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Clean Resource Innovation Network

WORKING TO CREATE SUSTAINABLE LAND STRATEGIES

INNOVATION ACTIVITIES AND SKILLS FOR NOVEL LAND AND WELLSITE REMEDIATION

KEY ACTIVITIES

PROJECT PLANNING

Site assessment and collaborative ideation of solutions

- Conduct stakeholder consultations
- Review regulatory information and well files
- Conduct Environmental Site Assessment: soil, vegetation, wildlife and landscape
- Define desired/potential outcomes
- Conduct well testing.
- Closure of project/program design including identifying service provider and equipment requirements
- Service and equipment procurement
- Identify key stakeholders involved in the problem and solution(s)
- Data analytics and management

SUBSURFACE DECOMMISSIONING

Permanent plugging of wellbores and completions

- Project management
- Clean the wellbore by removing the separator, tubing, etc.
- Isolate oil and gas formations from each another
- Isolate groundwater with cement plugs
- Pressure test the well for leaks
- Pig the pipelines
- Cut, plug and tag the pipeline as required
- Engage specialty tools/secondary abandonment methods where required
- Haul subsurface infrastructure away
- Conduct a site inspection

SURFACE DECOMMISSIONING

Removal of surface equipment and facilities

- Project management
- Remove and dismantle all surface infrastructure
- Haul surface infrastructure away
- Conduct a site inspection
- Prepare regulatory reports
- Conduct wellsite abandonment and cut and cap activities
- Pipeline segment removal activities
- Facility demolition including compressor stations and drill site operations
- Complete test pitting, soil excavation, remediation and reclamation of sites
- Dispose of materials including soil, hazardous waste and metals

SITE REMEDIATION & RECLAMATION

Removal of contaminants and returning a site to its original state

- Develop a reclamation plan to return the land around the wellsite to its original state by:
  - Contouring the land: level lease, replace topsoil, and remove the access road
  - Remediating any contamination
  - Salvaging, storing and replacing soil
  - Reseeding, revegetating and/or reforesting
  - Preparing regulatory reports and applying for a reclamation certificate
  - Ongoing monitoring of the reclaimed site
- Data analytics and management

REUSE AND REPURPOSE: *leveraging existing surface and/or sub-surface infrastructure for economic diversification.*

In addition to the above activities, site assessment for novel land use is an iterative assessment process throughout the project lifecycle. Wellsites need to be at least partially remediated prior to being repurposed. Key activities include:

- Studying surface factors and infrastructure to determine the feasibility of reusing the wellsite for solar generation.
- Studying subsurface factors including the movement of fluids and gases to determine the feasibility of reusing the well for hydrogen, helium, geothermal, or lithium excavation, and for the geological capacity to store carbon.
- Working with relevant regulatory bodies including oil and gas/energy, environment and/or utilities, depending on the potential reuse possibilities for the site.
- Developing and implementing a project plan for safely reusing or repurposing wellsites.

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For more information please contact: info@cleanresourceinnovation.com and to view or download documents in the series, visit www.cleanresourceinnovation.com

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