OTM-054: Understanding the near-surface for anticipating seismic signal absorption properties

Understanding the near-surface for anticipating seismic signal absorption properties

Challenge

	Challenge ID	OTM:054				
1	Title	Understanding the near-surface for anticipating seismic signal absorption properties				
2	Theme ID	ON 2.3: Surface Geology Mapping - Lithological discrimination				
3	Originator of Challenge	Onshore: OTM				
4	Challenge Reviewer / initiator	PEMEX				
	General description	Overview of Challenge				
5	What is the nature of the challenge? (What is not adequately addressed at present?)	Understanding the near surface. This is a key challenge in seismic imaging as it is where most of the seismic signal is lost.				
6	Thematic information requirements	2. Obtain detailed terrain characterisation, 11. Determine lithology, mineralogy and structural properties of the near surface,				
7	Nature of the challenge - What effect does this challenge have on operations?	Any additional understanding that could be obtained would enable better calibration of models and analysis of the acquired data.				
8	What do you currently do to address this challenge?/ How is this challenge conventionally addressed?	Currently near surface models are created; it can be with an uphole survey for example, or pre-existing seismic data. Some specialist companies have Rayleigh wave inversion techniques that provide a proven valuable method of studying the near surface. Com				
9	What kind of solution do you envisage could address this challenge?					
10	What is your view on the capability of technology to meet this need? – are you currently using EO tech? If not, why not?					
	Challenge classification					
11	Lifecycle stage	Pre license	Exp.	Dev.	Prod.	Decom.
	Score from impact quantification [1]	2	4	0	0	0
12	Climate classification	NOT CLIMATE SPECIFIC				
13	Geographic context/restrictions	Generic onshore (Unspecified)				
14	Topographic classification / Offshore classification	Generic onshore (Unspecified)				
15	Seasonal variations	Any season				
16	Impact Area	Decision enabler, improved quality of seismic output				
17	Technology Urgency (How quickly does the user need the solution)	Immediately (0-2 years)				
	Information requirements					
18	Update frequency	Snap shot requirement				
19	Data Currently used					
20	Spatial resolution					
21	Thematic accuracy					
22	Example formats					
23	Timeliness	Reference data - timeliness not important				
24	Geographic Extent	reservoir footprint				
25	Existing standards					

[1] Impact quantification scores: *4 – Critical/ enabling; 3 – Significant/ competitive advantage; 2 – Important but non-essential; 1 – Nice to have; 0 – No impact, need satisfied with existing technology*

Relevant products

Content by label

There is no content with the specified labels