

# Hatfield-2102: Understanding hydrogeology

## Understanding hydrogeology

### Challenge

Challenge ID:	HCP-2102	Originator:	Onshore: Hatfield
Title:	Understanding hydrogeology.		
Theme:	ON 2.1: Surface Geology Mapping - Mapping geological features		
Consortium Lead:	Arup	Interviewed Company:	Arup
Geography:	ON.REG.00 - Generic onshore		
Challenge Description			
What is not possible / not adequately addressed at present?			
Need to obtain understanding of hydrogeology, such as: water supply; artesian conditions; high groundwater table; seepage; contaminant plume migration; hot / thermal springs.			
What effect does this challenge have on operations?			
Reduces uncertainty, improves decision making for field development. Early identification of constraints and opportunities.			
Thematic information requirements:	Water quality Water quantity Lithology, structural geology, surficial geology		
What do you currently do to address this challenge?			
How is this challenge conventionally addressed?			
Topographic mapping, aerial photographic interpretation, field mapping, walkover surveys and fly-by surveys, ground and groundwater investigations, water well monitoring			
What kind of solutions do you envisage could address this challenge?			
Climate and environmental condition specific. LiDAR in densely vegetated areas where surface cannot be observed. Satellite and aerial imagery / DEMs. Thermal imaging. Geophysics.			
What is your view on the capability of technology to meet this need?			
Are you currently using EO tech? If not, why not?			
EO can complement ground-based and airborne techniques and provide wider geographic coverage at lower cost.			
Challenge Classification			
Impact on Lifecycle (0=none, 4=high):		Climate / Topography / Urgency:	
Pre-license:	1	Climate class:	Generic climate
Exploration:	3	Topographic class:	Not specific
Development:	3	Seasonal variations:	Any season
Production:	2	Impact area:	Environmental, Health and Safety, Cost reduction
Decommissioning:	2	Technology urgency:	2 - Short term (2-5 years)
Challenge Information Requirements			
Update frequency:	Snapshot		
Data currently used:	Air photo interpretation DEM analysis (ASTER, SRTM, High res optical DEM) Radar Google Earth		
Spatial resolution:	Regional to License		

Thematic accuracy:	Not specific
Required formats:	Not Specific
Timeliness (Vintage):	Reference data
Geographic extents:	License
Existing standards:	None

## Relevant products

**Content by label**

There is no content with the specified labels