The Derrick Software

« In search of resources »

designed by Philippe Cosentino

Presentation: Erwan Paitel

Accueil

Sur le terrain

Au laboratoire

Ressources TICE
- Nouveautés
- QCM nomades
- Classées par niveau
- Classées par type
- Activités
- Graticiels
- Jeux sérieux
- Archives

Pédagogie

Infos pratiques

Carnet d'adresses

Rechercher

Statistiques

Administrer

XML RSS 2.0

Productions classées par type : graticiels

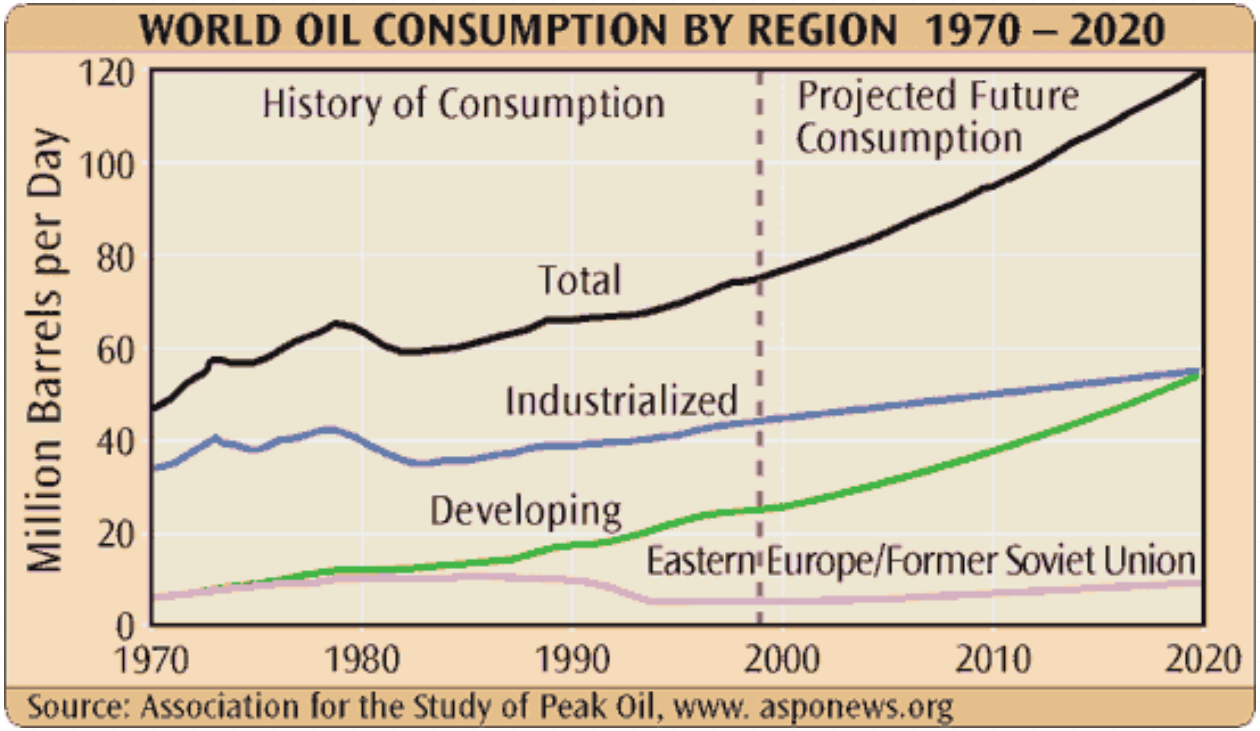
Liste des graticiels (logiciels gratuits à télécharger)

Cliquez sur la **ressource** à laquelle vous souhaitez accéder.

- Profil crustal (graticiel)(SIG)
- Leuco war (graticiel)(jeu sérieux)
- Derrick : devenez le roi du pétrole (graticiel)(jeu sérieux)
- Phalènes ! (graticiel)(jeu sérieux)
- Sim'agro (graticiel)(jeu sérieux)
- Tomographie sismique (graticiel)(SIG)
- Evolution allélique / dérive génétique (graticiel)
- Evolution allélique / sélection naturelle (version HTML5) (graticiel)
- Couverture vaccinale et protection de la population (graticiel)
- Simulation d'une fibre nerveuse (graticiel)
- Sim'Thon (graticiel)
- Brassage interchromosomique et formation des gamètes (collège) (graticiel)
- Dérive génétique (graticiel)
- Régulation nerveuse de la pression artérielle (graticiel)
- Régulation nerveuse de l'activité ventilatoire (graticiel)
- Dissection de l'appareil digestif de la grenouille (graticiel)
- Cézanne : un logiciel de coupe géologique (graticiel)(SIG)
- EduCarte (SIG du SISMO) (graticiel)(SIG)
- Evolution allélique (graticiel)
- Activités autour de Caussols (graticiel)
- Absorption des infrarouges et effet de serre (graticiel)(activité en ligne)
- Hodochrone en ligne (graticiel)
- Sismographe (graticiel)

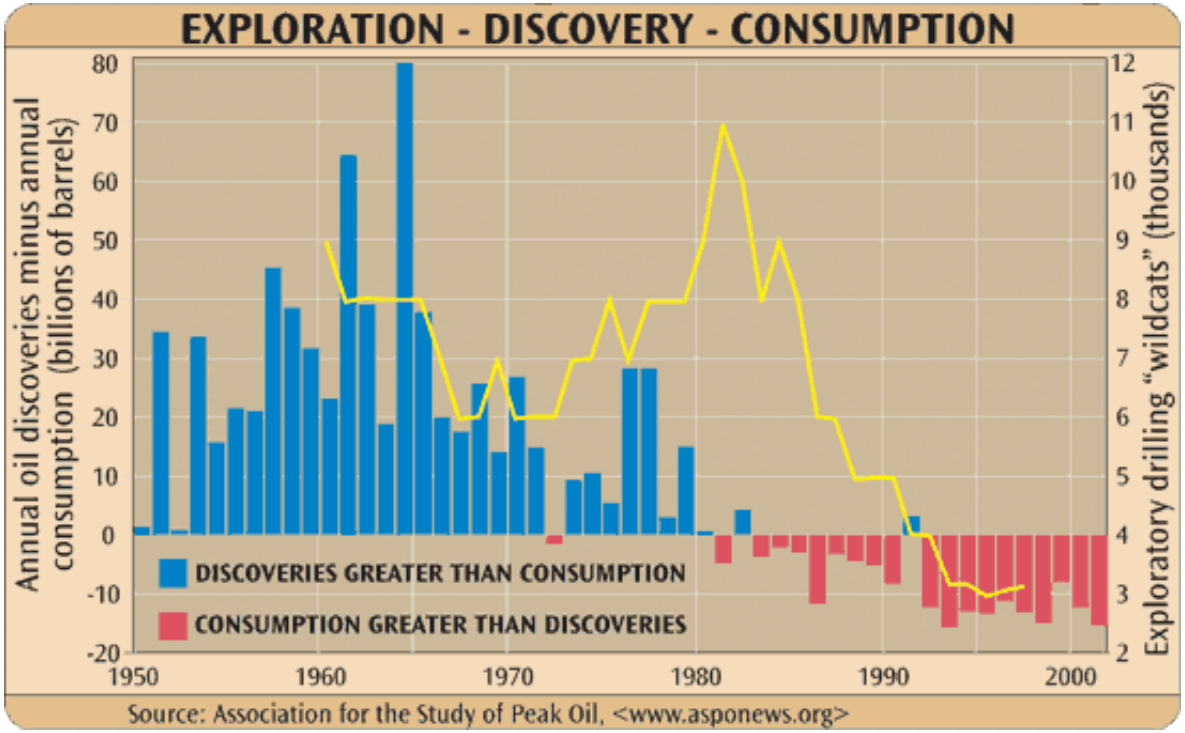
Facts

- General context



Facts

- The situation of oil consumption compared to its discovery



éduscol

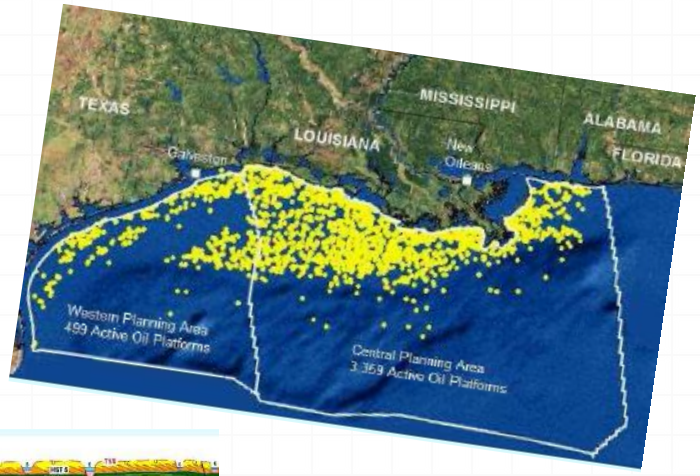
ministère éducation nationale

SIENE

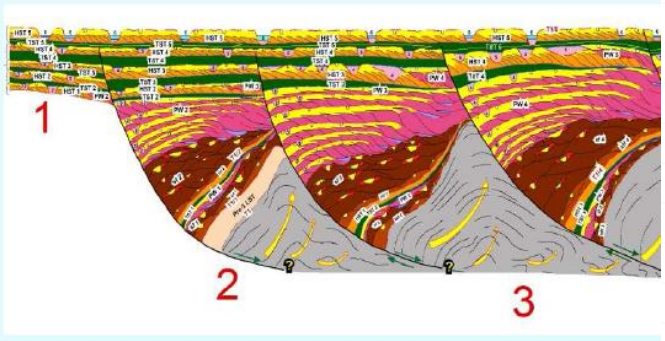
Service d'Information sur l'Édition Numérique Éducative

Portail national éduscol :
Sciences de la vie et de la terre

- Pétrole dans le golfe du Mexique - Sciences de la vie et de la terre - éduscol SIENE

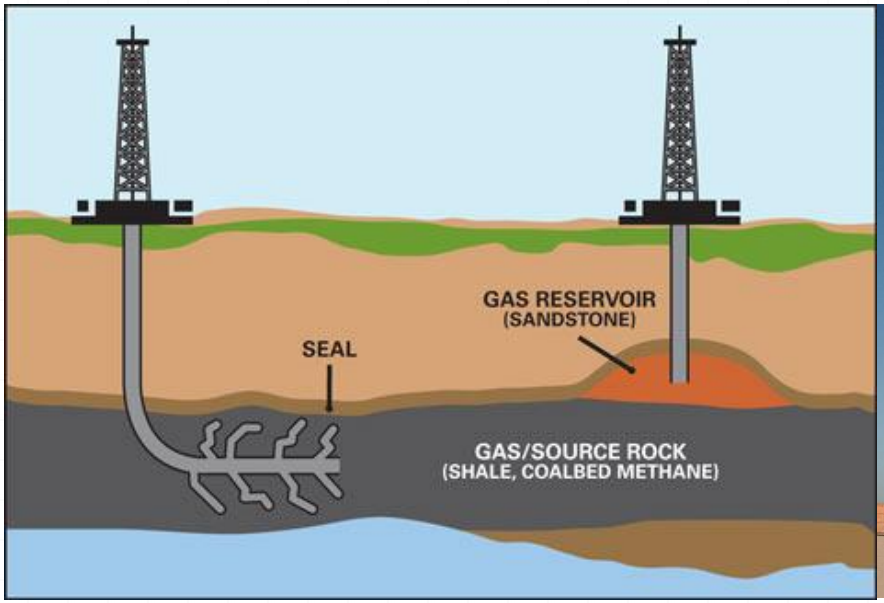


- Activité



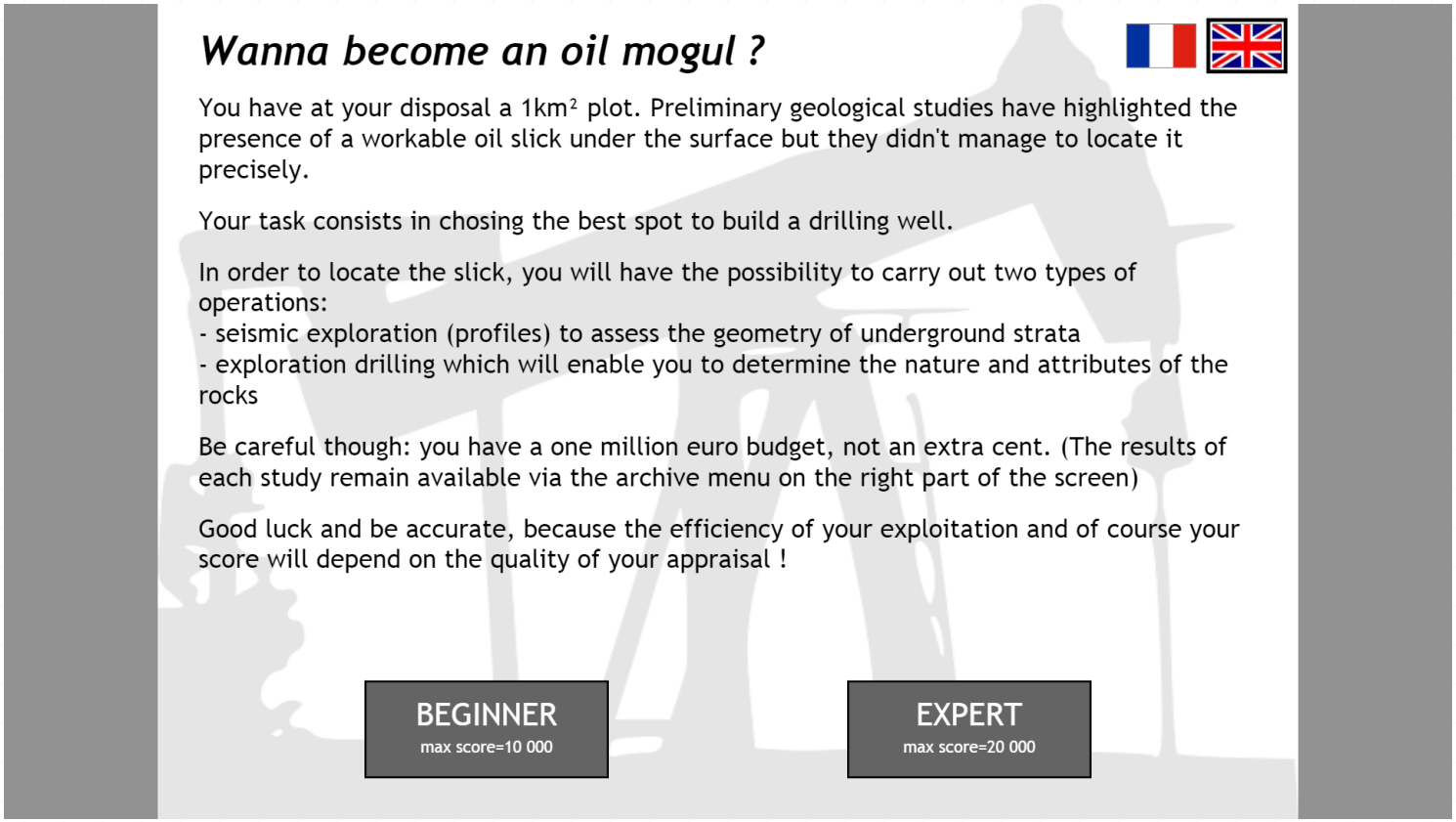
Oil Derricks

- Presentation of the technic:

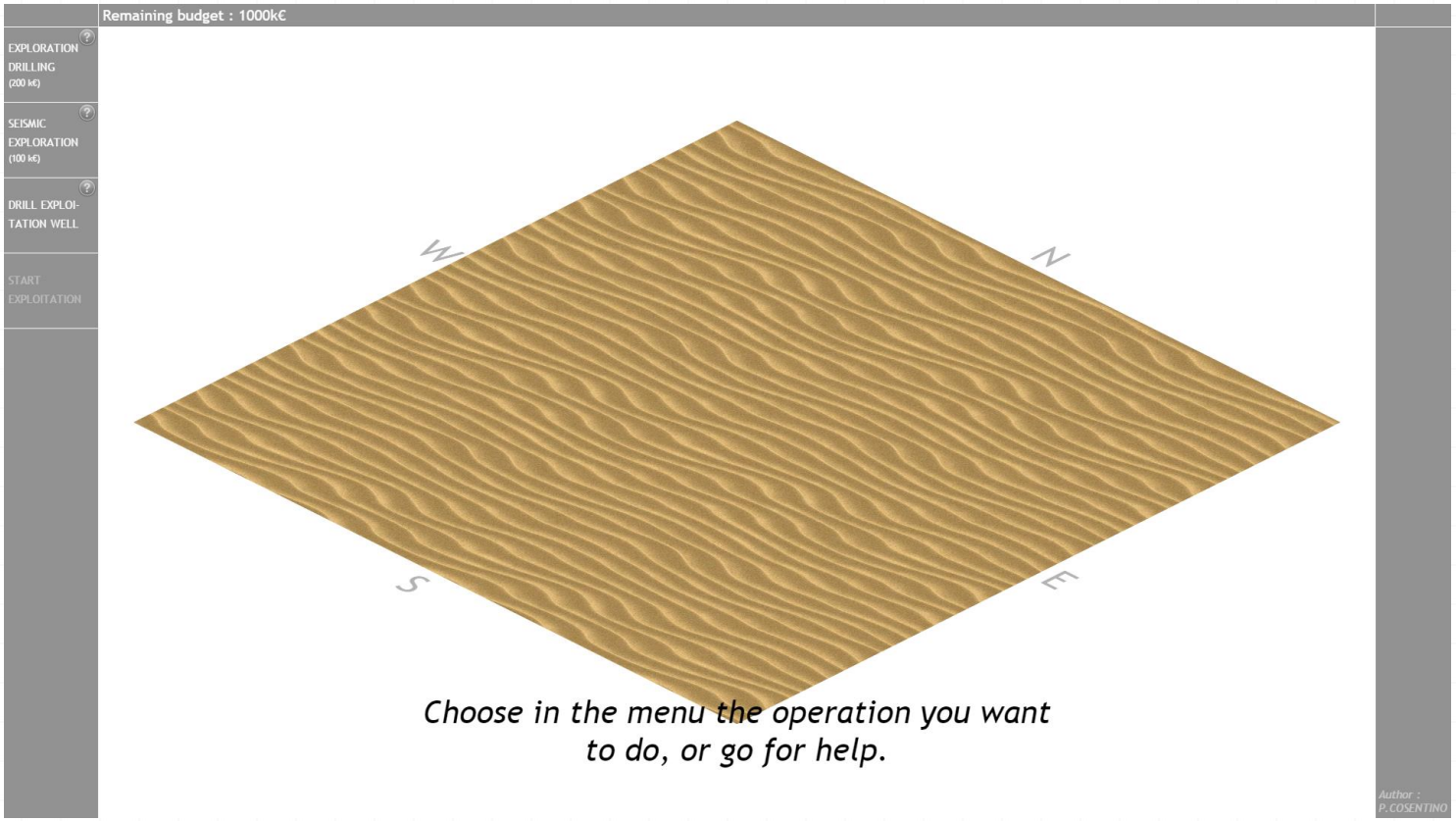


Derrick software

www.ac-nice.fr/svt/productions/html5/derrick.index.htm



Initial situation



Exploration drilling

informations

Remaining budget : 1000k€

EXPLORATION DRILLING (200 k€)

SEISMIC EXPLORATION (100 k€)

DRILL EXPLOI-TATION WELL

START EXPLOITATION

Core drilling and underground exploration (exploration drilling)

A core drill is a drill specifically designed to remove a cylinder of material (core), much like a hole saw.

Analyzing the core, you will be able to determine the nature, porosity and organic matter content in unterground stratums.

Only an enough porous rock (reservoir rock) can contain a mineable amount of petroleum ;

On the right : exploration core drilling on Evenkiysky petroleum site (source : Wikimedia).

Click anywhere to close this screen

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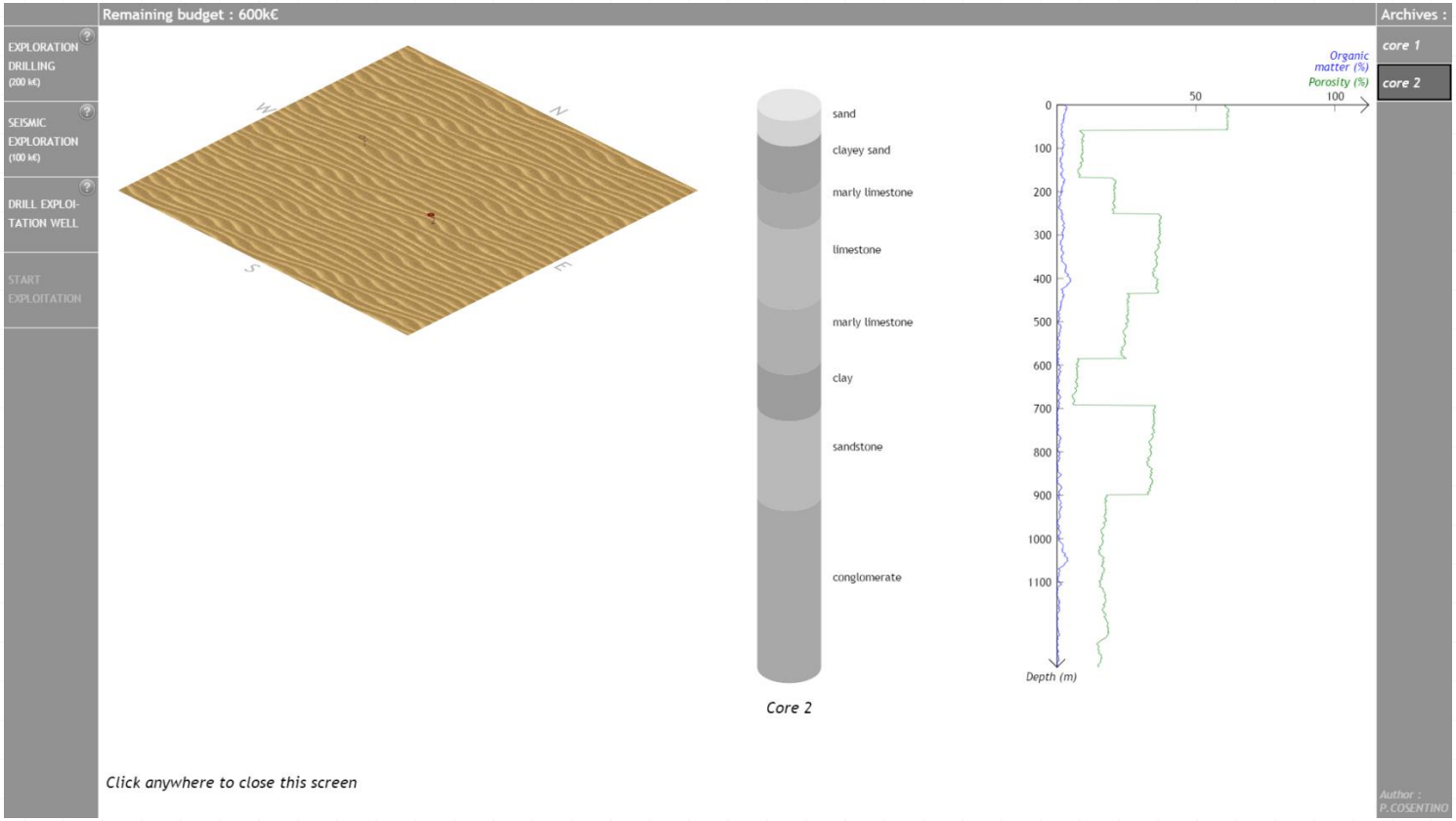
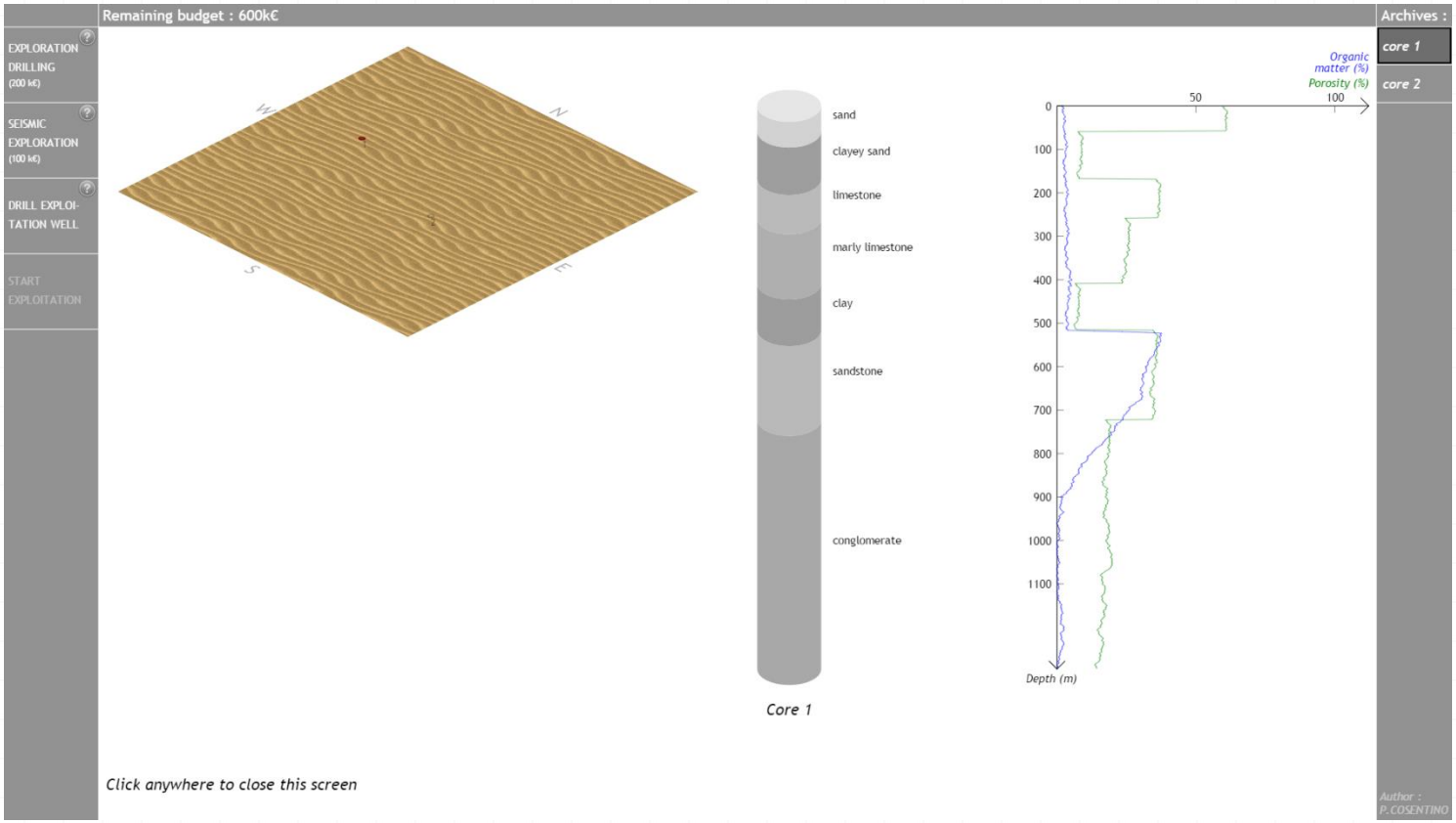
Exploration drilling #1

sedimentary layers, porosity level



Exploration drilling #2

presence of organic matter



Chance is not an option!

Assessing the local geological context

Remaining budget : 1000k€

EXPLORATION DRILLING (200 k€)

SEISMIC EXPLORATION (100 k€)

DRILL EXPLOI-TATION WELL

START EXPLOITATION

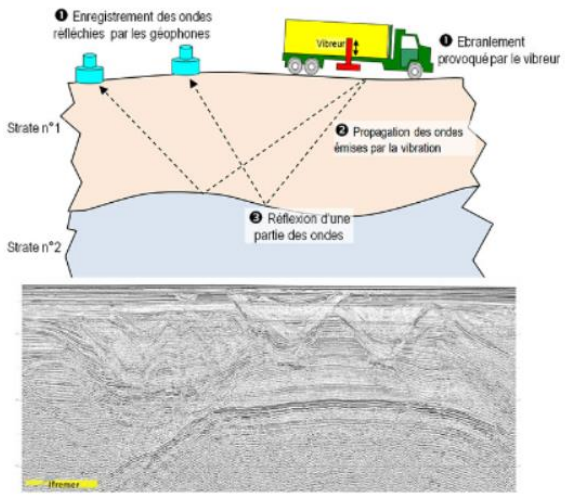
Seismic exploration (profile)

Seismic exploration is a geological method of exploration allowing to visualizedeep geological structures thanks to the analysis of seismic waves echoes.

Vibrating trucks are used to generate seismic waves which will propagate in the underground. These waves are partially reflected each time their speed changes. Later, they are received by sensors.

Processing this data, the geologists manage to estimate the probabilities of finding fossil fuels. A fold for instance, can constitute a trap where the oil can accumulate at his top.

On the right : principle of the seismic exploration (source : banque de schémas SVT) and seismic profile example (Ifremer).



Click anywhere to close this screen

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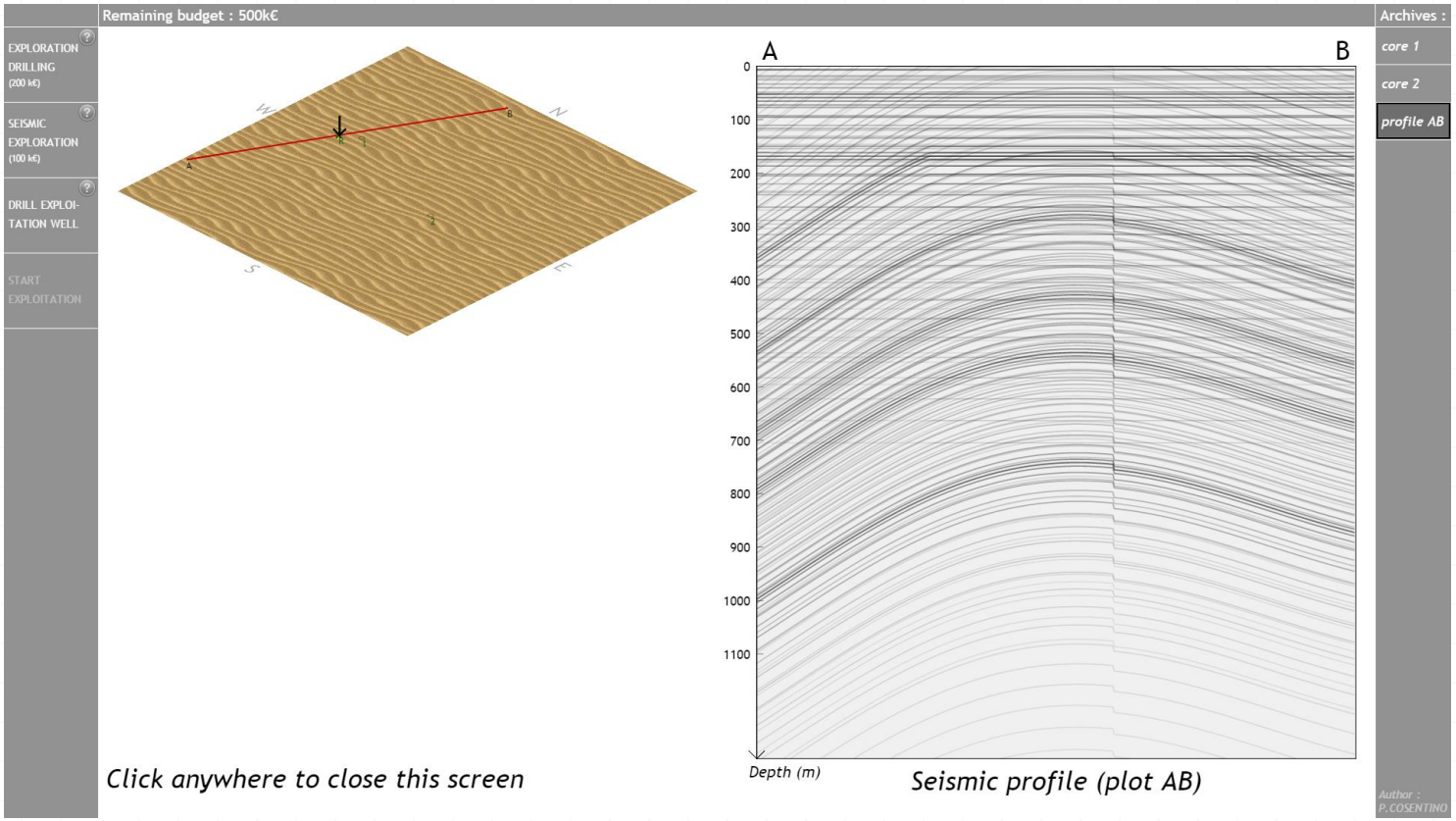
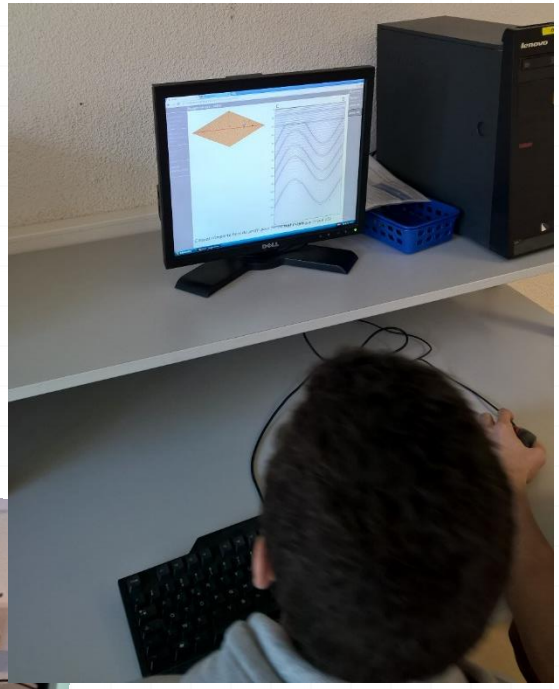
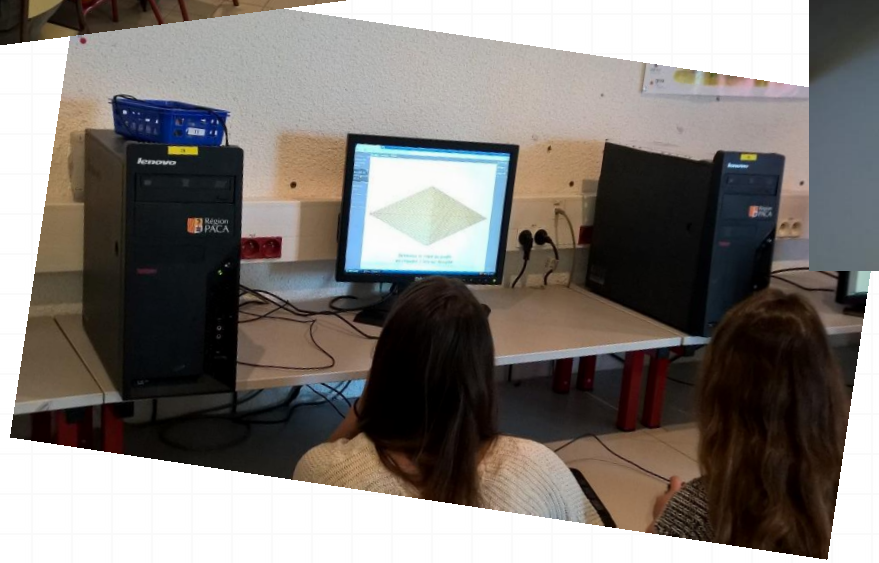
Seismic exploration

Reflectors, profile, folds and faults

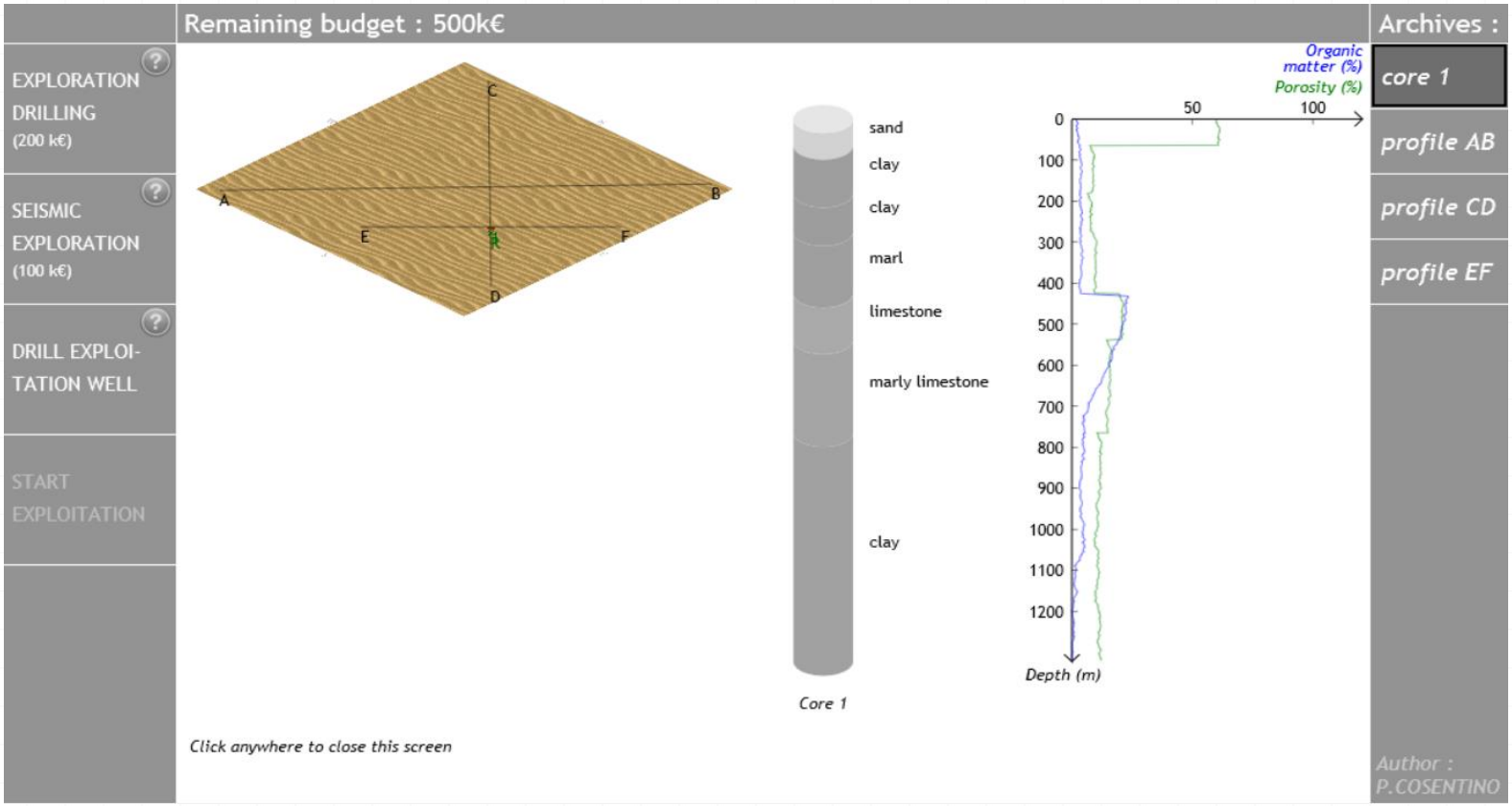


How students get strategies



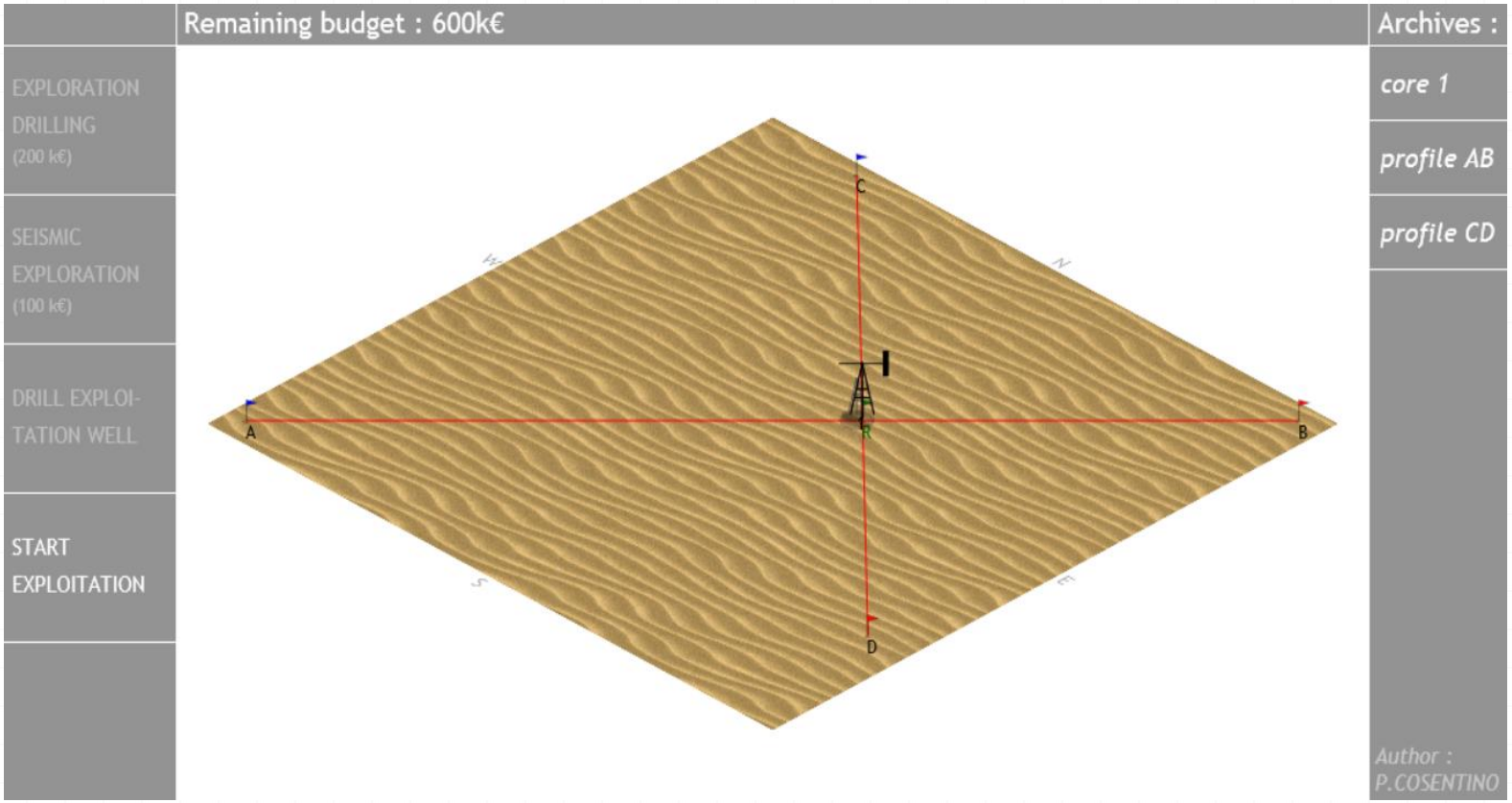


#1
Importance of Seismic exploration



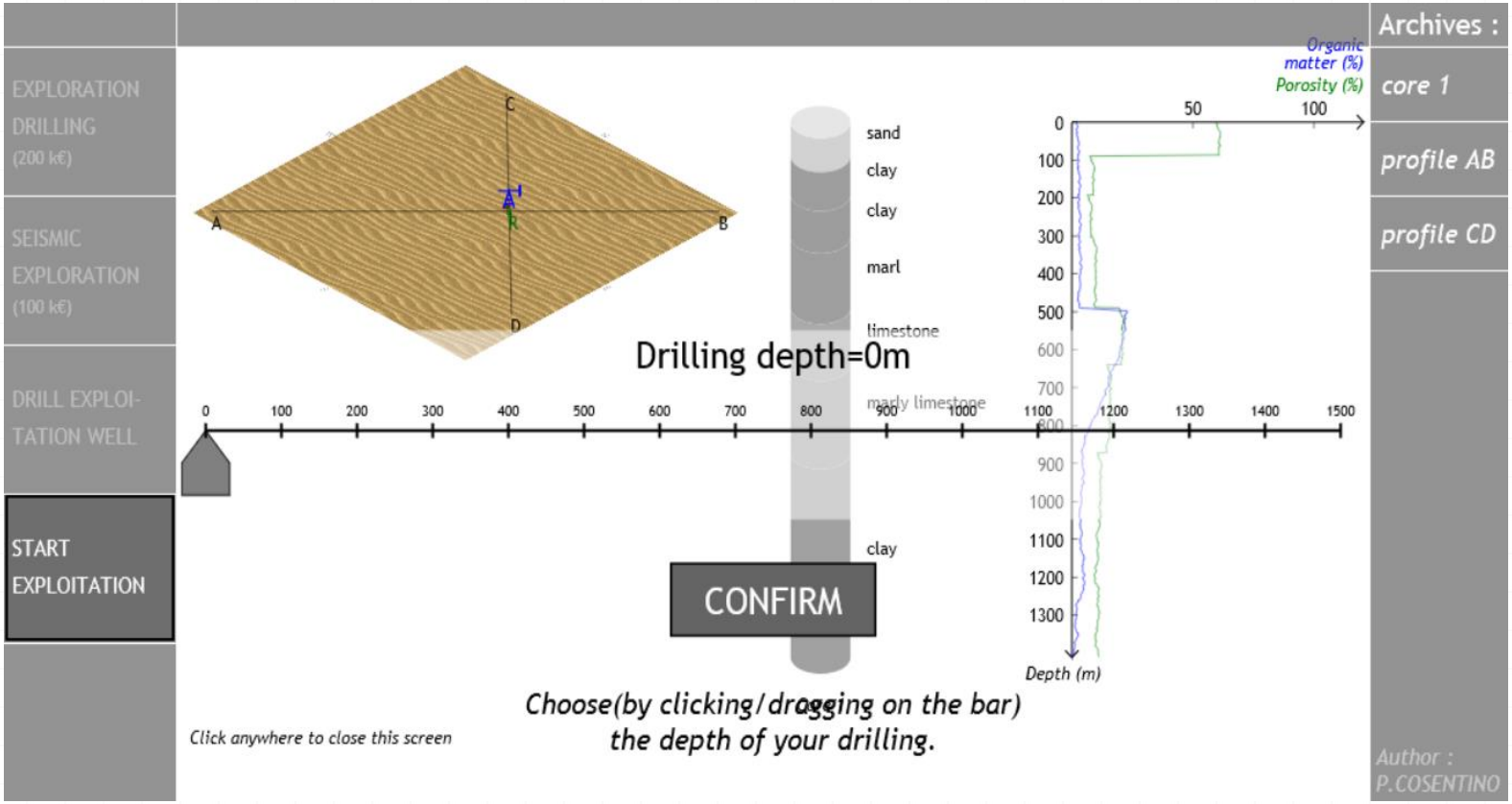
Once localized

Starting the exploitation



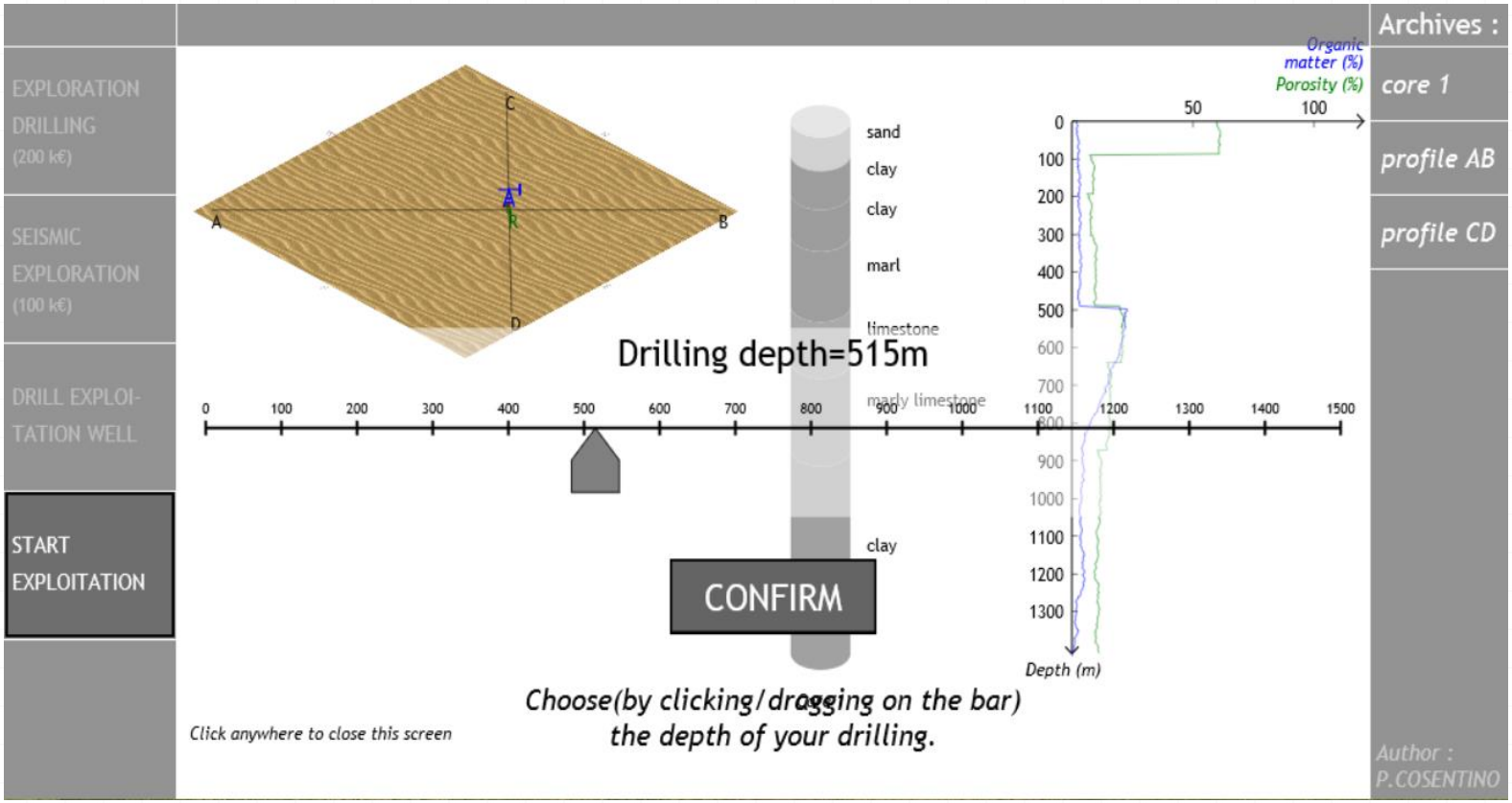
Once localized:

assessing drilling depth(1)



Once localized:

assessing drilling depth(2)



Evaluating and advising

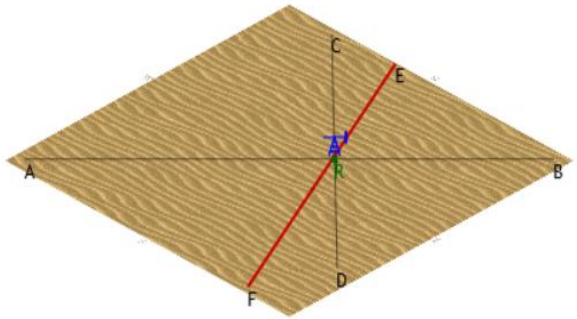
EXPLORATION DRILLING (200 k€)

SEISMIC EXPLORATION (100 k€)

DRILL EXPLOI-TATION WELL

START EXPLOITATION

RESTART A NEW GAME

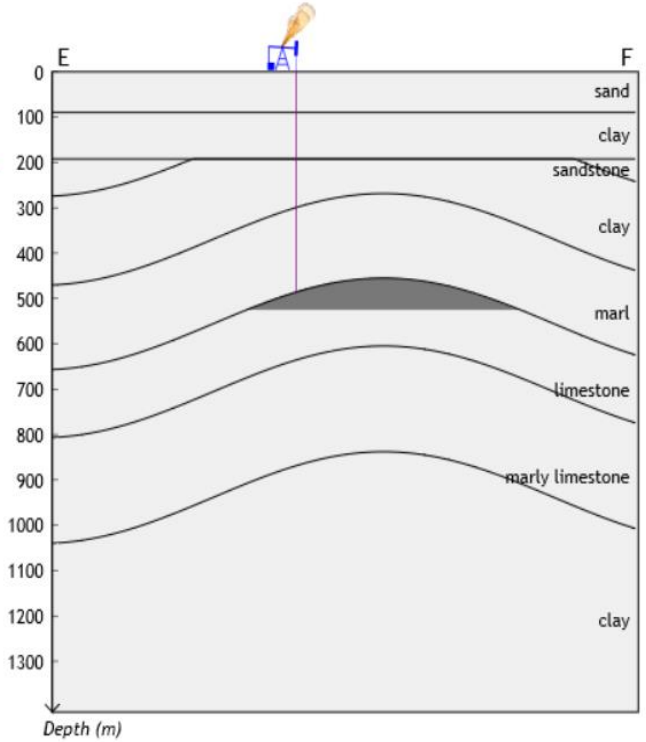


Success !

Your well will exploit 55% of the petroleum contained in the reservoir rock.

Your depth estimation was 94% accurate.

Total score : 5170



Archives :

core 1

profile AB

profile CD

summary

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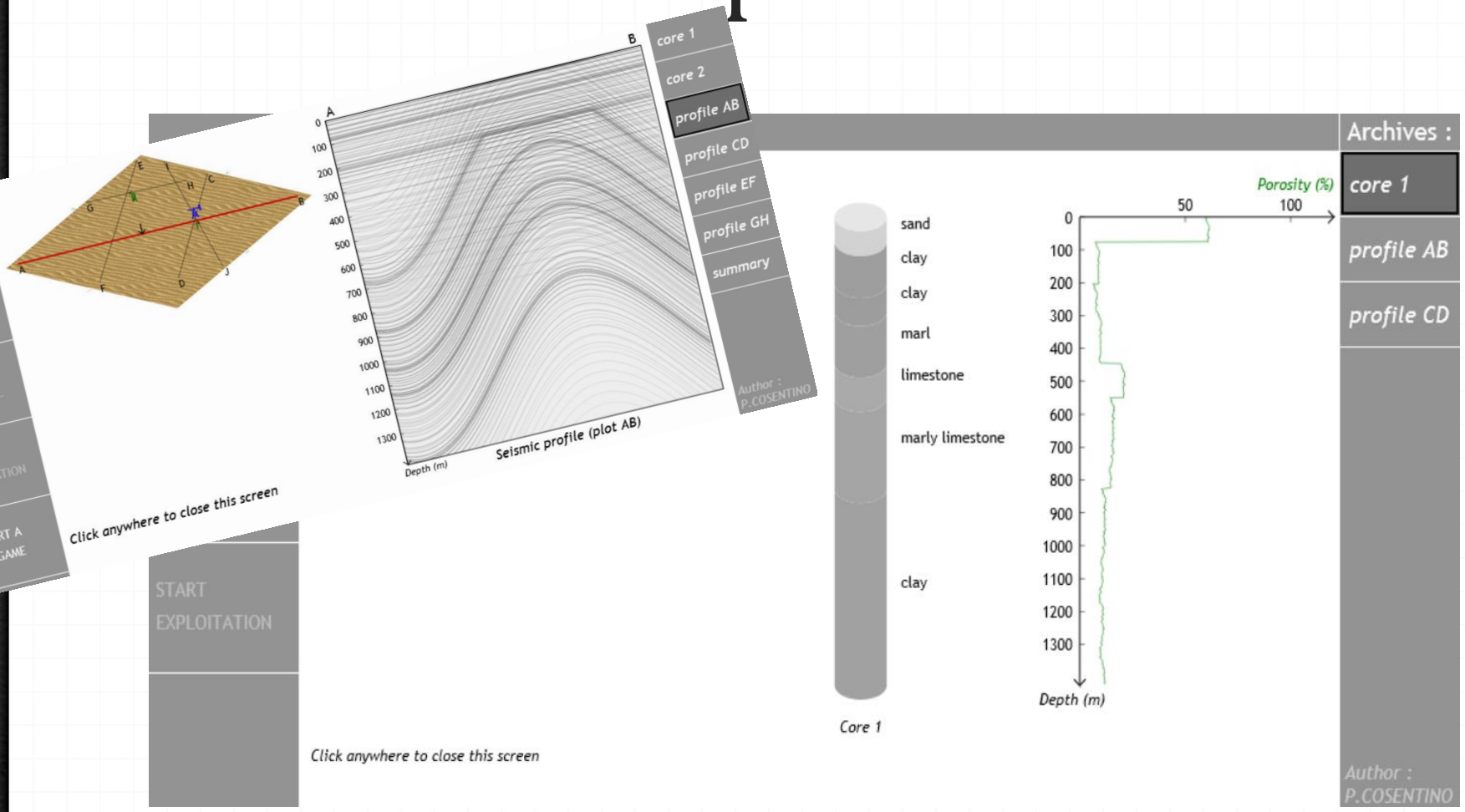
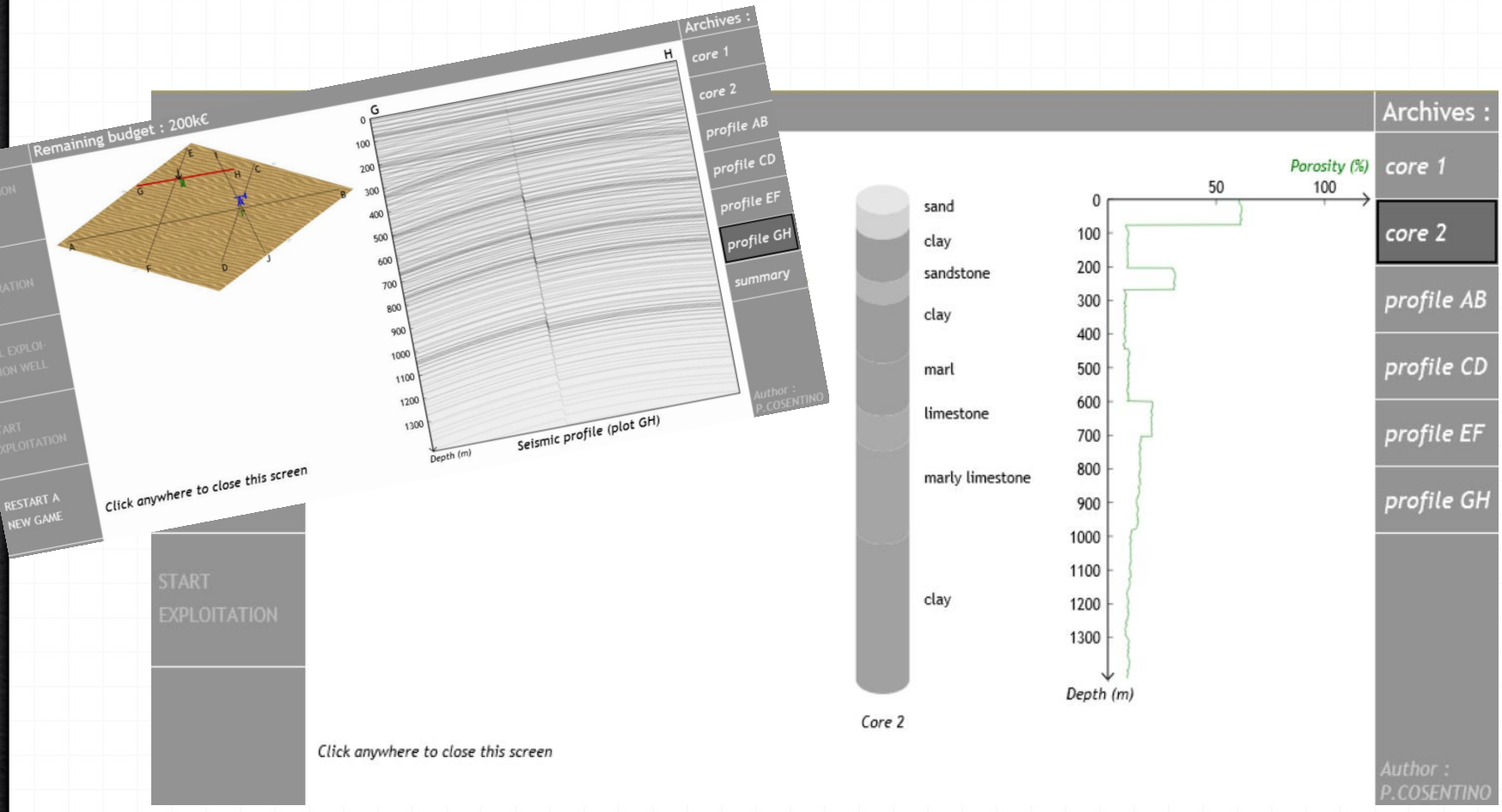
The Expert mode



The Expert mode



The expert mode

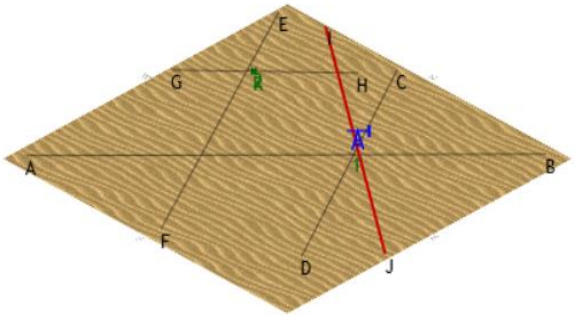
EXPLORATION DRILLING (200 k€)

SEISMIC EXPLORATION (100 k€)

DRILL EXPLOI-TATION WELL

START EXPLOITATION

RESTART A NEW GAME

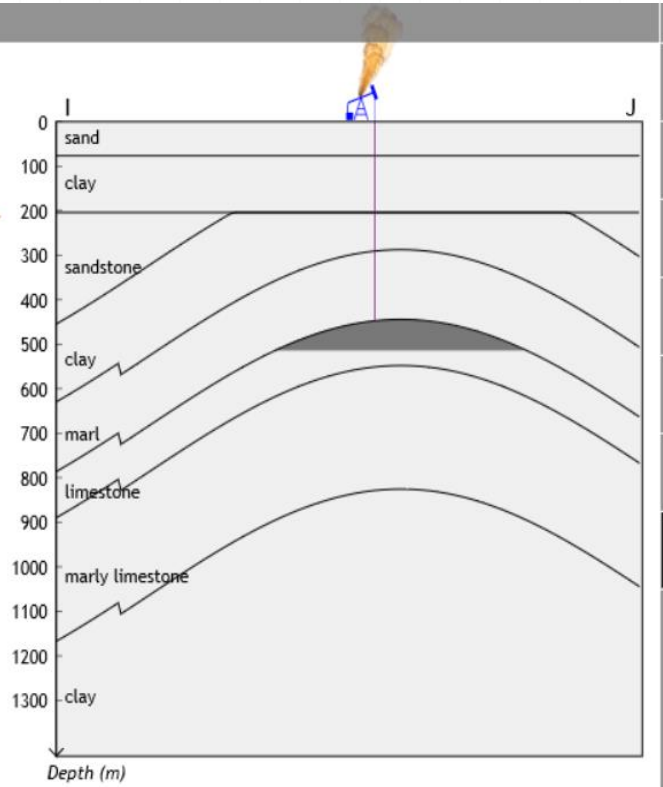


Success !

Your well will exploit 95% of the petroleum contained in the reservoir rock.

Your depth estimation was 90% accurate.

Total score : 17100



Archives :

core 1

core 2

profile AB

profile CD

profile EF

profile GH

summary

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Aknowledgments

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- Philippe Cosentino: software designer
- Jean-Luc Berenguer, EGU, Committee of Education member