TABLE C
SOIL LABORATORY RESULTS COMPARED TO EILs AND ESLs
All data in mg/kg unless stated otherwise

Land Use Category [1]				URBAN RESIDENTIAL AND PUBLIC OPEN SPACE																		
							AGED HEAVY METALS-EILs						EILs		ESLs							
				pH	CEC ($cmol_c/kg$)	Clay Content (% clay)	Arsenic	Chromium	Copper	Lead	Nickel	Zinc	Naphthalene	DDT	C_6-C_{10} (F1)	$>C_{10}$-C_{16} (F2)	$>C_{16}$-C_{34} (F3)	$>C_{34}$-C_{40} (F4)	Benzene	Toluene	Ethylbenzene	Total Xylenes	B(a)P
PQL - Envirolab Services				-	1	-	4	1	1	1	1	1	0.1	0.1	25	50	100	100	0.2	0.5	1	3	0.05
Ambient Background Concentration (ABC) [2]				-	-	-	NSL	8	18	104	5	77	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL
Sample Reference	**Sample Depth**	**Sample Description**	**Soil Texture**																			
BH1	0.1-0.2	Fill: silty sandy gravel	Coarse	NA	NA	NA	11	9	76	4	3	1	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH1	1.5-1.95	Silty clay	Fine	NA	NA	NA	4	58	35	8	34	51	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH2	0.1-0.2	Fill: sandy gravel	Coarse	NA	NA	NA	16	5	48	3	2	2	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH2	0.7-0.95	Gravelly clay	Fine	NA	NA	NA	5	94	20	18	24	14	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH3	0.1-0.2	Fill: silty clay	Fine	NA	NA	NA	29	37	12	65	9	40	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.2
BH3	0.5-0.95	Gravelly clay	Fine	NA	NA	NA	7	38	15	7	12	12	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH4	0-0.2	Fill: silty sandy gravel	Coarse	NA	NA	NA	26	39	56	54	15	120	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH4	0.5-0.95	Silty clay	Fine	NA	NA	NA	4	28	18	10	9	18	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH5	0.2-0.4	Fill: sandy gravel	Coarse	NA	NA	NA	19	7	89	3	1	2	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH5	1.25-1.35	Silty clay	Fine	NA	NA	NA	5	56	32	10	29	35	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH6	0-0.15	Fill: silty sand	Coarse	NA	NA	NA	34	40	37	36	21	74	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH6	0.5-0.75	Sandy silty clay	Fine	NA	NA	NA	8	28	18	13	8	17	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH7	0-0.15	Fill: silty sand	Coarse	NA	NA	NA	5	27	17	37	9	93	LPQL	LPQL	LPQL	LPQL	110	LPQL	LPQL	LPQL	LPQL	LPQL	0.3
BH7	0.5-0.65	Silty clay	Fine	NA	NA	NA	LPQL	68	12	21	10	16	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.06
BH8	0-0.15	Fill: silty gravelly sand	Coarse	NA	NA	NA	13	42	21	20	8	13	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.1
BH9	0-0.2	Fill: sandy silty clay	Fine	NA	NA	NA	LPQL	46	17	23	16	18	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.4
BH9	0.5-0.7	Silty clay	Fine	NA	NA	NA	LPQL	58	26	10	26	17	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BHA	0.4-0.5	Fill: silty sandy clay	Fine	NA	NA	NA	5	37	17	71	11	66	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	1.3
BHA	0.8-0.9	Fill: silty clay	Fine	NA	NA	NA	7	42	23	9	17	17	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BHB	0.0-0.2	Fill: silty sandy clay	Fine	NA	NA	NA	140	60	29	42	24	67	LPQL	LPQL	LPQL	LPQL	230	LPQL	LPQL	LPQL	LPQL	LPQL	21
BHB	0.7-1.0	Fill: silty clay	Fine	NA	NA	NA	23	43	22	26	12	30	LPQL	LPQL	LPQL	LPQL	110	LPQL	LPQL	LPQL	LPQL	LPQL	3.7
BHC	0.1-0.2	Fill: ash	Coarse	NA	NA	NA	LPQL	7	7	2	13	8	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BHD	0.0-0.1	Fill: silty sand	Coarse	NA	NA	NA	9	17	130	210	13	360	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.08
BHD	0.5-0.7	Fill: ash	Coarse	NA	NA	NA	21	22	110	200	23	170	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.1
BHE	0.0-0.1	Fill: silty sandy clay	Fine	NA	NA	NA	LPQL	59	10	12	9	25	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BHE	0.4-0.5	Fill: silty clay	Fine	NA	NA	NA	10	120	26	34	32	44	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
TP101	0.0-0.1	Fill: silty sand	Coarse	NA	NA	NA	7	28	81	220	13	280	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.1
TP101	0.14-0.2	Gravelly clay	Fine	NA	NA	NA	8	77	25	34	31	26	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH102	0.0-0.1	Fill: silty clay	Fine	NA	NA	NA	7	43	15	38	16	25	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.06
BH102	0.9-1.0	Fill: silty sand	Coarse	NA	NA	NA	13	24	28	160	6	130	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.05
BH103	0.0-0.1	Fill: silty clay	Fine	NA	NA	NA	110	45	13	45	10	37	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.1
BH103	0.9-1.0	Gravelly clay	Fine	NA	NA	NA	16	99	25	40	19	10	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH104	0.2-0.3	Fill: sand	Coarse	NA	NA	NA	5	36	18	18	15	28	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH105	0.0-0.1	Fill: silty clay	Fine	NA	NA	NA	4	37	12	24	11	26	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.4
BH105	0.9-1.0	Silty clay	Fine	NA	NA	NA	LPQL	63	33	15	33	29	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.3
BH106	0.0-0.1	Fill: gravelly sand	Coarse	NA	NA	NA	150	41	23	33	15	31	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.3
BH106	0.9-1.0	Claystone	Fine	NA	NA	NA	LPQL	14	21	8	20	29	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH107	0.0-0.1	Fill: topsoil silt	Fine	NA	NA	NA	LPQL	22	15	110	8	67	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.07
BH107	0.9-1.0	Clayey gravel	Coarse	NA	NA	NA	11	69	23	34	14	13	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH108	0.01-0.1	Fill: gravelly sand	Coarse	NA	NA	NA	7	8	48	28	3	32	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.1
BH108	1.4-1.5	Silty clay	Fine	NA	NA	NA	4	39	20	17	16	26	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH109	0.05-0.15	Fill: gravelly clay	Fine	NA	NA	NA	32	13	50	54	3	6	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH109	1.0-1.1	Silty clay	Fine	NA	NA	NA	LPQL	24	14	9	11	15	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.09
BH110	0.0-0.1	Fill: silty sand	Coarse	NA	NA	NA	11	20	54	70	10	330	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.1
BH110	0.9-1.0	Fill: silty sand	Coarse	NA	NA	NA	11	23	110	390	17	530	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.1
BH110	1.8-2.0	Sandstone	Coarse	NA	NA	NA	7	17	27	32	26	130	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH111	0.05-0.1	Fill: gravel	Coarse	NA	NA	NA	12	6	77	8	5	6	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH111	0.9-1.0	Fill: silty sand	Coarse	NA	NA	NA	6	32	39	110	21	180	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH111	1.8-2.0	Fill: clayey gravel	Coarse	NA	NA	NA	11	130	35	18	55	46	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
BH112	0.38-0.5	Fill: silty clay	Fine	NA	NA	NA	5	25	20	20	14	45	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL
Total Number of Samples				0	0	0	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Maximum Value				LPQL	LPQL	LPQL	150	130	130	390	55	530	LPQL	LPQL	LPQL	LPQL	230	LPQL	LPQL	LPQL	LPQL	LPQL	21

Explanation:
1 - Site Assessment Criteria (SAC): NEPM 2013
2 - ABC Values for selected metals has been adopted from the published background concentrations presented in Olszowy et. al., (1995), Trace Element Concentrations in Soils from Rural and Urban New South Wales (the 25th percentile values for old suburbs with low traffic have been quoted)

Concentration above the SAC VALUE
The guideline corresponding to the elevated value is highlighted in grey in the EIL and ESL Assessment Criteria Table below

Abbreviations:
EILs: Ecological Investigation Levels
B(a)P: Benzo(a)pyrene
PQL: Practical Quantitation Limit
UCL: Upper Level Confidence Limit on Mean Value
ESLs: Ecological Screening Levels
NA: Not Analysed
LPQL: Less than PQL
SAC: Site Assessment Criteria
NEPM: National Environmental Protection Measure
NC: Not Calculated
NSL: No Set Limit
ABC: Ambient Background Concentration

EIL AND ESL ASSESSMENT CRITERIA

Land Use Category [1]				URBAN RESIDENTIAL AND PUBLIC OPEN SPACE																		
							AGED HEAVY METALS-EILs						EILs		ESLs							
				pH	CEC ($cmol_c/kg$)	Clay Content (% clay)	Arsenic	Chromium	Copper	Lead	Nickel	Zinc	Naphthalene	DDT	C_6-C_{10} (F1)	$>C_{10}$-C_{16} (F2)	$>C_{16}$-C_{34} (F3)	$>C_{34}$-C_{40} (F4)	Benzene	Toluene	Ethylbenzene	Total Xylenes	B(a)P
PQL - Envirolab Services				-	1	-	4	1	1	1	1	1	0.1	0.1	25	50	100	100	0.2	0.5	1	3	0.05
Ambient Background Concentration (ABC) [2]				-	-	-	NSL	8	18	104	5	77	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL
Sample Reference	**Sample Depth**	**Sample Description**	**Soil Texture**																			
BH1	0.1-0.2	Fill: silty sandy gravel	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BH1	1.5-1.95	Silty clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH2	0.1-0.2	Fill: sandy gravel	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BH2	0.7-0.95	Gravelly clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH3	0.1-0.2	Fill: silty clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH3	0.5-0.95	Gravelly clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH4	0-0.2	Fill: silty sandy gravel	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BH4	0.5-0.95	Silty clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH5	0.2-0.4	Fill: sandy gravel	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BH5	1.25-1.35	Silty clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH6	0-0.15	Fill: silty sand	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BH6	0.5-0.75	Sandy silty clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH7	0-0.15	Fill: silty sand	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BH7	0.5-0.65	Silty clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH8	0-0.15	Fill: silty gravelly sand	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BH9	0-0.2	Fill: sandy silty clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH9	0.5-0.7	Silty clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BHA	0.4-0.5	Fill: silty sandy clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BHA	0.8-0.9	Fill: silty clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BHB	0.0-0.2	Fill: silty sandy clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BHB	0.7-1.0	Fill: silty clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BHC	0.1-0.2	Fill: ash	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BHD	0.0-0.1	Fill: silty sand	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BHD	0.5-0.2	Fill: ash	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BHE	0.0-0.1	Fill: silty sandy clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BHE	0.4-0.5	Fill: silty clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
TP101	0.0-0.1	Fill: silty sand	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
TP101	0.14-0.2	Gravelly clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH102	0.0-0.1	Fill: silty clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH102	0.9-1.0	Fill: silty sand	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BH103	0.0-0.1	Fill: silty clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH103	0.9-1.0	Gravelly clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH104	0.2-0.3	Fill: sand	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BH105	0.0-0.1	Fill: silty clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH105	0.9-1.0	Silty clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH106	0.0-0.1	Fill: gravelly sand	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BH106	0.9-1.0	Claystone	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH107	0.0-0.1	Fill: topsoil silt	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH107	0.9-1.0	Clayey gravel	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BH108	0.01-0.1	Fill: gravelly sand	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BH108	1.4-1.5	Silty clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH109	0.05-0.15	Fill: gravelly clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH109	1.0-1.1	Silty clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33
BH110	0.0-0.1	Fill: silty sand	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BH110	0.9-1.0	Fill: silty sand	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BH110	1.8-2.0	Sandstone	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BH111	0.05-0.1	Fill: gravel	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BH111	0.9-1.0	Fill: silty sand	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BH111	1.8-2.0	Fill: clayey gravel	Coarse	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	300	2800	50	85	70	105	33
BH112	0.38-0.5	Fill: silty clay	Fine	NA	NA	NA	100	198	78	1204	35	147	170	180	180	120	1300	5600	60	105	125	45	33

TABLE D
SOIL LABORATORY RESULTS COMPARED TO WASTE CLASSIFICATION GUIDELINES
All data in mg/kg unless stated otherwise

			HEAVY METALS								PAHs		OC/OP PESTICIDES				Total PCBs	TRH					BTEX COMPOUNDS				ASBESTOS FIBRES
			Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Total PAHs	B(a)P	Total Endosulfans	Chloropyrifos	Total Moderately Harmful [2]	Total Scheduled [3]		C_6-C_9	C_{10}-C_{14}	C_{15}-C_{28}	C_{29}-C_{36}	Total C_{10}-C_{36}	Benzene	Toluene	Ethyl benzene	Total Xylenes	
PQL - Envirolab Services			4	0.4	1	1	1	0.1	1	1	-	0.05	0.1	0.1	0.1	0.1	0.1	25	50	100	100	250	0.2	0.5	1	3	100
General Solid Waste CT1 [1]			100	20	100	NSL	100	4	40	NSL	200	0.8	60	4	250	<50	<50	650		NSL		10,000	10	288	600	1,000	-
General Solid Waste SCC1 [1]			500	100	1900	NSL	1500	50	1050	NSL	200	10	108	7.5	250	<50	<50	650		NSL		10,000	18	518	1,080	1,800	-
Restricted Solid Waste CT2 [1]			400	80	400	NSL	400	16	160	NSL	800	3.2	240	16	1000	<50	<50	2600		NSL		40,000	40	1,152	2,400	4,000	-
Restricted Solid Waste SCC2 [1]			2000	400	7600	NSL	6000	200	4200	NSL	800	23	432	30	1000	<50	<50	2600		NSL		40,000	72	2,073	4,320	7,200	-
Sample Reference	**Sample Depth**	**Sample Description**																									
BH1	0.1-0.2	Fill: silty sandy gravel	11	LPQL	9	76	4	LPQL	3	1	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH1	1.5-1.95	Silty clay	4	LPQL	58	35	8	LPQL	34	51	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BH2	0.1-0.2	Fill: sandy gravel	16	LPQL	5	48	3	LPQL	2	2	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH2	0.7-0.95	Gravelly clay	5	LPQL	94	20	18	LPQL	24	14	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BH3	0.1-0.2	Fill: silty clay	29	LPQL	37	12	65	LPQL	9	40	1.8	0.2	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH3	0.5-0.95	Gravelly clay	7	LPQL	38	15	7	LPQL	12	12	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BH4	0-0.2	Fill: silty sandy gravel	26	LPQL	39	56	54	0.2	15	120	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH4	0.5-0.95	Silty clay	4	LPQL	28	18	10	LPQL	9	18	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BH5	0.2-0.4	Fill: sandy gravel	19	LPQL	7	89	3	LPQL	1	2	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH5	1.25-1.35	Silty clay	5	LPQL	56	32	10	LPQL	29	35	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BH6	0-0.15	Fill: silty sand	34	LPQL	40	37	36	LPQL	21	74	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH6	0.5-0.75	Sandy silty clay	8	LPQL	28	18	13	LPQL	8	17	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BH7	0-0.15	Fill: silty sand	5	LPQL	27	17	37	LPQL	9	93	3.4	0.3	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	110	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH7	0.5-0.65	Silty clay	LPQL	LPQL	68	12	21	LPQL	10	16	0.66	0.06	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BH8	0-0.15	Fill: silty gravelly sand	13	LPQL	42	21	20	LPQL	8	13	1.8	0.1	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH8	2.0-2.2	Silty clay	LPQL	LPQL	55	20	9	LPQL	25	21	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BH9	0-0.2	Fill: sandy silty clay	LPQL	LPQL	46	17	23	LPQL	16	18	4.5	0.4	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH9	0.5-0.7	Silty clay	LPQL	LPQL	58	26	10	LPQL	26	17	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BHA	0.4-0.5	Fill: silty sandy clay	5	LPQL	37	17	71	0.2	11	66	17.3	**1.3**	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BHA	0.8-0.9	Fill: silty clay	7	LPQL	42	23	9	LPQL	17	17	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BHB	0.0-0.2	Fill: silty sandy clay	**140**	LPQL	60	29	42	0.5	24	67	**237.2**	**21**	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	150	120	270	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BHB	0.7-1.0	Fill: silty clay	23	LPQL	43	22	26	0.2	12	30	43.4	**3.7**	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BHC	0.1-0.2	Fill: ash	LPQL	LPQL	7	7	2	LPQL	13	8	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BHD	0.0-0.1	Fill: silty sand	9	4.3	17	130	**210**	0.2	13	360	1.38	0.08	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BHD	0.5-0.2	Fill: ash	21	1	22	110	**200**	0.4	23	170	1.4	0.1	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BHE	0.0-0.1	Fill: silty sandy clay	LPQL	LPQL	59	10	12	LPQL	9	25	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BHE	0.4-0.5	Fill: silty clay	10	LPQL	**120**	26	34	LPQL	32	44	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
TP101	0.0-0.1	Fill: silty sand	7	LPQL	28	81	**220**	0.3	13	280	1	0.1	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
TP101	0.14-0.2	Gravelly clay	8	LPQL	77	25	34	0.3	31	26	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BH102	0.0-0.1	Fill: silty clay	7	LPQL	43	15	38	LPQL	16	25	0.46	0.06	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH102	0.9-1.0	Fill: silty sand	13	LPQL	24	28	**160**	LPQL	6	130	0.55	0.05	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BH103	0.0-0.1	Fill: silty clay	**110**	LPQL	45	13	45	LPQL	10	37	1.4	0.1	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH103	0.9-1.0	Gravelly clay	16	LPQL	99	25	40	LPQL	19	10	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BH104	0.2-0.3	Fill: sand	5	LPQL	36	18	18	LPQL	15	28	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH105	0.0-0.1	Fill: silty clay	4	LPQL	37	12	24	LPQL	11	26	3.2	0.4	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH105	0.9-1.0	Silty clay	LPQL	LPQL	63	33	15	LPQL	33	29	2.4	0.3	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BH106	0.0-0.1	Fill: gravelly sand	**150**	LPQL	41	23	33	LPQL	15	31	2.9	0.3	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH106	0.9-1.0	Claystone	LPQL	LPQL	14	21	8	LPQL	20	29	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BH107	0.0-0.1	Fill: topsoil silt	LPQL	LPQL	22	15	**110**	0.1	8	67	0.27	0.07	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH107	0.9-1.0	Clayey gravel	11	LPQL	69	23	34	LPQL	14	13	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BH108	0.01-0.1	Fill: gravelly sand	7	LPQL	8	48	28	0.2	3	32	0.7	0.1	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH108	1.4-1.5	Silty clay	4	LPQL	39	20	17	LPQL	16	26	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BH109	0.05-0.15	Fill: gravelly clay	32	LPQL	13	50	54	LPQL	3	6	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH109	1.0-1.1	Silty clay	LPQL	LPQL	24	14	9	LPQL	11	15	1.09	0.09	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BH110	0.0-0.1	Fill: silty sand	11	LPQL	20	54	70	LPQL	10	330	1.3	0.1	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH110	0.9-1.0	Fill: silty sand	11	1	23	110	**390**	1.4	17	530	1.7	0.1	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH110	1.8-2.0	Sandstone	7	LPQL	17	27	32	0.9	26	130	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BH111	0.05-0.1	Fill: gravels	12	LPQL	6	77	8	LPQL	5	6	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH111	0.9-1.0	Fill: silty sand	6	LPQL	32	39	**110**	0.2	21	180	0.3	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	<100	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	No asbestos detected
BH111	1.8-2.0	Fill: clayey gravel	11	LPQL	**130**	35	18	LPQL	**55**	46	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
BH112	0.38-0.5	Fill: silty clay	5	LPQL	25	20	20	LPQL	14	45	LPQL	LPQL	NA	NA	NA	NA	NA	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	NA
Total Number of samples			51	51	51	51	51	51	51	51	51	51	15	15	15	15	15	51	51	50	51	51	51	51	51	51	28
Maximum Value			150	4.3	130	130	390	1.4	55	530	237.2	21	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	150	120	270	LPQL	LPQL	LPQL	LPQL	No asbestos detected

Explanation:

[1] - NSW EPA Waste Classification Guidelines, Part 1: Classifying Waste (2014)

[2] - Assessment of Total Moderately Harmful pesticides includes: Dichlorovos, Dimethoate, Fenitrothion, Ethion, Malathion and Parathion

[3] - Assessment of Total Scheduled pesticides include: HBC, alpha-BHC, gamma-BHC, beta-BHC, Heptachlor, Aldrin, Heptachlor Epoxide, gamma-Chlordane, alpha-chlordane, pp-DDE, Dieldrin, Endrin, pp-DDD, pp-DDT, Endrin Aldehyde

Concentration above the CT1 — **VALUE**
Concentration above SCC1 — **VALUE**
Concentration above the SCC2 — **VALUE**

Abbreviations:

PAHs: Polycyclic Aromatic Hydrocarbons
B(a)P: Benzo(a)pyrene
PQL: Practical Quantitation Limit
LPQL: Less than PQL
PID: Photoionisation Detector
PCBs: Polychlorinated Biphenyls
UCL: Upper Level Confidence Limit on Mean Value
NA: Not Analysed
NC: Not Calculated
NSL: No Set Limit
SAC: Site Assessment Criteria
TRH: Total Recoverable Hydrocarbons
CT: Contaminant Threshold
SCC: Specific Contaminant Concentration
HILs: Health Investigation Levels
NEPM: National Environmental Protection Measure
BTEX: Monocyclic Aromatic Hydrocarbons

TABLE E
SOIL LABORATORY TCLP RESULTS
All data in mg/L unless stated otherwise

			Arsenic	Cadmium	Lead	Nickel	B(a)P
PQL - Envirolab Services			0.05	0.01	0.03	0.02	0.001
TCLP1 - General Solid Waste [1]			5	1	5	2	0.04
TCLP2 - Restricted Solid Waste [1]			20	4	20	8	0.16
TCLP3 - Hazardous Waste [1]			>20	>4	>20	>8	>0.16
Sample Reference	**Sample Depth**	**Sample Description**					
BHA	0.4-0.5	Fill: silty sandy clay	NA	NA	NA	NA	LPQL
BHB	0.0-0.2	Fill: silty sandy clay	LPQL	NA	NA	NA	LPQL
BHB	0.7-1.0	Fill: silty clay	NA	NA	NA	NA	LPQL
BHD	0.0-0.1	Fill: silty sand	NA	NA	0.05	NA	NA
BHD	0.5-0.7	Fill: ash	NA	NA	LPQL	NA	NA
BHE	0.4-0.5	Fill: silty clay	NA	LPQL	NA	NA	NA
TP101	0.0-0.1	Fill: silty sand	NA	NA	LPQL	NA	NA
BH102	0.9-1.0	Fill: silty sand	NA	NA	0.6	NA	NA
BH103	0.0-0.1	Fill: silty clay	0.2	NA	NA	NA	NA
BH106	0.0-0.1	Fill: gravelly sand	0.09	NA	NA	NA	NA
BH107	0.0-0.1	Fill: topsoil silt	NA	NA	0.04	NA	NA
BH110	0.9-1.0	Fill: silty sand	NA	NA	0.07	NA	NA
BH111	0.9-1.0	Fill: silty sand	NA	NA	0.04	NA	NA
BH111	1.8-2.0	Fill: clayey gravel	NA	LPQL	NA	LPQL	NA
Total Number of samples			3	2	7	1	3
Maximum Value			0.2	LPQL	0.6	LPQL	LPQL

Explanation:

1 - NSW EPA Waste Classification Guidelines, Part 1: Classifying Waste (2014)

General Solid Waste	**VALUE**
Restricted Solid Waste	**VALUE**
Hazardous Waste	**VALUE**

Abbreviations:

PQL: Practical Quantitation Limit
LPQL: Less than PQL
B(a)P: Benzo(a)pyrene
NC: Not Calculated
NA: Not Analysed
TCLP: Toxicity Characteristics Leaching Procedure

TABLE F-1
SOIL INTRA-LABORATORY DUPLICATE RESULTS & RPD CALCULATIONS
All results in mg/kg unless stated otherwise

SAMPLE	ANALYSIS	Envirolab PQL	INITIAL	REPEAT	MEAN	RPD %
Sample Ref = BH5 (0.2-0.4)	Arsenic	4	19	15	17.0	24
Dup Ref = DUPKT1	Cadmium	0.4	LPQL	LPQL	NC	NC
	Chromium	1	7	7	7.0	0
Envirolab Report: 161238	Copper	1	89	40	64.5	76
	Lead	1	3	5	4.0	50
	Mercury	0.1	LPQL	LPQL	NC	NC
	Nickel	1	1	2	1.5	67
	Zinc	1	2	3	2.5	40
	Naphthalene	0.1	LPQL	LPQL	NC	NC
	Acenaphthylene	0.1	LPQL	LPQL	NC	NC
	Acenaphthene	0.1	LPQL	LPQL	NC	NC
	Fluorene	0.1	LPQL	LPQL	NC	NC
	Phenanthrene	0.1	LPQL	LPQL	NC	NC
	Anthracene	0.1	LPQL	LPQL	NC	NC
	Fluoranthene	0.1	LPQL	LPQL	NC	NC
	Pyrene	0.1	LPQL	LPQL	NC	NC
	Benzo(a)anthracene	0.1	LPQL	LPQL	NC	NC
	Chrysene	0.1	LPQL	LPQL	NC	NC
	Benzo(b,j+k)fluoranthene	0.2	LPQL	LPQL	NC	NC
	Benzo(a)pyrene	0.05	LPQL	LPQL	NC	NC
	Indeno(123-cd)pyrene	0.1	LPQL	LPQL	NC	NC
	Dibenzo(ah)anthracene	0.1	LPQL	LPQL	NC	NC
	Benzo(ghi)perylene	0.1	LPQL	LPQL	NC	NC
	TRH C_6-C_{10} (F1)	25	LPQL	LPQL	NC	NC
	TRH >C_{10}-C_{16} (F2)	50	LPQL	LPQL	NC	NC
	TRH >C_{16}-C_{34} (F3)	100	LPQL	LPQL	NC	NC
	TRH >C_{34}-C_{40} (F4)	100	LPQL	LPQL	NC	NC
	Benzene	0.5	LPQL	LPQL	NC	NC
	Toluene	0.5	LPQL	LPQL	NC	NC
	Ethylbenzene	1	LPQL	LPQL	NC	NC
	m+p-xylene	2	LPQL	LPQL	NC	NC
	o-xylene	1	LPQL	LPQL	NC	NC

Explanation:

The RPD value is calculated as the absolute value of the difference between the initial and repeat results divided by the average value expressed as a percentage. The following acceptance criteria will be used to assess the RPD results:

Results > 10 times PQL = RPD value <= 50% are acceptable
Results between 5 & 10 times PQL = RPD value <= 75% are acceptable
Results < 5 times PQL = RPD value <= 100% are acceptable

If result is LPQL then 50% of the PQL is used for the calculation

RPD Results Above the Acceptance Criteria VALUE

Abbreviations:

PQL: Practical Quantitation Limit
LPQL: Less than PQL
NA: Not Analysed
NC: Not Calculated
OCP: Organochlorine Pesticides
OPP: Organophosphorus Pesticides
PCBs: Polychlorinated Biphenyls
TRH: Total Recoverable Hydrocarbons

TABLE F-2
SOIL INTRA-LABORATORY DUPLICATE RESULTS & RPD CALCULATIONS
All results in mg/kg unless stated otherwise

SAMPLE	ANALYSIS	Envirolab PQL	INITIAL	REPEAT	MEAN	RPD %
Sample Ref = BH D (0.0-0.1)	Arsenic	4	9	12	10.5	29
Dup Ref = DUPAS1	Cadmium	0.4	4.3	4.6	2.4	183
	Chromium	1	17	20	18.5	16
Envirolab Report: 174265	Copper	1	130	140	135.0	7
	Lead	1	210	810	510.0	118
	Mercury	0.1	0.2	0.2	0.2	0
	Nickel	1	13	12	12.5	8
	Zinc	1	360	410	385.0	13
	Naphthalene	0.1	LPQL	LPQL	NC	NC
	Acenaphthylene	0.1	LPQL	0.1	0.1	67
	Acenaphthene	0.1	LPQL	LPQL	NC	NC
	Fluorene	0.1	LPQL	LPQL	NC	NC
	Phenanthrene	0.1	0.4	1.1	0.8	93
	Anthracene	0.1	LPQL	0.2	0.1	120
	Fluoranthene	0.1	0.2	2	1.1	164
	Pyrene	0.1	0.2	2.1	1.2	165
	Benzo(a)anthracene	0.1	0.1	1	0.6	164
	Chrysene	0.1	0.2	0.9	0.6	127
	Benzo(b,j+k)fluoranthene	0.2	0.2	2	1.1	164
	Benzo(a)pyrene	0.05	0.08	1	0.5	170
	Indeno(123-cd)pyrene	0.1	LPQL	0.5	0.3	164
	Dibenzo(ah)anthracene	0.1	LPQL	0.1	0.1	67
	Benzo(ghi)perylene	0.1	LPQL	0.6	0.3	169
	TRH C6-C10 (F1)	25	LPQL	LPQL	NC	NC
	TRH >C10-C16 (F2)	50	LPQL	LPQL	NC	NC
	TRH >C16-C34 (F3)	100	LPQL	210	130.0	123
	TRH >C34-C40 (F4)	100	LPQL	LPQL	NC	NC
	Benzene	0.5	LPQL	LPQL	NC	NC
	Toluene	0.5	LPQL	LPQL	NC	NC
	Ethylbenzene	1	LPQL	LPQL	NC	NC
	m+p-xylene	2	LPQL	LPQL	NC	NC
	o-xylene	1	LPQL	LPQL	NC	NC

Explanation:

The RPD value is calculated as the absolute value of the difference between the initial and repeat results divided by the average value expressed as a percentage. The following acceptance criteria will be used to assess the RPD results:

Results > 10 times PQL = RPD value <= 50% are acceptable
Results between 5 & 10 times PQL = RPD value <= 75% are acceptable
Results < 5 times PQL = RPD value <= 100% are acceptable
If result is LPQL then 50% of the PQL is used for the calculation

RPD Results Above the Acceptance Criteria VALUE

Abbreviations:

PQL: Practical Quantitation Limit
LPQL: Less than PQL
NA: Not Analysed
NC: Not Calculated
OCP: Organochlorine Pesticides
OPP: Organophosphorus Pesticides
PCBs: Polychlorinated Biphenyls
TRH: Total Recoverable Hydrocarbons

TABLE G
SOIL INTER-LABORATORY DUPLICATE RESULTS & RPD CALCULATIONS
All results in mg/kg unless stated otherwise

SAMPLE	ANALYSIS	Envirolab PQL	Envirolab VIC PQL	INITIAL	REPEAT	MEAN	RPD %
Sample Ref = TP101 (0.0-0.1)	Arsenic	4	4	7	5	6.0	33
Dup Ref = DUPAB1	Cadmium	0.4	0.4	LPQL	LPQL	NC	NC
	Chromium	1	1	28	25	26.5	11
Envirolab Report: 174265	Copper	1	1	81	72	76.5	12
Envirolab VIC Report: 11635	Lead	1	1	220	170	195.0	26
	Mercury	0.1	0.1	0.3	0.4	0.4	29
	Nickel	1	1	13	15	14.0	14
	Zinc	1	1	280	230	255.0	20
	Naphthalene	0.1	0.1	LPQL	LPQL	NC	NC
	Acenaphthylene	0.1	0.1	LPQL	LPQL	NC	NC
	Acenaphthene	0.1	0.1	LPQL	LPQL	NC	NC
	Fluorene	0.1	0.1	LPQL	LPQL	NC	NC
	Phenanthrene	0.1	0.1	0.1	0.2	0.2	67
	Anthracene	0.1	0.1	LPQL	LPQL	NC	NC
	Fluoranthene	0.1	0.1	0.2	0.4	0.3	67
	Pyrene	0.1	0.1	0.2	0.4	0.3	67
	Benzo(a)anthracene	0.1	0.1	0.1	0.3	0.2	100
	Chrysene	0.1	0.1	0.1	0.2	0.2	67
	Benzo(b,j+k)fluoranthene	0.2	0.2	0.2	0.4	0.3	67
	Benzo(a)pyrene	0.05	0.05	0.1	0.19	0.1	62
	Indeno(123-cd)pyrene	0.1	0.1	LPQL	LPQL	NC	NC
	Dibenzo(ah)anthracene	0.1	0.1	LPQL	LPQL	NC	NC
	Benzo(ghi)perylene	0.1	0.1	LPQL	0.1	0.1	67
	Benzo(a)pyrene TEQ	0.5	0.5	LPQL	LPQL	NC	NC
	TRH C6-C10 (F1)	25	25	LPQL	LPQL	NC	NC
	TRH >C10-C16 (F2)	50	50	LPQL	LPQL	NC	NC
	TRH >C16-C34 (F3)	100	100	LPQL	LPQL	NC	NC
	TRH >C34-C40 (F4)	100	100	LPQL	LPQL	NC	NC
	Benzene	0.5	0.5	LPQL	LPQL	NC	NC
	Toluene	0.5	0.5	LPQL	LPQL	NC	NC
	Ethylbenzene	1	1	LPQL	LPQL	NC	NC
	m+p-xylene	2	2	LPQL	LPQL	NC	NC
	o-xylene	1	1	LPQL	LPQL	NC	NC

Explanation:

The RPD value is calculated as the absolute value of the difference between the initial and repeat results divided by the average value expressed as a percentage. The following acceptance criteria will be used to assess the RPD results:

Results > 10 times PQL = RPD value <= 50% are acceptable
Results between 5 & 10 times PQL = RPD value <= 75% are acceptable
Results < 5 times PQL = RPD value <= 100% are acceptable
If result is LPQL then 50% of the PQL is used for the calculation

RPD Results Above the Acceptance Criteria VALUE

Abbreviations:

PQL: Practical Quantitation Limit
LPQL: Less than PQL
NA: Not Analysed
NC: Not Calculated
OCP: Organochlorine Pesticides
OPP: Organophosphorus Pesticides
PCBs: Polychlorinated Biphenyls
TRH: Total Recoverable Hydrocarbons

TABLE H

SUMMARY OF FIELD QA/QC RESULTS

ANALYSIS	Envirolab PQL		TB1[S]	TB1[S]
			31/01/2017	22/08/2017
			161238	174265
	mg/kg	µg/L	mg/kg	mg/kg
Benzene	1	1	LPQL	LPQL
Toluene	1	1	LPQL	LPQL
Ethylbenzene	1	1	LPQL	LPQL
m+p-xylene	2	2	LPQL	LPQL
o-xylene	1	1	LPQL	LPQL

Explanation:

[W] Sample type (water)

[S] Sample type (sand)

BTEX concentrations in trip spikes are presented as % recovery

Values above PQLs/Acceptance criteria **VALUE**

Abbreviations:

PQL: Practical Quantitation Limit
LPQL: Less than PQL
NA: Not Analysed
NC: Not Calculated
TB: Trip Blank
TS: Trip Spike
RS: Rinsate Sample
TRH: Total Recoverable Hydrocarbons

TABLE I
SOIL LABORATORY RESULTS COMPARED T0 DIRECT CONTACT CRITERIA
All data in mg/kg unless stated otherwise

Analyte		C_6-C_{10}	>C_{10}-C_{16}	>C_{16}-C_{34}	>C_{34}-C_{40}	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	PID[2]
PQL - Envirolab Services		25	50	100	100	0.2	0.5	1	3	1	
Direct contact Criteria[1]		82,000	62,000	85,000	120,000	1,100	120,000	85,000	130,000	29,000	
Site Use		**Intrusive Maintenance Worker - DIRECT SOIL CONTACT**									
Sample Reference	**Sample Depth**										
BH1	0.1-0.2	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH1	1.5-1.95	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH2	0.1-0.2	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH2	0.7-0.95	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH3	0.1-0.2	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH3	0.5-0.95	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH4	0-0.2	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH4	0.5-0.95	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH5	0.2-0.4	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH5	1.25-1.35	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH6	0-0.15	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.8
BH6	0.5-0.75	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH7	0-0.15	LPQL	LPQL	LPQL	110	LPQL	LPQL	LPQL	LPQL	LPQL	1.1
BH7	0.5-0.65	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH8	0-0.15	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.5
BH8	2.0-2.2	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH9	0-0.2	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.6
BH9	0.5-0.7	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BHA	0.4-0.5	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BHA	0.8-0.9	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BHB	0.0-0.2	LPQL	LPQL	150	120	LPQL	LPQL	LPQL	LPQL	LPQL	0
BHB	0.7-1.0	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BHC	0.1-0.2	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BHD	0.0-0.1	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BHD	0.5-0.2	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BHE	0.0-0.1	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BHE	0.4-0.5	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
TP101	0.0-0.1	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
TP101	0.14-0.2	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH102	0.0-0.1	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH102	0.9-1.0	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH103	0.0-0.1	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH103	0.9-1.0	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH104	0.2-0.3	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH105	0.0-0.1	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH105	0.9-1.0	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH106	0.0-0.1	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH106	0.9-1.0	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH107	0.0-0.1	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH107	0.9-1.0	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH108	0.01-0.1	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH108	1.4-1.5	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH109	0.05-0.15	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH109	1.0-1.1	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH110	0.0-0.1	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH110	0.9-1.0	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH110	1.8-2.0	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH110	0.9-1.0	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH110	1.8-2.0	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH111	0.05-0.1	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH111	0.9-1.0	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH111	1.8-2.0	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0
BH112	0.38-0.5	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0

Explanation:
[1] - Site Assessment Criteria (SAC):CRC for Contamination Assessment and Remediation of the Environment. Technical Report No 10. Health Screening levels for pertroleum hydrocabons in soil and groundwater. Part1: Technical development document. September 2011
[2] - Field PID values obtained during the investigation

Concentration above the SAC **VALUE**

Abbreviations:
CRC: Cooperative Research Centre
SAC: Site Assessment Criteria
NA: Not Analysed
PQL: Practical Quantitation Limit
LPQL: Less than PQL

REPORT APPENDICES

Appendix A: Proposed Development Plans

Appendix B: Borehole & Test pit Logs

JK **Geotechnics**
GEOTECHNICAL AND ENVIRONMENTAL ENGINEERS

BOREHOLE LOG

Borehole No. **1** 2/2

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED NEW ACUTE SERVICES BUILDING

Location: GOULBURN HOSPITAL, 130 GOLDSMITH STREET, GOULBURN, NSW

Job No. 30116V
Date: 31/1/17
Method: SPIRAL AUGER JK305
Logged/Checked by: A.B./F.V.
R.L. Surface: ≈ 652.2m
Datum: AHD

Groundwater Record	SAMPLES ES	SAMPLES U50	SAMPLES DB	SAMPLES DS	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
				■					SANDSTONE: tuffaceous, fine to medium grained, yellow brown, with clay se	DW	VL-L		LOW 'TC' BIT RESISTANCE WITH MODERATE BANDS
						8							
						9							
						10							
						11							
						12							
						13							
						14							

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BOREHOLE LOG

Borehole No. **2** 1/1

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED NEW ACUTE SERVICES BUILDING

Location: GOULBURN HOSPITAL, 130 GOLDSMITH STREET, GOULBURN, NSW

Job No. 30116V **Method:** SPIRAL AUGER JK305 **R.L. Surface:** ≈ 653.3m

Date: 31/1/17 **Datum:** AHD

Logged/Checked by: A.B./F.V.

Groundwater Record	SAMPLES ES	SAMPLES U50	SAMPLES DB	SAMPLES DS	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■					0		-	ASPHALTIC CONCRETE: 45mm.t FILL: Sandy gravel, fine to coarse grained, dark grey, igneous, fine to medium grained sand, light grey.	D			APPEARS WELL COMPACTED
				■	N = 18 7,9,9				FILL: Silty clay, low to medium plasticity, brown, with fine grained sand, trace of fine grained igneous gravel.	MC<PL			
						1		CH	GRAVELLY CLAY: high plasticity, light brown, fine to medium grained, black and red brown, ferrginous gravel.	MC<PL	H	>600 >600	RESIDUAL
				■	N = 13 7,6,7			CH	SILTY CLAY: high plasticity, light brown, with fine to medium grained ferrginous gravel, black and red brown.	MC<PL		>600 580 450	
						2		-	SANDSTONE: tuffaceous, fine to coarse grained, green grey.	XW-DW	EL-VL		LOW 'TC' BIT RESISTANCE
				■	N = SPT 15/70mm REFUSAL	3							
						4				DW	VL		
									as above, but orange brown.		L		LOW RESISTANCE WITH MODERATE BANDS
						5					M		MODERATE RESISTANCE
						6			END OF BOREHOLE AT 6.0m				
						7							

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BOREHOLE LOG

Borehole No. **3** 1/1

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED NEW ACUTE SERVICES BUILDING

Location: GOULBURN HOSPITAL, 130 GOLDSMITH STREET, GOULBURN, NSW

Job No. 30116V **Method:** SPIRAL AUGER JK305 **R.L. Surface:** ≈ 654.7m

Date: 31/1/17 **Datum:** AHD

Logged/Checked by: A.B./F.V.

Groundwater Record	SAMPLES ES	SAMPLES U50	SAMPLES DB	SAMPLES DS	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■					0			FILL: Silty clay, low plasticity, dark brown, with fine to medium grained igneous and ironstone gravel.	MC<PL			GRASS COVER
			■					CH		MC>PL	VSt		RESIDUAL
	■		■	■	N = 10 3,5,5				GRAVELLY CLAY: high plasticity, light brown and orange, fine to medium grained, black and red brown, ferruginous gravel.			240 260	
						1							
									GRAVELLY CLAY: high plasticity, light grey, fine to coarse grained, orange brown, siliceous gravel.	MC<PL	H		
				■	N = 24 6,8,16							470 430	
						2							
								-	SANDSTONE: tuffaceous, fine to coarse grained, yellow brown.	XW	EL		
				■	N > 15 12,15/ 100mm REFUSAL	3				XW-DW	EL-VL		
						4			as above, but iron indurated bands.	DW	L		LOW 'TC' BIT RESISTANCE
						5							
				■		6			END OF BOREHOLE AT 6.0m				
						7							

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BOREHOLE LOG

Borehole No. **4** 1/1

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED NEW ACUTE SERVICES BUILDING

Location: GOULBURN HOSPITAL, 130 GOLDSMITH STREET, GOULBURN, NSW

Job No. 30116V **Method:** SPIRAL AUGER JK305 **R.L. Surface:** ≈ 652.8m

Date: 31/1/17 **Datum:** AHD

Logged/Checked by: A.B./F.V.

Groundwater Record	SAMPLES ES	SAMPLES U50	SAMPLES DB	SAMPLES DS	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■					0			FILL: Silty sand, fine to medium grained, dark brown, with fine to medium grained igneous gravel.	M			
	■			■	N = 11 3,6,5	1		CH	SILTY CLAY: high plasticity, light brown.	MC>PL	VSt	370 330 260	RESIDUAL
				■	N > 15 7,15/ 100mm REFUSAL	2		-	MUDSTONE: grey, with sandstone, fine grained, grey seams and clay seams.	XW	EL		
									MUDSTONE: grey, with iron indurated bands.	DW	L-M		LOW 'TC' BIT RESISTANCE
						3			MUDSTONE: brown and grey, with iron indurated bands.		M		MODERATE RESISTACE WITH HIGH BANDS
				■		4					M-H		MODERATE RESISTANCE
						5							HIGH RESISTANCE
				■		6							LOW TO MODERATE RESISTANCE
						7			END OF BOREHOLE AT 6.0m				

ENVIRONMENTAL INVESTIGATION SERVICES

CONSULTING ENVIRONMENTAL ENGINEERS

ENVIRONMENTAL LOG

Borehole No. **5** **1/1**

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: GOULBURN HOSPITAL & HEALTH SERVICES REDEVELOPMENT PLANNING PROJECT

Location: GOULBURN BASE HOSPITAL, 130 GOLDSMITH, GOULBURN, NSW

Job No. E30116K **Method:** EZIPROBE **R.L. Surface:** N/A

Date: 31-1-17 **Datum:**

Logged/Checked by: K.T./G.F.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES SAL	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLET-ION	■		■			0		-	ASPHALTIC CONCRETE: 40mm.t FILL: Sandy gravel, fine to medium grained, angular igneous, grey, trace of ash.	D			
						0.5							
	■							CL-CH	SILTY CLAY: medium to high plasticity, dark brown.	MC<PL			
						1			as above, but red brown.				
						1.5			END OF BOREHOLE AT 1.5m				
						2							
						2.5							
						3							
						3.5							

ENVIRONMENTAL INVESTIGATION SERVICES

CONSULTING ENVIRONMENTAL ENGINEERS

ENVIRONMENTAL LOG

Borehole No. **6** **1/1**

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: GOULBURN HOSPITAL & HEALTH SERVICES REDEVELOPMENT PLANNING PROJECT

Location: GOULBURN BASE HOSPITAL, 130 GOLDSMITH, GOULBURN, NSW

Job No. E30116K **Method:** EZIPROBE **R.L. Surface:** N/A

Date: 31-1-17 **Datum:**

Logged/Checked by: K.T./G.F.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES SAL	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■			0			FILL: Silty sand, fine to medium grained, dark brown, with fine to medium grained igneous gravel, root fibres, trace of ash.	D			
										MC<PL			
									FILL: Silty clay, medium to high plasticity, dark brown, with fine to medium grained ironstone gravel and root fibres.				
	■					0.5		CL-CH	SANDY SILTY CLAY: medium to high plasticity, red brown.	MC<PL			
									END OF BOREHOLE AT 0.72m				PROBE REFUSAL
						1							
						1.5							
						2							
						2.5							
						3							
						3.5							

ENVIRONMENTAL INVESTIGATION SERVICES

CONSULTING ENVIRONMENTAL ENGINEERS

ENVIRONMENTAL LOG

Borehole No. **7** **1/1**

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: GOULBURN HOSPITAL & HEALTH SERVICES REDEVELOPMENT PLANNING PROJECT

Location: GOULBURN BASE HOSPITAL, 130 GOLDSMITH, GOULBURN, NSW

Job No. E30116K **Method:** EZIPROBE **R.L. Surface:** N/A

Date: 31-1-17 **Datum:**

Logged/Checked by: K.T./G.F.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES SAL	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■			0			FILL: Silty sand, fine to medium grained, dark brown, trace of fine to medium grained igneous gravel and root fibres.	D			GRASS COVER
	■		■						FILL: Sandy gravel, fine to coarse grained, angular igneous, grey, trace of ash.				
								CL-CH		MC<PL			
	■					0.5			SILTY CLAY: medium to high plasticity, brown, trace of root fibres.				
									SANDY SILTY CLAY: medium to high plasticity, brown, with fine to medium grained sandstone gravel.				
						1							
									END OF BOREHOLE AT 1.4m				
						1.5							
						2							
						2.5							
						3							
						3.5							

ENVIRONMENTAL INVESTIGATION SERVICES

CONSULTING ENVIRONMENTAL ENGINEERS

ENVIRONMENTAL LOG

Borehole No. **8** **1/1**

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: GOULBURN HOSPITAL & HEALTH SERVICES REDEVELOPMENT PLANNING PROJECT

Location: GOULBURN BASE HOSPITAL, 130 GOLDSMITH, GOULBURN, NSW

Job No. E30116K **Method:** EZIPROBE **R.L. Surface:** N/A

Date: 31-1-17 **Datum:**

Logged/Checked by: K.T./G.F.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES SAL	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■			0			FILL: Silty gravelly sand, fine to medium grained, dark brown, fine to coarse grained igneous gravel, trace of root fibres and ash.	D			GRASS COVER
									FILL: Silty clay, medium to high plasticity, brown, trace of fine to medium grained ironstone gravel and ash.	MC<PL			
	■		■			0.5							
									FILL: Sandy silty clay, medium to high plasticity, brown, fine to medium grained igneous gravel, trace of root fibres and ash.				
	■		■			1							
						1.5							
								CL-CH	SILTY CLAY: medium to high plasticity, red brown, trace of fine grained sandstone gravel.	MC<PL			
	■					2							
						2.5							
									END OF BOREHOLE AT 2.6m				
						3							
						3.5							

ENVIRONMENTAL INVESTIGATION SERVICES

CONSULTING ENVIRONMENTAL ENGINEERS

ENVIRONMENTAL LOG

Borehole No. **9** **1/1**

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: GOULBURN HOSPITAL & HEALTH SERVICES REDEVELOPMENT PLANNING PROJECT

Location: GOULBURN BASE HOSPITAL, 130 GOLDSMITH, GOULBURN, NSW

Job No. E30116K **Method:** EZIPROBE **R.L. Surface:** N/A

Date: 31-1-17 **Datum:**

Logged/Checked by: K.T./

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES SAL	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■			0			FILL: Sandy silty clay, medium to high plasticity, dark brown, with root fibres, trace of ash.	MC<PL			GRASS COVER
	■					0.5		CL-CH	SILTY CLAY: medium to high plasticity, brown, trace of root fibres and fine grained sand.	MC<PL			
						1							
						1.5			END OF BOREHOLE AT 1.35m				
						2							
						2.5							
						3							
						3.5							

ENVIRONMENTAL INVESTIGATION SERVICES

CONSULTING ENVIRONMENTAL ENGINEERS

Borehole No.
A
1/1

ENVIRONMENTAL LOG

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: GOULBURN HOSPITAL & HEALTH SERVICES REDEVELOPMENT PLANNING PROJECT

Location: GOULBURN BASE HOSPITAL, 130 GOLDSMITH, GOULBURN, NSW

Job No. E30116K **Method:** HAND AUGER **R.L. Surface:** N/A

Date: 22/8/17 **Datum:**

Logged/Checked by: A.S./M.D.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES SAL	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■				0			FILL: Silty sandy clay, low to medium plasticity, brown, trace of root fibres, ash.	MC<PL			GARDEN BED
	■		■				0.5			FILL: Silty clay, low to medium plasticity, red brown, trace of ash, root fibres, fine to medium grained ironstone gravel.	MC≈PL			POSSIBLY NATURAL RE-WORKED
	■		■							FILL: Silty clay, low to medium plasticity, orange brown.				
							1			END OF BOREHOLE AT 1.0m				HAND AUGER REFUSAL
							1.5							
							2							
							2.5							
							3							
							3.5							

ENVIRONMENTAL INVESTIGATION SERVICES

CONSULTING ENVIRONMENTAL ENGINEERS

ENVIRONMENTAL LOG

Borehole No. **B** **1/1**

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: GOULBURN HOSPITAL & HEALTH SERVICES REDEVELOPMENT PLANNING PROJECT

Location: GOULBURN BASE HOSPITAL, 130 GOLDSMITH, GOULBURN, NSW

Job No. E30116K **Method:** HAND AUGER **R.L. Surface:** N/A

Date: 22/8/17 **Datum:**

Logged/Checked by: A.S./M.D.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES SAL	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■				0			FILL: Silty sandy clay, low to medium plasticity, orange brown, trace of root fibres, ash, fine to medium grained ironstone gravel.	MC≈PL			
							0.5			FILL: Silty clay, low to medium plasticity, brown, trace of fine to medium grained ironstone gravel, ash.				POSSIBLY NATURAL RE-WORKED
	■		■							END OF BOREHOLE AT 0.8m				HAND AUGER REFUSAL
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

ENVIRONMENTAL INVESTIGATION SERVICES

CONSULTING ENVIRONMENTAL ENGINEERS

ENVIRONMENTAL LOG

Borehole No. **C** **1/1**

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: GOULBURN HOSPITAL & HEALTH SERVICES REDEVELOPMENT PLANNING PROJECT

Location: GOULBURN BASE HOSPITAL, 130 GOLDSMITH, GOULBURN, NSW

Job No. E30116K **Method:** HAND AUGER **R.L. Surface:** N/A

Date: 22/8/17 **Datum:**

Logged/Checked by: A.S./M.D.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES SAL	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■				0			CONCRETE: 70mm.t				
	■		■				0.5		-	FILL: Ash, dark grey.	D			
	■		■											
							1			END OF BOREHOLE AT 0.95m				HAND AUGER REFUSAL
							1.5							
							2							
							2.5							
							3							
							3.5							

ENVIRONMENTAL INVESTIGATION SERVICES

CONSULTING ENVIRONMENTAL ENGINEERS

ENVIRONMENTAL LOG

Borehole No. **D** **1/1**

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: GOULBURN HOSPITAL & HEALTH SERVICES REDEVELOPMENT PLANNING PROJECT

Location: GOULBURN BASE HOSPITAL, 130 GOLDSMITH, GOULBURN, NSW

Job No. E30116K **Method:** HAND AUGER **R.L. Surface:** N/A

Date: 22/8/17 **Datum:**

Logged/Checked by: A.S./M.D.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES SAL	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■				0			FILL: Silty sand, fine to medium grained, dark brown, trace of root fibres.	MC≈PL			MOSS COVERED SURFACE
	■		■				0.5			FILL: Ash, dark grey, with fine to medium grained sand, trace of root fibres.	D			
							1			END OF BOREHOLE AT 0.95m				HAND AUGER REFUSAL
							1.5							
							2							
							2.5							
							3							
							3.5							

ENVIRONMENTAL INVESTIGATION SERVICES

CONSULTING ENVIRONMENTAL ENGINEERS

Borehole No.
E
1/1

ENVIRONMENTAL LOG

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: GOULBURN HOSPITAL & HEALTH SERVICES REDEVELOPMENT PLANNING PROJECT

Location: GOULBURN BASE HOSPITAL, 130 GOLDSMITH, GOULBURN, NSW

Job No. E30116K **Method:** HAND AUGER **R.L. Surface:** N/A

Date: 22/8/17 **Datum:**

Logged/Checked by: A.S./M.D.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES SAL	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■				0			FILL: Silty sandy clay, low to medium plasticity, brown, trace of root fibres, ash.	MC<PL			GRASS COVER
										FILL: Ash, dark grey.	D			
	■		■				0.5			FILL: Silty clay, low to medium plasticity, brown, with ash, trace of root fibres, fine to medium grained ironstone gravel.	MC≈PL			
										FILL: Silty clay, low to medium plasticity, brown, with ash, trace of root fibres, fine to medium grained ironstone gravel.	MC<PL			
							1			END OF BOREHOLE AT 0.75m				NO SAMPLE RECOVERY IN AUGER
							1.5							
							2							
							2.5							
							3							
							3.5							

JK Geotechnics
GEOTECHNICAL AND ENVIRONMENTAL ENGINEERS

Borehole No. 101
1 / 2

BOREHOLE LOG

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: 130 GOLDSMITH STREET, GOULBURN, NSW

Job No.: 30116V2 **Method:** SPIRAL AUGER **R.L. Surface:** ~652.4 m
Date: 22/8/17 **Datum:** AHD
Plant Type: JK205 **Logged/Checked By:** A.B./F.V.

Groundwater Record	SAMPLES ES	SAMPLES U50	SAMPLES DB	SAMPLES DS	Field Tests	RL (m AHD)	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
DRY ON COMPLETION OF AUGERING										FILL: Silty sand, fine to medium grained, dark brown, trace of root fibres.	M			GRASS COVER
						652			CL	GRAVELLY CLAY: medium plasticity, light brown, fine to coarse grained ferruginous gravel.	MC<PL	H		RESIDUAL
					N = 26 10,13,13		1						>600 >600 >600	
						651			CH	SILTY CLAY: high plasticity, light brown, with fine grained ferruginous gravel.	MC>PL			
					N = 12 6,5,7		2						560 590 >600	
						650				SANDSTONE: tuffaceous, fine to coarse grained gravel, light brown, with ferruginous and clay seams.	XW - DW	EL - VL		VERY LOW 'TC' BIT RESISTANCE
							3			as above, but brown.	DW	L		
						649								
							4							
						648				REFER TO CORED BOREHOLE LOG				
							5							
						647								
							6							
						646								