

10.2.4 Ecological Risk Assessment

The VMP HHERA included an assessment of whether or not the contamination identified at the site poses an unacceptable risk to either terrestrial or aquatic ecosystems within the site and/ or downgradient of the site boundary.

The site currently comprises paved open space with minimal terrestrial organisms. AECOM note that the site and surrounding terrestrial area have been extensively developed, contain minimal natural vegetation and do not contain threatened or vulnerable terrestrial species, populations, communities or significant habitats. The terrestrial habitat at the site was therefore considered to have a low level of environmental sensitivity and was not considered to include ecological receptors which required protection. This is considered reasonable.

The point of compliance for the purpose of assessing aquatic ecological risks was determined to be the down hydraulic gradient boundary of the site, as required by the NSW EPA in comments made. In the absence of other information, the level of protection of groundwater at the down hydraulic gradient boundary of the site has been based on the level of protection required for the nearest surface water receptor, Darling Harbour. On this basis, the ANZECC (2000) Marine Water Quality Criteria (MWQC), discussed in Section 7.2, were selected as the groundwater screening criteria. The MWQCs adopted are derived from the following:

- ANZECC (2000) 95% species protection marine water trigger levels
- ANZECC (2000) 99% species protection marine trigger values for potentially bioaccumulative contaminants
- Other guidelines that provide a similar level of protection as the ANZECC (2000) trigger values.

This is considered reasonable.

The closest ecological receptors identified in the VMP HHERA (AECOM, 2012d) are aquatic ecosystems within the groundwater down hydraulic gradient of the site boundary, between the site and Darling Harbour. The Auditor considers that the identified ecological receptor is appropriate.

The VMP HHERA identifies exceedances of the MWQC in groundwater within the site and at the site boundary (discussed in Section 9 of this SAR), indicating a potential for unacceptable risk to the environment. The VMP HHERA also concludes that the chemicals of concern identified onsite are consistent with those expected in association with historic gasworks, and similar in composition to those reported in areas down hydraulic gradient of the site, indicating that offsite migration of contaminated groundwater is likely occurring. AECOM concluded that remediation was required to minimise the risk of adverse impact to the environment.

The Auditor agrees with the conclusions of the ecological risk assessment presented in the VMP HHERA that contaminated groundwater within the site and at the site boundary may pose an unacceptable risk to the environment and that offsite migration of contamination in groundwater is likely occurring.

The management/ remedial actions to be undertaken at the site for the protection of human health will also act to address ecological issues at the boundary. These actions are targeted at the removal of tar containing materials. The long term aim of the remediation is for groundwater at the boundary to comply with the MWQC, if practicable. Although in this case the setting of quantitative ecological remediation targets was considered unrealistic, the proposed removal of tar material will act to significantly reduce downgradient groundwater concentrations.

10.2.5 Determination of 'The Extent Practicable'

Consideration of 'the extent practicable' has been performed by AECOM in the definition of the proposed remedial extent, particularly for the extent of remediation required for the protection of the environment. The VMP Extent Report includes a detailed consideration of regulatory policy requirements in this regard. Table 10.3, below, presents a summary of the key requirements considered.

Table 10.3: Issues Considered in Determining the Extent Practicable		
Document/ Requirement	Key Aspects	AECOM Response
DEC (2007) 'Guidelines for the Assessment and Management of Groundwater Contamination'		
S3.2	"Where contamination is identified, the management objectives are to protect human and ecological health and to ultimately restore the groundwater to its natural background quality". The following management responses must be considered:	See below.
S3.3	control short-term threats arising from the contamination	No acute risks identified. VMP based on requirement to mitigate long-term or chronic risks.
S3.4	restrict groundwater use	Saline groundwater not suitable for use.
S3.5	prevent or minimise further migration of contaminants from source materials to groundwater	Source control - primary contaminant sources considered to be historical gasworks infrastructure (which has been found to contain SPGWT) and secondary sources are considered to be SPGWT observed in groundwater and soil. Removal to the extent practicable is proposed for historical gasworks infrastructure. The extent of source removal/ treatment proposed for secondary sources is discussed in Section 11.
S3.5.1	where NAPLs are present in the subsurface they must be removed or treated as much as practicable	DNAPL falls within the definition of SPGWT and will be addressed by source control. The extent of DNAPL removal/ treatment proposed is discussed in Section 11.
S3.6	prevent or minimise further migration of the contaminant plume	Plume containment not relevant since remedial goal is for clean up.
S4	clean up groundwater according to	Site clean up objectives are consistent with

Table 10.3: Issues Considered in Determining the Extent Practicable

Document/ Requirement	Key Aspects	AECOM Response
	the following hierarchy: 1. Clean up so natural background water quality is restored. 2. Clean up to protect the relevant environmental values of groundwater, and human and ecological health. 3. Clean up to the extent practicable (CUTEP).	this hierarchy. In particular: numerical criteria (SSTCs) have been developed for the protection of human health; and, long-term numerical criteria (MWQC at the down hydraulic gradient site boundary) have been developed, in consultation with the NSW EPA, for the protection of the environment.
	The evaluation of practicability (for consideration of CUTEP) should be documented against: - technical capability to achieve the clean-up	The likely remediation technologies were defined based on the remedial technology assessment performed for the RAP (refer Section 13). Most likely technologies were excavation and treatment/ disposal for Block 4 and S-ISCO/ SEPR or in situ solidification/ stabilisation for Block 5 and Hickson Road. Remediation technology capability and remediation practicability limitations were considered. S-ISCO and SEPR were noted to be most efficient when targeting the destruction of between 90 and 95% of the organic contaminant mass. The adequacy of 90% contaminant mass removal is discussed in Section 11.
	- clean-up costs	The VMP Extent Report considers the additional clean-up costs (expressed in terms of remediation volumes) versus the environmental benefit (expressed in terms of a reduction in contaminant mass) that might be realised from the remediation of additional areas within and adjacent to the site.
	- the value of the groundwater resource	As discussed in section 10.3.4, above, remedial goal is aimed at protecting aquatic ecosystems within the groundwater down hydraulic gradient of the site boundary, between the site and Darling Harbour. Applicable aquatic ecosystem management objectives identified in the VMP HHERA were - protection of aquatic ecosystems; - protection of visual amenity; and - achievement of secondary contact recreation and primary contact recreation quality goals over a period of some five years.
	- threats the contamination poses to human or ecological health.	Remediation proposed was considered adequate to address threat to human health. Threat to environment examined through consideration of:

Table 10.3: Issues Considered in Determining the Extent Practicable

Document/ Requirement	Key Aspects	AECOM Response
		- The improvement in contaminant mass flux that will be realised by the proposed remediation; and - The contaminant mass flux from contamination that will remain in situ following the proposed remediation for protection of human health. These items are discussed in Section 11.5. AECOM also notes that construction of the groundwater retention wall as part of the Block 4 development will further minimise the threat the environment of residual contamination remaining within Block 4, however, construction of the wall is not relied upon to demonstrate CUTEP for the VMP removal.
	Where DEC agrees that clean-up to the extent practicable has occurred, this does not remove the proponent's responsibility for ongoing management of the residual contamination. The remediation proposal should be accompanied by: - a commitment to ongoing monitoring and re-evaluation of the practicability of clean-up. A satisfactory monitoring and reporting program must be implemented to continually evaluate the contamination.	Ongoing groundwater monitoring and evaluation is addressed in the RAP.
	- a groundwater management plan (GMP) that specifies measures which will be implemented to mitigate risks to human and ecological health.	The requirement for a GMP is addressed in the RAP.
	- acknowledgement that future management including clean up action may be required to ensure the protection of human and ecological health.	The potential for a Site Management Plan to be implemented in the event that future land owners plan to re-develop the site is considered in the RAP. The RAP also describes contingency management actions that may be implemented to ensure the protection of human and ecological health.
	- provision for long-term resourcing and responsibility for any ongoing management strategy.	Implementation of any ongoing management strategy (if required) will be the responsibility of the future land owner. Specific provision for future works is not provided.
The principles of ecologically sustainable development (ESD) as defined in the CLM Act		
a)	If there are threats of serious or irreversible environmental damage,	Analytical data set considered appropriate to draw conclusions about risk. Precautionary

Table 10.3: Issues Considered in Determining the Extent Practicable

Document/ Requirement	Key Aspects	AECOM Response
	lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (the 'precautionary principle');	principle adopted in protection of aquatic ecosystems down hydraulic gradient of the site.
b)	The principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations (the 'intergenerational principle');	Proposed remediation will enhance the environment. In situ remediation has many benefits over offsite disposal with respect to intergenerational equity.
c)	The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making (the 'biodiversity principle');	Remedial goal is protection of aquatic ecosystems down hydraulic gradient of the site.
d)	Improved valuation, pricing and incentive mechanisms should be promoted (the 'valuation principle').	Removal of Declaration is required to allow site development which has economic benefit. In situ remediation technologies have cost benefit over conventional ex situ technologies.

NSW Waste Avoidance and Resource Recovery Act 2001

	- to encourage the most efficient use of resources and to reduce environmental harm in accordance with the principles of ecologically sustainable development, - to ensure that resource management options are considered against a hierarchy of the following order: - o avoidance of unnecessary resource consumption, - o resource recovery (including reuse, reprocessing, recycling and energy recovery), - o disposal, - to provide for the continual reduction in waste generation; and - to minimise the consumption of natural resources and the final disposal of waste by encouraging the avoidance of waste and the reuse and recycling of waste.	If it was proposed to achieve a higher level of protection for the environment than currently proposed, a substantial increase in remediation works would be required to realise any substantial increase in the contaminant mass reduction. Such an increase would also be likely to generate large volumes of excavation spoil which may be unsuitable for beneficial reuse at Barangaroo and, therefore, require disposal to landfill
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AECOM concludes that the proposed remediation extent (discussed in Section 11) is consistent with the requirements of DEC (2007) and that should the proposed remediation extent be increased, the associated cost and potential environmental harm would substantially outweigh any real benefit to the environment and would be inconsistent with the principles of ESD and the Waste Avoidance and Resource Recovery Act 2001.

The Auditor considers that AECOM has provided a detailed consideration of these issues in the VMP Extent Report which generally supports the findings presented. Further consideration of technical aspects of this argument (including with respect to contaminant mass and mass flux) is provided in Section 11 of this SAR.

10.3 Block 4 Development (Declaration Site HHERA)

10.3.1 Criteria Developed

The objective of the DS HHERA was to develop risk-based remediation criteria that would allow the declaration area to be redeveloped for a range of potential land uses. Site specific assessment criteria have been developed for the declaration area as documented in the DS HHERA (AECOM, 2011) and DS HHERA Letter (AECOM, 2012d). Criteria were derived for the protection of human health – site specific target criteria (SSTC) - and the environment – site specific ecological screening criteria (SSESC). A detailed review of the DS HHERA as it related to the ORWS area was previously performed, and is relevant to application of the DS HHERA to the Block 4 development.

Details of the Block 4 development works have been considered in applying the declaration site SSTC and SSESC to Block 4. As described in Section 2.5, the Block 4 development is to comprise mixed commercial and high density residential usage overlying basement, with associated public open space area, also overlying basement. Several of the human health land use scenarios considered in the DS HHERA are therefore not relevant to Block 4 (refer Section 10.3.3). In addition, criteria for the protection of the environment are not relevant to the Block 4 development works due to the construction of a basement groundwater retention wall system around the perimeter of Block 4 that will extend to and be keyed into bedrock. This will effectively isolate Block 4 from Darling Harbour and hence where there is no hydraulic connection there will be no mechanism for contaminants to migrate to and discharge into Darling Harbour. It is therefore reasonable that no criteria for the protection of the environment are required for Block 4.

10.3.2 Design Considerations

The SSTC are specific to the proposed development and as such the application of the criteria derived and to be implemented within the RAP are tied to some fundamental aspects of the proposed design. If these aspects are not adhered to, then the objectives of the HHERA/ HHERA Letter will not be met as there will be the potential for unacceptable risks to human health, and the SSTC are no longer valid. The fundamental assumptions and design specifications of the proposed development that have been incorporated in the derived SSTCs are as follows:

- Tar will be removed from the immediate vicinity of outer basement walls to the extent practicable and the basement design and engineering controls (key aspects listed below) will ensure that tar seepage into basements does not occur

- A basement groundwater retention wall system will be constructed around the perimeter of the basement area and will be keyed into the bedrock. It will comprise diaphragm and secant (or equivalent) walls
- Car park basements will include engineering controls (key aspects listed below) to ensure that contaminated groundwater does not accumulate in habitable car park areas
- Car park walls:
 - Above the bedrock
 - At least 600 mm wide perimeter retention wall
 - In some locations where required for the development as part of the internal car park basement wall an additional 350 mm reinforced concrete wall
 - Sealed plenum (to collect and drain seepage water that may permeate through the perimeter and basement car park walls and vent vapours from the seepage water using a passive pipe riser to the height of the roof level)
 - Average daily air exchange rate of 3.17 air exchanges per hour within the basement areas which includes periods of 0% ventilation (amended from HHERA by HHERA Letter)
 - The maximum car park space will span no more than two perimeter walls, the other two will be internal walls that cannot be adjacent to contaminated material
 - Locations where external services intersect the perimeter retention wall will need to be appropriately sealed to remove any preferential pathway for groundwater or vapour migration
 - Below/into bedrock
 - 100 mm Shotcrete applied to bedrock surface
 - 350 mm reinforced concrete wall
 - Sealed plenum
 - Average daily air exchange rate of 3.17 air exchanges per hour within the basement areas which includes periods of 0% ventilation (amended from HHERA by HHERA Letter)
 - The maximum car park space will span no more than two perimeter walls, the other two will be internal walls that cannot be adjacent to contaminated
 - Locations where external services intersect the perimeter retention wall these will need to be appropriately sealed to remove any preferential pathway for groundwater or vapour migration
- The lower level basement car park level can be used for loading/unloading with full time staff (amended from HHERA by HHERA Letter)
- The sump for the water collected on the inside of the sealed plenum shall not be located inside the car park and shall be separated from the car park atmosphere by a separate ventilation system, or equivalent, to remove the potential for vapour issues from pooled contaminated groundwater inside the car park
- An active venting system on the sealed plenums may be required. A passive venting system is proposed and the effectiveness of this system needs to be demonstrated.

OEH Letter dated 11 July 2011 to Lend Lease Barangaroo South approved the DS HHERA (AECOM, 2011) subject to Conditions of Approval which incorporate the design, construction and operational parameters listed above (except as amended by the DS HHERA Letter).

10.3.3 Derivation of Human Health SSTCs

SSTCs were derived for seven land use scenarios for potential development within the declaration area, as listed in Section 2.5. Several of the land use scenarios considered in the DS HHERA are not relevant to Block 4 including unpaved and paved public domain, commercial slab on ground and short term ground-intrusive maintenance (Scenarios 3, 4, 5 and 6). The relevant land use scenarios, including modifications made by the DS HHERA Letter, are as detailed in Table 10.4 below.

The SSTCs were derived for the declaration area; however, the Auditor notes that the Block 4 area under consideration includes a portion of land outside the declaration area, being the western portion of Block 4, beyond the declaration boundary. AECOM has considered this issue in the RAP and has presented justification for why the derived SSTC are applicable to the portion of Block 4 outside the declaration area. The Auditor has reviewed the justification and considers the application of the SSTC derived for the declaration area to the entirety of Block 4 is appropriate.

Table 10.4: Block 4 Land Use Scenarios			
Scenario Number	Description	Exposures Assessed	Review Comments
1	Lower Basement Lower level basement car park in multi-storey building assuming groundwater seepage occurs and is captured within plenum.	Adult and child residents exposed during incidental use of the basement for access to vehicles. Revised modelling (HHERA Letter) included adult worker exposed during full time employment in loading dock. Only pathway of exposure assessed is vapour inhalation.	Seepage is contained behind plenum so there is no potential for direct contact. The exposure assumptions (Section 5.3.5 of the DS HHERA and Section 4 of the DS HHERA Letter) and calculations are appropriate and have been checked. Note that the scenario is relevant for workers in the basement as ventilated and used as a car park only. No other changes in design/use have been assessed. In addition the scenario relies on only two walls being in contact with contamination.
2	Upper Basement Upper basement car park in multi-storey building assuming it is adjacent to some saturated soil (groundwater) and the remainder is unsaturated soil.	The most significant exposures occur by adult workers within a car park. Only pathway of exposure assessed is vapour inhalation.	Exposures by a worker in the car park will be more significant than incidental exposure by users of the car park hence it is appropriate that the calculations are based on these exposures. The exposure assumptions (Section 5.3.6 of the DS HHERA and Section 4 of the DS HHERA Letter) and calculations are appropriate and have been checked. Note that the scenario is relevant for workers in the basement as ventilated and used as a car park only. No other changes in design/use have been assessed. In addition the scenario relies on only two walls being in contact with contamination.
7	High Density Residential	Adults and children living on the ground floor of a multi-story building, overlying basement levels.	The assessment has been conducted on the assumption that vapours from the basement levels migrate into the ground floor living areas. Vapours on the ground floor are assumed to be 10 times lower than modelling in the upper basement (basement used as a

Table 10.4: Block 4 Land Use Scenarios			
Scenario Number	Description	Exposures Assessed	Review Comments
			car park only). Exposures assumptions (Section 5.3.11 of the DS HHERA) are appropriate and the calculations have been checked.

SSTCs have been derived for chemicals of potential concern (COPC) identified in soil and groundwater. The derived criteria have addressed mixtures of key groups of COPC including BTEX (benzene, toluene, ethylbenzene and xylenes), TPH, CPAHs and non-carcinogenic PAHs.

The criteria derived have considered the protection of human health and potential odour issues. While the approach adopted for the assessment of odour issues is considered highly uncertain, the outcome of the assessment is generally considered reasonable.

As noted in Table 10.1, soil SSTC were derived for development of the declaration area but are not relevant for the Block 4 area since basements will extend below the groundwater table across the entire site. The SSTCs derived on the basis of the approach presented by AECOM (2011 and 2012c) are reasonable provided that the development specific management measures as outlined in the RAP (AECOM, 2013c) are implemented.

The HHERA is based on no tar containing materials (TCM) being present, however the HHERA does recognise that while such material may be removed to the extent practical some TCM may remain and will require management in accordance with the RAP to ensure that no TCM seeps into the basement levels.

10.4 Asbestos

Based on the results discussed in Section 8.3.6, the RAP has been prepared on the assumption that asbestos may be present at the site. The principal risk associated with asbestos that may be present at the site is the inhalation of asbestos fibres during remediation and construction works which is most appropriately managed by control measures implemented during remediation. The RAP proposes preparation and implementation of an Asbestos Management Plan.

Asbestos that may remain at the site beneath a basement following completion of development works (e.g. for the Block 4 development) will not represent an unacceptable risk to human health or the environment.

The Driscoll report on use of asbestos-contaminated soils on Barangaroo does not relate specifically to the VMP/ Block 4 site since reuse of materials originating from this site is not proposed at Headland Park, however, AECOM has considered this report for the protection of workers during remediation.

11 Determination of Remediation Extent for VMP Removal

11.1 Introduction

The extent of remediation for VMP removal was determined by AECOM (2013b) in the VMP Remediation Extent report based on protection of human health and the environment in the sites current condition. This was to be achieved by removal of SPGWT and CIM considering “The extent of remediation that can be practicably achieved...”.

The Auditor has reviewed the data and analysis presented by AECOM in defining the extent of remediation required for VMP removal. The following Sections 11.2 and 11.3 discuss the occurrence of SPGWT and CIM within the site and in adjoining offsite areas of the declaration area. SPGWT was identified based on field and laboratory results, while CIM was identified by comparison of unsaturated soil and groundwater data with the relevant risk based remediation criteria (SSTC), discussed in Section 10. Attachments 12 and 13, Appendix A, illustrate exceedances of the SSTC for unsaturated soil and groundwater, respectively, while Attachment 9, Appendix A, shows the occurrence of SPGWT. The relevant criteria are included in Appendix E.

Section 11.4 describes the proposed remediation extent determined by AECOM and identifies where SPGWT/ CIM lies outside the proposed remedial extent and therefore is proposed to remain on- (and off-) site. The subsequent Sections 11.5 and 11.6 consider the significance/ appropriateness of the proposed remediation extent on the basis of mass flux considerations and percentage contaminant mass removal respectively.

11.2 SPGWT and CIM Located Onsite

11.2.1 Blocks 4 and 5

The identification of SPGWT within Blocks 4 and 5 within the declaration area is summarised in Table 11.1.

Table 11.1: Identification of SPGWT at Blocks 4 and 5		
Item	Details	
No. locations SPGWT identified	19	
- No. in fill	13	
- No. in natural/ deep fill	6	
No. locations DNAPL identified	4 (seen in a further 5 wells)	
- Wells DNAPL identified (MW)	15, 204D, 205, 206 (seen in 198, 200, 204S, 209, BH405/ IT03)	
SPGWT Locations >10mBGL (not included in proposed remedial extent, refer Section 11.4)	MW205 – DNAPL in sandstone	well screened 15-19.5mBGL
	BH49 - Fill/ natural sandy clay	9.2-12.7mBGL
	BH405 – silty sandy clay/ sandstone	14-14.5mBGL

The assessment of analytical results from Blocks 4 and 5 against SSTC is summarised in Table 11.2. All unsaturated soil data (<2mBGL) has been considered. The most recent groundwater data (from 2010-2011) has been considered for each well. It is noted that historical exceedances of SSTC all occurred within the groundwater wells identified by recent data, or in wells where SPGWT was identified (i.e. MW204D).

Table 11.2: Assessment of Blocks 4 and 5 Results Against SSTC			
Analyte	Unsaturated Soil Exceedances	Groundwater Exceedances	Groundwater Exceedance Wells (MW)
Benzene	0/59	3/17	200, 206,15
TPH C10-14	1/50	5/18	200, 205, 206, 54,15
TPH C15-28	1/63	1/18	205
TPH C29-36	1/63	1/18	205
CPAH	0/63	1/18	205
Naphthalene	NA	7/18	200, 205, 206, 54,15, 204S, IT03D
Acenaphthylene	NA	0/18	-
Ammonia	NA	0/6	-

NA no relevant SSTC

In summary, SPGWT is present in Blocks 4 and 5 as follows:

- In the east of Block 4, associated with gasworks infrastructure and where bedrock is shallow (SPGWT generally occurs 1-4mBGL)
- In the west of Block 4, downgradient of gasworks infrastructure and at depth (SPGWT generally occurs 7.5-15mBGL)
- Also likely to be present at other gasworks infrastructure locations that have not been investigated.

Unsaturated soil and/or groundwater exceedances (comprising CIM) occurred for benzene, naphthalene, TPH C10-C36 and CPAH and were generally associated with the occurrence of SPGWT, or lesser evidence of impact such as sheen (e.g. MW200). All groundwater exceedances were within Block 4.

11.2.2 Hickson Road

The identification of SPGWT within Hickson Road within the declaration area is summarised in Table 11.3.

Table 11.3: Identification of SPGWT at Hickson Road	
Item	Details
No. Locations SPGWT identified	6
- No. in fill	5
- No. in natural/ deep fill	1

Table 11.3: Identification of SPGWT at Hickson Road

Item	Details
No. Locations DNAPL identified	4 (sheen in a further 2 wells)
- Wells DNAPL identified (MW)	7, 10, 15, 53 (sheen in 6, 61)

The assessment of analytical results from Hickson Road against SSTC is summarised in Table 11.4. All unsaturated soil data (<2mBGL) has been considered. The most recent groundwater data (from 2008-2010) has been considered for each well. Historical exceedances of SSTC did not occur, although only limited historical data is available for this area.

Table 11.4: Assessment of Hickson Road Results Against SSTC

Analyte	Unsaturated Soil Exceedances	Groundwater Exceedances	Groundwater Exceedance Wells (MW)
Benzene	0/29	3/6	7, 10, 15
TPH C10-14	0/28	3/6	7, 10, 15
TPH C15-28	0/28	1/6	15
TPH C29-36	0/28	0/6	-
CPAH	0/27	2/6	10, 15
Naphthalene	NA	3/6	7, 10, 15
Acenaphthylene	NA	0/6	-
Ammonia	NA	2/6	7, 10

NA no relevant SSTC

In summary, SPGWT is present in Hickson Road as follows:

- Associated with the historic tar tank and gasholder annulus structures located to the east of Block 4
- In shallow fill at BH/MW61, east of Block 5.

Groundwater exceedances (comprising CIM) occurred for benzene, TPH C10-C28, CPAH, naphthalene and ammonia and were generally associated with the occurrence of SPGWT, or lesser evidence of impact such as sheen (e.g. MW200). There were no unsaturated soil exceedances.

11.3 SPGWT and CIM Located Offsite

11.3.1 Offsite Downgradient

The identification of SPGWT in offsite areas to the west of the declaration area and to the north within Block 5 is summarised in Table 11.5.