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|  | Challenge ID | OTM:051 |
| 1 | Title | Identification of fault lines |
| 2 | Theme ID | ON 2.2: Surface Geology Mapping - Structural interpretation |
| 3 | Originator of Challenge | Onshore: OTM |
| 4 | Challenge Reviewer / initiator  | PetroSA, Sasol, Exxon, Tullow, Petronas |
|  | General description | Overview of Challenge |
| 5 | What is the nature of the challenge? (What is not adequately addressed at present?) | Identification of geological features can give reasonable and early indications of likely reservoir locations. These are more easily seen in clear or deserted regions but areas of forested / agricultural land where the surface is covered or artificially modified, it is difficult to see these |
| 6 | Thematic information requirements | 1. Obtain detailed topographic information, 11. Determine lithology, mineralogy and structural properties of the near surface, 14. Obtain detailed imagery of the surface, |
| 7 | Nature of the challenge - What effect does this challenge have on operations? | If we are failing to identify geological indicators that suggest the presence of a reservoir then we have missed an opportunity. If our competitors do this better than us the impact to our business could be huge. |
| 8 | What do you currently do to address this challenge?/ How is this challenge conventionally addressed? | Online imagery can be used in clear areas. Geological maps can be used on a broader scale with inference to hills and larger structures. There is no solution that gives us the accuracy we would like |
| 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? | EO has applicability where the structure is exposed. Forest/woodland / agricultural and most wetlands would mask the structure. |
|  | Challenge classification |  |
| 11 | Lifecycle stage | Pre license  | Exp. | Dev. | Prod. | Decom. |
| Score from impact quantification [[1]](#footnote-1) | 4 | 4 | 0 | 1 | 0 |
| 12 | Climate classification  | NOT CLIMATE SPECIFIC, but not suitable in highly vegetated areas |
| 13 | Geographic context/restrictions | Generic onshore (Unspecified) |
| 14 | Topographic classification / Offshore classification | Generic onshore (Unspecified) |
| 15 | Seasonal variations | Any season |
| 16 | Impact Area | Strategic decision enabler |
| 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 | district area |
| 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* [↑](#footnote-ref-1)