CETEC
Professional Scientific Solutions

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Our reference: CN101106

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Level 11,528 Kent Street Sydney NSW 2000
Via email: benjyl@meriton.com.au

FINAL REPORT: Contaminated Soil Remediation - 61 Mobbs Lane

Dear Benjy,

We confirm that CETEC have conducted an assessment of soil at 61 Mobbs Lane Epping to determine if the site is fit for the proposed land uses which are; residential and childcare (HIL A), open space (HIL E) and retail (HIL F).

The results presented in this report are from the validation sampling of contaminated soil removal (Areas 1, 2, 3, 4 on Figure 1) and surface soil samples from the area of the proposed childcare centre (Area 5 on Figure 1) and playground (Area 6 on Figure 1). This report should be used in conjunction with previous detailed environmental site assessment reports by Golder Associates (2003, 2004 and 2005) and CETEC (2008).

DISCUSSION OF RESULTS

1. **Upper Car Park** (ref: Figure 1) - area surrounding 2 underground fuel storage tanks. Hydrocarbon (petroleum) contamination. Approximately 350m^3 of impacted soil excavated and disposed as General Solid Waste.

Laboratory results of samples collected from the walls and floor of the Car Park excavation showed the following (see also table of results in Appendix A):

- Hydrocarbon contamination detected at the bottom of the excavation at 3m depth has been delineated by removing soil to a depth of 6m.
- Low levels of hydrocarbon contamination (C15-C28 fraction at 130mg/kg) were detected in soil collected from the east wall at a depth of 3-6m. Although this indicates that contaminants have not been completely delineated in an easterly direction below 3m, the concentration is below the NEPM health investigation levels for the proposed land

uses.

- Lead contamination was not detected above background levels in any samples.

Based on these results CETEC can confirm that hydrocarbon contaminated soil in the Car Park UST excavation has been removed to a depth of 6m in the North, South and West directions around the UST excavation.

Hydrocarbon contaminated soil that remains in situ to the east of the excavation at a depth greater than 3m is likely to be below the NEPM health investigation levels for the proposed land uses (see Appendix F). This remaining contaminated soil is not likely to pose an unacceptable risk of exposure since contamination hasn't been detected in surface soil (depth 0-3m). Further to this site plans provided to CETEC show that this area is likely to be covered by hard landscaping (i.e. a driveway) (see Figure 2). If any further excavation of soil is required in this area it is recommended that the soil is tested further for waste classification purposes.

2. **Heli Pad** (ref: Figure 1) – area surrounding underground fuel storage tank. Hydrocarbons (petroleum) contamination. Approximately 150m^3 of impacted soil excavated and disposed as General Solid Waste.

Laboratory results of samples collected from the walls and floor of the Heli Pad excavation showed the following (see also table of results in Appendix B):

- Hydrocarbon contamination detected in samples collected from the west wall of the excavation at a depth of 0-2m has been delineated by removing more soil in a westerly direction.
- Lead contamination was not detected above background levels in any samples.

Based on these results CETEC can confirm that soil remaining in situ is below the NEPM health investigation levels for the proposed land uses (see Appendix F).

3. **Building 4/5 Footprint** (ref: Figure 1) – soil previously located under the building footprint. Hydrocarbon contamination. Approximately 300m^3 of impacted soil excavated and disposed as General Solid Waste.

Laboratory results of samples collected from area previously under the Building 4/5 footprint showed the following (see also table of results in Appendix C):

- VHC, Phenolics and hydrocarbon contamination was not detected.
- Asbestos was not detected
- Heavy metals, cyanide, sulphur, sulphates were within normal background ranges.

Based on these results CETEC can confirm that soil remaining in situ is below the NEPM health

investigation levels for the proposed land uses (see Appendix F).

4. **Tennis Court** (ref: Figure 1) – previously used for landfill suspected as the sources of VHC contamination (1,1 dichloroethene and 1,1,1 trichloroethane) which has been detected in groundwater down gradient (SW) of the tennis court.

Laboratory results of samples collected from the tennis court area showed the following (see also table of results in Appendix D):

- VHC and hydrocarbon contamination was not detected.
- Asbestos was not detected.
- Heavy metals and cyanide were within normal background ranges.

Based on these results CETEC can confirm that soil remaining in situ in the tennis court area is below the NEPM health investigation levels for the proposed land uses (see Appendix F).

5. **Proposed childcare centre location** (ref: Figure 1) – Although previous investigations have indicated that soil is not contaminated at the western end of the site a surface soil sample targeted at the location of the proposed childcare centre was collected from a depth of 0-500mm.

Laboratory results of samples collected from the proposed childcare centre location showed the following (see also table of results in Appendix E):

- VHC and hydrocarbon contamination was not detected.
- Asbestos was not detected.
- Heavy metals and pH were within normal background ranges.

Based on these results CETEC can confirm that surface soil in the childcare centre area is below the NEPM health investigation levels for the proposed land uses (see Appendix F).

6. **Proposed playground location** (ref: Figure 1) – Although previous investigations have indicated that soil is not contaminated near the north western boundary of the site a surface soil sample targeted at the location of the proposed playground was collected from a depth of 0-500mm.

Laboratory results of samples collected from the playground area showed the following (see also table of results in Appendix E):

- VHC and hydrocarbon contamination was not detected.
- Asbestos was not detected.
- Heavy metals and pH were within normal background ranges.

Based on these results CETEC can confirm that surface soil in the playground area is below the NEPM health investigation levels for the proposed land uses (see Appendix F).

CONCLUSION

Based on results of environmental site assessment reports by Golder Associates (2003, 2004 and 2005) and CETEC (2008) and soil testing detailed by this report CETEC can confirm that soil at the site meets the requirements for all the proposed land uses i.e. HIL A: 'Standard' residential with garden/accessible soil (home-grown produce contributing less than 10% of vegetable and fruit intake; no poultry): this category includes children's day-care centre's, kindergartens, preschools and primary schools; HIL E: Parks, recreational open space and playing fields: includes secondary schools and; HIL F: Commercial/Industrial: includes premises such as shops and offices as well as factories and industrial sites. (ref: *NEPM Schedule B (1) - Guideline on Investigation Levels for Soil and Groundwater*).

All soil samples in this investigation complied with HIL A which is lower than the requirements of HIL E and F.

Please feel free to contact us if you have any queries.

Yours Sincerely,

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Figure 1: Location of contaminated soil at 61 Mobbs Lane

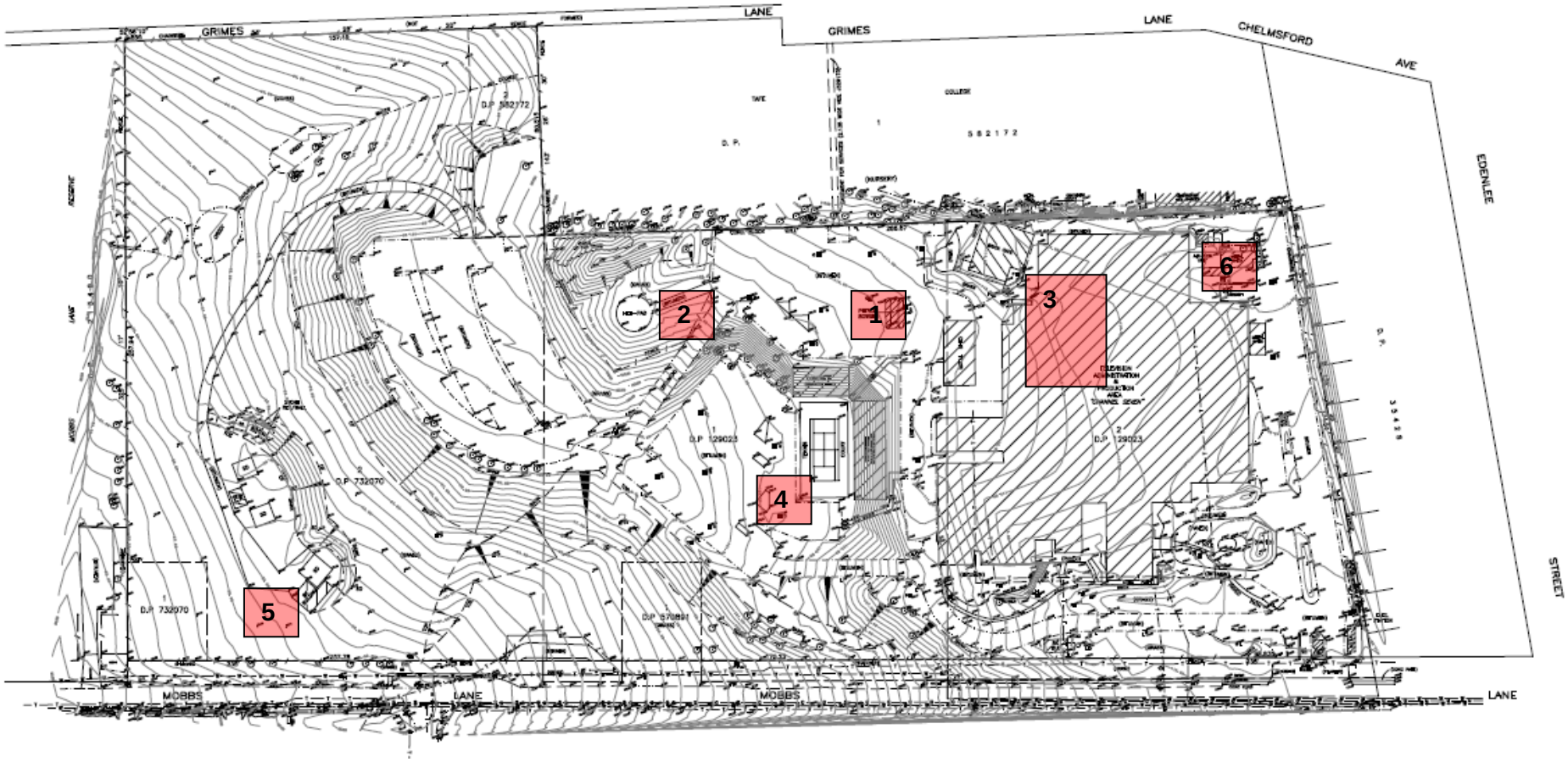

Figure 2: Proposed site layout

Appendix A – Soil Analysis Results – Car Park UST Excavation

Sample Number		ML-0811-05 West Wall (0-3m)	ML-0704-01 West Wall (3-6m)	ML-0811-02 North Wall (0-3m)	ML-0704-02 North Wall (3-6m)	ML-0811-03 East Wall (0-3m)	ML-0704-03 East Wall (3-6m)	ML-0811-04 South Wall (0-3m)	ML-0704-04 South Wall (3-6m)	ML-0811-01 Bottom (3m)	ML-0704-05 Bottom (6m)	Recommended Limit (NEPM HIL A*)	NEPM Background Ranges
Contaminant	**Unit**	**Sampled 8/11/10**	**Sampled 7/4/11**	**Sampled 8/11/10**	**Sampled 7/4/11**	**Sampled 8/11/10**	**Sampled 7/4/11**	**Sampled 8/11/10**	**Sampled 7/4/11**	**Sampled 8/11/10**	**Sampled 7/4/11**		
Benzene	**mg/kg**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
Toluene	**mg/kg**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
Ethylbenzene	**mg/kg**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	-
Xylenes	**mg/kg**	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	-	-
TRH C6-C9	**mg/kg**	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	-	-
TRH C10-C14	**mg/kg**	<50	<50	<50	<50	<50	<50	<50	<50	**880**	<50	-	-
TRH C15-C28	**mg/kg**	<100	<100	<100	<100	**130**	<100	<100	<100	**2900**	<100	**5600**	-
TRH C29-C36	**mg/kg**	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**(C16-C35)**	-
Lead	**mg/kg**	-	**17**	-	**15**	-	**17**	-	**17**		**36**	**300**	**2-200**

***** 'Standard' residential with garden/accessible soil (home-grown produce contributing less than 10% of vegetable and fruit intake; no poultry): this category includes children's day-care centres, kindergartens, preschools and primary schools.

Appendix B – Soil Analysis Results – Heli Pad UST Excavation

Sample Number		ML-0811-10 West Wall (0-2m)	ML-0704-06 West Wall (0-2m)	ML-0704-07 West Wall (2-4m)	ML-0811-07 North Wall (0-2m)	ML-0704-08 North Wall (2-4m)	ML-0811-08 East Wall (0-2m)	ML-0704-09 East Wall (2-4m)	ML-0811-09 South Wall (0-2m)	ML-0704-10 South Wall (2-4m)	ML-0811-06 Bottom (2m)	ML-0704-11 Bottom (4m)	Recommended Limit (NEPM HIL A*)	NEPM Background Ranges
Contaminant	**Unit**	**Sampled 8/11/10**	**Sampled 7/4/11**	**Sampled 7/4/11**	**Sampled 8/11/10**	**Sampled 7/4/11**	**Sampled 8/11/10**	**Sampled 7/4/11**	**Sampled 8/11/10**	**Sampled 7/4/11**	**Sampled 8/11/10**	**Sampled 7/4/11**		
Benzene	**mg/kg**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
Toluene	**mg/kg**	**2.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
Ethylbenzene	**mg/kg**	**2.8**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	-
Xylenes	**mg/kg**	**28.7**	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	-	-
TRH C6-C9	**mg/kg**	**490**	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	-	-
TRH C10-C14	**mg/kg**	**2000**	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	-	-
TRH C15-C28	**mg/kg**	**210**	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**5600**	-
TRH C29-C36	**mg/kg**	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**(C16-C35)**	-
Lead	**mg/kg**	-	**11**	**13**	-	**11**	-	**14**	-	**11**	-	**8**	**300**	**2-200**

***** 'Standard' residential with garden/accessible soil (home-grown produce contributing less than 10% of vegetable and fruit intake; no poultry): this category includes children's day-care centres, kindergartens, preschools and primary schools.

Appendix C – Soil Analysis Results – Building 4/5 Footprint

Sample Number		ML-0811-13 Building 4/5 Footprint	ML-0811-14 Building 4/5 Footprint	ML-0811-15 Building 4/5 Footprint	ML-0811-16 Building 4/5 Footprint	Recommended Limit (NEPM HIL A*)	NEPM Background Ranges
Contaminant	**Unit**	**Sampled 8/11/10**	**Sampled 8/11/10**	**Sampled 8/11/10**	**Sampled 8/11/10**		
Volatile Chlorinated / Halogenated Hydrocarbons **	**mg/kg**	BDL***	BDL	BDL	BDL	-	-
Benzene	**mg/kg**	<0.5	<0.5	<0.5	<0.5	-	-
Toluene	**mg/kg**	<0.5	<0.5	<0.5	<0.5	-	-
Ethylbenzene	**mg/kg**	<1.0	<1.0	<1.0	<1.0	-	-
Xylenes	**mg/kg**	<3.0	<3.0	<3.0	<3.0	-	-
TRH C6-C9	**mg/kg**	<25	<25	<25	<25	-	-
TRH C10-C14	**mg/kg**	<50	<50	<50	<50	-	-
TRH C15-C28	**mg/kg**	<100	<100	<100	<100	**5600**	-
TRH C29-C36	**mg/kg**	<100	<100	<100	<100	**(C16-C35)**	-
Arsenic	**mg/kg**	5	<4	5	8	**100**	**1-50**
Beryllium	**mg/kg**	<1	<1	<1	<1	**20**	-
Barium	**mg/kg**	290	66	170	10	-	**100-3000**
Cadmium	**mg/kg**	<0.5	<0.5	<0.5	<0.5	**20**	**1**
Chromium	**mg/kg**	9	5	5	6	**100**	**5-1000**
Cobalt	**mg/kg**	<1	2	<1	4	**100**	**1-40**
Copper	**mg/kg**	3	15	4	29	**1000**	**2-100**
Nickel	**mg/kg**	<1	3	2	7	**600**	**5-500**
Lead	**mg/kg**	12	7	8	14	**300**	**2-200**
Manganese	**mg/kg**	3	56	35	20	**1500**	**850**
Vanadium	**mg/kg**	24	14	10	26	-	**20-500**

Sample Number		ML-0811-13 Building 4/5 Footprint	ML-0811-14 Building 4/5 Footprint	ML-0811-15 Building 4/5 Footprint	ML-0811-16 Building 4/5 Footprint	Recommended Limit (NEPM HIL A*)	NEPM Background Ranges
Contaminant	**Unit**	**Sampled 8/11/10**	**Sampled 8/11/10**	**Sampled 8/11/10**	**Sampled 8/11/10**		
Zinc	**mg/kg**	2	25	6	22	**7000**	**10-300**
Mercury	**mg/kg**	<0.1	<0.1	<0.1	<0.1	**15**	**0.03**
Silver	**mg/kg**	<1	<1	<1	<1	**-**	**-**
Cyanide	**mg/kg**	-	<0.5	<0.5	<0.5	**250**	**-**
Sulphur	**mg/kg**	-	330	-	-	**-**	**600**
Sulphate	**mg/kg**	-	150	-	-	**-**	**2000**
pH	**-**	5.3	9	8.1	4.9	**-**	**-**
Asbestos	**-**	NAD****	NAD	NAD	NAD	**NAD**	**-**

***** 'Standard' residential with garden/accessible soil (home-grown produce contributing less than 10% of vegetable and fruit intake; no poultry): this category includes children's day-care centres, kindergartens, preschools and primary schools.

****** VHC is a generic term for a group of volatile halogenated hydrocarbons. For simplicity they have been grouped together as all were below the detection limit of <1.0mg/kg

******* BDL: Below Detection Limit

******** NAD: No Asbestos Detected

Appendix D – Soil Analysis Results – Tennis Court

Sample Number		ML-1402-01 Stockpile	ML-1402-02 Stockpile	ML-1402-03 Stockpile	ML-1402-04 Stockpile	ML-1402-05 North Wall	ML-1402-06 East Wall	ML-1402-07 South Wall	ML-1402-08 West Wall	ML-1402-09 Bottom	Recommended Limit (NEPM HIL A*)	NEPM Background Ranges
Contaminant	**Unit**											
Volatile Chlorinated / Halogenated Hydrocarbons **	**mg/kg**	BDL***	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-	-
Benzene	**mg/kg**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
Toluene	**mg/kg**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
Ethylbenzene	**mg/kg**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	-
Xylenes	**mg/kg**	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	-	-
TRH C6-C9	**mg/kg**	<25	<25	<25	<25	<25	<25	<25	<25	<25	-	-
TRH C10-C14	**mg/kg**	<50	<50	<50	<50	<50	<50	<50	<50	<50	-	-
TRH C15-C28	**mg/kg**	<100	<100	<100	<100	<100	<100	<100	<100	<100	-	-
TRH C29-C36	**mg/kg**	<100	<100	<100	<100	<100	<100	<100	<100	<100	-	-
Phenolics (Total)	**mg/kg**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**8500**	-
Arsenic	**mg/kg**	5	12	<4	<4	<4	<4	<4	<4	<4	**100**	**1-50**

Sample Number		ML-1402-01 Stockpile	ML-1402-02 Stockpile	ML-1402-03 Stockpile	ML-1402-04 Stockpile	ML-1402-05 North Wall	ML-1402-06 East Wall	ML-1402-07 South Wall	ML-1402-08 West Wall	ML-1402-09 Bottom	Recommended Limit (NEPM HIL A*)	NEPM Background Ranges
Contaminant	**Unit**											
Beryllium	**mg/kg**	<1	1	<1	<1	<1	<1	<1	<1	<1	**20**	
Barium	**mg/kg**	110	160	69	80	150	110	80	92	180	**-**	**100-3000**
Cadmium	**mg/kg**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**20**	**1**
Chromium	**mg/kg**	10	8	18	49	21	33	41	51	5	**100**	**5-1000**
Cobalt	**mg/kg**	8	6	8	14	9	13	13	15	3	**100**	**1-40**
Copper	**mg/kg**	23	37	26	15	17	20	17	22	22	**1000**	**2-100**
Nickel	**mg/kg**	8	7	18	45	21	33	40	47	3	**600**	**5-500**
Lead	**mg/kg**	15	20	12	12	17	14	12	41	9	**300**	**2-200**
Manganese	**mg/kg**	110	47	160	380	220	320	300	470	29	**1500**	**850**
Vanadium	**mg/kg**	28	39	21	35	24	33	33	41	11	**-**	**20-500**
Mercury	**mg/kg**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	**10**	**0.03**
Zinc	**mg/kg**	40	61	48	38	38	69	80	56	29	**7000**	**10-300**
Silver	**mg/kg**	<1	<1	<1	<1	<1	<1	<1	<1	<1	**-**	**-**
Cyanide (Total)	**mg/kg**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**250**	**-**

Sample Number		ML-1402-01 Stockpile	ML-1402-02 Stockpile	ML-1402-03 Stockpile	ML-1402-04 Stockpile	ML-1402-05 North Wall	ML-1402-06 East Wall	ML-1402-07 South Wall	ML-1402-08 West Wall	ML-1402-09 Bottom	Recommended Limit (NEPM HIL A*)	NEPM Background Ranges
Contaminant	**Unit**											
pH	-	5.3	5.0	8.2	9.0	8.7	9.5	9.7	9.1	5.8	-	-
Asbestos	-	NAD****	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	**0**	-

* 'Standard' residential with garden/accessible soil (home-grown produce contributing less than 10% of vegetable and fruit intake; no poultry): this category includes children's day-care centres, kindergartens, preschools and primary schools.

** VHC is a generic term for a group of volatile halogenated hydrocarbons. For simplicity they have been grouped together as all were below the detection limit of <1.0mg/kg

*** BDL: Below Detection Limit

**** NAD: No Asbestos Detected

Appendix E: Soil Analysis Results – Childcare Centre and Playground Locations

Sample Number		ML-0811-11 Childcare Centre (0-0.5m)	ML-0811-12 Playground (0-0.5m)	Recommended Limit (NEPM HIL A*)	NEPM Background Ranges
Contaminant	**Unit**	**Sampled 8/11/10**	**Sampled 8/11/10**		
Volatile Chlorinated / Halogenated Hydrocarbons **	**mg/kg**	BDL***	BDL	-	-
Benzene	**mg/kg**	<0.5	<0.5	-	-
Toluene	**mg/kg**	<0.5	<0.5	-	-
Ethylbenzene	**mg/kg**	<1.0	<1.0	-	-
Xylenes	**mg/kg**	<3.0	<3.0	-	-
TRH C6-C9	**mg/kg**	<25	<25	-	-
TRH C10-C14	**mg/kg**	<50	<50	-	-
TRH C15-C28	**mg/kg**	<100	<100	**5600 (C16-C35)**	-
TRH C29-C36	**mg/kg**	<100	<100		-
Arsenic	**mg/kg**	6	9	**100**	**1-50**
Beryllium	**mg/kg**	<1	<1	**20**	-
Barium	**mg/kg**	30	75	-	**100-3000**
Cadmium	**mg/kg**	<0.5	<0.5	**20**	**1**
Chromium	**mg/kg**	35	14	**100**	**5-1000**
Cobalt	**mg/kg**	2	3	**100**	**1-40**
Copper	**mg/kg**	<1	14	**1000**	**2-100**
Nickel	**mg/kg**	4	4	**600**	**5-500**
Lead	**mg/kg**	12	17	**300**	**2-200**
Manganese	**mg/kg**	28	54	**1500**	**850**

Sample Number		ML-0811-11 Childcare Centre (0-0.5m)	ML-0811-12 Playground (0-0.5m)	Recommended Limit (NEPM HIL A*)	NEPM Background Ranges
Contaminant	**Unit**	**Sampled 8/11/10**	**Sampled 8/11/10**		
Vanadium	**mg/kg**	86	47	**-**	**20-500**
Zinc	**mg/kg**	3	17	**7000**	**10-300**
Mercury	**mg/kg**	0.2	<0.1	**15**	**0.03**
Silver	**mg/kg**	<1	<1	**-**	**-**
pH	**-**	6.2	5.6	**-**	**-**
Asbestos	**-**	NAD****	NAD	**NAD**	**-**

* 'Standard' residential with garden/accessible soil (home-grown produce contributing less than 10% of vegetable and fruit intake; no poultry): this category includes children's day-care centres, kindergartens, preschools and primary schools.

** VHC is a generic term for a group of volatile halogenated hydrocarbons. For simplicity they have been grouped together as all were below the detection limit of <1.0mg/kg

*** BDL: Below Detection Limit

**** NAD: No Asbestos Detected

Appendix F: NEPM Soil Investigation Levels

Table 5-A - Soil Investigation Levels (mg/kg)

Substances	Health Investigation Levels (HILs)						Ecological Investigation Levels (EILs)		Background Ranges[6]
	A[1]	B[2]	C[3]	D	E	F	REIL[4]	Interim Urban[5]	
METALS/METALLOIDS									
Arsenic (total)	100			400	200	500		20	1 - 50
Barium								300	100 - 3000
Beryllium	20			80	40	100			
Cadmium	20			80	40	100		3	1
Chromium (III)	12%			48%	24%	60%		400	
Chromium (VI)	100			400	200	500		1	
Chromium (Total)[*7]									5 - 1000
Cobalt	100			400	200	500			1 - 40
Copper	1000			4000	2000	5000		100	2 - 100
Lead	300			1200	600	1500		600	2 - 200
Manganese	1500			6000	3000	7500		500	850
Methyl mercury	10			40	20	50			
Mercury (inorganic)	15			60	30	75		1	0.03
Nickel	600			2400	600	3000		60	5 - 500
Vanadium								50	20 - 500
Zinc	7000			28000	14000	35000		200	10 - 300
ORGANICS									
Aldrin + Dieldrin	10			40	20	50			
Chlordane	50			200	100	250			
DDT + DDD + DDE	200			800	400	1000			
Heptachlor	10			40	20	50			
Polycyclic aromatic hydrocarbons (PAHs)	20			80	40	100			
Benzo(a)pyrene	1			4	2	5			
Phenol	8500			34000	17000	42500			
PCBs (Total)	10			40	20	50			
Petroleum Hydrocarbon Components (constituents): • >C16 – C35 Aromatics[8]	90			360	180	450			
• >C16 – C35 Aliphatics	5600			22400	11200	28000			
• >C35 Aliphatics	56000			224000	112000	280000			
OTHER									
Boron	3000			12000	6000	15000			
Cyanides (Complexed)	500			2000	1000	2500			
Cyanides (free)	250			1000	500	1250			
Phosphorus								2000	
Sulfur								600	
Sulfate[9]								2000	

1 Human exposure settings based on land use have been established for HILs (see Taylor and Langley 1998). These are:
- **A.** 'Standard' residential with garden/accessible soil (home-grown produce contributing less than 10% of vegetable and fruit intake; no poultry): this category includes children's day-care centres, kindergartens, preschools and primary schools.
- **B.** Residential with substantial vegetable garden (contributing 10% or more of vegetable and fruit intake) and/or poultry providing any egg or poultry meat dietary intake.
- **C.** Residential with substantial vegetable garden (contributing 10% or more of vegetable and fruit intake); poultry excluded.
- **D.** Residential with minimal opportunities for soil access: includes dwellings with fully and permanently paved yard space such as high-rise apartments and flats.
- **E.** Parks, recreational open space and playing fields: includes secondary schools.
- **F.** Commercial/Industrial: includes premises such as shops and offices as well as factories and industrial sites.

(For details on derivation of HILs for human exposure settings based on land use see Schedule B(7A).

2 Site and contaminant specific: on site sampling is the preferred approach for estimating poultry and plant uptake. Exposure estimates may then be compared to the relevant ADIs, PTWIs and GDs.

3 Site and contaminant specific: on site sampling is the preferred approach for estimating plant uptake. . Exposure estimates may then be compared to the relevant ADIs, PTWIs and GDs.

4 These will be developed for regional areas by jurisdictions as required.

5 Interim EILs for the urban setting are based on considerations of phytotoxicity, ANZECC B levels, and soil survey data from urban residential properties in four Australian capital cities.

6 Background ranges, where HILs or EILs are set, are taken from the Field Geologist's Manual, compiled by D A Berkman, Third Edition 1989. Publisher – The Australasian Institute of Mining & Metallurgy. This publication contains information on a more extensive list of soil elements than is included in this Table. Another source of information is Contaminated Sites Monograph No. 4: Trace Element Concentrations in Soils from Rural & Urban Areas of Australia, 1995. South Australian Health Commission.

7 Valence state not distinguished – expected as Cr (III).

8 The carbon number is an 'equivalent carbon number' based on a method that standardises according to boiling point. It is a method used by some analytical laboratories to report carbon numbers for chemicals evaluated on a boiling point GC column.

9 For protection of built structures.