

OTM-053: Understanding the near-surface for explosive charge placement

Understanding the near-surface for explosive charge placement

Challenge

Challenge ID	OTM:053					
1 Title	Understanding the near-surface for explosive charge placement					
2 Theme ID	ON 1.1: Seismic Planning - Areas of poor coupling					
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?)	It is necessary to estimate drill depths for explosive charges in seismic surveys. The charge deployer may be required to hand drill up to 12m deep for charge placement and this needs to consider the presence of hard rock below the surface. If planning could identify such near-surface obstacles, this would influence the choice of seismic lines.					
6 Thematic information requirements	11. Determine lithology, mineralogy and structural properties of the near surface, 12. Identify the presence of sub-surface or covered infrastructure.					
7 Nature of the challenge - What effect does this challenge have on operations?	Drilling staff may not be able to drill to the specified depth and this is often not identified until the operation is underway. This can lead to delays or discrepancies within the survey as charges cannot be deployed to the full, design depth.					
8 What do you currently do to address this challenge?/ How is this challenge conventionally addressed?	Currently field visits and shot holes are drilled as part of scouting, but terrain can vary in a small distance meaning that 100m away you can only drill to 5m compared to 10m on the last hole. Speaking with local land owners, talking with Oil and Gas co					
9 What kind of solution do you envisage could address this challenge?	A sub-surface map					
10 What is your view on the capability of technology to meet this need? – are you currently using EO tech? If not, why not?	EO is not considered beneficial at present.					
Challenge classification						
11 Lifecycle stage	Pre license	Exp.	Dev.	Prod.	Decom.	
Score from impact quantification [1]	2	3	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	Operational cost reduction					
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

