

Hatfield challenges

- Hatfield-1101: Identify areas with soft sediments to avoid strong attenuation
- Hatfield-1102: Identify rock-strewn areas to avoid point loading
- Hatfield-1103: Identify soft and hard ground as areas of potentially poor source and receiver coupling
- Hatfield-1104: Identify lake, river and coastal ice grounding status for data quality
- Hatfield-1105: Identify permafrost zone for data analysis
- Hatfield-1201: Identify up-to-date general land use patterns to plan access and apply safe setback distances.
- Hatfield-1202: Identify rivers, lakes and wet areas to apply safe setback distances
- Hatfield-1203: Identify areas with soft sediments to plan access and assess hazards
- Hatfield-1204: Assess forest characteristics to plan access and assess hazards
- Hatfield-1205: Identify steep slopes to assess potential constraints to access in forested areas
- Hatfield-1206: Identify steep slopes to assess potential constraints to access
- Hatfield-1207: Identify claypan surfaces to be avoided
- Hatfield-1208: Identify optimal seasonal land use to reduce permitting costs - in particular commercial and subsistence farming practices.
- Hatfield-1209: Identify land parcel boundaries for impact compensation
- Hatfield-1210: Identify soft ground to reduce environmental impacts
- Hatfield-1211: Planning bridging through a tropical forest
- Hatfield-1212: Identify sabkhas / salt lake areas
- Hatfield-1213: Identify ice thickness and status for travel safety
- Hatfield-1214: Identify restricted areas that must be avoided
- Hatfield-1215: Identify UXO related hazards
- Hatfield-1301: Identify sensitive habitat to minimise and manage impacts of activities
- Hatfield-1302: Assess and map forest fire risk and provide situational awareness of fire occurrence.
- Hatfield-1303: Planning heliports, camps, and drop zones in forested areas
- Hatfield-2101: Lineament mapping
- Hatfield-2102: Understanding hydrogeology
- Hatfield-2201: Identify geological structure through landform
- Hatfield-2301: Identify discreet lithology
- Hatfield-2401: Identify geohazards and landscape change rates
- Hatfield-2501: Characterization of surface/near-surface structural geological properties for infrastructure planning
- Hatfield-2502: Identification of problem soils
- Hatfield-2503: Assessment of duricrusts and rock excavability
- Hatfield-2504: Identification of slope instability
- Hatfield-2505: Identify geophysical properties of the subsurface
- Hatfield-3101: Baseline and monitoring of areas with active faults and subsidence
- Hatfield-3201: Assessment of infrastructure placement and effects to the surrounding environment
- Hatfield-3202: Monitoring pipeline stability in discontinuous permafrost
- Hatfield-3203: Management of surface impacts due to ground deformation from operations
- Hatfield-3204: Monitor stability of surface reservoirs such as settling ponds
- Hatfield-3301: Monitoring carbon capture storage reservoir leaks
- Hatfield-3302: Assessing ground deformation to support enhanced recovery operations
- Hatfield-3303: Monitoring effectiveness of steam assisted gravity drainage (SAGD) operations
- Hatfield-4101: Assess fragmentation of natural habitat and cumulative disturbance
- Hatfield-4102: Land cover and land use for environmental baseline and/or impact assessment
- Hatfield-4103: Social baseline information to support compensation and/or resettlement
- Hatfield-4104: Mapping of forest extent and quality for environmental baseline and/or impact assessment
- Hatfield-4105: Identification of cultural heritage and archeology assessment
- Hatfield-4106: Air quality monitoring on an airshed and site specific basis
- Hatfield-4107: Detection of unexpected methane leakage on a regional basis
- Hatfield-4108: Assess habitat quality for key species for environmental baseline and/or impact assessment
- Hatfield-4109: Understand temporal and spatial extent of usable fish habitat to maintain acceptable levels
- Hatfield-4201: Remediation and reclamation monitoring
- Hatfield-4202: Map coastal habitat and built environment/settlement sensitivity to strengthen tactical oil spill response and preparedness
- Hatfield-4203: Monitor "induced access" corridors to assess indirect impacts or effects as a result of project development.
- Hatfield-4204: Monitoring local communities and land use in the project area
- Hatfield-4205: Remediation monitoring related to agriculture impacts
- Hatfield-4206: Monitoring lake and wetland levels and recharge rates following water use for exploration/operations
- Hatfield-4207: Understanding and predicting changes in hydrological processes
- Hatfield-4208: Identification of groundwater table to reduce potential issues during seismic activity
- Hatfield-4209: Monitor onshore pipeline right of way (RoW) to evaluate successions of vegetation communities
- Hatfield-4301: Map and monitor induced seismic hazards
- Hatfield-4302: Floodplain mapping and understanding flood extent and flood frequency.
- Hatfield-4303: Understand extent of lakes and wet areas for hazard assessment
- Hatfield-4304: Situational awareness information on water levels and lake extents and potential flooding
- Hatfield-4305: Monitoring air quality related to seasonal fires
- Hatfield-4306: Assess and manage forest fire risk to facilities and infrastructure
- Hatfield-4307: Coastal elevation data for tsunami risk analysis
- Hatfield-5101: Obtaining baseline land use for pipeline route planning
- Hatfield-5102: Assess potential project site for historical use
- Hatfield-5103: Identify subsurface infrastructure for planning of pipeline crossings
- Hatfield-5104: Baseline elevation data for project planning and design
- Hatfield-5201: Monitoring assets for risk management
- Hatfield-5301: Planning and assessing borrow pits as source of aggregate material
- Hatfield-5302: Terrain stability for route planning
- Hatfield-5303: Mapping land cover trends over the project area
- Hatfield-5304: Baseline imagery for project planning and design
- Hatfield-5305: Identify existing linear routes for co-location of pipelines in wilderness areas

- Hatfield-5306: Assessing terrain stability for infrastructure planning in permafrost environments
- Hatfield-5307: Assess coastal environment for infrastructure planning
- Hatfield-5401: Monitor pipeline corridor hazards
- Hatfield-5402: Detection of oil contamination and oil seeps
- Hatfield-5404: Monitoring of pipeline right of way for third party mechanical damage
- Hatfield-5405: Monitor potential pipeline corridor encroachment by communities