6 LAND CONTAMINATION

Chapter 6 identifies the risk of disturbing contaminated land and of contaminating land as a result of works associated with the Pipeline Component of the Queensland Curtis LNG (QCLNG) Project. It presents mitigation measures to address both scenarios.

The Pipeline Component traverses a large area of Queensland, from the Surat Basin in the southern part of the state to Gladstone and Curtis Island on the central coast. Given the breadth of this component, the Pipeline Component and/or its associated infrastructure works have the potential to intercept previously contaminated land.

Environmental values regarding land and the prevention of land contamination are defined in Queensland's *Environmental Protection Act 1994* (Qld) *(EP Act*) and associated legislation and policies.

6.1 PROJECT ENVIRONMENTAL OBJECTIVE

The Project's environmental objective for land contamination is to protect land from contamination arising from Project activities and ensure that any existing contaminated land is not disturbed, or if disturbed is appropriately managed and/or rehabilitated.

6.2 APPROACH AND METHODOLOGY

Pipelines required for the Pipeline Component will pass through rural land that has been predominantly used for grazing. A risk-based approach was used during the route selection to avoid areas of known or likely contamination. This process will continue during the route refinement and detailed design phase and in consultation with landholders.

The process adopted for identifying potentially contaminated lands was:

- reviewing land parcels required to be crossed to determine whether any known major activities being conducted could be listed on the Environmental Management Register (EMR) or Contaminated Land Register (CLR)
- verifying necessary land parcels with the Department of Environment and Resource Management (DERM)
- using any observations and local or technical experience during the route selection and landholder negotiation process.

No known contaminated sites have been identified at this stage.

The following observations and experience were taken into account:

- Many rural properties do not have access to waste collection services and

in the past waste has often been disposed of on site. Wastes include domestic waste, animal carcasses, chemical containers and other materials such as asbestos sheeting

- Burning wastes, particularly treated or painted timber, can release heavy metals into the soil. No such contaminated areas were identified during field work and site inspections, but such disposal sites may be encountered along the route during development
- Rural properties may also have operational or abandoned animal dips which contain pesticide residues and heavy metals
- The preferred route crosses rail tracks and major roadways at various points. Hydrocarbon contamination, including coal fines and herbicide residues associated with weed control may be potential problems at such points. Where asbestos brake linings have been used on trains, dust and fibres from these can accumulate in the soil adjacent to tracks, also causing land contamination.

No other sources of contamination have been observed either by soil specialists or land officers working in the field. Taking these factors into account, there is a low likelihood of there being a significant number of sites of contamination along the corridor.

Negotiations with landholders in relation to the pipeline easements will continue throughout the final alignment selection phase to identify any known stock dips or waste disposal areas.

Should any unavoidable areas of contamination be identified, then management strategies, as set out in the draft Environmental Management Plan (Draft EMP), *Volume 10*, will be implemented.

6.3 *POTENTIAL IMPACTS AND MITIGATION*

If contaminated land is encountered during the construction phase there may be a risk to construction personnel and the wider public. There is also a risk that the release of contaminated material into the environment beyond the work area will cause environmental harm and/or affect public health.

There is also a risk of localised land contamination from Project-related activities associated with the handling and use of fuels and chemicals. Pipeline projects generally involve relatively small quantities of chemicals and the volume of any potential spill would be low. The Pipeline Component of the QCLNG Project is no different.

Pipeline construction equipment will be refuelled on the construction Right-of-Way (RoW) from a mobile fuel truck which may hold up to 16,000 litres of fuel. Safety procedures make it highly unlikely that a significant spillage from a fuel truck will occur.

The following mitigation methods will be implemented (refer to the Draft EMP, *Volume 10*):

- Continued consultation with all landholders prior to construction will determine whether general waste disposal or dips are likely to be found within the easement
- Areas of known or potential contamination will be avoided where possible or trenchless techniques implemented where appropriate. If areas cannot be avoided or trenchless techniques are inappropriate, site-specific management practices will be developed. Contaminated material would only be removed from the work area with the approval of DERM
- All superintendents will be made aware of potential contamination issues through the induction/training process. If suspected contamination is found during earthworks, work will stop in that area until a suitably qualified person has inspected the site, assessed the hazard and taken appropriate management measures, including cessation of all works in the affected area pending an outcome from discussions with regulatory authorities such as DERM and local government
- All refuelling will be carried out away from watercourses to avoid surface water contamination
- Spill management and containment materials will be provided at any refuelling location
- All chemicals and fuels will be stored either in lined bunds or on self-bunded pallets.

6.4 CONCLUSION

A risk-based approach to land contamination has been adopted that considers the most likely contaminants and their likely locations in relation to the Pipeline Component of the Queensland Curtis LNG (QCLNG) Project. Based on these findings, QGC has developed mitigation strategies and management plans.

A summary of the impacts outlined in this chapter is provided in *Table 4.6.1*.

Table 4.6.1 Summary of Impacts for Land Contamination

Impact assessment criteria	Assessment outcome
Impact assessment	Negative
Impact type	Direct impacts to soil through spills during construction
Impact duration	Short term
Impact extent	Local
Impact likelihood	High

Overall assessment of impact significance: negligible.