APPENDIX 1 FIELD DATA AND REGIONAL GEOLOGY

APPENDIX 1 CONTENTS

ANNEXURE 1 PIEZOMETER CONSTRUCTION AND GEOLOGICAL LOGS

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COMPOSITE WELL LOG

Well No: NE Piezometer

Client: Dellara Pty Ltd **Project:** S39 Annexure 1

Commenced: 8/04/09
Completed: 8/4/2009
Drilled: Intertech
Logged By: J van den Akker

Method: Rotary Air
Fluid: Air
Bit Record: 120mm

Area: Orchard Hills
East: 291634
North: 6256779
Collar (RL): 42 mAHD

Static Water Level: 3.98 mbgl **Date:** 8/4/2009

Depth (m) AHD / BGL	Bit Log	Graphic Log	Lithological Description	Field Notes	Well Completion: Diagram	Well Completion: Notes
0 / 40	Blade 160		Clay: Silty, light brown. Light brown claystone at 4m			50mm Diam Class 9 Blank PVC Casing from -0.92m to 1.6m 125mm Diam. Class 9 PVC Surface casing from 0m to 1.6m
	Blade 120mm		Claystone: Pale red / light brown			Cement plug from -0.1 to 0.5m Bentonite Plug from 0.5 to 1.2m
			Claystone: Pale grey, weathered	Minor Water at 5m (contact zone above shale)		
10			Claystone: Pale grey	Penetration rate:1.0 m/min		
						Gravel pack from 1.2m to 44.5m
30				Penetration rate: 1.5 m/min		
						50mm Diam. Class 9 Slotted threaded PVC Casing from 1.8m to 44.5m
20	Hammer 120mm			Penetration rate:1.0 m/min		
				Penetration rate: 1.2 m/min		
30 / 10				Moist layer		
				Penetration rate:1.0 m/min		
				Penetration rate:0.85 m/min		
40 / 0				TD=44.5m		

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COMPOSITE WELL LOG

Well No: NW Piezometer

Client: Dellara Pty Ltd **Project:** S39 Annexure 1

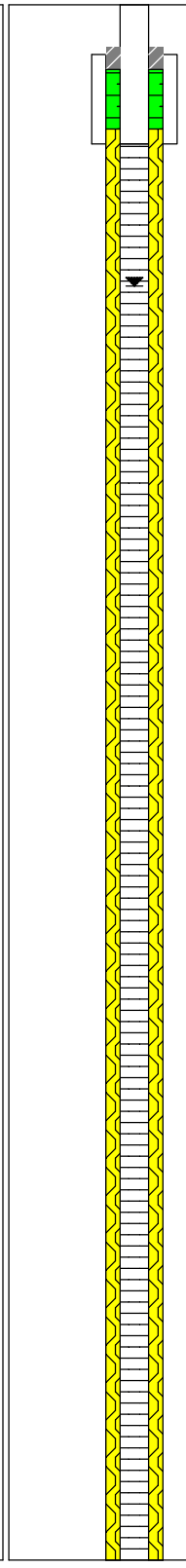
Commenced: 07/04/09
Completed: 7/4/2009
Drilled: Intertech
Logged By: J van den Akker

Method: Rotary Air
Fluid: Air, water from 12m
Bit Record: 120mm

Area: Orchard Hills
East: 290917
North: 6256871
Collar (RL): 35.5 mAHD

Static Water Level: 4.66 mbgl **Date:** 8/4/2009

Depth (m) AHD / BGL	Bit Log	Graphic Log	Lithological Description	Field Notes	Well Completion Diagram	Well Completion Notes
0	Blade 160mm		Clay: Silty, light brown. Light brown claystone at 4m			50mm Diam Class 9 Blank PVC Casing from -0.92m to 1.8m
	Blade 120mm		Claystone: Pale grey	Penetration rate 1.2 m/min		125mm Diam. Class 9 PVC Surface casing from 0m to 1.8m
30						Cement plug from -0.1 to 0.5m Bentonite Plug from 0.5 to 1.5m
10						
			Coal: Carbonaceous seam at 12-13m	Groundwater first detected at 11.5m to 12m. pH = 7.48, EC = 10mS/cm		Gravel pack from 1.5m to 30.3m
20	Hammer 120mm		Claystone: Pale grey claystone. Minor carbonaceous sediments interlayered throughout from approx 17m			
				Penetration rate 0.75 m/min		50mm Diam. Class 9 Slotted threaded PVC Casing from 1.8m to 30.3m
20				Water cut detected at 21.5 to 23m (0.1 to 0.15 L/s)		
				Penetration rate 0.23 m/min		
10				Yield increased from 0.15 L/s to 1.4 L/s during airlift at 30.3m. pH = 7.74, EC = 21.9 mS/cm		
30				TD=30.3m		



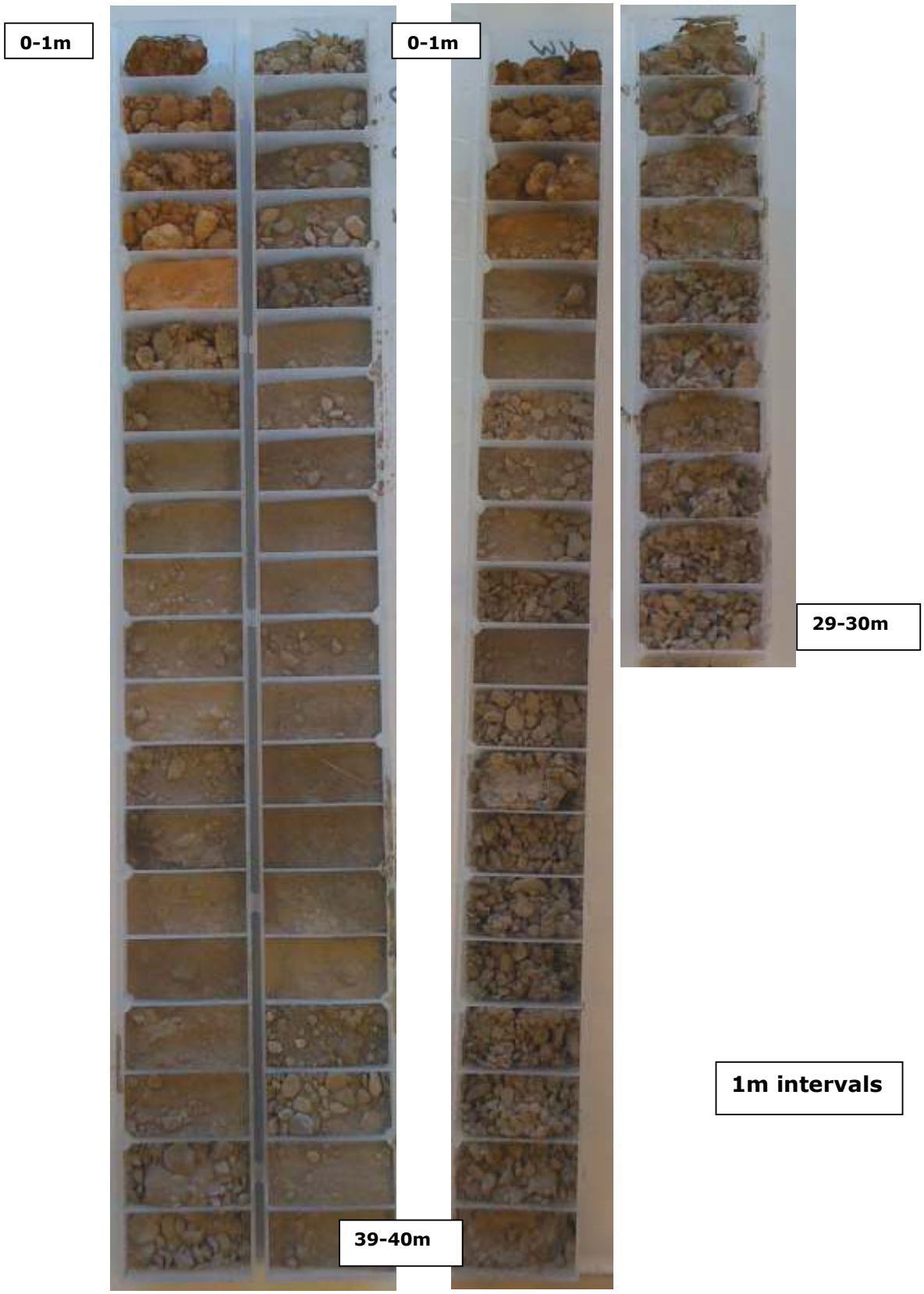
ANNEXURE 2 PLATES: DRILLING AND DRILLHOLE CUTTINGS

Drilling NW Piezometer PLATE 1

Drilling NE Piezometer PLATE 2

NE PIEZOMETER

NW PIEZOMETER



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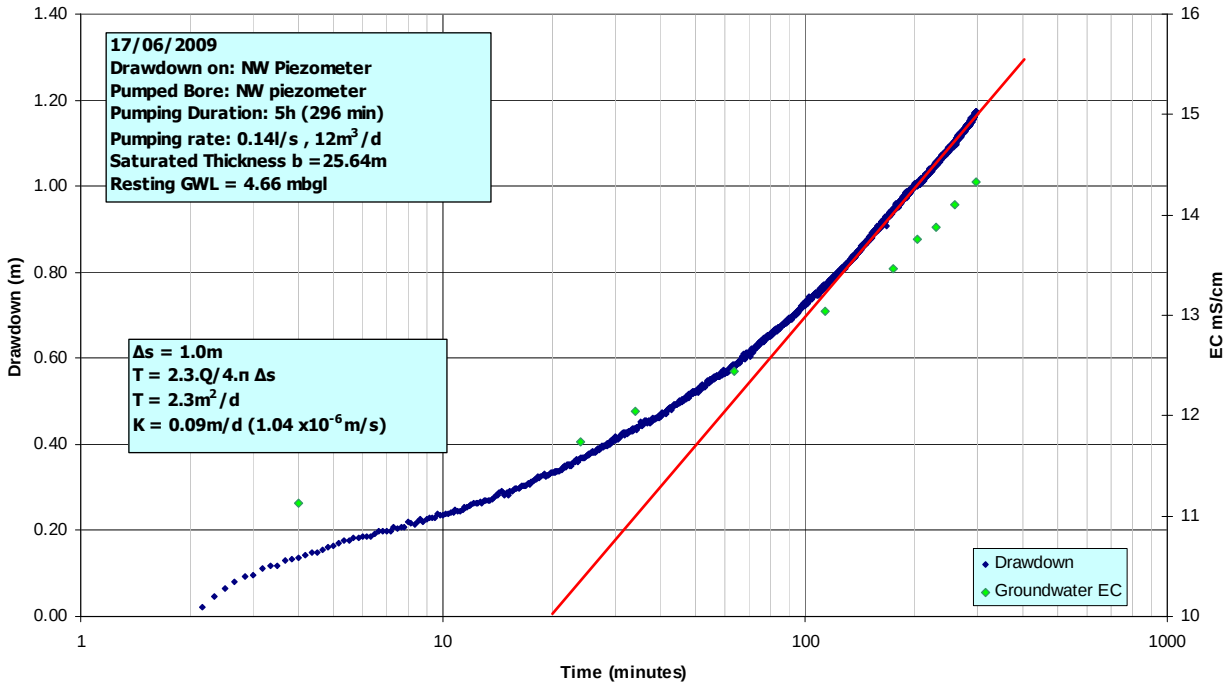
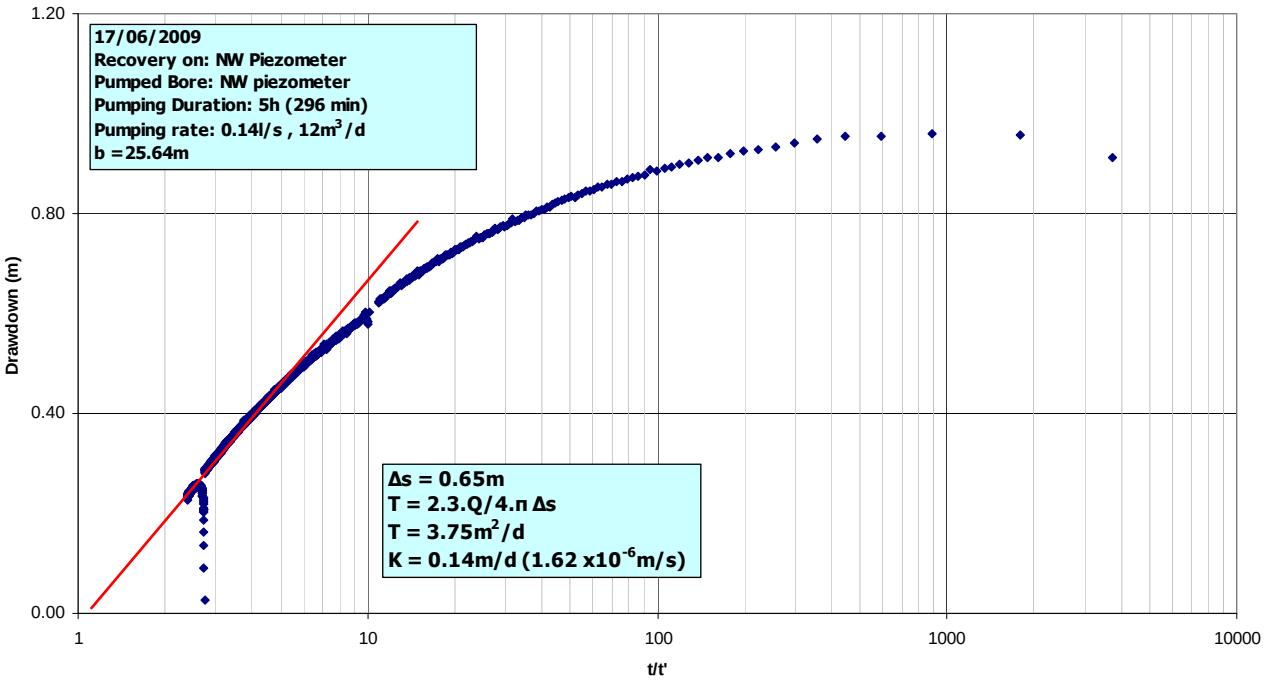
Drill Cuttings From the NE and NW Piezometers PLATE 3

ANNEXURE 3 HYDRAULIC TEST RESULTS

Constant Rate Test - NW Piezometer

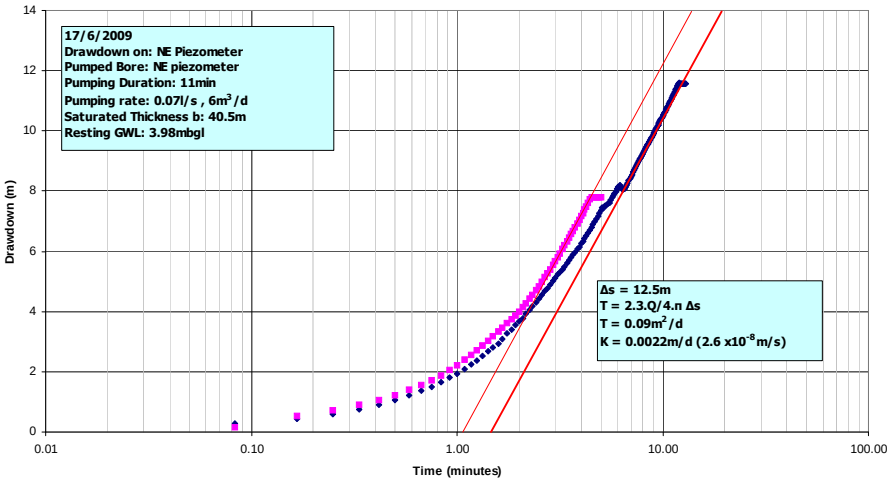


Recovery - NW Piezometer

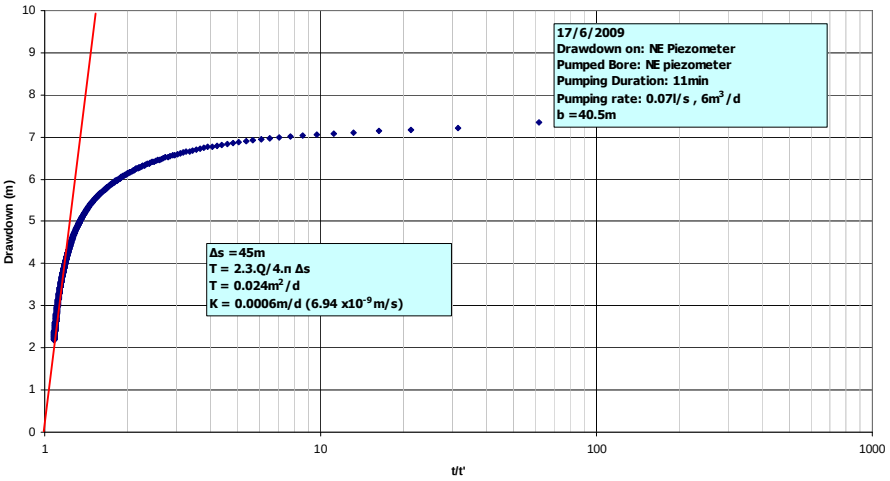


Date: 30 September 2009	Scale: As Shown	ORCHARD HILLS WRMF
Initials: TL	Job No: S39	**HYDRAULIC TESTING** **CONSTANT RATE TEST AND RECOVERY** **NW PIEZOMETER**
Drawing No: S39-001b_NW	Rev: B	
aquaterra		Annexure 3

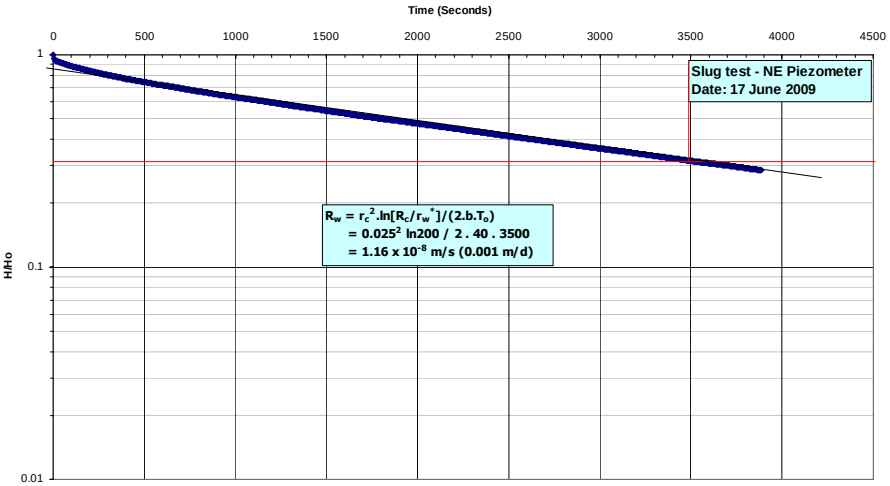
Constant Rate Test - NE Piezometer



Recovery - NE Piezometer



Slug Test (Rising Head) NE Piezometer



Date: 30 September 2009	Scale: As Shown	ORCHARD HILLS WRMF
Initials: TL	Job No: S39	**HYDRAULIC TESTING** **CONSTANT RATE TEST - RECOVERY - SLUG TEST** **NE PIEZOMETER**
Drawing No: S39-001b_NE	Rev: B	Annexure 3
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ANNEXURE 4 GROUNDWATER CHEMICAL ANALYSIS: PIPER DIAGRAM AND FIELD WATER QUALITY PARAMETERS

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES0908882**	Page	: 1 of 8
Client	: **AQUATERRA CONSULTING PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: INVOICE- PYMBLE	Contact	: Charlie Pierce
Address	: 9/1051 PACIFIC HIGHWAY PYMBLE NSW, AUSTRALIA 2073	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: anthony.dixon@aquaterra.com.au	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 9440 2666	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 9449 3193	Facsimile	: +61-2-8784 8500
Project	: S39	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 18-JUN-2009
Sampler	: JVA	Issue Date	: 24-JUN-2009
Site	: ORCHARD HILLS		
		No. of samples received	: 2
Quote number	: ----	No. of samples analysed	: 2

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Spectroscopist	Inorganics
Edwandy Fadjar	Senior Organic Chemist	Organics
Hoa Nguyen	Inorganic Chemist	Inorganics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **ED045: Poor matrix spike recovery due to sample matrix for Chloride. Confirmed by re-extraction and re-analysis.**
- **EP080: Level of Reporting raised for toluene due to ambient background levels in the laboratory.**
- **EP080: Results for sample NEPIE20 has been confirmed by re-analysis.**

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: NW PIEZ0	NEPIEZ0	----	----	----
				Client sampling date / time: 17-JUN-2009 13:00	17-JUN-2009 16:00	----	----	----
				ES0908882-001	ES0908882-002	----	----	----
EA005: pH								
pH Value	----	0.01	pH Unit	**6.56**	**6.28**	----	----	----
EA015: Total Dissolved Solids								
^ Total Dissolved Solids @180°C	GIS-210-010	1	mg/L	**8930**	**13000**	----	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**599**	**353**	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L	**599**	**353**	----	----	----
ED041: Sulfate (Turbidimetric) as SO4 2-								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	**44**	**257**	----	----	----
ED045G: Chloride Discrete analyser								
Chloride	16887-00-6	1	mg/L	**4810**	**7970**	----	----	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**317**	**95**	----	----	----
Magnesium	7439-95-4	1	mg/L	**374**	**562**	----	----	----
Sodium	7440-23-5	1	mg/L	**2230**	**3440**	----	----	----
Potassium	7440-09-7	1	mg/L	**42**	**7**	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	<0.01	**0.09**	----	----	----
Arsenic	7440-38-2	0.001	mg/L	<0.001	**0.003**	----	----	----
Barium	7440-39-3	0.001	mg/L	**16.5**	**0.123**	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	**0.0002**	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	----	----	----
Cobalt	7440-48-4	0.001	mg/L	<0.001	**0.043**	----	----	----
Copper	7440-50-8	0.001	mg/L	**0.005**	**0.007**	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	----	----	----
Manganese	7439-96-5	0.001	mg/L	**0.401**	**1.77**	----	----	----
Zinc	7440-66-6	0.005	mg/L	**0.023**	**0.032**	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	----	----	----
EG050F: Hexavalent Chromium - Filtered								
Hexavalent Chromium	18540-29-9	0.010	mg/L	<0.010	<0.010	----	----	----
EK040P: Fluoride by PC Titrator								
Fluoride	16984-48-8	0.1	mg/L	**0.3**	**0.2**	----	----	----
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	**2.73**	**0.36**	----	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	NW PIEZ0	NEPIE2Z	----	----	----
				Client sampling date / time	17-JUN-2009 13:00	17-JUN-2009 16:00	----	----	----
Compound	CAS Number	LOR	Unit		ES0908882-001	ES0908882-002	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	<0.01	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
^ Nitrate as N	14797-55-8	0.01	mg/L		<0.01	**0.01**	----	----	----
EK059G: NOX as N by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	**0.01**	----	----	----
EK061: Total Kjeldahl Nitrogen (TKN)									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		**3.1**	**0.7**	----	----	----
EK062: Total Nitrogen as N									
^ Total Nitrogen as N	----	0.1	mg/L		**3.1**	**0.7**	----	----	----
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	1	mg/L		**2**	**7**	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	<0.5	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	<0.5	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	<0.5	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	<0.5	----	----	----
delta-BHC	319-86-8	0.5	µg/L		<0.5	<0.5	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	<0.5	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	<0.5	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	<0.5	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	<0.5	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	<0.5	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	<0.5	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	<0.5	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	<0.5	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	<0.5	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	<0.5	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	<0.5	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	<0.5	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	<0.5	----	----	----
4.4`-DDT	50-29-3	2	µg/L		<2	<2	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	<0.5	----	----	----
Methoxychlor	72-43-5	2	µg/L		<2	<2	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	<0.5	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	<0.5	----	----	----
Monocrotophos	6923-22-4	2	µg/L		<2	<2	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: NW PIEZ0	NEPIEZ0	----	----	----
				Client sampling date / time: 17-JUN-2009 13:00	17-JUN-2009 16:00	----	----	----
				ES0908882-001	ES0908882-002	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued								
Dimethoate	60-51-5	0.5	µg/L	<0.5	<0.5	----	----	----
Diazinon	333-41-5	0.5	µg/L	<0.5	<0.5	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	<0.5	----	----	----
Parathion-methyl	298-00-0	2	µg/L	<2	<2	----	----	----
Malathion	121-75-5	0.5	µg/L	<0.5	<0.5	----	----	----
Fenthion	55-38-9	0.5	µg/L	<0.5	<0.5	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	<0.5	----	----	----
Parathion	56-38-2	2	µg/L	<2	<2	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	<0.5	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	<0.5	----	----	----
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	<0.5	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	<0.5	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	<0.5	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	<0.5	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	<0.5	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	<0.5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	**200**	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	<50	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: NW PIEZ0	NEPIEZ0	----	----	----
				Client sampling date / time: 17-JUN-2009 13:00	17-JUN-2009 16:00	----	----	----
				ES0908882-001	ES0908882-002	----	----	----
EP080: BTEX								
Benzene	71-43-2	1	µg/L	<1	<1	----	----	----
Toluene	108-88-3	2	µg/L	<5	**105**	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	**8**	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	**2**	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**80.0**	**74.3**	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**104**	**100**	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**29.4**	**29.0**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**75.2**	**69.3**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**71.3**	**68.4**	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**77.2**	**79.3**	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**91.2**	**87.7**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**91.0**	**91.7**	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**103**	**81.7**	----	----	----
Toluene-D8	2037-26-5	0.1	%	**118**	**115**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**117**	**104**	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	136
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	10	136
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: Abstraction Bore	----	----	----	----
				Client sampling date / time: 16-NOV-2009 11:00	----	----	----	----
				ES0917465-001	----	----	----	----
EA005: pH								
pH Value	----	0.01	pH Unit	**7.06**	----	----	----	----
EA015: Total Dissolved Solids								
^ Total Dissolved Solids @180°C	GIS-210-010	1	mg/L	**8300**	----	----	----	----
ED009: Anions								
Chloride	16887-00-6	0.50	mg/L	**4040**	----	----	----	----
Fluoride	16984-48-8	0.02	mg/L	**0.13**	----	----	----	----
Sulfate	14808-79-8	0.50	mg/L	**495**	----	----	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	----	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	----	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**897**	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L	**897**	----	----	----	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**151**	----	----	----	----
Magnesium	7439-95-4	1	mg/L	**349**	----	----	----	----
Sodium	7440-23-5	1	mg/L	**2360**	----	----	----	----
Potassium	7440-09-7	1	mg/L	**34**	----	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	<0.01	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L	**0.002**	----	----	----	----
Barium	7440-39-3	0.001	mg/L	**0.349**	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	----	----	----	----
Cobalt	7440-48-4	0.001	mg/L	**0.009**	----	----	----	----
Copper	7440-50-8	0.001	mg/L	**0.002**	----	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L	**0.518**	----	----	----	----
Zinc	7440-66-6	0.005	mg/L	**0.017**	----	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	----	----	----	----
EG050F: Hexavalent Chromium - Filtered								
Hexavalent Chromium	18540-29-9	0.010	mg/L	<0.010	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	**1.02**	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	----	0.01	mg/L	<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser								

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: Abstraction Bore	----	----	----	----
				Client sampling date / time: 16-NOV-2009 11:00	----	----	----	----
				ES0917465-001	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser - Continued								
^ Nitrate as N	14797-55-8	0.01	mg/L	**0.11**	----	----	----	----
EK059G: NOX as N by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	**0.11**	----	----	----	----
EK061: Total Kjeldahl Nitrogen (TKN)								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	**1.4**	----	----	----	----
EK062: Total Nitrogen as N								
^ Total Nitrogen as N	----	0.1	mg/L	**1.5**	----	----	----	----
EN055: Ionic Balance								
^ Total Anions	----	0.01	meq/L	**142**	----	----	----	----
^ Total Cations	----	0.01	meq/L	**140**	----	----	----	----
^ Ionic Balance	----	0.01	%	**0.87**	----	----	----	----
EP005: Total Organic Carbon (TOC)								
Total Organic Carbon	----	1	mg/L	**5**	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.5	µg/L	<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L	<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L	<0.5	----	----	----	----
delta-BHC	319-86-8	0.5	µg/L	<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L	<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L	<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L	<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L	<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L	<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L	<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	----	----	----	----
4.4`-DDT	50-29-3	2	µg/L	<2	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	----	----	----	----
Methoxychlor	72-43-5	2	µg/L	<2	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.5	µg/L	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: Abstraction Bore	----	----	----	----
				Client sampling date / time: 16-NOV-2009 11:00	----	----	----	----
				ES0917465-001	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued								
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	----	----	----	----
Monocrotophos	6923-22-4	2	µg/L	<2	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L	<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L	<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	----	----	----	----
Parathion-methyl	298-00-0	2	µg/L	<2	----	----	----	----
Malathion	121-75-5	0.5	µg/L	<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L	<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	----	----	----	----
Parathion	56-38-2	2	µg/L	<2	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	----	----	----	----
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	----	----	----	----
Azinphos Methyl	----	0.5	µg/L	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----

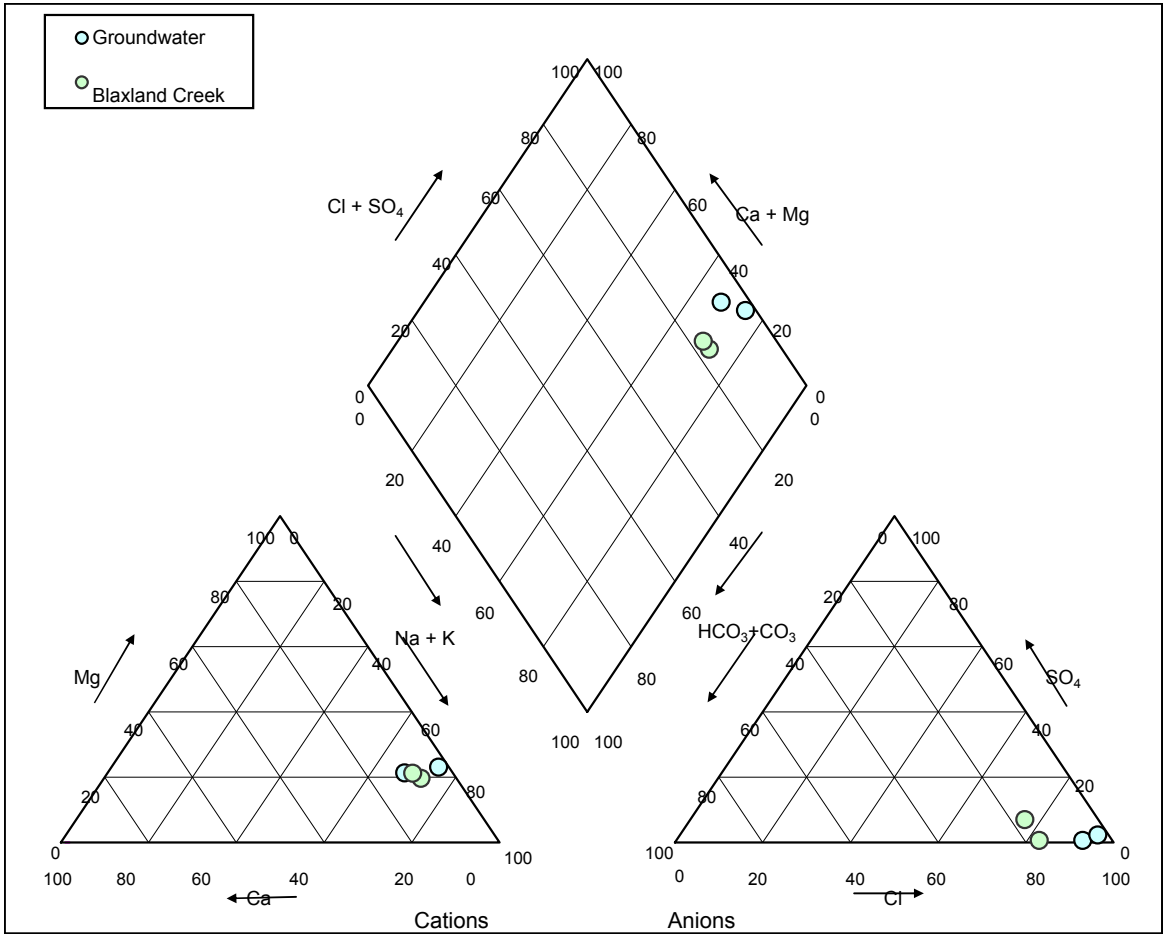
Analytical Results

Sub-Matrix: **WATER**

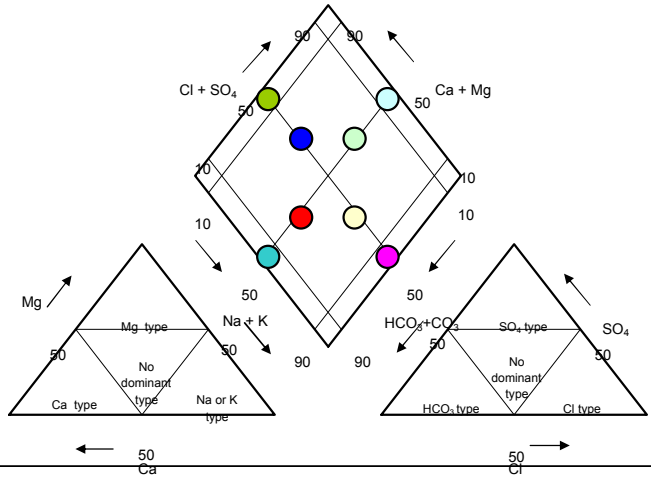
Compound	CAS Number	LOR	Unit	Client sample ID: Abstraction Bore	----	----	----	----
				Client sampling date / time: 16-NOV-2009 11:00	----	----	----	----
				ES0917465-001	**----**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons - Continued								
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080: BTEX								
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<5	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**111**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**100**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**36.3**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**88.6**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**118**	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**103**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**106**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**111**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**94.1**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	**109**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**100**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	136
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	10	136
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	10	123
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115



WATER TYPE CATEGORISATION



WATER TYPE SUB-FIELDS

- Ca + Mg, Na + K type
- Ca + Mg type
- HCO_3, Cl + SO_4 type
- HCO_3 + CO_3 type
- Na + K, Ca + Mg type
- Na + K type
- Cl + SO_4, HCO_3 type
- Cl + SO_4 type

aquaterra

Piper Diagram

Annexure 4

Date: 03/08/09

F:\Jobs\S39\300\Piper\HydroCHEM2.0.xls]Input Data

Project: Orchard Hills WRMF

Project No: S39

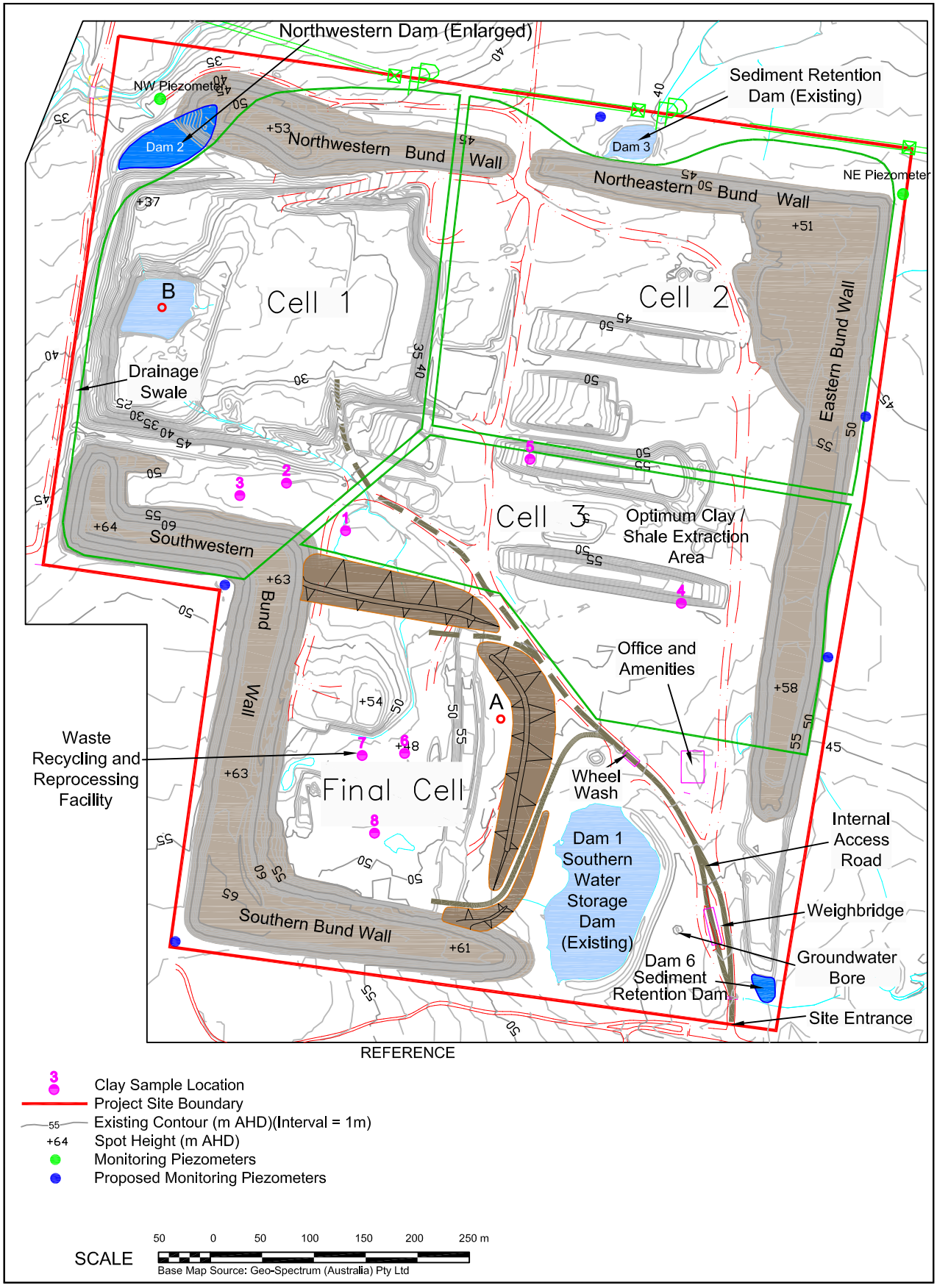
HydroCHEM 2.0

Annexure 4 - Field Results

Table 1: 17/06/2009 Constant Rate Test water quality parameters

Piezometer Time		Depth to water (mbgl)	EC (mS/cm)	pH	T (°C)	Yield L/s	Comments
NW Piezo	8:30	4.66	11.3	6.89	17.5	0.14	
	9:00		11.74	6.88	17.3	0.14	
	9:30		12.04	6.9	17.4	-	
	10:20		12.44	6.9	18.1	0.14	
	11:20		13.04	6.95	18.1	0.14	
	11:50		13.47	6.78	17.9	-	
	12:15		13.76	6.9	18.3	0.14	
	12:45		13.88	6.9	18.1	-	
	13:20		14.1	6.9	18.1	0.14	Water sample Collected
	13:24		14.33	6.9	18.1	-	Pump Off
	14:20	5.48					
	16:25	5.21					
NE Piezo	2:30	3.91	-	-	-	-	Test 1: Start Pump (dewatered to pump depth)
	15:45		-	-	-	0.14	Test 2: Start Pump
	15:59		-	-	-	0.07	
	15:57		-	-	-	0	Pump off, dewatered to pump depth
	16:30		Over Limit	6.88	17.7	-	Test 3: Start pump for water sample collection
	16:50	16.11					

ANNEXURE 5 GROUNDWATER MONITORING LOCATIONS, CLAY SAMPLE LOCATIONS AND CLAY PERMEABILITY RESULTS

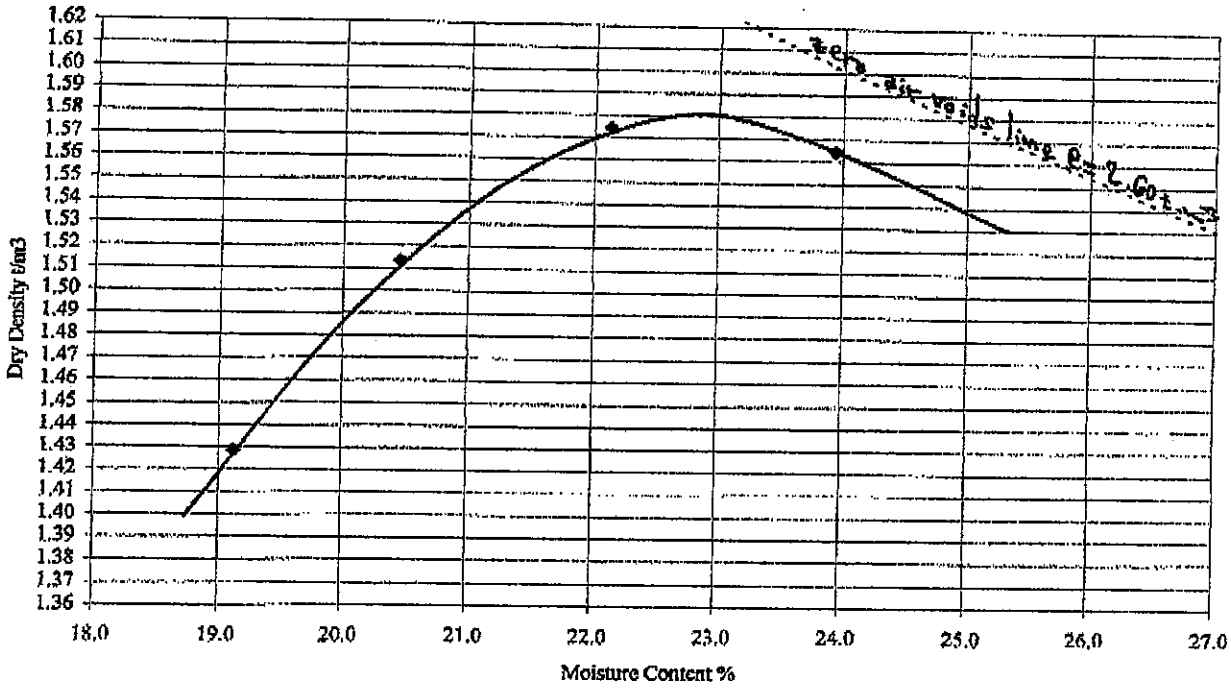


Date: 3 September 2009	Scale: as indicated	**ORCHARD HILLS WRMF**
Initials: JVDA	Job No: S39	**Clay Sample and Monitoring Bore Locations**
Drawing No: S39-004	Rev: 0	
aquaterra		**Annexure 5**

AUSTRALIAN SOIL TESTING PTY LTD. A.B.N. 79 003 493 623
24 Bermill Street, Rockdale, NSW, 2216 P.O. Box 2014, Rockdale D.C. NSW 2216
Tel: 9597 5599, 9597 3286 Fax: 9597 3442 Email: austst@bigpond.com

Client: **Aquaterra**
Address: Suite 9, 1051 Pacific Highway , Pymble NSW 2073
Project: **Dellara Project , Orchard Hills**

DRY DENSITY / MOISTURE RELATION TEST REPORT



Laboratory Number:	53514	
Sample Source:	Sample 1	
Sample Description:	SILTY CLAY: brown/mottled grey-red, high plasticity, trace of fine to coarse sand.	
Maximum Dry Density:	**1.58**	t/m^3
Optimum Moisture Content:	**23.0**	%
Oversize Material	19.0	mm
% Oversize	0	%
Date Tested	17.7.2009	
Sampled by:	Client	
Compactive Effort	Standard	
Test Method	**AS 1289 5.1.1**	
No of layers	3	
Blows per layer	25	
Mass of rammer	2.7	kg
Drop of rammer	300	mm

Comments

Form E04 excel Issue 2 Jan 1997 CWS

Signed: .....
Title: .....
Name: .....
Date: 27/7/09

AUSTRALIAN SOIL TESTING PTY LTD. A.B.N. 79 003 493 623
24 Bermill Street, Rockdale, NSW 2216 P.O. Box 2014, Rockdale D.C. NSW 2216
Tel: 9597 5599, 9597 3286 Fax: 9597 3442 Email: austst@bigpond.com

FALLING HEAD PERMEABILITY

CLIENT: **Aquaterra**
Suite 9, 1051 Pacific Highway , Pymble NSW 2073
PROJECT: **Dellara Project , Orchard Hills**

JOB NUMBER:	031-647
LABORATORY NUMBER:	53514
SAMPLE SOURCE:	Sample 1
SAMPLE DESCRIPTION:	SILTY CLAY: brown/mottled grey-red, high plasticity, trace of fine to coarse sand.
DATE TESTED:	21.7.2009
SAMPLED BY:	Client

INITIAL MOISTURE CONTENT (%)	22.8
INITIAL DRY DENSITY (t/m^3)	1.51
MOISTURE CONTENT AFTER TEST (%)	-

COEFFICIENT OF PERMEABILITY (k) **6.6E-10** **(m/sec)**

Being the average of 4 tests with a range of 5.29E-10 to 7.07E-10 (m/sec)

Tested in accordance with AS 1289 6.7.2 2000
Comments:
Specimen Remoulded to 95% of Maximum Dry Density at Optimum Moisture Content.

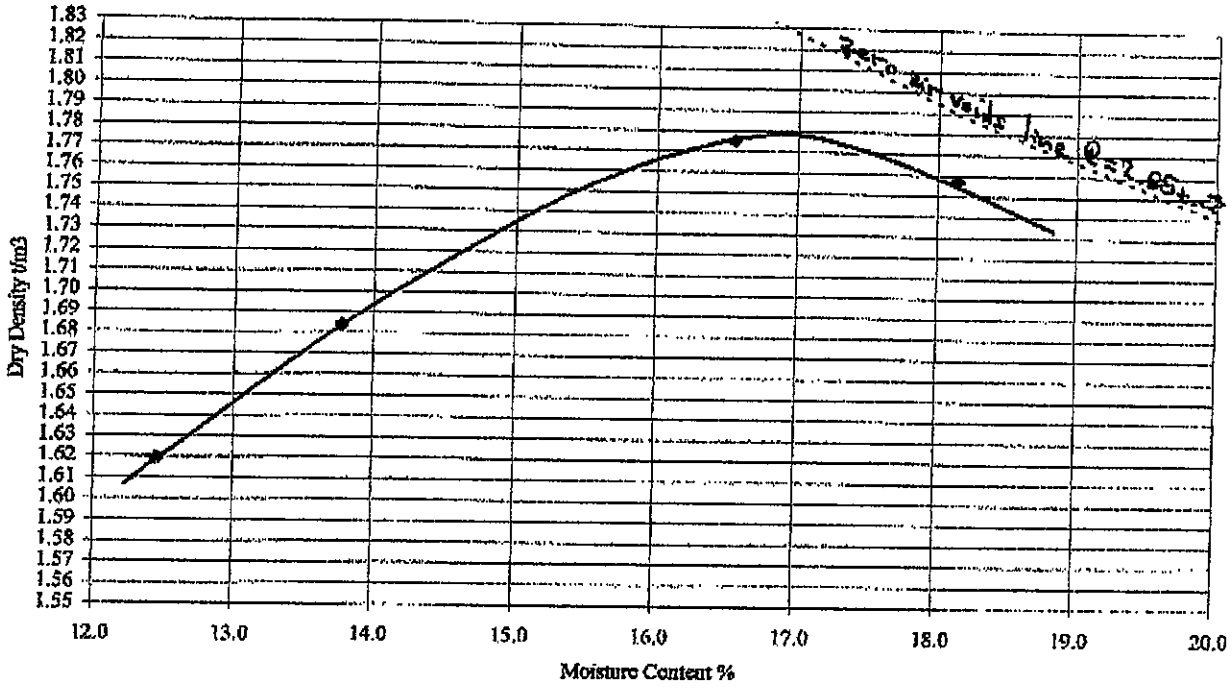
Form C03 excel issue 3 July 2001 CWS

Signed: ..... Name: .....
Title: ..... Date: 27/7/09

AUSTRALIAN SOIL TESTING PTY LTD. A.B.N. 78 003 493 623
24 Bermill Street, Rockdale, NSW, 2216 P.O. Box 2014, Rockdale D.C. NSW 2216
Tel: 9597 5599, 9597 3286 Fax: 9597 3442 Email: austst@bigpond.com

Client: **Aquaterra**
Address: **Suite 9, 1051 Pacific Highway , Pymble NSW 2073**
Project: **Dellara Project , Orchard Hills**

DRY DENSITY / MOISTURE RELATION TEST REPORT



Laboratory Number:	53515	
Sample Source:	Sample 4	
Sample Description:	SILTY CLAY: yellow-brown/mottled grey-red-brown, medium plasticity, trace of fine to coarse gravel, trace of fine to coarse sand.	
Maximum Dry Density:	**1.78**	t/m^3
Optimum Moisture Content:	**17.0**	%
Oversize Material	19.0	mm
% Oversize	8.9	%
Date Tested	16.7.2009	
Sampled by:	Client	
Compactive Effort	Standard	
Test Method	**AS 1289 5.1.1**	
No of layers	3	
Blows per layer	25	
Mass of rammer	2.7	kg
Drop of rammer	300	mm

Comments

Form E04 excel Issue 2 Jan 1997 CWS

Signed: .....
Title: LM
Name: C. Talagel
Date: 27/7/09

AUSTRALIAN SOIL TESTING PTY LTD. A.B.N. 79 003 493 623
24 Bermill Street, Rockdale, NSW, 2216 P.O. Box 2014, Rockdale D.C. NSW 2216
Tel: 9597 5599, 9597 3286 Fax: 9597 3442 Email: austst@bigpond.com

FALLING HEAD PERMEABILITY

CLIENT: **Aquaterra**
Suite 9, 1051 Pacific Highway, Pymble NSW 2073

PROJECT: **Dellara Project, Orchard Hills**

JOB NUMBER:	031-647
LABORATORY NUMBER:	53515
SAMPLE SOURCE:	Sample 4
SAMPLE DESCRIPTION:	SILTY CLAY: yellow-brown/mottled grey-red-brown, medium plasticity, trace of fine to coarse gravel, trace of fine to coarse sand.
DATE TESTED:	21.7.2009
SAMPLED BY:	Client

INITIAL MOISTURE CONTENT (%)	16.9
INITIAL DRY DENSITY (t/m^3)	1.69
MOISTURE CONTENT AFTER TEST (%)	-

COEFFICIENT OF PERMEABILITY (k) **7.3E-10** **(m/sec)**

Being the average of 4 tests with a range of 7.28E-10 to 7.33E-10 (m/sec)

Tested in accordance with AS 1289 6.7.2 2000

Comments:

Specimen Remoulded to 95% of Maximum Dry Density at Optimum Moisture Content.

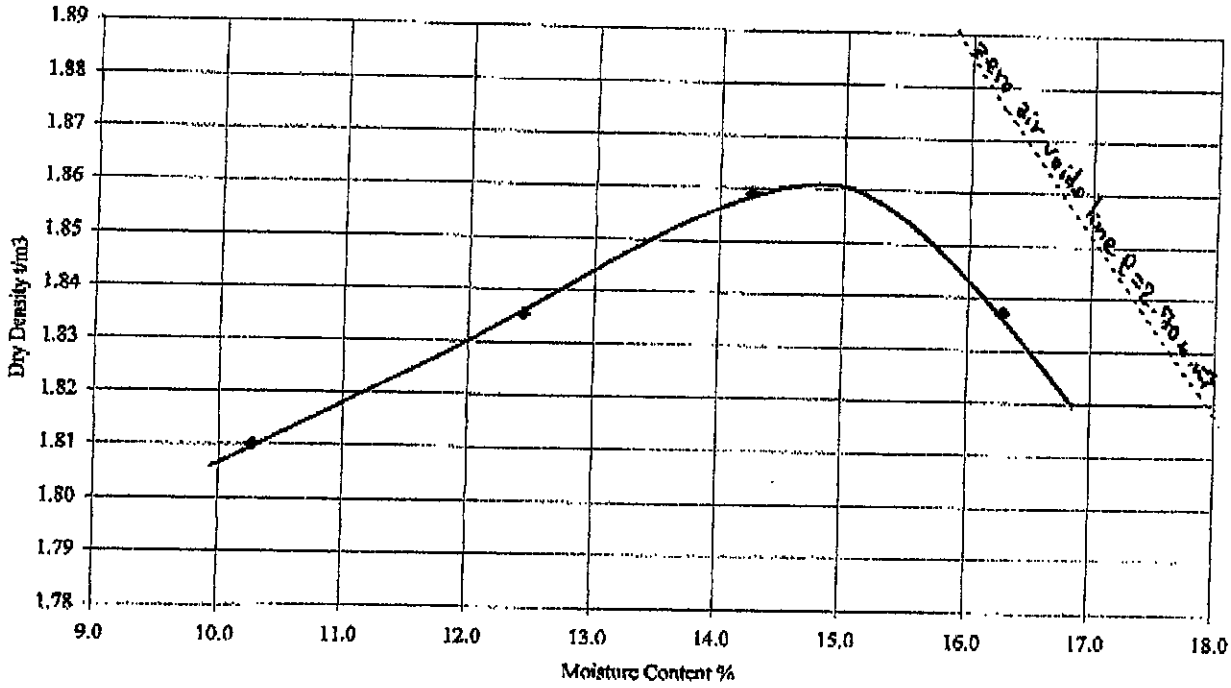
Form C03 excel issue 3 July 2001 CWS

Signed: ..... Name: .....
Title: LM Date: 27/7/09

AUSTRALIAN SOIL TESTING PTY LTD. A.B.N. 79 003 493 623
24 Bermill Street, Rockdale, NSW 2216 P.O. Box 2014, Rockdale D.C. NSW 2216
Tel: 9597 5599, 9597 3286 Fax: 9597 3442 Email: austst@bigpond.com

Client: **Aquaterra**
Address: Suite 9, 1051 Pacific Highway , Pymble NSW 2073
Project: **Dellara Project , Orchard Hills**

DRY DENSITY / MOISTURE RELATION TEST REPORT



Laboratory Number:	53516	
Sample Source:	Sample 5	
Sample Description:	SILTY SANDY CLAY: brown, medium plasticity, fine to coarse sand, with fine to coarse gravel.	
Maximum Dry Density:	**1.86**	t/m^3
Optimum Moisture Content:	**15.0**	%
Oversize Material	19.0	mm
% Oversize	7.6	%
Date Tested	16.7.2009	
Sampled by:	Client	
Compactive Effort	Standard	
Test Method	**AS 1289 5.1.1**	
No of layers	3	
Blows per layer	25	
Mass of rammer	2.7	kg
Drop of rammer	300	mm

Comments

Form E04 excel Issue 2 Jan 1997 CWS

Signed: .....
Title: .....
Name: .....
Date: 27/7/09

AUSTRALIAN SOIL TESTING PTY LTD. A.B.N. 79 003 483 623
24 Bermill Street, Rockdale, NSW, 2216 P.O. Box 2014, Rockdale D.C. NSW 2216
Tel: 9597 5599, 9597 3286 Fax: 9597 3442 Email: austst@bigpond.com

FALLING HEAD PERMEABILITY

CLIENT: **Aquaterra**
Suite 9, 1051 Pacific Highway , Pymble NSW 2073
PROJECT: **Dellara Project , Orchard Hills**

JOB NUMBER:	031-647
LABORATORY NUMBER:	53516
SAMPLE SOURCE:	Sample 5
SAMPLE DESCRIPTION:	SILTY SANDY CLAY: brown, medium plasticity, fine to coarse sand, with fine to coarse gravel.
DATE TESTED:	21.7.2009
SAMPLED BY:	Client

INITIAL MOISTURE CONTENT (%)	15.2
INITIAL DRY DENSITY (t/m^3)	1.77
MOISTURE CONTENT AFTER TEST (%)	-

COEFFICIENT OF PERMEABILITY (k) **7.3E-10** **(m/sec)**

Being the average of 4 tests with a range of 6.95E-10 to 8.36E-10 (m/sec)

Tested in accordance with AS 1289 6.7.2 2000
Comments:

Specimen Remoulded to 95% of Maximum Dry Density at Optimum Moisture Content.

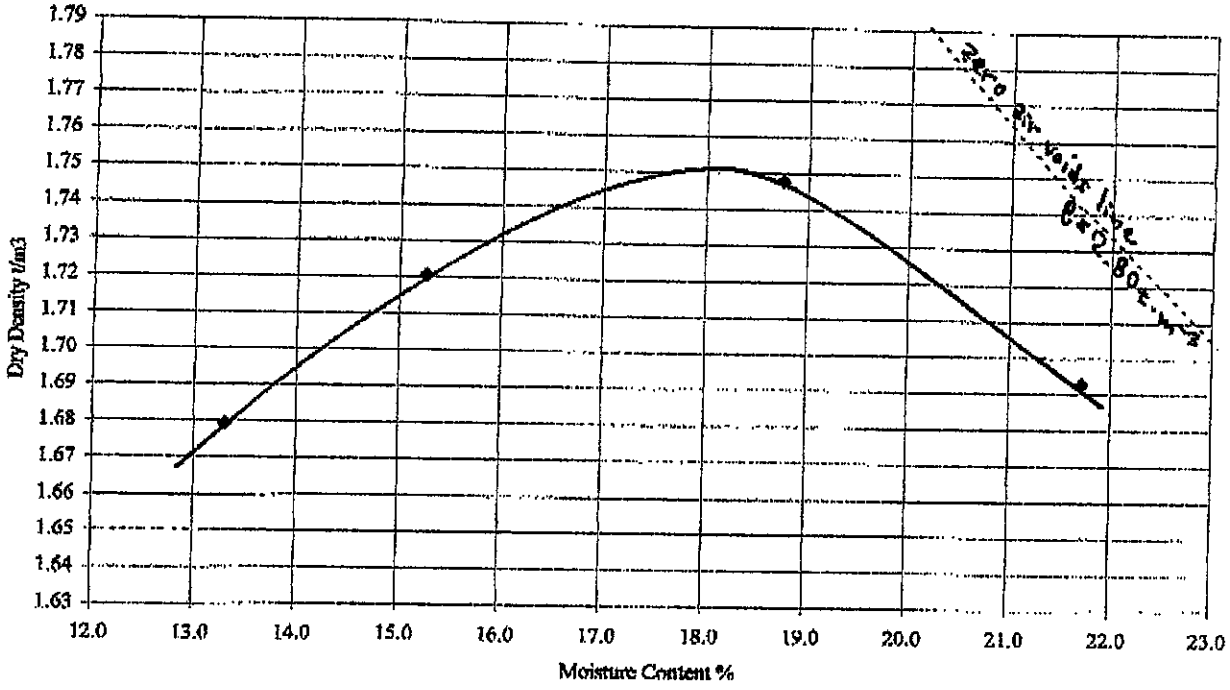
Form C03 excel issue 3 July 2001 CWS

Signed: ..... Name: .....
Title: ..... Date: 29/7/09

AUSTRALIAN SOIL TESTING PTY LTD. A.B.N. 79 003 493 623
24 Bermill Street, Rockdale, NSW, 2216 P.O. Box 2014, Rockdale D.C. NSW 2216
Tel: 9597 5599, 9597 3286 Fax: 9597 3442 Email: austst@bigpond.com

Client: **Aquaterra**
Address: Suite 9, 1051 Pacific Highway , Pymble NSW 2073
Project: **Dellara Project , Orchard Hills**

DRY DENSITY / MOISTURE RELATION TEST REPORT



Laboratory Number:	53517	
Sample Source:	Sample 7	
Sample Description:	SILTY CLAY: grey/red-brown, medium to high plasticity, trace of fine to coarse sand, trace of fine to medium gravel.	
Maximum Dry Density:	**1.75**	t/m^3
Optimum Moisture Content:	**18.0**	%
Oversize Material	19.0	mm
% Oversize	0	%
Date Tested	16.7.2009	
Sampled by:	Client	
Compactive Effort	Standard	
Test Method	**AS 1289 5.1.1**	
No of layers	3	
Blows per layer	25	
Mass of rammer	2.7	kg
Drop of rammer	300	mm

Comments

Form E04 excel Issue 2 Jan 1997 CWS

Signed: .....
Title: .....
Name: C. Lloyd
Date: 24/7/09

AUSTRALIAN SOIL TESTING PTY LTD. A.B.N. 79 003 493 623
24 Bermill Street, Rockdale, NSW 2216 P.O. Box 2014, Rockdale D.C. NSW 2216
Tel: 9597 5599, 9597 8286 Fax: 9597 3442 Email: austst@bigpond.com

FALLING HEAD PERMEABILITY

CLIENT: **Aquaterra**
Suite 9, 1051 Pacific Highway , Pymble NSW 2073
PROJECT: **Dellara Project , Orchard Hills**

JOB NUMBER:	031-647
LABORATORY NUMBER:	53517
SAMPLE SOURCE:	Sample 7
SAMPLE DESCRIPTION:	SILTY CLAY: grey/red-brown, medium to high plasticity, trace of fine to coarse sand, trace of fine to medium gravel.
DATE TESTED:	21.7.2009
SAMPLED BY:	Client

INITIAL MOISTURE CONTENT (%)	18.0
INITIAL DRY DENSITY (t/m^3)	1.66
MOISTURE CONTENT AFTER TEST (%)	-

COEFFICIENT OF PERMEABILITY (k) **4.4E-10** **(m/sec)**

Being the average of 4 tests with a range of 3.78E-10 to 5.06E-10 (m/sec)

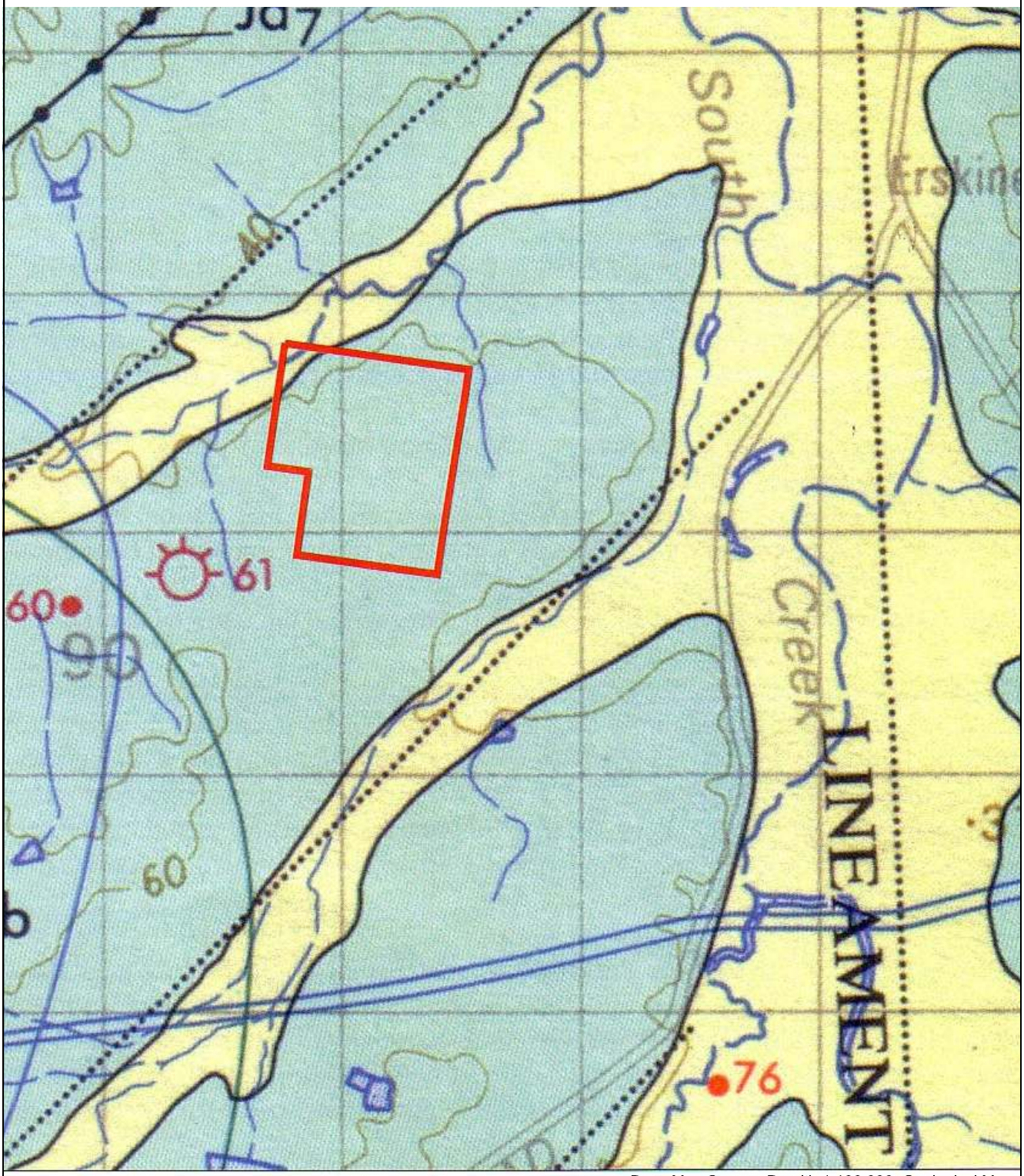
Tested in accordance with AS 1289 6.7.2 2000
Comments:

Specimen Remoulded to 95% of Maximum Dry Density at Optimum Moisture Content.

Form C03 excel issue 3 July 2001 CWS

Signed: ..... Name: C. Lloyd
Title: LM Date: 27/7/09

ANNEXURE 6 REGIONAL GEOLOGY



Base Map Source: Penrith 1:100 000 Geological Map

REFERENCE

Project Site Boundary

Qal — Fine-grained Sand, Silt and Clay

Rwb — Shale, Carbonaceous Claystone, Laminite, Fine to Medium-grained Lithic Sandstone, Rare Coal and Tuff

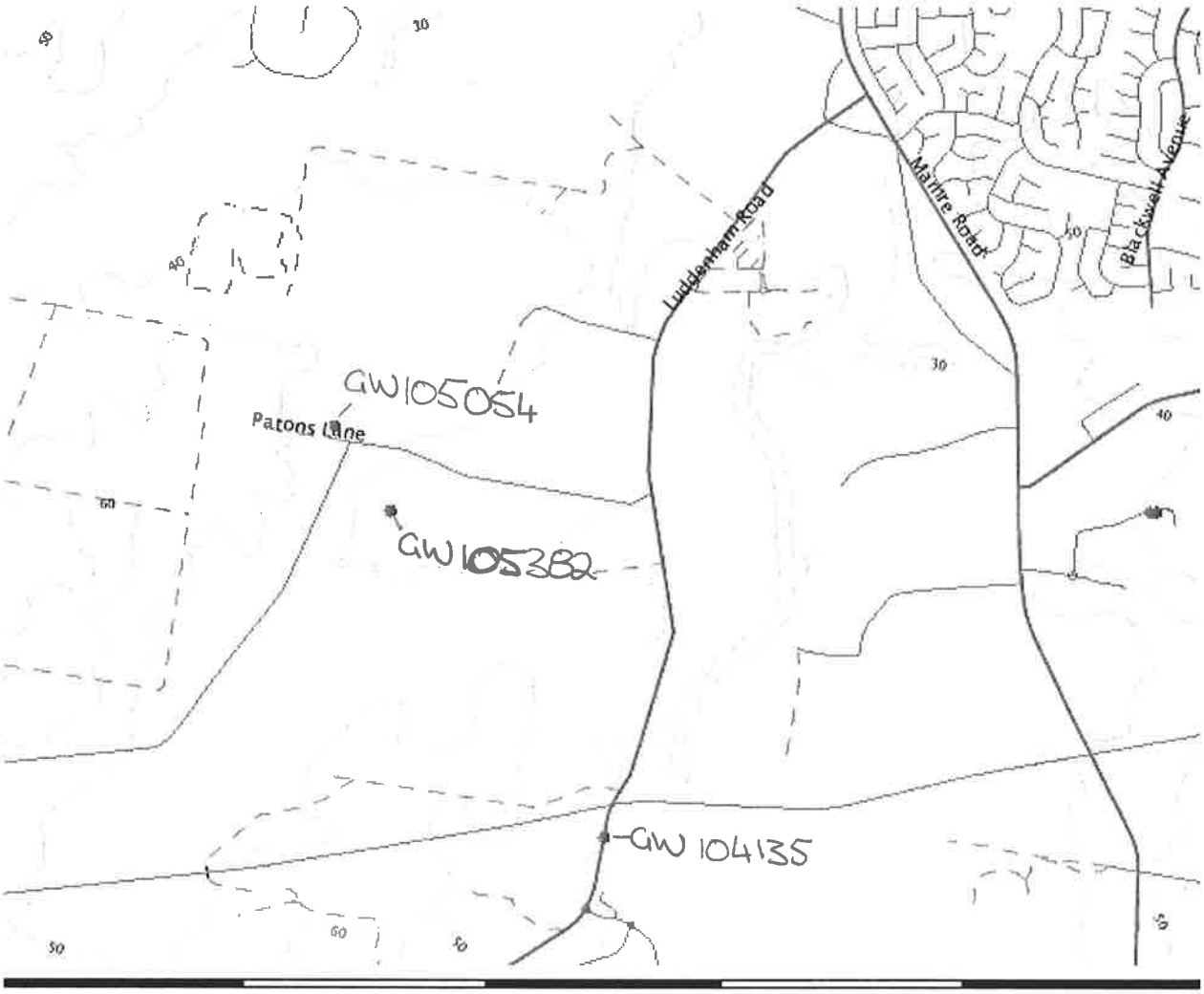
Date: 4 September 2009	Scale: 1:30000	**ORCHARD HILLS WMRF**
Initials: JvdA	Job No: S39	**REGIONAL GEOLOGY**
Drawing No: S39-005	Rev: A	
aquaterra		Annexure 6

ANNEXURE 7 ABSTRACTION BORE CONSTRUCTION AND GEOLOGICAL LOG AND OTHER LICENSED BORES WITHING 3KM OF THE SITE

Orchard Hills Waste Resource and Management Facility

Map created with NSW Natural Resource Atlas - http://www.nratlas.nsw.gov.au

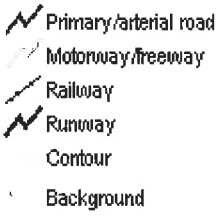
Wednesday, January 28, 2009



0 4 Km

Legend

Symbol	Layer	Custodian
	Cities and large towns renderImage: Cannot build image from features	
	Populated places renderImage: Cannot build image from features	
	Towns	
	Groundwater Bores	
	Catchment Management Authority boundaries	
	Major rivers	
	Topographic base map	



Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Wednesday, January 28, 2009

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW105054

Works Details (top)

GROUNDWATER NUMBER	GW105054
LIC-NUM	10BL161098
AUTHORISED-PURPOSES	INDUSTRIAL
INTENDED-PURPOSES	INDUSTRIAL
WORK-TYPE	Bore
WORK-STATUS	Other
CONSTRUCTION-METHOD	Rotary
OWNER-TYPE	
COMMENCE-DATE	
COMPLETION-DATE	2002-10-02
FINAL-DEPTH (metres)	210.00
DRILLED-DEPTH (metres)	210.00
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	ORCHARD HOLDINGS
GWMA	- BOTANY BAY SAND BEDS
GW-ZONE	- ZONE 7 BLAND CREEK SYSTEM
STANDING-WATER-LEVEL	46.00
SALINITY	3050.00
YIELD	0.50

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	212 - HAWKESBURY RIVER
AREA-DISTRICT	
CMA-MAP	9030-3N
GRID-ZONE	56/1
SCALE	1:25,000
ELEVATION	
ELEVATION-SOURCE	(Unknown)
NORTHING	6256068.00
EASTING	291424.00
LATITUDE	33 48' 54"
LONGITUDE	150 44' 47"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	
REMARK	

Form-A (top)

COUNTY	CUMBERLAND
PARISH	CLAREMONT
PORTION-LOT-DP	LT 40 DP 738126

Licensed (top)

COUNTY	CUMBERLAND
PARISH	CLAREMONT
PORTION-LOT-DP	40 738126

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter; ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	5.50	210			Down Hole Hammer
1		Hole	Hole	5.50	210.00	160			Down Hole Hammer
1	1	Casing	Steel	-0.50	5.50	168.3	158.7		C: -.1-5.5m; Driven into Hole
1	1	Casing	PVC Class 9	-0.50	59.50	140			Screwed and Glued; Suspended in Clamps

Water Bearing Zones (top)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
96.00	101.00	5.00				0.10	102.00	0.25	4360.00
143.00	148.00	5.00				0.90	148.00	0.25	3520.00
190.00	194.00	4.00		46.00		0.50	198.00	0.25	3050.00

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	3.00	3.00	CLAY BROWN		
3.00	33.00	30.00	SHALE GREY		
33.00	46.00	13.00	SHALE HARD		

46.00	47.00	1.00	SHALE GREY SOFT
47.00	92.00	45.00	SHALE HARD
92.00	96.00	4.00	SANDSTONE GREY
96.00	101.00	5.00	SANDSTONE FINE QUARTZ
101.00	116.00	15.00	SANDSTONE GREY
116.00	119.00	3.00	SHALE HARD
119.00	143.00	24.00	SANDSTONE GREY
143.00	148.00	5.00	SANDSTONE QUARTZ
148.00	163.00	15.00	SANDSTONE GREY
163.00	163.50	0.50	SANDSTONE FINE QUARTZ
163.50	190.00	26.50	SANDSTONE GREY
190.00	194.00	4.00	SANDSTONE QUARTZ
194.00	199.00	5.00	SANDSTONE GREY
199.00	200.00	1.00	SANDSTONE FINE QUARTZ
200.00	210.00	10.00	SANDSTONE GREY

Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Wednesday, January 28, 2009

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW105382

Works Details (top)

GROUNDWATER NUMBER	GW105382
LIC-NUM	10BL164195
AUTHORISED-PURPOSES	INDUSTRIAL
INTENDED-PURPOSES	INDUSTRIAL
WORK-TYPE	Bore
WORK-STATUS	
CONSTRUCTION-METHOD	Rotary
OWNER-TYPE	
COMMENCE-DATE	
COMPLETION-DATE	2004-04-19
FINAL-DEPTH (metres)	252.00
DRILLED-DEPTH (metres)	252.00
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	DARLEY AUSTRALIA PTY LTD
GWMA	- BOTANY BAY SAND BEDS
GW-ZONE	- ZONE 7 BLAND CREEK SYSTEM
STANDING-WATER-LEVEL	24.00
SALINITY	2500.00
YIELD	1.10

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6255672.00
EASTING	291651.00
LATITUDE	33 49' 7"
LONGITUDE	150 44' 56"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	
REMARK	

Form-A (top)

COUNTY	CUMBERLAND
PARISH	CLAREMONT
PORTION-LOT-DP	A 962393

Licensed (top)

COUNTY	CUMBERLAND
PARISH	CLAREMONT
PORTION-LOT-DP	1 1099147

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter; ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	90.00	171			Down Hole Hammer
1		Hole	Hole	90.00	252.00	140			Down Hole Hammer
1	1	Casing	Steel	0.30	1.00	168			Riveted and Glued; Driven into Hole
1	1	Casing	PVC Class 9	0.30	90.00	140			Riveted and Glued; Driven into Hole

Water Bearing Zones (top)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
144.00	145.00	1.00			146.00	0.60	146.00	1.00	3760.00
180.00	181.00	1.00			182.00	0.90	243.00	1.00	2760.00
240.00	241.00	1.00		24.00	243.00	1.10	243.00	1.00	2490.00

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	5.00	5.00	CLAY		
5.00	80.00	75.00	SHALE		
80.00	119.00	39.00	SANDSTONE		
119.00	125.00	6.00	SHALE		
125.00	222.00	97.00	SANDSTONE		
222.00	226.00	4.00	SHALE		
226.00	240.00	14.00	SANDSTONE		
240.00	252.00	12.00	SANDSTONE		

Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Wednesday, January 28, 2009

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW104135

Works Details (top)

GROUNDWATER NUMBER	GW104135
LIC-NUM	10BL159234
AUTHORISED-PURPOSES	TEST BORE
INTENDED-PURPOSES	
WORK-TYPE	Bore
WORK-STATUS	(Unknown)
CONSTRUCTION-METHOD	Rotary
OWNER-TYPE	
COMMENCE-DATE	
COMPLETION-DATE	1999-07-17
FINAL-DEPTH (metres)	366.00
DRILLED-DEPTH (metres)	366.00
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	TWIN CREEKS
GWMA	- BOTANY BAY SAND BEDS
GW-ZONE	- ZONE 7 BLAND CREEK SYSTEM
STANDING-WATER-LEVEL	
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6254144.00
EASTING	292536.00
LATITUDE	33 49' 57"
LONGITUDE	150 45' 29"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	
REMARK	

Form-A (top)

COUNTY	CUMBERLAND
PARISH	CLAREMONT
PORTION-LOT-DP	LT 1 DP 227140

Licensed (top)

COUNTY	CUMBERLAND
PARISH	CLAREMONT
PORTION-LOT-DP	1 227140

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	10.00	220			Rotary Air
1		Hole	Hole	10.00	213.00	165			Down Hole Hammer
1	1	Casing	Steel	-0.30	10.00	203	193.4		C: 0-10m; Welded; Seated on Bottom
1	1	Casing	Steel	-0.30	201.00	130	119		C: 0-201m; Welded; Suspended in Clamps

Water Bearing Zones (top)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
231.00	232.00	1.00			235.00	0.60	235.00	0.50	3600.00
248.00	249.00	1.00			250.00	1.20	250.00	0.50	3200.00
260.00	261.00	1.00			262.00	3.00	262.00	1.00	2800.00
315.00	317.00	2.00		12.00		6.00	366.00	4.00	2100.00

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	9.00	9.00	CLAY		
9.00	195.00	186.00	SHALE		

195.00	249.00	54.00	SANDSTONE
249.00	250.00	1.00	SHALE
250.00	280.00	30.00	SANDSTONE
280.00	281.00	1.00	SHALE
281.00	285.00	4.00	SANDSTONE
285.00	295.00	10.00	SHALE
295.00	308.00	13.00	SANDSTONE
308.00	310.00	2.00	SHALE
310.00	322.00	12.00	SANDSTONE
322.00	329.00	7.00	SHALE
329.00	336.00	7.00	SANDSTONE
336.00	345.00	9.00	SHALE
345.00	366.00	21.00	BROWN SHALE

APPENDIX 2 LEACHATE MODEL

APPENDIX 2 CONTENTS

TABLES

FIGURES

ANNEXURE

1. GENERAL

The purpose of this Appendix is as follows.

- Model the volumes of leachate predicted to be generated, collected and disposed of at the Project Site.

Guidance for this work is provided in Section I, point 11 of Attachment A of DECC's letter of 15 April 2009 which is attached to the Director-General's Requirements from the Department of Planning, dated 20 May 2009. Also guidance is provided in the Environmental Guidelines: *Composting and Related Organics Processing Facilities* (2004) and *Solid Waste Landfills* (1996).

2. LEACHATE SOURCES

Leachate is generated by the emplaced waste and by the stockpiling and processing of wood and garden waste at the Recycling and Re-processing Facility. The leachate from these two activities would be managed in two separate water systems in accordance with the requirements of the DECC.

3. LEACHATE GENERATION FROM THE EMPLACEMENT OF WASTE

The sources of leachate from the emplacement of waste and associated activities are:

- Stormwater coming into contact with the emplaced waste before it is covered;
- Stormwater infiltrating through the daily cover, intermediate cover, temporary cap and final rehabilitated surface into the emplaced waste;
- Groundwater infiltrating into the emplaced waste;
- Stormwater falling directly on the leachate evaporation pond; and
- Stormwater coming into contact with waste when the bund walls are being shaped and deconstructed.

DECC suggests using a number of assumptions for calculating leachate generation volumes. All of these assumptions have been adopted, except for the following:

- Rainfall data from the nearest Bureau of Meteorology (BoM) station which has at least 50 years of rainfall data; and
- The percentage rainfall infiltration rates.

The assumptions not adopted are considered to be applicable to landfills which don't actively implement best practice to minimise leachate generation. Best practice leachate minimisation would be implemented at the Orchard Hills Waste and Resource Management Facility.

The generation of leachate would be minimised by:

- Preventing stormwater running onto the active emplacement cell;
- Minimising the uncovered area of the daily emplacement cell;
- Minimising the area of the deconstruction of the bund walls;
- Diverting stormwater off areas of daily cover to the stormwater circuit; and
- Progressively rehabilitating the emplacement cells once they achieve the final elevations.

At the Orchard Hills Facility daily cover would comprise shale and or clay. Daily cover would be placed by the compactor with the finished surface completed with divots from the compactor's sheep foot blades. These divots can hold rainwater increasing infiltration, therefore increasing the potential for leachate generation. It is proposed to compact, grade and roll the surface of the daily cover at the end of each day's emplacement activities. Also during a day's tipping if rainfall is likely then the active tipping face will be reduced to 25 m^2 in area by covering most of it with daily cover, compacting, grading and rolling it.

Run-off from daily cover would be directed to the stormwater system (provided it has not come into contact with uncovered waste or leachate). This would minimise the generation of leachate.

The uncovered daily emplacement area would be bunded when rainfall in likely to ensure leachate does not enter the stormwater system.

Furthermore the capping system and final rehabilitated surface has been designed to minimise rainfall infiltration.

Detailed below are the reasons and supporting information to justify departures from the DECC suggested leachate generation assumptions and the details of the leachate modelling.

3.1 WEATHER DATA

Daily precipitation, daily air temperature, daily solar radiation and mean seasonal relative humidity were obtained from BoM weather station at the Orchard Hills Treatment Works. Data at this site commenced being recorded in 1970. The Orchard Hills station data has been used as it will provide the most representative data due to its proximity to the Site. Although it has 11 years less of direct measurements than the DECC suggested 50 year period, the BoM produces synthetic weather data for a 100 year period by interpolation between nearby weather stations. One hundred years of rainfall data was obtained for the Orchard Hills station and utilised in this work.

Mean rainfall for the Orchard Hills STP is 802 mm/year and the 90th percentile rainfall is 1050.3 mm/year for this location. The 90th percentile wet monthly data was not utilised as it is statistically improbable for twelve (12) 90th percentile months to occur one after another.

Rainfall and climate data were selected for the years:

- 1985 which represents an average rainfall year with an annual rainfall of 847mm; and
- 1990 which represents the 90th percentile wet year with an annual rainfall of 1120 mm.

These data provide greater rainfall than required by the DECC's suggested rainfall assumptions.

Average daily relative humidity ranged from 50-70%.

3.2 JUSTIFICATION FOR INFILTRATION PERCENTAGES

The literature review and studies by Stegmann and Spendlin 1989 suggest that rainfall infiltration is less than 25% of rainfall for cells which have not yet been capped and rehabilitated. Rainfall infiltration through capped and rehabilitated surfaces can vary, but through appropriate design can achieve close to 0%.

Therefore modelling has been undertaken to quantify the percentages of rainfall infiltration through the following proposed cover and cap designs:

- Daily cover; and
- Final capped and rehabilitated surface for the emplacement cells.

No modelling was undertaken on any areas of intermediate cover which is twice the depth as daily cover. The percentage of rainfall infiltration for intermediate cover areas was assumed to be equal to that of daily cover even though it is of twice the depth.

The simulations of infiltration through the daily cover and final capping layers were undertaken using the US EPA's Hydrologic Evaluation of Landfill Performance Model (HELP) V 3.07. The HELP model is an industry standard model for conducting water balance analyses of landfills to determine leachate infiltration rates through caps and liners.

The input data used in the development of the model includes weather (rainfall, solar radiation, and relative humidity and air temperature), soil and design data and uses a number solution techniques that account for the effects of surface storage, runoff, infiltration, evapotranspiration, vegetative growth, soil moisture storage, lateral subsurface drainage, unsaturated vertical drainage, groundwater inflow and infiltration through barrier soils.

3.2.1 Model / Rainfall Infiltration - Daily cover

Daily cover and model design

The daily cover will comprise shale or clay (or equivalent) placed over the emplaced waste and is detailed in **Table 1.** It will be applied in a layer of 150 mm, in accordance with DECC requirements (*Environmental Guidelines: Solid Waste Landfills*, 2006).

The HELP model was constructed to represent the daily cover layer over the waste. Daily rainfall, temperature and solar radiation obtained for the Orchard Hills STP were input into HELP, with the rainfall data representing mean and 90th percentile rainfall for years 1985 and 1990, respectively.

This model was designed to simulate infiltration through the daily cover assuming bare ground conditions, as will occur in practice.

Model Layers

The daily cover used in the simulation comprised of one layer which overlays the emplaced waste as detailed in **Table 1**.

Table 1: Daily Cover

Layer	Material	Thickness (m)	Infiltration
1	Shale or Clay	0.15 K = 2 x 10^{-8} m/s	Vertical

Results

The model output files are included in **Annexure 1**. The results of the modelling conclude the following:

- Total rainfall infiltration through the daily cover during an average rainfall year is 23.6 %.
- Total rainfall infiltration through the daily cover during a 90 percentile rainfall year is 19.4%.

The percentage of rainfall which infiltrates through the daily cover was lower during the 90 percentile rainfall year (1990) than for the average rainfall year (1985). Although annual rainfall was higher during the 90th percentile rainfall year, the number of rainfall days was lower (93 days) in comparison to the average rainfall year (117 days). Therefore rainfall intensity during the 90th percentile rainfall year was somewhat higher, resulting in greater runoff and hence a lower percentage of infiltration.

3.2.2 Cells 1, 2, 3 and Final Cell

Cap and model design

The final cap and rehabilitated surface over the emplacement cells is detailed in **Table 2** and **Table 3** and depicted in **Figure 12** (**Appendix 5**). It is essentially a 4 layer cap with a 1 m thick revegetation layer as the top layer. Also placed within the revegetation layer at 100m centres will be a gas distribution layer.

The revegetation layer acts in effect like a sponge and holds the infiltrating rainfall and when it stops raining the plants (pasture) evapotranspire the moisture back into the atmosphere, thereby preventing moisture infiltrating into the underlying waste.

The gas distribution layer will be set up so that gas generated from the emplaced waste can be throttled into it to utilise the ability of the naturally occurring bacteria in the soil to biologically oxidise the methane, converting it to carbon dioxide which has 21 times less greenhouse impact. See www.environment.nsw.gov.au/resources/warr/2007369Biofilters.pdf and *Passive Drainage and Biofiltration of Landfill Gas using Recycled Materials*, DEC 2006.

A layer of 200 mm of shale will be placed over the clay sealing layer and its purpose is to ensure that the clay does not desiccate.

The modelled cap does not include the planned gas collection layer beneath the seal bearing layer (basal shale), as depicted in **Figure 12** (**Appendix 5**). This gas collection layers will have no impact on rainfall infiltration through the cap as it is beneath the cap. This variation was done to simplify the model.

The HELP model was constructed to represent the final cap and rehabilitated surface and two runs were conducted to represent the areas with and without the gas distribution layer.

Rainfall infiltrating through the final cap and rehabilitated surface was calculated using daily rainfall for the average year (1985), temperature and solar radiation for the Orchard Hills STP. This is in accordance with the DECC's recommended assumptions.

The vegetation layer was modelled as a mature pasture with a leaf area index of 3.0. Leaf area index ranges between 0 for bare ground to 5 for an excellent stand of grass.

Model Layers

As discussed above the final cap and vegetation layer consists of four layers made up of various materials which overlay the waste material. These layers form the modelled units (**Tables 2 and 3**).

Table 2: Final Cap and Revegetation Surface

Layer	Material	Thickness (m)	Infiltration
1	Top soil + Subsoil	1.0	Vertical
2	Shale	0.2	Vertical
3	Clay	0.3	Barrier K_{sat} = 1.2 x 10^{-8} m/s
4	Shale Seal Bearing Layer	0.1	Vertical

Table 3: Final Cap and Revegetation Surface with Intermittent Gas Distribution Layer

Layer	Material	Thickness (m)	Infiltration
1	Top soil + Subsoil	0.5	Vertical
2	Gas Distribution (C&D waste derived)	0.1	Vertical
3	Subsoil	0.4	Vertical
4	Shale	0.2	Vertical
5	Clay	0.3	Barrier K_{sat} = 1.2 x 10^{-8} m/s
6	Shale	0.1	Vertical

Results

The results of the modelling conclude that no more than 0.00243% of rainfall will infiltrate through the final rehabilitated surface and generate leachate. It is predicted that no more than 0.03205% of rainfall will infiltrate through those areas which have the gas distribution layer within the topsoil layer. The gas distribution layer will cover an area of 4700 m^2 and the final rehabilitated surface area is 395,000 m^2. Therefore by proportioning the two infiltration rates the result is an overall infiltration through the final cap and rehabilitated surface of 0.003%. The complete HELP output files are included in **Annexure 1**.

The reason for the negligible infiltration rate through the cap is due to the 1.0 m thick revegetation layer which is acting as a giant sponge. It stores infiltration after it rains and the plants then evapotranspire the moisture back into the atmosphere thereby preventing the generation of leachate.

However a rainfall infiltration rate of 0.25% has been assumed for the final cap and rehabilitated surface which is more than 80 times greater than the predicted rainfall infiltration rate.

Note that grasses planted in the top soil would be selected which have a root zone which extend to 1 m in depth.

3.3 GROUNDWATER INFLOW

Groundwater levels in the shale are above the base of cells 1, 2 and 3. Provided the level of leachate is maintained below the surrounding groundwater level, groundwater will continue to seep into the cells through the outer perimeter walls and through the base of the cells.

This inward flow of groundwater would thereby prevent the outward flow of leachate from the cells at the level below the shale groundwater table.

Groundwater inflow – Walls and Floor

The inflow of groundwater through the walls is estimated using the Dupuit method.

The Dupuit method for calculating horizontal seepage through a vertical face is:

$Q = k_{Hor} (H_1^2 - H_2^2)/2L$

Where K_{Hor} is the horizontal hydraulic conductivity (permeability) of the cell's outer walls, H_1 is the level of groundwater at a distance L from the void, H_2 is the level of water in the void (base). Q is the flow rate per metre length of wall.

H_2 is assumed as zero and this will maximise the groundwater inflow (to provide an upper estimate of inflow volumes) and H_1 is the height of groundwater around the void.

The inflow of groundwater through the floor of the cells is calculated using Darcy's Law:

$Q = k_{Vert}$ iA

Where i = change in head over length and is equal to 1 for a vertical gradient and k_{Vert} is the vertical hydraulic conductivity (permeability) of the cell's floor and A is the floor's area. The vertical permeability is typically 1-3 orders of magnitude below that of the horizontal hydraulic conductivity in layered rock environments, as is the case at Orchard Hills.

The groundwater inflows for each cell have been calculated (assuming all cells extend to the proposed maximum depth) using the above methods and are presented in **Table 4**. The groundwater inflows are expected to be conservative estimates due the discontinuous nature of the shale groundwater flow paths.

Table 4: Groundwater Inflows

Cell	Q Total Inflow m^3/month	K_{Hor} m/s	H_1 m	L m	Wall Length m	K_{Vert} m/s	I Dimentionless
1a	11	10^{-8}	6	70	325	10^{-10}	1
1b	10	10^{-8}	7	70	120	10^{-10}	1
1c	24	10^{-8}	10	70	470	10^{-10}	1
2a	19	10^{-8}	10	70	200	10^{-10}	1
2b	27	10^{-8}	14	70	430	10^{-10}	1
3a	37	10^{-8}	14	70	500	10^{-10}	1
3b	16	10^{-8}	16	70	150	10^{-10}	1
3c	19	10^{-8}	15	70	205	10^{-10}	1

Note: The properties have been selected based on site data and experience

When the cells are prepared they should be inspected and measurements taken to ensure that the groundwater inflow is less than that predicted above. If the groundwater inflow is found to be greater than the modelled inflow works should be implemented to reduce the inflow to no greater than the modelled volumes, for example, by installing a barrier liner over the inflow areas.

3.4 BUND WALL DECONSTRUCTION

The bund wall shaping and partial deconstruction sequence is outlined in **Table 5**. The bund walls adjacent cells 1a, 1b, 2a, 2b, 3a and between cell 1c and the Final cell will be shaped and incorporated into the final landform. The bund walls adjacent to all other cells will be partially deconstructed with the VENM left in situ and its outer surface shaped to blend with the final landform.

During the shaping or partial deconstruction of the bunds waste would be exposed from time to time. The bunds on the northern and western side of Cell 1 have been in place for over 25 years (and contain no asbestos material). The remaining bunds have been in place for about 4 to 6 years. Investigations undertaken by Douglas Partners 2009 conclude that the waste is classified as General Solid (non-putrescible) with some asbestos identified. It is possible during the bund shaping or partial deconstruction that rainfall coming into contact with the exposed waste could contaminate stormwater at concentrations above the ANZECC 2000 95^{th} percentile values for fresh water. Should this be the case this water would be managed in the same manner as leachate.

During the bund shaping or partial deconstruction process the exposed waste would be bunded to contain the run-off water from rainfall.

Erring on the side of caution all of the rainfall coming into contact with the exposed surfaces during the shaping or deconstruction of the bunds has been considered as a contributing source of leachate in the leachate model.

In practice it is expected that a significant quantity of run-off from the bunds will not have come into contact with waste (other than VENM) and even if it has come into contact with waste (eg bricks and concrete) it will be of a suitable quality to be released to the stormwater system (subject to testing).

At any point in time no more than 5000 m^2 of waste will be exposed during the bund shaping/partial deconstruction process. For the purpose of estimating leachate generation volumes, 90% of average monthly rainfall coming into contact with the exposed waste was assumed to become leachate which is expected to overestimate leachate volumes as absorption and evaporation have not been considered.

Table 5: Bund Shaping and Partial Deconstruction Sequence

Cell	Bund	Shaping / Deconstruction Period (months)
Recycling & Reprocessing Area	Eastern	2
1a	Northwestern	1
1b	Northwestern	1
1c	Southwestern	3
2a	Northeastern	0.5
2b	Northeastern & Eastern	1
3a	Eastern	3
3b	-	-
3c	-	-
Final	Southwestern & Southern	6

4. LEACHATE MODELLING

Leachate modelling was undertaken to estimate the volume of leachate likely to be generated at the Project Site and to determine leachate storage and disposal requirements.

The model was constructed to represent the sequential filling, capping and rehabilitation of cells as follows:

- Waste emplacement will commence in cell 1a and when the emplaced waste height reaches the finished levels it will be capped and revegetated;
- Waste emplacement will commence in cell 1b and when the emplaced waste height reaches the finished levels it will be capped and revegetated;
- Waste emplacement will commence in cell 1c and when the emplaced waste height reaches the finished levels it will be capped and revegetated;
- Waste emplacement will commence in cell 2a and when the emplaced waste height reaches the finished levels it will be capped and revegetated;
- Waste emplacement will commence in cell 2b and when the emplaced waste height reaches the finished levels it will be capped and revegetated;
- Waste emplacement will commence in cell 3a and when the emplaced waste height reaches the finished levels it will be capped and revegetated;
- Waste emplacement will commence in cell 3b and when the emplaced waste height reaches the finished levels it will be capped and revegetated;
- Waste emplacement will commence in cell 3c and when the emplaced waste height reaches the finished levels it will be capped and revegetated; and
- Waste emplacement will recommence in the Final cell and when the emplaced waste height reaches the finished levels it will be capped and revegetated.

The model was prepared using the assumptions recommended by DECC, with necessary variations justified above.

Mathematically the model is:

Leachate storage = Leachate generation from rainfall infiltration into the emplaced waste + leachate generated from the bund wall shaping/deconstruction + groundwater inflow + rainfall into the leachate evaporation pond – absorptive capacity of the waste – evaporation from the leachate pond.

Where:

- Leachate generation from rainfall infiltration into the emplaced waste = Monthly rainfall x cell area x infiltration percentage + (during cell filling) active emplacement face area (25 m^2) x monthly rainfall x infiltration percentage;
- Leachate generated from bund wall shaping/deconstruction = 0.9 x monthly rainfall x area;
- Groundwater Inflow – see information in **Table 4**;
- Absorptive capacity of the waste = 0.03 m^3/t x monthly waste emplacement rate; and
- Evaporation from leachate pond = 0.7 x (monthly evaporation – monthly rainfall) x area of the pond.

The site does not have access to sewer and leachate disposal would be via evaporation from the leachate pond.

Leachate would be automatically pumped out of the cells and transferred to the leachate evaporation pond if the height of leachate exceeded 0.3 m on the base of any of the cells.

The model was constructed in MS Excel, used a monthly time step and was run for 50 years after the Facility commenced operations. The model's parameters are detailed in **Table 6**.

Table 6: Leachate Generation and Disposal Model Parameters

Model Component	Parameter
1a Cell	Capacity = 535,000 t
1b Cell	Capacity = 602,000 t
1c Cell	Capacity = 986,000 t
2a Cell	Capacity = 860,000 t
2b Cell	Capacity = 860,000 t
3a Cell	Capacity = 688,000 t
3b Cell	Capacity = 458,000 t
3c Cell	Capacity = 526,000 t
Final Cell	Capacity = 486,000 t
Weather Data	Weather data was derived from Orchard Hills STP. The 90th percentile monthly rainfall (1990) was run for the 1st year's operation of each cell and thereafter average monthly rainfall was applied.
Rainfall Infiltration	The percentage infiltration of monthly rainfall for daily cover (20% 90th wet year, or 24% for av. year), final cap and rehabilitated surface (0.25%) and the bund shaping/deconstruction (90% av. year).
Waste Emplacement Rate	Average annual rate of 200,000 tpa assuming a density of 0.0.85.
Active Emplacement Face	The active emplacement face's area is 418 m^2 and during rainfall this will be reduced to 25 m^2. Infiltration into the active face is assumed to be 90% of rainfall in accordance with DECC's recommended assumption.
Groundwater Inflow	See information above with a maximum inflow of 163 m^3/month when cell 3c is operational.
Bund Shaping/Deconstruction	See information above
Absorptive Capacity of Waste	Applied DECC recommended assumption of 0.03 kL/tonne
Evaporation from leachate pond and active tipping face	Assumed pond (Initial & Final) area of 7000 m^2 and applied DECC recommended assumptions eg 70% of pan evaporation

A copy of the Excel spreadsheet is contained in **Annexure 2**.

4.1 RESULTS AND CONCLUSIONS

The model is a conservative estimate (i.e. overestimate) of leachate generation volumes for the following reasons:

- It is has considered eleven 90th percentile rainfall years occurring in a 30 year period. This is improbable as only three are statistically expected;
- All run-off from the exposed waste during the shaping or deconstruction of the bunds has been included as a contribution in the leachate model, however it is possible that a lot of this water will be clean and suitable for including in the stormwater system;
- It assumed approximately 0.5% greater rainfall infiltration through the daily cover than predicted by HELP for both the average and 90th percentile wet rainfall years; and
- It assumes more than 80 times greater rainfall infiltration for the final cap and rehabilitation surface than the HELP modelled quantity.

The results of the leachate prediction modelling are presented in **Figure 1**. The following can be deduced from this figure:

- The predicted maximum leachate storage requirement is just under 12 ML (plus a 0.5m freeboard);
- At the end of 30 years when all the cells are capped and rehabilitated the leachate generation volumes are predicted to be relatively small (2.74 ML/year including groundwater inflow); and
- By the end of year 30 the evaporative loss from the leachate evaporation pond are greater than the volume of leachate which is generated, hence why the leachate storage volume trends to zero.

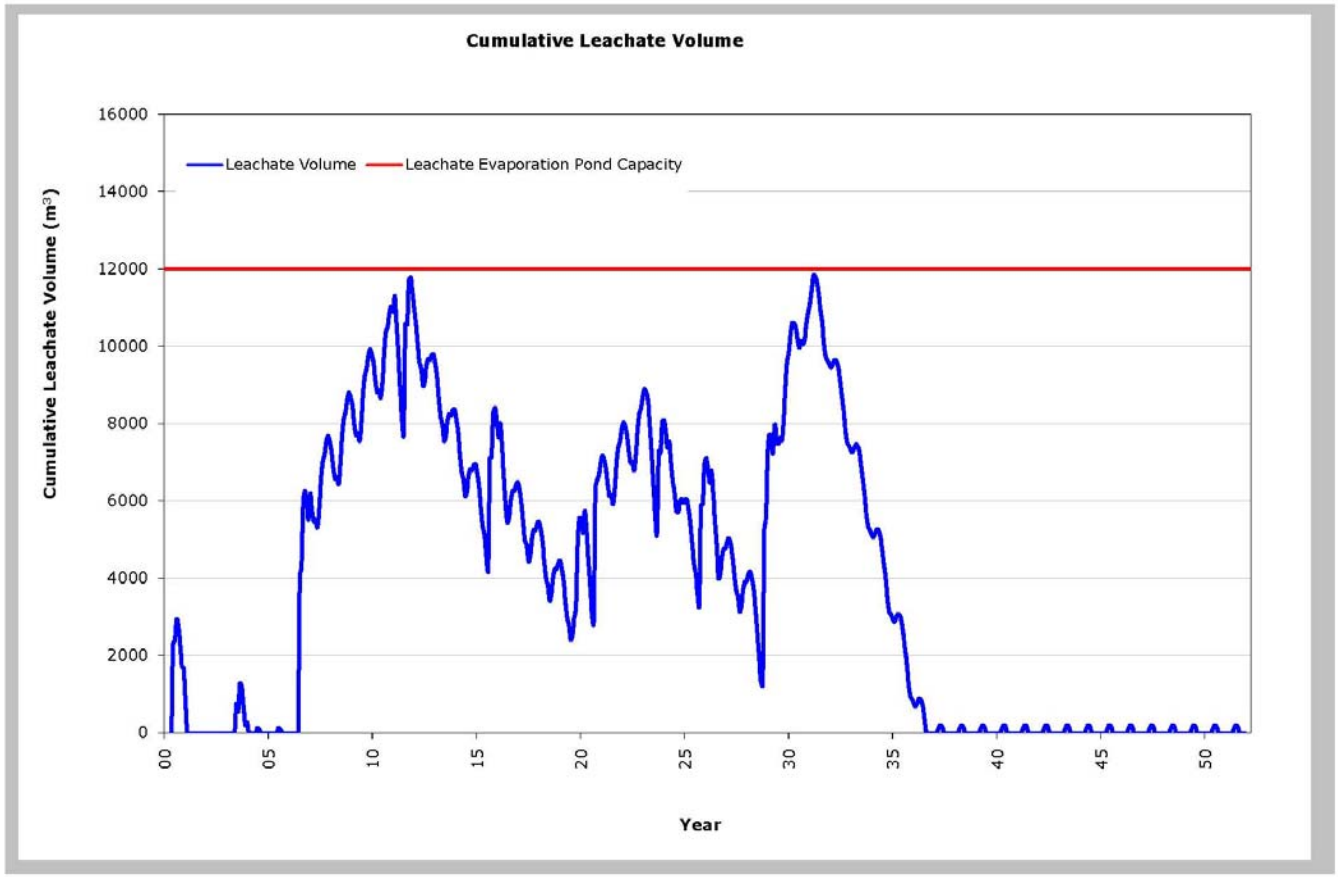
It is predicted that the leachate evaporation pond's capacity (12 ML plus a 0.5 m freeboard) would not be exceeded at any time during the operational and post closure period for the Site. Nevertheless monitoring data should be continuously gathered to measure the actual volumes of leachate generation versus the model predictions. As the modelling is believed to be a conservative estimate of leachate generation and disposal rates it is sensible to assess the site data. This would be done to continuously be able to demonstrate that the model predictions are a conservative estimate of leachate storage requirements.

A further safeguard to prevent the leachate evaporation pond from overtopping is in the form of the automated leachate transfer system. This system would be configured such that a high-level switch on the leachate evaporation pond if triggered would prevent leachate being pumped from the cells into the pond. The leachate would be temporarily stored in the cells until the leachate evaporation pond's capacity is amplified.

It is important to note that there will be periods when leachate will need to be reinjected back into the waste to utilise the waste's ability to act as a sponge. Details of leachate reinjection are described in **Section 4.4.5** of the main body of this Report.

Occasional monitoring would be undertaken to confirm that the daily cover permeability (less than 2 x 10^{-8} m/s) can be maintained for up to 30 days, before intermediate cover or further waste would be applied over it. This is possible as unconsolidated clays typically exhibit such permeabilities (Fetter 2001) and compacted and rolled site shales are also expected to achieve the permeability.

Figure 1: Cumulative Leachate Volume in Evaporation Pond



aquaterra

Cumulative Leachate Volume FIGURE 1

5. RUN-OFF GENERATION FROM THE WOOD/GARDEN WASTE STOCKPILES

The DECC's *Environmental Guidelines: Composting and Related Organics Processing Facilities* (2004) require the management of stormwater run-off from wood and garden waste stockpiles (pre and post processing), rather than discharged directly into the environment. Specifically the Guidelines state:

- The wood/garden waste stockpile area needs to be lined;
- Liquids collected from the wood/garden waste stockpile if stored in a dam, then the dam needs to be lined;
- The dam needs to be sized to contain leachate without overflowing for up to a 1:10 year ARI storm event of 24 hours duration.

Each of these specific requirements is addressed below.

5.1 STOCKPILE AREA LINER

The Guidelines require the wood/garden waste stockpile area to be lined with at least 600 mm of clay with a permeability of less than 10^{-7} m/s.

The surface upon which the Recycling Facility will be placed is within the unfilled footprint of the Final Cell. This surface consists of natural clays and shales which will be tested to confirm that it has an insitu permeability of less than 10^{-7} m/s. This natural liner would exceed the stockpile area liner requirement in the Guidelines.

5.2 DAM LINER

The Guidelines require a compacted clay liner of at least 900mm thick and a permeability less than 10^{-9} m/s.

The final stormwater leachate dam servicing wood/garden waste stockpiles is depicted in **Figure 2** (**Appendix 5**). An initial stormwater leachate dam will be placed in Cell 3 with the same specifications as that of the final dam.

The dam should be either lined with 40 cm of clay with a permeability of less than 7.3×10^{-10} m/s (or with another material of the same hydraulic performance). The hydraulic performance of this liner would exceed the dam liner requirements in the Guidelines.

To prevent the clay from becoming desiccated it should be covered with at least 500mm of rolled shale.

5.3 RUNOFF DAM'S SIZE

The Guidelines state:

- *The facility should be designed to contain one or more catch basins capable of collecting all surface water generated from the design of a 1-in-10 year, 24-hour-period storm event without overflowing.*

The stormwater runoff dam servicing the wood/garden waste stockpiles has been sized so that it might contain runoff generated from a 1:10 year ARI storm event of 24 hours duration. The dam has also been sized to include the mean monthly runoff volume, as determined from the Orchard Hills STP weather station. This is to ensure that if the design storm occurs when the dam is containing the mean monthly run-off volume, there will be no discharge of runoff from the wood/garden waste stockpiles to the stormwater system.

The model was constructed in MS Excel and the results are contained in **Annexure 3**.

The dam will have a surface area of 2000 m^2 and a depth of 0.95 m to service a wood/garden waste stockpile area of 4000 m^2. The detail on the transfer of runoff from the wood/garden waste stockpiles to the dam servicing them is outlined in the Environmental Assessment.

6. REFERENCES

ANZECC 2000. *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*. Australian and New Zealand Environment and Conservation Council, October 2000.

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Stegmann, R., and Spendlin, H. H. 1989. *Enhancement of Degradation: German Experiences. Sanitary Landfilling: Process, Technology and Environmental Impact*, T. H. Christensen, R. Cossu, and R. Stegmann, eds., Academic Press, London.

ANNEXURE 1 HELP OUTPUT FILES

Daily Cover: Average Yearly Rainfall (1985)

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**********************************************************************

 **          HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE          **
 **            HELP MODEL VERSION 3.07  (1 NOVEMBER 1997)           **
 **              DEVELOPED BY ENVIRONMENTAL LABORATORY              **
 **                USAE WATERWAYS EXPERIMENT STATION                **
 **          FOR USEPA RISK REDUCTION ENGINEERING LABORATORY         **

**********************************************************************

 PRECIPITATION DATA FILE:    F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DATA4.D4
 TEMPERATURE DATA FILE:      F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DATA7.D7
 SOLAR RADIATION DATA FILE:  F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DATA13.D13
 EVAPOTRANSPIRATION DATA:    F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DATA11.D11
 SOIL AND DESIGN DATA FILE:  F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DA10.D10
 OUTPUT DATA FILE:          F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\OUT4.OUT

 TIME:  14:12     DATE:   8/18/2009

**********************************************************************

    TITLE:  Orchard Hills Waste & Resource Mgt Facility (Daily Cover)

**********************************************************************

    NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER WERE
           COMPUTED AS NEARLY STEADY-STATE VALUES BY THE PROGRAM.


                        LAYER  1
                        --------

              TYPE 1 - VERTICAL PERCOLATION LAYER
                 MATERIAL TEXTURE NUMBER  26
       THICKNESS                =     15.00   CM
       POROSITY                 =     0.4450 VOL/VOL
       FIELD CAPACITY           =     0.3930 VOL/VOL
       WILTING POINT            =     0.2770 VOL/VOL
       INITIAL SOIL WATER CONTENT  =     0.3636 VOL/VOL
       EFFECTIVE SAT. HYD. COND.   =  0.190000003000E-05 CM/SEC


            GENERAL DESIGN AND EVAPORATIVE ZONE DATA
            ---------------------------------------

      NOTE:  SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT
             SOIL DATA BASE USING SOIL TEXTURE #26 WITH BARE
             GROUND CONDITIONS, A SURFACE SLOPE OF  1.% AND
             A SLOPE LENGTH OF  100. METERS.

     SCS RUNOFF CURVE NUMBER           =     96.70
     FRACTION OF AREA ALLOWING RUNOFF    =    100.0    PERCENT
     AREA PROJECTED ON HORIZONTAL PLANE  =      5.0000 HECTARES
     EVAPORATIVE ZONE DEPTH            =      3.8    CM
     INITIAL WATER IN EVAPORATIVE ZONE   =      1.056  CM
     UPPER LIMIT OF EVAPORATIVE STORAGE  =      1.695  CM
     LOWER LIMIT OF EVAPORATIVE STORAGE  =      1.055  CM
     INITIAL SNOW WATER                =      0.000  CM
     INITIAL WATER IN LAYER MATERIALS    =      5.454  CM
     TOTAL INITIAL WATER               =      5.454  CM
     TOTAL SUBSURFACE INFLOW           =      0.00   MM/YR
```

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
Orchard Hills nsw

STATION LATITUDE = -33.80 DEGREES
MAXIMUM LEAF AREA INDEX = 0.00
START OF GROWING SEASON (JULIAN DATE) = 1
END OF GROWING SEASON (JULIAN DATE) = 1
EVAPORATIVE ZONE DEPTH = 1.5 INCHES
AVERAGE ANNUAL WIND SPEED = 7.50 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY = 70.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY = 50.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY = 50.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY = 70.00 %

NOTE: PRECIPITATION DATA FOR Orchard Hills
WAS ENTERED BY THE USER.

NOTE: TEMPERATURE DATA FOR orchard hills nsw
WAS ENTERED BY THE USER.

NOTE: SOLAR RADIATION DATA FOR orchard hills nsw
WAS ENTERED BY THE USER.

LEAK #1: PERCOLATION OR LEAKAGE THROUGH LAYER 1

****

DAILY OUTPUT FOR YEAR 1

DAY	SNOW I R	ICE I L	RAIN MM	RUNOFF MM	ET MM	E. ZONE WATER CM/CM	HEAD #1 CM	DRAIN #1 MM	LEAK #1 MM
1			1.5	0.00	0.28	0.3099	0.0000	.0000E+00	.0000E+00
2			0.0	0.00	0.29	0.3022	0.0000	.0000E+00	.0000E+00
3			2.3	0.00	0.42	0.3512	0.0000	.0000E+00	.0000E+00
4			0.0	0.00	0.37	0.3414	0.0000	.0000E+00	.0000E+00
5			0.0	0.00	0.38	0.3314	0.0000	.0000E+00	.0000E+00
6			0.0	0.00	0.37	0.3217	0.0000	.0000E+00	.0000E+00
7			0.0	0.00	0.36	0.3122	0.0000	.0000E+00	.0000E+00
8			0.0	0.00	0.35	0.3029	0.0000	.0000E+00	.0000E+00
9			0.0	0.00	0.34	0.2939	0.0000	.0000E+00	.0000E+00
10			0.0	0.00	0.34	0.2850	0.0000	.0000E+00	.0000E+00
11			0.0	0.00	0.26	0.2781	0.0000	.0000E+00	.0000E+00
12			0.0	0.00	0.04	0.2770	0.0000	.0000E+00	.0000E+00
13			0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
14			0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
15			0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
16			0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
17			0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
18			0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
19			0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
20			0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00

21	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
22	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
23	3.8	0.00	0.28	0.3695	0.0000	.0000E+00	.0000E+00
24	0.0	0.00	0.25	0.3630	0.0000	.0000E+00	.0000E+00
25	1.3	0.00	0.27	0.3892	0.0000	.0000E+00	.0000E+00
26	0.0	0.00	0.27	0.3823	0.0000	.0000E+00	.0000E+00
27	0.0	0.00	0.26	0.3747	0.0000	.0000E+00	.5532E-01
28	0.0	0.00	0.26	0.3676	0.0000	.0000E+00	.3003E-01
29	2.3	0.00	0.27	0.4136	0.0000	.0000E+00	.0000E+00
30	0.0	0.00	0.25	0.3852	0.0000	.0000E+00	.1306
31	0.0	0.00	0.25	0.3747	0.0000	.0000E+00	.1526
32	0.0	0.00	0.25	0.3682	0.0000	.0000E+00	.2578
33	0.0	0.00	0.24	0.3618	0.0000	.0000E+00	.2259
34	0.0	0.00	0.24	0.3555	0.0000	.0000E+00	.2008
35	0.0	0.00	0.24	0.3492	0.0000	.0000E+00	.1807
36	0.0	0.00	0.24	0.3430	0.0000	.0000E+00	.4850E-01
37	0.0	0.00	0.23	0.3368	0.0000	.0000E+00	.0000E+00
38	0.0	0.00	0.23	0.3307	0.0000	.0000E+00	.0000E+00
39	12.2	2.33	0.25	0.4441	0.0000	.0000E+00	.5938
40	7.9	3.42	0.25	0.4069	0.0000	.0000E+00	4.920
41	0.0	0.00	4.49	0.2875	0.0000	.0000E+00	1.793
42	0.0	0.00	0.21	0.2819	0.0000	.0000E+00	.9317
43	0.0	0.00	0.15	0.2770	0.0000	.0000E+00	.6084
44	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.4780
45	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.3802
46	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.3153
47	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2690
48	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2345
49	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2076
50	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1862
51	9.9	1.16	0.23	0.3800	0.0000	.0000E+00	.9994E-01
52	5.1	1.41	3.66	0.3792	0.0000	.0000E+00	1.312
53	3.0	0.02	3.68	0.3616	0.0000	.0000E+00	.7899
54	0.0	0.00	2.85	0.2867	0.0000	.0000E+00	.5690
55	0.0	0.00	0.33	0.2781	0.0000	.0000E+00	.4361
56	0.0	0.00	0.03	0.2773	0.0000	.0000E+00	.3531
57	0.0	0.00	0.01	0.2771	0.0000	.0000E+00	.2963
58	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2550
59	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2237
60	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1991
61	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1793
62	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.3497E-01
63	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
64	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
65	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
66	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
67	8.4	0.65	0.49	0.4062	0.0000	.0000E+00	.0000E+00
68	2.3	0.15	0.47	0.4062	0.0000	.0000E+00	.4251
69	1.3	0.00	0.45	0.4094	0.0000	.0000E+00	.8065
70	0.0	0.00	0.42	0.3875	0.0000	.0000E+00	.6569
71	0.0	0.00	0.41	0.3706	0.0000	.0000E+00	.6202
72	0.0	0.00	0.39	0.3578	0.0000	.0000E+00	.5896
73	2.0	0.00	0.41	0.4002	0.0000	.0000E+00	.5062
74	0.0	0.00	0.37	0.3876	0.0000	.0000E+00	.3146
75	0.0	0.00	0.36	0.3762	0.0000	.0000E+00	.3194
76	0.0	0.00	0.36	0.3668	0.0000	.0000E+00	.3266
77	0.0	0.00	0.35	0.3577	0.0000	.0000E+00	.2773
78	13.7	3.52	0.37	0.4081	0.0000	.0000E+00	3.282
79	8.4	3.82	4.20	0.3942	0.0000	.0000E+00	1.820
80	0.8	0.00	4.27	0.3021	0.0000	.0000E+00	1.279
81	0.0	0.00	0.70	0.2784	0.0000	.0000E+00	.6304
82	0.0	0.00	0.04	0.2774	0.0000	.0000E+00	.6292
83	0.0	0.00	0.01	0.2771	0.0000	.0000E+00	.4708

84	12.7	2.36	1.08	0.4061	0.0000	.0000E+00	.1973
85	1.5	0.02	2.72	0.3595	0.0000	.0000E+00	2.387
86	3.8	0.03	3.55	0.3655	0.0000	.0000E+00	1.058
87	0.0	0.00	3.10	0.2836	0.0000	.0000E+00	.6610
88	0.0	0.00	0.21	0.2781	0.0000	.0000E+00	.5048
89	0.0	0.00	0.03	0.2773	0.0000	.0000E+00	.3971
90	0.0	0.00	0.01	0.2771	0.0000	.0000E+00	.3269
91	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2775
92	1.8	0.00	0.36	0.3143	0.0000	.0000E+00	.2409
93	19.0	8.04	0.73	0.4450	0.0000	.0000E+00	.7217
94	13.5	8.11	4.16	0.4013	0.0000	.0000E+00	3.709
95	3.6	0.33	4.69	0.3617	0.0000	.0000E+00	1.141
96	0.5	0.00	3.51	0.2828	0.0000	.0000E+00	.7503
97	0.0	0.00	0.15	0.2788	0.0000	.0000E+00	.5359
98	0.0	0.00	0.05	0.2775	0.0000	.0000E+00	.4163
99	1.8	0.00	0.49	0.3114	0.0000	.0000E+00	.3399
100	7.1	0.73	0.92	0.4037	0.0000	.0000E+00	.2192
101	0.0	0.00	0.78	0.3779	0.0000	.0000E+00	.4932
102	0.0	0.00	0.70	0.3582	0.0000	.0000E+00	.5485
103	0.0	0.00	0.65	0.3412	0.0000	.0000E+00	.4556
104	2.3	0.00	0.64	0.3845	0.0000	.0000E+00	.3658
105	0.0	0.00	0.57	0.3696	0.0000	.0000E+00	.3053
106	0.0	0.00	0.54	0.3556	0.0000	.0000E+00	.2617
107	0.0	0.00	0.51	0.3422	0.0000	.0000E+00	.2288
108	0.0	0.00	0.49	0.3295	0.0000	.0000E+00	.2032
109	0.0	0.00	0.47	0.3172	0.0000	.0000E+00	.1826
110	0.0	0.00	0.35	0.3081	0.0000	.0000E+00	.6641E-01
111	0.0	0.00	0.43	0.2967	0.0000	.0000E+00	.0000E+00
112	1.8	0.00	0.46	0.3314	0.0000	.0000E+00	.0000E+00
113	3.6	0.03	0.44	0.4124	0.0000	.0000E+00	.0000E+00
114	5.8	1.59	0.43	0.4131	0.0000	.0000E+00	.0000E+00
115	12.2	6.40	3.21	0.4136	0.0000	.0000E+00	.9447
116	2.8	0.19	2.95	0.3861	0.0000	.0000E+00	1.785
117	27.7	17.84	3.01	0.4271	0.0000	.0000E+00	3.979
118	9.7	4.59	3.45	0.4055	0.0000	.0000E+00	2.850
119	5.6	1.42	3.50	0.4080	0.0000	.0000E+00	1.569
120	4.8	0.97	3.18	0.4091	0.0000	.0000E+00	.7796
121	18.8	11.99	3.38	0.4088	0.0000	.0000E+00	1.717
122	22.9	15.87	3.44	0.4087	0.0000	.0000E+00	3.551
123	11.4	5.72	3.27	0.4084	0.0000	.0000E+00	2.453
124	4.8	1.00	3.49	0.4087	0.0000	.0000E+00	1.973
125	0.0	0.00	3.37	0.3159	0.0000	.0000E+00	1.081
126	0.0	0.00	1.39	0.2772	0.0000	.0000E+00	.7293
127	9.7	1.07	3.27	0.4166	0.0000	.0000E+00	.5721
128	0.0	0.00	3.23	0.3169	0.0000	.0000E+00	.3065
129	0.0	0.00	1.37	0.2776	0.0000	.0000E+00	.4228
130	0.0	0.00	0.02	0.2772	0.0000	.0000E+00	.4297
131	0.0	0.00	0.01	0.2770	0.0000	.0000E+00	.3488
132	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2932
133	2.3	0.00	0.74	0.3175	0.0000	.0000E+00	.2527
134	3.8	0.05	1.09	0.3876	0.0000	.0000E+00	.2219
135	0.0	0.00	2.91	0.3113	0.0000	.0000E+00	.1977
136	0.0	0.00	0.80	0.2903	0.0000	.0000E+00	.1781
137	2.0	0.00	0.82	0.3221	0.0000	.0000E+00	.2410E-01
138	0.0	0.00	0.53	0.3083	0.0000	.0000E+00	.0000E+00
139	0.0	0.00	0.53	0.2943	0.0000	.0000E+00	.0000E+00
140	16.3	4.27	0.65	0.4392	0.0000	.0000E+00	.0000E+00
141	0.0	0.00	2.33	0.3384	0.0000	.0000E+00	3.386
142	0.5	0.00	2.63	0.2827	0.0000	.0000E+00	1.038
143	0.0	0.00	0.18	0.2780	0.0000	.0000E+00	.6685
144	0.0	0.00	0.03	0.2773	0.0000	.0000E+00	.4926
145	1.8	0.00	0.62	0.3076	0.0000	.0000E+00	.3895
146	0.5	0.00	0.75	0.3013	0.0000	.0000E+00	.3217

147	0.0	0.00	0.72	0.2823	0.0000	.0000E+00	.2737
148	0.0	0.00	0.17	0.2778	0.0000	.0000E+00	.2380
149	0.0	0.00	0.02	0.2772	0.0000	.0000E+00	.2104
150	0.0	0.00	0.01	0.2770	0.0000	.0000E+00	.1885
151	2.8	0.00	0.65	0.3334	0.0000	.0000E+00	.1208
152	0.3	0.00	0.51	0.3267	0.0000	.0000E+00	.0000E+00
153	17.0	6.32	0.58	0.4375	0.0000	.0000E+00	.1834
154	0.0	0.00	2.08	0.3356	0.0000	.0000E+00	3.504
155	0.0	0.00	2.23	0.2770	0.0000	.0000E+00	1.067
156	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.6802
157	30.0	13.97	2.33	0.3804	0.0000	.0000E+00	6.585
158	2.0	0.09	2.38	0.3690	0.0000	.0000E+00	1.788
159	1.5	0.00	2.40	0.3459	0.0000	.0000E+00	.9099
160	0.0	0.00	2.03	0.2914	0.0000	.0000E+00	.5728
161	0.0	0.00	0.49	0.2786	0.0000	.0000E+00	.4802
162	0.0	0.00	0.04	0.2774	0.0000	.0000E+00	.3816
163	0.0	0.00	0.01	0.2770	0.0000	.0000E+00	.3162
164	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2698
165	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2350
166	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2080
167	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1865
168	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1031
169	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
170	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
171	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
172	0.5	0.00	0.10	0.2878	0.0000	.0000E+00	.0000E+00
173	0.8	0.00	0.28	0.3004	0.0000	.0000E+00	.0000E+00
174	0.0	0.00	0.29	0.2927	0.0000	.0000E+00	.0000E+00
175	0.0	0.00	0.34	0.2837	0.0000	.0000E+00	.0000E+00
176	0.0	0.00	0.22	0.2780	0.0000	.0000E+00	.0000E+00
177	0.0	0.00	0.03	0.2772	0.0000	.0000E+00	.0000E+00
178	0.0	0.00	0.01	0.2771	0.0000	.0000E+00	.0000E+00
179	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
180	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
181	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
182	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
183	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
184	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
185	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
186	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
187	0.3	0.00	0.08	0.2817	0.0000	.0000E+00	.0000E+00
188	1.5	0.00	0.19	0.3167	0.0000	.0000E+00	.0000E+00
189	1.0	0.00	0.27	0.3363	0.0000	.0000E+00	.0000E+00
190	4.8	0.42	0.37	0.4062	0.0000	.0000E+00	.0000E+00
191	20.6	13.88	0.37	0.4072	0.0000	.0000E+00	2.165
192	7.1	2.63	0.36	0.4071	0.0000	.0000E+00	4.120
193	0.0	0.00	2.18	0.3439	0.0000	.0000E+00	1.734
194	0.0	0.00	0.31	0.3358	0.0000	.0000E+00	1.058
195	0.0	0.00	0.30	0.3278	0.0000	.0000E+00	.6768
196	0.0	0.00	0.30	0.3200	0.0000	.0000E+00	.4972
197	0.0	0.00	0.29	0.3123	0.0000	.0000E+00	.3924
198	0.0	0.00	0.29	0.3047	0.0000	.0000E+00	.3236
199	1.5	0.00	0.33	0.3359	0.0000	.0000E+00	.2751
200	6.1	0.46	0.33	0.4059	0.0000	.0000E+00	.1235
201	0.0	0.00	2.47	0.3411	0.0000	.0000E+00	.7885
202	0.0	0.00	2.41	0.2779	0.0000	.0000E+00	.5552
203	0.0	0.00	0.02	0.2770	0.0000	.0000E+00	.4226
204	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.3500
205	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2941
206	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2533
207	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2224
208	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1980
209	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1784

210	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2705E-01
211	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
212	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
213	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
214	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
215	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
216	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
217	2.5	0.00	0.48	0.3310	0.0000	.0000E+00	.0000E+00
218	0.0	0.00	0.34	0.3220	0.0000	.0000E+00	.0000E+00
219	1.3	0.00	0.40	0.3449	0.0000	.0000E+00	.8176E-01
220	0.0	0.00	0.36	0.3354	0.0000	.0000E+00	.0000E+00
221	0.0	0.00	0.36	0.3261	0.0000	.0000E+00	.0000E+00
222	0.0	0.00	0.34	0.3171	0.0000	.0000E+00	.0000E+00
223	0.0	0.00	0.33	0.3084	0.0000	.0000E+00	.0000E+00
224	0.0	0.00	0.34	0.2994	0.0000	.0000E+00	.0000E+00
225	0.0	0.00	0.34	0.2905	0.0000	.0000E+00	.0000E+00
226	0.0	0.00	0.33	0.2819	0.0000	.0000E+00	.0000E+00
227	0.0	0.00	0.16	0.2777	0.0000	.0000E+00	.0000E+00
228	9.7	1.07	0.38	0.3853	0.0000	.0000E+00	.0000E+00
229	0.0	0.00	0.32	0.3766	0.0000	.0000E+00	1.064
230	0.0	0.00	0.31	0.3683	0.0000	.0000E+00	.6890
231	0.0	0.00	0.31	0.3602	0.0000	.0000E+00	.5038
232	0.0	0.00	0.30	0.3523	0.0000	.0000E+00	.3965
233	0.0	0.00	0.30	0.3444	0.0000	.0000E+00	.3265
234	0.8	0.00	0.35	0.3553	0.0000	.0000E+00	.2772
235	3.6	0.00	0.34	0.4029	0.0000	.0000E+00	.1834
236	0.0	0.00	0.28	0.3826	0.0000	.0000E+00	.2560
237	0.3	0.00	0.33	0.3804	0.0000	.0000E+00	.4889
238	0.0	0.00	0.28	0.3731	0.0000	.0000E+00	.3902
239	0.0	0.00	0.27	0.3659	0.0000	.0000E+00	.3222
240	0.0	0.00	0.27	0.3589	0.0000	.0000E+00	.2741
241	1.5	0.00	0.32	0.3904	0.0000	.0000E+00	.2383
242	0.5	0.00	0.32	0.3954	0.0000	.0000E+00	.2106
243	0.5	0.00	0.31	0.4005	0.0000	.0000E+00	.1886
244	0.0	0.00	0.26	0.3911	0.0000	.0000E+00	.9762E-01
245	0.0	0.00	0.25	0.3816	0.0000	.0000E+00	.9411E-01
246	0.0	0.00	0.25	0.3750	0.0000	.0000E+00	.1423
247	0.0	0.00	0.25	0.3685	0.0000	.0000E+00	.4847E-15
248	0.0	0.00	0.24	0.3621	0.0000	.0000E+00	.0000E+00
249	0.0	0.00	0.24	0.3558	0.0000	.0000E+00	.0000E+00
250	0.0	0.00	0.24	0.3495	0.0000	.0000E+00	.0000E+00
251	0.0	0.00	0.24	0.3433	0.0000	.0000E+00	.0000E+00
252	0.0	0.00	0.23	0.3371	0.0000	.0000E+00	.0000E+00
253	1.0	0.00	0.29	0.3561	0.0000	.0000E+00	.0000E+00
254	4.8	0.18	0.29	0.4138	0.0000	.0000E+00	.0000E+00
255	20.3	13.70	3.59	0.4092	0.0000	.0000E+00	.0000E+00
256	2.5	0.13	3.54	0.3684	0.0000	.0000E+00	1.595
257	4.3	0.13	3.31	0.3914	0.0000	.0000E+00	1.149
258	5.1	0.70	4.35	0.3912	0.0000	.0000E+00	.6847
259	0.0	0.00	3.74	0.2910	0.0000	.0000E+00	.4873
260	0.0	0.00	0.52	0.2774	0.0000	.0000E+00	.4371
261	0.0	0.00	0.01	0.2771	0.0000	.0000E+00	.3537
262	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2967
263	27.7	12.18	1.11	0.3977	0.0000	.0000E+00	5.279
264	0.5	0.00	3.05	0.3310	0.0000	.0000E+00	1.788
265	0.0	0.00	2.00	0.2785	0.0000	.0000E+00	.9099
266	0.0	0.00	0.04	0.2774	0.0000	.0000E+00	.6130
267	0.0	0.00	0.01	0.2771	0.0000	.0000E+00	.4616
268	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.3697
269	2.5	0.00	0.80	0.3228	0.0000	.0000E+00	.3080
270	0.0	0.00	0.52	0.3090	0.0000	.0000E+00	.2637
271	0.0	0.00	0.58	0.2938	0.0000	.0000E+00	.2304
272	0.0	0.00	0.51	0.2805	0.0000	.0000E+00	.2044

273	2.3	0.00	0.53	0.3266	0.0000	.0000E+00	.1836
274	0.0	0.00	0.42	0.3155	0.0000	.0000E+00	.7589E-01
275	0.0	0.00	0.44	0.3039	0.0000	.0000E+00	.0000E+00
276	0.0	0.00	0.46	0.2917	0.0000	.0000E+00	.0000E+00
277	0.0	0.00	0.44	0.2801	0.0000	.0000E+00	.0000E+00
278	0.0	0.00	0.10	0.2774	0.0000	.0000E+00	.0000E+00
279	0.0	0.00	0.02	0.2770	0.0000	.0000E+00	.0000E+00
280	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
281	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
282	7.9	0.51	0.47	0.4109	0.0000	.0000E+00	.0000E+00
283	1.5	0.01	0.46	0.4136	0.0000	.0000E+00	.4841
284	0.0	0.00	0.38	0.3830	0.0000	.0000E+00	.3565
285	11.7	3.48	0.44	0.3986	0.0000	.0000E+00	4.028
286	3.8	0.69	2.86	0.3921	0.0000	.0000E+00	2.382
287	36.3	26.55	2.61	0.4250	0.0000	.0000E+00	4.045
288	11.9	6.50	3.36	0.4093	0.0000	.0000E+00	2.906
289	7.1	2.37	4.29	0.4034	0.0000	.0000E+00	1.901
290	6.3	1.82	4.18	0.4102	0.0000	.0000E+00	1.158
291	4.1	0.63	4.76	0.3638	0.0000	.0000E+00	.5328
292	0.0	0.00	3.15	0.2810	0.0000	.0000E+00	.7597
293	5.6	0.07	4.46	0.3088	0.0000	.0000E+00	.5428
294	0.0	0.00	1.03	0.2818	0.0000	.0000E+00	.4204
295	0.0	0.00	0.14	0.2782	0.0000	.0000E+00	.3426
296	0.0	0.00	0.03	0.2773	0.0000	.0000E+00	.2889
297	3.0	0.00	2.32	0.2963	0.0000	.0000E+00	.2495
298	8.9	1.20	1.44	0.4039	0.0000	.0000E+00	.1670
299	18.3	12.05	3.74	0.4053	0.0000	.0000E+00	.6355E-01
300	4.1	0.64	3.77	0.3793	0.0000	.0000E+00	1.198
301	7.1	1.33	4.57	0.4093	0.0000	.0000E+00	1.215
302	0.0	0.00	4.07	0.3011	0.0000	.0000E+00	.7527
303	0.0	0.00	0.82	0.2786	0.0000	.0000E+00	.5528
304	0.0	0.00	0.06	0.2770	0.0000	.0000E+00	.4494
305	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.3618
306	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.3024
307	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2596
308	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2272
309	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2019
310	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1815
311	3.3	0.00	0.68	0.3458	0.0000	.0000E+00	.5662E-01
312	10.9	3.93	0.64	0.4294	0.0000	.0000E+00	.0000E+00
313	15.0	9.09	0.61	0.4204	0.0000	.0000E+00	3.390
314	0.3	0.00	4.66	0.2882	0.0000	.0000E+00	1.736
315	0.0	0.00	0.43	0.2770	0.0000	.0000E+00	1.198
316	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.7311
317	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.5260
318	0.5	0.00	0.12	0.2873	0.0000	.0000E+00	.4102
319	0.0	0.00	0.18	0.2825	0.0000	.0000E+00	.3358
320	14.2	3.13	0.50	0.4329	0.0000	.0000E+00	.1475
321	0.0	0.00	4.66	0.2925	0.0000	.0000E+00	2.522
322	0.0	0.00	0.57	0.2776	0.0000	.0000E+00	1.056
323	0.0	0.00	0.02	0.2771	0.0000	.0000E+00	.6759
324	0.0	0.00	0.01	0.2770	0.0000	.0000E+00	.4967
325	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.3920
326	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.3234
327	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2750
328	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2390
329	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2112
330	37.1	19.80	0.68	0.3818	0.0000	.0000E+00	7.516
331	9.9	5.10	4.41	0.3923	0.0000	.0000E+00	1.788
332	0.8	0.00	4.53	0.2928	0.0000	.0000E+00	.8995
333	8.6	0.77	5.02	0.3675	0.0000	.0000E+00	.6214
334	0.8	0.00	3.65	0.2899	0.0000	.0000E+00	.4127
335	9.1	0.96	3.38	0.4161	0.0000	.0000E+00	.3949

336	5.6	1.55	3.45	0.4026	0.0000	.0000E+00	.3551
337	0.0	0.00	4.78	0.2770	0.0000	.0000E+00	.4661
338	5.8	0.10	3.20	0.3436	0.0000	.0000E+00	.3726
339	3.0	0.05	4.92	0.2932	0.0000	.0000E+00	.3100
340	0.0	0.00	0.45	0.2813	0.0000	.0000E+00	.2652
341	4.3	0.00	1.14	0.3649	0.0000	.0000E+00	.2315
342	0.0	0.00	3.17	0.2816	0.0000	.0000E+00	.2053
343	0.3	0.00	0.31	0.2802	0.0000	.0000E+00	.1843
344	2.8	0.00	0.87	0.3308	0.0000	.0000E+00	.8240E-01
345	2.0	0.00	0.69	0.3660	0.0000	.0000E+00	.0000E+00
346	0.5	0.00	0.68	0.3615	0.0000	.0000E+00	.0000E+00
347	0.0	0.00	0.58	0.3462	0.0000	.0000E+00	.0000E+00
348	20.3	8.35	0.66	0.4092	0.0000	.0000E+00	3.501
349	29.0	22.65	6.37	0.3834	0.0000	.0000E+00	2.057
350	0.0	0.00	3.97	0.2793	0.0000	.0000E+00	1.183
351	13.2	2.61	6.83	0.3782	0.0000	.0000E+00	.7255
352	0.0	0.00	3.55	0.2851	0.0000	.0000E+00	.5231
353	0.0	0.00	0.23	0.2790	0.0000	.0000E+00	.4084
354	0.0	0.00	0.07	0.2770	0.0000	.0000E+00	.3346
355	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2831
356	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2451
357	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2160
358	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1929
359	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1606
360	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1762E-15
361	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
362	0.3	0.00	0.13	0.2802	0.0000	.0000E+00	.0000E+00
363	0.0	0.00	0.04	0.2791	0.0000	.0000E+00	.0000E+00
364	0.0	0.00	0.05	0.2777	0.0000	.0000E+00	.0000E+00
365	0.0	0.00	0.02	0.2772	0.0000	.0000E+00	.0000E+00

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MONTHLY TOTALS (MM) FOR YEAR 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	11.2	38.1	54.9	123.4	97.5	52.1
	42.9	20.6	71.1	137.7	101.3	96.3
RUNOFF	0.00	8.34	10.55	50.24	39.97	20.38
	17.40	1.07	27.02	57.85	41.82	36.27
EVAPOTRANSPIRATION	6.18	17.81	24.77	41.81	42.43	16.36
	10.87	8.79	31.01	55.32	31.36	49.55
PERCOLATION/LEAKAGE THROUGH	0.369	16.165	18.899	23.370	22.080	17.471
LAYER 1	14.655	5.891	15.949	24.871	27.495	12.697

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ANNUAL TOTALS FOR YEAR 1

	MM	CU. METERS	PERCENT
PRECIPITATION	847.09	42354.504	100.00
RUNOFF	310.902	15545.079	36.70
EVAPOTRANSPIRATION	336.277	16813.842	39.70
PERC./LEAKAGE THROUGH LAYER 1	199.911926	9995.596	23.60

CHANGE IN WATER STORAGE	-0.001	-0.025	0.00
SOIL WATER AT START OF YEAR	54.536	2726.796	
SOIL WATER AT END OF YEAR	54.535	2726.771	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0002	0.011	0.00

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AVERAGE MONTHLY VALUES (MM) FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	11.18	38.10	54.86	123.44	97.54	52.07
	42.93	20.57	71.12	137.67	101.35	96.27
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
RUNOFF						
TOTALS	0.000	8.344	10.545	50.239	39.969	20.382
	17.399	1.066	27.018	57.849	41.818	36.272
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	6.178	17.814	24.773	41.810	42.425	16.364
	10.872	8.788	31.015	55.323	31.361	49.554
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
PERCOLATION/LEAKAGE THROUGH LAYER 1						
TOTALS	0.3685	16.1653	18.8986	23.3703	22.0795	17.4709
	14.6553	5.8914	15.9494	24.8708	27.4948	12.6971
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	MM	CU. METERS	PERCENT
PRECIPITATION	847.09 (0.000)	42354.5	100.00
RUNOFF	310.902 (0.0000)	15545.08	36.702
EVAPOTRANSPIRATION	336.277 (0.0000)	16813.84	39.698

PERCOLATION/LEAKAGE THROUGH 199.91193 (0.00000) 9995.597 23.59984
LAYER 1

CHANGE IN WATER STORAGE -0.001 (0.0000) -0.03 0.000

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(MM)	(CU. METERS)
PRECIPITATION	37.08	1854.200
RUNOFF	26.548	1327.4047
PERCOLATION/LEAKAGE THROUGH LAYER 1	7.515601	375.78003
SNOW WATER	0.00	0.0000
MAXIMUM VEG. SOIL WATER (VOL/VOL)		0.4450
MINIMUM VEG. SOIL WATER (VOL/VOL)		0.2770

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(CM)	(VOL/VOL)
1	5.4535	0.3636

SNOW WATER 0.000

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Daily Cover: 90th Percentage Yearly Rainfall (1990)

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**          HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE          **
**           HELP MODEL VERSION 3.07  (1 NOVEMBER 1997)           **
**            DEVELOPED BY ENVIRONMENTAL LABORATORY               **
**              USAE WATERWAYS EXPERIMENT STATION                 **
**         FOR USEPA RISK REDUCTION ENGINEERING LABORATORY         **

******************************************************************************

 PRECIPITATION DATA FILE:    F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DAT4.D4
 TEMPERATURE DATA FILE:      F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DATA7.D7
 SOLAR RADIATION DATA FILE:  F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DATA13.D13
 EVAPOTRANSPIRATION DATA:    F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DAT11.D11
 SOIL AND DESIGN DATA FILE:  F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DA10.D10
 OUTPUT DATA FILE:          F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\OUT10.OUT

 TIME:  14:14     DATE:   8/18/2009

******************************************************************************

    TITLE:  Orchard Hills Waste & Resource Mgt Facility (Daily Cover90)

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    NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER WERE
           COMPUTED AS NEARLY STEADY-STATE VALUES BY THE PROGRAM.

                         LAYER  1
                         --------
              TYPE 1 - VERTICAL PERCOLATION LAYER
                 MATERIAL TEXTURE NUMBER  26
       THICKNESS               =    15.00   CM
       POROSITY                =     0.4450 VOL/VOL
       FIELD CAPACITY          =     0.3930 VOL/VOL
       WILTING POINT           =     0.2770 VOL/VOL
       INITIAL SOIL WATER CONTENT  =     0.3638 VOL/VOL
       EFFECTIVE SAT. HYD. COND.   =  0.190000003000E-05 CM/SEC

            GENERAL DESIGN AND EVAPORATIVE ZONE DATA
            ---------------------------------------
      NOTE:  SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT
             SOIL DATA BASE USING SOIL TEXTURE #26 WITH BARE
             GROUND CONDITIONS, A SURFACE SLOPE OF  1.% AND
             A SLOPE LENGTH OF  100. METERS.

      SCS RUNOFF CURVE NUMBER          =    96.70
      FRACTION OF AREA ALLOWING RUNOFF    =   100.0    PERCENT
      AREA PROJECTED ON HORIZONTAL PLANE  =     5.0000 HECTARES
      EVAPORATIVE ZONE DEPTH           =     3.8    CM
      INITIAL WATER IN EVAPORATIVE ZONE   =     1.059  CM
      UPPER LIMIT OF EVAPORATIVE STORAGE  =     1.695  CM
      LOWER LIMIT OF EVAPORATIVE STORAGE  =     1.055  CM
      INITIAL SNOW WATER               =     0.000  CM
      INITIAL WATER IN LAYER MATERIALS    =     5.456  CM
      TOTAL INITIAL WATER              =     5.456  CM
      TOTAL SUBSURFACE INFLOW          =     0.00   MM/YR

            EVAPOTRANSPIRATION AND WEATHER DATA
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NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
Orchard Hills nsw

STATION LATITUDE = -33.80 DEGREES
MAXIMUM LEAF AREA INDEX = 0.00
START OF GROWING SEASON (JULIAN DATE) = 1
END OF GROWING SEASON (JULIAN DATE) = 1
EVAPORATIVE ZONE DEPTH = 1.5 INCHES
AVERAGE ANNUAL WIND SPEED = 7.50 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY = 70.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY = 50.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY = 50.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY = 70.00 %

NOTE: PRECIPITATION DATA FOR Orchard Hills
WAS ENTERED BY THE USER.

NOTE: TEMPERATURE DATA FOR orchard hills nsw
WAS ENTERED BY THE USER.

NOTE: SOLAR RADIATION DATA FOR orchard hills nsw
WAS ENTERED BY THE USER.

LEAK #1: PERCOLATION OR LEAKAGE THROUGH LAYER 1

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DAILY OUTPUT FOR YEAR 1

DAY	S A I R	O I L	RAIN MM	RUNOFF MM	ET WATER MM	E. ZONE #1 CM/CM	HEAD #1 CM	DRAIN #1 MM	LEAK MM
1			0.0	0.00	0.03	0.2772	0.0000	.0000E+00	.0000E+00
2			0.0	0.00	0.01	0.2771	0.0000	.0000E+00	.0000E+00
3			0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
4			0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.4134E-01
5			0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
6			0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
7			0.8	0.00	0.09	0.2946	0.0000	.0000E+00	.0000E+00
8			14.5	3.88	0.21	0.4170	0.0000	.0000E+00	.0000E+00
9			9.1	4.43	6.14	0.3582	0.0000	.0000E+00	1.943
10			15.5	4.92	0.21	0.4450	0.0000	.0000E+00	6.596
11			0.0	0.00	4.70	0.2934	0.0000	.0000E+00	1.808
12			0.0	0.00	0.62	0.2770	0.0000	.0000E+00	1.181
13			0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.7247
14			8.6	0.73	1.37	0.4176	0.0000	.0000E+00	.4050
15			1.3	0.00	1.05	0.3987	0.0000	.0000E+00	.8750
16			0.3	0.00	0.89	0.3814	0.0000	.0000E+00	.7474
17			0.0	0.00	0.78	0.3586	0.0000	.0000E+00	.4845
18			0.0	0.00	0.70	0.3401	0.0000	.0000E+00	.4590
19			0.0	0.00	0.65	0.3231	0.0000	.0000E+00	.3680
20			0.0	0.00	0.60	0.3073	0.0000	.0000E+00	.3068
21			9.7	1.12	0.57	0.3958	0.0000	.0000E+00	.1361
22			1.0	0.00	4.40	0.3065	0.0000	.0000E+00	1.778
23			3.8	0.00	4.75	0.2818	0.0000	.0000E+00	.9167
24			0.0	0.00	0.11	0.2787	0.0000	.0000E+00	.6161

25	0.0	0.00	0.05	0.2775	0.0000	.0000E+00	.4634
26	0.0	0.00	0.01	0.2771	0.0000	.0000E+00	.3709
27	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.3088
28	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2643
29	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2308
30	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2047
31	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1839
32	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.7841E-01
33	1.0	0.00	0.23	0.2975	0.0000	.0000E+00	.0000E+00
34	121.7	102.92	0.52	0.3943	0.0000	.0000E+00	9.136
35	101.9	94.77	6.64	0.3940	0.0000	.0000E+00	1.448
36	7.6	2.05	6.14	0.3784	0.0000	.0000E+00	1.235
37	1.0	0.00	4.74	0.2805	0.0000	.0000E+00	.7622
38	46.2	27.98	4.16	0.3806	0.0000	.0000E+00	7.308
39	28.4	22.16	4.15	0.4082	0.0000	.0000E+00	1.163
40	5.8	1.57	5.51	0.3563	0.0000	.0000E+00	1.685
41	10.4	1.81	4.83	0.4062	0.0000	.0000E+00	.7127
42	5.8	1.65	4.90	0.3732	0.0000	.0000E+00	1.655
43	0.0	0.00	3.54	0.2804	0.0000	.0000E+00	1.259
44	0.0	0.00	0.10	0.2779	0.0000	.0000E+00	.7532
45	0.0	0.00	0.02	0.2772	0.0000	.0000E+00	.5374
46	0.0	0.00	0.01	0.2771	0.0000	.0000E+00	.4172
47	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.3405
48	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2873
49	38.9	21.30	0.90	0.3844	0.0000	.0000E+00	7.996
50	0.0	0.00	3.33	0.2964	0.0000	.0000E+00	1.782
51	0.0	0.00	0.72	0.2774	0.0000	.0000E+00	.9212
52	0.0	0.00	0.01	0.2771	0.0000	.0000E+00	.6181
53	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.4646
54	2.8	0.00	1.25	0.3175	0.0000	.0000E+00	.3716
55	5.3	0.33	1.07	0.4209	0.0000	.0000E+00	.3093
56	29.7	22.53	5.88	0.4082	0.0000	.0000E+00	.1261
57	1.0	0.00	3.17	0.3467	0.0000	.0000E+00	.4543
58	0.0	0.00	2.63	0.2777	0.0000	.0000E+00	.5206
59	0.0	0.00	0.02	0.2772	0.0000	.0000E+00	.4069
60	0.0	0.00	0.01	0.2770	0.0000	.0000E+00	.3335
61	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2823
62	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2445
63	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2155
64	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1926
65	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1574
66	40.4	22.61	0.62	0.3831	0.0000	.0000E+00	7.705
67	0.0	0.00	2.86	0.3062	0.0000	.0000E+00	1.785
68	0.0	0.00	1.11	0.2771	0.0000	.0000E+00	.9386
69	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.6259
70	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.4690
71	3.0	0.00	1.07	0.3290	0.0000	.0000E+00	.3745
72	0.0	0.00	0.73	0.3099	0.0000	.0000E+00	.3113
73	0.0	0.00	0.64	0.2931	0.0000	.0000E+00	.2661
74	0.0	0.00	0.53	0.2791	0.0000	.0000E+00	.2322
75	17.0	4.73	0.67	0.4412	0.0000	.0000E+00	.1058
76	0.0	0.00	4.21	0.3014	0.0000	.0000E+00	2.998
77	0.0	0.00	0.60	0.2856	0.0000	.0000E+00	1.035
78	14.2	3.13	0.59	0.4084	0.0000	.0000E+00	2.907
79	0.0	0.00	3.76	0.3078	0.0000	.0000E+00	2.035
80	0.0	0.00	1.12	0.2783	0.0000	.0000E+00	1.002
81	0.0	0.00	0.04	0.2773	0.0000	.0000E+00	.6535
82	2.8	0.00	1.26	0.3175	0.0000	.0000E+00	.4844
83	0.8	0.00	0.73	0.3184	0.0000	.0000E+00	.3843
84	2.3	0.00	0.91	0.3545	0.0000	.0000E+00	.3181
85	0.0	0.00	0.71	0.3359	0.0000	.0000E+00	.2711
86	0.0	0.00	0.68	0.3180	0.0000	.0000E+00	.2360
87	0.0	0.00	0.63	0.3015	0.0000	.0000E+00	.2089

88	0.0	0.00	0.58	0.2862	0.0000	.0000E+00	.1872
89	4.6	0.00	0.59	0.3906	0.0000	.0000E+00	.1092
90	2.3	0.06	3.98	0.3447	0.0000	.0000E+00	.0000E+00
91	13.7	4.47	0.56	0.4362	0.0000	.0000E+00	.2159
92	1.0	0.00	3.76	0.3251	0.0000	.0000E+00	2.119
93	0.0	0.00	1.77	0.2787	0.0000	.0000E+00	1.221
94	5.1	0.03	3.33	0.3240	0.0000	.0000E+00	.7396
95	24.9	14.05	4.70	0.4049	0.0000	.0000E+00	.2838
96	9.9	4.74	4.58	0.4016	0.0000	.0000E+00	1.555
97	0.0	0.00	4.75	0.2770	0.0000	.0000E+00	1.212
98	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.7362
99	30.2	14.17	3.33	0.3954	0.0000	.0000E+00	5.193
100	8.1	3.62	4.33	0.3852	0.0000	.0000E+00	1.429
101	23.1	12.12	4.70	0.4235	0.0000	.0000E+00	3.637
102	0.3	0.00	4.13	0.2982	0.0000	.0000E+00	2.663
103	0.5	0.00	1.16	0.2811	0.0000	.0000E+00	1.054
104	2.0	0.00	1.86	0.2855	0.0000	.0000E+00	.6752
105	0.3	0.00	0.51	0.2788	0.0000	.0000E+00	.4963
106	3.8	0.00	3.13	0.2967	0.0000	.0000E+00	.3918
107	1.3	0.00	1.54	0.2896	0.0000	.0000E+00	.3233
108	0.0	0.00	0.39	0.2795	0.0000	.0000E+00	.2749
109	19.8	6.50	1.08	0.4302	0.0000	.0000E+00	1.436
110	53.6	47.09	3.82	0.4105	0.0000	.0000E+00	3.433
111	9.9	4.42	3.67	0.4127	0.0000	.0000E+00	2.195
112	0.5	0.00	2.76	0.3369	0.0000	.0000E+00	1.841
113	0.0	0.00	2.23	0.2785	0.0000	.0000E+00	1.124
114	0.0	0.00	0.04	0.2774	0.0000	.0000E+00	.7029
115	0.0	0.00	0.01	0.2771	0.0000	.0000E+00	.5112
116	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.4011
117	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.3296
118	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2795
119	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2424
120	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2138
121	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1912
122	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1455
123	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
124	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
125	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
126	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
127	1.3	0.00	0.25	0.3038	0.0000	.0000E+00	.0000E+00
128	0.0	0.00	0.33	0.2953	0.0000	.0000E+00	.0000E+00
129	0.0	0.00	0.35	0.2862	0.0000	.0000E+00	.0000E+00
130	0.0	0.00	0.29	0.2785	0.0000	.0000E+00	.0000E+00
131	0.0	0.00	0.04	0.2774	0.0000	.0000E+00	.0000E+00
132	0.0	0.00	0.01	0.2771	0.0000	.0000E+00	.0000E+00
133	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
134	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
135	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
136	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
137	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
138	4.1	0.00	0.39	0.3734	0.0000	.0000E+00	.0000E+00
139	0.0	0.00	0.32	0.3651	0.0000	.0000E+00	.0000E+00
140	0.0	0.00	0.34	0.3561	0.0000	.0000E+00	.0000E+00
141	0.0	0.00	0.33	0.3474	0.0000	.0000E+00	.0000E+00
142	0.0	0.00	0.33	0.3388	0.0000	.0000E+00	.0000E+00
143	26.7	12.35	0.36	0.3804	0.0000	.0000E+00	6.973
144	13.2	7.88	2.59	0.4141	0.0000	.0000E+00	1.420
145	19.8	12.93	2.76	0.4137	0.0000	.0000E+00	4.144
146	1.8	0.01	2.71	0.3653	0.0000	.0000E+00	2.114
147	0.0	0.00	2.61	0.2967	0.0000	.0000E+00	1.150
148	0.0	0.00	0.71	0.2780	0.0000	.0000E+00	.7210
149	0.8	0.00	0.56	0.2833	0.0000	.0000E+00	.5208
150	2.3	0.00	1.35	0.3078	0.0000	.0000E+00	.4070

151	2.0	0.00	0.96	0.3360	0.0000	.0000E+00	.3336
152	0.0	0.00	0.86	0.3133	0.0000	.0000E+00	.2824
153	0.0	0.00	0.81	0.2922	0.0000	.0000E+00	.2446
154	0.0	0.00	0.52	0.2786	0.0000	.0000E+00	.2156
155	0.0	0.00	0.05	0.2774	0.0000	.0000E+00	.1926
156	0.0	0.00	0.02	0.2770	0.0000	.0000E+00	.1577
157	2.8	0.00	0.64	0.3335	0.0000	.0000E+00	.0000E+00
158	0.0	0.00	0.47	0.3213	0.0000	.0000E+00	.0000E+00
159	9.7	1.72	0.57	0.4176	0.0000	.0000E+00	.4135E-01
160	0.0	0.00	2.12	0.3424	0.0000	.0000E+00	.8823
161	0.0	0.00	2.35	0.2806	0.0000	.0000E+00	.8675
162	0.0	0.00	0.10	0.2770	0.0000	.0000E+00	.5753
163	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.4618
164	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.3698
165	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.3081
166	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2637
167	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2304
168	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2044
169	3.8	0.00	0.64	0.3601	0.0000	.0000E+00	.1836
170	0.0	0.00	0.52	0.3466	0.0000	.0000E+00	.7595E-01
171	0.0	0.00	0.52	0.3330	0.0000	.0000E+00	.0000E+00
172	0.0	0.00	0.49	0.3200	0.0000	.0000E+00	.0000E+00
173	0.0	0.00	0.47	0.3077	0.0000	.0000E+00	.0000E+00
174	0.0	0.00	0.45	0.2958	0.0000	.0000E+00	.0000E+00
175	0.0	0.00	0.43	0.2844	0.0000	.0000E+00	.0000E+00
176	0.0	0.00	0.22	0.2786	0.0000	.0000E+00	.0000E+00
177	0.0	0.00	0.06	0.2770	0.0000	.0000E+00	.0000E+00
178	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
179	2.8	0.00	0.44	0.3389	0.0000	.0000E+00	.0000E+00
180	0.0	0.00	0.32	0.3306	0.0000	.0000E+00	.0000E+00
181	0.0	0.00	0.34	0.3217	0.0000	.0000E+00	.0000E+00
182	0.3	0.00	0.38	0.3185	0.0000	.0000E+00	.0000E+00
183	0.0	0.00	0.32	0.3100	0.0000	.0000E+00	.8161E-01
184	0.0	0.00	0.31	0.3017	0.0000	.0000E+00	.0000E+00
185	0.0	0.00	0.32	0.2934	0.0000	.0000E+00	.0000E+00
186	0.0	0.00	0.31	0.2852	0.0000	.0000E+00	.0000E+00
187	0.0	0.00	0.26	0.2782	0.0000	.0000E+00	.0000E+00
188	0.0	0.00	0.04	0.2772	0.0000	.0000E+00	.0000E+00
189	0.0	0.00	0.01	0.2770	0.0000	.0000E+00	.0000E+00
190	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
191	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
192	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
193	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
194	1.0	0.00	0.16	0.2993	0.0000	.0000E+00	.0000E+00
195	0.0	0.00	0.12	0.2962	0.0000	.0000E+00	.0000E+00
196	0.0	0.00	0.19	0.2913	0.0000	.0000E+00	.0000E+00
197	0.0	0.00	0.23	0.2853	0.0000	.0000E+00	.0000E+00
198	0.0	0.00	0.22	0.2794	0.0000	.0000E+00	.0000E+00
199	1.5	0.00	0.23	0.3133	0.0000	.0000E+00	.0000E+00
200	4.3	0.07	0.31	0.4165	0.0000	.0000E+00	.0000E+00
201	0.0	0.00	0.26	0.3833	0.0000	.0000E+00	.1202
202	0.0	0.00	0.26	0.3763	0.0000	.0000E+00	.2366
203	0.0	0.00	0.26	0.3696	0.0000	.0000E+00	.2164
204	0.0	0.00	0.25	0.3629	0.0000	.0000E+00	.1933
205	0.0	0.00	0.25	0.3564	0.0000	.0000E+00	.1637
206	1.0	0.00	0.29	0.3748	0.0000	.0000E+00	.2198E-01
207	0.0	0.00	0.24	0.3684	0.0000	.0000E+00	.0000E+00
208	0.0	0.00	0.24	0.3608	0.0000	.0000E+00	.7647E-01
209	13.0	3.40	0.29	0.4246	0.0000	.0000E+00	.9896
210	0.0	0.00	2.52	0.3210	0.0000	.0000E+00	3.308
211	0.0	0.00	0.24	0.3148	0.0000	.0000E+00	1.035
212	1.0	0.00	0.28	0.3341	0.0000	.0000E+00	.6675
213	28.2	15.19	0.28	0.4141	0.0000	.0000E+00	6.496

214	73.4	66.45	2.71	0.4131	0.0000	.0000E+00	4.275
215	1.5	0.00	2.73	0.3629	0.0000	.0000E+00	1.757
216	15.7	5.94	2.93	0.4157	0.0000	.0000E+00	3.825
217	0.0	0.00	2.23	0.3292	0.0000	.0000E+00	2.292
218	0.0	0.00	1.96	0.2777	0.0000	.0000E+00	1.142
219	0.0	0.00	0.02	0.2772	0.0000	.0000E+00	.7100
220	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.5150
221	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.4034
222	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.3312
223	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2806
224	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2432
225	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2145
226	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1918
227	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1503
228	0.3	0.00	0.11	0.2808	0.0000	.0000E+00	.0000E+00
229	0.0	0.00	0.10	0.2783	0.0000	.0000E+00	.0000E+00
230	3.8	0.00	0.65	0.3612	0.0000	.0000E+00	.4135E-01
231	0.0	0.00	0.52	0.3476	0.0000	.0000E+00	.0000E+00
232	0.5	0.00	0.57	0.3461	0.0000	.0000E+00	.0000E+00
233	0.0	0.00	0.49	0.3331	0.0000	.0000E+00	.0000E+00
234	0.0	0.00	0.47	0.3207	0.0000	.0000E+00	.0000E+00
235	0.0	0.00	0.46	0.3087	0.0000	.0000E+00	.0000E+00
236	0.0	0.00	0.45	0.2969	0.0000	.0000E+00	.0000E+00
237	0.0	0.00	0.39	0.2867	0.0000	.0000E+00	.0000E+00
238	0.0	0.00	0.31	0.2786	0.0000	.0000E+00	.0000E+00
239	0.0	0.00	0.06	0.2770	0.0000	.0000E+00	.0000E+00
240	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
241	1.5	0.00	0.21	0.3114	0.0000	.0000E+00	.0000E+00
242	0.3	0.00	0.30	0.3102	0.0000	.0000E+00	.0000E+00
243	0.0	0.00	0.30	0.3023	0.0000	.0000E+00	.0000E+00
244	9.9	1.41	0.41	0.4072	0.0000	.0000E+00	.0000E+00
245	0.0	0.00	0.35	0.3773	0.0000	.0000E+00	.7831
246	0.0	0.00	0.34	0.3684	0.0000	.0000E+00	1.089
247	0.3	0.00	0.39	0.3645	0.0000	.0000E+00	.6773
248	0.0	0.00	0.33	0.3546	0.0000	.0000E+00	.4754
249	0.0	0.00	0.29	0.3469	0.0000	.0000E+00	.4182
250	0.0	0.00	0.31	0.3386	0.0000	.0000E+00	.3411
251	0.0	0.00	0.31	0.3305	0.0000	.0000E+00	.2878
252	1.0	0.00	0.36	0.3478	0.0000	.0000E+00	.2486
253	0.0	0.00	0.30	0.3399	0.0000	.0000E+00	.2187
254	0.0	0.00	0.29	0.3322	0.0000	.0000E+00	.1951
255	0.0	0.00	0.29	0.3246	0.0000	.0000E+00	.1760
256	2.8	0.00	0.34	0.3890	0.0000	.0000E+00	.3995E-02
257	3.3	0.19	0.34	0.4143	0.0000	.0000E+00	.0000E+00
258	6.1	1.75	4.36	0.3981	0.0000	.0000E+00	.4142
259	0.0	0.00	3.83	0.2944	0.0000	.0000E+00	.3595
260	1.0	0.00	1.47	0.2825	0.0000	.0000E+00	.3924
261	0.0	0.00	0.15	0.2785	0.0000	.0000E+00	.3237
262	0.0	0.00	0.05	0.2774	0.0000	.0000E+00	.2752
263	0.0	0.00	0.01	0.2771	0.0000	.0000E+00	.2391
264	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2113
265	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1892
266	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1270
267	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
268	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
269	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
270	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
271	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
272	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
273	6.1	0.14	0.51	0.4200	0.0000	.0000E+00	.0000E+00
274	0.5	0.00	0.49	0.3867	0.0000	.0000E+00	.2278
275	0.5	0.00	0.48	0.3871	0.0000	.0000E+00	.2650
276	0.0	0.00	0.41	0.3750	0.0000	.0000E+00	.1999

277	0.0	0.00	0.39	0.3633	0.0000	.0000E+00	.1803
278	0.0	0.00	0.34	0.3542	0.0000	.0000E+00	.2034
279	4.3	0.03	0.44	0.4052	0.0000	.0000E+00	.9842E-01
280	0.8	0.00	0.43	0.3941	0.0000	.0000E+00	.2746
281	0.0	0.00	0.36	0.3839	0.0000	.0000E+00	.5721
282	12.4	4.39	0.41	0.3922	0.0000	.0000E+00	3.666
283	0.0	0.00	3.35	0.2966	0.0000	.0000E+00	2.033
284	1.0	0.00	0.40	0.3127	0.0000	.0000E+00	1.073
285	1.8	0.00	0.40	0.3477	0.0000	.0000E+00	.6453
286	0.0	0.00	0.33	0.3391	0.0000	.0000E+00	.5209
287	0.0	0.00	0.32	0.3307	0.0000	.0000E+00	.4071
288	0.0	0.00	0.31	0.3225	0.0000	.0000E+00	.3337
289	0.5	0.00	0.37	0.3260	0.0000	.0000E+00	.2824
290	0.0	0.00	0.30	0.3180	0.0000	.0000E+00	.2446
291	0.0	0.00	0.30	0.3102	0.0000	.0000E+00	.2156
292	0.0	0.00	0.29	0.3025	0.0000	.0000E+00	.1926
293	2.5	0.00	0.36	0.3598	0.0000	.0000E+00	.1578
294	0.0	0.00	0.28	0.3523	0.0000	.0000E+00	.0000E+00
295	1.0	0.00	0.35	0.3697	0.0000	.0000E+00	.3950E-01
296	0.0	0.00	0.28	0.3625	0.0000	.0000E+00	.0000E+00
297	0.5	0.00	0.34	0.3668	0.0000	.0000E+00	.0000E+00
298	0.0	0.00	0.27	0.3597	0.0000	.0000E+00	.0000E+00
299	0.0	0.00	0.27	0.3527	0.0000	.0000E+00	.0000E+00
300	0.0	0.00	0.26	0.3459	0.0000	.0000E+00	.4026E-01
301	0.0	0.00	0.26	0.3391	0.0000	.0000E+00	.0000E+00
302	0.0	0.00	0.26	0.3323	0.0000	.0000E+00	.0000E+00
303	0.0	0.00	0.25	0.3257	0.0000	.0000E+00	.0000E+00
304	0.0	0.00	0.25	0.3191	0.0000	.0000E+00	.0000E+00
305	0.0	0.00	0.25	0.3126	0.0000	.0000E+00	.0000E+00
306	0.0	0.00	0.24	0.3062	0.0000	.0000E+00	.0000E+00
307	0.0	0.00	0.24	0.2999	0.0000	.0000E+00	.0000E+00
308	12.2	2.12	0.32	0.4148	0.0000	.0000E+00	.0000E+00
309	7.1	2.86	5.02	0.3650	0.0000	.0000E+00	1.775
310	0.0	0.00	3.26	0.2793	0.0000	.0000E+00	1.374
311	0.0	0.00	0.06	0.2777	0.0000	.0000E+00	.7921
312	0.0	0.00	0.02	0.2772	0.0000	.0000E+00	.5570
313	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.4290
314	2.8	0.00	1.12	0.3210	0.0000	.0000E+00	.3483
315	0.0	0.00	0.59	0.3054	0.0000	.0000E+00	.2929
316	0.0	0.00	0.64	0.2886	0.0000	.0000E+00	.2525
317	0.0	0.00	0.38	0.2787	0.0000	.0000E+00	.2217
318	0.0	0.00	0.05	0.2773	0.0000	.0000E+00	.1975
319	0.0	0.00	0.01	0.2770	0.0000	.0000E+00	.1780
320	4.1	0.00	0.65	0.3667	0.0000	.0000E+00	.2291E-01
321	0.0	0.00	0.49	0.3539	0.0000	.0000E+00	.0000E+00
322	0.0	0.00	0.49	0.3410	0.0000	.0000E+00	.0000E+00
323	0.0	0.00	0.47	0.3286	0.0000	.0000E+00	.0000E+00
324	0.0	0.00	0.45	0.3167	0.0000	.0000E+00	.0000E+00
325	0.0	0.00	0.45	0.3049	0.0000	.0000E+00	.0000E+00
326	0.0	0.00	0.43	0.2936	0.0000	.0000E+00	.0000E+00
327	0.0	0.00	0.36	0.2842	0.0000	.0000E+00	.0000E+00
328	0.0	0.00	0.27	0.2770	0.0000	.0000E+00	.0000E+00
329	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.4135E-01
330	0.3	0.00	0.11	0.2807	0.0000	.0000E+00	.0000E+00
331	0.0	0.00	0.06	0.2792	0.0000	.0000E+00	.0000E+00
332	0.0	0.00	0.07	0.2774	0.0000	.0000E+00	.0000E+00
333	0.0	0.00	0.01	0.2771	0.0000	.0000E+00	.0000E+00
334	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
335	1.5	0.00	0.23	0.3110	0.0000	.0000E+00	.0000E+00
336	0.5	0.00	0.31	0.3162	0.0000	.0000E+00	.0000E+00
337	0.3	0.00	0.35	0.3137	0.0000	.0000E+00	.0000E+00
338	0.0	0.00	0.29	0.3061	0.0000	.0000E+00	.0000E+00
339	0.0	0.00	0.27	0.2991	0.0000	.0000E+00	.0000E+00

340	0.0	0.00	0.26	0.2924	0.0000	.0000E+00	.0000E+00
341	0.0	0.00	0.25	0.2858	0.0000	.0000E+00	.0000E+00
342	0.0	0.00	0.27	0.2787	0.0000	.0000E+00	.0000E+00
343	24.4	9.70	0.38	0.4189	0.0000	.0000E+00	3.509
344	1.8	0.04	4.83	0.3259	0.0000	.0000E+00	1.633
345	3.0	0.00	0.38	0.3951	0.0000	.0000E+00	1.154
346	0.0	0.00	4.19	0.2851	0.0000	.0000E+00	.7293
347	0.0	0.00	0.23	0.2790	0.0000	.0000E+00	.5251
348	0.0	0.00	0.07	0.2770	0.0000	.0000E+00	.4097
349	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.3354
350	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2837
351	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2455
352	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.2163
353	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1932
354	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.1631
355	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
356	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
357	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
358	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
359	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
360	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
361	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
362	0.0	0.00	0.00	0.2770	0.0000	.0000E+00	.0000E+00
363	0.3	0.00	0.11	0.2809	0.0000	.0000E+00	.0000E+00
364	0.0	0.00	0.07	0.2791	0.0000	.0000E+00	.0000E+00
365	0.0	0.00	0.04	0.2779	0.0000	.0000E+00	.0000E+00

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MONTHLY TOTALS (MM) FOR YEAR 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	64.5	407.7	87.4	208.0	71.9	19.0
	22.1	125.2	30.5	25.9	26.4	31.7
RUNOFF	15.09	299.08	30.53	111.22	33.17	1.72
	3.47	87.59	3.49	4.42	4.97	9.74
EVAPOTRANSPIRATION	27.97	64.49	28.63	62.12	17.59	13.41
	8.81	18.25	15.02	13.54	16.53	12.54
PERCOLATION/LEAKAGE THROUGH LAYER 1	21.413	42.750	27.070	36.931	18.120	5.557
	7.110	22.868	7.445	11.873	6.482	9.397

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ANNUAL TOTALS FOR YEAR 1

	MM	CU. METERS	PERCENT
PRECIPITATION	1120.39	56019.703	100.00
RUNOFF	604.483	30224.145	53.95
EVAPOTRANSPIRATION	298.896	14944.820	26.68
PERC./LEAKAGE THROUGH LAYER 1	217.014725	10850.736	19.37
CHANGE IN WATER STORAGE	0.000	0.000	0.00
SOIL WATER AT START OF YEAR	54.563	2728.172	

SOIL WATER AT END OF YEAR	54.563	2728.172	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0000	0.002	0.00

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AVERAGE MONTHLY VALUES (MM) FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	64.52	407.67	87.38	208.03	71.88	19.05
	22.10	125.22	30.48	25.91	26.42	31.75
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
RUNOFF						
TOTALS	15.085	299.077	30.531	111.219	33.170	1.721
	3.475	87.586	3.487	4.418	4.974	9.741
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	27.975	64.490	28.628	62.119	17.589	13.410
	8.809	18.251	15.022	13.539	16.528	12.536
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
PERCOLATION/LEAKAGE THROUGH LAYER 1						
TOTALS	21.4127	42.7495	27.0698	36.9311	18.1195	5.5570
	7.1104	22.8679	7.4454	11.8727	6.4819	9.3969
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	MM	CU. METERS	PERCENT
PRECIPITATION	1120.39 (0.000)	56019.7	100.00
RUNOFF	604.483 (0.0000)	30224.14	53.953
EVAPOTRANSPIRATION	298.896 (0.0000)	14944.82	26.678
PERCOLATION/LEAKAGE THROUGH LAYER 1	217.01472 (0.00000)	10850.736	19.36950
CHANGE IN WATER STORAGE	0.000 (0.0000)	0.00	0.000

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(MM)	(CU. METERS)	
PRECIPITATION	121.67	6083.300	
RUNOFF	102.916	5145.7915	
PERCOLATION/LEAKAGE THROUGH LAYER 1	9.136065	456.80328	
SNOW WATER	0.00	0.0000	
MAXIMUM VEG. SOIL WATER (VOL/VOL)		0.4450	
MINIMUM VEG. SOIL WATER (VOL/VOL)		0.2770	

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(CM)	(VOL/VOL)
1	5.4563	0.3638

SNOW WATER 0.000

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Cells 1, 2, 3 and Final Cell - Final Cap and Revegetation Surface

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**          HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE          **
**           HELP MODEL VERSION 3.07  (1 NOVEMBER 1997)           **
**            DEVELOPED BY ENVIRONMENTAL LABORATORY               **
**              USAE WATERWAYS EXPERIMENT STATION                 **
**         FOR USEPA RISK REDUCTION ENGINEERING LABORATORY        **

**********************************************************************

PRECIPITATION DATA FILE:    F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DATA4.D4
TEMPERATURE DATA FILE:      F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DATA7.D7
SOLAR RADIATION DATA FILE:  F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DATA13.D13
EVAPOTRANSPIRATION DATA:    F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DATA11.D11
SOIL AND DESIGN DATA FILE:  F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\D10.D10
OUTPUT DATA FILE:           F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\OUT6.OUT


TIME:  14:21    DATE:   8/ 6/2009

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   TITLE:  Orchard Hills Waste & Resource Mgt Facility (Final Cover)

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   NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER WERE
          COMPUTED AS NEARLY STEADY-STATE VALUES BY THE PROGRAM.

                      LAYER  1
                      --------

            TYPE 1 - VERTICAL PERCOLATION LAYER
               MATERIAL TEXTURE NUMBER   6
      THICKNESS               =    100.00   CM
      POROSITY                =      0.4530 VOL/VOL
      FIELD CAPACITY          =      0.1900 VOL/VOL
      WILTING POINT           =      0.0850 VOL/VOL
      INITIAL SOIL WATER CONTENT  =      0.1236 VOL/VOL
      EFFECTIVE SAT. HYD. COND.   =  0.720000011000E-03 CM/SEC
     NOTE:  SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY  4.20
          FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.


                      LAYER  2
                      --------

            TYPE 1 - VERTICAL PERCOLATION LAYER
               MATERIAL TEXTURE NUMBER  26
      THICKNESS               =     20.00   CM
      POROSITY                =      0.4450 VOL/VOL
      FIELD CAPACITY          =      0.3930 VOL/VOL
      WILTING POINT           =      0.2770 VOL/VOL
      INITIAL SOIL WATER CONTENT  =      0.3930 VOL/VOL
      EFFECTIVE SAT. HYD. COND.   =  0.190000003000E-05 CM/SEC


                      LAYER  3
                      --------

              TYPE 3 - BARRIER SOIL LINER
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MATERIAL TEXTURE NUMBER 28
THICKNESS = 30.00 CM
POROSITY = 0.4520 VOL/VOL
FIELD CAPACITY = 0.4110 VOL/VOL
WILTING POINT = 0.3110 VOL/VOL
INITIAL SOIL WATER CONTENT = 0.4520 VOL/VOL
EFFECTIVE SAT. HYD. COND. = 0.120000004000E-05 CM/SEC

LAYER 4

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 26
THICKNESS = 10.00 CM
POROSITY = 0.4450 VOL/VOL
FIELD CAPACITY = 0.3930 VOL/VOL
WILTING POINT = 0.2770 VOL/VOL
INITIAL SOIL WATER CONTENT = 0.3738 VOL/VOL
EFFECTIVE SAT. HYD. COND. = 0.190000003000E-05 CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT SOIL DATA BASE USING SOIL TEXTURE # 6 WITH A GOOD STAND OF GRASS, A SURFACE SLOPE OF 5.% AND A SLOPE LENGTH OF 100. METERS.

SCS RUNOFF CURVE NUMBER = 61.60
FRACTION OF AREA ALLOWING RUNOFF = 100.0 PERCENT
AREA PROJECTED ON HORIZONTAL PLANE = 33.9000 HECTARES
EVAPORATIVE ZONE DEPTH = 99.1 CM
INITIAL WATER IN EVAPORATIVE ZONE = 12.181 CM
UPPER LIMIT OF EVAPORATIVE STORAGE = 44.874 CM
LOWER LIMIT OF EVAPORATIVE STORAGE = 8.420 CM
INITIAL SNOW WATER = 0.000 CM
INITIAL WATER IN LAYER MATERIALS = 37.518 CM
TOTAL INITIAL WATER = 37.518 CM
TOTAL SUBSURFACE INFLOW = 0.00 MM/YR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM Orchard Hills nsw

STATION LATITUDE = -33.80 DEGREES
MAXIMUM LEAF AREA INDEX = 3.00
START OF GROWING SEASON (JULIAN DATE) = 1
END OF GROWING SEASON (JULIAN DATE) = 365
EVAPORATIVE ZONE DEPTH = 39.0 INCHES
AVERAGE ANNUAL WIND SPEED = 7.50 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY = 70.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY = 50.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY = 50.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY = 70.00 %

NOTE: PRECIPITATION DATA FOR Orchard Hills

WAS ENTERED BY THE USER.

NOTE: TEMPERATURE DATA FOR orchard hills nsw
WAS ENTERED BY THE USER.

NOTE: SOLAR RADIATION DATA FOR orchard hills nsw
WAS ENTERED BY THE USER.

HEAD #1: AVERAGE HEAD ON TOP OF LAYER 3
DRAIN #1: LATERAL DRAINAGE FROM LAYER 2 (RECIRCULATION AND COLLECTION)
LEAK #1: PERCOLATION OR LEAKAGE THROUGH LAYER 3
LEAK #2: PERCOLATION OR LEAKAGE THROUGH LAYER 4

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DAILY OUTPUT FOR YEAR 1

DAY	SNOW WATER	RAIN	RUNOFF	ET	E. ZONE #1	HEAD #1	DRAIN #1	LEAK #1	HEAD #2	DRAIN #2	LEAK #2
	MM	MM	MM	CM/CM	CM	MM	MM	CM	MM	MM	
1	1.5	0.00	2.39	0.1221	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00	
2	0.0	0.00	1.26	0.1208	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00	
3	2.3	0.00	2.20	0.1209	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00	
4	0.0	0.00	1.04	0.1199	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00	
5	0.0	0.00	0.98	0.1189	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00	
6	0.0	0.00	0.92	0.1179	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00	
7	0.0	0.00	0.89	0.1170	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00	
8	0.0	0.00	0.80	0.1162	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00	
9	0.0	0.00	0.85	0.1154	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00	
10	0.0	0.00	0.84	0.1145	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00	
11	0.0	0.00	0.81	0.1137	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00	
12	0.0	0.00	0.84	0.1129	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00	
13	0.0	0.00	0.87	0.1120	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00	
14	0.0	0.00	0.88	0.1111	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00	
15	0.0	0.00	0.88	0.1102	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00	
16	0.0	0.00	0.71	0.1095	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00	
17	0.0	0.00	0.89	0.1086	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00	
18	0.0	0.00	0.84	0.1077	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00	

19	0.0	0.00	0.89	0.1068	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
20	0.0	0.00	0.92	0.1059	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
21	0.0	0.00	1.04	0.1049	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
22	0.0	0.00	0.95	0.1039	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
23	3.8	0.00	2.28	0.1055	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
24	0.0	0.00	1.06	0.1044	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
25	1.3	0.00	1.73	0.1039	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
26	0.0	0.00	1.27	0.1026	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
27	0.0	0.00	1.25	0.1014	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
28	0.0	0.00	1.15	0.1002	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
29	2.3	0.00	2.22	0.1003	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
30	0.0	0.00	1.30	0.0990	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
31	0.0	0.00	1.45	0.0975	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
32	0.0	0.00	1.49	0.0960	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
33	0.0	0.00	1.87	0.0941	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
34	0.0	0.00	2.07	0.0920	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
35	0.0	0.00	2.40	0.0896	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
36	0.0	0.00	2.49	0.0871	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
37	0.0	0.00	2.06	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
38	0.0	0.00	0.01	0.0850	0.0000	.0000E+00	.4882E-06	0.0000	.0000E+00
.4803E-01									
39	12.2	0.00	1.49	0.0958	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
40	7.9	0.00	2.56	0.1012	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
41	0.0	0.00	1.43	0.0997	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
42	0.0	0.00	1.77	0.0979	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
43	0.0	0.00	1.95	0.0960	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
44	0.0	0.00	2.33	0.0936	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
45	0.0	0.00	1.77	0.0918	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
46	0.0	0.00	2.67	0.0891	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
47	0.0	0.00	2.58	0.0865	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
48	0.0	0.00	1.27	0.0853	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
49	0.0	0.00	0.19	0.0851	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

50	0.0	0.00	0.05	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
51	9.9	0.00	1.49	0.0935	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
52	5.1	0.00	2.60	0.0960	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
53	3.0	0.00	2.84	0.0962	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
54	0.0	0.00	1.73	0.0945	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
55	0.0	0.00	2.48	0.0920	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
56	0.0	0.00	4.28	0.0876	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
57	0.0	0.00	1.86	0.0858	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
58	0.0	0.00	0.57	0.0852	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
59	0.0	0.00	0.00	0.0852	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
60	0.0	0.00	0.14	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
61	0.0	0.00	0.04	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
62	0.0	0.00	0.01	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
63	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
64	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
65	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
66	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
67	8.4	0.00	1.41	0.0920	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
68	2.3	0.00	3.04	0.0913	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
69	1.3	0.00	3.82	0.0887	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
70	0.0	0.00	1.21	0.0875	0.0000	.0000E+00	.4144E-07	0.0000	.0000E+00
.4655E-01									
71	0.0	0.00	1.34	0.0861	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
72	0.0	0.00	0.91	0.0852	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
73	2.0	0.00	1.58	0.0857	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
74	0.0	0.00	0.38	0.0853	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
75	0.0	0.00	0.20	0.0851	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
76	0.0	0.00	0.06	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
77	0.0	0.00	0.02	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
78	13.7	0.00	1.53	0.0973	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
79	8.4	0.00	2.91	0.1028	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
80	0.8	0.00	2.98	0.1006	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

81	0.0	0.00	3.19	0.0974	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
82	0.0	0.00	3.73	0.0936	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
83	0.0	0.00	3.57	0.0900	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
84	12.7	0.00	2.37	0.1004	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
85	1.5	0.00	2.54	0.0994	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
86	3.8	0.00	3.37	0.0998	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
87	0.0	0.00	3.63	0.0962	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
88	0.0	0.00	2.82	0.0933	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
89	0.0	0.00	3.14	0.0902	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
90	0.0	0.00	3.22	0.0869	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
91	0.0	0.00	1.47	0.0854	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
92	1.8	0.00	1.69	0.0855	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
93	19.0	0.00	2.81	0.1019	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
94	13.5	0.00	2.77	0.1127	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
95	3.6	0.00	3.01	0.1132	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
96	0.5	0.00	3.54	0.1102	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
97	0.0	0.00	3.58	0.1066	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
98	0.0	0.00	3.42	0.1031	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
99	1.8	0.00	3.64	0.1012	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
100	7.1	0.00	3.84	0.1045	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
101	0.0	0.00	4.09	0.1004	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
102	0.0	0.00	3.83	0.0966	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
103	0.0	0.00	2.92	0.0936	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
104	2.3	0.00	3.61	0.0923	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
105	0.0	0.00	3.85	0.0884	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
106	0.0	0.00	2.28	0.0861	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
107	0.0	0.00	0.81	0.0853	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
108	0.0	0.00	0.20	0.0851	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
109	0.0	0.00	0.07	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
110	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
111	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

112	1.8	0.00	1.17	0.0856	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
113	3.6	0.00	1.42	0.0878	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
114	5.8	0.00	1.45	0.0922	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
115	12.2	0.00	2.25	0.1022	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
116	2.8	0.00	2.02	0.1030	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
117	27.7	0.00	2.29	0.1287	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
118	9.7	0.00	2.96	0.1354	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
119	5.6	0.00	2.97	0.1381	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
120	4.8	0.00	2.97	0.1399	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
121	18.8	0.00	3.16	0.1557	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
122	22.9	0.00	3.27	0.1755	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
123	11.4	0.00	3.08	0.1839	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
124	4.8	0.00	3.43	0.1853	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
125	0.0	0.00	3.23	0.1821	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
126	0.0	0.00	3.37	0.1787	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
127	9.7	0.00	3.30	0.1851	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
128	0.0	0.00	3.28	0.1818	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
129	0.0	0.00	3.20	0.1785	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
130	0.0	0.00	3.03	0.1755	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
131	0.0	0.00	3.11	0.1723	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
132	0.0	0.00	3.18	0.1691	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
133	2.3	0.00	2.80	0.1686	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
134	3.8	0.00	2.74	0.1697	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
135	0.0	0.00	3.03	0.1666	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
136	0.0	0.00	2.96	0.1636	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
137	2.0	0.00	3.02	0.1626	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
138	0.0	0.00	2.90	0.1597	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
139	0.0	0.00	2.51	0.1572	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
140	16.3	0.00	2.55	0.1710	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
141	0.0	0.00	2.64	0.1684	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
142	0.5	0.00	2.98	0.1659	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

143	0.0	0.00	2.75	0.1631	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
144	0.0	0.00	2.57	0.1605	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
145	1.8	0.00	2.77	0.1595	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
146	0.5	0.00	2.71	0.1573	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
147	0.0	0.00	2.86	0.1544	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
148	0.0	0.00	3.06	0.1513	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
149	0.0	0.00	2.90	0.1484	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
150	0.0	0.00	2.67	0.1457	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
151	2.8	0.00	2.81	0.1457	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
152	0.3	0.00	2.53	0.1434	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
153	17.0	0.00	2.88	0.1576	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
154	0.0	0.00	2.47	0.1551	0.0008	.0000E+00	.1734E-02	0.0000	.0000E+00
.4347E-01									
155	0.0	0.00	2.50	0.1526	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
156	0.0	0.00	2.41	0.1502	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
157	30.0	0.00	2.40	0.1780	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
158	2.0	0.00	2.44	0.1776	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
159	1.5	0.00	2.47	0.1767	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
160	0.0	0.00	2.41	0.1742	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
161	0.0	0.00	2.45	0.1717	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
162	0.0	0.00	2.53	0.1692	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
163	0.0	0.00	2.47	0.1667	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
164	0.0	0.00	2.47	0.1642	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
165	0.0	0.00	2.37	0.1618	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
166	0.0	0.00	2.37	0.1594	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
167	0.0	0.00	2.45	0.1569	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
168	0.0	0.00	2.31	0.1546	0.0034	.0000E+00	.1462E-01	0.0000	.0000E+00
.2974E-01									
169	0.0	0.00	2.51	0.1521	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
170	0.0	0.00	2.47	0.1496	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
171	0.0	0.00	2.38	0.1472	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
172	0.5	0.00	2.35	0.1453	0.0010	.0000E+00	.2036E-02	0.0000	.0000E+00
.4152E-01									
173	0.8	0.00	2.29	0.1438	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

174	0.0	0.00	2.18	0.1416	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
175	0.0	0.00	2.16	0.1394	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
176	0.0	0.00	2.36	0.1370	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
177	0.0	0.00	2.43	0.1346	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
178	0.0	0.00	2.50	0.1320	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
179	0.0	0.00	2.51	0.1295	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
180	0.0	0.00	2.62	0.1269	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
181	0.0	0.00	2.61	0.1242	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
182	0.0	0.00	2.58	0.1216	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
183	0.0	0.00	2.50	0.1191	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
184	0.0	0.00	2.54	0.1165	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
185	0.0	0.00	2.46	0.1140	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
186	0.0	0.00	2.60	0.1114	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
187	0.3	0.00	2.45	0.1092	0.0009	.0000E+00	.1784E-02	0.0000	.0000E+00
.4065E-01									
188	1.5	0.00	2.34	0.1084	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
189	1.0	0.00	2.34	0.1070	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
190	4.8	0.00	2.25	0.1096	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
191	20.6	0.00	2.50	0.1279	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
192	7.1	0.00	2.58	0.1325	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
193	0.0	0.00	2.47	0.1300	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
194	0.0	0.00	2.44	0.1275	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
195	0.0	0.00	2.20	0.1253	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
196	0.0	0.00	2.48	0.1228	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
197	0.0	0.00	2.69	0.1201	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
198	0.0	0.00	2.48	0.1176	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
199	1.5	0.00	2.24	0.1168	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
200	6.1	0.00	2.59	0.1204	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
201	0.0	0.00	2.59	0.1178	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
202	0.0	0.00	2.45	0.1153	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
203	0.0	0.00	2.61	0.1127	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
204	0.0	0.00	2.53	0.1101	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

205	0.0	0.00	2.54	0.1075	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
206	0.0	0.00	2.71	0.1048	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
207	0.0	0.00	2.82	0.1020	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
208	0.0	0.00	2.53	0.0994	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
209	0.0	0.00	2.83	0.0965	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
210	0.0	0.00	2.74	0.0938	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
211	0.0	0.00	2.41	0.0914	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
212	0.0	0.00	2.27	0.0891	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
213	0.0	0.00	2.30	0.0867	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
214	0.0	0.00	1.72	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
215	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
216	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
217	2.5	0.00	1.26	0.0863	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
218	0.0	0.00	0.25	0.0860	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
219	1.3	0.00	1.20	0.0861	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
220	0.0	0.00	0.38	0.0857	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
221	0.0	0.00	0.58	0.0852	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
222	0.0	0.00	0.13	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
223	0.0	0.00	0.02	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
224	0.0	0.00	0.01	0.0850	0.0001	.0000E+00	.2809E-03	0.0000	.0000E+00
.4104E-01									
225	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
226	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
227	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
228	9.7	0.00	1.50	0.0932	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
229	0.0	0.00	1.49	0.0917	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
230	0.0	0.00	1.85	0.0899	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
231	0.0	0.00	2.38	0.0875	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
232	0.0	0.00	1.33	0.0861	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
233	0.0	0.00	0.80	0.0853	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
234	0.8	0.00	0.97	0.0851	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
235	3.6	0.00	1.55	0.0871	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

236	0.0	0.00	0.38	0.0867	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
237	0.3	0.00	0.96	0.0860	0.0000	.0000E+00	.4255E-06	0.0000	.0000E+00
.4021E-01									
238	0.0	0.00	0.71	0.0853	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
239	0.0	0.00	0.24	0.0851	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
240	0.0	0.00	0.05	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
241	1.5	0.00	1.12	0.0854	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
242	0.5	0.00	0.69	0.0852	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
243	0.5	0.00	0.67	0.0851	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
244	0.0	0.00	0.05	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
245	0.0	0.00	0.01	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
246	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
247	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
248	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
249	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
250	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
251	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
252	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
253	1.0	0.00	1.02	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
254	4.8	0.00	1.51	0.0883	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
255	20.3	0.00	2.51	0.1063	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
256	2.5	0.00	2.38	0.1065	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
257	4.3	0.00	2.88	0.1079	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
258	5.1	0.00	3.78	0.1093	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
259	0.0	0.00	2.44	0.1068	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
260	0.0	0.00	3.39	0.1034	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
261	0.0	0.00	2.49	0.1009	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
262	0.0	0.00	2.43	0.0984	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
263	27.7	0.00	3.00	0.1233	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
264	0.5	0.00	2.89	0.1209	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
265	0.0	0.00	3.63	0.1172	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
266	0.0	0.00	3.44	0.1138	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

267	0.0	0.00	3.91	0.1098	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
268	0.0	0.00	4.61	0.1052	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
269	2.5	0.00	4.26	0.1034	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
270	0.0	0.00	3.95	0.0994	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
271	0.0	0.00	3.94	0.0955	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
272	0.0	0.00	4.35	0.0911	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
273	2.3	0.00	4.26	0.0891	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
274	0.0	0.00	3.18	0.0859	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
275	0.0	0.00	0.69	0.0852	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
276	0.0	0.00	0.15	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
277	0.0	0.00	0.02	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
278	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
279	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
280	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
281	0.0	0.00	0.00	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
282	7.9	0.00	1.63	0.0913	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
283	1.5	0.00	2.51	0.0903	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
284	0.0	0.00	2.71	0.0876	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
285	11.7	0.00	2.10	0.0972	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
286	3.8	0.00	2.22	0.0988	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
287	36.3	0.00	2.26	0.1332	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
288	11.9	0.00	3.07	0.1422	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
289	7.1	0.00	4.15	0.1452	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
290	6.3	0.00	4.17	0.1474	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
291	4.1	0.00	4.74	0.1467	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
292	0.0	0.00	3.09	0.1436	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
293	5.6	0.00	4.29	0.1449	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
294	0.0	0.00	4.16	0.1407	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
295	0.0	0.00	4.01	0.1366	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
296	0.0	0.00	3.53	0.1330	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
297	3.0	0.00	3.51	0.1326	0.0000	.0000E+00	.3312E-06	0.0000	.0000E+00
.3916E-01									

298	8.9	0.00	2.77	0.1388	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
299	18.3	0.00	3.73	0.1535	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
300	4.1	0.00	3.75	0.1538	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
301	7.1	0.00	4.61	0.1563	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
302	0.0	0.00	4.56	0.1517	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
303	0.0	0.00	5.76	0.1459	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
304	0.0	0.00	5.50	0.1403	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
305	0.0	0.00	5.19	0.1351	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
306	0.0	0.00	5.16	0.1299	0.0000	.0000E+00	.8506E-07	0.0000	.0000E+00
.3816E-01									
307	0.0	0.00	4.82	0.1250	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
308	0.0	0.00	4.43	0.1205	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
309	0.0	0.00	4.90	0.1156	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
310	0.0	0.00	4.17	0.1114	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
311	3.3	0.00	4.02	0.1107	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
312	10.9	0.00	5.35	0.1163	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
313	15.0	0.00	5.54	0.1258	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
314	0.3	0.00	5.36	0.1207	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
315	0.0	0.00	4.49	0.1162	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
316	0.0	0.00	3.51	0.1126	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
317	0.0	0.00	3.63	0.1089	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
318	0.5	0.00	5.55	0.1038	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
319	0.0	0.00	3.29	0.1005	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
320	14.2	0.00	5.28	0.1096	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
321	0.0	0.00	4.46	0.1051	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
322	0.0	0.00	3.97	0.1010	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
323	0.0	0.00	3.86	0.0972	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
324	0.0	0.00	3.84	0.0933	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
325	0.0	0.00	3.29	0.0900	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
326	0.0	0.00	1.61	0.0883	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
327	0.0	0.00	1.64	0.0867	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
328	0.0	0.00	1.31	0.0854	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

329	0.0	0.00	0.35	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
330	37.1	0.00	3.38	0.1190	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
331	9.9	0.00	3.01	0.1260	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
332	0.8	0.00	3.25	0.1235	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
333	8.6	0.00	4.10	0.1281	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
334	0.8	0.00	3.61	0.1252	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
335	9.1	0.00	3.71	0.1307	0.0000	.0000E+00	.2894E-04	0.0000	.0000E+00
.3718E-01									
336	5.6	0.00	3.11	0.1332	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
337	0.0	0.00	3.06	0.1301	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
338	5.8	0.00	2.89	0.1331	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
339	3.0	0.00	4.74	0.1313	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
340	0.0	0.00	2.59	0.1287	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
341	4.3	0.00	3.81	0.1293	0.0001	.0000E+00	.1409E-03	0.0000	.0000E+00
.3616E-01									
342	0.0	0.00	3.16	0.1261	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
343	0.3	0.00	3.81	0.1225	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
344	2.8	0.00	3.95	0.1213	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
345	2.0	0.00	3.12	0.1202	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
346	0.5	0.00	3.72	0.1170	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
347	0.0	0.00	3.01	0.1139	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
348	20.3	0.00	3.82	0.1306	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
349	29.0	0.00	4.44	0.1553	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
350	0.0	0.00	2.94	0.1524	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
351	13.2	0.00	4.67	0.1610	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
352	0.0	0.00	3.17	0.1578	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
353	0.0	0.00	2.78	0.1550	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
354	0.0	0.00	3.58	0.1514	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
355	0.0	0.00	3.16	0.1482	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
356	0.0	0.00	2.40	0.1458	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
357	0.0	0.00	2.57	0.1432	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
358	0.0	0.00	2.56	0.1406	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
359	0.0	0.00	2.62	0.1379	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

```
 360       0.0  0.00  2.75  0.1351   0.0000 .0000E+00 .0000E+00   0.0000 .0000E+00
.0000E+00
 361       0.0  0.00  2.81  0.1323   0.0000 .0000E+00 .0000E+00   0.0000 .0000E+00
.0000E+00
 362       0.3  0.00  2.23  0.1303   0.0000 .0000E+00 .0000E+00   0.0000 .0000E+00
.0000E+00
 363       0.0  0.00  2.82  0.1275   0.0000 .0000E+00 .0000E+00   0.0000 .0000E+00
.0000E+00
 364       0.0  0.00  2.49  0.1250   0.0000 .0000E+00 .0000E+00   0.0000 .0000E+00
.0000E+00
 365       0.0  0.00  1.96  0.1230   0.0000 .0000E+00 .0000E+00   0.0000 .0000E+00
.0000E+00

*******************************************************************************
               MONTHLY TOTALS (MM) FOR YEAR    1
-------------------------------------------------------------------------------

                     JAN/JUL FEB/AUG MAR/SEP APR/OCT MAY/NOV JUN/DEC
                     ------- ------- ------- ------- ------- -------

PRECIPITATION              11.2   38.1   54.9  123.4   97.5   52.1
                         42.9   20.6   71.1  137.7  101.3   96.3

RUNOFF                      0.00   0.00   0.00   0.00   0.00   0.00
                          0.00   0.00   0.00   0.00   0.00   0.00

EVAPOTRANSPIRATION         36.40  50.30  53.16  70.91  91.87  73.29
                         77.75  24.52  67.14  86.91 116.34  98.46

PERCOLATION/LEAKAGE THROUGH     0.000  0.000  0.000  0.000  0.000  0.018
 LAYER  3                  0.002  0.000  0.000  0.000  0.000  0.000

PERCOLATION/LEAKAGE THROUGH     0.000  0.048  0.047  0.000  0.000  0.115
 LAYER  4                  0.041  0.081  0.000  0.039  0.038  0.073


-------------------------------------------------------------------------------
               MONTHLY SUMMARIES FOR DAILY HEADS (CM)
-------------------------------------------------------------------------------

AVERAGE DAILY HEAD ON          0.000  0.000  0.000  0.000  0.000  0.000
 TOP OF LAYER  3           0.000  0.000  0.000  0.000  0.000  0.000

STD. DEVIATION OF DAILY        0.000  0.000  0.000  0.000  0.000  0.001
 HEAD ON TOP OF LAYER  3      0.000  0.000  0.000  0.000  0.000  0.000

*******************************************************************************
                   ANNUAL TOTALS FOR YEAR    1
-------------------------------------------------------------------------------
                              MM         CU. METERS    PERCENT
                             ----------     ----------   -------
 PRECIPITATION                   847.09       287163.531    100.00

 RUNOFF                         0.000          0.000      0.00

 EVAPOTRANSPIRATION               847.069       287156.437    100.00

 PERC./LEAKAGE THROUGH LAYER  3         0.020625        6.992      0.00

 AVG. HEAD ON TOP OF LAYER  3           0.0002

 PERC./LEAKAGE THROUGH LAYER  4         0.481858       163.350      0.06
```

CHANGE IN WATER STORAGE	-0.461	-156.277	-0.05
SOIL WATER AT START OF YEAR	375.182	127186.680	
SOIL WATER AT END OF YEAR	374.721	127030.406	
SNOW WATER AT START OF YEAR	0.000	0.000	0.00
SNOW WATER AT END OF YEAR	0.000	0.000	0.00
ANNUAL WATER BUDGET BALANCE	0.0001	0.022	0.00

****

AVERAGE MONTHLY VALUES (MM) FOR YEARS 1 THROUGH 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	11.18	38.10	54.86	123.44	97.54	52.07
	42.93	20.57	71.12	137.67	101.35	96.27
STD. DEVIATIONS	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	36.398	50.301	53.164	70.911	91.870	73.293
	77.752	24.525	67.143	86.909	116.342	98.460
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
PERCOLATION/LEAKAGE THROUGH LAYER 3						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0184
	0.0018	0.0003	0.0000	0.0000	0.0000	0.0002
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0000	0.0480	0.0465	0.0000	0.0000	0.1147
	0.0406	0.0813	0.0000	0.0392	0.0382	0.0733
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (CM)

DAILY AVERAGE HEAD ON TOP OF LAYER 3

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

****

AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	MM		CU. METERS	PERCENT
PRECIPITATION	847.09	(0.000)	287163.5	100.00
RUNOFF	0.000	(0.0000)	0.00	0.000
EVAPOTRANSPIRATION	847.069	(0.0000)	287156.44	99.998
PERCOLATION/LEAKAGE THROUGH LAYER 3	0.02062	(0.00000)	6.992	0.00243
AVERAGE HEAD ON TOP OF LAYER 3	0.000	(0.000)		
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.48186	(0.00000)	163.350	0.05688
CHANGE IN WATER STORAGE	-0.461	(0.0000)	-156.28	-0.054

****

PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(MM)	(CU. METERS)
PRECIPITATION	37.08	12571.477
RUNOFF	0.000	0.0000
PERCOLATION/LEAKAGE THROUGH LAYER 3	0.014618	4.95564
AVERAGE HEAD ON TOP OF LAYER 3	0.034	
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.048033	16.28321
SNOW WATER	0.00	0.0000
MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.1853	
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0850	

****

FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(CM)	(VOL/VOL)
1	12.3599	0.1236
2	7.8600	0.3930
3	13.5600	0.4520
4	3.6922	0.3692
SNOW WATER	0.000	

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Final Cap and Revegetation Surface with Intermittent Gas Distribution

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******************************************************************************

 **          HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE          **
 **            HELP MODEL VERSION 3.07  (1 NOVEMBER 1997)          **
 **              DEVELOPED BY ENVIRONMENTAL LABORATORY             **
 **                USAE WATERWAYS EXPERIMENT STATION               **
 **         FOR USEPA RISK REDUCTION ENGINEERING LABORATORY         **

******************************************************************************


 PRECIPITATION DATA FILE:    F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DATA4.D4
 TEMPERATURE DATA FILE:      F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DATA7.D7
 SOLAR RADIATION DATA FILE:  F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DATA13.D13
 EVAPOTRANSPIRATION DATA:    F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DATA11.D11
 SOIL AND DESIGN DATA FILE:  F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\DD10.D10
 OUTPUT DATA FILE:          F:\SUPPORT\IT\SOFTWARE\USEPAH~1\HELP3\OUT11.OUT

 TIME:  16:21    DATE:  8/16/2009

******************************************************************************

    TITLE:  Orchard Hills Waste & Resource Mgt Facility (Final Cover)

******************************************************************************

    NOTE:  INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER WERE
           COMPUTED AS NEARLY STEADY-STATE VALUES BY THE PROGRAM.

                        LAYER  1
                        --------

              TYPE 1 - VERTICAL PERCOLATION LAYER
                 MATERIAL TEXTURE NUMBER   6
        THICKNESS                =     50.00   CM
        POROSITY                 =     0.4530 VOL/VOL
        FIELD CAPACITY           =     0.1900 VOL/VOL
        WILTING POINT            =     0.0850 VOL/VOL
        INITIAL SOIL WATER CONTENT  =     0.1334 VOL/VOL
        EFFECTIVE SAT. HYD. COND.   =  0.720000011000E-03 CM/SEC
      NOTE:  SATURATED HYDRAULIC CONDUCTIVITY IS MULTIPLIED BY  4.20
             FOR ROOT CHANNELS IN TOP HALF OF EVAPORATIVE ZONE.


                        LAYER  2
                        --------

              TYPE 1 - VERTICAL PERCOLATION LAYER
                 MATERIAL TEXTURE NUMBER  21
        THICKNESS                =     10.00   CM
        POROSITY                 =     0.3970 VOL/VOL
        FIELD CAPACITY           =     0.0320 VOL/VOL
        WILTING POINT            =     0.0130 VOL/VOL
        INITIAL SOIL WATER CONTENT  =     0.0866 VOL/VOL
        EFFECTIVE SAT. HYD. COND.   =  0.300000012000     CM/SEC
```

LAYER 3

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 6
THICKNESS = 40.00 CM
POROSITY = 0.4530 VOL/VOL
FIELD CAPACITY = 0.1900 VOL/VOL
WILTING POINT = 0.0850 VOL/VOL
INITIAL SOIL WATER CONTENT = 0.1042 VOL/VOL
EFFECTIVE SAT. HYD. COND. = 0.720000011000E-03 CM/SEC

LAYER 4

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 26
THICKNESS = 20.00 CM
POROSITY = 0.4450 VOL/VOL
FIELD CAPACITY = 0.3930 VOL/VOL
WILTING POINT = 0.2770 VOL/VOL
INITIAL SOIL WATER CONTENT = 0.3930 VOL/VOL
EFFECTIVE SAT. HYD. COND. = 0.190000003000E-05 CM/SEC

LAYER 5

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 28
THICKNESS = 30.00 CM
POROSITY = 0.4520 VOL/VOL
FIELD CAPACITY = 0.4110 VOL/VOL
WILTING POINT = 0.3110 VOL/VOL
INITIAL SOIL WATER CONTENT = 0.4520 VOL/VOL
EFFECTIVE SAT. HYD. COND. = 0.120000004000E-05 CM/SEC

LAYER 6

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 26
THICKNESS = 10.00 CM
POROSITY = 0.4450 VOL/VOL
FIELD CAPACITY = 0.3930 VOL/VOL
WILTING POINT = 0.2770 VOL/VOL
INITIAL SOIL WATER CONTENT = 0.3779 VOL/VOL
EFFECTIVE SAT. HYD. COND. = 0.190000003000E-05 CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT
SOIL DATA BASE USING SOIL TEXTURE # 6 WITH A
GOOD STAND OF GRASS, A SURFACE SLOPE OF 5.%
AND A SLOPE LENGTH OF 100. METERS.

SCS RUNOFF CURVE NUMBER = 61.60

FRACTION OF AREA ALLOWING RUNOFF = 100.0 PERCENT
AREA PROJECTED ON HORIZONTAL PLANE = 33.9000 HECTARES
EVAPORATIVE ZONE DEPTH = 99.9 CM
INITIAL WATER IN EVAPORATIVE ZONE = 11.694 CM
UPPER LIMIT OF EVAPORATIVE STORAGE = 44.717 CM
LOWER LIMIT OF EVAPORATIVE STORAGE = 7.776 CM
INITIAL SNOW WATER = 0.000 CM
INITIAL WATER IN LAYER MATERIALS = 36.903 CM
TOTAL INITIAL WATER = 36.903 CM
TOTAL SUBSURFACE INFLOW = 0.00 MM/YR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
Orchard Hills nsw

STATION LATITUDE = -33.80 DEGREES
MAXIMUM LEAF AREA INDEX = 3.00
START OF GROWING SEASON (JULIAN DATE) = 1
END OF GROWING SEASON (JULIAN DATE) = 365
EVAPORATIVE ZONE DEPTH = 39.3 INCHES
AVERAGE ANNUAL WIND SPEED = 7.50 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY = 70.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY = 50.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY = 50.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY = 70.00 %

NOTE: PRECIPITATION DATA FOR Orchard Hills
WAS ENTERED BY THE USER.

NOTE: TEMPERATURE DATA FOR orchard hills nsw
WAS ENTERED BY THE USER.

NOTE: SOLAR RADIATION DATA FOR orchard hills nsw
WAS ENTERED BY THE USER.

HEAD #1: AVERAGE HEAD ON TOP OF LAYER 5
DRAIN #1: LATERAL DRAINAGE FROM LAYER 4 (RECIRCULATION AND COLLECTION)
LEAK #1: PERCOLATION OR LEAKAGE THROUGH LAYER 5
LEAK #2: PERCOLATION OR LEAKAGE THROUGH LAYER 6

****

DAILY OUTPUT FOR YEAR 1

DAY	S A I R	O I L	RAIN MM	RUNOFF MM	ET MM	E. ZONE WATER CM/CM	HEAD #1 CM	DRAIN #1 MM	LEAK #1 MM	HEAD #2 CM	DRAIN #2 MM	LEAK #2 MM
1			1.5	0.00	2.13	0.1164	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00
2			0.0	0.00	1.11	0.1153	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00	.0000E+00

3	2.3	0.00	2.07	0.1155	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
4	0.0	0.00	0.95	0.1145	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
5	0.0	0.00	0.90	0.1136	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
6	0.0	0.00	0.86	0.1128	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
7	0.0	0.00	0.79	0.1120	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
8	0.0	0.00	0.81	0.1112	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
9	0.0	0.00	0.81	0.1104	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
10	0.0	0.00	0.80	0.1096	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
11	0.0	0.00	0.77	0.1088	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
12	0.0	0.00	0.81	0.1080	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
13	0.0	0.00	0.84	0.1071	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
14	0.0	0.00	0.86	0.1063	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
15	0.0	0.00	0.85	0.1054	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
16	0.0	0.00	0.69	0.1048	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
17	0.0	0.00	0.87	0.1039	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
18	0.0	0.00	0.81	0.1031	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
19	0.0	0.00	0.87	0.1022	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
20	0.0	0.00	0.90	0.1013	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
21	0.0	0.00	1.02	0.1003	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
22	0.0	0.00	0.94	0.0994	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
23	3.8	0.00	2.26	0.1009	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
24	0.0	0.00	1.05	0.0999	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
25	1.3	0.00	1.71	0.0994	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
26	0.0	0.00	1.25	0.0982	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
27	0.0	0.00	1.37	0.0968	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
28	0.0	0.00	1.33	0.0955	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
29	2.3	0.00	2.41	0.0953	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
30	0.0	0.00	1.68	0.0937	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
31	0.0	0.00	1.53	0.0921	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
32	0.0	0.00	1.59	0.0905	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
33	0.0	0.00	1.95	0.0886	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

34	0.0	0.00	2.15	0.0864	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
35	0.0	0.00	2.48	0.0839	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
36	0.0	0.00	2.59	0.0814	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
37	0.0	0.00	2.64	0.0787	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
38	0.0	0.00	0.69	0.0778	0.0466	.0000E+00	.2297	0.0000	.0000E+00
.0000E+00									
39	12.2	0.00	1.50	0.0885	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
40	7.9	0.00	2.64	0.0937	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
41	0.0	0.00	1.52	0.0922	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
42	0.0	0.00	1.85	0.0904	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
43	0.0	0.00	2.07	0.0883	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
44	0.0	0.00	2.47	0.0858	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
45	0.0	0.00	1.86	0.0840	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
46	0.0	0.00	2.82	0.0811	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
47	0.0	0.00	2.60	0.0785	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
48	0.0	0.00	0.75	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
49	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
50	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
51	9.9	0.00	1.47	0.0862	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
52	5.1	0.00	2.62	0.0887	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
53	3.0	0.00	2.65	0.0891	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
54	0.0	0.00	1.77	0.0873	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
55	0.0	0.00	2.50	0.0848	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
56	0.0	0.00	4.31	0.0805	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
57	0.0	0.00	2.02	0.0785	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
58	0.0	0.00	0.70	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
59	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
60	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
61	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
62	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
63	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
64	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

65	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
66	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
67	8.4	0.00	1.49	0.0847	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
68	2.3	0.00	3.06	0.0839	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
69	1.3	0.00	3.83	0.0814	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
70	0.0	0.00	1.21	0.0801	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
71	0.0	0.00	1.26	0.0789	0.0000	.0000E+00	.1638E-06	0.0000	.0000E+00
.7247E-01									
72	0.0	0.00	0.88	0.0780	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
73	2.0	0.00	1.58	0.0785	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
74	0.0	0.00	0.39	0.0781	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
75	0.0	0.00	0.20	0.0779	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
76	0.0	0.00	0.06	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
77	0.0	0.00	0.02	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
78	13.7	0.00	1.53	0.0900	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
79	8.4	0.00	2.92	0.0955	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
80	0.8	0.00	2.75	0.0935	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
81	0.0	0.00	3.20	0.0903	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
82	0.0	0.00	3.72	0.0865	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
83	0.0	0.00	3.58	0.0830	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
84	12.7	0.00	2.37	0.0933	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
85	1.5	0.00	2.54	0.0923	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
86	3.8	0.00	3.37	0.0927	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
87	0.0	0.00	3.67	0.0890	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
88	0.0	0.00	2.77	0.0863	0.0002	.0000E+00	.3640E-03	0.0000	.0000E+00
.6885E-01									
89	0.0	0.00	3.18	0.0831	0.0000	.0000E+00	.2820E-14	0.0000	.0000E+00
.6624E-01									
90	0.0	0.00	3.35	0.0797	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
91	0.0	0.00	1.50	0.0782	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
92	1.8	0.00	1.75	0.0783	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
93	19.0	0.00	2.78	0.0945	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
94	13.5	0.00	2.76	0.1052	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
95	3.6	0.00	3.01	0.1058	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

96	0.5	0.00	3.54	0.1028	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
97	0.0	0.00	3.58	0.0992	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
98	0.0	0.00	3.43	0.0957	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
99	1.8	0.00	3.64	0.0939	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
100	7.1	0.00	3.84	0.0971	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
101	0.0	0.00	4.09	0.0931	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
102	0.0	0.00	3.82	0.0892	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
103	0.0	0.00	2.93	0.0863	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
104	2.3	0.00	3.62	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
105	0.0	0.00	3.85	0.0811	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
106	0.0	0.00	3.12	0.0780	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
107	0.0	0.00	0.14	0.0779	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
108	0.0	0.00	0.05	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
109	0.0	0.00	0.02	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
110	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
111	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
112	1.8	0.00	1.17	0.0784	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
113	3.6	0.00	1.42	0.0805	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
114	5.8	0.00	1.45	0.0849	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
115	12.2	0.00	2.25	0.0949	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
116	2.8	0.00	2.02	0.0957	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
117	27.7	0.00	2.30	0.1211	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
118	9.7	0.00	2.97	0.1277	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
119	5.6	0.00	2.96	0.1304	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
120	4.8	0.00	2.97	0.1322	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
121	18.8	0.00	3.16	0.1479	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
122	22.9	0.00	3.29	0.1675	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
123	11.4	0.00	3.12	0.1758	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
124	4.8	0.00	3.44	0.1772	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
125	0.0	0.00	3.39	0.1738	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
126	0.0	0.00	3.54	0.1702	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

127	9.7	0.00	3.30	0.1766	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
128	0.0	0.00	3.26	0.1733	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
129	0.0	0.00	3.20	0.1701	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
130	0.0	0.00	3.03	0.1671	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
131	0.0	0.00	3.20	0.1639	0.0011	.0000E+00	.2190E-02	0.0000	.0000E+00
.6139E-01									
132	0.0	0.00	3.24	0.1606	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
133	2.3	0.00	2.85	0.1601	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
134	3.8	0.00	2.78	0.1611	0.0049	.0000E+00	.1073E-01	0.0000	.0000E+00
.5082E-01									
135	0.0	0.00	3.12	0.1579	0.0049	.0000E+00	.1115E-01	0.0000	.0000E+00
.4886E-01									
136	0.0	0.00	3.05	0.1549	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
137	2.0	0.00	3.07	0.1539	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
138	0.0	0.00	2.99	0.1509	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
139	0.0	0.00	2.58	0.1483	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
140	16.3	0.00	2.58	0.1620	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
141	0.0	0.00	2.73	0.1592	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
142	0.5	0.00	3.06	0.1567	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
143	0.0	0.00	2.83	0.1539	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
144	0.0	0.00	2.65	0.1512	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
145	1.8	0.00	2.82	0.1502	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
146	0.5	0.00	2.78	0.1479	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
147	0.0	0.00	2.90	0.1450	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
148	0.0	0.00	3.06	0.1419	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
149	0.0	0.00	2.99	0.1389	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
150	0.0	0.00	2.75	0.1362	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
151	2.8	0.00	2.86	0.1361	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
152	0.3	0.00	2.60	0.1338	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
153	17.0	0.00	2.88	0.1479	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
154	0.0	0.00	2.47	0.1454	0.0048	.0000E+00	.9934E-02	0.0000	.0000E+00
.4858E-01									
155	0.0	0.00	2.50	0.1429	0.0000	.0000E+00	.2820E-14	0.0000	.0000E+00
.5671E-01									
156	0.0	0.00	2.41	0.1405	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
157	30.0	0.00	2.40	0.1681	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

158	2.0	0.00	2.44	0.1677	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
159	1.5	0.00	2.47	0.1668	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
160	0.0	0.00	2.41	0.1643	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
161	0.0	0.00	2.45	0.1619	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
162	0.0	0.00	2.53	0.1594	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
163	0.0	0.00	2.47	0.1569	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
164	0.0	0.00	2.47	0.1544	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
165	0.0	0.00	2.37	0.1520	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
166	0.0	0.00	2.37	0.1497	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
167	0.0	0.00	2.45	0.1472	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
168	0.0	0.00	2.31	0.1449	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
169	0.0	0.00	2.51	0.1424	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
170	0.0	0.00	2.47	0.1399	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
171	0.0	0.00	2.38	0.1376	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
172	0.5	0.00	2.35	0.1357	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
173	0.8	0.00	2.29	0.1342	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
174	0.0	0.00	2.18	0.1320	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
175	0.0	0.00	2.16	0.1298	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
176	0.0	0.00	2.36	0.1275	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
177	0.0	0.00	2.43	0.1251	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
178	0.0	0.00	2.50	0.1225	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
179	0.0	0.00	2.51	0.1200	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
180	0.0	0.00	2.62	0.1174	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
181	0.0	0.00	2.61	0.1148	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
182	0.0	0.00	2.58	0.1122	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
183	0.0	0.00	2.50	0.1097	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
184	0.0	0.00	2.54	0.1072	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
185	0.0	0.00	2.46	0.1047	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
186	0.0	0.00	2.60	0.1021	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
187	0.3	0.00	2.41	0.1000	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
188	1.5	0.00	2.21	0.0993	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

189	1.0	0.00	2.23	0.0981	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
190	4.8	0.00	2.25	0.1006	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
191	20.6	0.00	2.50	0.1187	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
192	7.1	0.00	2.58	0.1232	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
193	0.0	0.00	2.47	0.1208	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
194	0.0	0.00	2.44	0.1183	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
195	0.0	0.00	2.20	0.1161	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
196	0.0	0.00	2.48	0.1136	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
197	0.0	0.00	2.69	0.1110	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
198	0.0	0.00	2.48	0.1085	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
199	1.5	0.00	2.24	0.1077	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
200	6.1	0.00	2.59	0.1113	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
201	0.0	0.00	2.59	0.1087	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
202	0.0	0.00	2.47	0.1062	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
203	0.0	0.00	2.50	0.1037	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
204	0.0	0.00	2.53	0.1012	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
205	0.0	0.00	2.54	0.0986	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
206	0.0	0.00	2.71	0.0959	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
207	0.0	0.00	2.82	0.0931	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
208	0.0	0.00	2.51	0.0906	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
209	0.0	0.00	2.83	0.0877	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
210	0.0	0.00	2.74	0.0850	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
211	0.0	0.00	2.62	0.0824	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
212	0.0	0.00	2.27	0.0801	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
213	0.0	0.00	2.30	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
214	0.0	0.00	0.02	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
215	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
216	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
217	2.5	0.00	1.26	0.0791	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
218	0.0	0.00	0.25	0.0788	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
219	1.3	0.00	1.20	0.0789	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

220	0.0	0.00	0.38	0.0785	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
221	0.0	0.00	0.58	0.0779	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
222	0.0	0.00	0.13	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
223	0.0	0.00	0.02	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
224	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
225	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
226	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
227	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
228	9.7	0.00	1.50	0.0860	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
229	0.0	0.00	1.49	0.0845	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
230	0.0	0.00	1.84	0.0826	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
231	0.0	0.00	2.38	0.0802	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
232	0.0	0.00	1.27	0.0790	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
233	0.0	0.00	0.96	0.0780	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
234	0.8	0.00	0.91	0.0779	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
235	3.6	0.00	1.54	0.0799	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
236	0.0	0.00	0.37	0.0795	0.0000	.0000E+00	.6954E-08	0.0000	.0000E+00
.5467E-01									
237	0.3	0.00	0.96	0.0788	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
238	0.0	0.00	0.71	0.0781	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
239	0.0	0.00	0.24	0.0779	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
240	0.0	0.00	0.06	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
241	1.5	0.00	1.12	0.0782	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
242	0.5	0.00	0.69	0.0780	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
243	0.5	0.00	0.66	0.0779	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
244	0.0	0.00	0.05	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
245	0.0	0.00	0.02	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
246	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
247	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
248	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
249	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
250	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

251	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
252	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
253	1.0	0.00	1.02	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
254	4.8	0.00	1.51	0.0811	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
255	20.3	0.00	2.52	0.0989	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
256	2.5	0.00	2.38	0.0991	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
257	4.3	0.00	2.88	0.1005	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
258	5.1	0.00	3.61	0.1020	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
259	0.0	0.00	2.37	0.0996	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
260	0.0	0.00	3.40	0.0962	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
261	0.0	0.00	2.49	0.0937	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
262	0.0	0.00	2.43	0.0913	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
263	27.7	0.00	3.01	0.1160	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
264	0.5	0.00	2.99	0.1135	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
265	0.0	0.00	3.57	0.1099	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
266	0.0	0.00	3.42	0.1065	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
267	0.0	0.00	3.90	0.1026	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
268	0.0	0.00	4.61	0.0980	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
269	2.5	0.00	4.26	0.0963	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
270	0.0	0.00	3.95	0.0923	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
271	0.0	0.00	3.69	0.0886	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
272	0.0	0.00	3.98	0.0846	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
273	2.3	0.00	3.98	0.0829	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
274	0.0	0.00	4.71	0.0782	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
275	0.0	0.00	0.31	0.0779	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
276	0.0	0.00	0.10	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
277	0.0	0.00	0.02	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
278	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
279	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
280	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
281	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

282	7.9	0.00	1.63	0.0840	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
283	1.5	0.00	2.52	0.0830	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
284	0.0	0.00	2.68	0.0804	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
285	11.7	0.00	2.20	0.0898	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
286	3.8	0.00	2.19	0.0915	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
287	36.3	0.00	2.25	0.1256	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
288	11.9	0.00	3.06	0.1344	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
289	7.1	0.00	3.91	0.1377	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
290	6.3	0.00	4.02	0.1400	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
291	4.1	0.00	4.68	0.1394	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
292	0.0	0.00	3.13	0.1362	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
293	5.6	0.00	4.33	0.1375	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
294	0.0	0.00	4.16	0.1333	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
295	0.0	0.00	3.98	0.1294	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
296	0.0	0.00	3.56	0.1258	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
297	3.0	0.00	3.51	0.1253	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
298	8.9	0.00	2.77	0.1314	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
299	18.3	0.00	3.73	0.1460	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
300	4.1	0.00	3.75	0.1463	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
301	7.1	0.00	4.61	0.1488	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
302	0.0	0.00	4.56	0.1443	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
303	0.0	0.00	5.76	0.1385	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
304	0.0	0.00	5.50	0.1330	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
305	0.0	0.00	5.24	0.1278	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
306	0.0	0.00	5.16	0.1226	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
307	0.0	0.00	4.82	0.1178	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
308	0.0	0.00	4.43	0.1133	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
309	0.0	0.00	4.90	0.1084	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
310	0.0	0.00	4.27	0.1042	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
311	3.3	0.00	4.12	0.1033	0.0031	.0000E+00	.6534E-02	0.0000	.0000E+00
.4646E-01									
312	10.9	0.00	5.46	0.1088	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

313	15.0	0.00	5.65	0.1181	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
314	0.3	0.00	5.56	0.1128	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
315	0.0	0.00	4.49	0.1083	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
316	0.0	0.00	3.53	0.1048	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
317	0.0	0.00	3.65	0.1012	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
318	0.5	0.00	5.60	0.0961	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
319	0.0	0.00	3.29	0.0928	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
320	14.2	0.00	5.31	0.1017	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
321	0.0	0.00	4.47	0.0972	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
322	0.0	0.00	3.97	0.0933	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
323	0.0	0.00	3.86	0.0894	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
324	0.0	0.00	3.88	0.0855	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
325	0.0	0.00	3.32	0.0822	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
326	0.0	0.00	3.18	0.0790	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
327	0.0	0.00	0.91	0.0781	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
328	0.0	0.00	0.30	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
329	0.0	0.00	0.00	0.0778	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
330	37.1	0.00	3.39	0.1115	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
331	9.9	0.00	3.02	0.1184	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
332	0.8	0.00	3.25	0.1159	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
333	8.6	0.00	4.10	0.1205	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
334	0.8	0.00	3.61	0.1176	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
335	9.1	0.00	3.72	0.1230	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
336	5.6	0.00	3.08	0.1255	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
337	0.0	0.00	2.93	0.1226	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
338	5.8	0.00	2.82	0.1256	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
339	3.0	0.00	4.66	0.1240	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
340	0.0	0.00	2.58	0.1214	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
341	4.3	0.00	3.80	0.1220	0.0000	.0000E+00	.1371E-04	0.0000	.0000E+00
.5140E-01									
342	0.0	0.00	3.17	0.1188	0.0000	.0000E+00	.1100E-06	0.0000	.0000E+00
.4972E-01									
343	0.3	0.00	3.82	0.1152	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

344	2.8	0.00	3.95	0.1141	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
345	2.0	0.00	3.12	0.1130	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
346	0.5	0.00	3.72	0.1098	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
347	0.0	0.00	3.01	0.1068	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
348	20.3	0.00	3.82	0.1233	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
349	29.0	0.00	4.44	0.1478	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
350	0.0	0.00	2.94	0.1449	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
351	13.2	0.00	4.67	0.1534	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
352	0.0	0.00	3.17	0.1502	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
353	0.0	0.00	2.78	0.1474	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
354	0.0	0.00	3.58	0.1439	0.0004	.0000E+00	.8027E-03	0.0000	.0000E+00
.4736E-01									
355	0.0	0.00	3.16	0.1407	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
356	0.0	0.00	2.40	0.1383	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
357	0.0	0.00	2.58	0.1357	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
358	0.0	0.00	2.57	0.1332	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
359	0.0	0.00	2.62	0.1305	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
360	0.0	0.00	2.75	0.1278	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
361	0.0	0.00	2.81	0.1250	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
362	0.3	0.00	2.23	0.1230	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
363	0.0	0.00	2.81	0.1202	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
364	0.0	0.00	1.94	0.1182	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									
365	0.0	0.00	1.48	0.1168	0.0000	.0000E+00	.0000E+00	0.0000	.0000E+00
.0000E+00									

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MONTHLY TOTALS (MM) FOR YEAR 1

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION	11.2	38.1	54.9	123.4	97.5	52.1
	42.9	20.6	71.1	137.7	101.3	96.3
RUNOFF	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
EVAPOTRANSPIRATION	36.04	52.19	52.93	70.97	93.63	73.37
	77.60	22.82	66.05	87.63	116.73	97.11
PERCOLATION/LEAKAGE THROUGH	0.000	0.230	0.000	0.000	0.024	0.010

```
 LAYER  5                0.000   0.000   0.000   0.000   0.007   0.001

PERCOLATION/LEAKAGE THROUGH      0.000   0.000   0.208   0.000   0.161   0.105
 LAYER  6                0.000   0.055   0.000   0.000   0.046   0.148


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              MONTHLY SUMMARIES FOR DAILY HEADS (CM)
 ------------------------------------------------------------------------------


AVERAGE DAILY HEAD ON          0.000   0.002   0.000   0.000   0.000   0.000
 TOP OF LAYER  5            0.000   0.000   0.000   0.000   0.000   0.000

STD. DEVIATION OF DAILY        0.000   0.009   0.000   0.000   0.001   0.001
 HEAD ON TOP OF LAYER  5       0.000   0.000   0.000   0.000   0.001   0.000

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                  ANNUAL TOTALS FOR YEAR    1
 ------------------------------------------------------------------------------
                              MM         CU. METERS    PERCENT
                           ----------     ----------   -------
  PRECIPITATION                847.09       287163.531    100.00

  RUNOFF                      0.000           0.000      0.00

  EVAPOTRANSPIRATION          847.057       287152.469    100.00

  PERC./LEAKAGE THROUGH LAYER  5         0.271461        92.025      0.03

  AVG. HEAD ON TOP OF LAYER  5           0.0019

  PERC./LEAKAGE THROUGH LAYER  6         0.723538       245.280      0.09

  CHANGE IN WATER STORAGE              -0.691        -234.108     -0.08

  SOIL WATER AT START OF YEAR          369.027       125100.328

  SOIL WATER AT END OF YEAR            368.337       124866.219

  SNOW WATER AT START OF YEAR            0.000           0.000      0.00

  SNOW WATER AT END OF YEAR              0.000           0.000      0.00

  ANNUAL WATER BUDGET BALANCE           -0.0003         -0.103      0.00

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         AVERAGE MONTHLY VALUES (MM) FOR YEARS    1 THROUGH    1
 ------------------------------------------------------------------------------

                JAN/JUL  FEB/AUG  MAR/SEP  APR/OCT  MAY/NOV  JUN/DEC
                -------  -------  -------  -------  -------  -------
  PRECIPITATION
  -------------
   TOTALS           11.18   38.10   54.86  123.44   97.54   52.07
                  42.93   20.57   71.12  137.67  101.35   96.27

   STD. DEVIATIONS      0.00    0.00    0.00    0.00    0.00    0.00
                  0.00    0.00    0.00    0.00    0.00    0.00

  RUNOFF
  ------
   TOTALS            0.000    0.000    0.000    0.000    0.000    0.000
```

0.000 0.000 0.000 0.000 0.000 0.000

STD. DEVIATIONS 0.000 0.000 0.000 0.000 0.000 0.000
0.000 0.000 0.000 0.000 0.000 0.000

EVAPOTRANSPIRATION

TOTALS 36.036 52.194 52.927 70.974 93.626 73.365
77.596 22.822 66.052 87.628 116.728 97.109

STD. DEVIATIONS 0.000 0.000 0.000 0.000 0.000 0.000
0.000 0.000 0.000 0.000 0.000 0.000

PERCOLATION/LEAKAGE THROUGH LAYER 5

TOTALS 0.0000 0.2297 0.0004 0.0000 0.0241 0.0099
0.0000 0.0000 0.0000 0.0000 0.0065 0.0008

STD. DEVIATIONS 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
0.0000 0.0000 0.0000 0.0000 0.0000 0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 6

TOTALS 0.0000 0.0000 0.2076 0.0000 0.1611 0.1053
0.0000 0.0547 0.0000 0.0000 0.0465 0.1485

STD. DEVIATIONS 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
0.0000 0.0000 0.0000 0.0000 0.0000 0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (CM)

DAILY AVERAGE HEAD ON TOP OF LAYER 5

AVERAGES 0.0000 0.0017 0.0000 0.0000 0.0004 0.0002
0.0000 0.0000 0.0000 0.0000 0.0001 0.0000

STD. DEVIATIONS 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
0.0000 0.0000 0.0000 0.0000 0.0000 0.0000

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 1

	MM	CU. METERS	PERCENT
PRECIPITATION	847.09 (0.000)	287163.5	100.00
RUNOFF	0.000 (0.0000)	0.00	0.000
EVAPOTRANSPIRATION	847.057 (0.0000)	287152.47	99.996
PERCOLATION/LEAKAGE THROUGH LAYER 5	0.27146 (0.00000)	92.025	0.03205
AVERAGE HEAD ON TOP OF LAYER 5	0.002 (0.000)		
PERCOLATION/LEAKAGE THROUGH LAYER 6	0.72354 (0.00000)	245.280	0.08541

CHANGE IN WATER STORAGE -0.691 (0.0000) -234.11 -0.082

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PEAK DAILY VALUES FOR YEARS 1 THROUGH 1

	(MM)	(CU. METERS)
PRECIPITATION	37.08	12571.477
RUNOFF	0.000	0.0000
PERCOLATION/LEAKAGE THROUGH LAYER 5	0.229749	77.88508
AVERAGE HEAD ON TOP OF LAYER 5	0.466	
PERCOLATION/LEAKAGE THROUGH LAYER 6	0.072467	24.56615
SNOW WATER	0.00	0.0000
MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.1772	
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0778	

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FINAL WATER STORAGE AT END OF YEAR 1

LAYER	(CM)	(VOL/VOL)
1	6.6454	0.1329
2	0.8704	0.0870
3	4.1639	0.1041
4	7.8600	0.3930
5	13.5600	0.4520
6	3.7340	0.3734

SNOW WATER 0.000

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ANNEXURE 2 LEACHATE MODEL

Orchard Hills WRMF - Leachate Generation, Storage and Disposal Modelling (Max Landfill Capacity)

Evaporation Data Sydney Airport (av)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
223	179.2	164.3	126	89.9	75	83.7	114.7	144	182.9	195	229.4
Face Evap (av)											
119.4	70.7	73.6	61.8	25.8	23.2	46.2	74	106.9	127.1	119	157.7

Rainfall Data = Orchard Hills STP (av)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
103.6	108.5	90.7	64.2	64.1	51.8	37.5	40.7	37.1	55.8	76	71.7

	90th Rainfall (1990)	Av monthly rainfall	Face Evap
Jan	0.0645	0.1036	0.1194
Feb	0.4077	0.1085	0.0707
Mar	0.0874	0.0907	0.0736
Apr	0.208	0.0642	0.0618
May	0.0719	0.0641	0.0258
Jun	0.019	0.0518	0.0232
Jul	0.0221	0.0375	0.0462
Aug	0.1252	0.0407	0.074
Sep	0.0305	0.0371	0.1069
Oct	0.0259	0.0558	0.1271
Nov	0.0264	0.076	0.119
Dec	0.0317	0.0717	0.1577

Data	
Initial/Final Cell	56000
Cell 1 area	127000
Cell 2 area	88000
Cell 3 area	124000
Tonnes disposed tonnes/month	16667
Absorptive Capacity kl/tonne	0.03

			Year				Cell 1a m3	Cell 1b m3	Cell 1c m3	Cell 2a m3	Cell 2b m3	Cell 3a m3	Cell 3b m3	Cell 3c m3	Final m3	Bund Shaping/Decon m3	Dam Evap (taking into account rainfall) m3	Evap from Face m3	Leachate Gen m3	Cumulative Spongability m3	Cumulative Leachate in Evaporation Pond m3
Tip Face area	418	1a commence	1	Jan	0.0	0.0	-75.3									466.2	585.1	0.0	390.9	0.0	0.0
				Feb	0.0	0.0	2128.9									488.3	346.4	0.0	2617.2	0.0	2270.8
				Mar	0.0	0.0	71.8									408.2	360.6	0.0	480.0	0.0	2390.1
				Apr	0.0	0.0	846.4										302.8	0.0	846.4	0.0	2933.6
				May	0.0	0.0	-27.7										126.4	0.0	-27.7	0.0	2779.5
				Jun	0.0	0.0	-367.5										113.7	0.0	-367.5	0.0	2298.3
				Jul	0.0	0.0	-347.6										226.4	0.0	-347.6	0.0	1724.4
Evap Dam area	7000			Aug	0.0	0.0	314.6										362.6	0.0	314.6	0.0	1676.4
				Sep	0.0	0.0	-293.6										523.8	0.0	-293.6	0.0	858.9
Tip face area in rain	25			Oct	0.0	0.0	-323.2										622.8	0.0	-323.2	0.0	0.0
				Nov	0.0	0.0	-320.0										583.1	0.0	-320.0	-320.0	0.0
				Dec	0.0	0.0	-285.9										772.7	0.0	-285.9	-605.9	0.0
			2	Jan	0.0	0.0	308.5										585.1	0.0	308.5	-297.4	0.0
				Feb	0.0	0.0	346.2										346.4	0.0	346.2	0.0	0.0
				Mar	0.0	0.0	209.1										360.6	0.0	209.1	0.0	0.0
				Apr	0.0	0.0	5.0										302.8	0.0	5.0	0.0	0.0
				May	0.0	0.0	4.2										126.4	0.0	4.2	0.0	0.0
				Jun	0.0	0.0	-90.5										113.7	0.0	-90.5	-90.5	0.0
				Jul	0.0	0.0	-200.7										226.4	0.0	-200.7	-291.2	0.0
				Aug	0.0	0.0	-176.0										362.6	0.0	-176.0	-467.2	0.0
				Sep	0.0	0.0	-203.7										523.8	0.0	-203.7	-671.0	0.0
				Oct	0.0	0.0	-59.7										622.8	0.0	-59.7	-730.7	0.0
				Nov	0.0	0.0	95.9										583.1	0.0	95.9	-634.8	0.0
				Dec	0.0	0.0	62.8										772.7	0.0	62.8	-572.0	0.0
			3	Jan	0.0	0.0	308.5										585.1	0.0	308.5	-263.6	0.0
				Feb	0.0	0.0	346.2										346.4	0.0	346.2	0.0	0.0
				Mar	0.0	0.0	209.1										360.6	0.0	209.1	0.0	0.0
				Apr	0.0	0.0	5.0										302.8	0.0	5.0	0.0	0.0
				May	0.0	0.0	4.2										126.4	0.0	4.2	0.0	0.0
				Jun	0.0	0.0	-90.5										113.7	0.0	-90.5	-90.5	0.0
				Jul	0.0	0.0	-200.7										226.4	0.0	-200.7	-291.2	0.0
		1 a filled		Aug	0.0	0.0	-176.0										362.6	0.0	-176.0	-467.2	0.0
		1b		Sep	0.0	0.0	13.5	-269.3								167.0	523.8	0.0	-88.9	-556.1	0.0
				Oct	0.0	0.0	15.0	-302.5									622.8	0.0	-287.6	-843.7	0.0
				Nov	0.0	0.0	16.6	-298.9									583.1	0.0	-282.4	-1126.1	0.0
				Dec	0.0	0.0	16.2	-260.7									772.7	0.0	-244.4	-1370.5	0.0
			4	Jan	0.0	0.0	18.8	-23.8									585.1	0.0	-5.0	-1375.4	0.0
				Feb	0.0	0.0	19.2	2455.0									346.4	0.0	2474.2	0.0	752.3
				Mar	0.0	0.0	17.8	141.6									360.6	0.0	159.4	0.0	551.1
				Apr	0.0	0.0	15.6	1012.7									302.8	0.0	1028.3	0.0	1276.6
				May	0.0	0.0	15.6	29.7									126.4	0.0	45.3	0.0	1195.4
				Jun	0.0	0.0	14.6	-352.4									113.7	0.0	-337.7	0.0	744.0
				Jul	0.0	0.0	13.5	-330.0									226.4	0.0	-316.5	0.0	201.2
				Aug	0.0	0.0	13.8	414.6									362.6	0.0	428.4	0.0	267.0
				Sep	0.0	0.0	13.5	-168.2									523.8	0.0	-154.8	0.0	0.0
				Oct	0.0	0.0	15.0	-6.2									622.8	0.0	8.7	0.0	0.0
				Nov	0.0	0.0	16.6	168.7									583.1	0.0	185.3	0.0	0.0
				Dec	0.0	0.0	16.2	131.5									772.7	0.0	147.7	0.0	0.0
			5	Jan	0.0	0.0	18.8	407.8									585.1	0.0	426.6	0.0	0.0
				Feb	0.0	0.0	19.2	450.3									346.4	0.0	469.5	0.0	123.0
				Mar	0.0	0.0	17.8	296.1									360.6	0.0	313.8	0.0	76.2
				Apr	0.0	0.0	15.6	66.5									302.8	0.0	82.2	0.0	0.0
				May	0.0	0.0	15.6	65.7									126.4	0.0	81.3	0.0	0.0
				Jun	0.0	0.0	14.6	-40.9									113.7	0.0	-26.2	-26.2	0.0
				Jul	0.0	0.0	13.5	-164.8									226.4	0.0	-151.3	-177.5	0.0
				Aug	0.0	0.0	13.8	-137.0									362.6	0.0	-123.3	-300.8	0.0
				Sep	0.0	0.0	13.5	-168.2									523.8	0.0	-154.8	-455.6	0.0
				Oct	0.0	0.0	15.0	-6.2									622.8	0.0	8.7	-446.8	0.0
				Nov	0.0	0.0	16.6	168.7									583.1	0.0	185.3	-261.5	0.0
				Dec	0.0	0.0	16.2	131.5									772.7	0.0	147.7	-113.8	0.0
			6	Jan	0.0	0.0	18.8	407.8									585.1	0.0	426.6	0.0	0.0
				Feb	0.0	0.0	19.2	450.3									346.4	0.0	469.5	0.0	123.0
				Mar	0.0	0.0	17.8	296.1									360.6	0.0	313.8	0.0	76.2
				Apr	0.0	0.0	15.6	66.5									302.8	0.0	82.2	0.0	0.0
				May	0.0	0.0	15.6	65.7									126.4	0.0	81.3	0.0	0.0
				Jun	0.0	0.0	14.6	-40.9									113.7	0.0	-26.2	-26.2	0.0
				Jul	0.0	0.0	13.5	-164.8									226.4	0.0	-151.3	-177.5	0.0
		1b filled		Aug	0.0	0.0	13.8	-137.0									362.6	0.0	-123.3	-300.8	0.0
		1c		Sep	0.0	0.0	13.5	13.7	-115.4							167.0	523.8	0.0	78.7	-222.1	0.0
				Oct	0.0	0.0	15.0	15.4	-169.8							251.1	622.8	0.0	111.7	-110.4	0.0
				Nov	0.0	0.0	16.6	17.2	-163.9							342.0	583.1	0.0	211.9	0.0	0.0
				Dec	0.0	0.0	16.2	16.9	-101.2								772.7	0.0	-68.1	-68.1	0.0
			7	Jan	0.0	0.0	18.8	19.7	286.5								585.1	0.0	325.1	0.0	0.0
				Feb	0.0	0.0	19.2	20.2	4344.0								346.4	0.0	4383.4	0.0	4036.9
				Mar	0.0	0.0	17.8	18.6	557.3								360.6	0.0	593.6	0.0	4269.9
				Apr	0.0	0.0	15.6	16.2	1983.1								302.8	0.0	2014.9	0.0	5982.0
				May	0.0	0.0	15.6	16.2	374.0								126.4	0.0	405.8	0.0	6261.4
				Jun	0.0	0.0	14.6	15.1	-251.4								113.7	0.0	-221.7	0.0	5926.0
				Jul	0.0	0.0	13.5	13.8	-214.7								226.4	0.0	-187.5	0.0	5512.2
				Aug	0.0	0.0	13.8	14.1	1004.2								362.6	0.0	1032.0	0.0	6181.6
				Sep	0.0	0.0	13.5	13.7	50.2								523.8	0.0	77.4	0.0	5735.1
				Oct	0.0	0.0	15.0	15.4	315.4								622.8	0.0	345.8	0.0	5458.1
				Nov	0.0	0.0	16.6	17.2	601.9								583.1	0.0	635.7	0.0	5510.7
				Dec	0.0	0.0	16.2	16.9	540.9								772.7	0.0	574.0	0.0	5311.9
			8	Jan	0.0	0.0	18.8	19.7	993.3								585.1	0.0	1031.8	0.0	5758.6
				Feb	0.0	0.0	19.2	20.2	1062.8								346.4	0.0	1102.1	0.0	6514.4
				Mar	0.0	0.0	17.8	18.6	810.3								360.6	0.0	846.7	0.0	7000.4

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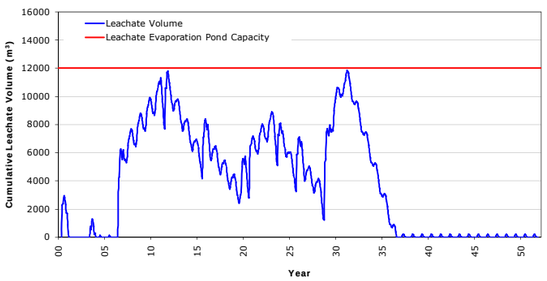


			Year				Cell 1a m3	Cell 1b m3	Cell 1c m3	Cell 2a m3	Cell 2b m3	Cell 3a m3	Cell 3b m3	Cell 3c m3	Final m3	Bund Shaping/Decon m3	Dam Evap (taking into account rainfall) m3	Evap from Face m3	Leachate Gen m3	Cumulative Spongability m3	Cumulative Leachate in Evaporation Pond m3
				Apr	0.0	0.0	15.6	16.2	434.5								302.8	0.0	466.3	0.0	7163.9
				May	0.0	0.0	15.6	16.2	433.1								126.4	0.0	464.9	0.0	7502.3
				Jun	0.0	0.0	14.6	15.1	258.6								113.7	0.0	288.3	0.0	7677.0
				Jul	0.0	0.0	13.5	13.8	55.8								226.4	0.0	83.1	0.0	7533.7
				Aug	0.0	0.0	13.8	14.1	101.2								362.6	0.0	129.0	0.0	7300.2
				Sep	0.0	0.0	13.5	13.7	50.2								523.8	0.0	77.4	0.0	6853.7
				Oct	0.0	0.0	15.0	15.4	315.4								622.8	0.0	345.8	0.0	6576.7
				Nov	0.0	0.0	16.6	17.2	601.9								583.1	0.0	635.7	0.0	6629.3
				Dec	0.0	0.0	16.2	16.9	540.9								772.7	0.0	574.0	0.0	6430.5
			9	Jan	0.0	0.0	18.8	19.7	993.3								585.1	0.0	1031.8	0.0	6877.3
				Feb	0.0	0.0	19.2	20.2	1062.8								346.4	0.0	1102.1	0.0	7633.0
				Mar	0.0	0.0	17.8	18.6	810.3								360.6	0.0	846.7	0.0	8119.0
				Apr	0.0	0.0	15.6	16.2	434.5								302.8	0.0	466.3	0.0	8282.5
				May	0.0	0.0	15.6	16.2	433.1								126.4	0.0	464.9	0.0	8621.0
				Jun	0.0	0.0	14.6	15.1	258.6								113.7	0.0	288.3	0.0	8795.6
				Jul	0.0	0.0	13.5	13.8	55.8								226.4	0.0	83.1	0.0	8652.4
				Aug	0.0	0.0	13.8	14.1	101.2								362.6	0.0	129.0	0.0	8418.8
				Sep	0.0	0.0	13.5	13.7	50.2								523.8	0.0	77.4	0.0	7972.4
				Oct	0.0	0.0	15.0	15.4	315.4								622.8	0.0	345.8	0.0	7695.3
				Nov	0.0	0.0	16.6	17.2	601.9								583.1	0.0	635.7	0.0	7747.9
				Dec	0.0	0.0	16.2	16.9	540.9								772.7	0.0	574.0	0.0	7549.1
			10	Jan	0.0	0.0	18.8	19.7	993.3								585.1	0.0	1031.8	0.0	7995.9
				Feb	0.0	0.0	19.2	20.2	1062.8								346.4	0.0	1102.1	0.0	8751.6
				Mar	0.0	0.0	17.8	18.6	810.3								360.6	0.0	846.7	0.0	9237.6
				Apr	0.0	0.0	15.6	16.2	434.5								302.8	0.0	466.3	0.0	9401.1
				May	0.0	0.0	15.6	16.2	433.1								126.4	0.0	464.9	0.0	9739.6
				Jun	0.0	0.0	14.6	15.1	258.6								113.7	0.0	288.3	0.0	9914.2
				Jul	0.0	0.0	13.5	13.8	55.8								226.4	0.0	83.1	0.0	9771.0
				Aug	0.0	0.0	13.8	14.1	101.2								362.6	0.0	129.0	0.0	9537.4
				Sep	0.0	0.0	13.5	13.7	50.2								523.8	0.0	77.4	0.0	9091.0
				Oct	0.0	0.0	15.0	15.4	315.4								622.8	0.0	345.8	0.0	8813.9
				Nov	0.0	0.0	16.6	17.2	601.9								583.1	0.0	635.7	0.0	8866.5
				Dec	0.0	0.0	16.2	16.9	540.9								772.7	0.0	574.0	0.0	8667.8
			11	Jan	0.0	0.0	18.8	19.7	993.3								585.1	0.0	1031.8	0.0	9114.5
				Feb	0.0	0.0	19.2	20.2	1062.8								346.4	0.0	1102.1	0.0	9870.2
				Mar	0.0	0.0	17.8	18.6	810.3								360.6	0.0	846.7	0.0	10356.2
				Apr	0.0	0.0	15.6	16.2	434.5								302.8	0.0	466.3	0.0	10519.7
				May	0.0	0.0	15.6	16.2	433.1								126.4	0.0	464.9	0.0	10858.2
				Jun	0.0	0.0	14.6	15.1	258.6								113.7	0.0	288.3	0.0	11032.9
		1c filled		Jul	0.0	0.0	13.5	13.8	55.8								226.4	0.0	83.1	0.0	10889.6
		2a		Aug	0.0	0.0	13.8	14.1	30.0	623.3						91.6	362.6	0.0	772.7	0.0	11299.7
				Sep	0.0	0.0	13.5	13.7	29.5	-212.2							523.8	0.0	-155.5	0.0	10620.3
				Oct	0.0	0.0	15.0	15.4	32.2	-252.8							622.8	0.0	-190.2	0.0	9807.3
				Nov	0.0	0.0	16.6	17.2	35.2	-248.4							583.1	0.0	-179.4	0.0	9044.9
				Dec	0.0	0.0	16.2	16.9	34.6	-201.6							772.7	0.0	-134.0	0.0	8138.2
			12	Jan	0.0	0.0	18.8	19.7	39.3	87.7							585.1	0.0	165.5	0.0	7718.6
				Feb	0.0	0.0	19.2	20.2	40.0	3115.6							346.4	0.0	3195.0	0.0	10567.2
				Mar	0.0	0.0	17.8	18.6	37.4	289.8							360.6	0.0	363.5	0.0	10570.0
				Apr	0.0	0.0	15.6	16.2	33.5	1353.8							302.8	0.0	1419.1	0.0	11686.2
				May	0.0	0.0	15.6	16.2	33.5	153.0							126.4	0.0	218.3	0.0	11778.1
				Jun	0.0	0.0	14.6	15.1	31.6	-313.7							113.7	0.0	-252.3	0.0	11412.1
				Jul	0.0	0.0	13.5	13.8	29.5	-286.3							226.4	0.0	-229.5	0.0	10956.2
				Aug	0.0	0.0	13.8	14.1	30.0	-50.6							362.6	0.0	7.2	0.0	10600.8
				Sep	0.0	0.0	13.5	13.7	29.5	-88.7							523.8	0.0	-32.0	0.0	10045.0
				Oct	0.0	0.0	15.0	15.4	32.2	109.2							622.8	0.0	171.8	0.0	9594.0
				Nov	0.0	0.0	16.6	17.2	35.2	323.0							583.1	0.0	392.0	0.0	9402.9
				Dec	0.0	0.0	16.2	16.9	34.6	277.5							772.7	0.0	345.1	0.0	8975.3
			13	Jan	0.0	0.0	18.8	19.7	39.3	615.0							585.1	0.0	692.8	0.0	9083.0
				Feb	0.0	0.0	19.2	20.2	40.0	666.9							346.4	0.0	746.2	0.0	9482.8
				Mar	0.0	0.0	17.8	18.6	37.4	478.5							360.6	0.0	552.2	0.0	9674.4
				Apr	0.0	0.0	15.6	16.2	33.5	198.1							302.8	0.0	263.4	0.0	9635.0
				May	0.0	0.0	15.6	16.2	33.5	197.0							126.4	0.0	262.3	0.0	9770.8
				Jun	0.0	0.0	14.6	15.1	31.6	66.9							113.7	0.0	128.2	0.0	9785.4
				Jul	0.0	0.0	13.5	13.8	29.5	-84.5							226.4	0.0	-27.7	0.0	9531.3
				Aug	0.0	0.0	13.8	14.1	30.0	-50.6							362.6	0.0	7.2	0.0	9175.9
				Sep	0.0	0.0	13.5	13.7	29.5	-88.7							523.8	0.0	-32.0	0.0	8620.1
				Oct	0.0	0.0	15.0	15.4	32.2	109.2							622.8	0.0	171.8	0.0	8169.1
				Nov	0.0	0.0	16.6	17.2	35.2	323.0							583.1	0.0	392.0	0.0	7978.0
				Dec	0.0	0.0	16.2	16.9	34.6	277.5							772.7	0.0	345.1	0.0	7550.4
			14	Jan	0.0	0.0	18.8	19.7	39.3	615.0							585.1	0.0	692.8	0.0	7658.2
				Feb	0.0	0.0	19.2	20.2	40.0	666.9							346.4	0.0	746.2	0.0	8058.0
				Mar	0.0	0.0	17.8	18.6	37.4	478.5							360.6	0.0	552.2	0.0	8249.6
				Apr	0.0	0.0	15.6	16.2	33.5	198.1							302.8	0.0	263.4	0.0	8210.1
				May	0.0	0.0	15.6	16.2	33.5	197.0							126.4	0.0	262.3	0.0	8346.0
				Jun	0.0	0.0	14.6	15.1	31.6	66.9							113.7	0.0	128.2	0.0	8360.5
				Jul	0.0	0.0	13.5	13.8	29.5	-84.5							226.4	0.0	-27.7	0.0	8106.5
				Aug	0.0	0.0	13.8	14.1	30.0	-50.6							362.6	0.0	7.2	0.0	7751.1
				Sep	0.0	0.0	13.5	13.7	29.5	-88.7							523.8	0.0	-32.0	0.0	7195.3
				Oct	0.0	0.0	15.0	15.4	32.2	109.2							622.8	0.0	171.8	0.0	6744.3
				Nov	0.0	0.0	16.6	17.2	35.2	323.0							583.1	0.0	392.0	0.0	6553.2
				Dec	0.0	0.0	16.2	16.9	34.6	277.5							772.7	0.0	345.1	0.0	6125.6
			15	Jan	0.0	0.0	18.8	19.7	39.3	615.0							585.1	0.0	692.8	0.0	6233.3
				Feb	0.0	0.0	19.2	20.2	40.0	666.9							346.4	0.0	746.2	0.0	6633.1
				Mar	0.0	0.0	17.8	18.6	37.4	478.5							360.6	0.0	552.2	0.0	6824.7
				Apr	0.0	0.0	15.6	16.2	33.5	198.1							302.8	0.0	263.4	0.0	6785.3
				May	0.0	0.0	15.6	16.2	33.5	197.0							126.4	0.0	262.3	0.0	6921.1
				Jun	0.0	0.0	14.6	15.1	31.6	66.9							113.7	0.0	128.2	0.0	6935.7
				Jul	0.0	0.0	13.5	13.8	29.5	-84.5							226.4	0.0	-27.7	0.0	6681.6
				Aug	0.0	0.0	13.8	14.1	30.0	-50.6							362.6	0.0	7.2	0.0	6326.2
				Sep	0.0	0.0	13.5	13.7	29.5	-88.7							523.8	0.0	-32.0	0.0	5770.4
				Oct	0.0	0.0	15.0	15.4	32.2	109.2							622.8	0.0	171.8	0.0	5319.4
		2a filled		Nov	0.0	0.0	16.6	17.2	35.2	323.0							583.1	0.0	392.0	0.0	5128.3
		2b		Dec	0.0	0.0	16.2	16.9	34.6	26.6	-193.3					322.7	772.7	0.0	223.6	0.0	4579.2
			16	Jan	0.0	0.0	18.8	19.7	39.3	30.1	96.0						585.1	0.0	203.9	0.0	4198.0
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	3123.9						346.4	0.0	3233.9	0.0	7085.5
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	298.1						360.6	0.0	400.5	0.0	7125.3
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	1362.1						302.8	0.0	1453.1	0.0	8275.6
				May	0.0	0.0	15.6	16.2	33.5	25.8	161.3						126.4	0.0	252.3	0.0	8401.5
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	-305.4						113.7	0.0	-219.6	0.0	8068.2
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	-278.0						226.4	0.0	-198.4	0.0	7643.4
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	631.6						362.6	0.0	712.6	0.0	7993.4
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	-203.9						523.8	0.0	-124.5	0.0	7345.1
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	-244.5						622.8	0.0	-157.1	0.0	6565.3
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	-240.1						583.1	0.0	-144.0	0.0	5838.2
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	285.8						772.7	0.0	380.0	0.0	5445.4
			17	Jan	0.0	0.0	18.8	19.7	39.3	30.1	623.3						585.1	0.0	731.2	0.0	5591.6
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	675.2						346.4	0.0	785.2	0.0	6030.4
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	486.8						360.6	0.0	589.2	0.0	6258.9
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	206.4						302.8	0.0	297.4	0.0	6253.5
				May	0.0	0.0	15.6	16.2	33.5	25.8	205.3						126.4	0.0	296.3	0.0	6423.4
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	75.2						113.7	0.0	160.9	0.0	6470.7
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	-76.2						226.4	0.0	3.5	0.0	6247.8
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	-42.3						362.6	0.0	38.7	0.0	5923.8
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	-80.4						523.8	0.0	-0.9	0.0	5399.1
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	117.5						622.8	0.0	204.9	0.0	4981.3
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	331.3						583.1	0.0	427.4	0.0	4825.5

			Year				Cell 1a m3	Cell 1b m3	Cell 1c m3	Cell 2a m3	Cell 2b m3	Cell 3a m3	Cell 3b m3	Cell 3c m3	Final m3	Bund Shaping/Decon m3	Dam Evap (taking into account rainfall) m3	Evap from Face m3	Leachate Gen m3	Cumulative Spongability m3	Cumulative Leachate in Evaporation Pond m3
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	285.8						772.7	0.0	380.0	0.0	4432.8
			18	Jan	0.0	0.0	18.8	19.7	39.3	30.1	623.3						585.1	0.0	731.2	0.0	4578.9
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	675.2						346.4	0.0	785.2	0.0	5017.7
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	486.8						360.6	0.0	589.2	0.0	5246.3
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	206.4						302.8	0.0	297.4	0.0	5240.9
				May	0.0	0.0	15.6	16.2	33.5	25.8	205.3						126.4	0.0	296.3	0.0	5410.8
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	75.2						113.7	0.0	160.9	0.0	5458.0
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	-76.2						226.4	0.0	3.5	0.0	5235.1
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	-42.3						362.6	0.0	38.7	0.0	4911.2
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	-80.4						523.8	0.0	-0.9	0.0	4386.4
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	117.5						622.8	0.0	204.9	0.0	3968.6
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	331.3						583.1	0.0	427.4	0.0	3812.8
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	285.8						772.7	0.0	380.0	0.0	3420.1
			19	Jan	0.0	0.0	18.8	19.7	39.3	30.1	623.3						585.1	0.0	731.2	0.0	3566.3
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	675.2						346.4	0.0	785.2	0.0	4005.0
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	486.8						360.6	0.0	589.2	0.0	4233.6
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	206.4						302.8	0.0	297.4	0.0	4228.2
				May	0.0	0.0	15.6	16.2	33.5	25.8	205.3						126.4	0.0	296.3	0.0	4398.1
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	75.2						113.7	0.0	160.9	0.0	4445.3
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	-76.2						226.4	0.0	3.5	0.0	4222.4
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	-42.3						362.6	0.0	38.7	0.0	3898.5
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	-80.4						523.8	0.0	-0.9	0.0	3373.8
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	117.5						622.8	0.0	204.9	0.0	2955.9
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	331.3						583.1	0.0	427.4	0.0	2800.2
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	285.8						772.7	0.0	380.0	0.0	2407.5
			20	Jan	0.0	0.0	18.8	19.7	39.3	30.1	623.3						585.1	0.0	731.2	0.0	2553.6
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	675.2						346.4	0.0	785.2	0.0	2992.4
		2b filled		Mar	0.0	0.0	17.8	18.6	37.4	28.7	486.8						360.6	0.0	589.2	0.0	3220.9
		3a		Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	1663.2				288.9	302.8	0.0	2077.2	0.0	4995.3
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	271.9				288.5	126.4	0.0	685.4	0.0	5554.3
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	-268.9				233.1	113.7	0.0	82.7	0.0	5523.2
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	-237.2					226.4	0.0	-126.4	0.0	5170.4
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	816.7					362.6	0.0	929.2	0.0	5737.0
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	-151.3					523.8	0.0	-40.8	0.0	5172.4
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	-198.3					622.8	0.0	-77.8	0.0	4471.9
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	-193.2					583.1	0.0	-61.8	0.0	3827.0
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	-139.1					772.7	0.0	-9.9	0.0	3044.4
			21	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	196.2					585.1	0.0	342.5	0.0	2801.8
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	3704.6					346.4	0.0	3853.5	0.0	6308.9
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	430.3					360.6	0.0	569.7	0.0	6518.0
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	324.1					302.8	0.0	449.3	0.0	6664.4
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	322.9					126.4	0.0	448.0	0.0	6986.0
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	172.1					113.7	0.0	290.5	0.0	7162.8
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	-3.3					226.4	0.0	107.5	0.0	7043.9
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	36.0					362.6	0.0	148.5	0.0	6829.8
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	-8.2					523.8	0.0	102.4	0.0	6408.3
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	221.1					622.8	0.0	341.7	0.0	6127.3
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	468.8					583.1	0.0	600.3	0.0	6144.5
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	416.1					772.7	0.0	545.3	0.0	5917.0
			22	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	807.3					585.1	0.0	953.6	0.0	6285.5
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	867.4					346.4	0.0	1016.3	0.0	6955.3
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	649.1					360.6	0.0	788.5	0.0	7383.2
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	324.1					302.8	0.0	449.3	0.0	7529.6
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	322.9					126.4	0.0	448.0	0.0	7851.1
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	172.1					113.7	0.0	290.5	0.0	8028.0
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	-3.3					226.4	0.0	107.5	0.0	7909.1
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	36.0					362.6	0.0	148.5	0.0	7694.9
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	-8.2					523.8	0.0	102.4	0.0	7273.5
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	221.1					622.8	0.0	341.7	0.0	6992.4
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	468.8					583.1	0.0	600.3	0.0	7009.6
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	416.1					772.7	0.0	545.3	0.0	6782.2
			23	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	807.3					585.1	0.0	953.6	0.0	7150.7
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	867.4					346.4	0.0	1016.3	0.0	7820.5
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	649.1					360.6	0.0	788.5	0.0	8248.3
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	324.1					302.8	0.0	449.3	0.0	8394.8
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	322.9					126.4	0.0	448.0	0.0	8716.3
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	172.1					113.7	0.0	290.5	0.0	8893.2
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	-3.3					226.4	0.0	107.5	0.0	8774.3
		3a filled		Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	36.0					362.6	0.0	148.5	0.0	8560.1
		3b		Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	-276.0				523.8	0.0	-123.9	0.0	7912.5
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	-307.4				622.8	0.0	-142.8	0.0	7146.9
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	-304.0				583.1	0.0	-126.0	0.0	6437.8
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	-267.8				772.7	0.0	-92.7	0.0	5572.4
			24	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	-44.1				585.1	0.0	152.3	0.0	5139.7
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	2297.4				346.4	0.0	2497.1	0.0	7290.4
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	112.2				360.6	0.0	300.0	0.0	7229.7
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	935.0				302.8	0.0	1105.2	0.0	8032.0
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	6.4				126.4	0.0	176.6	0.0	8082.2
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	-354.5				113.7	0.0	-192.5	0.0	7776.0
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	-333.3				226.4	0.0	-180.9	0.0	7368.7
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	370.1				362.6	0.0	524.6	0.0	7530.7
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	-180.5				523.8	0.0	-28.4	0.0	6978.5
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	-27.5				622.8	0.0	137.1	0.0	6492.8
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	137.8				583.1	0.0	315.8	0.0	6225.5
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	102.6				772.7	0.0	277.8	0.0	5730.6
			25	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	363.6				585.1	0.0	560.0	0.0	5705.5
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	403.7				346.4	0.0	603.3	0.0	5962.4
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	258.0				360.6	0.0	445.9	0.0	6047.6
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	41.2				302.8	0.0	211.4	0.0	5956.2
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	40.4				126.4	0.0	210.5	0.0	6040.3
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	-60.3				113.7	0.0	101.7	0.0	6028.3
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	-177.3				226.4	0.0	-24.8	0.0	5777.1
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	-151.1				362.6	0.0	3.5	0.0	5418.0
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	-180.5				523.8	0.0	-28.4	0.0	4865.8
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	-27.5				622.8	0.0	137.1	0.0	4380.1
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	137.8				583.1	0.0	315.8	0.0	4112.8
		3b filled		Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	102.6				772.7	0.0	277.8	0.0	3617.8
		3c	26	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	23.1			585.1	0.0	244.2	0.0	3277.0
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	2707.8			346.4	0.0	2932.6	0.0	5863.2
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	202.3			360.6	0.0	413.7	0.0	5916.2
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	1145.7			302.8	0.0	1337.2	0.0	6950.6
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	81.0			126.4	0.0	272.5	0.0	7096.7
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	-332.8			113.7	0.0	-150.5	0.0	6832.5
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	-308.5			226.4	0.0	-137.0	0.0	6469.1
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	498.0			362.6	0.0	671.9	0.0	6778.4
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	-242.8			523.8	0.0	-71.6	0.0	6183.0
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	-278.8			622.8	0.0	-93.6	0.0	5466.7
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	-274.9			583.1	0.0	-74.5	0.0	4809.1
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	-233.4			772.7	0.0	-36.3	0.0	4000.1
			27	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	490.6			585.1	0.0	711.7	0.0	4126.7
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	536.6			346.4	0.0	761.4	0.0	4541.7
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	369.6			360.6	0.0	581.0	0.0	4762.0
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	120.9			302.8	0.0	312.5	0.0	4771.7
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	120.0			126.4	0.0	311.5	0.0	4956.8
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	4.6			113.7	0.0	186.9	0.0	5029.9
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	-129.6			226.4	0.0	42.0	0.0	4845.5

			Year				Cell 1a m3	Cell 1b m3	Cell 1c m3	Cell 2a m3	Cell 2b m3	Cell 3a m3	Cell 3b m3	Cell 3c m3	Final m3	Bund Shaping/Decon m3	Dam Evap (taking into account rainfall) m3	Evap from Face m3	Leachate Gen m3	Cumulative Spongability m3	Cumulative Leachate in Evaporation Pond m3
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	-99.5			362.6	0.0	74.4	0.0	4557.3
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	-133.3			523.8	0.0	37.9	0.0	4071.4
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	42.1			622.8	0.0	227.4	0.0	3676.0
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	231.7			583.1	0.0	432.1	0.0	3524.9
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	191.3			772.7	0.0	388.5	0.0	3140.7
			28	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	490.6			585.1	0.0	711.7	0.0	3267.4
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	536.6			346.4	0.0	761.4	0.0	3682.3
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	369.6			360.6	0.0	581.0	0.0	3902.7
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	120.9			302.8	0.0	312.5	0.0	3912.3
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	120.0			126.4	0.0	311.5	0.0	4097.4
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	4.6			113.7	0.0	186.9	0.0	4170.6
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	-129.6			226.4	0.0	42.0	0.0	3986.2
		3c filled		Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	-99.5			362.6	0.0	74.4	0.0	3697.9
		F		Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	-157.7		523.8	0.0	35.7	0.0	3209.9
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	-209.3		622.8	0.0	-0.1	0.0	2587.0
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	-203.7		583.1	0.0	22.7	0.0	2026.6
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	-144.3		772.7	0.0	78.5	0.0	1332.4
			29	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	223.8		585.1	0.0	473.6	0.0	1220.9
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	4075.4		346.4	0.0	4329.4	0.0	5203.9
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	480.8		360.6	0.0	719.7	0.0	5562.9
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	1834.3		302.8	0.0	2050.7	0.0	7310.8
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	306.9		126.4	0.0	523.2	0.0	7707.6
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	-286.8		113.7	0.0	-80.9	0.0	7513.0
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	-252.0		226.4	0.0	-58.2	0.0	7228.4
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	905.0		362.6	0.0	1101.5	0.0	7967.4
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	-0.6		523.8	0.0	192.9	0.0	7636.5
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	251.2		622.8	0.0	460.5	0.0	7474.2
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	523.1		583.1	0.0	749.6	0.0	7640.6
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	465.3		772.7	0.0	688.0	0.0	7555.9
			30	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	894.7		585.1	0.0	1144.5	0.0	8115.3
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	960.7		346.4	0.0	1214.6	0.0	8983.5
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	721.0		360.6	0.0	959.9	0.0	9582.8
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	364.3		302.8	0.0	580.7	0.0	9860.7
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	362.9		126.4	0.0	579.3	0.0	10313.5
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	197.3		113.7	0.0	403.2	0.0	10603.1
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	4.8		226.4	0.0	198.6	0.0	10575.3
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	47.9		362.6	0.0	244.4	0.0	10457.1
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	-0.6		523.8	0.0	192.9	0.0	10126.2
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	251.2		622.8	0.0	460.5	0.0	9963.9
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	523.1		583.1	0.0	749.6	0.0	10130.3
		F filled		Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	465.3		772.7	0.0	688.0	0.0	10045.6
		All cells capped	31	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5	466.2	585.1	0.0	730.5	0.0	10191.1
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2	488.3	346.4	0.0	757.4	0.0	10602.0
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7	408.2	360.6	0.0	659.7	0.0	10901.1
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0	288.9	302.8	0.0	514.3	0.0	11112.6
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0	288.5	126.4	0.0	513.7	0.0	11499.9
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3	233.1	113.7	0.0	446.3	0.0	11832.5
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	11805.2
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	11644.7
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	11319.6
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	10913.9
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	10567.8
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	10027.9
			32	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	9707.1
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	9629.9
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	9520.8
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	9443.4
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	9542.2
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	9641.7
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	9614.4
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	9454.0
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	9128.8
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	8723.1
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	8377.0
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	7837.1
			33	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	7516.4
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	7439.1
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	7330.0
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	7252.6
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	7351.5
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	7450.9
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	7423.6
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	7263.2
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	6938.0
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	6532.3
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	6186.3
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	5646.3
			34	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	5325.6
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	5248.3
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	5139.2
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	5061.8
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	5160.7
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	5260.2
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	5232.8
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	5072.4
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	4747.2
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	4341.5
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	3995.5
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	3455.6
			35	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	3134.8
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	3057.5
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	2948.4
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	2871.0
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	2969.9
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	3069.4
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	3042.0
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	2881.6
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	2556.4
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	2150.8
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	1804.7
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	1264.8
			36	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	944.0
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	866.7
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	757.7
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	680.2
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	779.1
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	878.6
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	851.2
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	690.8
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	365.7
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	0.0
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	0.0
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	0.0
			37	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	0.0
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	0.0
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	0.0

			Year				Cell 1a m3	Cell 1b m3	Cell 1c m3	Cell 2a m3	Cell 2b m3	Cell 3a m3	Cell 3b m3	Cell 3c m3	Final m3	Bund Shaping/Decon m3	Dam Evap (taking into account rainfall) m3	Evap from Face m3	Leachate Gen m3	Cumulative Spongability m3	Cumulative Leachate in Evaporation Pond m3
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	0.0
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	98.9
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	198.4
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	171.0
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	10.6
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	0.0
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	0.0
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	0.0
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	0.0
			38	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	0.0
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	0.0
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	0.0
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	0.0
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	98.9
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	198.4
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	171.0
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	10.6
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	0.0
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	0.0
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	0.0
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	0.0
			39	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	0.0
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	0.0
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	0.0
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	0.0
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	98.9
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	198.4
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	171.0
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	10.6
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	0.0
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	0.0
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	0.0
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	0.0
			40	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	0.0
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	0.0
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	0.0
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	0.0
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	98.9
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	198.4
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	171.0
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	10.6
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	0.0
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	0.0
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	0.0
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	0.0
			41	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	0.0
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	0.0
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	0.0
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	0.0
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	98.9
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	198.4
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	171.0
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	10.6
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	0.0
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	0.0
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	0.0
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	0.0
			42	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	0.0
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	0.0
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	0.0
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	0.0
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	98.9
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	198.4
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	171.0
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	10.6
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	0.0
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	0.0
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	0.0
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	0.0
			43	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	0.0
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	0.0
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	0.0
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	0.0
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	98.9
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	198.4
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	171.0
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	10.6
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	0.0
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	0.0
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	0.0
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	0.0
			44	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	0.0
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	0.0
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	0.0
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	0.0
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	98.9
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	198.4
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	171.0
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	10.6
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	0.0
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	0.0
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	0.0
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	0.0
			45	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	0.0
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	0.0
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	0.0
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	0.0
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	98.9
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	198.4
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	171.0
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	10.6
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	0.0
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	0.0
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	0.0
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	0.0
			46	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	0.0
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	0.0
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	0.0
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	0.0
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	98.9
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	198.4
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	171.0
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	10.6
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	0.0
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	0.0
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	0.0

			Year			Cell 1a m3	Cell 1b m3	Cell 1c m3	Cell 2a m3	Cell 2b m3	Cell 3a m3	Cell 3b m3	Cell 3c m3	Final m3	Bund Shaping/Decon m3	Dam Evap (taking into account rainfall) m3	Evap from Face m3	Leachate Gen m3	Cumulative Spongability m3	Cumulative Leachate in Evaporation Pond m3
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	0.0
			47	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	0.0
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	0.0
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	0.0
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	0.0
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	98.9
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	198.4
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	171.0
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	10.6
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	0.0
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	0.0
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	0.0
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	0.0
			48	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	0.0
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	0.0
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	0.0
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	0.0
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	98.9
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	198.4
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	171.0
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	10.6
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	0.0
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	0.0
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	0.0
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	0.0
			49	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	0.0
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	0.0
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	0.0
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	0.0
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	98.9
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	198.4
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	171.0
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	10.6
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	0.0
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	0.0
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	0.0
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	0.0
			50	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	0.0
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	0.0
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	0.0
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	0.0
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	98.9
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	198.4
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	171.0
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	10.6
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	0.0
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	0.0
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	0.0
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	0.0
			51	Jan	0.0	0.0	18.8	19.7	39.3	30.1	38.4	50.1	24.7	28.7	14.5		585.1	0.0	264.3	0.0	0.0
				Feb	0.0	0.0	19.2	20.2	40.0	30.6	38.9	50.7	25.1	29.2	15.2		346.4	0.0	269.1	0.0	0.0
				Mar	0.0	0.0	17.8	18.6	37.4	28.7	37.0	48.5	23.6	27.4	12.7		360.6	0.0	251.6	0.0	0.0
				Apr	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.4	24.9	9.0		302.8	0.0	225.4	0.0	0.0
				May	0.0	0.0	15.6	16.2	33.5	25.8	34.1	45.1	21.3	24.8	9.0		126.4	0.0	225.3	0.0	98.9
				Jun	0.0	0.0	14.6	15.1	31.6	24.4	32.7	43.5	20.3	23.7	7.3		113.7	0.0	213.2	0.0	198.4
				Jul	0.0	0.0	13.5	13.8	29.5	22.8	31.1	41.7	19.1	22.3	5.3		226.4	0.0	199.0	0.0	171.0
				Aug	0.0	0.0	13.8	14.1	30.0	23.2	31.5	42.1	19.4	22.6	5.7		362.6	0.0	202.2	0.0	10.6
				Sep	0.0	0.0	13.5	13.7	29.5	22.8	31.1	41.6	19.1	22.2	5.2		523.8	0.0	198.6	0.0	0.0
				Oct	0.0	0.0	15.0	15.4	32.2	24.8	33.1	44.0	20.6	24.0	7.8		622.8	0.0	217.1	0.0	0.0
				Nov	0.0	0.0	16.6	17.2	35.2	27.1	35.4	46.6	22.4	26.0	10.6		583.1	0.0	237.1	0.0	0.0
				Dec	0.0	0.0	16.2	16.9	34.6	26.6	34.9	46.0	22.0	25.6	10.0		772.7	0.0	232.8	0.0	0.0

ANNEXURE 3 MODEL FOR RUN-OFF DAM FOR WOOD / GARDEN WATER STOCKPILES

Wood/Garden Waste Runoff Dam Sizing

Av monthly evap from Syd Airport (nearest data site)	Av Monthly Rainfall (Orchard Hills STP)	Dam Area m2	Cell Start/Fill	Year		Run-off from Wood/Garden Waste m3	Evap from Storage Dam m3	Gen of stormwater run-off m3	Cum dam storage m3
0.223	0.1036	2000	1a	1	Jan	82.88	167.16	-84.28	-84.28
0.1792	0.1085				Feb	86.8	98.98	-12.18	-96.46
0.1643	0.0907				Mar	72.56	103.04	-30.48	-126.94
0.126	0.0642				Apr	51.36	86.52	-35.16	-162.1
0.0899	0.0641				May	51.28	36.12	15.16	-146.94
0.075	0.0518				Jun	41.44	32.48	8.96	-137.98
0.0837	0.0375				Jul	30	64.68	-34.68	-172.66
0.1147	0.0407				Aug	32.56	103.6	-71.04	-243.7
0.144	0.0371				Sep	29.68	149.66	-119.98	-363.68
0.1829	0.0558				Oct	44.64	177.94	-133.3	-496.98
0.195	0.076				Nov	60.8	166.6	-105.8	-602.78
0.2294	0.0717				Dec	57.36	220.78	-163.42	-766.2
				2	Jan	82.88	167.16	-84.28	-850.48
					Feb	86.8	98.98	-12.18	-862.66
1:10 ARI of 24 hrs	150 mm				Mar	72.56	103.04	-30.48	-893.14
					Apr	51.36	86.52	-35.16	-928.3
Run-off coefficient for av monthly rainfall	0.4				May	51.28	36.12	15.16	-913.14
Run-off coefficient for 1:10 ARI of 24 hrs	1				Jun	82.88	32.48	50.4	-862.74
					Jul	60	64.68	-4.68	-867.42
					Aug	65.12	103.6	-38.48	-905.9
					Sep	59.36	149.66	-90.3	-996.2
					Oct	89.28	177.94	-88.66	-1084.86
					Nov	121.6	166.6	-45	-1129.86
					Dec	114.72	220.78	-106.06	-1235.92
				3	Jan	165.76	167.16	-1.4	-1237.32
					Feb	173.6	98.98	74.62	-1162.7
					Mar	145.12	103.04	42.08	-1120.62
					Apr	102.72	86.52	16.2	-1104.42
					May	102.56	36.12	66.44	-1037.98
					Jun	82.88	32.48	50.4	-987.58
					Jul	60	64.68	-4.68	-992.26
					Aug	65.12	103.6	-38.48	-1030.74
					Sep	59.36	149.66	-90.3	-1121.04
					Oct	89.28	177.94	-88.66	-1209.7
					Nov	121.6	166.6	-45	-1254.7
					Dec	114.72	220.78	-106.06	-1360.76
				4	Jan	165.76	167.16	-1.4	-1362.16
					Feb	173.6	98.98	74.62	-1287.54
					Mar	145.12	103.04	42.08	-1245.46
					Apr	102.72	86.52	16.2	-1229.26
					May	102.56	36.12	66.44	-1162.82
					Jun	82.88	32.48	50.4	-1112.42
					Jul	60	64.68	-4.68	-1117.1
					Aug	65.12	103.6	-38.48	-1155.58
					Sep	59.36	149.66	-90.3	-1245.88
					Oct	89.28	177.94	-88.66	-1334.54
					Nov	121.6	166.6	-45	-1379.54

Total dam size 849.74 cubic metres

0.5 m freeboard to be added

Dam depth 0.95m

APPENDIX 3 GEONET DESIGN & UNDERDRAIN PIPE SELECTION

APPENDIX 3 CONTENTS

TABLES

1. GEONET DESIGN

A triplanar geonet consisting of solid extruded ribs of High Density Polyethylene (HDPE) may be utilised at the basal leachate drainage layer. Geonets allow for high preferential flow in the direction of the central ribs and also have the capability of sustaining high normal stresses (due to the weight of the overlying waste) and have found application in Waste Facilities in NSW.

The chosen geonet will have a transmissivity equivalent to the DECC's benchmark gravel (0.0003 m^2/s).

From Giroud, et at 2000, the transmissivity of the geonet is must be greater than that of the gravel to account for the thinner flow medium of the geonet. Using the equation

$$E = \frac{1}{0.88}\left[1 + \frac{t_{soildrain}}{0.88\ L}\ \frac{\cos\beta}{\tan\beta}\right]$$

Table 1: Geonet Equivalency Formulae

Symbol	Name	Dimensions
E	Equivalency factor	-
$t_{soildrain}$	Thickness of soil drain	ft.
L	Slope length	ft.
S	Slope (= tan ß)	%
$T_{soildrain}$	Soil drainage transmissivity	m^2/s
T_{geonet}	Geosynthetic drainage transmissivity	m^2/s

Where L =60m, Slope = 3%, $Q_{soildrain}$= 0.3 m.

E = 1.35

$T_{geonet} = E \times T_{gravel}$

Therefore for the chosen geonet to meet the DECC requirements it must exhibit a transmissvity of greater than 4.05×10^{-4} m^2/s at the pressure equal to that of the overlying waste.

It is reasonable to assume a density of 1.2 tonnes/m^3 for the in-situ density of the emplaced waste, cover material, capping and rehabilitated surface. The maximum depth of the emplacement cells is 42 m and this corresponds to a basal pressure of 494.4 kPa (rounded up to 500 kPa).

Suitable information will be provided at the Environment Protection Licence application stage to justify the proposed geonet, if for commercial reasons it is selected.

2. UNDERDRAIN LEACHATE PIPE SPECIFICATION

All flexible pipe materials can be subject to buckling due to external pressures. The possibility of external pressure (buckling) on the under drain pipe was evaluated according to the Australian Standards for buried flexible pipelines AS/NZS2566.

The critical buckling pressure Pc was calculated as follows

$Pc = 2380.E / (SDR-1)^3$

Where Pc = Critical buckling pressure, E= modulas, MPa which varies with temperature, duration of loading, stress and the grade of material and SDR = Outer Pipe Diameter / Wall thickness.

Where pipes are buried and supported by backfill soil, the additional support (Pb) can be calculated from:

$Pb = 1.15\ (Pc\ E')^{0.5}$

Where E' is the soil modulas which can be inferred from AS/NZS2566-Buried Flexible Pipelines.

2.1 PIPE SELECTION

The buckling pressure on a PE100 with a pressure rating of PN20 was calculated according to the following specifications:

- Area Load = 500 kpa based on a fill density of 1.2 t/m3
- Pipe Diameter DN = 160 mm (I.D = 123 mm)
- Wall thickness = 17.9 mm
- SDR = 9
- Trench Fill (Embedment) = Gravel, single size
- E = 190 at a temperature of 40^{o}C over a duration of 50 years (reduce by drill hole % of area)
- E' = 2

A reduction in pipe stiffness also needs to be made to account for the drill holes. Based on a 1 m length of pipe with 12 mm holes at 150 mm spacing advice from Iplex (R Connelly) is to reduce the pipe's modulus by the % area of the holes. The areas of the holes relative to a metre of pipe is 0.27%.

Based on the adopted parameters listed above the external pressure resistance of a PE100 (PN20) is 0.92 MPa (920kPa). The calculated safety factor against buckling is 1.84 (920 kpa/500 kpa), which exceeds the minimum safety factor of 1.5, as specified in AS/NZS2566.

2.2 RECOMMENDED PIPE

PE100 (PN20), SDR=9, DN160.

Pipes of a lower grade will be utilised in areas where the height of overlying waste/capping material is less than 42 m and these will be documented at the Environment Protection Licence application stage.

3. REFERENCES

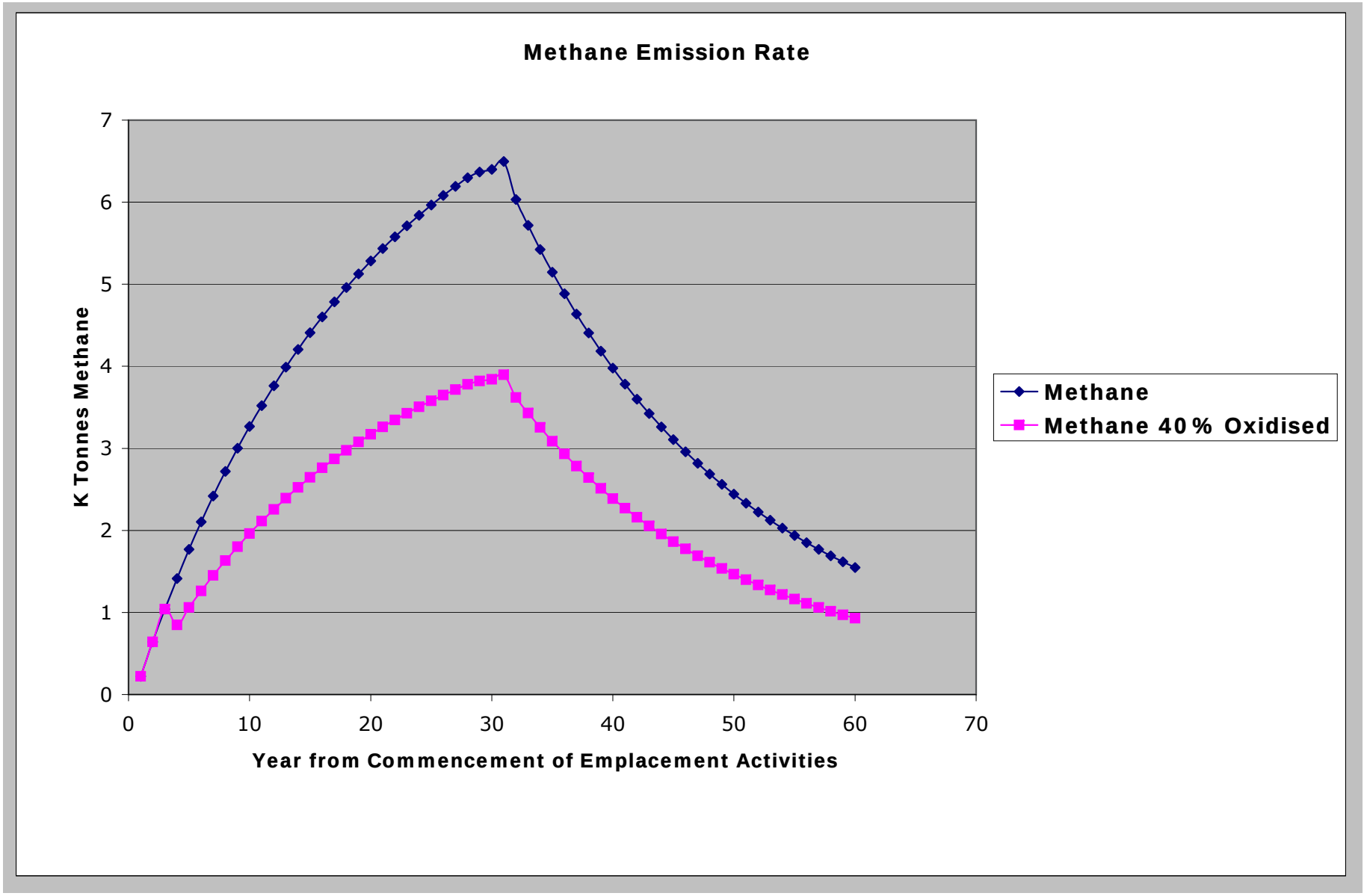
Australian/New Zealand Standard 2566:1:1998. *Buried Flexible Pipes: Structural Design*, Standards Australia.

From Giroud, J.P., Zhao, A., and Bonaparte, R., 2000, *The Myth of Hydraulic Transmissivity Equivalency Between Geosynthetic and Granular Liquid Collection Layers*", Geosynthetics International, Vol. 7, Nos. 4-5.

APPENDIX 4 GAS MODELLING

Appendix 4: Method 1 - General Solid (Non-Putrescible) Waste at 200,000 tpa

		Year	K Tonnes CH4 emitted	K Tonnes of CH4 emitted after 40% oxidation
1a	1	2010	0.22	0.22
	2	2011	0.64	0.64
	3	2012	1.04	1.04
	4	2013	1.41	0.85
1b	5	2014	1.77	1.06
	6	2015	2.10	1.26
	7	2016	2.42	1.45
1c	8	2017	2.72	1.63
	9	2018	3.00	1.80
	10	2019	3.27	1.96
	11	2020	3.52	2.11
	12	2021	3.76	2.26
2a	13	2022	3.99	2.39
	14	2023	4.20	2.52
	15	2024	4.41	2.65
	16	2025	4.60	2.76
	17	2026	4.79	2.87
2b	18	2027	4.96	2.98
	19	2028	5.13	3.08
	20	2029	5.28	3.17
	21	2030	5.43	3.26
3a	22	2031	5.58	3.35
	23	2032	5.71	3.43
	24	2033	5.84	3.50
3b	25	2034	5.96	3.58
	26	2035	6.08	3.65
	27	2036	6.19	3.72
3c	28	2037	6.30	3.78
	29	2038	6.37	3.82
F	30	2039	6.40	3.84
	31	2040	6.50	3.90
	32	2041	6.03	3.62
	33	2042	5.72	3.43
	34	2043	5.42	3.25
	35	2044	5.15	3.09
	36	2045	4.88	2.93
	37	2046	4.64	2.78
	38	2047	4.41	2.64
	39	2048	4.19	2.51
	40	2049	3.98	2.39
	41	2050	3.78	2.27
	42	2051	3.60	2.16
	43	2052	3.43	2.06
	44	2053	3.26	1.96
	45	2054	3.11	1.86
	46	2055	2.96	1.77
	47	2056	2.82	1.69
	48	2057	2.69	1.61
	49	2058	2.56	1.54
	50	2059	2.44	1.47
	51	2060	2.33	1.40
	52	2061	2.22	1.33
	53	2062	2.12	1.27
	54	2063	2.03	1.22
	55	2064	1.94	1.16
	56	2065	1.85	1.11
	57	2066	1.77	1.06
	58	2067	1.69	1.01
	59	2068	1.62	0.97
	60	2069	1.55	0.93



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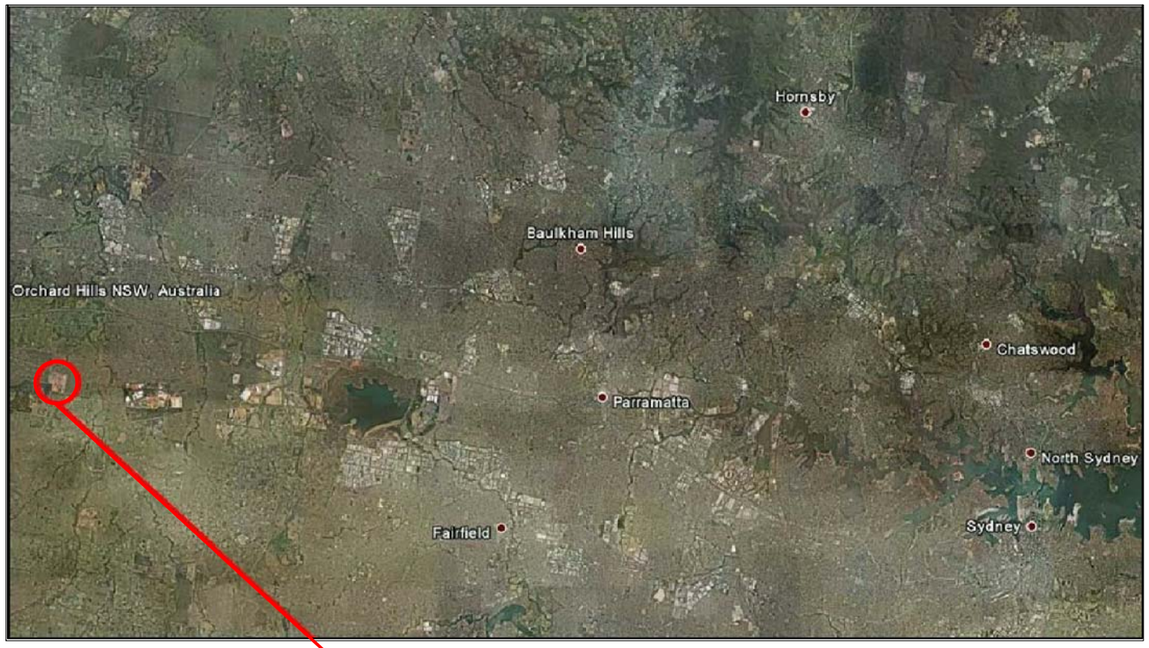
METHANE EMISSION RATE

F:\Jobs\S39\600\Final Report\Appendix 4 Gas Modelling\[Methane Emission Rate Chart.xls]Sheet1

APPENDIX 5 CONCEPT DESIGN DRAWINGS

ORCHARD HILLS WASTE AND RESOURCE MANAGEMENT FACILITY



DESIGN DRAWINGS

Date: 5 March 09		Scale: as indicated	**Orchard Hills WRMF**
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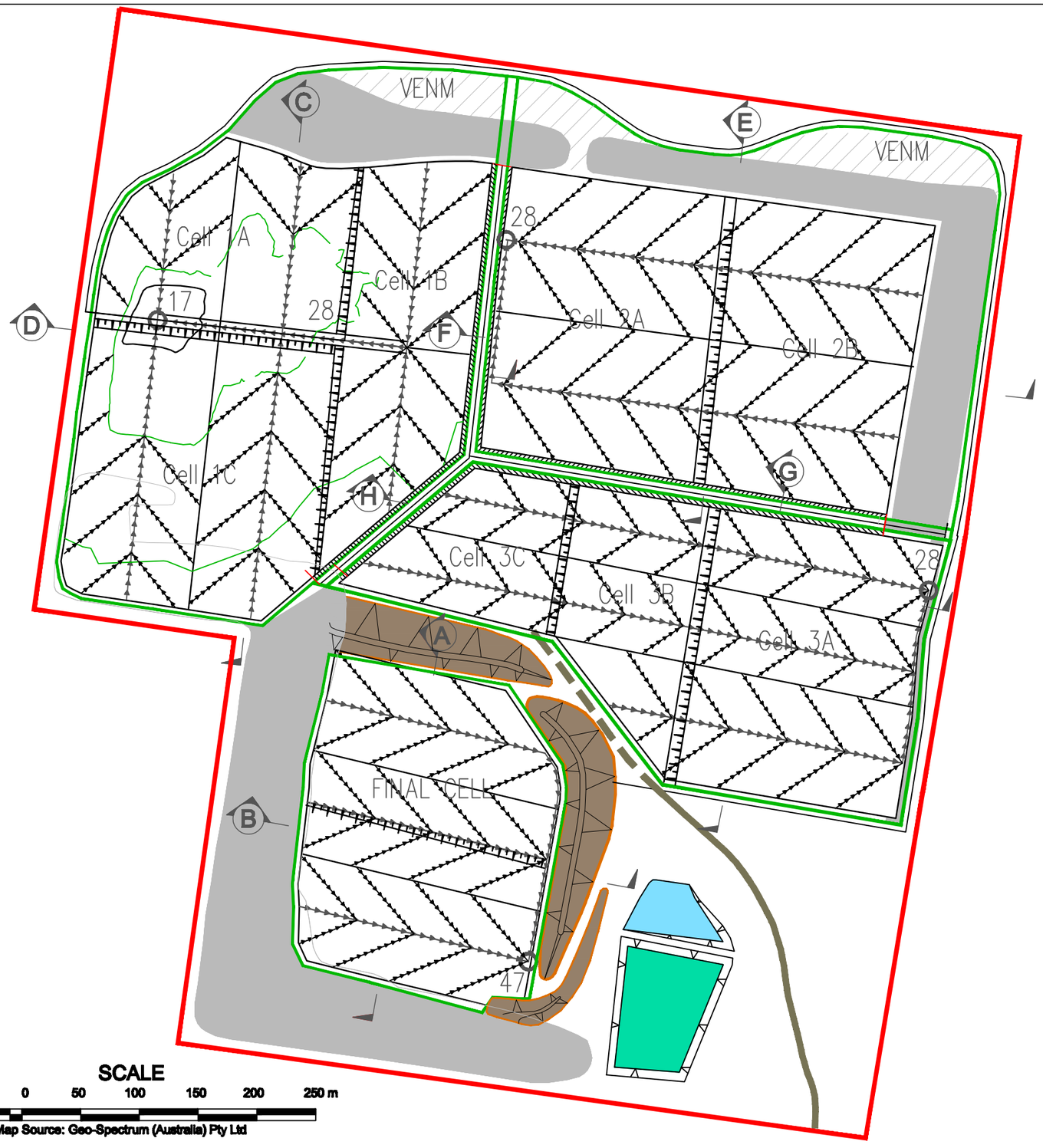
Drawing No: S39-01		Rev: 0	
aquaterra			Figure 01



SCALE

50 0 50 100 150 200 250 m

Base Map Source: Geo-Spectrum (Australia) Pty Ltd

LEGEND

- Leachate Conveyance Pipes
- Spot Level
- Access Road 3m
- Cell Boundary
- Property Boundary
- Leachate Riser
- Final Stormwater Leachate Dam
- Long-term Leachate Evaporation Pond
- No engineered liner on Cell Walls
- Existing bund
- Proposed Bund (VENM)
- Stormwater Separation Bund

Date:	8 March 2010	Scale:	as indicated
Initials:	PZ	Job No:	S39
Drawing No:	S39-02	Rev:	0

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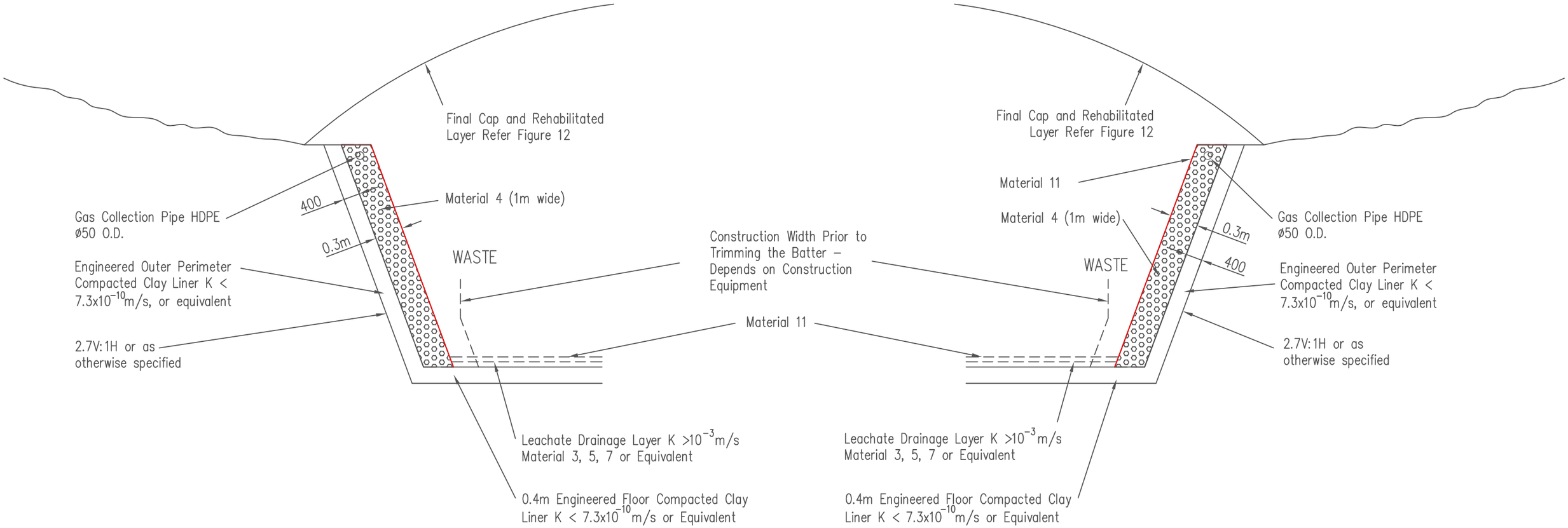
Orchard Hills WRMF

EMPLACEMENT CELL LAYOUT

Figure 02



Edge Section A

Date: 9 March 2010	Scale: N.T.S.	**Orchard Hills WRMF**	
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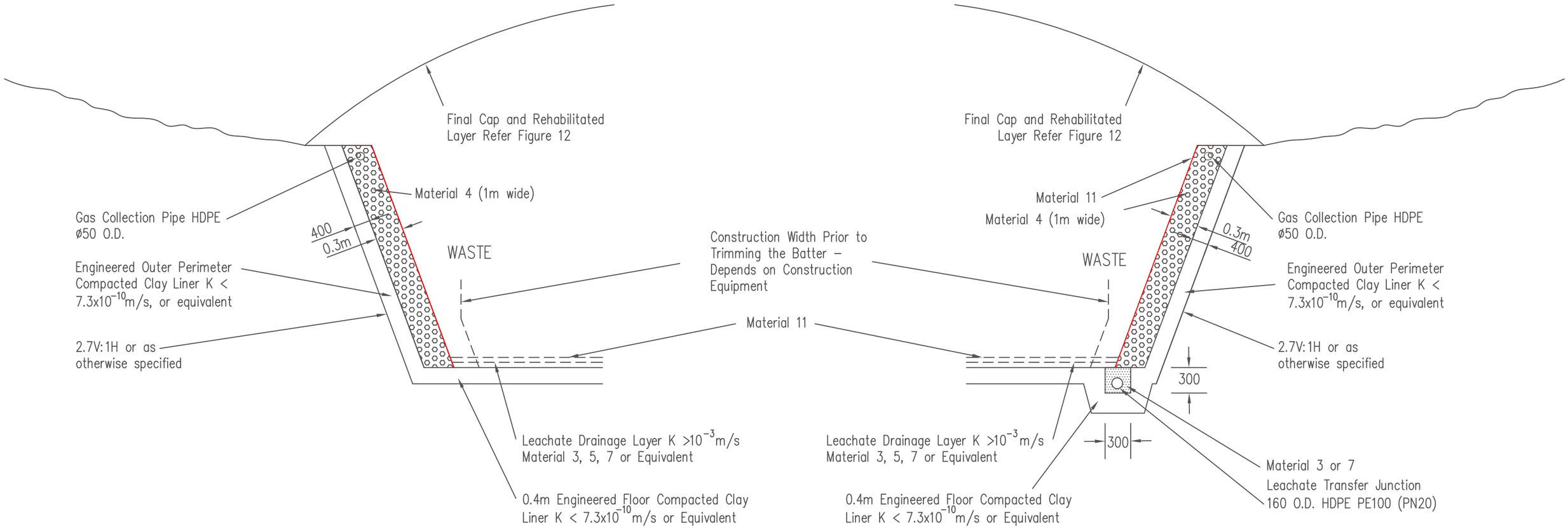
Drawing No: S39-03	Rev: 0		Figure 03
aquaterra			



Edge Section B

Date: 5 March 2010	Scale: N.T.S.	**Orchard Hills WRMF**	
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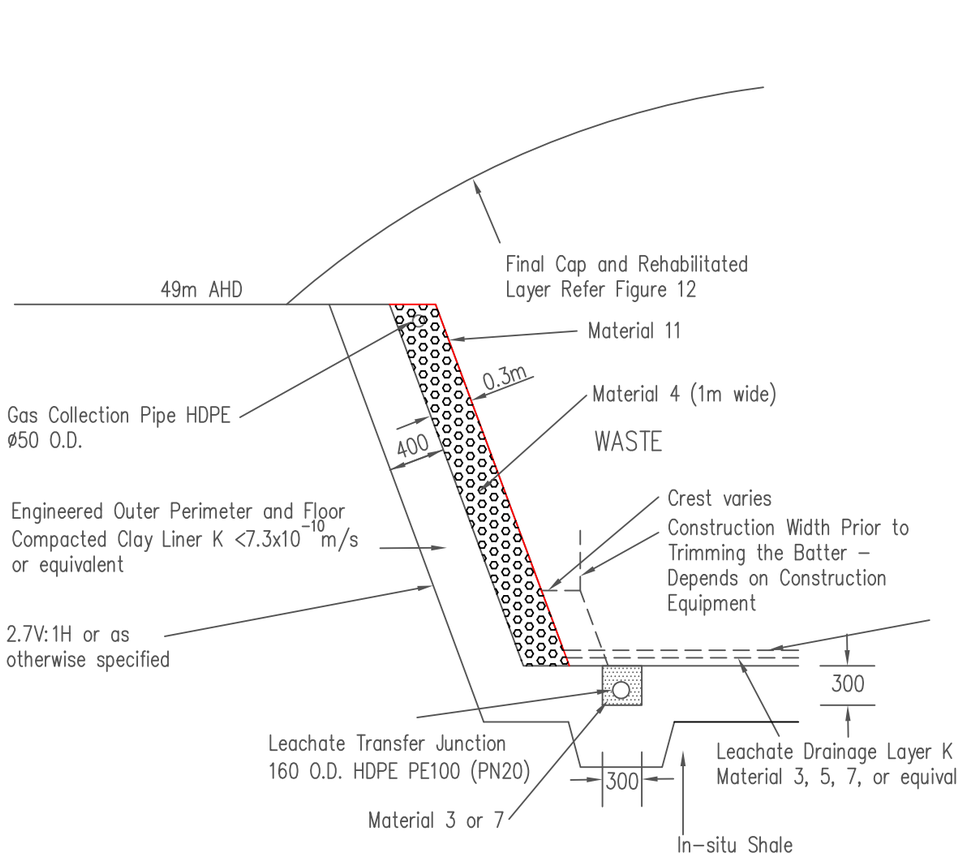
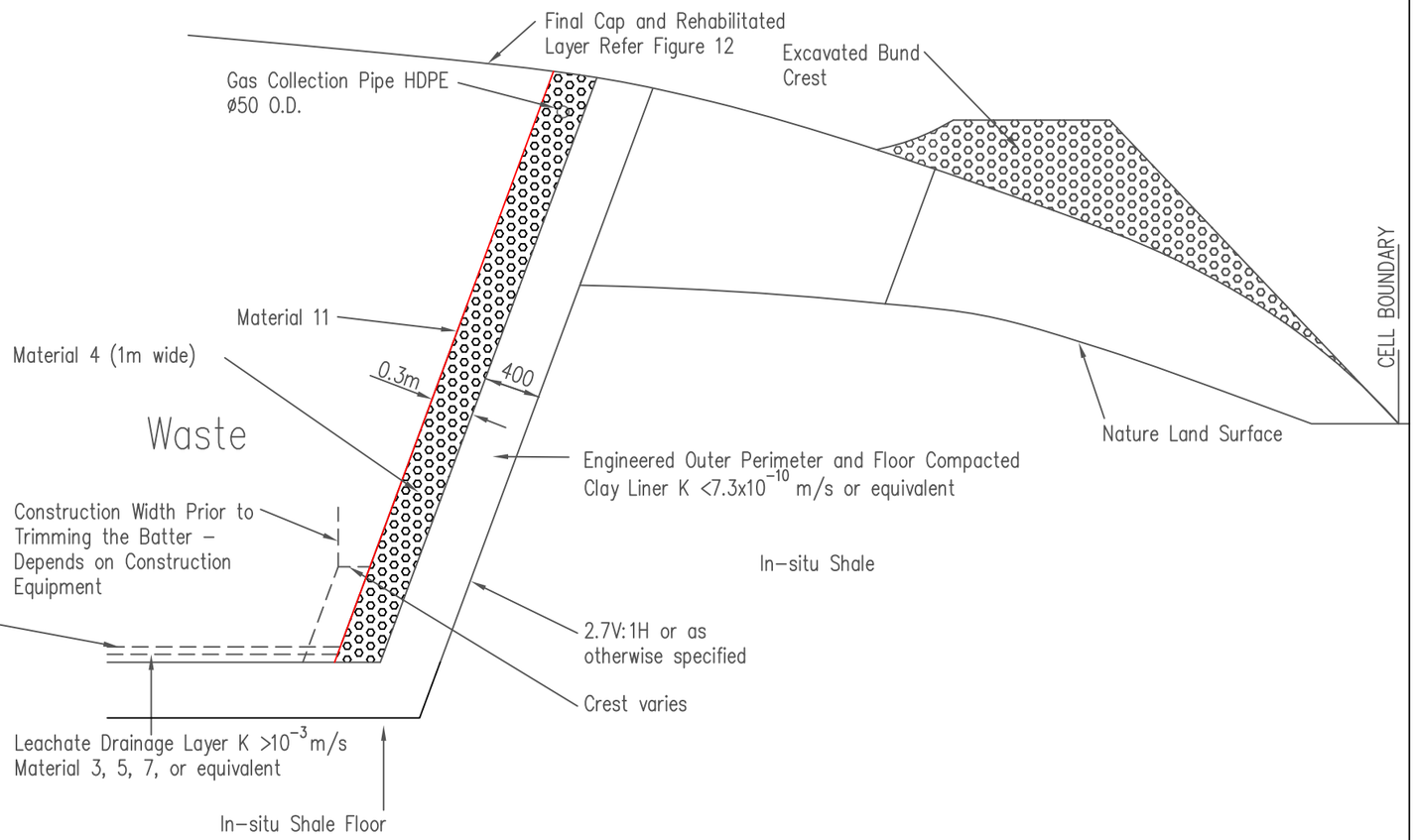
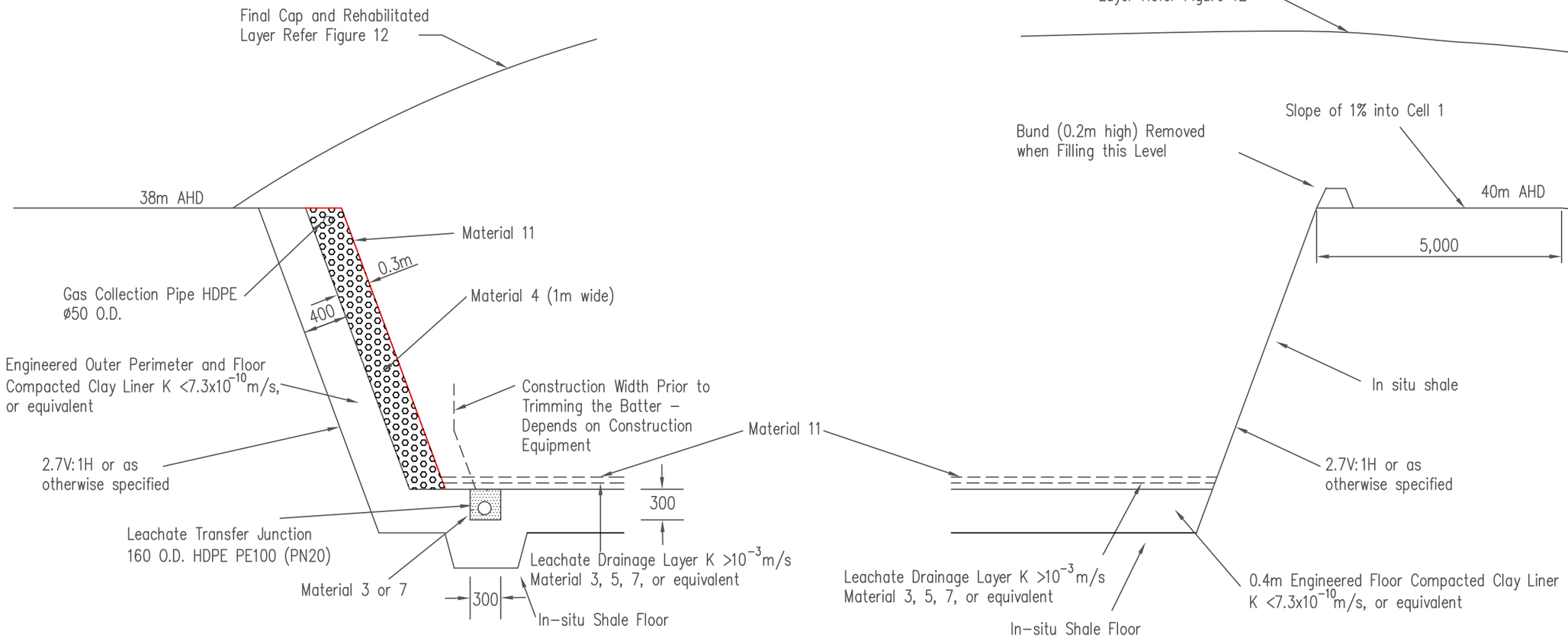
aquaterra			





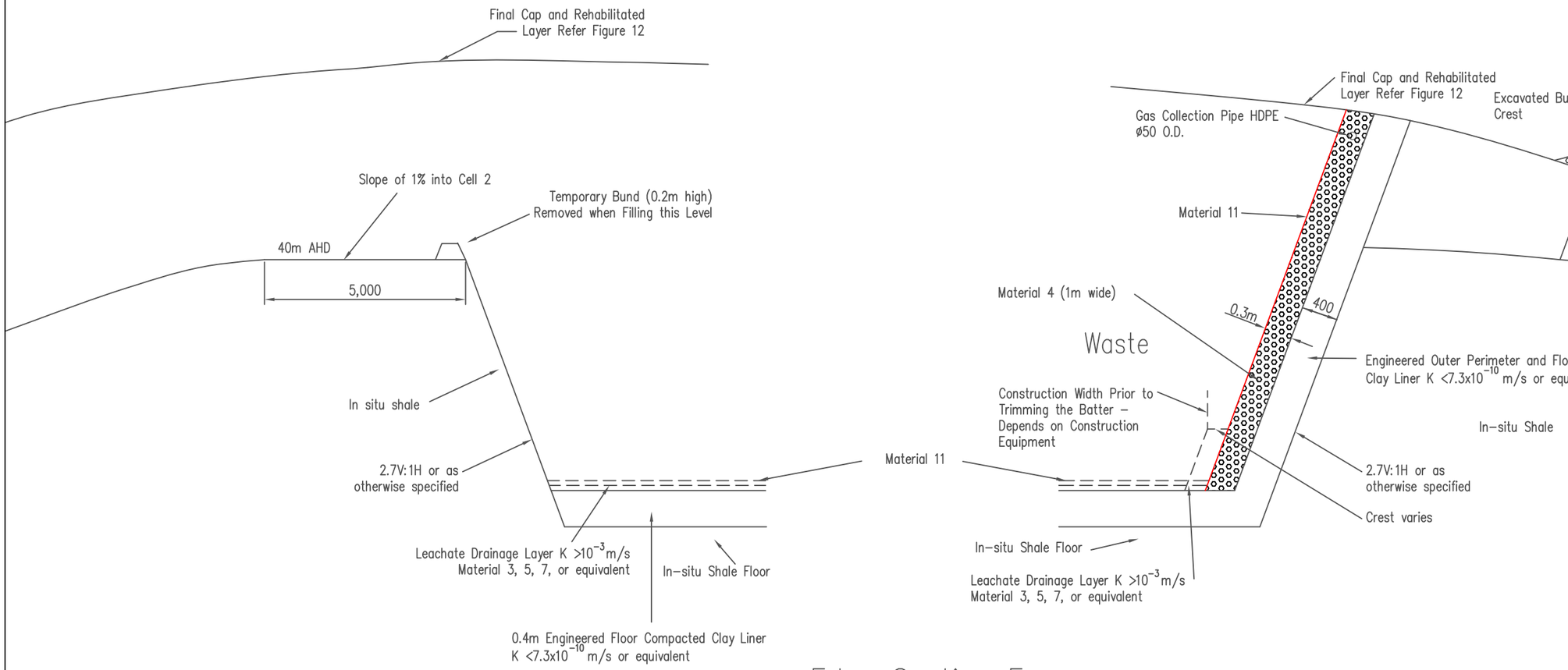
Edge Section C

Date: 9 March 2010	Scale: N.T.S.	**Orchard Hills WRMF**	
Initials: PZ	Job No: S39	EDGE SECTION C	
Drawing No: S39-05	Rev: 0		Figure 05
aquaterra			



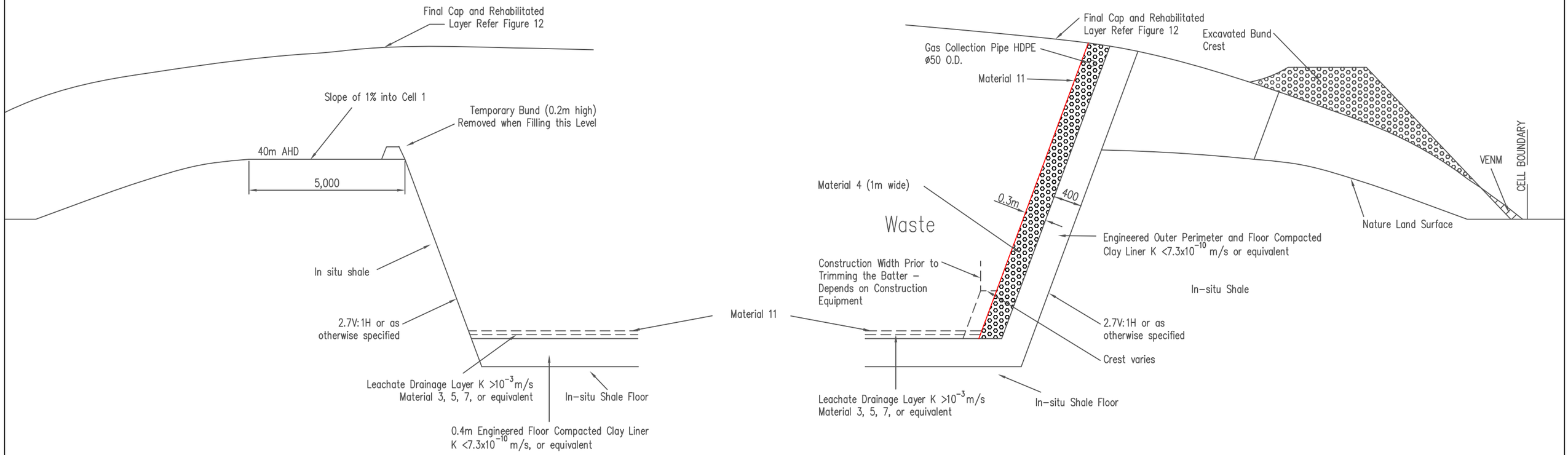
Edge Section D

Date: 8 March 2010	Scale: N.T.S.	**Orchard Hills WRMF**	
Initials: PZ	Job No: S39	EDGE SECTION D	
Drawing No: S39-06	Rev: 0		Figure 06
aquaterra			



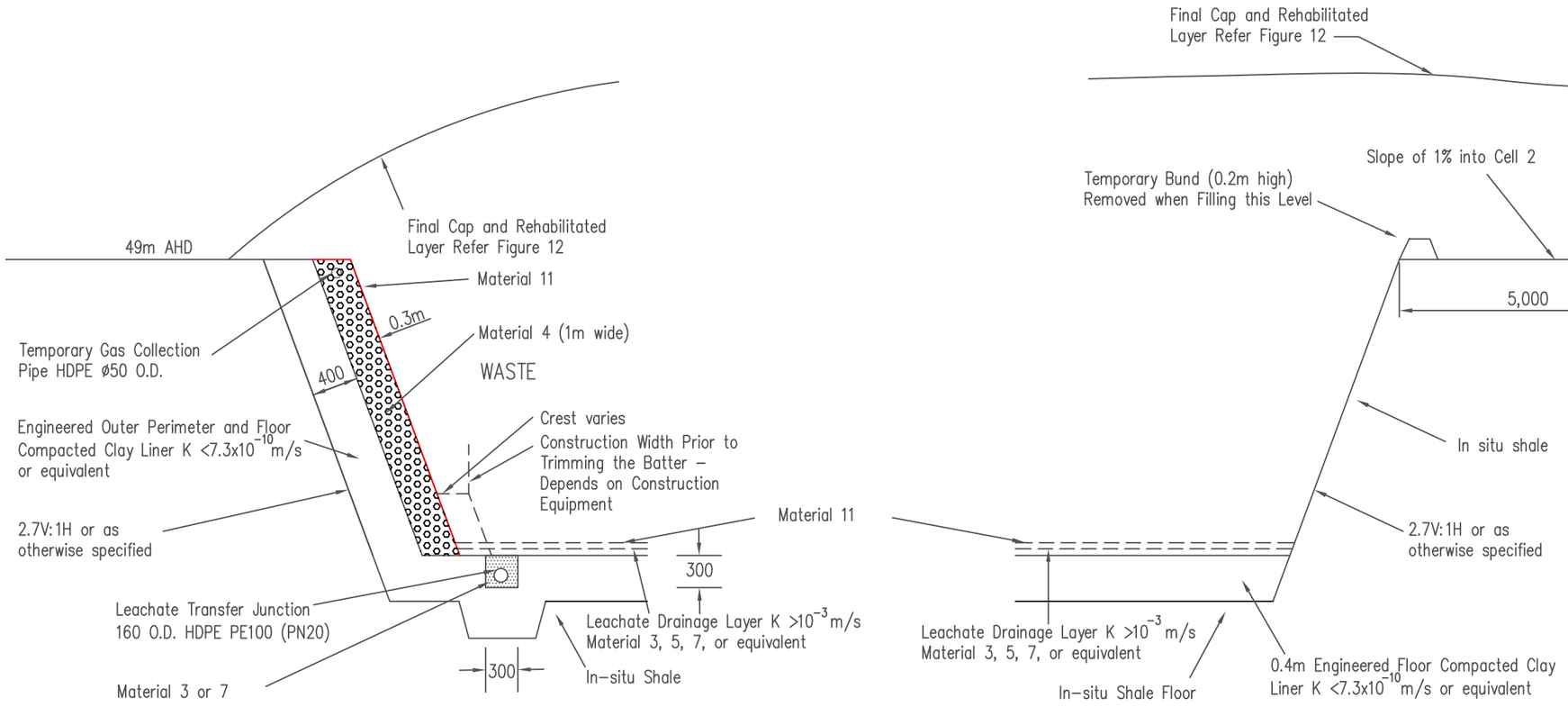
Edge Section E

Date: 2 March 2010	Scale: N.T.S.	**Orchard Hills WRMF**	
Initials: PZ	Job No: S39	EDGE SECTION E	
Drawing No: S39-07	Rev: 0		Figure 07
aquaterra			



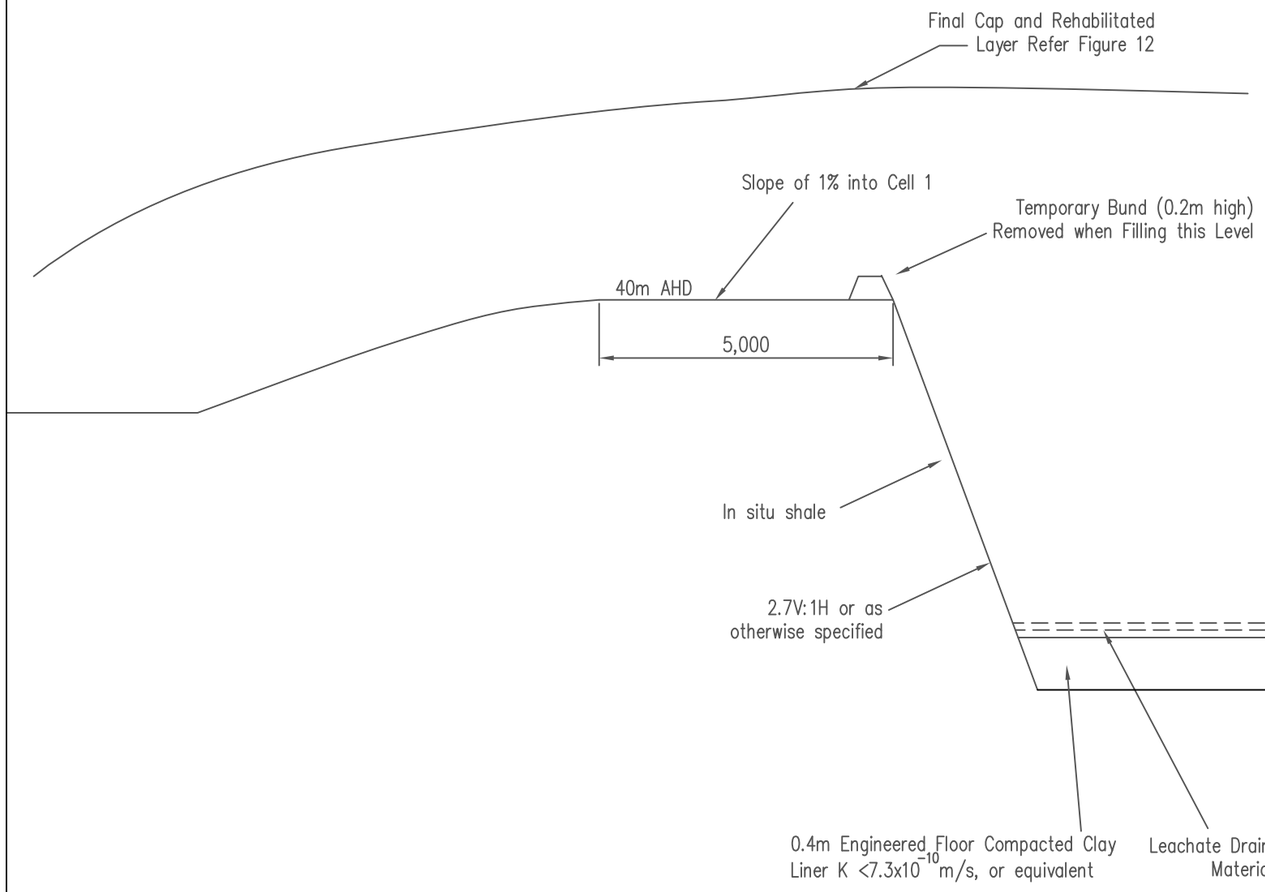
Edge Section F

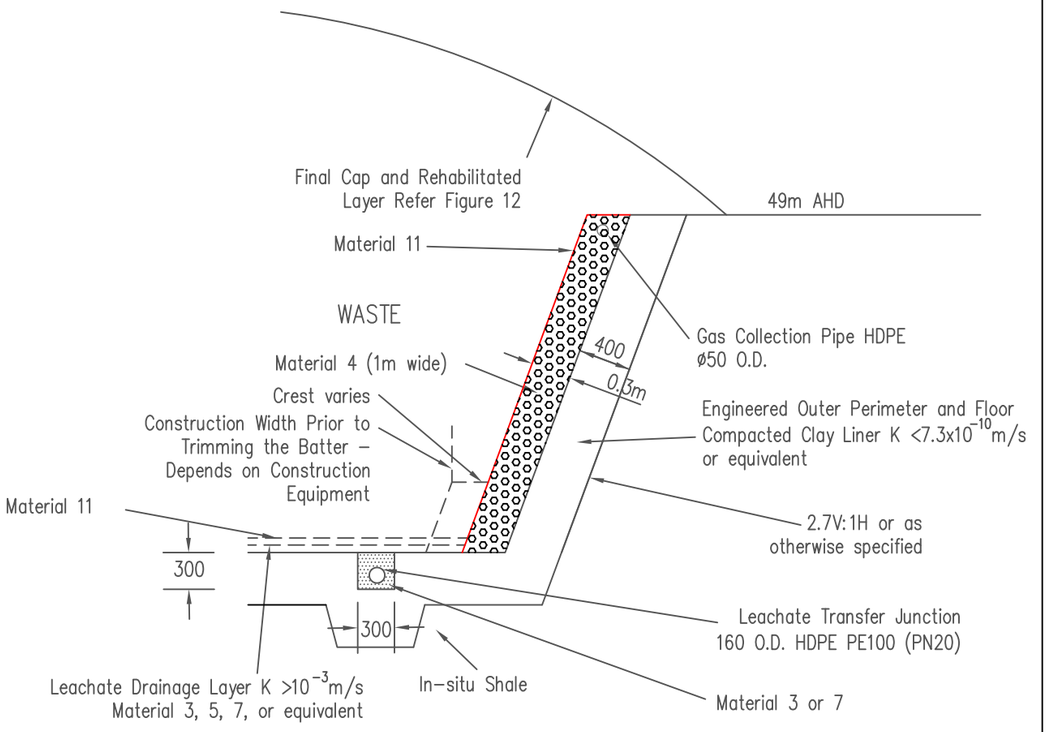
Date: 9 March 2010	Scale: N.T.S.	**Orchard Hills WRMF**	
Initials: PZ	Job No: S39	EDGE SECTION F	
Drawing No: S39-08	Rev: 0		Figure 08
aquaterra			



Edge Section G

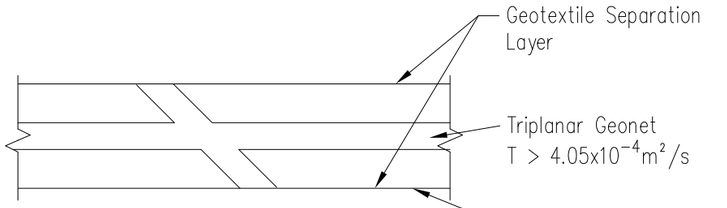
Date: 9 March 2010		Scale: N.T.S.	**Orchard Hills WRMF**
Initials: PZ		Job No: S39	EDGE SECTION G
Drawing No: S39-09		Rev: 0	
aquaterra			Figure 09



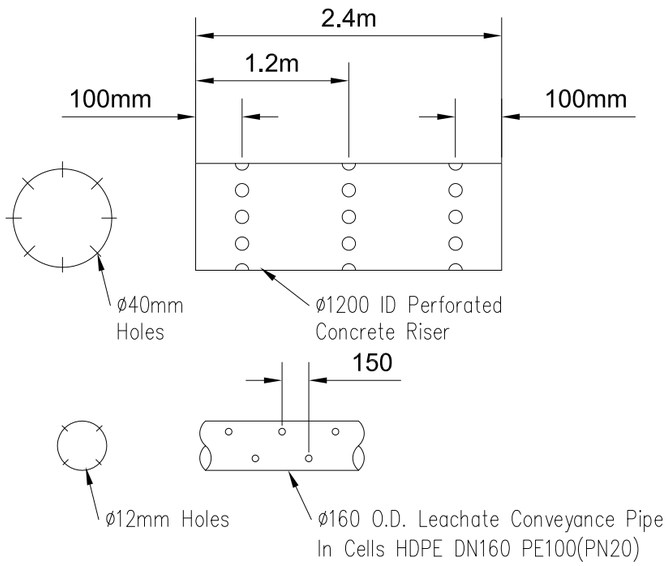


Edge Section H

Date: 9 March 2010	Scale: N.T.S.	**Orchard Hills WRMF**	
Initials: PZ	Job No: S39	EDGE SECTION H	
Drawing No: S39-10	Rev: 0		Figure 10
aquaterra			



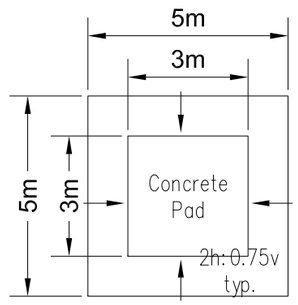
TYPICAL LEACHATE TRANSFER SYSTEM DETAIL



Material 1: Basalt Gravel
k > 10^{-3}m/s
PSD : 95% > 40mm sieve
: 97% > 0.075mm sieve

Material 2: Crushed Recycled C&D waste
PSD : 95% > 40mm sieve
: 99.5% > 0.5mm sieve

Material 3: Basalt Gravel (Table 4.1)
k > 10^{-3}m/s
PSD : 28mm Spec
: 10% > 10mm sieve
: 97% > 0.075mm sieve



Material 4: Crushed Recycled C&D waste
PSD : 40% > 26.5mm sieve
: 99.5% > 0.5mm sieve

Material 5: Triplanor Geonet (Table 4.1)

Material 6: Basalt Gravel

Material 7: Basalt Gravel with some C & D waste concrete (Table 4.1)

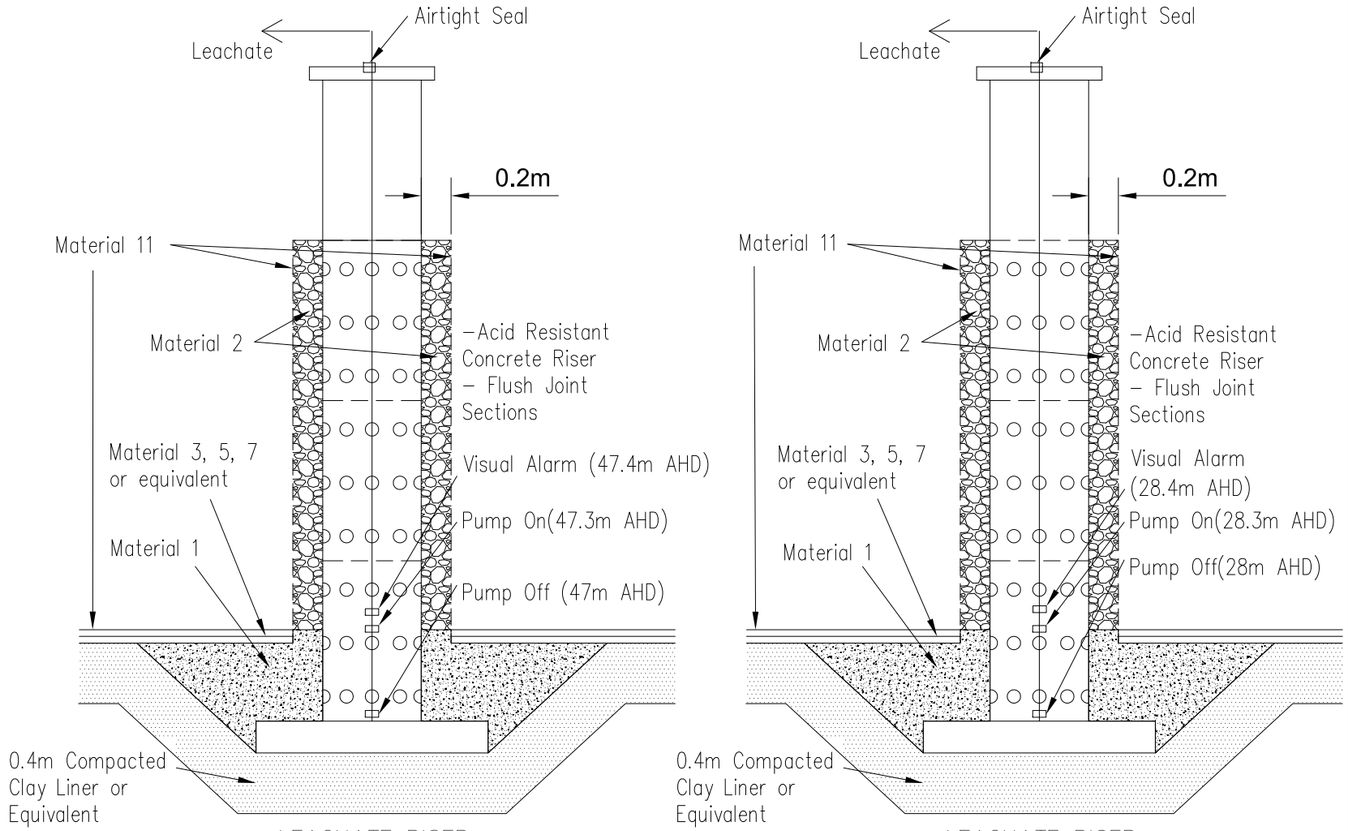
Material 8: C & D Waste / Subgrade
PSD : 50% > 26.5mm sieve

Material 9: Crushed and Rolled Shale

Material 10: 250mm Topsoil, possibly derived from waste and meeting DECCW Requirements, and 750mm Subsoil (On-site Clays), both with the same permeability

Material 11: Geotextile Non-Woven (Table 4.1)

Material 12: Geotextile Non-Woven (eg Bidim)

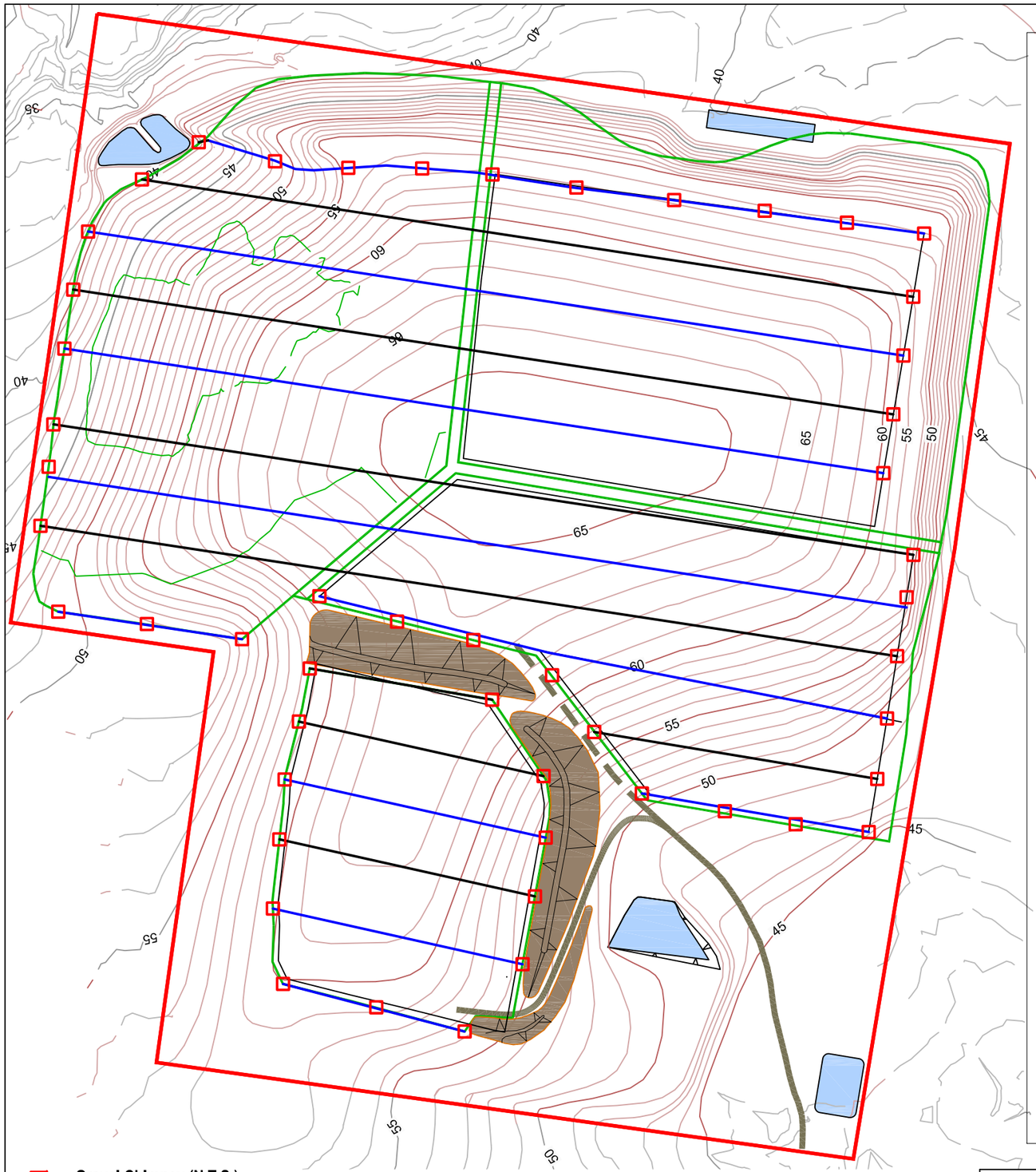


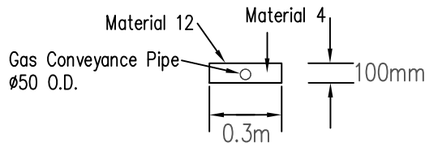
LEACHATE RISER FINAL CELL

LEACHATE RISER CELLS 1, 2 AND 3

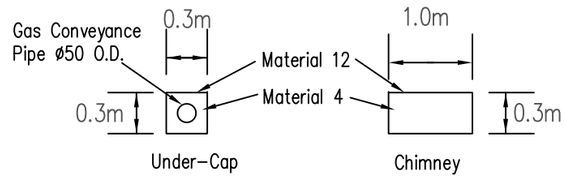
Note: Similar materials may be proposed and their specifications will be documented with the detailed information to support the application for an Environment Protection Licence.

Date: 9 March 2010		Scale: N.T.S.	**Orchard Hills WRMF**
Initials: PZ		Job No: S39	EMPLACEMENT CELL DETAILS
Drawing No: S39-11		Rev: 0	
aquaterra			Figure 11

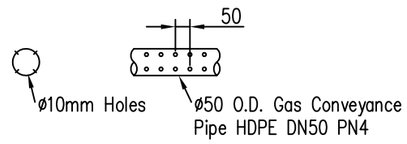


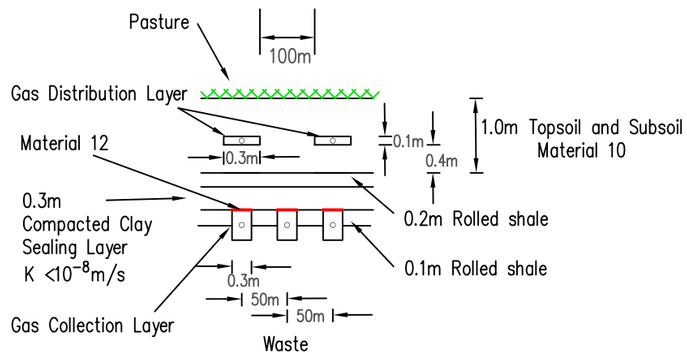


Gas Distribution Layer



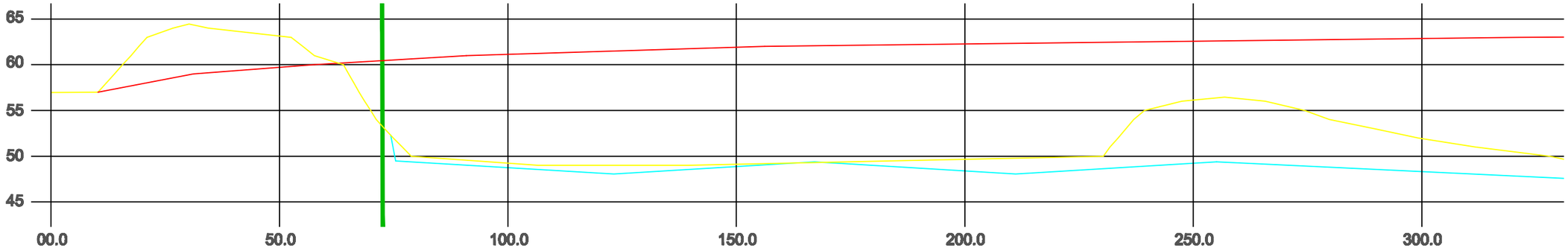
Gas Collection Layer





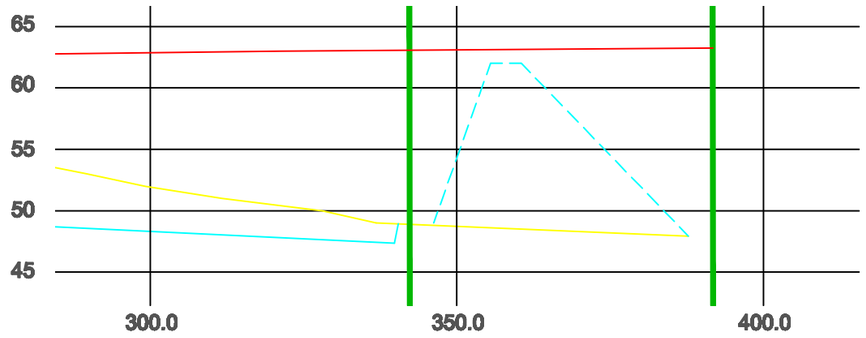
FINAL CAP AND
REHABILITATED SURFACE

Date: 5 March 2010		Scale: N.T.S.	**Orchard Hills WRMF**
Initials: PZ		Job No: S39	GAS COLLECTION / DISTRIBUTION LAYERS+ FINAL CAP
Drawing No: S39-12		Rev: 0	Figure 12
aquaterra			



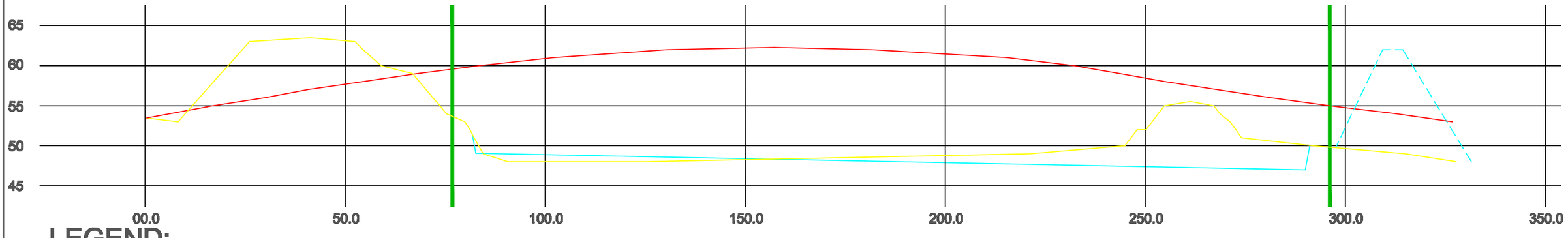
SECTION AA CHAINAGE 00.0 TO 300.0

HORIZONTAL SCALE 1:500, VERTICAL SCALE 1:250



SECTION AA CHAINAGE 300.0 TO 400.0

HORIZONTAL SCALE 1:500, VERTICAL SCALE 1:250

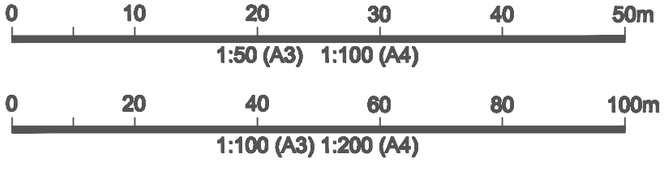


LEGEND:

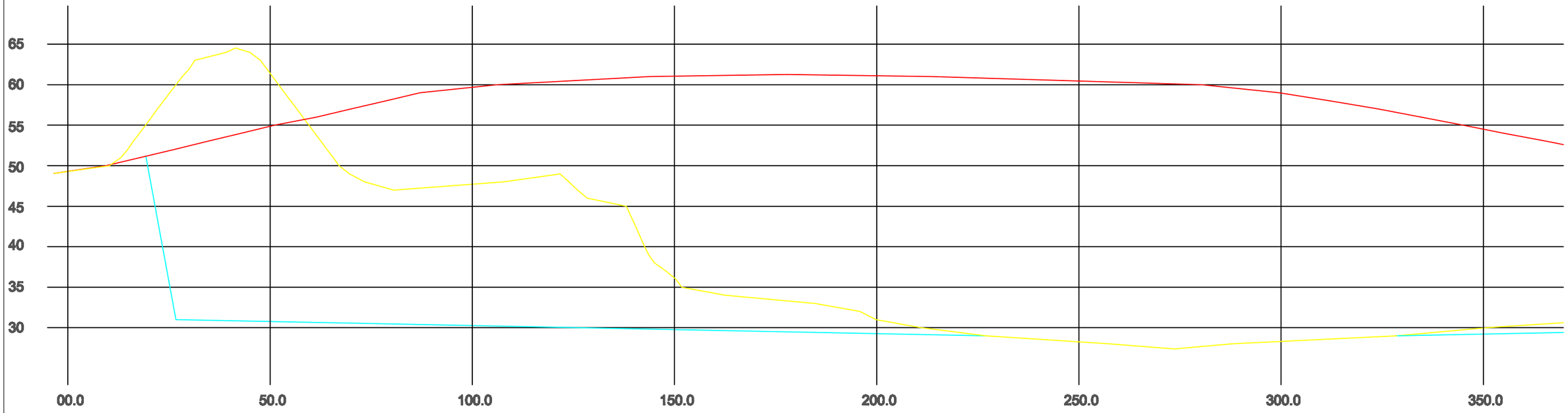
- EXISTING SURFACE LEVEL
- FINAL LANDFORM LEVEL
- CELL FLOOR
- AUDIO / VISUAL MOUND
- PROPERTY BOUNDARY
- CELL BOUNDARY

SECTION BB CHAINAGE 00.0 TO 350.0

HORIZONTAL SCALE 1:100, VERTICAL SCALE 1:50

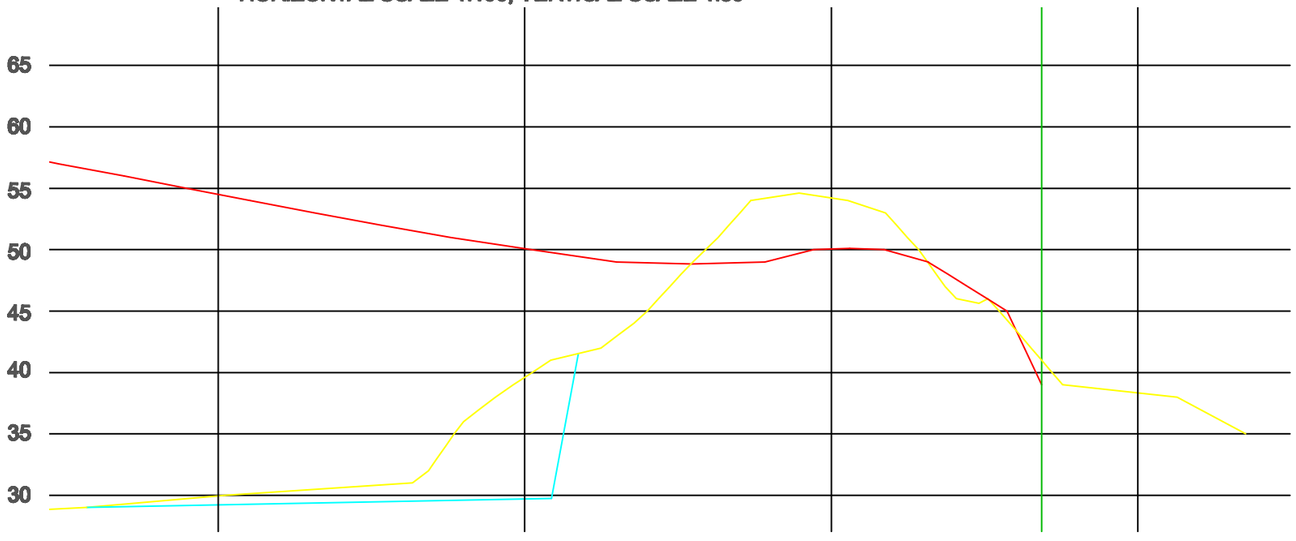


Date: 2 March 2010	Scale: as indicated	**Orchard Hills WRMF**	
Initials: B.B.	Job No: S39		
Drawing No: S39-13	Rev: 0	CROSS SECTION AA and BB	
aquaterra			Figure 13



SECTION CC CHAINAGE 00.0 TO 350.0

HORIZONTAL SCALE 1:100, VERTICAL SCALE 1:50



SECTION CC CHAINAGE 350.0 TO 500.0

HORIZONTAL SCALE 1:100, VERTICAL SCALE 1:50

LEGEND:

- EXISTING SURFACE LEVEL
- FINAL LANDFORM LEVEL
- CELL FLOOR
- PROPERTY BOUNDARY
- CELL BOUNDARY

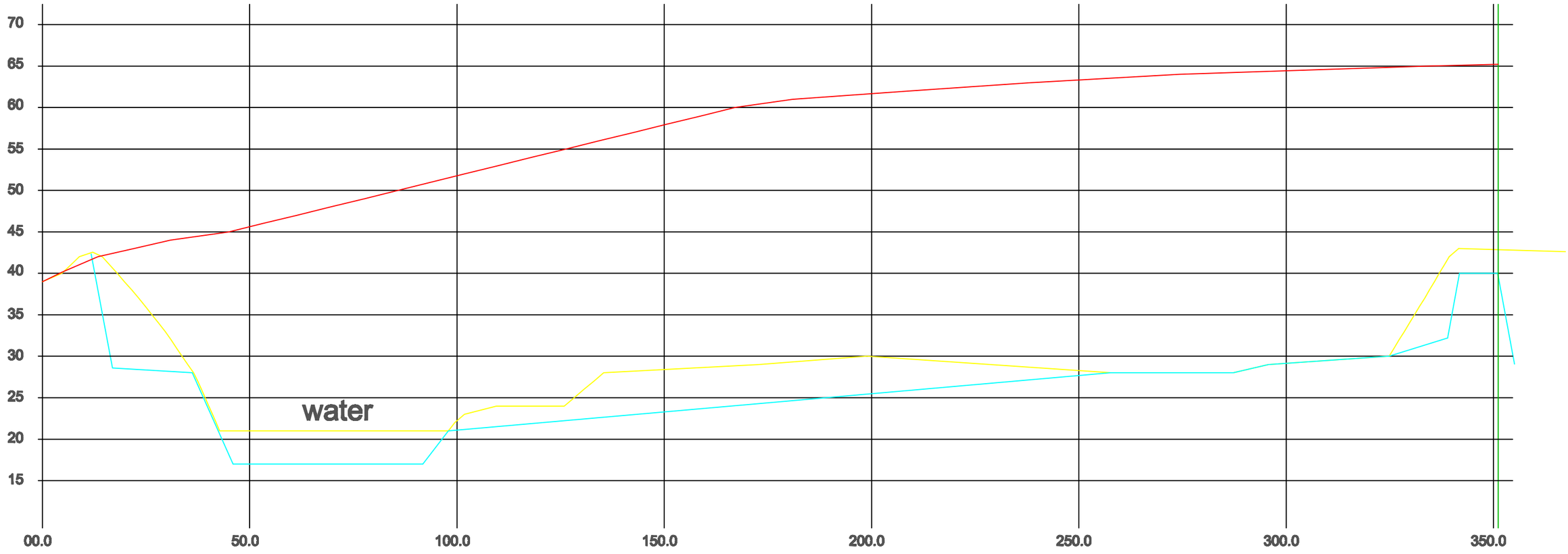
0 10 20 30 40 50m

1:50 (A3) 1:100 (A4)

0 20 40 60 80 100m

1:100 (A3) 1:200 (A4)

Date: 2 March 2010	Scale: as indicated	**Orchard Hills WRMF**	
Initials: B.B.	Job No: S39		
Drawing No: S39-14	Rev: 0	CROSS SECTION CC	
aquaterra			Figure 14



SECTION DD CHAINAGE 00.0 TO 350.0

HORIZONTAL SCALE 1:100, VERTICAL SCALE 1:50

LEGEND:

- EXISTING SURFACE LEVEL
- FINAL LANDFORM LEVEL
- CELL FLOOR
- PROPERTY BOUNDARY
- CELL BOUNDARY

0 10 20 30 40 50m

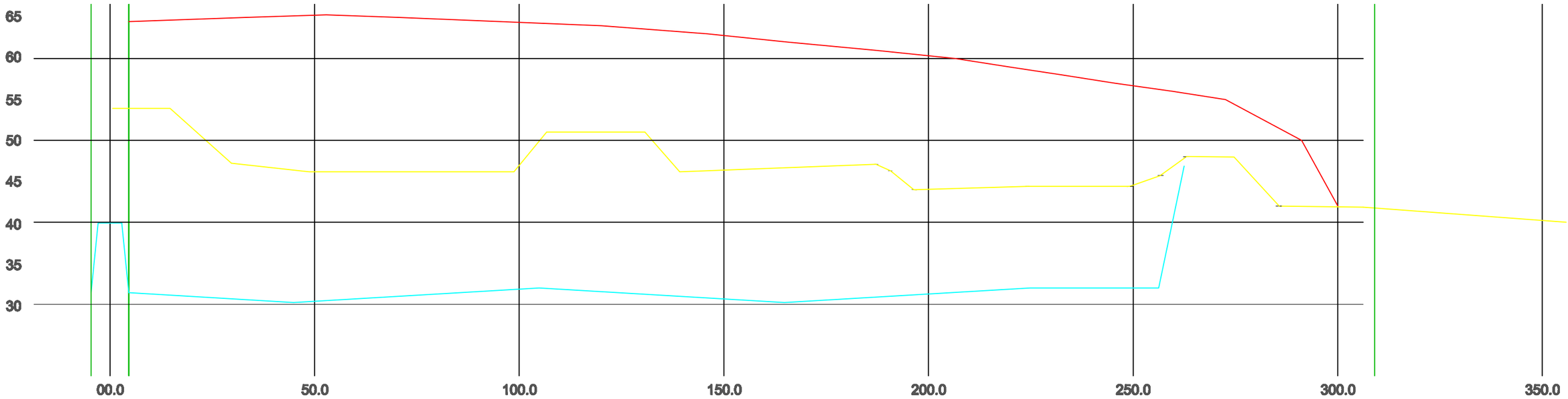
1:50 (A3) 1:100 (A4)

0 20 40 60 80 100m

1:100 (A3) 1:200 (A4)

Date: 2 March 2010	Scale: as indicated	**Orchard Hills WRMF**	
Initials: PZ	Job No: S39	CROSS SECTION DD	
Drawing No: S39-15	Rev: 0		Figure 15

aquaterra



SECTION EE CHAINAGE 00.0 TO 350.0

HORIZONTAL SCALE 1:100, VERTICAL SCALE 1:50

LEGEND:

- EXISTING SURFACE LEVEL
- FINAL LANDFORM LEVEL
- CELL FLOOR
- PROPERTY BOUNDARY
- CELL BOUNDARY

0 10 20 30 40 50m

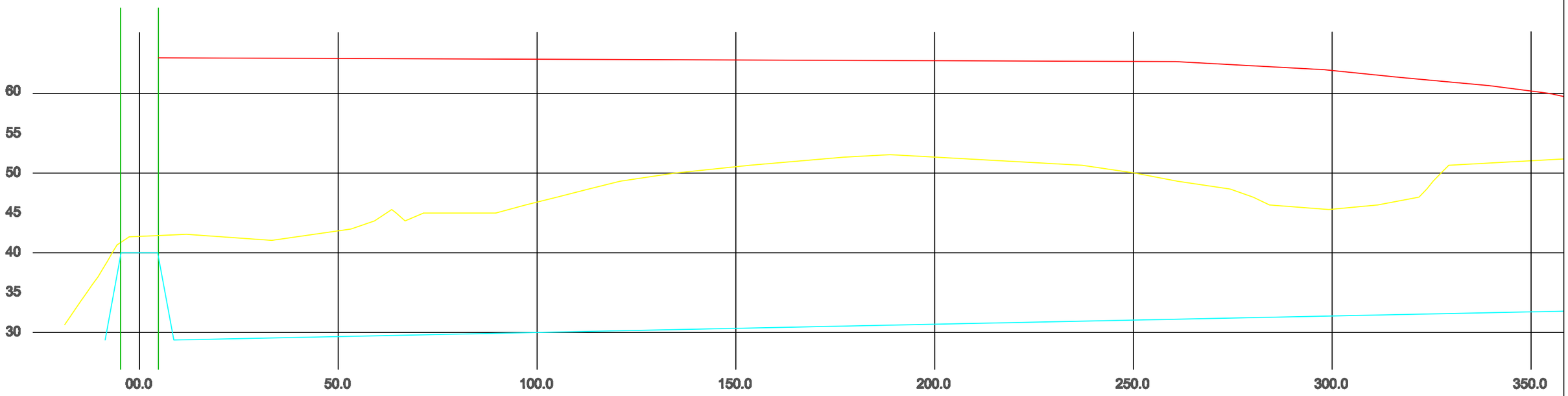
1:50 (A3) 1:100 (A4)

0 20 40 60 80 100m

1:100 (A3) 1:200 (A4)

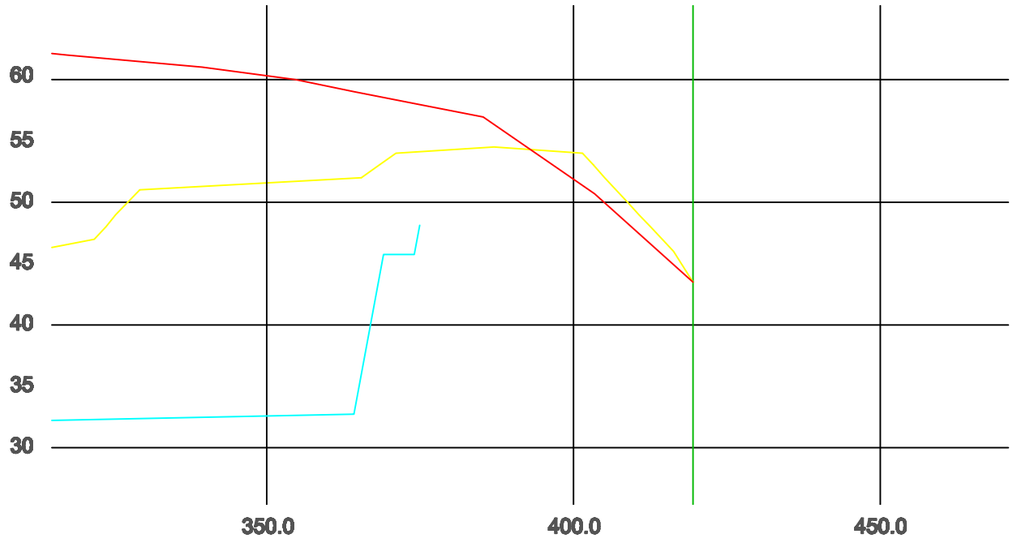
Date: 2 March 2010	Scale: as indicated	**Orchard Hills WRMF**	
Initials: B.B.	Job No: S39	CROSS SECTION EE	
Drawing No: S39-16	Rev: 0		Figure 16

aquaterra



SECTION FF CHAINAGE 00.0 TO 350.0

HORIZONTAL SCALE 1:100, VERTICAL SCALE 1:50

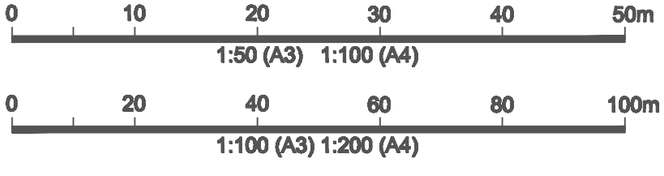


SECTION FF CHAINAGE 350.0 TO 450.0

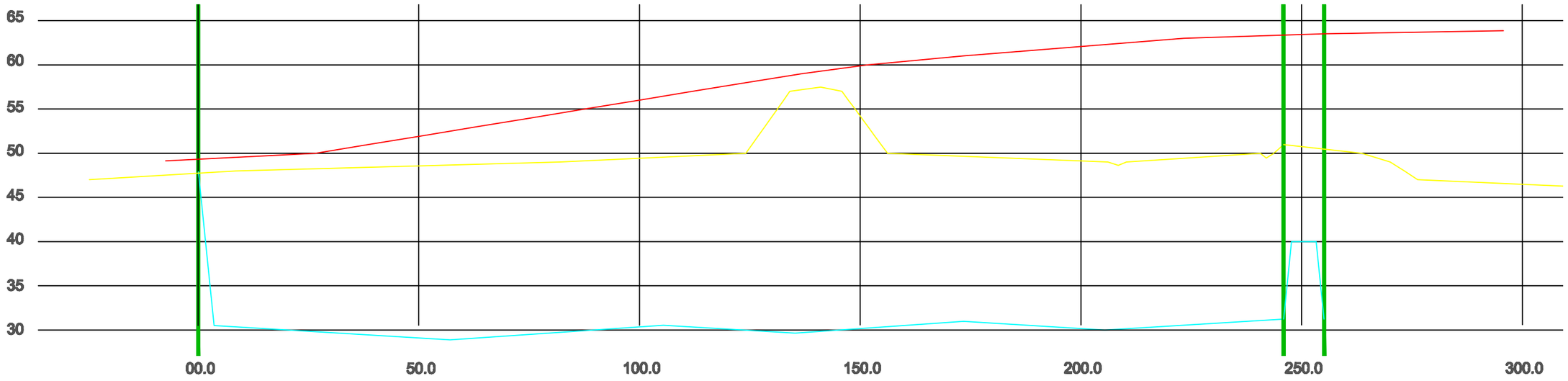
HORIZONTAL SCALE 1:100, VERTICAL SCALE 1:50

LEGEND:

- EXISTING SURFACE LEVEL
- FINAL LANDFORM LEVEL
- CELL FLOOR
- PROPERTY BOUNDARY
- CELL BOUNDARY



Date: 2 March 2010	Scale: as indicated	Orchard Hills WRMF	
Initials: B.B.	Job No: S39		
Drawing No: S39-17	Rev: 0	CROSS SECTION FF	
aquaterra			Figure 17



SECTION GG CHAINAGE 00.0 TO 300.0

HORIZONTAL SCALE 1:100, VERTICAL SCALE 1:50

LEGEND:

- EXISTING SURFACE LEVEL
- FINAL LANDFORM LEVEL
- CELL FLOOR
- PROPERTY BOUNDARY
- CELL BOUNDARY

0 10 20 30 40 50m

1:50 (A3) 1:100 (A4)

0 20 40 60 80 100m

1:100 (A3) 1:200 (A4)

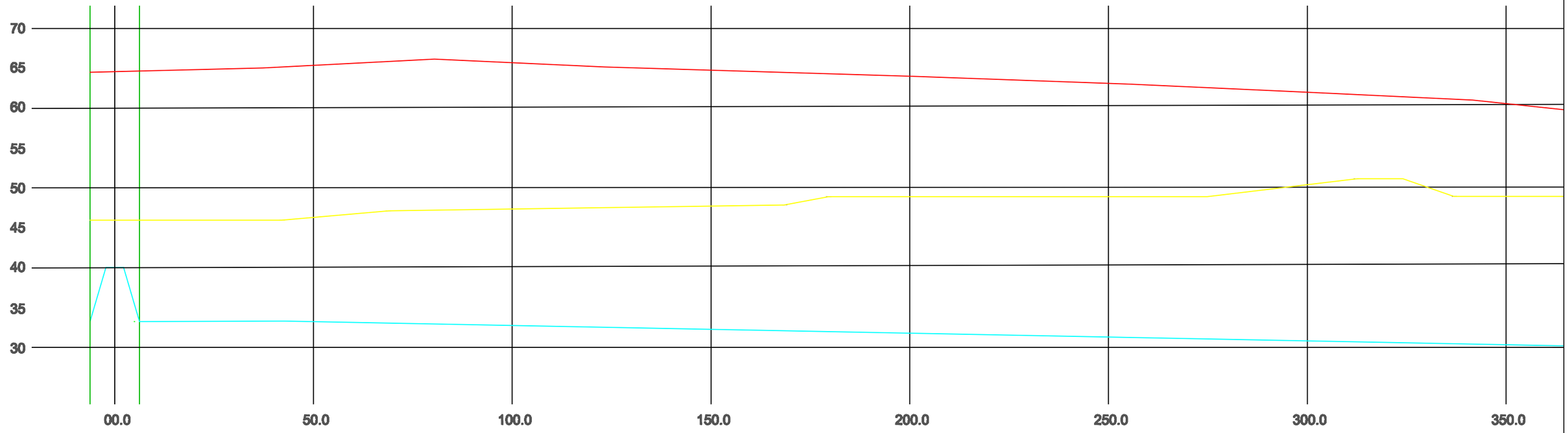
Date:	2 March 2010	Scale:	as indicated
Initials:	B.B.	Job No:	S39
Drawing No:	S39-19	Rev:	0

aquaterra

Orchard Hills WRMF

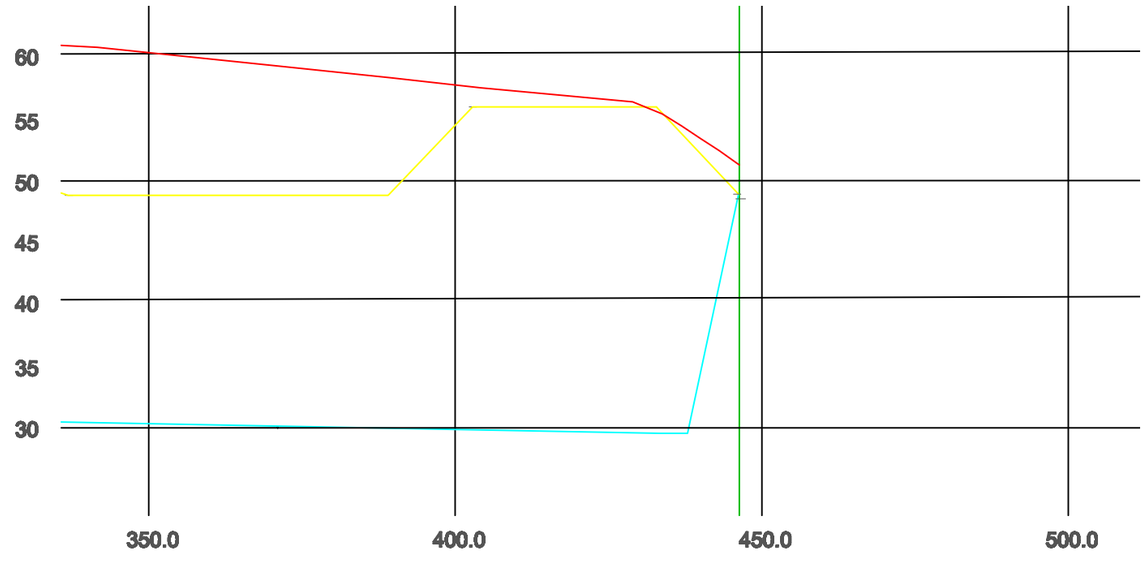
CROSS SECTION GG

Figure 18



SECTION HH CHAINAGE 00.0 TO 350.0

HORIZONTAL SCALE 1:100, VERTICAL SCALE 1:50

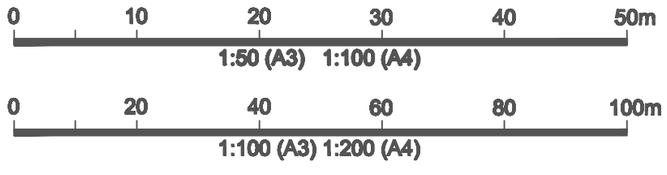


SECTION HH CHAINAGE 350.0 TO 500.0

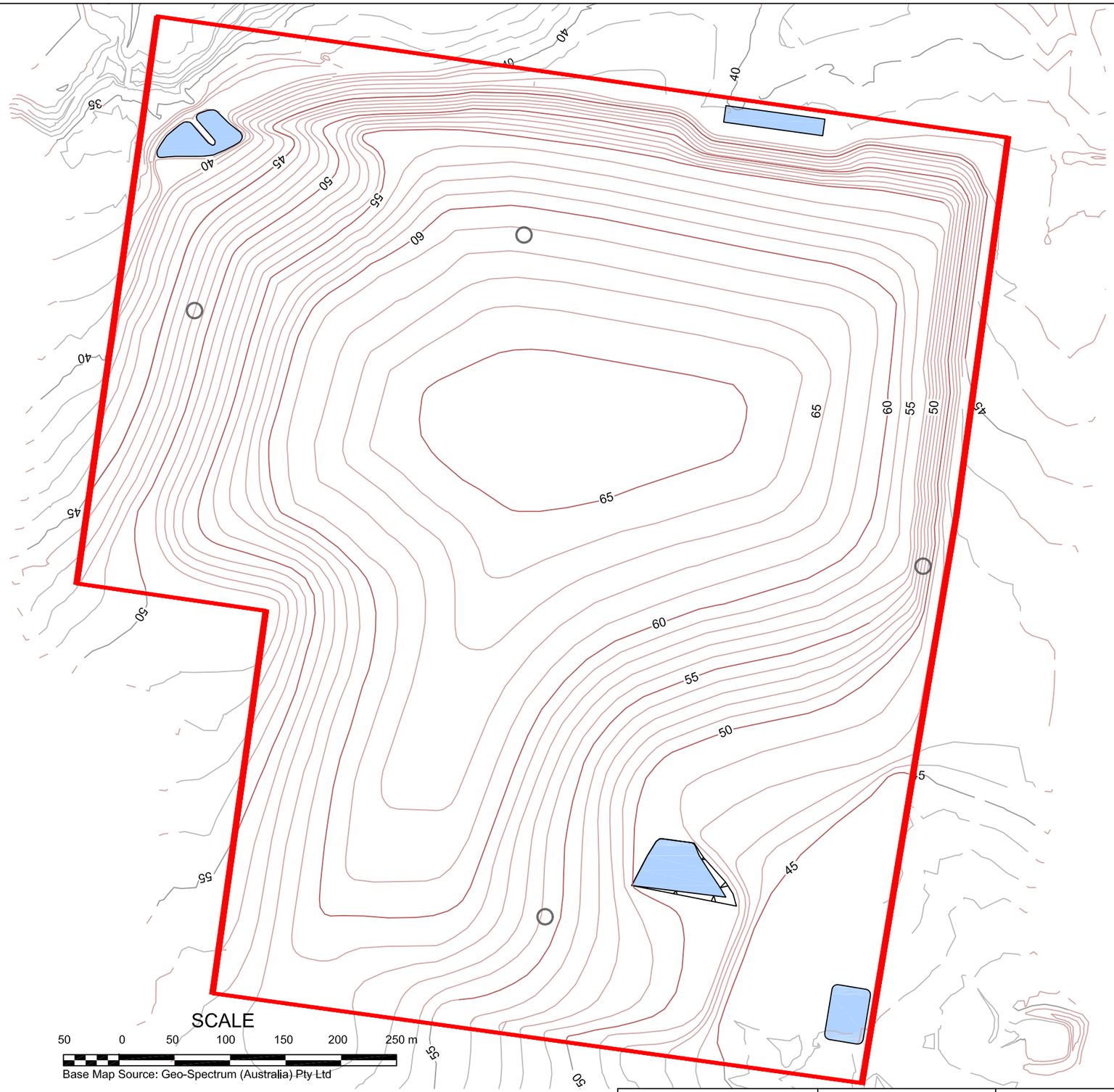
HORIZONTAL SCALE 1:100, VERTICAL SCALE 1:50

LEGEND:

- EXISTING SURFACE LEVEL
- FINAL LANDFORM LEVEL
- CELL FLOOR
- PROPERTY BOUNDARY
- CELL BOUNDARY



Date:	2 March 2010	Scale:	as indicated	**Orchard Hills WRMF**
Initials:	B.B.	Job No:	S39	CROSS SECTION HH
Drawing No:	S39-19	Rev:	0	
aquaterra				Figure 19



LEGEND

Property Boundary

Leachate Riser

Date: 8 March 2010		Scale: as indicated	**Orchard Hills WRMF**
Initials: PZ		Job No: S39	FINAL CONTOURS
Drawing No: S39-20		Rev: 0	
aquaterra			Figure 20