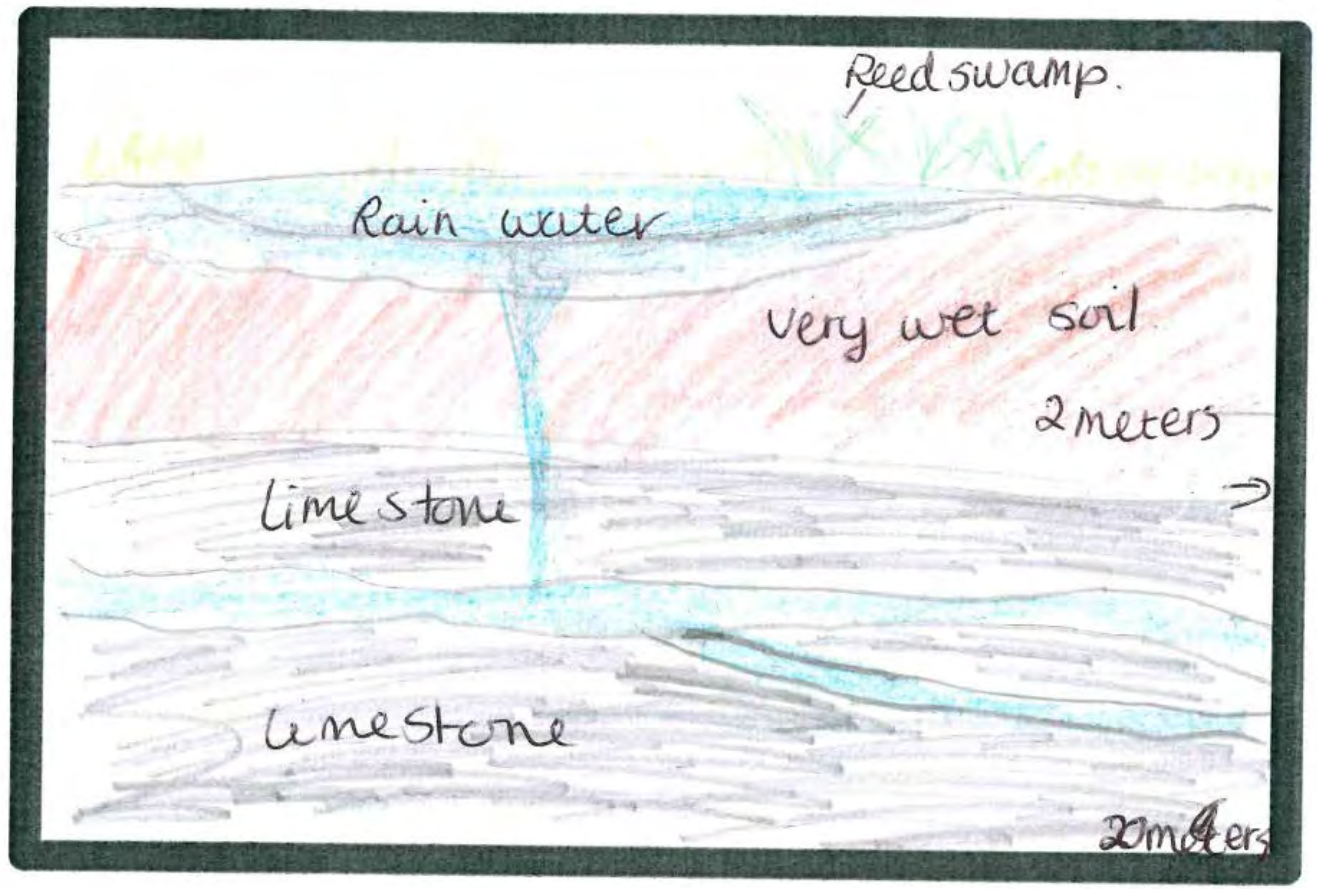
Non-expert

PLEASE STAY INSIDE THE BOX!



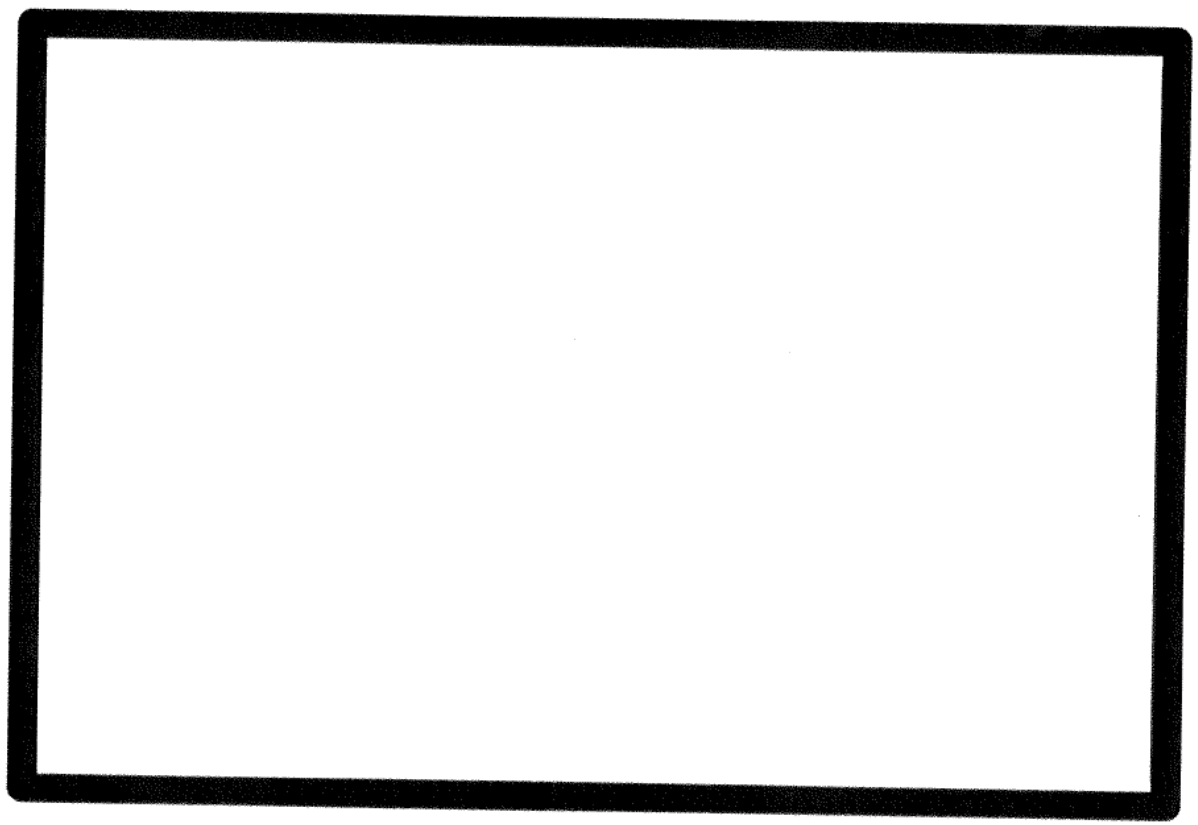
4a. How realistic do you find your

Non-expert


Reed swamp.
Rain water
very wet soil
2 meters
limestone
limestone
20meters

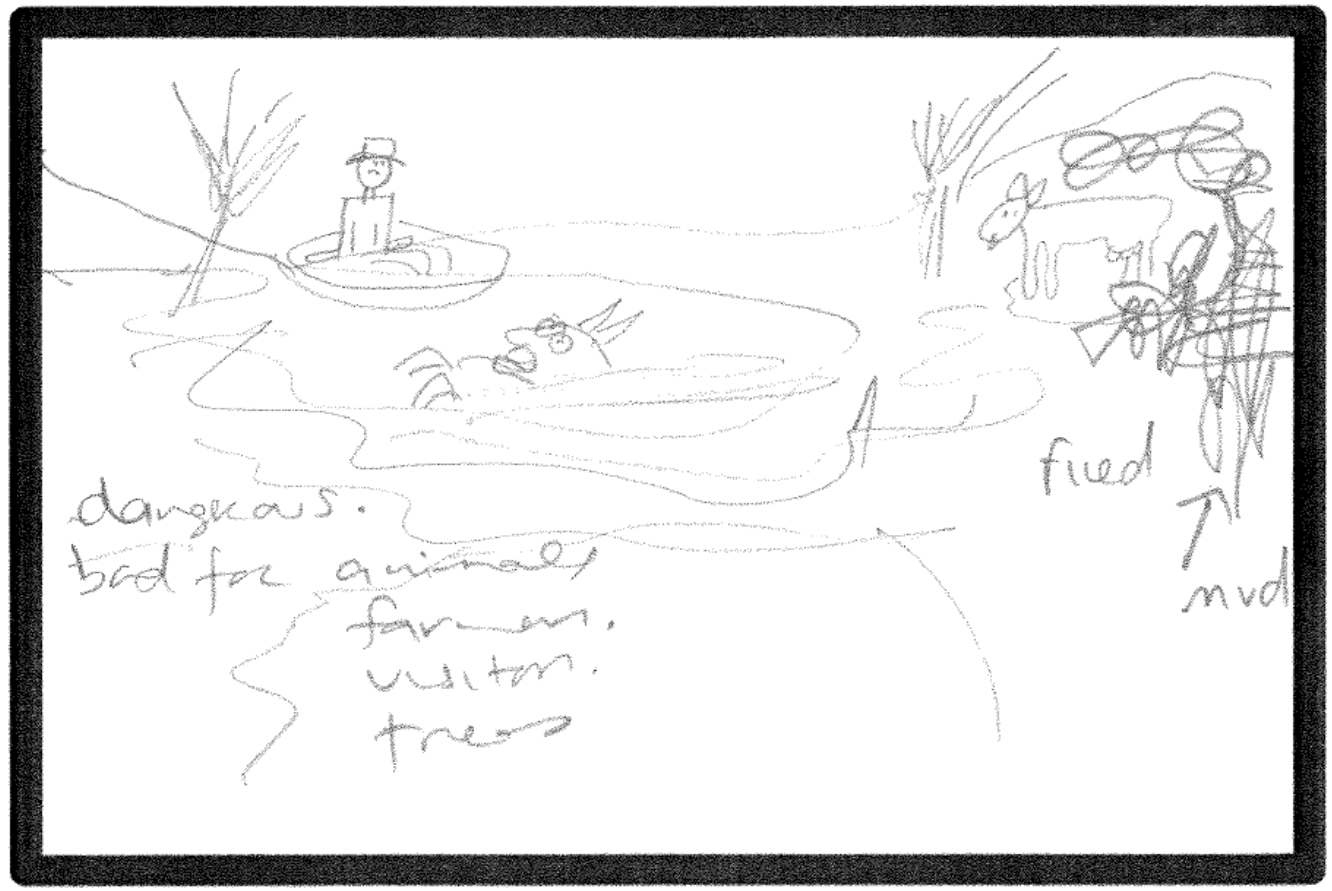
Non-expert

PLEASE STAY INSIDE THE BOX!



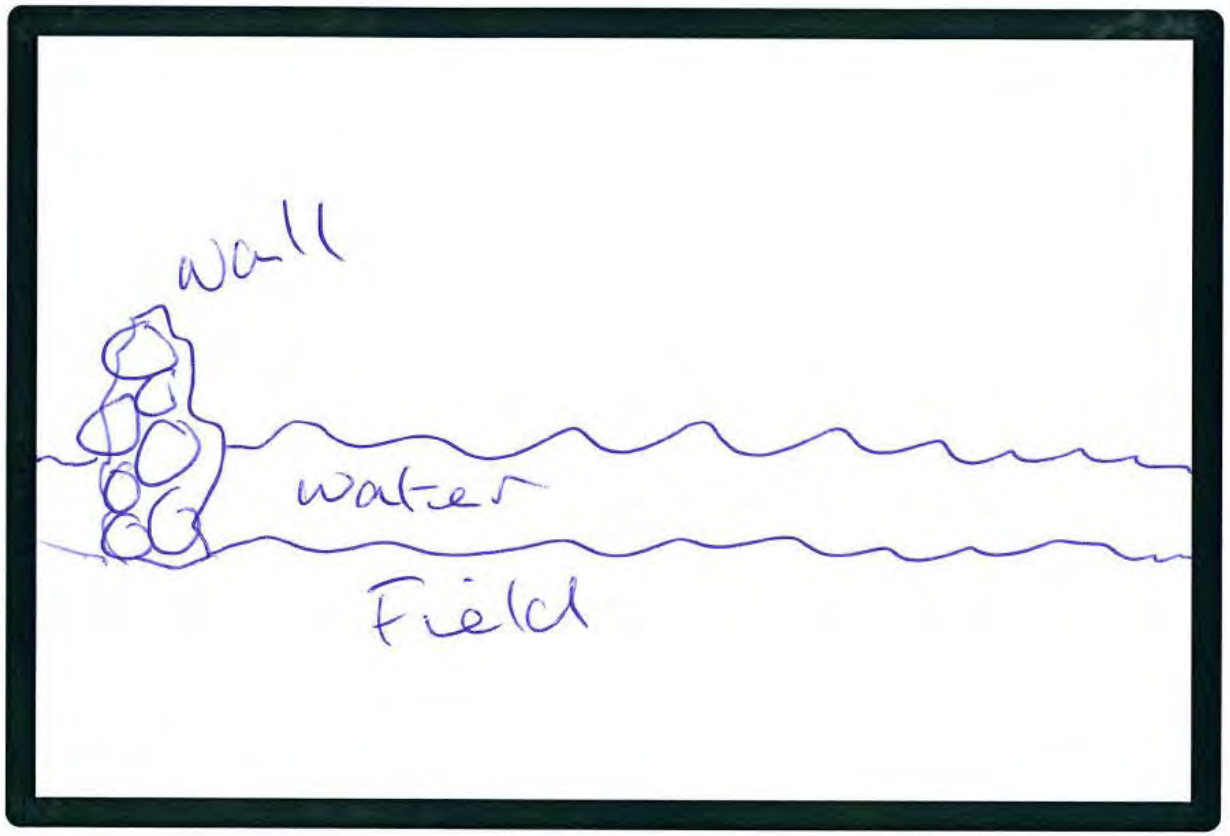
4a How realistic do you find your sketch? Please circle the

Non-expert



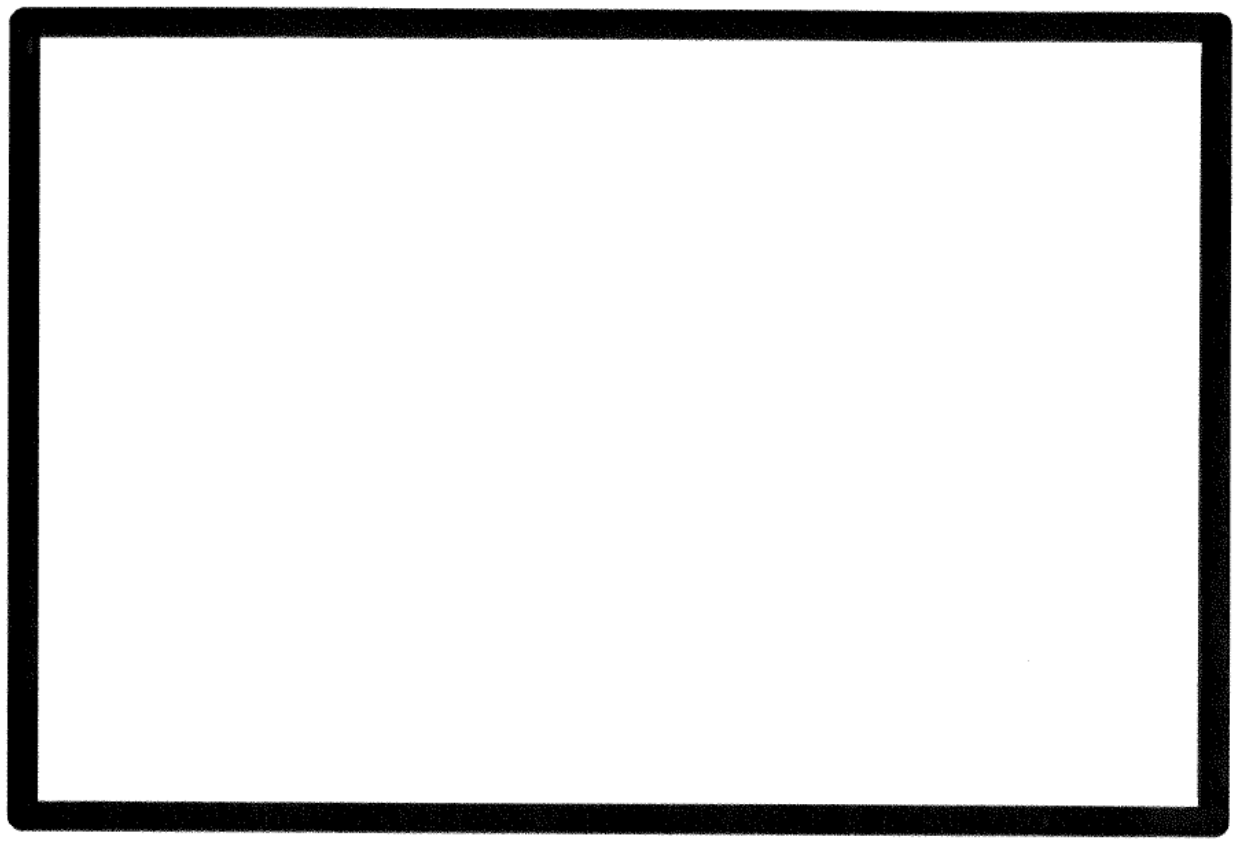
Non-expert

PLEASE STAY INSIDE THE BOX!

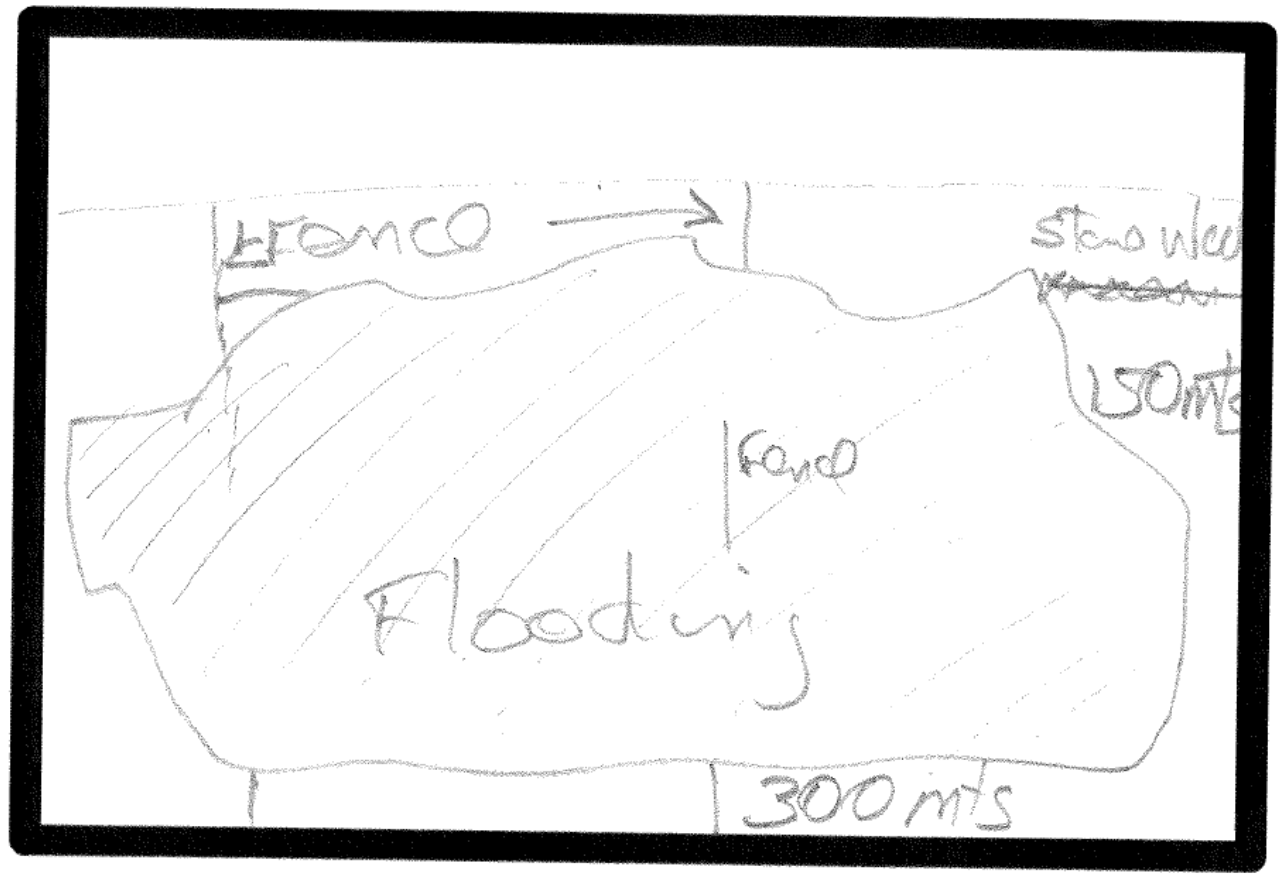


Non-expert

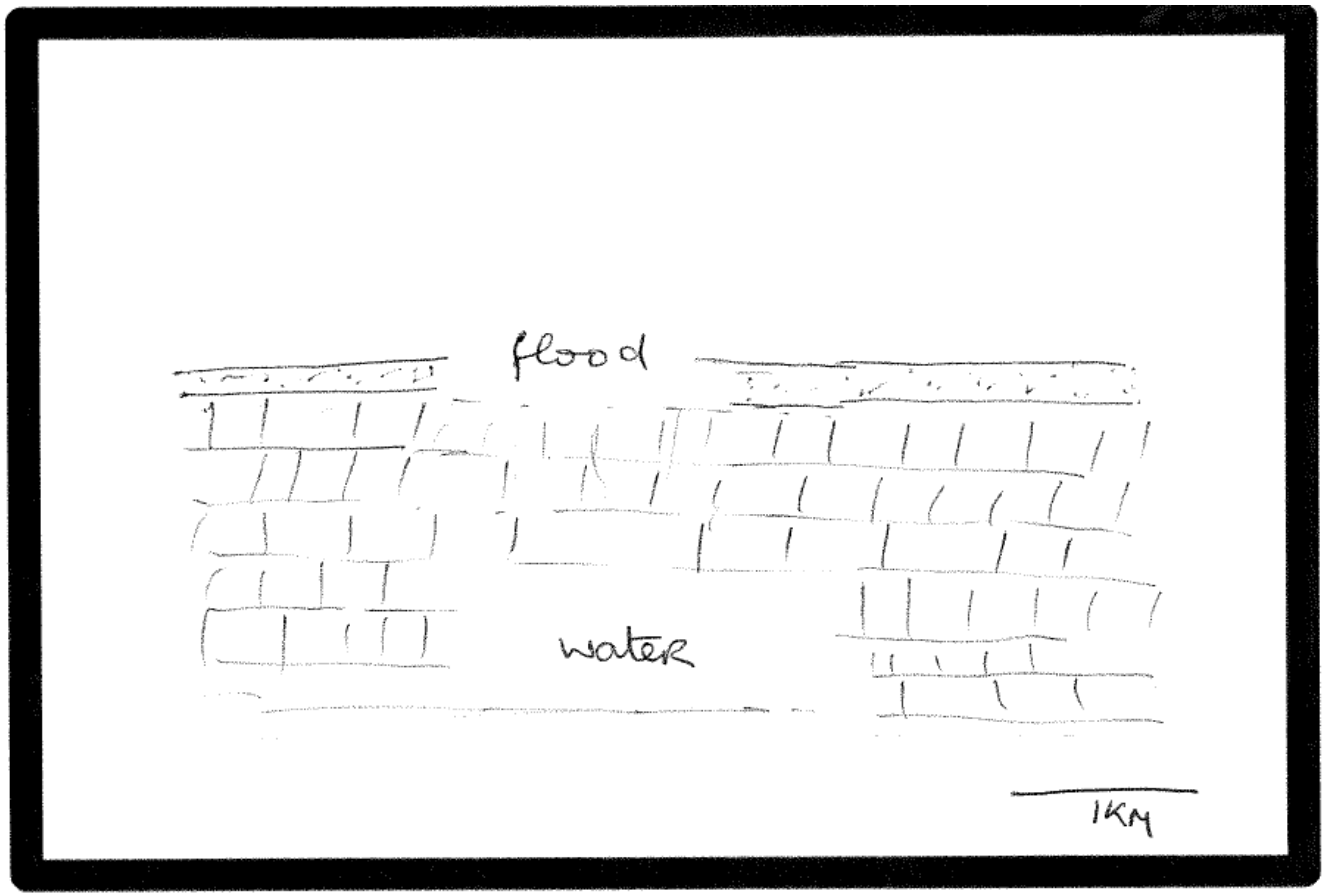
PLEASE STAY INSIDE THE BOX!



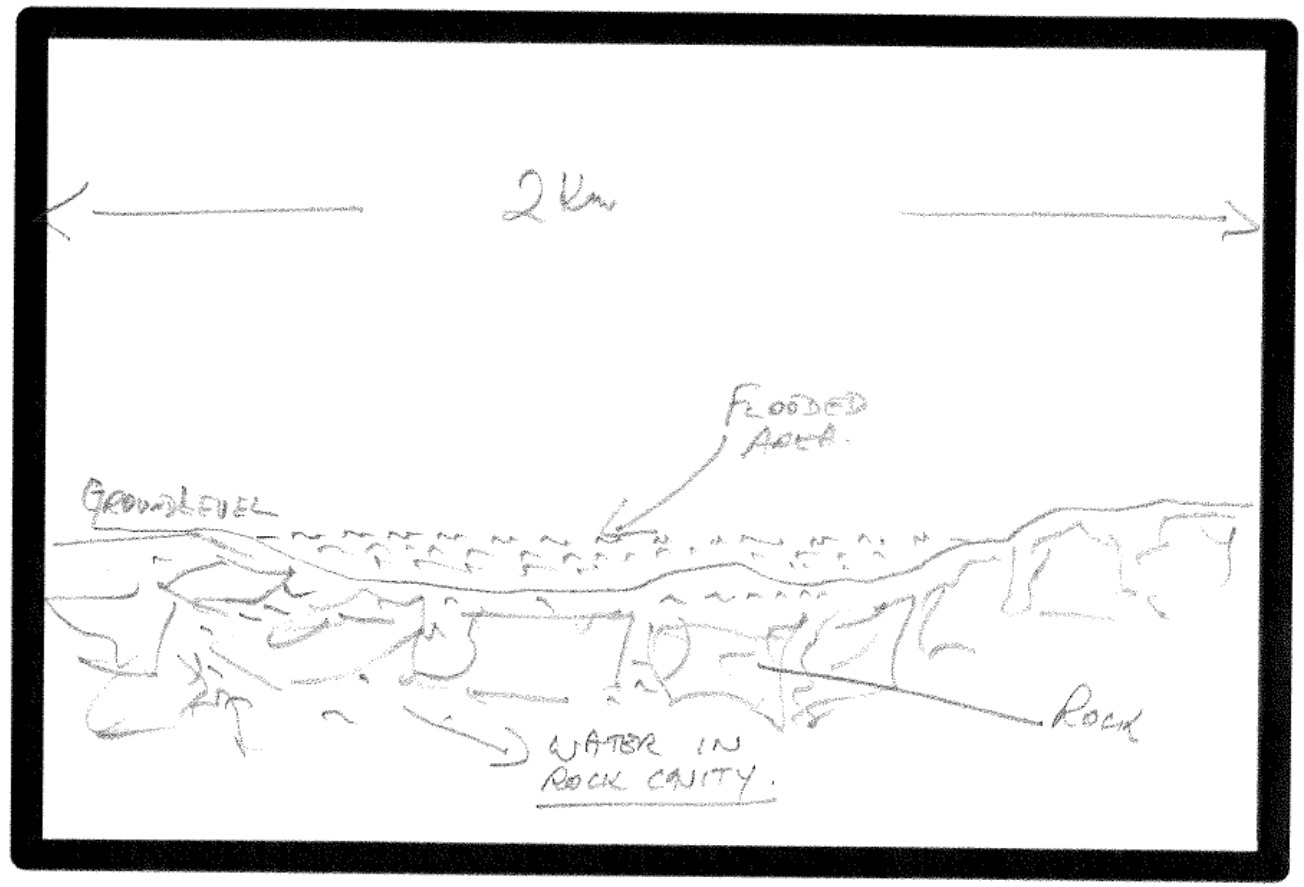
Non-expert



Non-expert

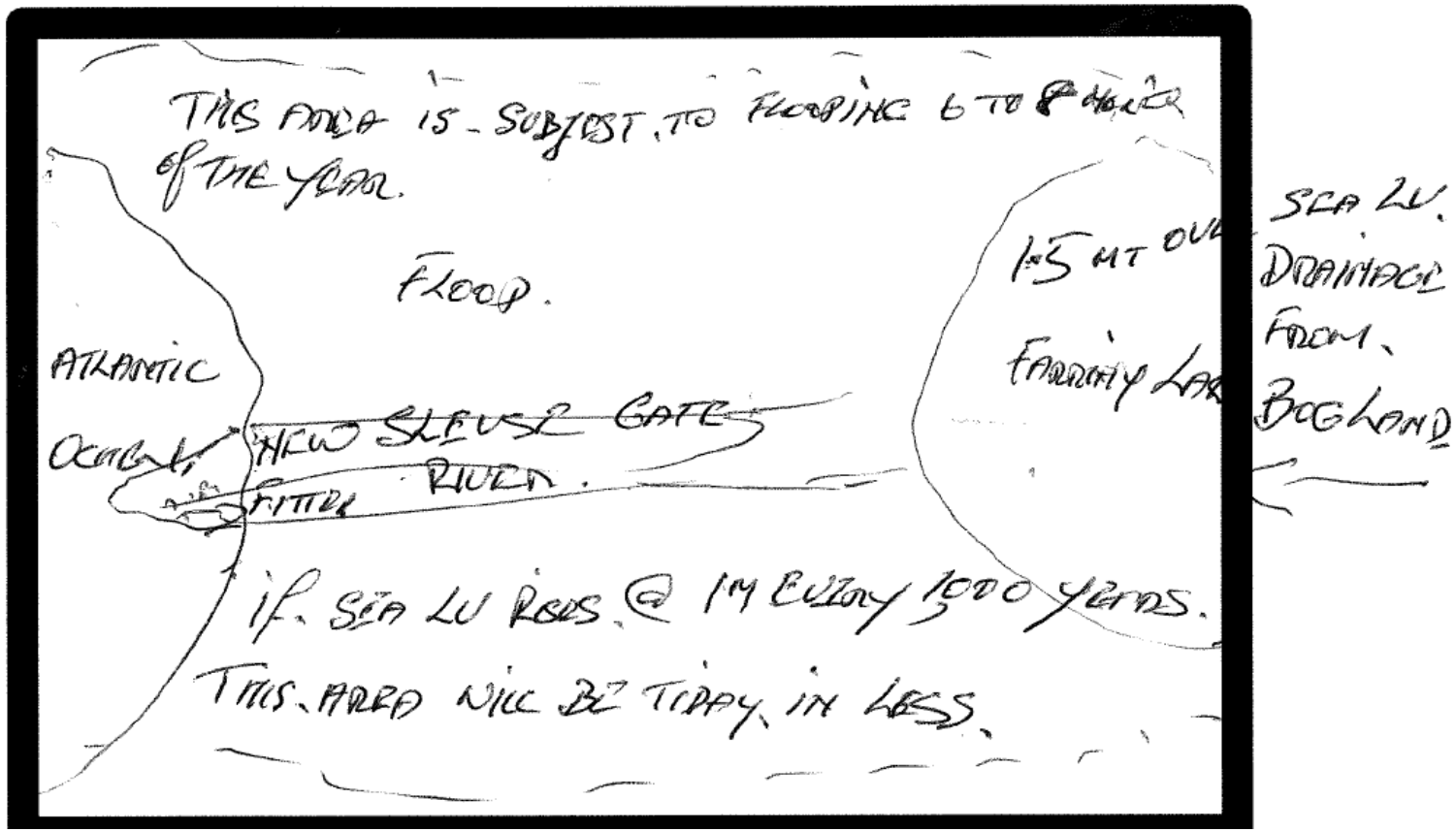


Non-expert



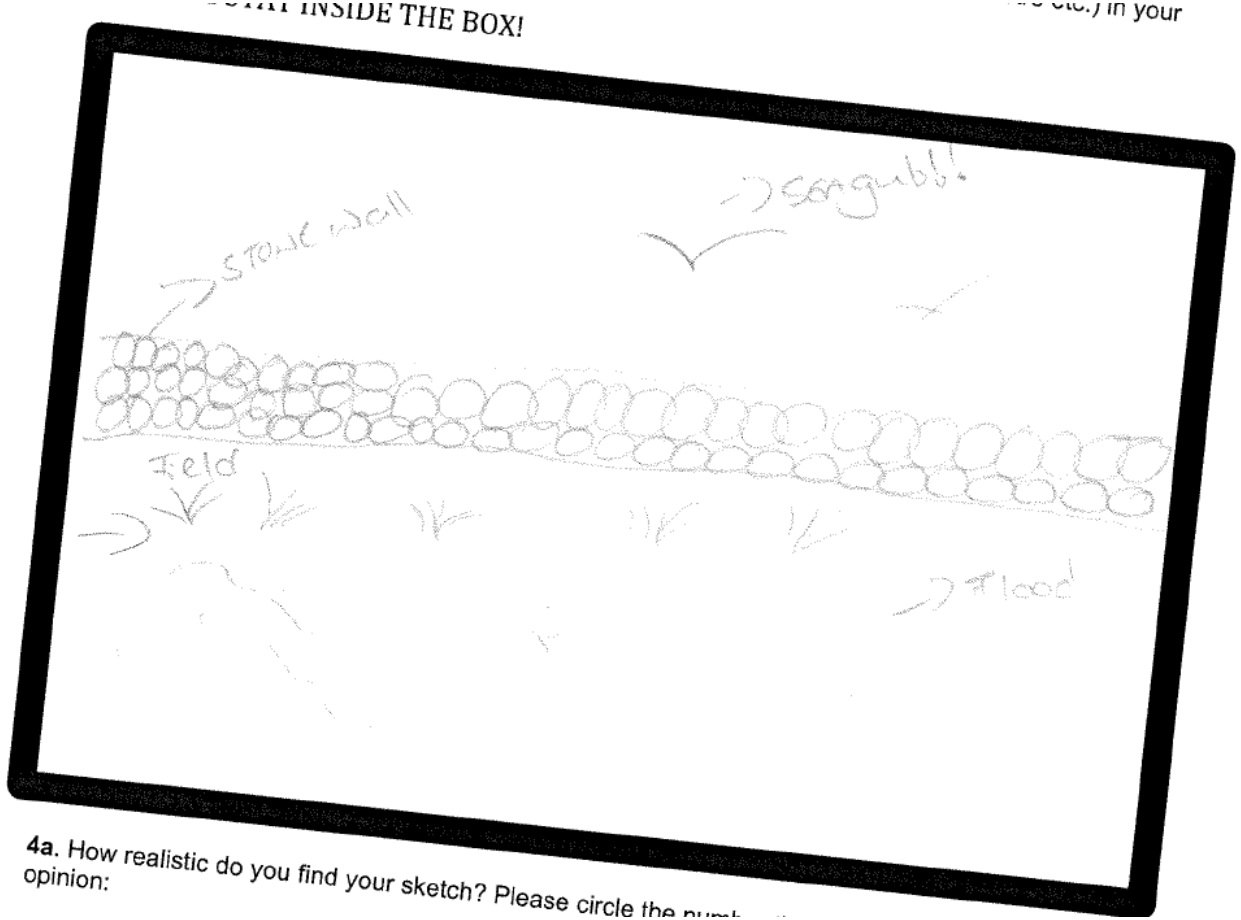
Non-expert

PLEASE STAY INSIDE THE BOX!



Non-expert

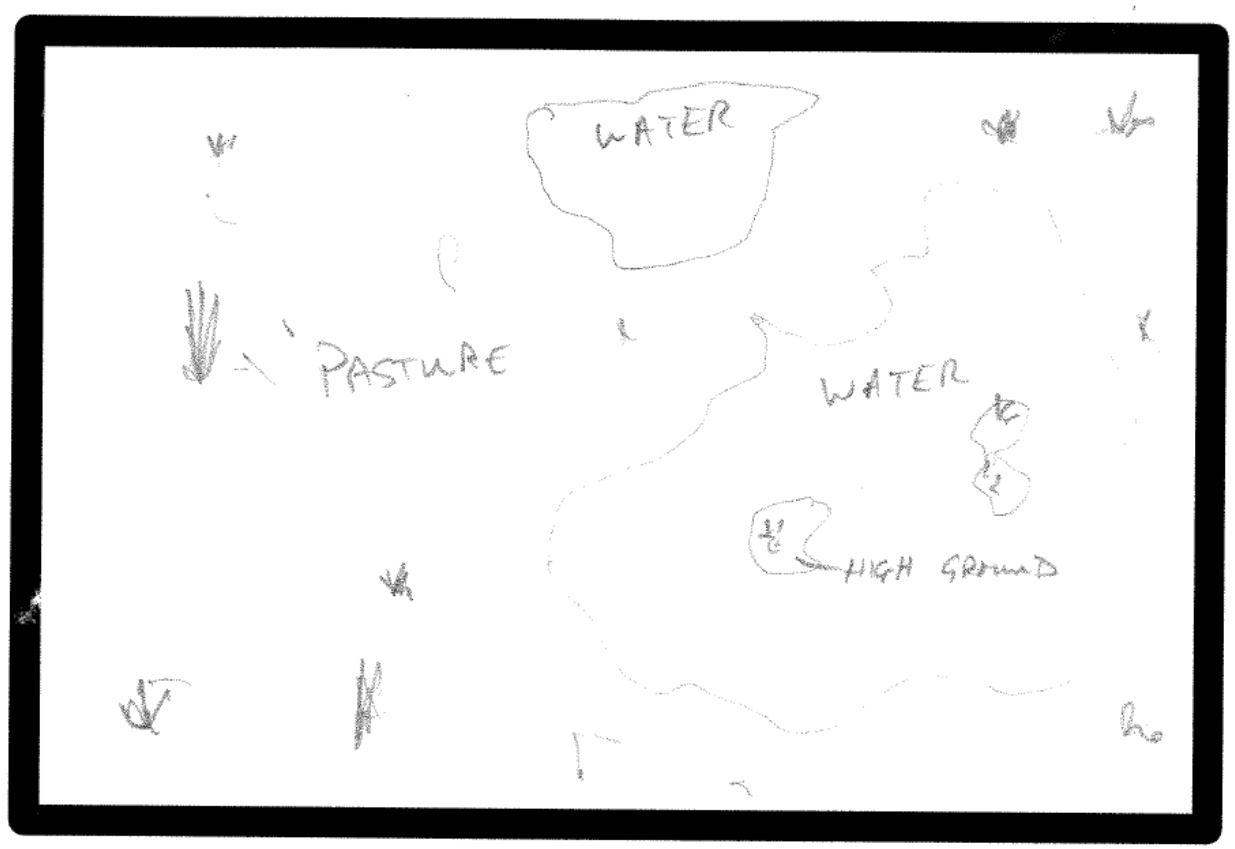
INSIDE THE BOX!



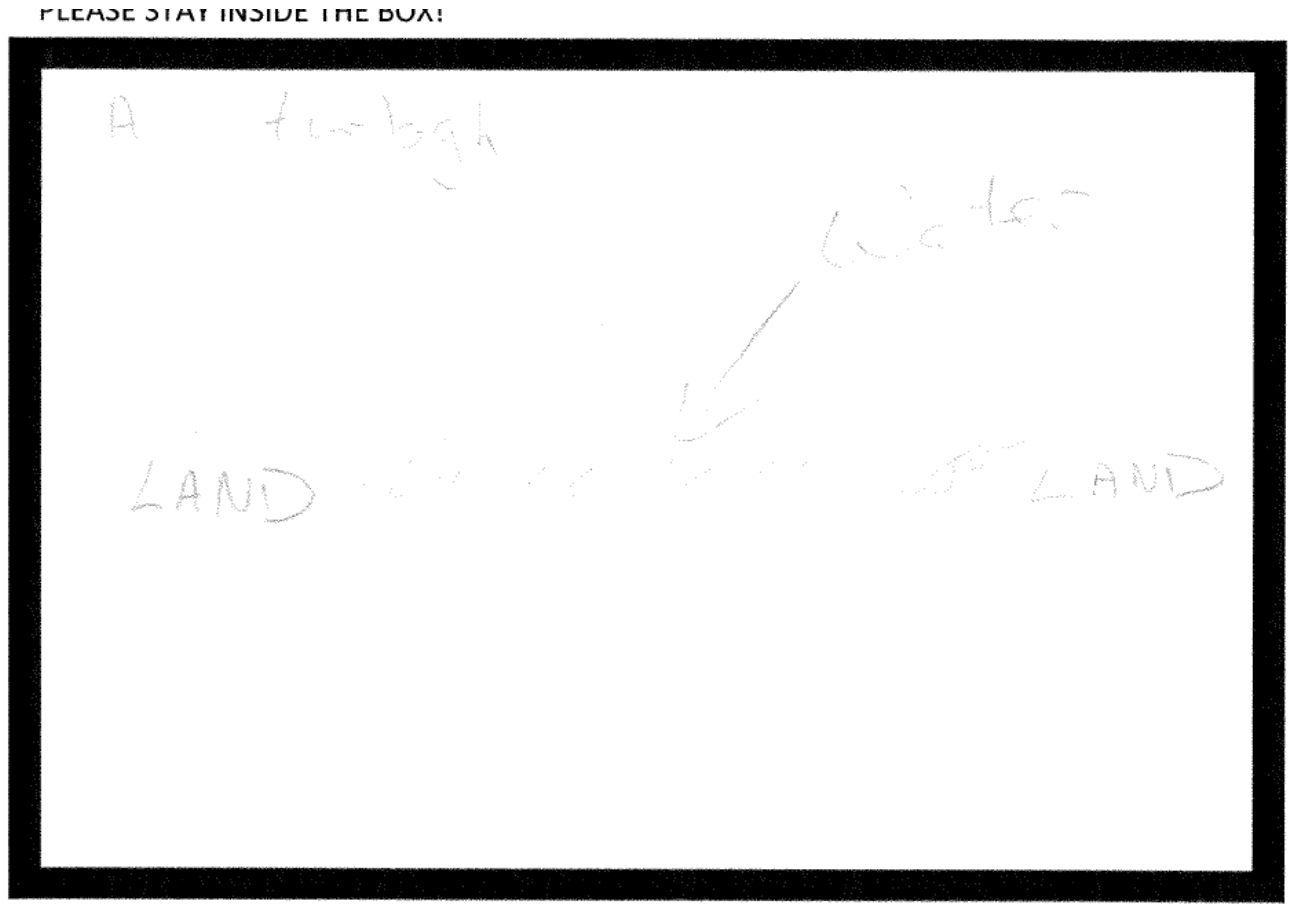
4a. How realistic do you find your sketch? Please circle the numb
opinion:

Non-expert

PLEASE STAY INSIDE THE BOX!

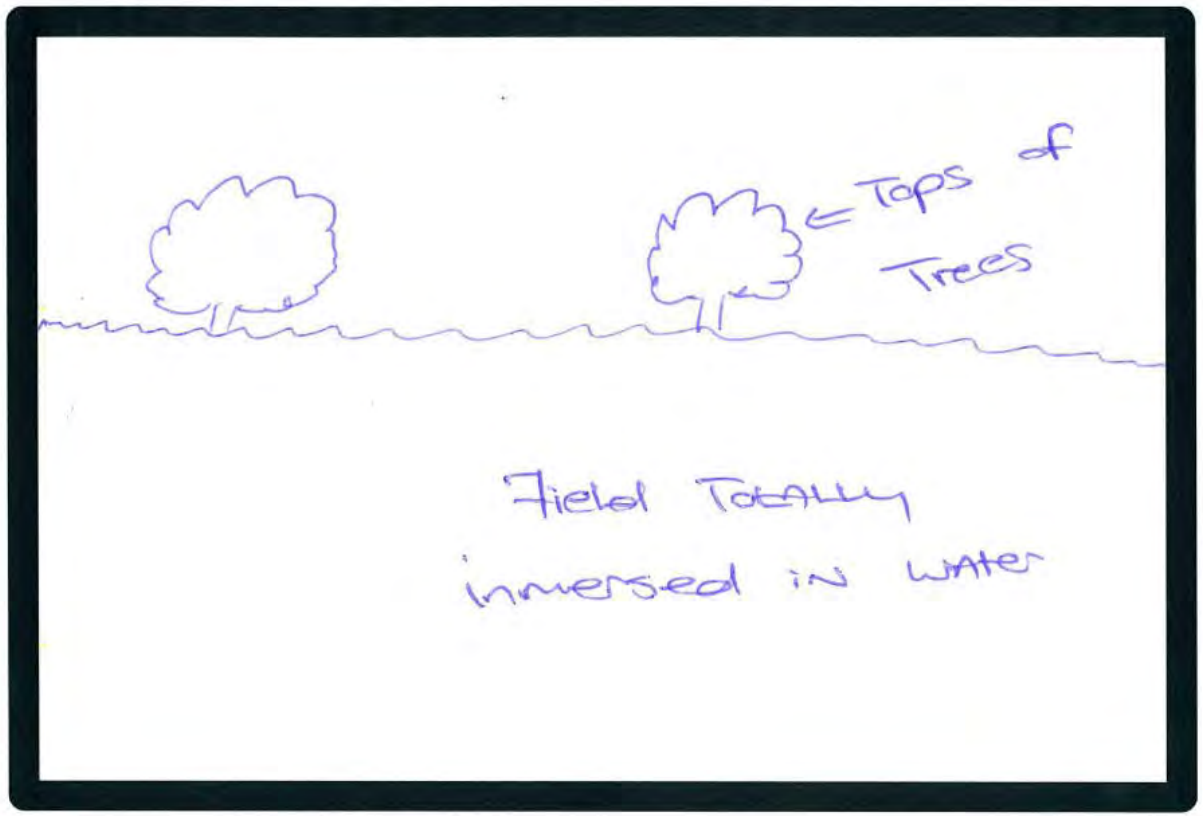


Non-expert

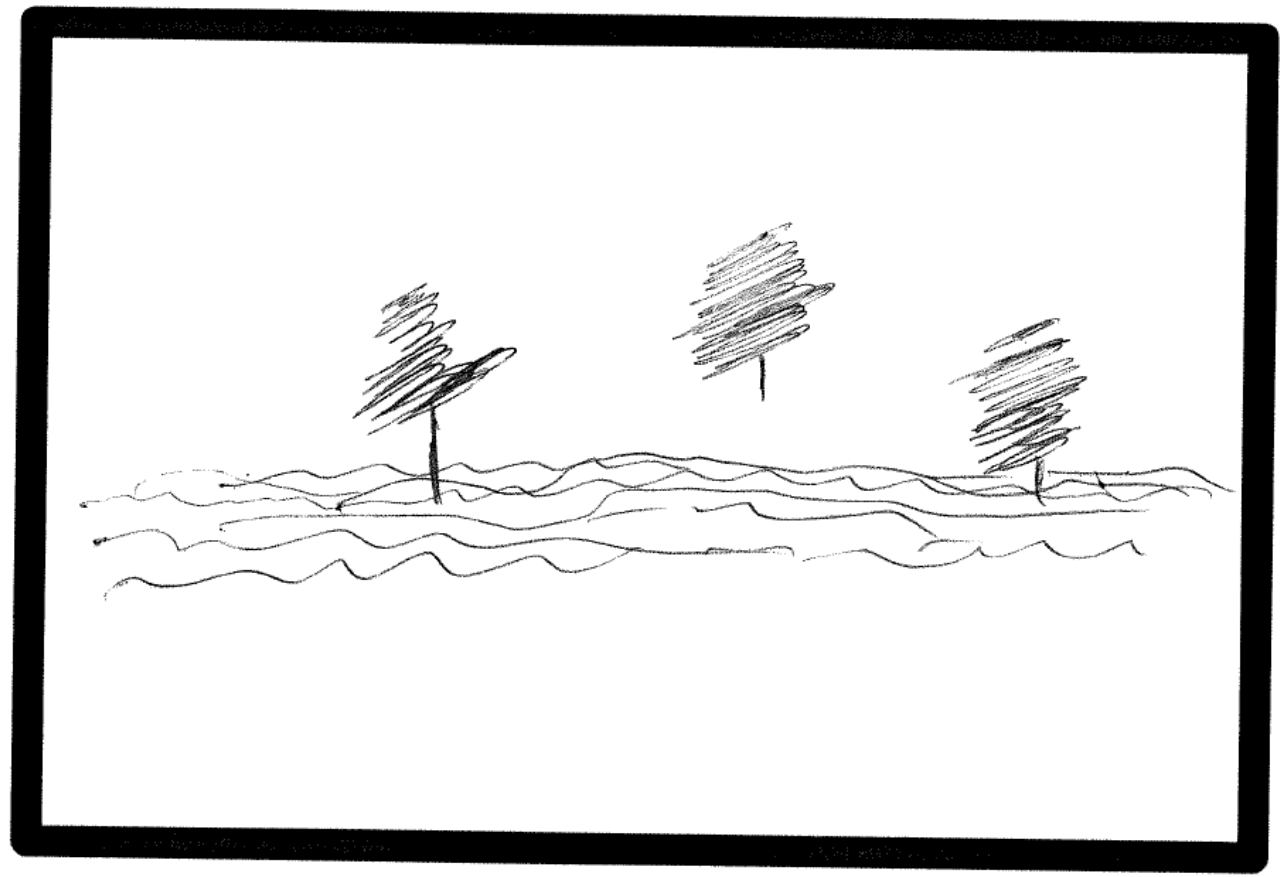


Non-expert

PLEASE STAY INSIDE THE BOX!

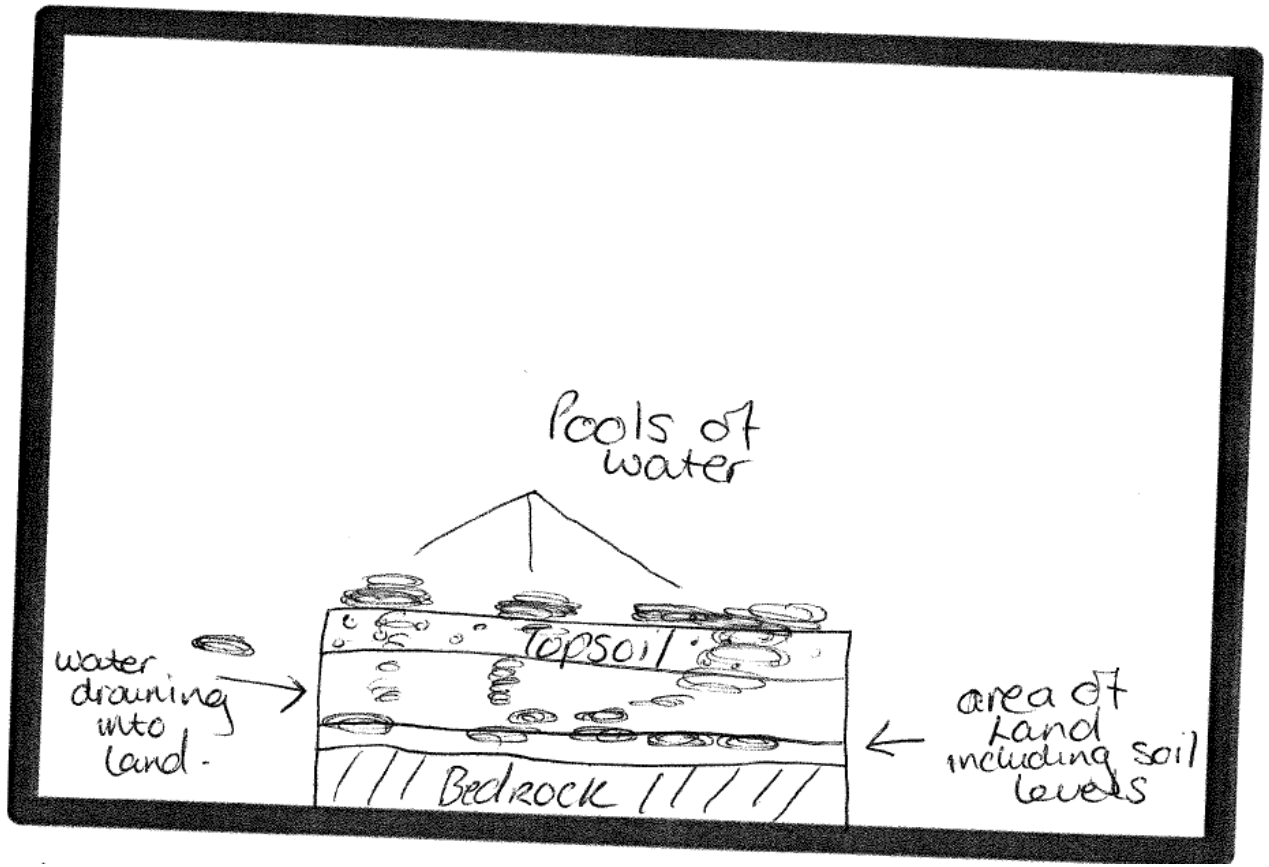


Non-expert



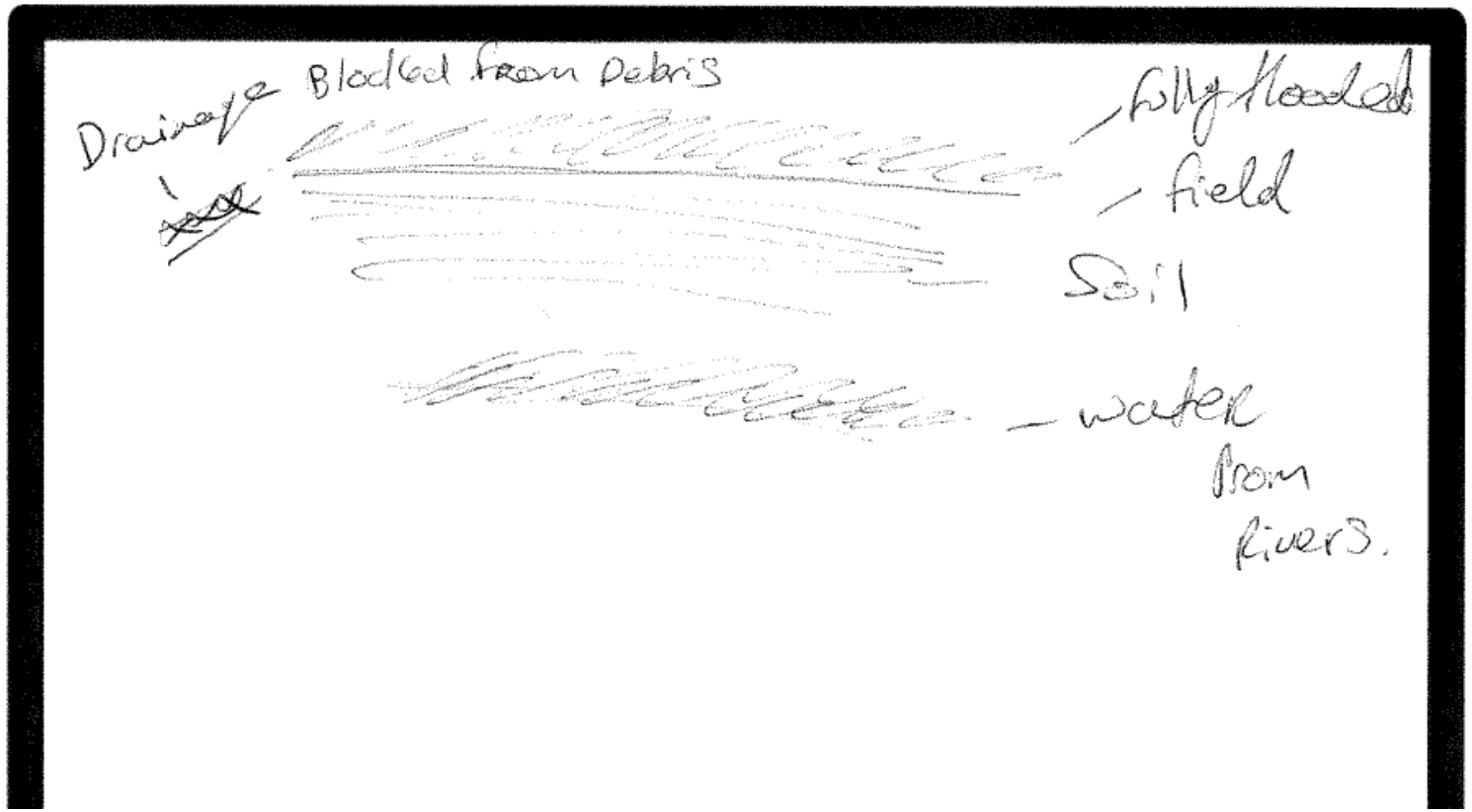
Non-expert

PLEASE STAY INSIDE THE BOX!



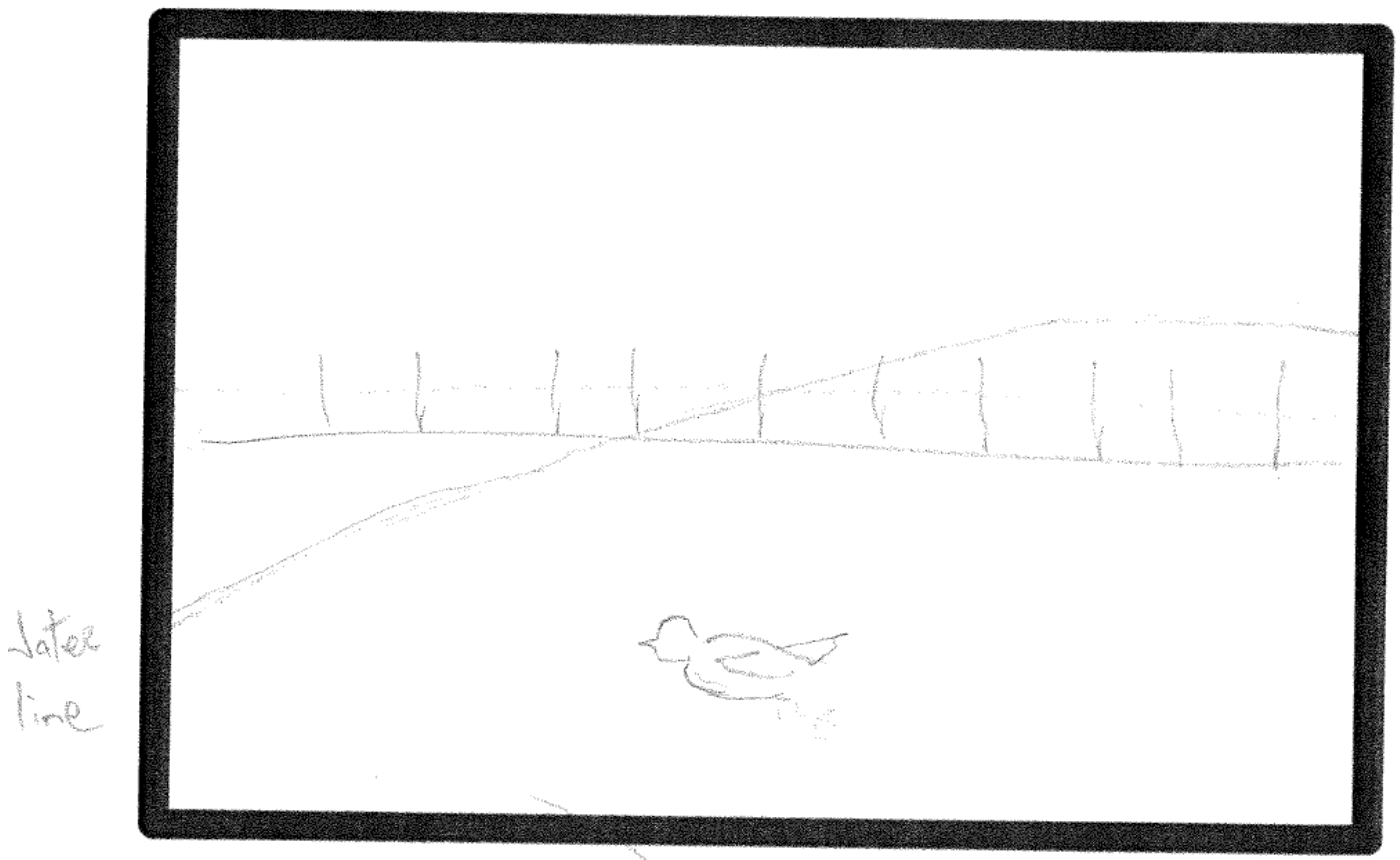
Non-expert

PLEASE STAY INSIDE THE BOX!



Non-expert

PLEASE STAY INSIDE THE BOX!



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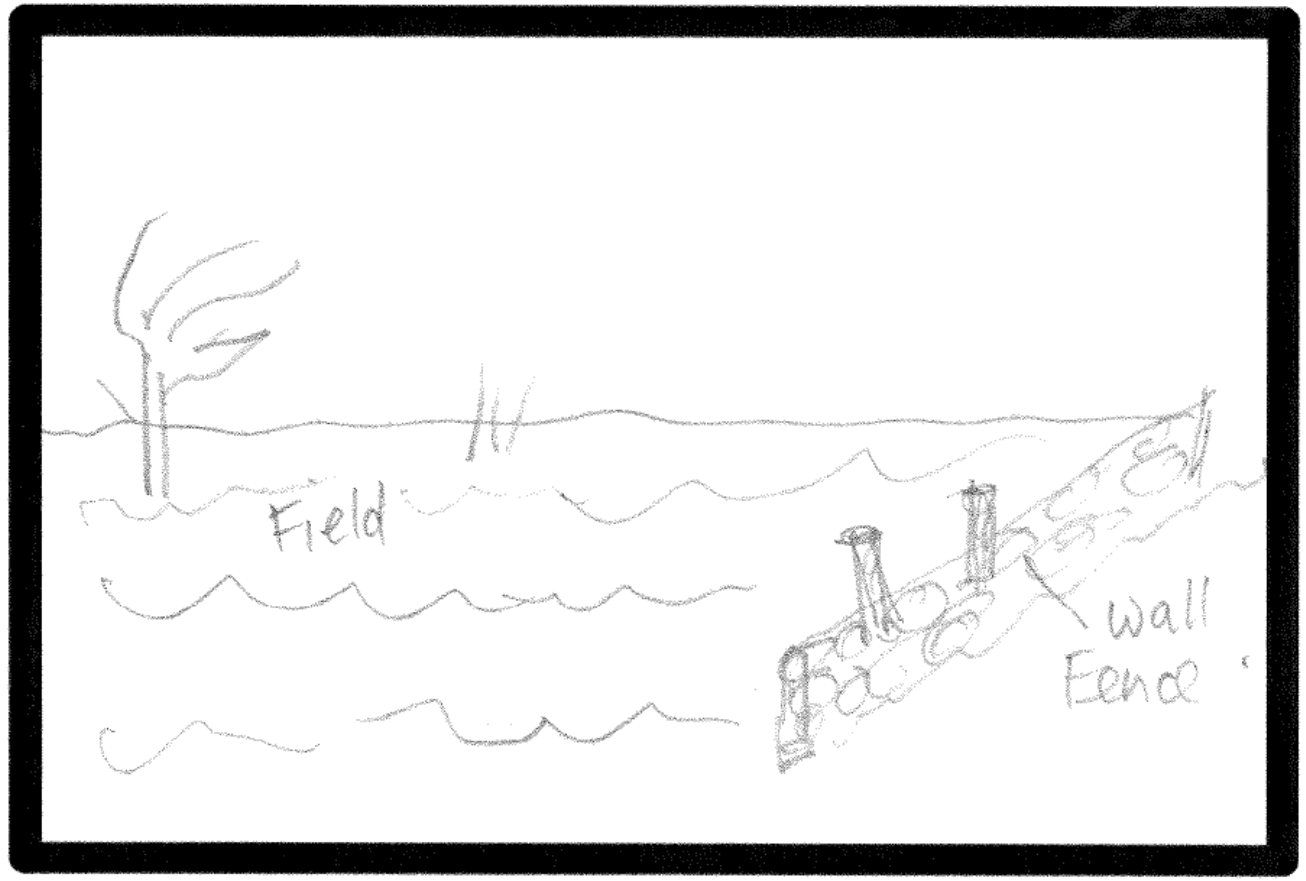
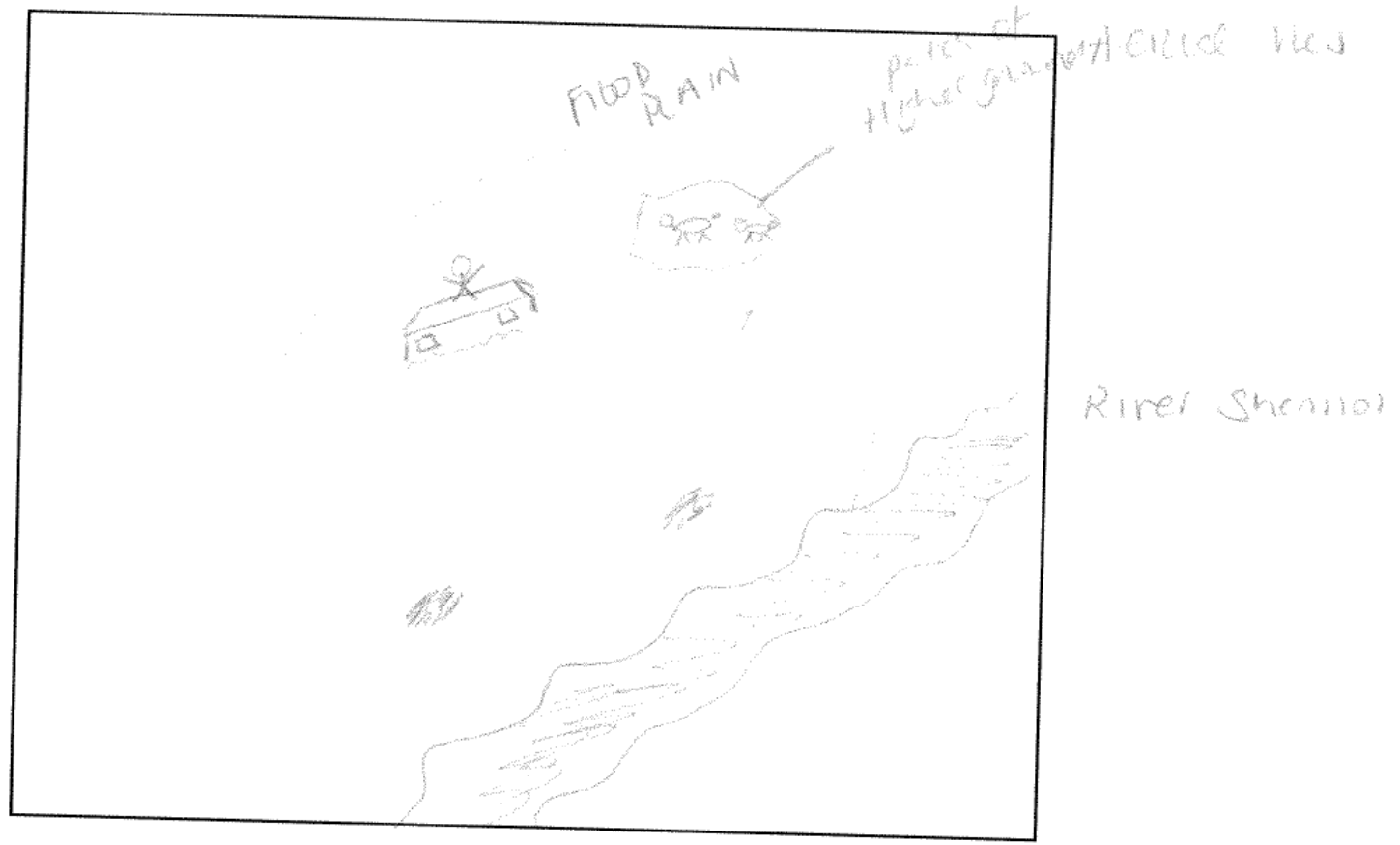
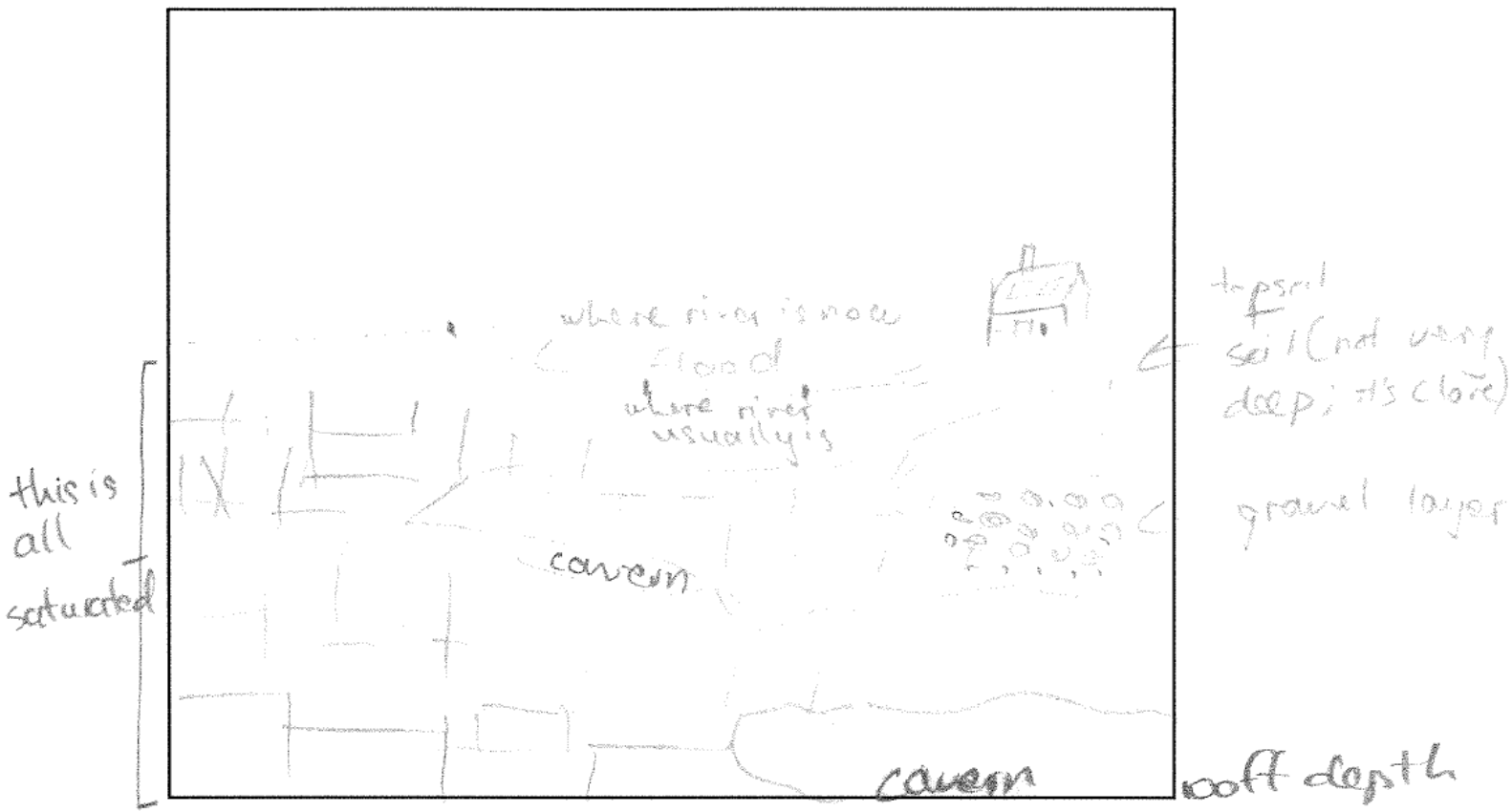


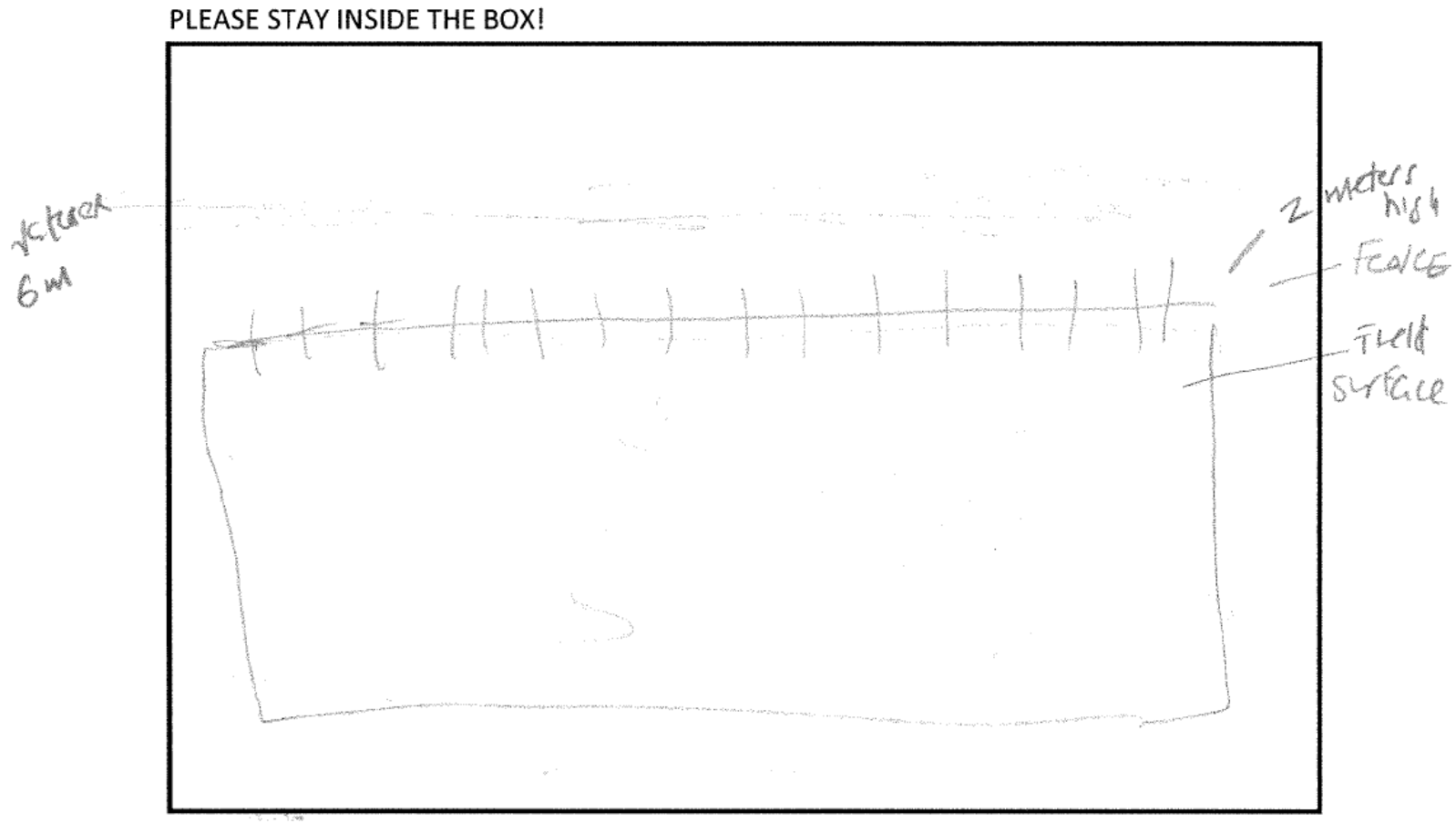
Non-expert



Non-expert


where river is now
flood
where river usually is
this is all saturated
cavern
topsoil
soil (not very deep; it's close)
gravel layer
cavern
soft depth

Non-expert

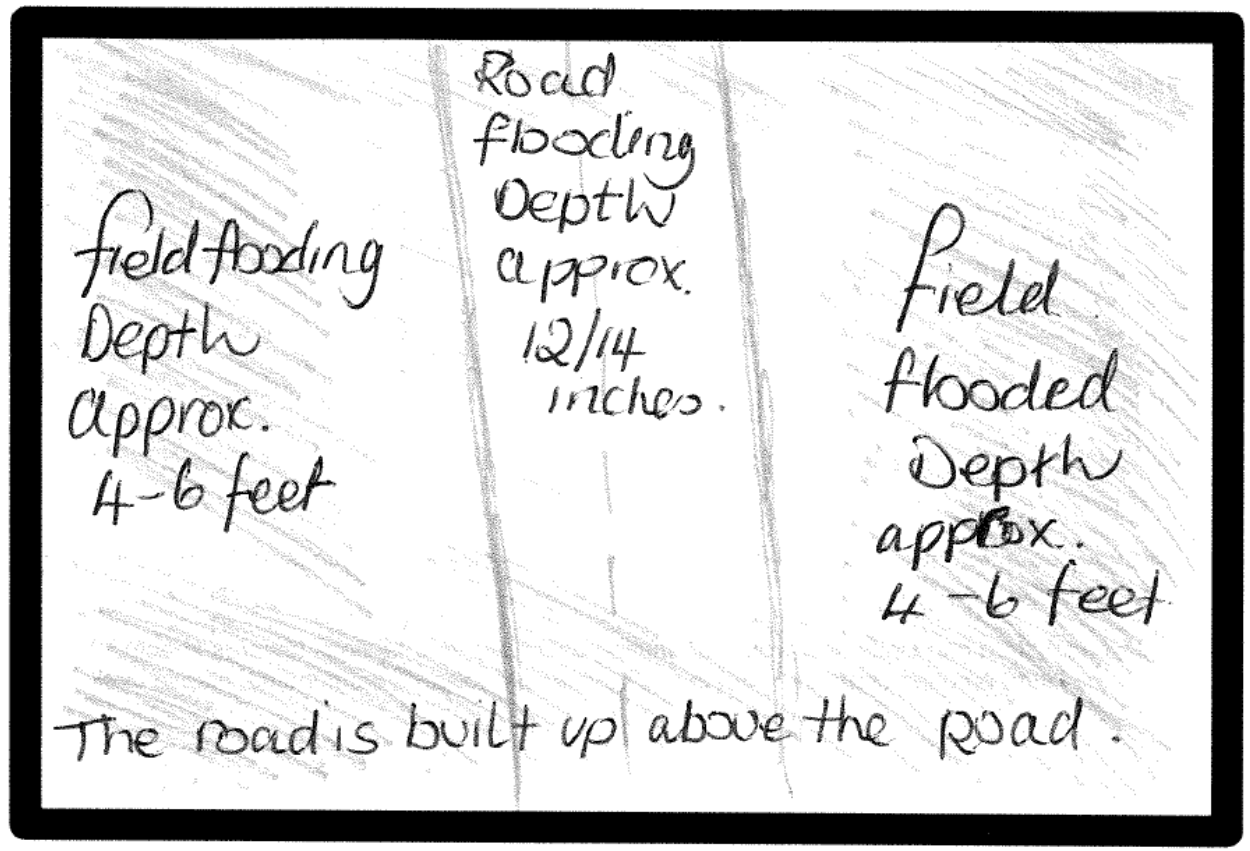

PLEASE STAY INSIDE THE BOX!
6 m
2 meters high
Fence
Field surface

Non-expert

PLEASE STAY INSIDE THE BOX!

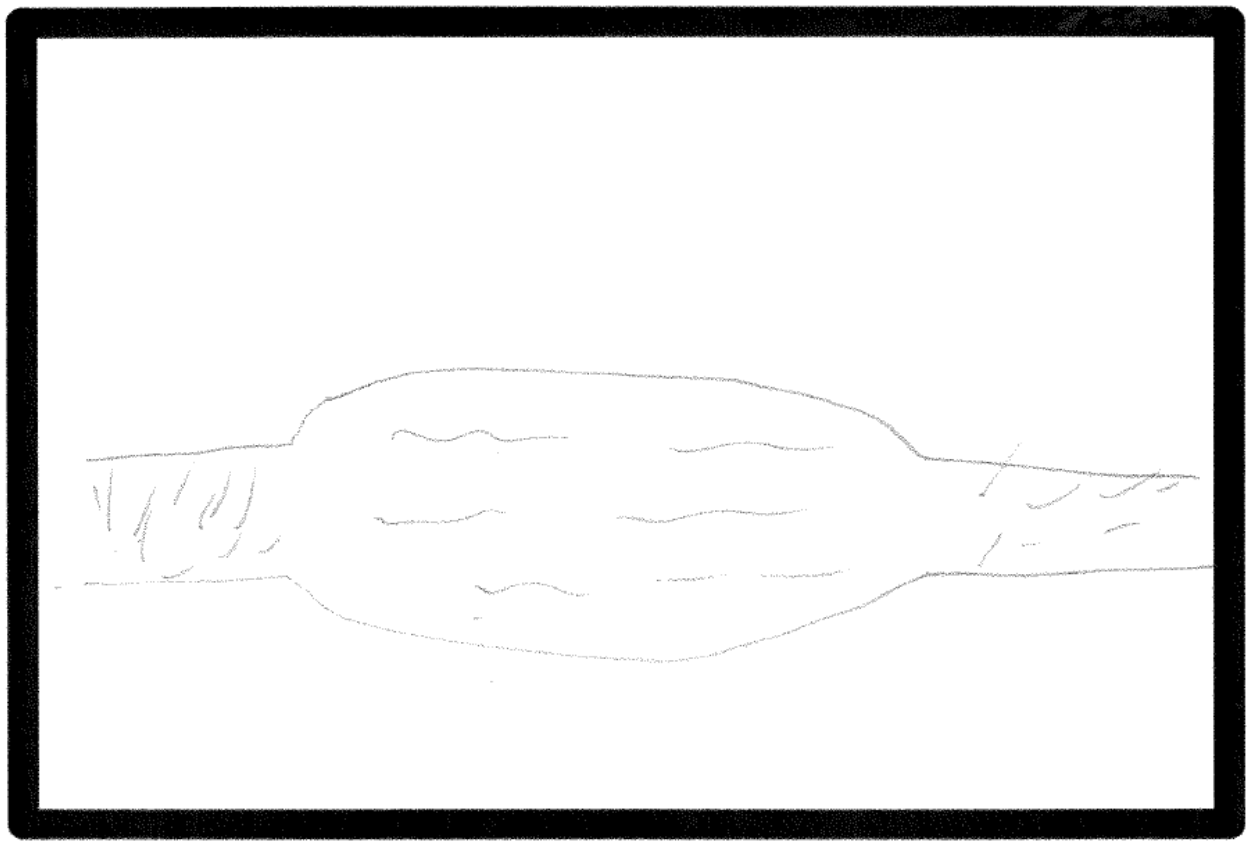
Non-expert

PLEASE STAY INSIDE THE BOX!



Non-expert

PLEASE STAY INSIDE THE BOX!



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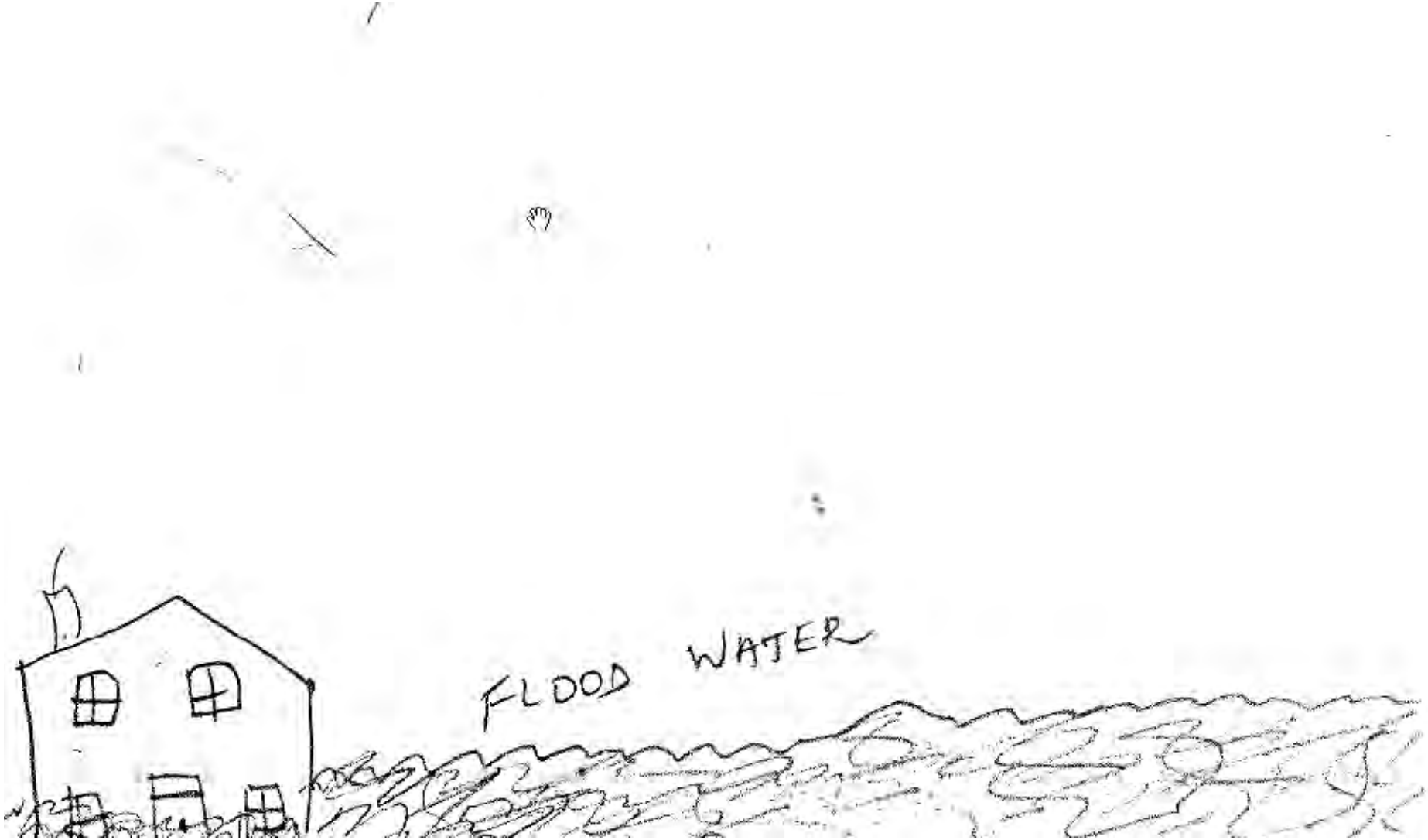

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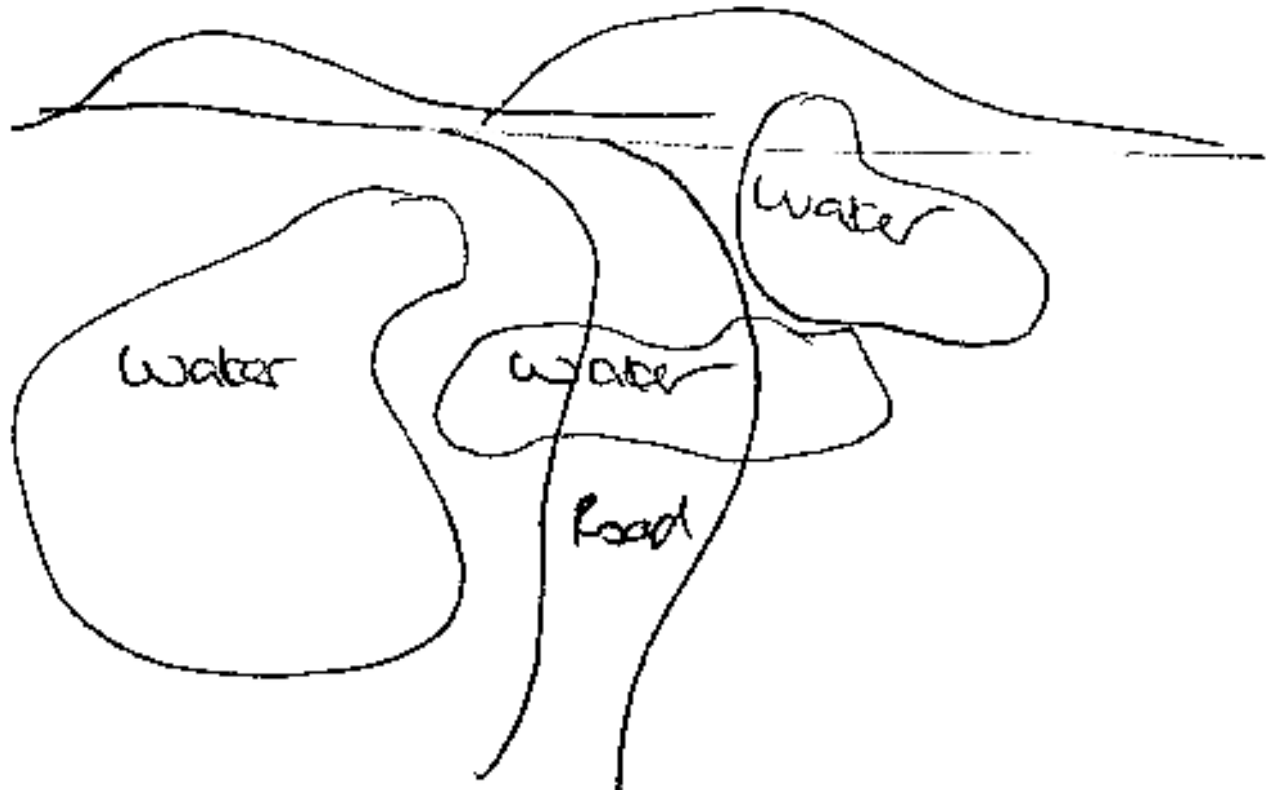

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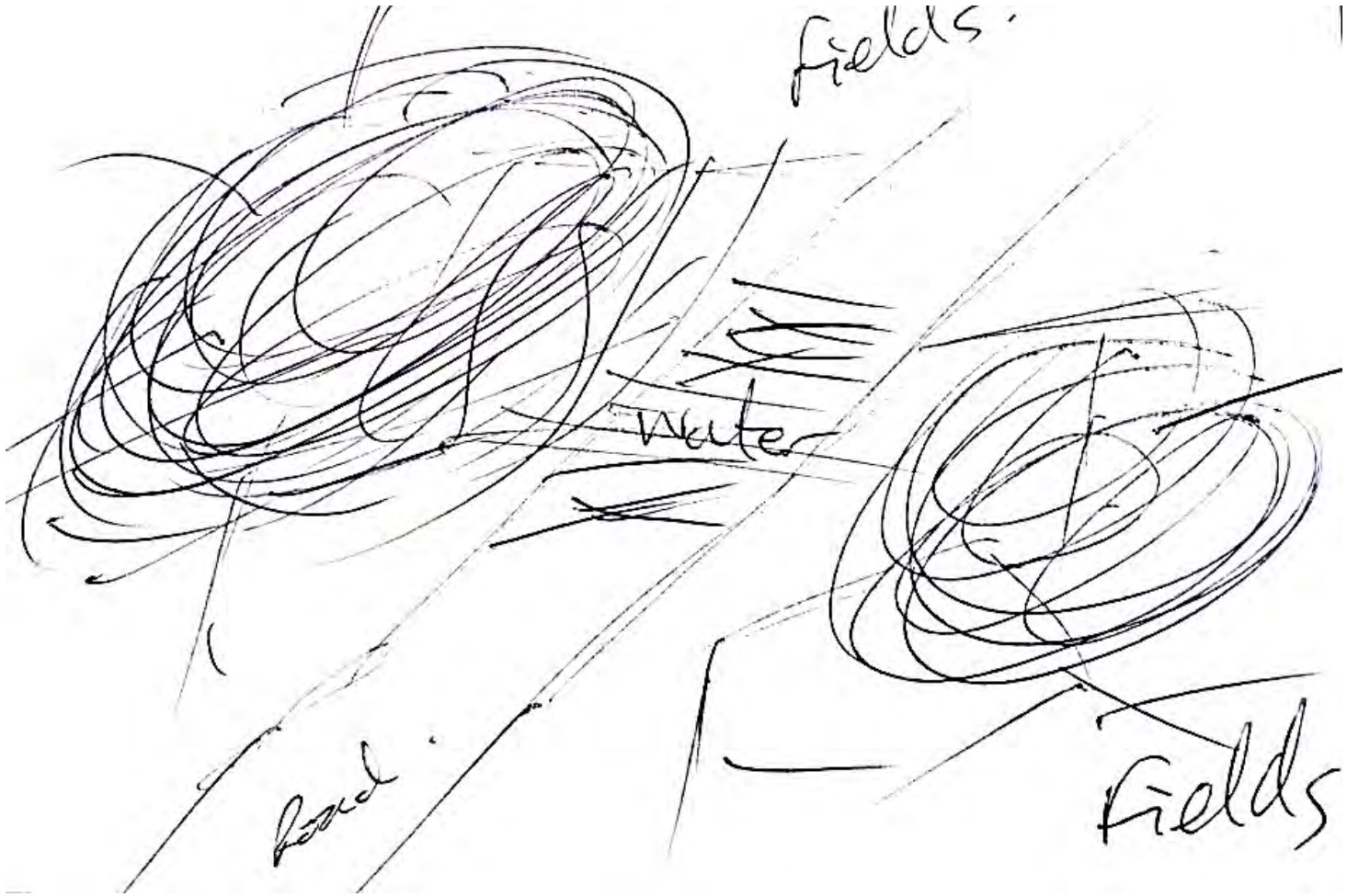
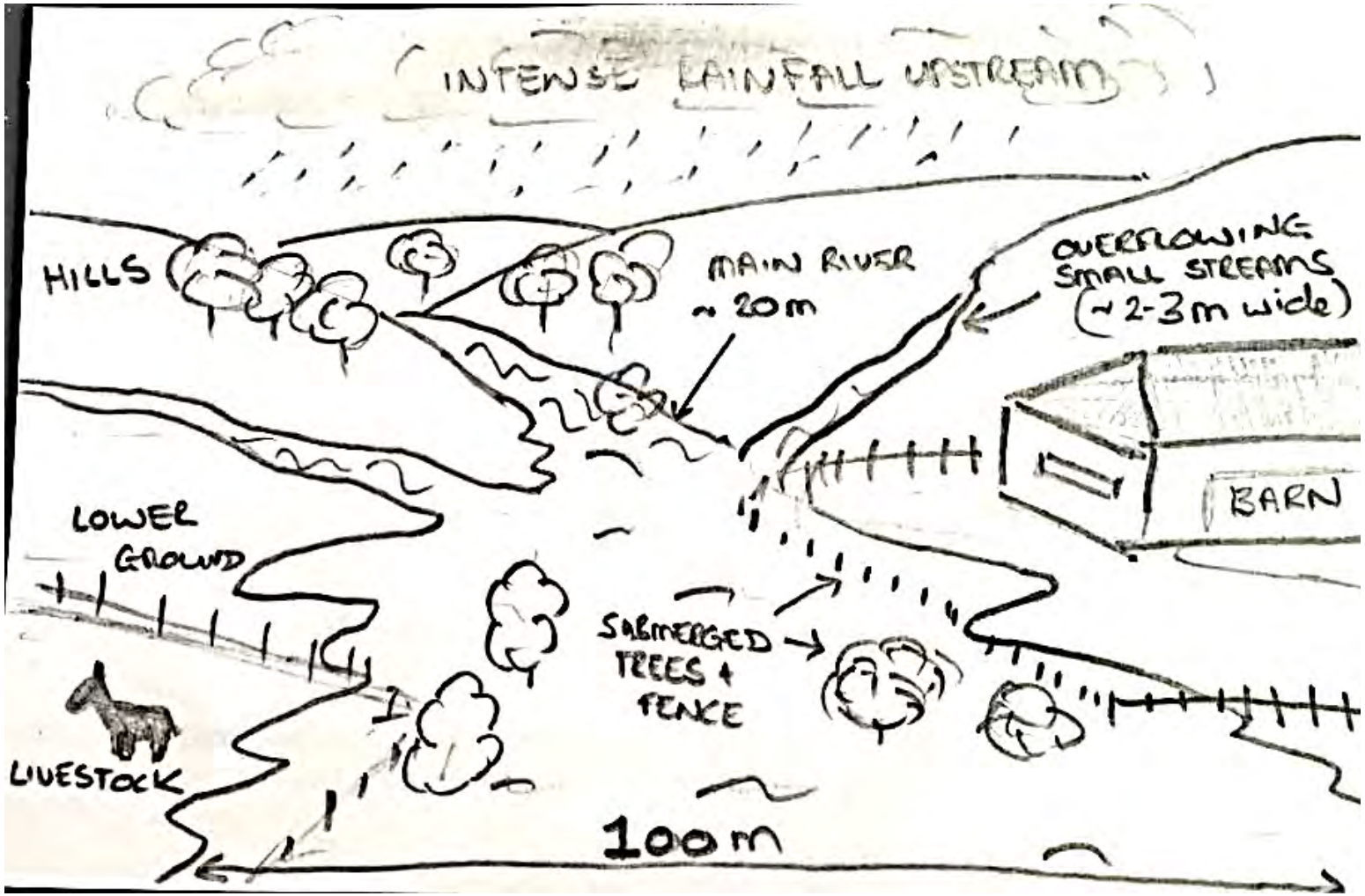
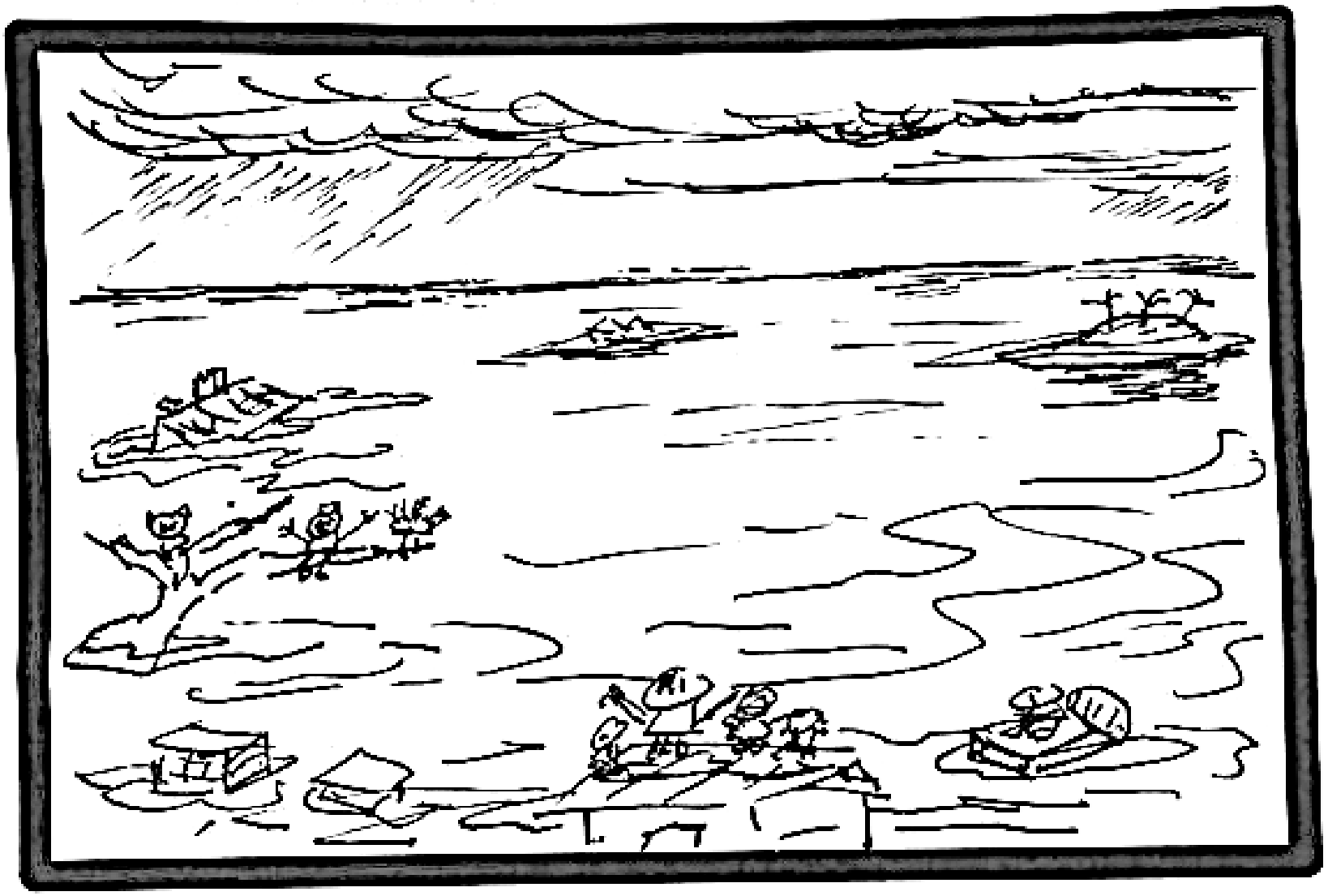


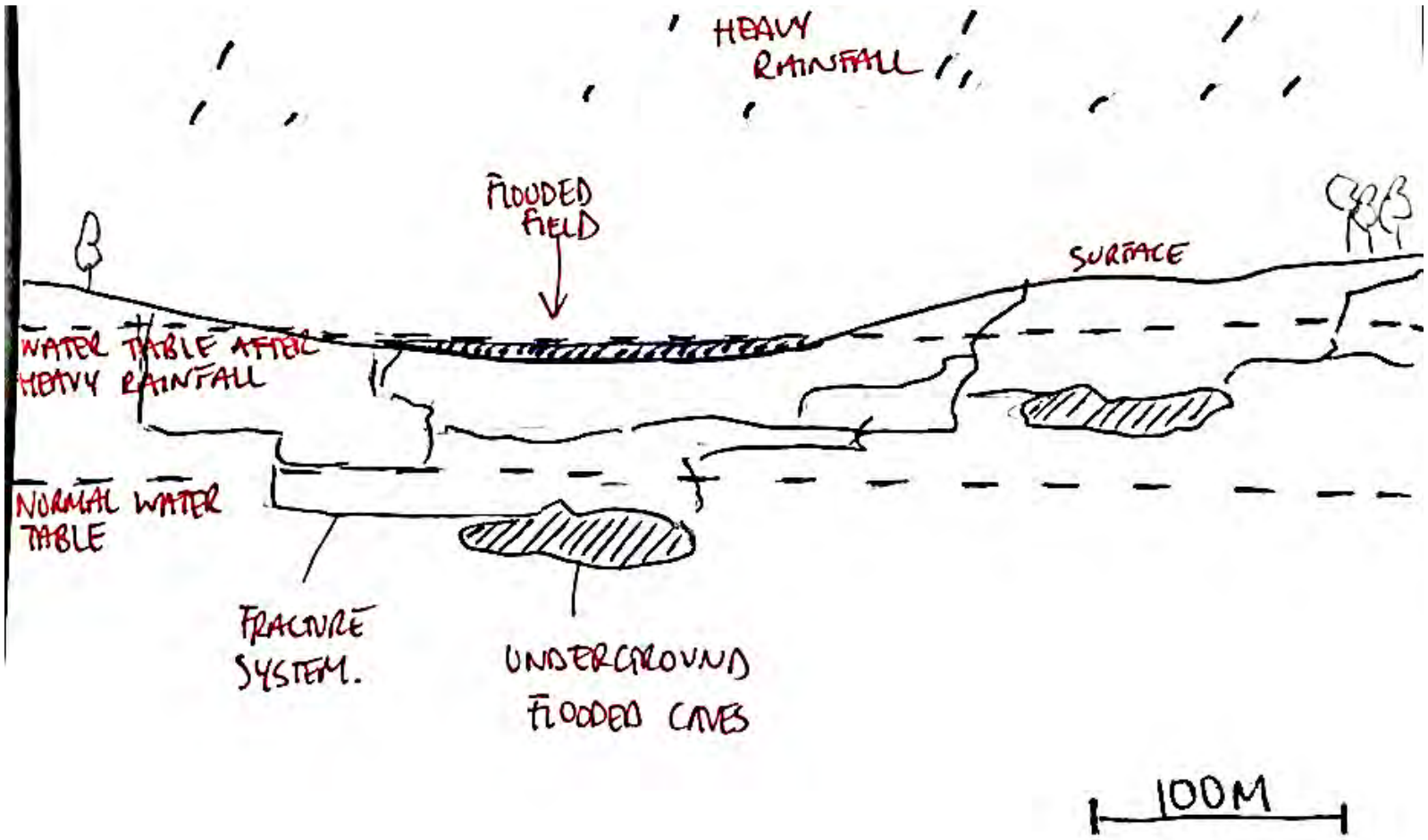
Non-expert


INTENSE RAINFALL UPSTREAM
HILLS
MAIN RIVER
~ 20m
OVERFLOWING SMALL STREAMS (~2-3m wide)
BARN
LOWER GROUND
SUBMERGED TREES + FENCE
LIVESTOCK
100m

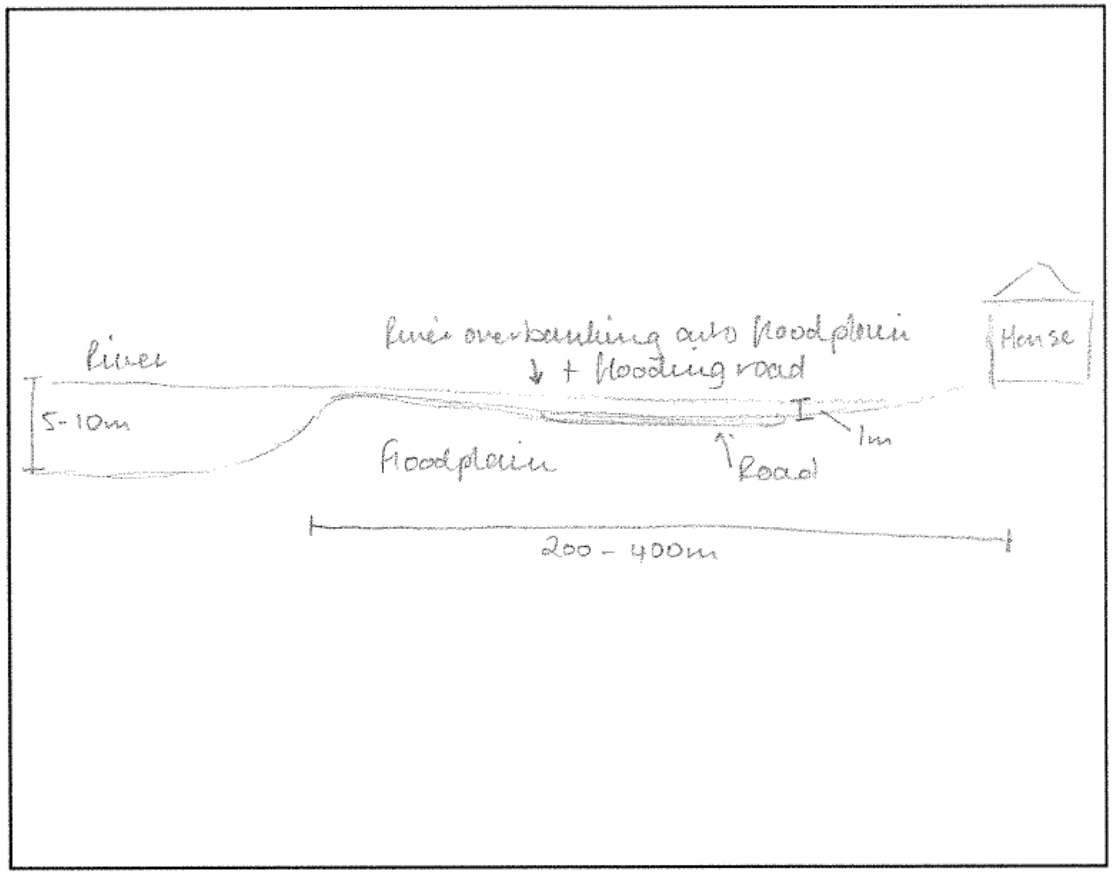
Expert



Expert


HEAVY RAINFALL
FLOODED FIELD
SURFACE
WATER TABLE AFTER HEAVY RAINFALL
NORMAL WATER TABLE
FRACTURE SYSTEM.
UNDERGROUND FLOODED CAVES
100M

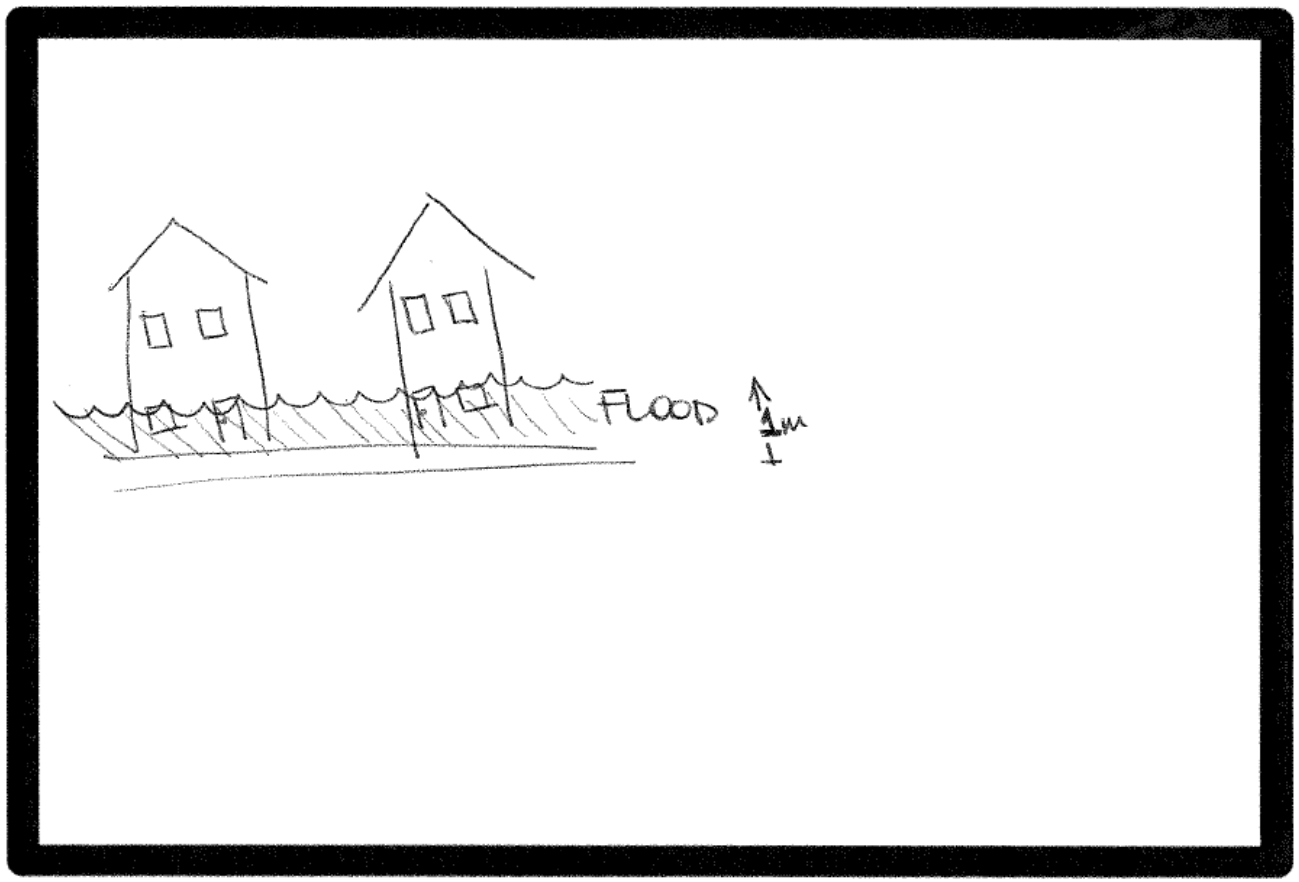
Expert


River
River overbanking onto floodplain
↓ + flooding road
House
5-10m
1m
Floodplain
Road
200 - 400m

Expert

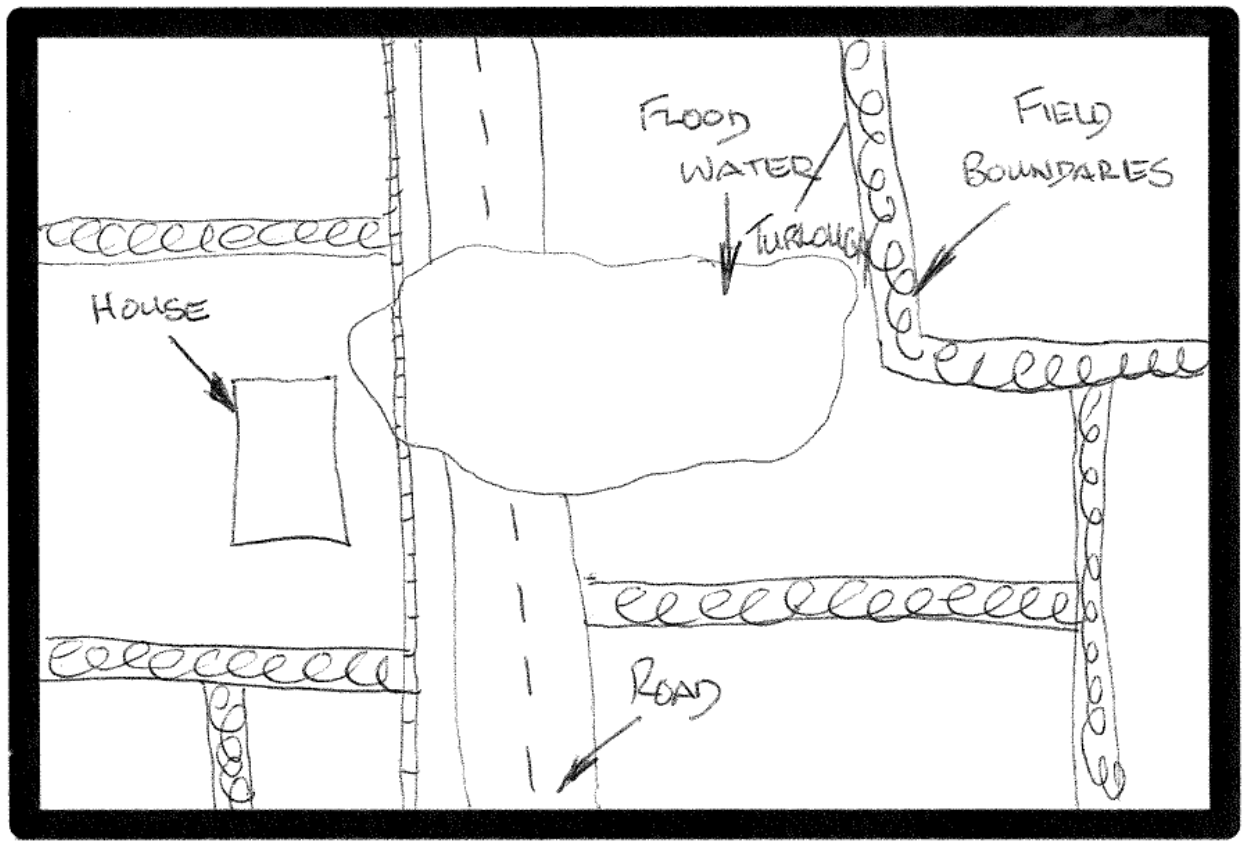
PLEASE STAY INSIDE THE BOX!

Expert



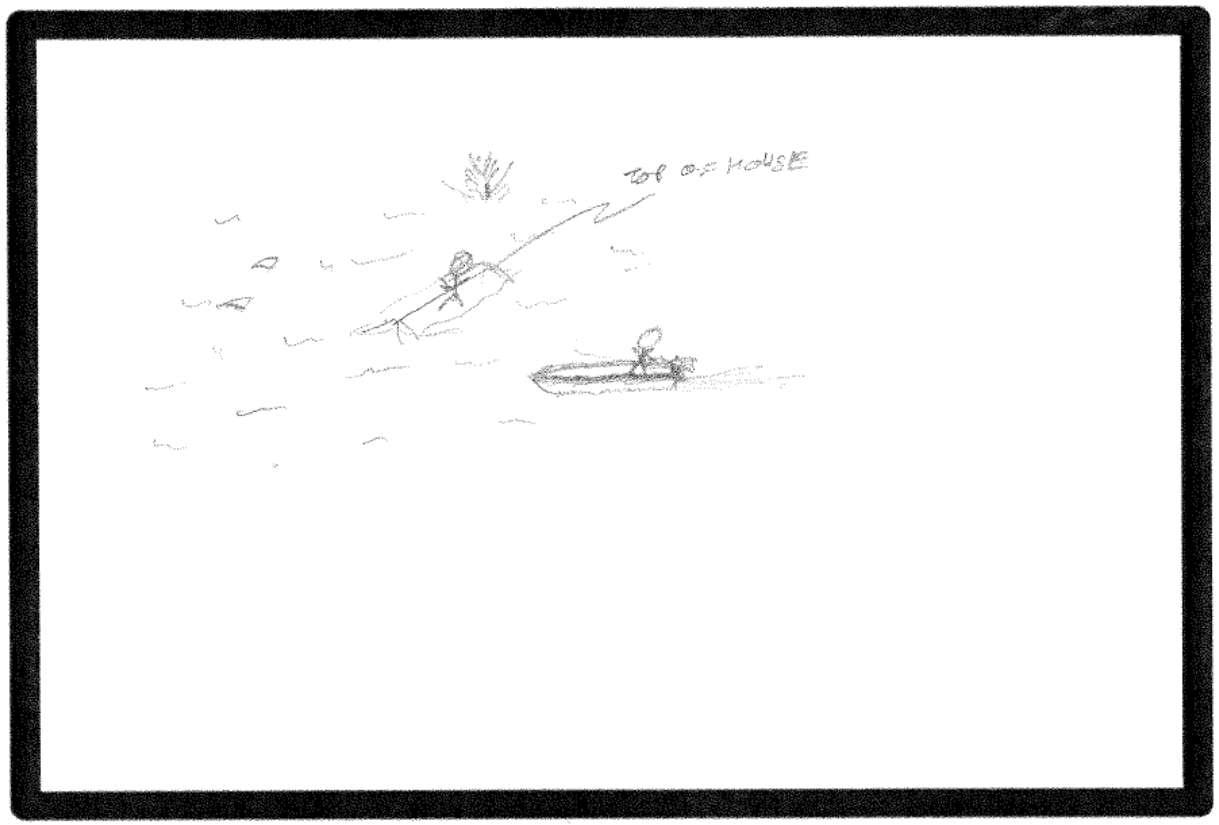
Expert

PLEASE STAY INSIDE THE BOX!

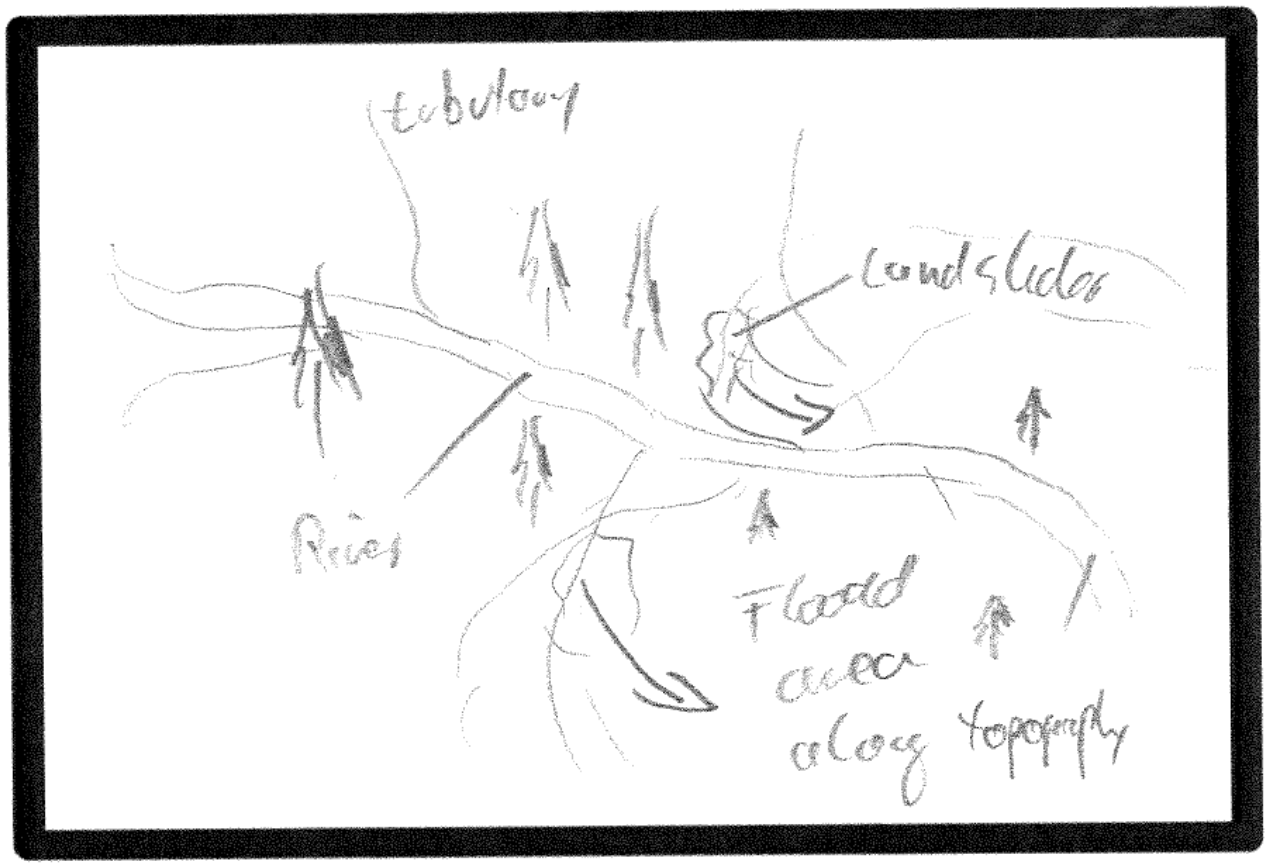


Expert

PLEASE STAY INSIDE THE BOX!

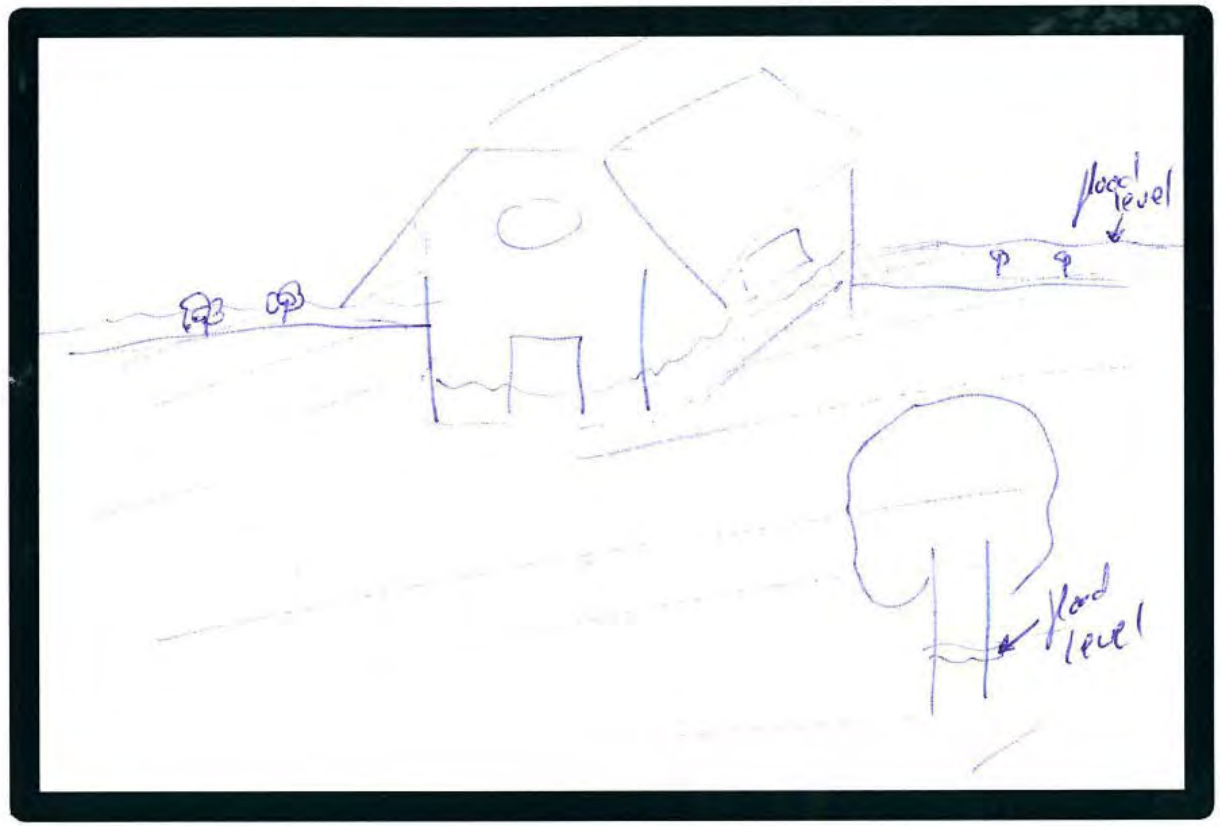


Expert



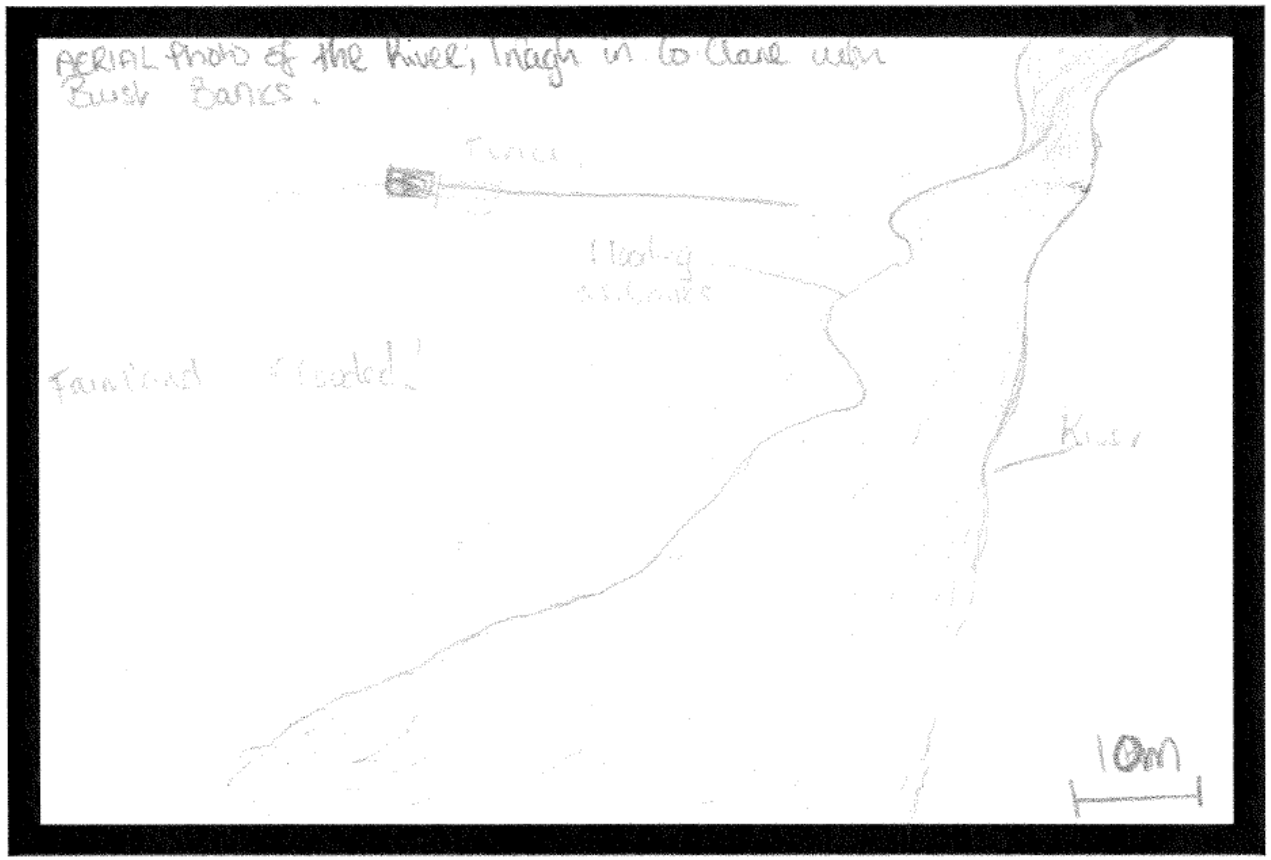
Expert

PLEASE STAY INSIDE THE BOX!



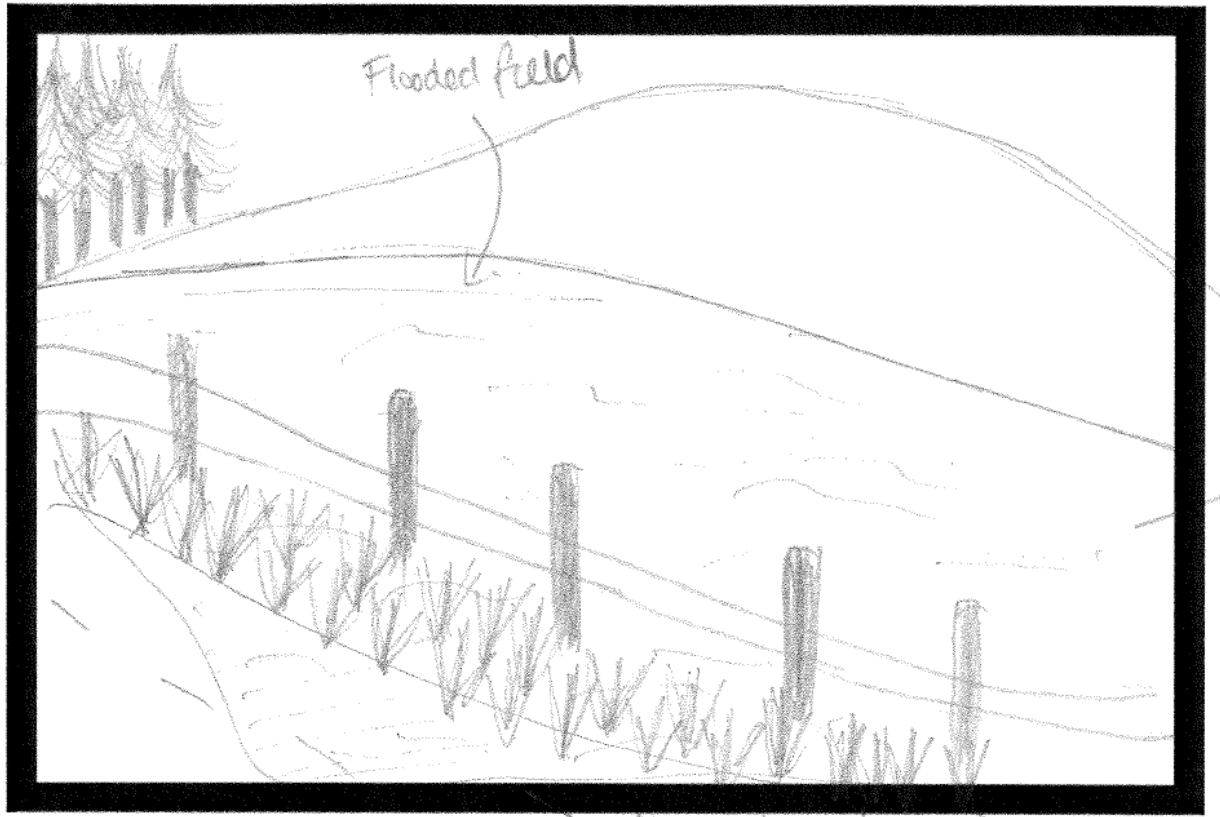
Expert

PLEASE STAY INSIDE THE BOX!



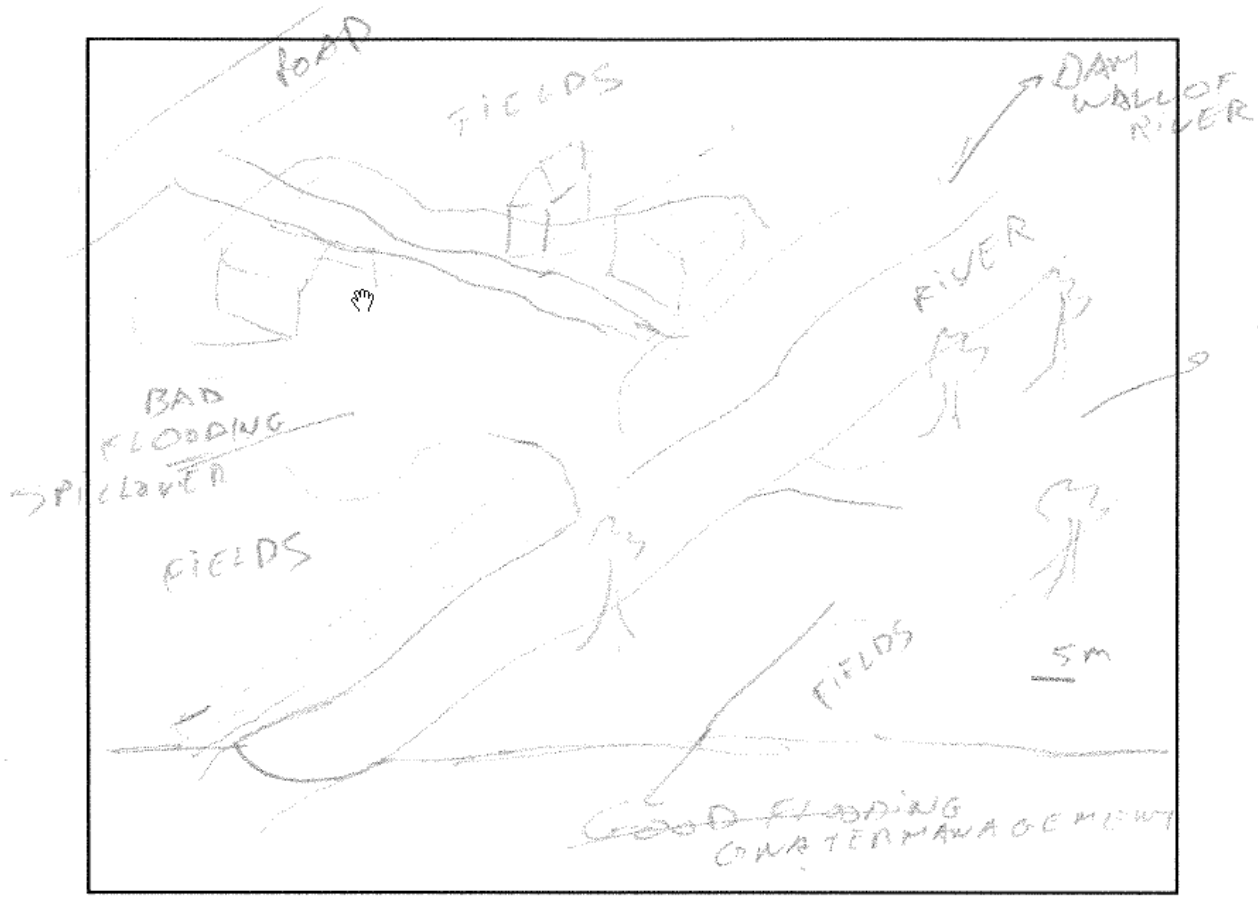
Expert

PLEASE STAY INSIDE THE BOX!

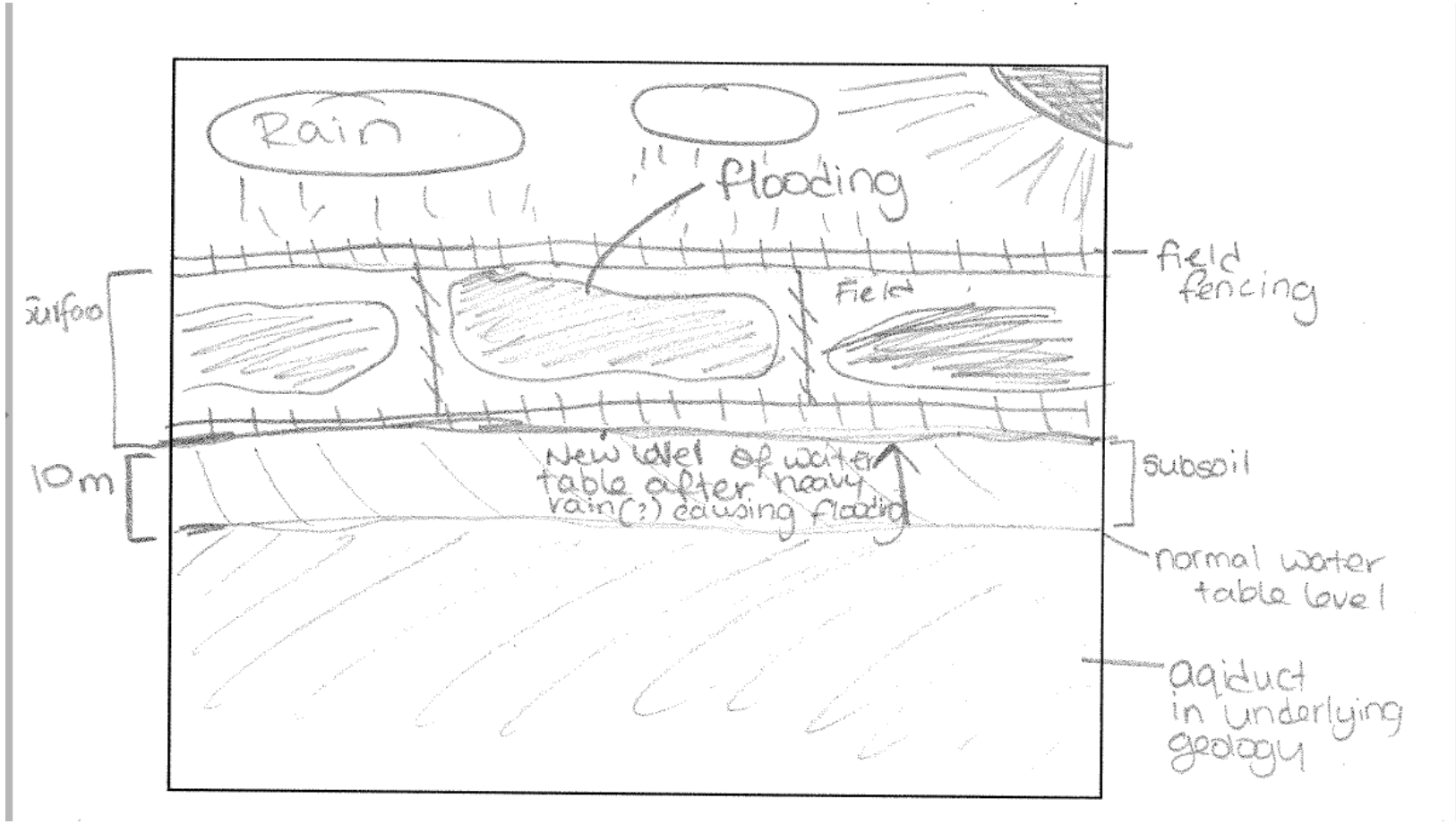


4a How realistic do you find your sketch on a scale from 1 to 5? Please tick the relevant number:

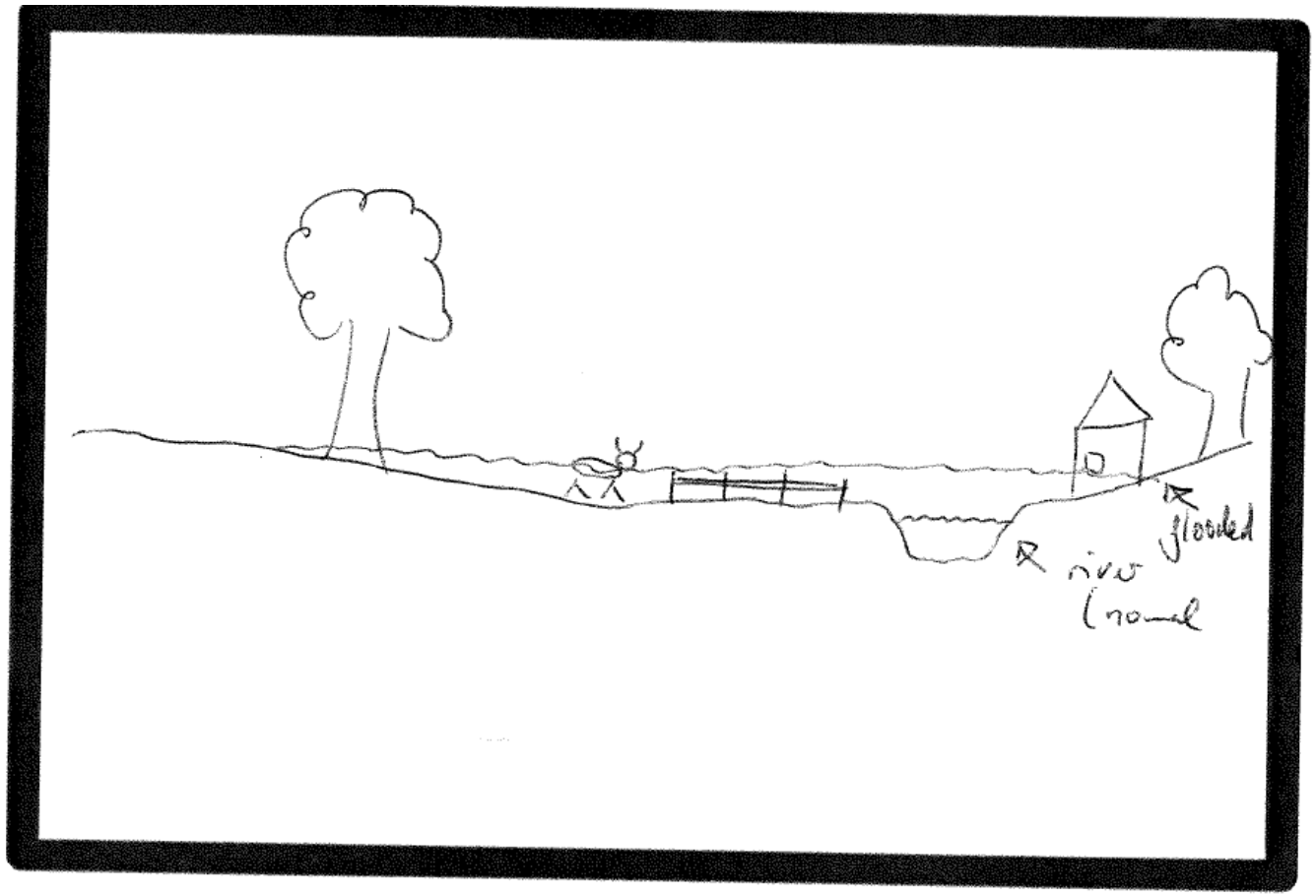
Expert


ROAD
FIELDS
DAM WALL OF RIVER
RIVER
BAD FLOODING
SPILLWAY
FIELDS
FIELDS
5m
FLOODING
CONTEXT MANAGEMENT

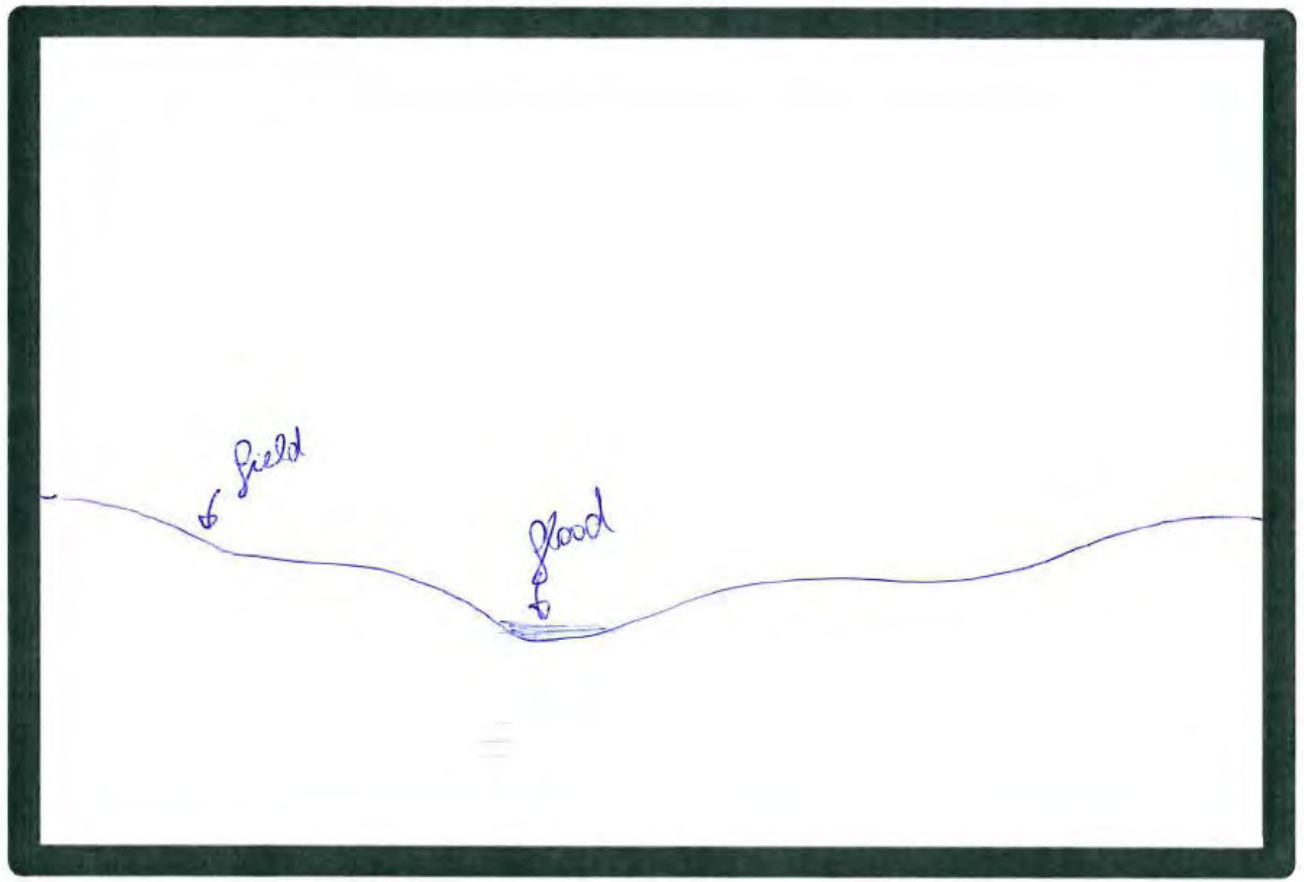
Expert


Rain
flooding
field fencing
Field
surface
10m
New level of water table after heavy rain(?) causing flooding
subsoil
normal water table level
aquifer in underlying geology

Expert

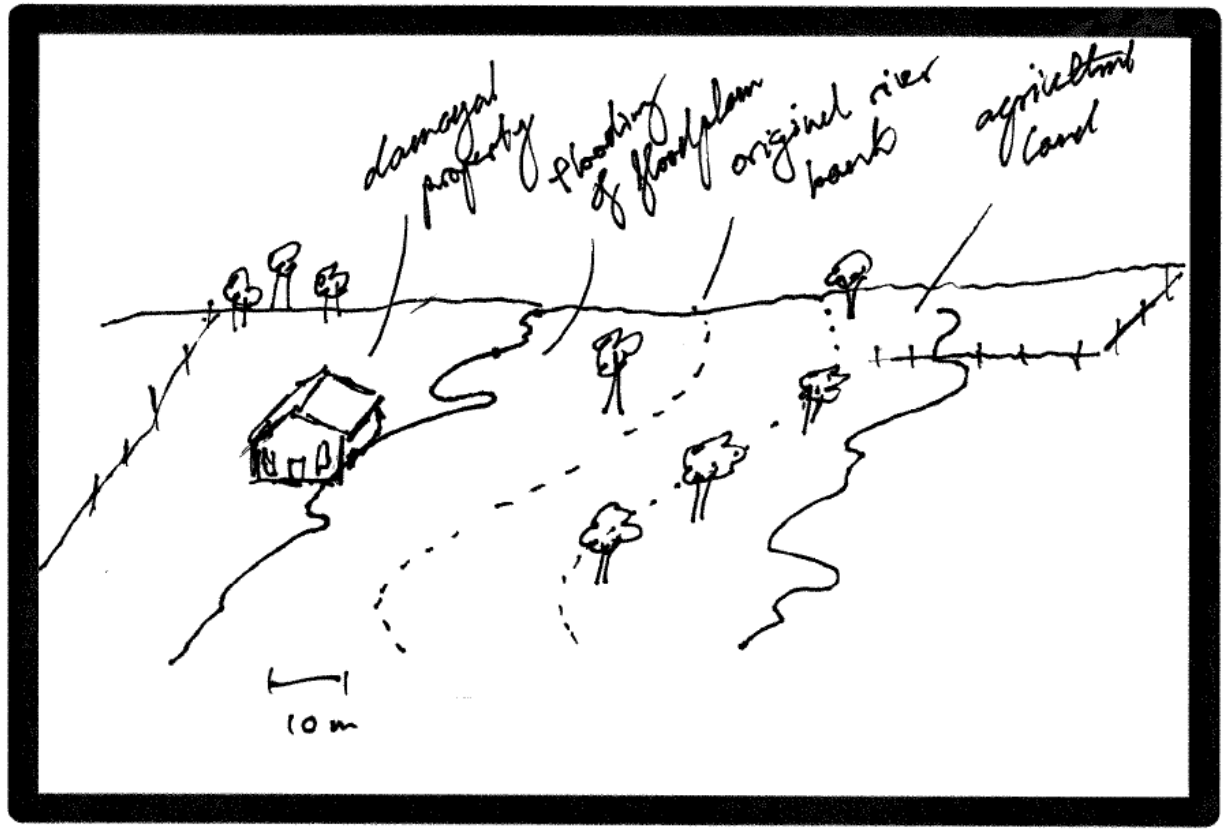


Expert

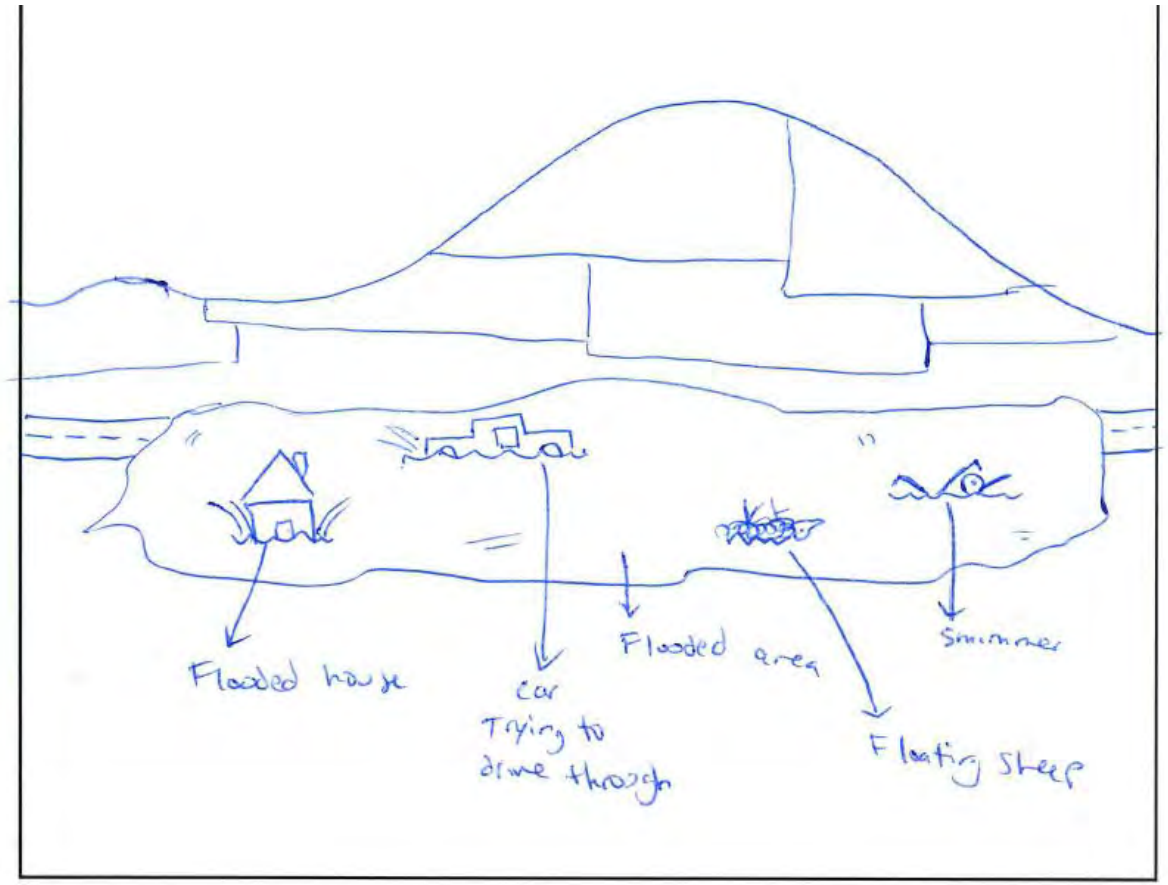


Expert

PLEASE STAY INSIDE THE BOX!



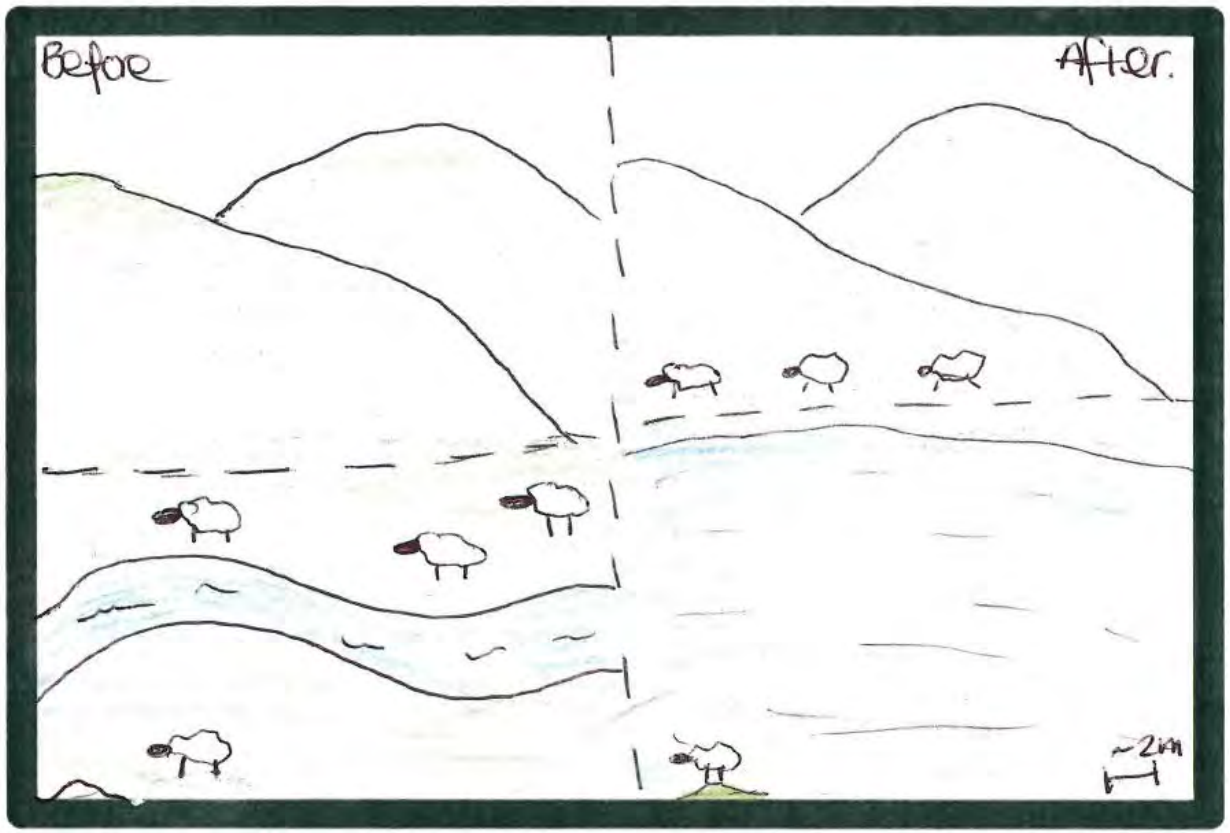
Expert


Flooded house
car
Trying to
drive through
Flooded area
Swimmer
Floating sheep

Expert

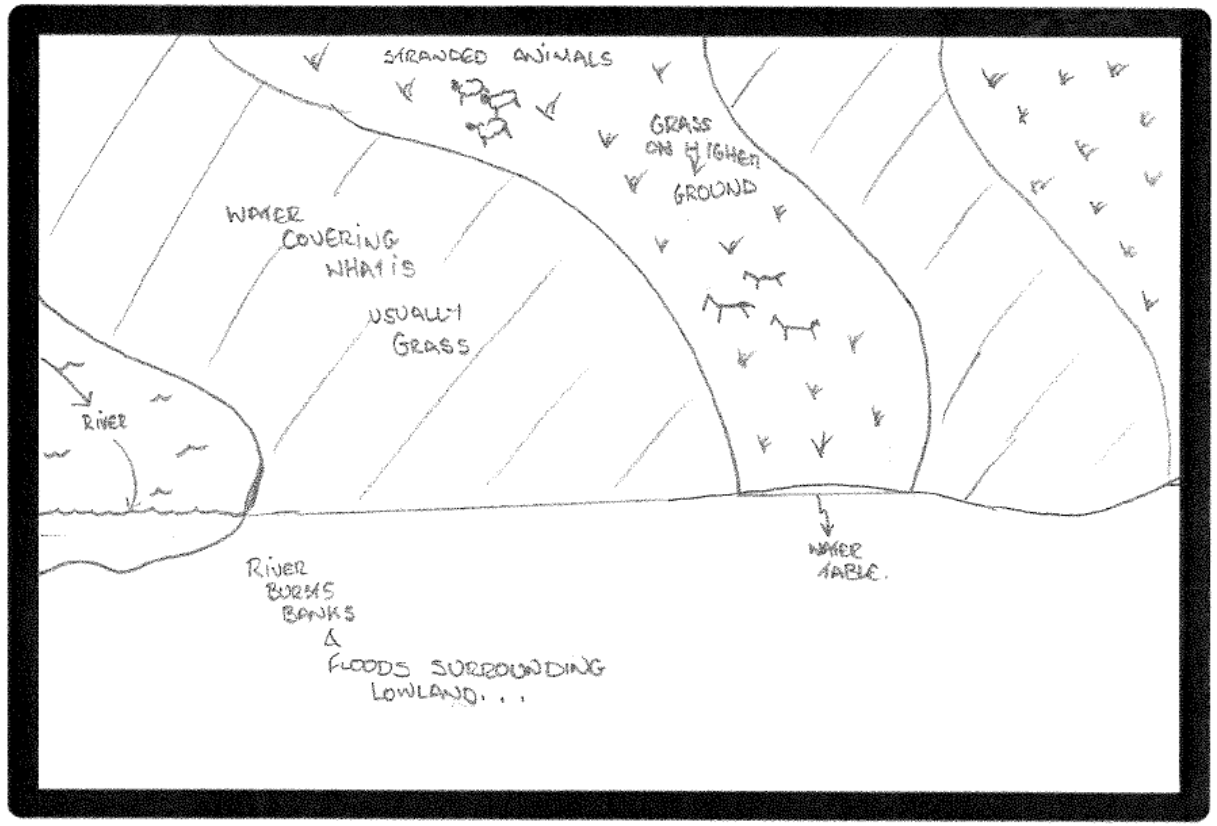
Expert

PLEASE STAY INSIDE THE BOX!



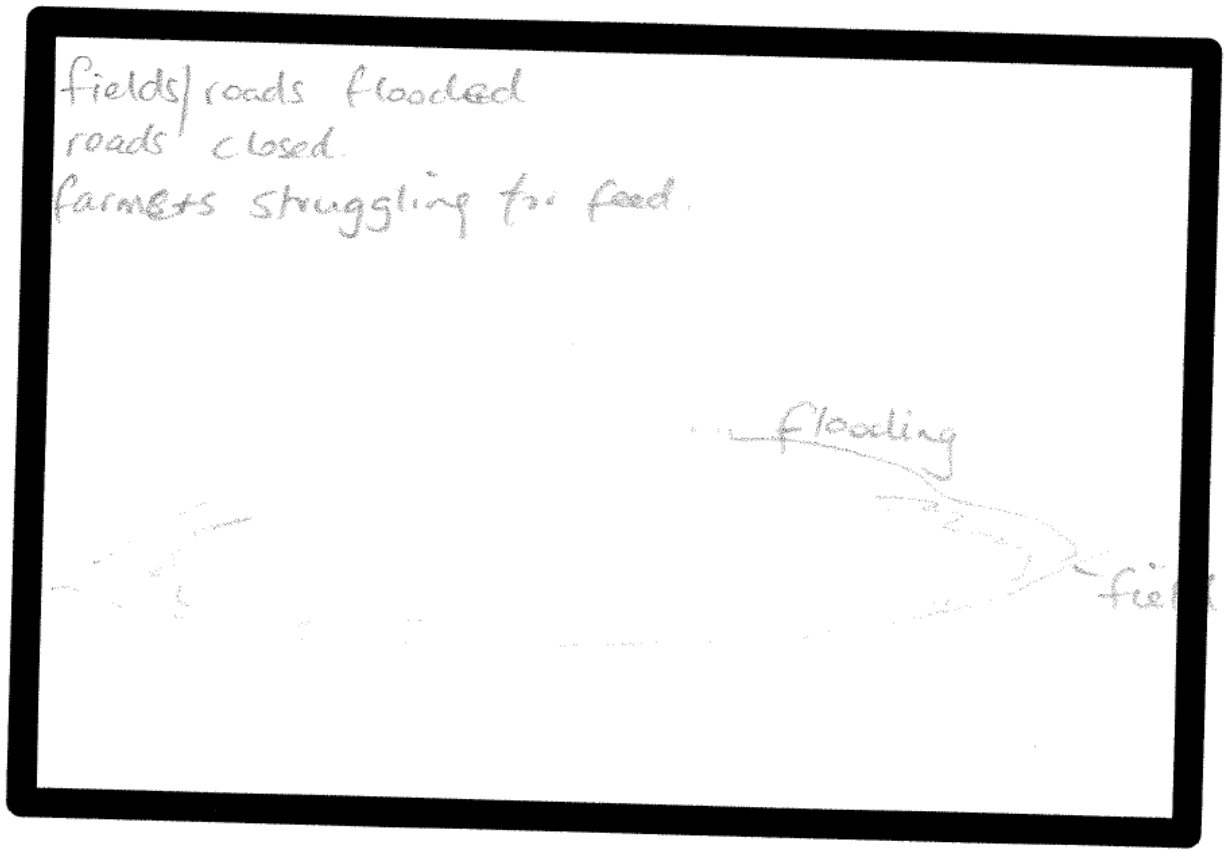
Expert

PLEASE STAY INSIDE THE BOX!

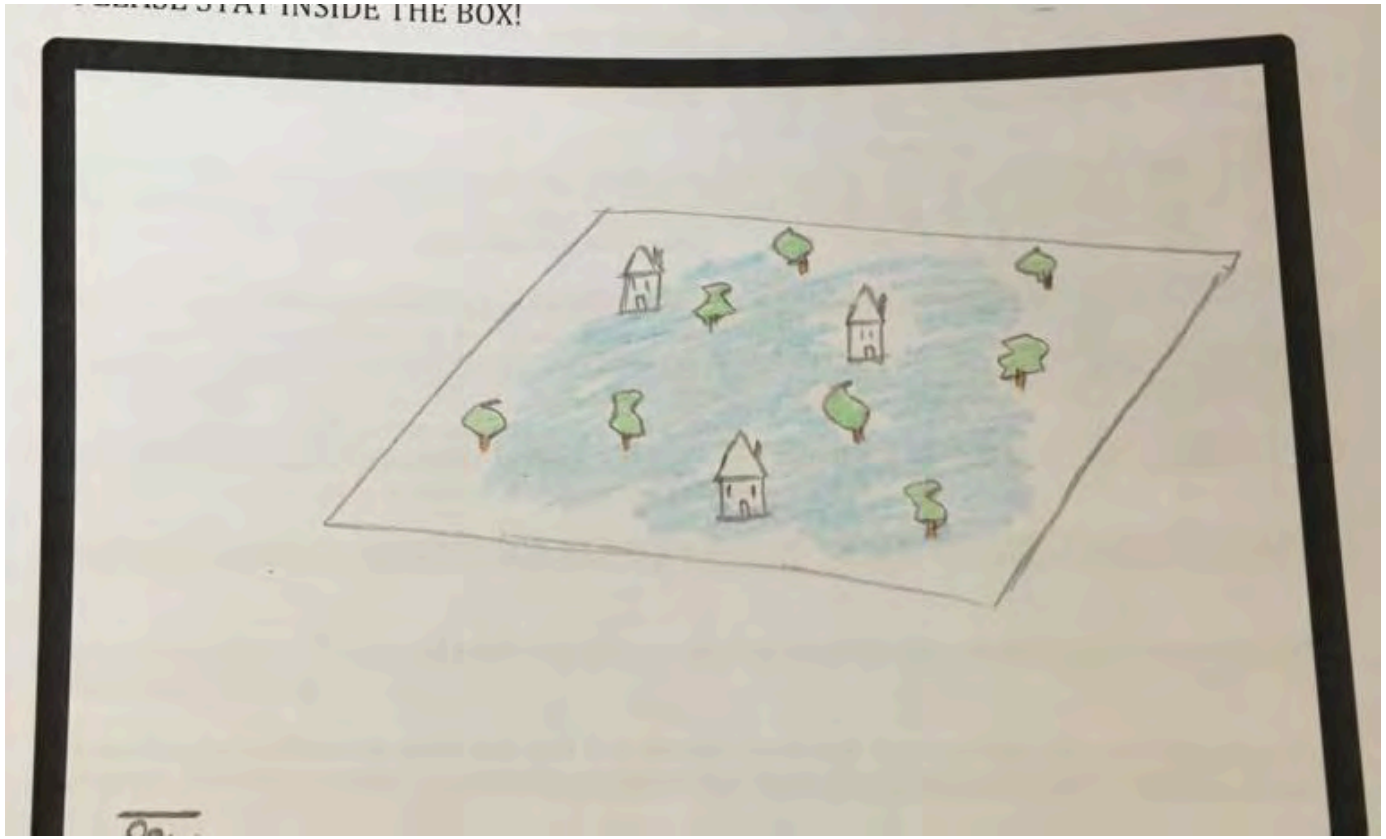


Expert

PLEASE STAY INSIDE THE BOX!



Expert



Expert