

Map Courtesy of Reader's Digest



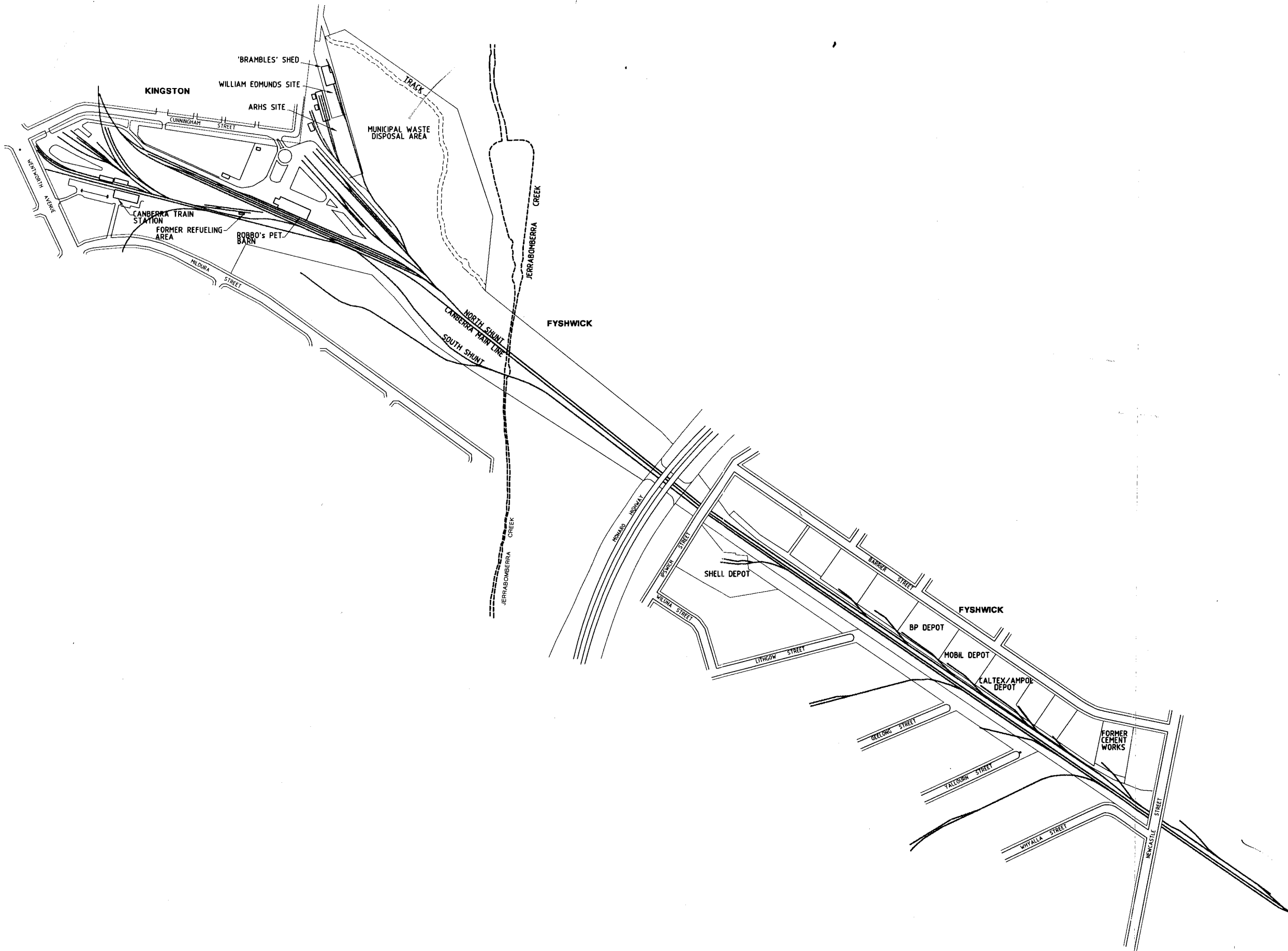
This is only part of the site!

Australian National
Canberra Rail Site

Site Location Plan

Appendix B

Site Plans



CODE	DATE	DESCRIPTION	BY	APPR.	CODE	DATE	DESCRIPTION	BY	APPR.
		REVISIONS AND APPROVALS					REVISIONS AND APPROVALS		

CLIENT
INDEC CONSULTING

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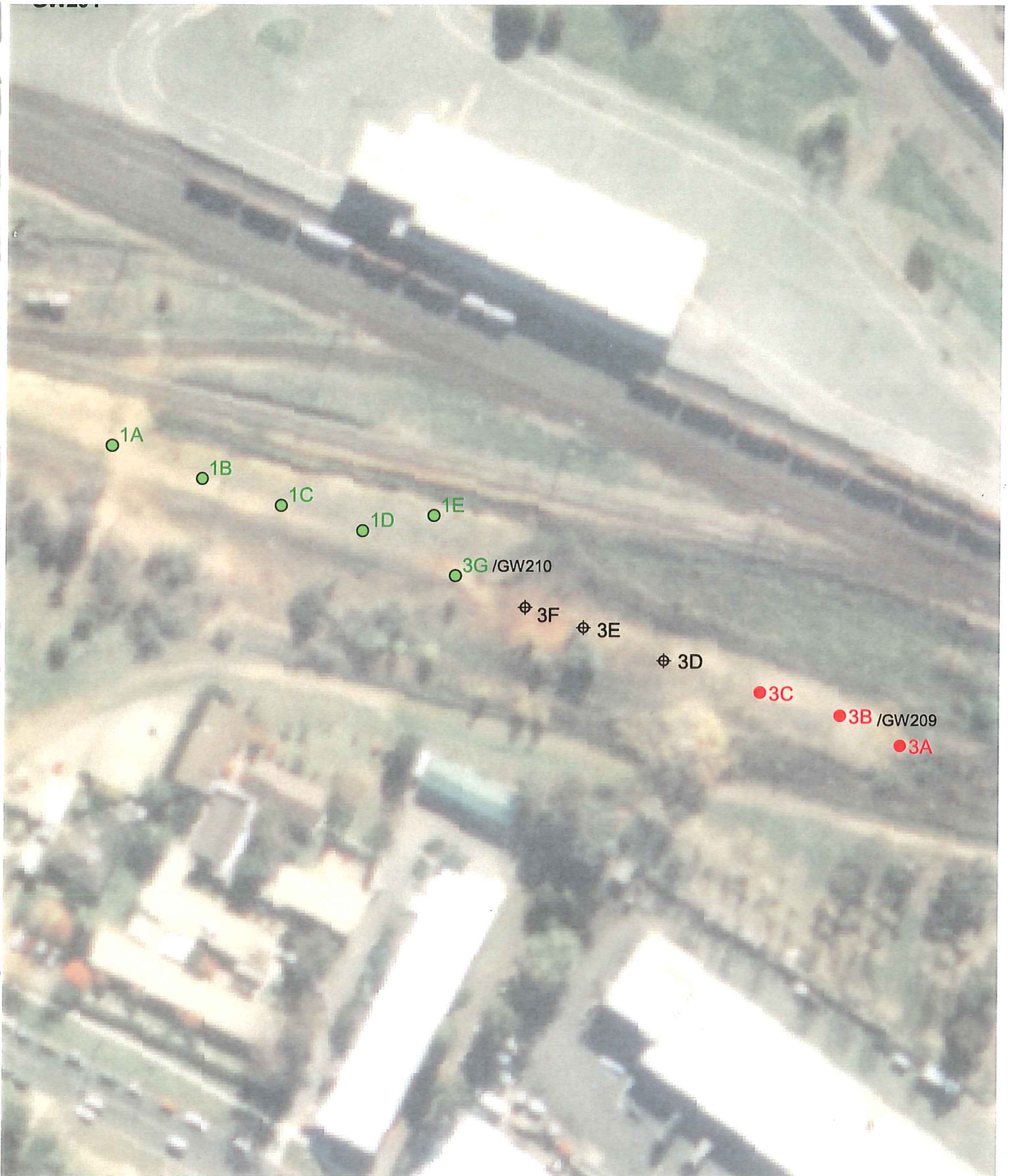
PROJECT
CANBERRA RAIL SITE

TITLE
SITE PLAN

DESIGNED	DATE	SCALE
DESIGN CHECK		A1 1:5000, A3 1:10000
		CAD REFERENCE 27K140C
DRAWN BJB	10.12.99	PROJECT APPROVAL
DRAWING CHECK JCR	10.12.99	CLIENT APPROVAL
DRAWING No.		ISSUE
27K140C/SITE		-

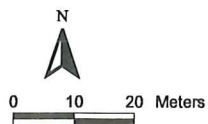
Appendix C

Sampling Location Plans (Soil)



LEGEND

- Sample Locations
- Ballast Observed
 - ⊕ Minor Ballast Observed
 - No Ballast Observed



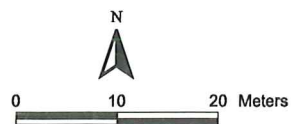
Canberra Railyards
Fouled Ballast Disposal Area,
Borehole Locations - Rail Corridor

Figure 2



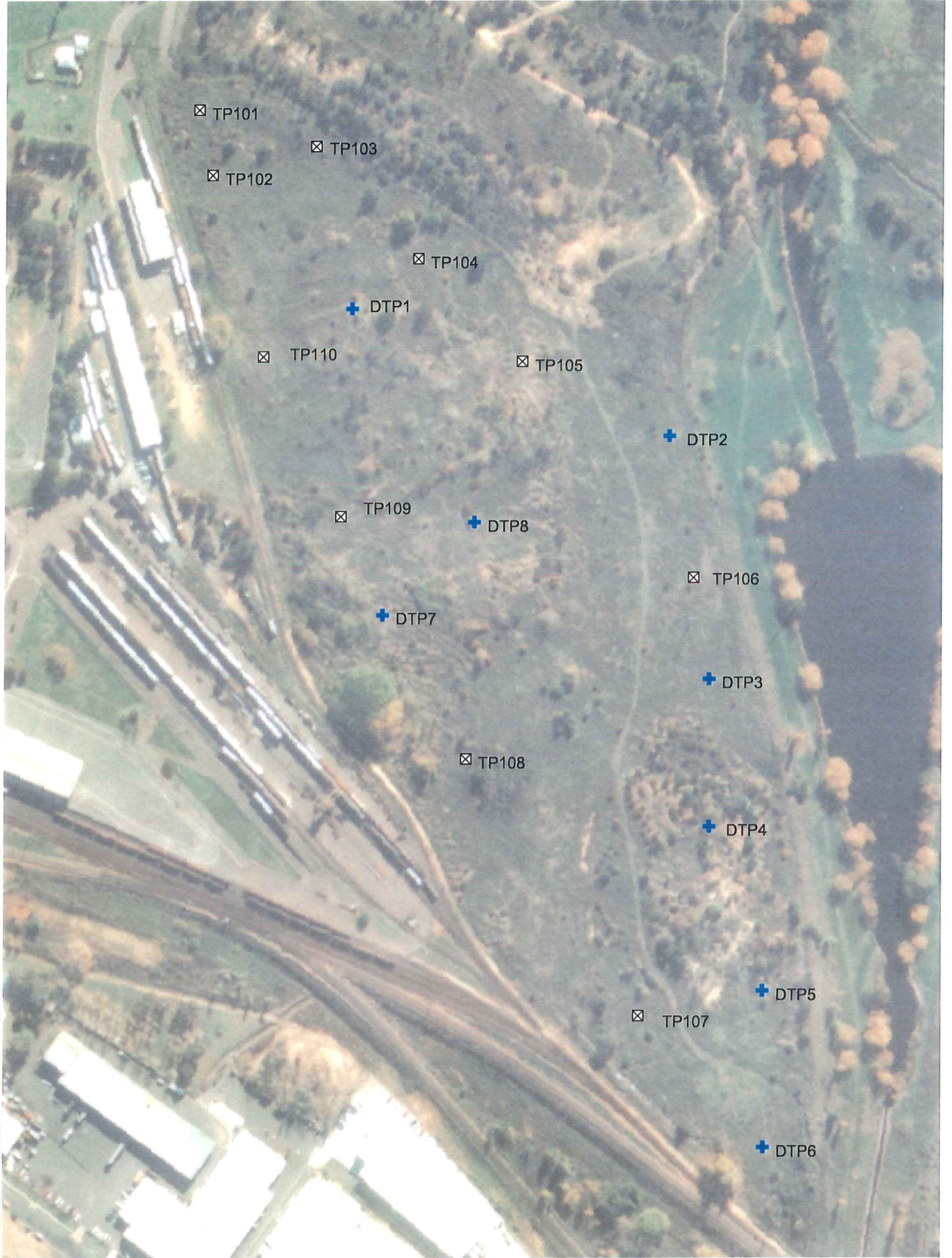
LEGEND

- Sample Locations
- Ballast Observed
 - ⊕ Minor Ballast Observed
 - No Ballast Observed



Canberra Railyards
Fouled Ballast Disposal Area,
Borehole Locations - Main Station

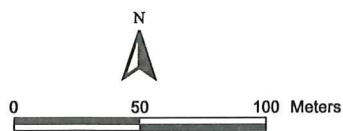
Figure 3



LEGEND

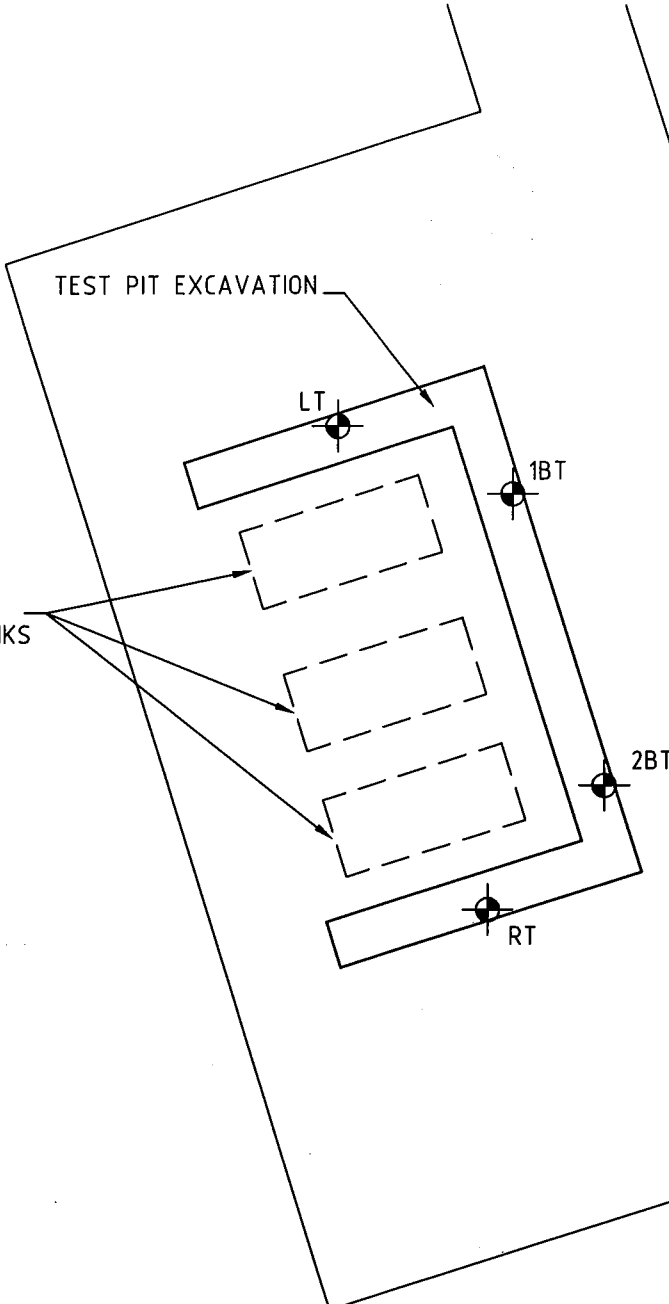
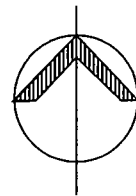
Test Pit Locations

- + 'DTP1' - (May '99)
- ☒ 'TP101' - (July '98)



Former Municipal Dump Area -
Test Pit & Groundwater
Monitoring Well Locations

Figure 1



LOCATION OF ABANDONED UNDERGROUND STORAGE TANKS

BITUMEN

WILLIAM EDMUNDS SITE



DENOTES SOIL SAMPLING LOCATION

CODE	REVISIONS	DATE	SCALE	NTS	Soil Sampling Plan Canberra Rail Yards	PPK Environment & Infrastructure	PPK HOUSE 101 PIRIE STREET ADELAIDE SOUTH AUSTRALIA, 5000 TELEPHONE: (08) 8405 4300 FAX: (08) 8405 4301 Email: ppkadel@ozemail.com.au	DRAWING No. 27K140C/05
			CHECKED	JCR				
			DRAWN	BJB				
			DATE	16.12.99				
			CAD REF	27K140C				

Appendix D

Environmental Borehole and Test Pit
Logs

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	18/5/99	Time	Location No	DTP 1
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
0-0.65		FILL. Gravelly sandy clay, brown, yellow brown, gravel fine to coarse.	0		
0.65-3.9		Sandy Silty CLAY. Grey, fine to medium sand. brick fragments, whole bricks, scrap metal, some bitumen, fine to coarse sand, some glass fragments, some pieces of paper & plastic.	1		
4.0-4.5		Silty Sandy CLAY. Mottled orange brown and grey, fine sand	0		
		End of Test Pit 4.5 m			
Logged by		MBR	Sampled by		MBR
Field Classification			Comments		
0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour					
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301					

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	18/5/99	Time	Location No	DTP 2
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
0-2.3		FILL. Building rubble brown, some sandy clay, bricks, concrete slab fragments.	0		
2.3-2.5		SILTY CLAY yellow.	0		
		End of Test Pit 2.5 m			
Logged by		MBR	Sampled by		MBR
Field Classification			Comments		
0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour					
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301					

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	18/5/99	Time	Location No	DTP 3
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
0-1.0		FILL. Gravelly sandy clay, brown, gravel fine to coarse, rubble & bricks.	0		
1.0-3.5		Sandy Silty CLAY. Grey, fine to medium sand. brick fragments, whole bricks, scrap metal, some bitumen, fine to coarse sand, some glass fragments, tyre, some pieces of paper & plastic.	1		
		End of Test Pit 3.5 m			
Logged by		MBR	Sampled by		MBR
Field Classification			Comments		
0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour					
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301					

Project	CANBERRA RAIL YARDS			Job Number	27K140C
Date	18/5/99	Time		Location No	DTP 4
Coordinates (AMG)		N	E	Reduced Level (mAHD)	

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
0 - 3.0		FILL. Building rubble, concrete, timber, pipe (metal & urban ware) mixed with Clayey sand gravel, brown, gravel fine to coarse, cobbles, fine to coarse sand. End of Test Pit 3.0 m	0		
Logged by		MBR	Sampled by		MBR
Field Classification 0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour			Comments		
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301					

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	18/5/99	Time	Location No	DTP 6
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
0-0.29		FILL. Clayey sand gravel, brown, gravel fine to coarse, cobbles, fine to coarse sand, fine roots.	0		
0.29-2.9		FILL large rocks and boulders, clays and sand.	0		
2.9-3.2		Silty CLAY. yellow, fine to medium sand, gravel.	0		
		End of Test Pit 3.2 m			
Logged by	MBR		Sampled by	MBR	
Field Classification			Comments		
0 ... No obvious contamination					
1 ... Slight visual contamination and/or slight odour					
2 ... Visual contamination and/or odour					
3 ... Gross visual contamination and/or strong odour					
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301					

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	18/5/99	Time	Location No	DTP 7
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
0-0.5		FILL. Gravelly sandy clay, brown, yellow brown, gravel fine to coarse.	0		
0.5-4.9		Sandy Silty CLAY. Grey, fine to medium sand, whole bricks, scrap metal, some bitumen, fine to coarse sand, electrical wiring, some glass fragments, some pieces of paper & plastic.	1		
4.9 - 5.1		Silty Sandy CLAY. Mottled orange brown and grey, fine sand	0		
		End of Test Pit 5.1 m			
Logged by		MBR	Sampled by		MBR
Field Classification			Comments		
0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour					
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301					

Project	CANBERRA RAIL YARDS			Job Number	27K140C
Date	18/5/99	Time		Location No	DTP 8
Coordinates (AMG)		N	E	Reduced Level (mAHD)	

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
0-0.7		FILL. Gravelly sandy clay, brown, yellow brown, gravel fine to coarse.	0		
0.7-4.3		Sandy Silty CLAY. Grey, fine to medium sand. brick fragments, whole bricks, scrap metal, some bitumen, electrical wire, fine to coarse sand, some glass fragments, some pieces of paper & plastic.	1		
4.3-4.5		Silty Sandy CLAY. Mottled orange brown and grey, fine sand	0		
		End of Test Pit 4.5 m			

Logged by	MBR	Sampled by	MBR
Field Classification		Comments	
0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour			
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301			

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	13/05/99	Time	Location No	BTP 1A
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
< 10mm		FILL Loamy CLAY. Dark brown, light brown mottling, small ironstone chips and root system.	0		
3m		SILTSTONE to 3m no inclusions.	0		

Logged by	MBR	Sampled by	MBR
Field Classification 0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour		Comments	
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301			

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	13/5/99	Time	Location No	BTP 1B
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
< 200mm		FILL Loamy CLAY. Dark brown, light brown mottling, small ironstone chips and root system.	0		
2.5m		CLAY minor siltstone rubble to 2.5m no inclusions.	0		

Logged by	MBR	Sampled by	MBR
Field Classification 0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour		Comments	
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301			

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	13/5/99	Time	Location No	BTP 1C
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
< 200m		FILL Loamy CLAY. Dark brown, light brown mottling, small ironstone chips and root system.	0		
5.5m		CLAY minor siltstone rubble to 5.5m no inclusions.	0		
Logged by		MBR	Sampled by		MBR
Field Classification			Comments		
0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour					
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301					

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	13/5/99	Time	Location No	BTP 1D
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
< 200mm		FILL Loamy CLAY. Dark brown, light brown mottling, small ironstone chips and root system.	0		
3m		CLAY minor siltstone rubble to 3m no inclusions.	0		

Logged by	MBR	Sampled by	MBR
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Field Classification 0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour	Comments
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PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	13/5/99	Time	Location No	BTP 1E
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
< 10mm		FILL Loamy CLAY. Dark brown, light brown mottling, small ironstone chips and root system.	0		
3m		SILTSTONE to 3m no inclusions.	0		
Logged by		MBR	Sampled by		MBR
Field Classification			Comments		
0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour					
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301					

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	13/5/99	Time	Location No	BTP 2A
Coordinates (AMG)	N	E	Reduced Level (mAHD)	

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
	2A 0.1	SURFACE asphalt rubble/ soil fill/ ballast in upper 200mm clay to 2m, SILTSTONE 2m to 3m +			
Logged by		MBR	Sampled by		MBR
Field Classification 0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour			Comments		
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301					

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	13/5/99	Time	Location No	BTP 2B
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
		SURFACE minor ash fill, with minor ballast < 100mm, clay to 1m, SILTSTONE 1.2m +			

Logged by	MBR	Sampled by	MBR
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Field Classification 0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour	Comments
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PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	13/5/99	Time	Location No	BTP 2C
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
		SURFACE minor ash, minor rubble, with minor ballast < 200mm, clay to 1.5m, SILTSTONE 1.5m +			
Logged by		MBR	Sampled by		MBR
Field Classification			Comments		
0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour					
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301					

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	13/5/99	Time	Location No	BTP 2D
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
		SURFACE clay fill, minor rubble, with minor ballast < 300mm, clay to 0.9m, no inclusions.			
Logged by		MBR	Sampled by		MBR
Field Classification			Comments		
0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour					
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301					

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	13/5/99	Time	Location No	BTP 2E
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
		SURFACE clay fill, minor rubble, with minor ballast < 500mm, clay to 1.2m no inclusions. no H/C odour			
Logged by		MBR	Sampled by		MBR
Field Classification			Comments		
0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour					
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301					

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	13/5/99	Time	Location No	BTP 2F
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
		SURFACE clay fill, minor rubble, with minor ballast <0.5m, clay to 1.2m no inclusions. no H/C odour			
Logged by		MBR	Sampled by		MBR
Field Classification 0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour			Comments		
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301					

*A3 +
A4 color*

Project	CANBERRA RAIL YARDS			Job Number	27K140C
Date	13/5/99	Time		Location No	BTP 2G
Coordinates (AMG)		N	E	Reduced Level (mAHD)	

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
	2G 0.1	SURFACE clay fill, minor rubble, with minor ballast to 1m, clay to 1.2m no inclusions. no H/C odour Siltstone to 5+ metres			

Logged by	MBR	Sampled by	MBR
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Field Classification 0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour	Comments
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PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	13/5/99	Time	Location No	BTP 2H
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
		SURFACE clay fill, minor rubble, with minor ballast to 1m, clay to 1.2m no inclusions. no H/C odour Siltstone to 5+ metres			

Logged by	MBR	Sampled by	MBR
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Field Classification 0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour	Comments
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PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	13/5/99	Time	Location No	BTP 2I
Coordinates (AMG)	N	E	Reduced Level (mAHD)	

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
	2I 0.1	SURFACE clay fill, slightly raised eastern mound, fill rubbish to 500mm, (plastic al. can, builders sheeting, metal, tc. clay fill to 0.8m clay natural 0.8m + . no H/C odour			
Logged by		MBR	Sampled by		MBR
Field Classification 0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour			Comments		
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301					

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	13/5/99	Time	Location No	BTP 2J
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
		Slightly raised eastern mound clay fill to 200mm, natural 1m +			
Logged by		MBR	Sampled by		MBR
Field Classification 0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour			Comments		
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301					

Project	CANBERRA RAIL YARDS			Job Number	27K140C
Date	13/5/99	Time		Location No	BTP 3A
Coordinates (AMG)		N	E	Reduced Level (mAHD)	

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
0-1.0	3A 0.1	SURFACE clay fill, asphalt/bitumen, ballast to 1m			
	3A 1.0				
1.0-2.0	3A 2.0	FILL CLAY oily ballast inclusion to 2m			
2.0-8.0	3A 6.0	SILT CLAY. yellow fine stone chips.			
Logged by		MBR	Sampled by		MBR
Field Classification			Comments		
0 ... No obvious contamination					
1 ... Slight visual contamination and/or slight odour					
2 ... Visual contamination and/or odour					
3 ... Gross visual contamination and/or strong odour					
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301					

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	13/5/99	Time	Location No	BTP 3B/gw210
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
0-3.5	3B 0.1 3B 0.5 3B 1.5 3B 3.5	FILL. ballast, ash, Silty clay, brown, large gravel, roots.	3	234	
3.5-4.0		FILL. Siltstone clay, orange, small gravel chips.	0	0	
4.0-9.0		CLAY silty yellow, some fine gravel.	0	0	
Logged by	MBR		Sampled by	MBR	
Field Classification 0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour			Comments		
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301					

Project	CANBERRA RAIL YARDS		Job Number	27K140C
Date	13/5/99	Time	Location No	BTP 3C
Coordinates (AMG)		N	E	Reduced Level (mAHD)

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
0-1.0	3C 0.1	SURFACE clay fill, siltstone, ash & ballast to 3m	2		
1.0-4.0	3C 2.0 3C 4.0 + DUP3	FILL CLAY oily ballast inclusion to 2m	0		

Logged by	MBR	Sampled by	MBR
------------------	-----	-------------------	-----

Field Classification 0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour	Comments
---	-----------------

PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301

	CANBERRA RAIL YARDS	Job Number	27K140C
--	---------------------	-------------------	---------

Date	13/5/99	Time		Location No	BTP 3D
Coordinates (AMG)		N	E	Reduced Level (mAHD)	

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
0-2.5	3D 0.1	FILL. Sandy clayey gravel, some ash and cinder < 300mm.	1		
	3D 1.0				
2.5-3.5	3D 3.0	SILTSTONE CLAY. yellowl.	0		

Logged by	MBR	Sampled by	MBR
Field Classification 0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour		Comments	
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301			
CANBERRA RAIL YARDS		Job Number	27K140C

Date	13/5/99	Time		Location No	BTP 3E
Coordinates (AMG)		N	E	Reduced Level (mAHD)	

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
0-1.5	3E 0.1	FILL. Sandy clayey gravel, some ash and cinder <300mm.	1		
	3E 1.5	CLAY FILL to 1.5 metres			
		End of Test Pit 1.5 m			

Logged by	MBR	Sampled by	MBR
Field Classification 0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour		Comments	
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301			
Project	CANBERRA RAIL YARDS	Job Number	27K140C

Date	13/5/99	Time		Location No	BTP 3F
Coordinates (AMG)		N	E	Reduced Level (mAHD)	

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
0-0.8	3F 0.1	FILL. Clean Sandy clay gravel, some gravel, fine to coarse sand.	0		
0.8 +		SILTSTONE CLAY .	0		

Logged by	MBR	Sampled by	MBR
-----------	-----	------------	-----

Field Classification 0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour	Comments
---	-------------------------

PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301

Project	CANBERRA RAIL YARDS	Job Number	27K140C
---------	---------------------	------------	---------

Date	13/05/99	Time		Location No	3G/GW209
Coordinates (AMG)		N	E	Reduced Level (mAHD)	

Soil Classification and Description of Each Visible Soil Profile

Depth (m)	Sample Number	Soil Description	Field Class.	Headspace Vapour (ppm)	Analytes Selected
0-0.10		FILL. Silty clay, brown, large gravel, roots.	0	0	
0.10-9.00	3G 0.1	CLAY Siltstone yellow, brown.	0	0	
		End of Boreholed 9.0 m			
Logged by		MBR	Sampled by		MBR
Field Classification 0 ... No obvious contamination 1 ... Slight visual contamination and/or slight odour 2 ... Visual contamination and/or odour 3 ... Gross visual contamination and/or strong odour			Comments		
PPK Environment & Infrastructure Pty Ltd, 101 Pirie Street, Adelaide SA 5000. Tel: 8405 4300 Fax: 8405 4301					

Appendix E

Chain of Custody Documentation
(Soil)

Adelaide
101 Pirie Street Adelaide SA 5000
Tel: (08) 8405 4300 Fax: (08) 8405 4301

Brisbane
348 Edward Street, Brisbane QLD
Tel: (07) 3218 2222 Fax: (07) 3831 4223

Melbourne
44 Albert Road, South Melbourne VIC 3205
Tel: (03) 9697 3333 Fax: (03) 9697 3344

Perth
97 Brookway, Nedlands WA 6009
Tel: (08) 9389 8668 Fax: (08) 9389 8447

Sydney
9 Blaxland Road, Rhodes NSW 2138
Tel: (02) 9743 0333 Fax: (02) 9736 1568

Order No: 7682

Job Title: **CANBERRA RAIL YARDS**

Laboratory Name: _____

Address: _____

Fax Number: _____

Phone Number: _____

Contact Name: _____

Delivery Method: _____

Quote Number: _____

PKP Job Number: **27K140C**

Job Location: **CANBERRA**

Project Manager: **M Reynolds**

Results Expected by/on: _____

Fax Results to: **A/A**

Fax Number: _____

Phone Number: _____

Spreadsheet of Results Required: **Y / N**

Format: _____

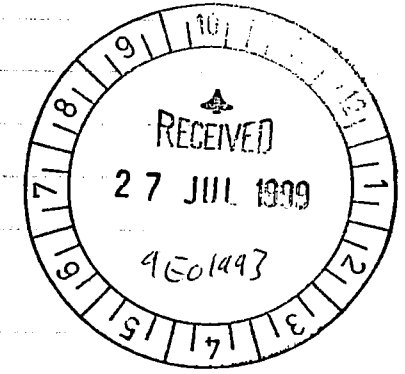
Turnaround Time Required: **5 DAYS**

Invoice to: **A/A**

Comments: _____

Date Sampled	Time	Sample I.D.	Container Size	Sample Location	Medium*	Preservative Type	Filtered (X)	TPH	BTEX	PAH's	OC/OP/PCB's	Metals**	Initials	Comments/Additional Information and/or Analysis Required
21/7	E24974	4W301 / 5 ✓	1 x 125											
	75	4W301 / 6 ✓	"											
	76	4W302 / 5 ✓	"											
	77	4W302 / 6 ✓	"											
	78	4W303 / 5 ✓	"											
	79	4W303 / 6 ✓	"											
	80	4W304 / 5 ✓	"											
	81	4W304 / 6 ✓	"											
	82	4W305 / 5 ✓	"											
	83	4W305 / 6 ✓	"											
	84	4W306 / 5 ✓	"											
	85	4W306 / 6 ✓	"											

Will advise Mon 26 July



Relinquished by: M Reynolds	Relinquished by: _____	Relinquished by: _____	Medium: S = Soil, W = Water, V = Vapour
Date & Time: 22/7/99	Date & Time: _____	Date & Time: _____	Legend**: (Circle the following to be tested)
Company: PPK	Company: _____	Company: _____	Metals: Al As Be Cd Co Cr Cu Fe Hg
Signature: <i>[Signature]</i>	Signature: _____	Signature: _____	Li Mg Mn Ni Pb Se Sn V Zn
Received in Good Order & Condition by (Name): Andrew Spencer	Received in Good Order & Condition by (Name): _____	Received in Good Order & Condition by (Name): _____	Samples on Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Date & Time: 27-7-99 10am	Date & Time: _____	Date & Time: _____	Please fax back a signed copy when samples are received at the laboratory
Company: AmdW	Company: _____	Company: _____	
Signature: <i>[Signature]</i>	Signature: _____	Signature: _____	

Job Title: **Canberra Railway**
Laboratory Name: **ANDEL NSW**
Address:

PPK Job Number: **27K140C**
Job Location: **CANBERRA**

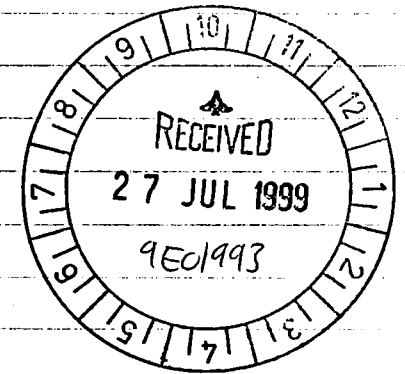
Project Manager: **M. Reynolds**
Results Expected by/on:
Fax Results to: **A/A**
Fax Number:
Phone Number:

Fax Number:
Phone Number:
Contact Name:
Delivery Method:
Quote Number:

Spreadsheet of Results Required: **Y / N**
Format:
Turnaround Time Required: **3 days**
Invoice to: **A/A**
Comments:

Date Sampled	Time	Sample I.D.	Container Size	Sample Location	Medium*	Preservative Type	Filtered (X)	TPH	BTEX	PAH's	OC/OP/PCB's	Metals**	Initials	Comments/Additional Information and/or Analysis Required
21/7/99	E24986	GLW307/5 ✓	1x125											
	87	GLW307/6 ✓	"											
	88	GLW308/5 ✓	"											
	89	GLW308/6 ✓	"											
	90	GLW309/3.5 ✓	"											
	91	GLW309/7.0 ✓	"											
	92	GLW310/8.2 ✓	"											
	93	GLW310/10.5 ✓	"											
	94	GLW311/4.5 ✓	"											
	95	GLW311/6 ✓	"											
	96	D4P1 ✓	tr											
	97	D4P2 ✓	"											

*Will advise
26th July*



Relinquished by: M. Reynolds Date & Time: 22/7/99 Company: PPK Signature: <i>[Signature]</i>	Relinquished by: Date & Time: Company: Signature:	Relinquished by: Date & Time: Company: Signature:	Medium*: S - Soil, W = Water, V = Vapour Legend**: (circle the following to be tested) Metals: Al As Be Cd Co Cr Cu Fe Hg Li Mg Mn Ni Pb Se Sn V Zn
Received in Good Order & Condition by (Name): Andrew Spencer Date & Time: 27-7-99 10am Company: ANDEL Signature: <i>[Signature]</i>	Received in Good Order & Condition by (Name): Date & Time: Company: Signature:	Received in Good Order & Condition by (Name): Date & Time: Company: Signature:	Samples on Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Please fax back a signed copy when samples are received at the laboratory

PPK

Environmental & Infrastructure
 2/11/99 10:24 AM

White Page - Laboratory Copy
 Yellow Page - Project File Copy
 Pink Page - Remains in Book

Please refer to serials
 copies to the office indicated:

Adelaide
 101 Pitt Street Adelaide SA 5000
 Tel: (08) 8405 4200 Fax: (08) 8405 4311

34 Eckenro Street, Enmore N.S.W. 40
 Tel: (07) 2218 2222 Fax: (07) 2218 4223

Melbourne
 44 Abart Road, South Melbourne VIC 3205
 Tel: (03) 9587 3333 Fax: (03) 9587 3344

Sydney
 92 Hasland Road, Rhodes NSW 2133
 Tel: (02) 9743 0333 Fax: (02) 9739 1589

Order No: **7674**

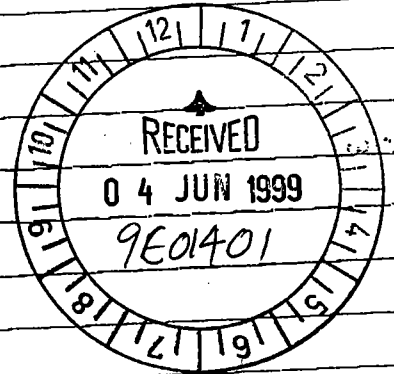
Job Title: **AW CANBERRA**
 Laboratory Name: **AMDEL NSW**
 Address: **attention Ryan Hamilton**
 Fax Number:
 Phone Number:
 Contact Name:
 Delivery Method:
 Quote Number:

PPK Job Number: **27 K140C**
 Job Location: **CANBERRA**

Project Manager: **S. TAYLOR**
 Results Expected by/on:
 Fax Results to:
 Fax Number:
 Phone Number:
 Spreadsheet of Results Required: **Y / N**
 Turnaround Time Required:
 Invoice to:
 Comments:

Date Sampled	Time	Sample I.D.	Container Size	Sample Location	Medium*	Preservative Type	Filtered (X)	TPH	BTEX	PAH's	OC/OP/PCB's	Metals**
3/6/99	E17885	1BT 3.0 ✓						X	X			X
	86	RT 2.5 ✓						X	X			X
	87	1BT 2.0 ✓										
	88	RT 1.0 Sand ✓										
	89	RT 2.0 ✓										
	90	2BT 3.0 ✓						X	X		X	
	91	2BT 3.5 ✓										
	92	LT 3.0 ✓										
	93	1BT 1.5 ✓										
	94	LT 3.5 ✓						X	X			X
	95	LT 2.5 ✓										
	96	2BT 2.0 ✓										

Initials: _____
 Comments/Additional Information and/or Analysis Required:
amended copy of 7673



Relinquished by: **M. Reynolds**
 Date & Time: **Amended COC 4/6/99**
 Company: **PPK**
 Signature: **[Signature]**
 Received In Good Order & Condition by (Name): **[Signature]**
 Date & Time: **4/6/99**
 Company: **AMDEL - SYD.**

Relinquished by:
 Date & Time:
 Company:
 Signature:
 Received In Good Order & Condition by (Name):
 Date & Time:
 Company:
 Signature:

Relinquished by:
 Date & Time:
 Company:
 Signature:
 Received In Good Order & Condition by (Name):
 Date & Time:
 Company:
 Signature:

Medium*: **S = Soil**, W = Water, V = Vapour
 Legend**: (circle the following to be tested)
 Metals: Al As Be Cd Co Cr Cu Fe Hg
 U Mg Mn Ni **Se** Sn V Zn
 Samples on Ice: Yes No
Please fax back a signed copy when samples are received at the laboratory

Fax 1 from 01 9 333 3333

PK
Infrastructure
1991

White Page - Laboratory Copy
Yellow Page - Project File Copy
Pink Page - Remains in Book

Project Name: **INDEC CAMBERRA**
Site: **AMDEL NSW**

Please deliver the goods and/or services to the office indicated:

Adelaide
101 Pffe Street Adelaide SA 5000
Tel: (08) 8405 4370 Fax: (08) 8405 4301

Brisbane
348 Edward Street Brisbane QLD 4000
Tel: (07) 3218 2222 Fax: (07) 3831 4223

Melbourne
14 Albert Road, South Melbourne VIC 3205
Tel: (03) 9597 3333 Fax: (03) 9597 3344

Sydney
9 Blaxland Road, Rhodes NSW 2138
Tel: (02) 9743 0333 Fax: (02) 9736 1588

Order No: _____

Project Manager: **S. TAYLOR**

Results Expected by/on: **A/A**

Fax Results to:

Fax Number:

Phone Number:

Spreadsheet of Results Required: **Y/N**

Format:

Turnaround Time Required: **5 days**

Invoice to:

Comments:

Comments/Additional Information and/or Analysis Required

Initials

S. TAYLOR will
Select Sample to
be analysed.



Number:
Name:
Delivery Method:
Quote Number:

Date sampled	Time	Sample I.D.	Container Size	Sample Location	Medium*	Preservative Type	Filtered (X)	TPH	BTEX	PAH'S	OC/OP/PCB'S	Metals**
		3A 0.1	E15815					X		X		X X
		3A 1.0	16					X		X		X X
		3A 2.0	17					X		X		X X
		3A 6.0	18					X		X		X X
		3B 0.1	19					X		X		X X
		3B 0.5	20					X		X		X X
		3B 1.5	21					X		X		X X
		3B 3.5	22					X		X		X X
		3C 0.1	23					X		X		X X
		3C 2.0	24					X		X		X X
		3C 4.0	25					X		X		X X
		DUP3	26					X		X		X X

Relinquished by: **M. Reynolds**
Date & Time: **19/5/99**
Company: **PPK**

Relinquished by:
Date & Time:
Company:
Signature:

Received in Good Condition by (Name):

Relinquished by:

Date & Time:

Company:

Signature:

Received in Good Order & Condition by (Name):

Date & Time:

BCO
20/5/99

Medium*: S = Soil, W = Water, V = Vapour

Legend**: (circle the following to be tested)

Metals: Ni Be Co Fe
Li Mg Mn Se Sn V

Samples on loc: Yes No

Please fax back a signed copy when samples are received at the laboratory

PK

Environmental & Infrastructure
8 Oct 1998

Title: **INDEC**

CANBERRA

AMDEL NSW

Laboratory Name:

Address:

Box Number:

Phone Number:

Contact Name:

Delivery Method:

Quote Number:

Date Sampled	Time	Sample I.D.	Container Size	Sample Location
		3D 0.1	E15827	
		3D 1.0	28	
		3D 3.0	29	
		3E 0.1	30	
		3E 1.5	31	
		3F 0.1	32	
		3G 0.1	33	
		3A 0.1	34	
		2J 0.1	35	
		2I 0.1	36	
		2G 0.1	37	

Please deliver the goods and/or services to the office indicated:

Adelaide
101 Mills Street Adelaide SA 5000
Tel: (08) 8405 4300 Fax: (08) 8405 4301

PPK Job Number:

27K140C

Brisbane
349 Edward Street, Brisbane QLD 4000
Tel: (07) 3218 2222 Fax: (07) 3831 4223

Melbourne
44 Albert Road, South Melbourne VIC 3205
Tel: (03) 9697 3333 Fax: (03) 9697 3344

Job Location:
CANBERRA

Sydney
9 Blaxland Road, Rhodes NSW 2138
Tel: (02) 9743 0333 Fax: (02) 9738 1668

Order No:

Project Manager: **S. TAYLOR**

Results Expected by/on:

AIA

Fax Results to:

Fax Number:

Phone Number:

Spreadsheet of Results Required:

Y/N

Format:

Turnaround Time Required:

5 days

Invoice to:

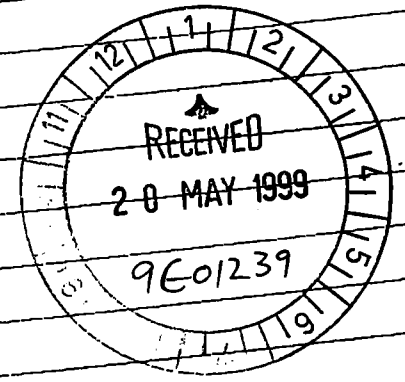
AIA

Comments:

Initials

Comments/Additional Information and/or Analysis Required

S. TAYLOR will select sample to be analysed



Relinquished by: **M. Reynolds**

Date & Time: **18/5/99**

Company: **PPK**

Signature: **WBR**

Received in Good Order

Relinquished by:

Date & Time:

Company:

Signature:

Received in Good Order & Condition by (Name):

Date & Time:

Relinquished by:

Date & Time:

Company:

Signature:

Received in Good Order & Condition by (Name): **BLO**

Date & Time: **20/5/99**

Company: **AM - 510**

Medium*: (S = Soil) W = Water, V = Vapour

Legend**: (circle the following to be tested)

Metals: Al Ba Co Fe
Li Mg Mn Ni Pb Se Sn V

Samples on Ice: Yes No

Please fax back a signed copy when samples are received at the laboratory

PK

Water & Infrastructure
P.O. Box 708

White Page - Laboratory Copy
Yellow Page - Project File Copy
Pink Page - Remains in Book

Please deliver the goods and/or services to the office indicated:

Adelaide
101 Pike Street Adelaide SA 5040
Tel: (08) 8405 4300 Fax: (08) 8405 4301

Brisbane
340 Edward Street, Brisbane QLD 4000
Tel: (07) 3218 2222 Fax: (07) 3031 4223

Melbourne
44 Albert Road, South Melbourne VIC 3205
Tel: (03) 9697 3330 Fax: (03) 9697 3344

97 Broadway, Melbourne
Tel: (03) 9339 0059 Fax: (03) 9339 8447

Sydney
9 Warwick Road, Sydney NSW 2138
Tel: (02) 9743 0333 Fax: (02) 9743 1668

Order No: 1000

Title: INDEC
Laboratory Name: CANBERRA
Address: AMDEL NSW

PPK Job Number:
27K140C

Job Location:
CANBERRA

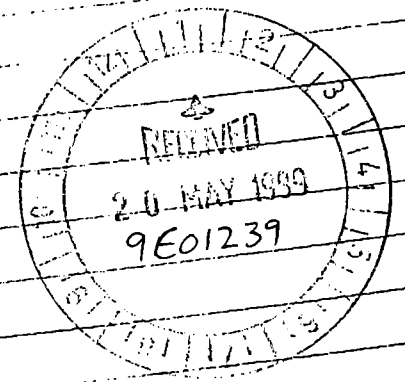
Project Manager: S. Taylor
Results Expected by/on:
Fax Results to: AIA
Fax Number:
Phone Number:
Spreadsheet of Results Required: Y/N
Format:
Turnaround Time Required: 5 days
Invoice to: AIA
Comments:

Sample Number:
Contact Name:
Delivery Method:
Quote Number:

Data Sampled	Time	Sample I.D.	Container Size	Sample Location
		GW205	6.0	E1S850
			7.0	51
			8.0	52
		GW206	4.0	53
			5.0	54
			6.0	55
			7.0	56
		GW207	4.0	57
			5.0	58
			6.0	59
		GW211	7.0	60
			8.0	61

Medium*	Preservative Type	Filtered (X)	TPH	BTEX	PAHs	OC/OP/PCBs	Metals**	PH
				X		X	X X	
						X	X X	

Initials
Comments/Additional Information and/or Analysis Required
S. Taylor will select sample to be analysed



Relinquished by: M. Reynolds
Date & Time: 18/5/99
Company: PPK
Signature: [Signature]

Relinquished by:
Date & Time:
Company:
Signature:
Received in Good Condition & Condition by (Name):

Relinquished by:
Date & Time:
Company:
Signature:
Received in Good Order & Condition by (Name): BCO
Date & Time: 20/5/99
Company: AMDEL SYD

Medium*: Soil, W = Water, V = Vapour
Legend** (circle the following to be tested)
Metals: Al Be Co Fe
U Mg Mn Se Sn V

Samples on Ice: Yes No

Please fax back a signed copy when samples are received at the laboratory

Job Title: **INDEL CONSULTING CANBERRA**
 Laboratory Name: **AMDEL NSW**

PPK Job Number: **27K140c**
 Job Location: **CANBERRA**

Project Manager: **S. TAYLOR**
 Results Expected by/on:
 Fax Results to: **AIA**
 Fax Number:
 Phone Number:
 Spreadsheet of Results Required: **Y / N**
 Format:
 Turnaround Time Required: **5 days**
 Invoice to: **AIA**
 Comments:

Address:
 Fax Number:
 Phone Number:
 Contact Name:
 Delivery Method:

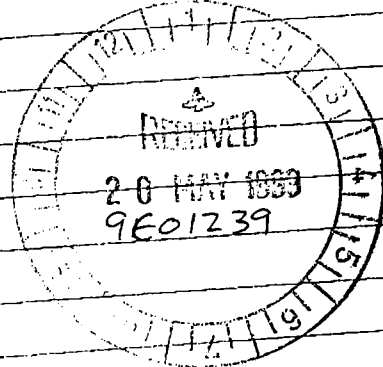
Date Sampled	Time	Sample I.D.	Container Size	Sample Location
		GW 20820	E15862	
		" 3.0	63	
		" 4.0	64	

Medium*	Preservative Type	Filtered (X)	TPH	BTEX	PAHs	OC/OP/PCBs	Metals**
							MS

Initials

Comments/Additional Information and/or Analysis Required

S. Taylor will select samples to be analysed



Relinquished by: **M. Reynolds**
 Date & Time: **18/5/99**
 Company: **PPK**
 Signature: **[Signature]**
 Received In Good Order & Condition by (Name):
 Date & Time:

Relinquished by:
 Date & Time:
 Company:
 Signature:
 Received In Good Order & Condition by (Name):
 Date & Time:
 Company:

Relinquished by:
 Date & Time:
 Company:
 Signature:
 Received In Good Order & Condition by (Name): **BLO**
 Date & Time: **20/5/99**
 Company: **AMDEL 610**
 Signature: **BLO**

Medium*: Soil, W = Water, V = Vapour
 Legend*: (circle the following to be tested)
 Metals: Al As Ba Bi Cd Cr Cu Fe Hg
 Li Mg Mn Ni Pb Se Sn V Zn

Samples on Ice: Yes No

Please fax back a signed copy when samples are received at the laboratory

Adelaide
101 Pirie Street Adelaide SA 5000
Tel: (08) 8405 4300 Fax: (08) 8405 4301

Brisbane
3-8/1 Edward Street, Brisbane QLD 4000
Tel: (07) 3218 2222 Fax: (07) 3831 4223

Melbourne
44 Albert Road, South Melbourne VIC 3205
Tel: (03) 9697 3333 Fax: (03) 9697 3344

Perth
97 Broadway, Nedlands WA 6009
Tel: (08) 9489 6666 Fax: (08) 9489 6147

Sydney
9 Blackland Road, Rhodes NSW 2138
Tel: (02) 9743 0333 Fax: (02) 9736 1568

Order No: **7667**

Job Title: **INDEC**
CANBERRA

Laboratory Name: **INDEC**

Address:

Fax Number:

Phone Number:

Contact Name:

Delivery Method:

Quote Number:

PPK Job Number:
276140C

Job Location:
CANBERRA

Project Manager: **S TAYLOR**

Results Expected by/on:

Fax Results to: **A/A**

Fax Number:

Phone Number:

Spreadsheet of Results Required: **Y / N**

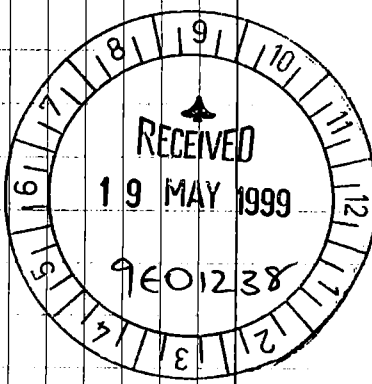
Format:

Turnaround Time Required: **5 days**

Invoice to: **A/A**

Comments:

Date Sampled	Time	Sample I.D.	Container Size	Sample Location	Medium*	Preservative Type	Filtered (X)	TPH	BTEX	PAH's	OC/OP/PCB's	Metals**
19/5/99		AAA	1									(X)



Initials

Comments/Additional Information and/or Analysis Required

analysis for metals and TCP extraction followed by metals on incubate

any queries phone Stuart Taylor 08 4054 338

Relinquished by: **M. Reynolds**

Date & Time: **18/5/99**

Company: **PPK**

Signature: **MBR**

Received in Good Order & Condition by (Name): **R. Hamilton**

Date & Time: **19/5/99**

Company: **And**

Signature: **Des 20**

Relinquished by:

Date & Time:

Company:

Signature:

Received in Good Order & Condition by (Name):

Date & Time:

Company:

Signature:

Relinquished by:

Date & Time:

Company:

Signature:

Received in Good Order & Condition by (Name):

Date & Time:

Company:

Signature:

Medium*: **(S = Soil, W = Water, V = Vapour)**

Legend**: (circle the following to be tested)

Metals: **Al As Be Cd Co Cr Cu Fe Hg**
(i) Mg, Mn Ni Pb Se Si V Zn

Samples on Ice: Yes No

Please fax back a signed copy when sa... s ar... eive the ... ato...

Adelaide
101 Pirie Street Adelaide SA 5000
Tel: (08) 8405 4300 Fax: (08) 8405 4301

Brisbane
348 Edward Street, Brisbane QLD 4000
Tel: (07) 3218 2222 Fax: (07) 3831 4223

Melbourne
44 Albert Road, South Melbourne VIC 3205
Tel: (03) 9697 3333 Fax: (03) 9697 3344

Perth
97 Broadway, Nedlands WA 6009
Tel: (08) 9389 8668 Fax: (08) 9389 8447

Sydney
9 Bixland Road, Rhodes NSW 2138
Tel: (02) 9743 0333 Fax: (02) 9736 1568

Order No: 7667

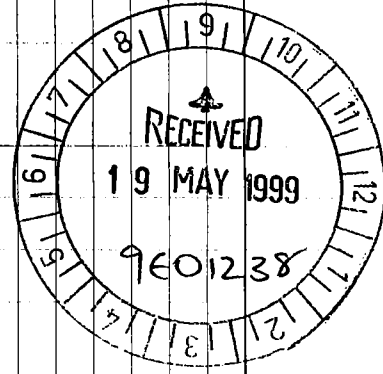
Job Title: **INDEC**
Laboratory Name: **CANBERRA**
Address:
Fax Number:
Phone Number:
Contact Name:
Delivery Method:
Quote Number:

PPK Job Number:
276140C

Job Location:
CANBERRA

Project Manager: **S TAYLOR**
Results Expected by/on:
Fax Results to: **A/A**
Fax Number:
Phone Number:
Spreadsheet of Results Required: **Y / N**
Format:
Turnaround Time Required: **5 days**
Invoice to: **A/A**
Comments:

Date Sampled	Time	Sample I.D.	Container Size	Sample Location	Medium*	Preservative Type	Filtered (X)	TPH	BTEX	PAHs	OC/OP/PCBs	Metals**
19/5/99		AAA	1									(X)



Initials: **ST**
Comments/Additional Information and/or Analysis Required:
analysis for metals and TECP extraction followed by metals on incubate
any queries phone Stuart Taylor 08 4054 328

Relinquished by: **M. Reynolds**
Date & Time: **18/5/99**
Company: **PPK**
Signature: **MBR**
Received in Good Order & Condition by (Name): **R. Hamilton**
Date & Time: **19/5/99**
Company: **Amdec**
Signature: **DD RO**

Relinquished by:
Date & Time:
Company:
Signature:
Received in Good Order & Condition by (Name):
Date & Time:
Company:
Signature:

Relinquished by:
Date & Time:
Company:
Signature:
Received in Good Order & Condition by (Name):
Date & Time:
Company:
Signature:

Medium*: **(S)** Soil, W - Water, V = Vapour
Legend** (circle the following to be tested)
Metals: **(Al) (As) (Ba) (Cd) (Co) (Cr) (Cu) (Mn) (Ni) (Pb) (Se) (Sb) (V) (Zn)**
Samples on Ice: **Yes** | No
Please fax back a signed copy when samples are received at the laboratory

Appendix F

Certified Laboratory Results (Soil)

Accreditation No. 1464

ENVIRONMENTAL AND INDUSTRIAL SERVICES DIVISION

Trading as Australian Analytical Laboratories Pty Ltd

ACN 001 491 667

Correspondence to:
PO BOX 514
HORNSBY NSW 1630

5 Kelray Place
ASQUITH NSW 2077
Telephone: (02) 9482 1922
Facsimile: (02) 9482 1734

CERTIFICATE OF ANALYSIS

Contents :
1) Cover Page
2) Analysis Report Pages
3) QA/QC Appendix

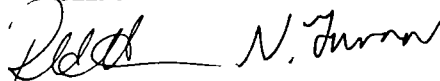
REPORT No : 9E01993
ATTENTION : Mr Mike Reynolds
CLIENT : PPK Adelaide
SAMPLES : 25
REFERENCE : 27K140C
DATE RECEIVED : 27/07/99
DATE REPORTED : 03/08/99

<u>Method</u>	<u>Description</u>	<u>Extracted</u>	<u>Analysed</u>
E7500	Moisture (% w/w)	02/08/99	02/08/99
E1220	Total Petroleum Hydrocarbons	29/07/99	03/08/99
E1010	Benzene, Toluene, Ethylbenzene & Xylene	28/07/99	03/08/99
E5910	Metals by ICP-AES	31/07/99	03/08/99
E5950	Mercury in Soil	31/07/99	03/08/99
E1110	Polycyclic Aromatic Hydrocarbons	30/07/99	03/08/99
E0220	Total Petroleum Hydrocarbons	29/07/99	30/07/99
E0010	Benzene, Toluene, Ethylbenzene & Xylene	28/07/99	30/07/99

RESULTS

All samples were analysed as received. This report relates specifically to the samples received.
Results relate to the source material only to the extent that the samples as supplied are truly representative of the sample source. This report replaces any preliminary results issued.
Note that for schemes indicated with * NATA accreditation does not cover the performance of this service.
Three significant figures (or 2 for <10PQL) are reported for statistical purposes only.

PLEASE SEE ATTACHED PAGES FOR RESULTS



per G.W. ANDERSON
Manager Environmental Sydney

Analyte	Lab No	E24975	E24977	E24979	E24981	E24983
	Sample Id	GW301/6	GW302/6	GW303/6	GW304/6	GW305/6
	PQL					
Moisture Content	1	14%	9%	10%	22%	24%
E1220 TPH in Soil						
Total C6-C36	10	nd	nd	nd	nd	nd
o-C9 Fraction	10	nd	nd	nd	nd	nd
C10-C14 Fraction	10	nd	nd	nd	nd	nd
C15-C28 Fraction	50	nd	nd	nd	nd	nd
C29-C36 Fraction	50	nd	nd	nd	nd	nd
E1010 BTEX (P&T) in Soil						
Benzene	0.5	nd	nd	nd	nd	nd
Toluene	1	nd	nd	nd	nd	nd
Ethylbenzene	1	nd	nd	nd	nd	nd
Total Xylenes	3	nd	nd	nd	nd	nd
E5910 Metals in Soil						
Cadmium	5	20	16	14	19	29
Mercury	0.05	nd	nd	nd	nd	nd

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E24985	E24986	E24988	E24990	E24993
					GW309/	
	Sample Id	GW306/6	GW307/5	GW308/5	3.5	GW310/5
	PQL					
Moisture Content	1	13%	19%	12%	20%	19%
E1220 TPH in Soil						
Total C6-C36	10	nd	nd	nd	3510	nd
C6-C9 Fraction	10	nd	nd	nd	nd	nd
C10-C14 Fraction	10	nd	nd	nd	165	nd
C15-C28 Fraction	50	nd	nd	nd	1520	nd
C29-C36 Fraction	50	nd	nd	nd	1830	nd
E1010 BTEX (P&T) in Soil						
Benzene	0.5	nd	nd	nd	nd	nd
Toluene	1	nd	nd	nd	nd	nd
Ethylbenzene	1	nd	nd	nd	nd	nd
Total Xylenes	3	nd	nd	nd	nd	nd
E5910 Metals in Soil						
Lead	5	14	24	14	479	28
Mercury	0.05	nd	nd	nd	nd	nd

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E24994	E24996			
		GW311/				
	Sample Id	4.5	DUP 1			
	PQL					
Moisture Content	1	28%	17%			
E1220 TPH in Soil						
Total C6-C36	10	nd	nd			
C6-C9 Fraction	10	nd	nd			
C10-C14 Fraction	10	nd	nd			
C15-C28 Fraction	50	nd	nd			
C29-C36 Fraction	50	nd	nd			
E1010 BTEX (P&T) in Soil						
Benzene	0.5	nd	nd			
Toluene	1	nd	nd			
Ethylbenzene	1	nd	nd			
Total Xylenes	3	nd	nd			
E5910 Metals in Soil						
Lead	5	139	16			
Mercury	0.05	nd	nd			

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Job Number : 9E01993
 Client : PPK Adelaide
 Reference : 27K140C

Analyte	Lab No	E24990			
		GW309/			
	Sample Id	3.5			
	PQL				
E1110 PAH's in Soil					
Naphthalene	0.5	11.5			
Acenaphthylene	0.5	nd			
Acenaphthene	0.5	2.4			
Fluorene	0.5	1.5			
Phenanthrene	0.5	3.1			
Anthracene	0.5	0.7			
Fluoranthene	0.5	0.9			
Pyrene	0.5	0.8			
Benz(a)anthracene	0.5	nd			
Chrysene	0.5	nd			
Benzo(b) & (k)fluoranthene	1	nd			
Benzo(a)pyrene	0.5	nd			
Indeno(1.2.3-cd)pyrene	0.5	nd			
Dibenz(a,h)anthracene	0.5	nd			
Benzo(g,h,i)perylene	0.5	nd			
Total PAH	0.5	20.8			
2-Fluorobiphenyl-SURROGATE	1	98%			
Anthracene-d10-SURROGATE	1	100%			
p-Terphenyl-D14-SURROGATE	1	103%			

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

QA/QC APPENDIX NO. 9E01993

<u>Method</u>	<u>Description</u>
E1220	Total Petroleum Hydrocarbons
E1010	Benzene, Toluene, Ethylbenzene & Xylene
E5910	Metals by ICP-AES
E5950	Mercury in Soil
E1110	Polycyclic Aromatic Hydrocarbons
E0220	Total Petroleum Hydrocarbons
E0010	Benzene, Toluene, Ethylbenzene & Xylene

Chromatography QA/QC

	Yes	No	N/A
Retention Time Window Within Acceptance Criteria ($\pm 2\%$)	√		
Check Standard Within Acceptance Criteria ($\pm 10\%$)	√		
Recalibration Within Acceptance Criteria ($\pm 15\%$)	√		
Internal Standard (where applicable) shows acceptable recovery	√		

Other QA/QC

Holding time conforming With Method Specification	√		
Chain of Custody Attached	√		

N/A = Not Applicable

Comments

1. Laboratory QA/QC including Method Blanks, Duplicates, Matrix Spike Duplicates, Laboratory Control Samples or CRM's are included in this QA/QC appendix. (Where applicable)
2. Inter-Laboratory proficiency trial results available on request. (Where applicable)
3. Surrogate description and recoveries are recorded in the Report. (Where applicable)
4. Acceptance criteria for specific analytes are available upon request (Refer to SPM-01).
5. Practical Quantitation Limit (PQL is typically 2-10 x method detection limit (MDL)).
6. PQL's are matrix dependent and are increased accordingly where sample extracts are diluted.
7. Results are uncorrected for matrix spike or surrogate recoveries.



per G.W. ANDERSON
Manager Environmental Sydney

QAQC : Laboratory Duplicates

Analyte	PQL	Dupl 1	Dupl 2	Average	RPD (%)
E1220 TPH in Soil					
Total C6-C36	10	nd	nd		
C6-C9 Fraction	10	nd	nd		
C10-C14 Fraction	10	nd	nd		
C15-C28 Fraction	50	nd	nd		
C29-C36 Fraction	50	nd	nd		
E5910 BTEX (P&T) in Soil					
Benzene	0.5	nd	nd		
Toluene	1	nd	nd		
Ethylbenzene	1	nd	nd		
Total Xylenes	3	nd	nd		
E5910 Metals in Soil					
Lead	5	21	20	20.5	4%
Mercury	0.05	nd	nd		

PQL = Practical Quantitation Limit
 nd = < PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/L (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Method Blank

ANALYTE	SAMPLE ID	Blank			
	PQL				
E1220 TPH in Soil					
Total C6-C36	10	nd			
C6-C9 Fraction	10	nd			
C10-C14 Fraction	10	nd			
C15-C28 Fraction	50	nd			
C29-C36 Fraction	50	nd			
E1010 BTEX (P&T) in Soil					
Benzene	0.5	nd			
Toluene	1	nd			
Ethylbenzene	1	nd			
Total Xylenes	3	nd			
E5910 Metals in Soil					
Lead	5	nd			
Mercury	0.05	nd			

PQL = Practical Quantitation Limit
 nd = < PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Laboratory Control Sample

Analyte	Level	Level Detected		Recovery Details			
		Result1	Result2	Rec 1 (%)	Rec 2 (%)	Average (%)	RPD (%)
E1110 PAH's in Soil							
Naphthalene	5	4.9		98%		98%	
Acenaphthylene	5	4.7		94%		94%	
Acenaphthene	5	5.0		100%		100%	
Fluorene	5	5.1		102%		102%	
Phenanthrene	5	5.0		100%		100%	
Anthracene	5	4.9		98%		98%	
Fluoranthene	5	5.0		100%		100%	
Pyrene	5	5.1		102%		102%	
Benz(a)anthracene	5	4.9		98%		98%	
Chrysene	5	5.0		100%		100%	
Benzo(b) & (k)fluoranthene	10	10		100%		100%	
Benzo(a)pyrene	5	5.0		100%		100%	
Indeno(1.2.3-cd)pyrene	5	5.2		104%		104%	
Dibenz(a,h)anthracene	5	5.0		100%		100%	
Benzo(g,h,i)perylene	5	4.8		96%		96%	

PQL = Practical Quantitation Limit
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified
 nd = <PQL

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Method Blank

ANALYTE	SAMPLE ID	Blank				
	PQL					
E1110 PAH's in Soil						
Naphthalene	0.5	nd				
Acenaphthylene	0.5	nd				
Acenaphthene	0.5	nd				
Fluorene	0.5	nd				
Phenanthrene	0.5	nd				
Anthracene	0.5	nd				
Fluoranthene	0.5	nd				
Pyrene	0.5	nd				
Benz(a)anthracene	0.5	nd				
Chrysene	0.5	nd				
Benzo(b) & (k)fluoranthene	1	nd				
Benzo(a)pyrene	0.5	nd				
Indeno(1.2.3-cd)pyrene	0.5	nd				
Dibenz(a,h)anthracene	0.5	nd				
Benzo(g,h,i)perylene	0.5	nd				

PQL = Practical Quantitation Limit
 nd = <PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

Accreditation No. 1464

ENVIRONMENTAL AND INDUSTRIAL SERVICES DIVISION

Trading as Australian Analytical Laboratories Pty Ltd
ACN 001 491 667

Correspondence to:
PO BOX 514
HORNSBY NSW 1630

5 Kelray Place
ASQUITH NSW 2077
Telephone: (02) 9482 1922
Facsimile: (02) 9482 1734

CERTIFICATE OF ANALYSIS

Contents :

- 1) Cover Page
- 2) Analysis Report Pages
- 3) QA/QC Appendix

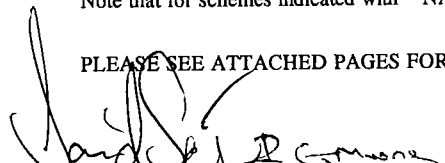
REPORT No : 9E01401
ATTENTION : Mr Stuart Taylor
CLIENT : PPK Adelaide
SAMPLES : 12
REFERENCE : 27k140c-canberra
DATE RECEIVED : 04/06/99
DATE REPORTED : 11/06/99

<u>Method</u>	<u>Description</u>	<u>Extracted</u>	<u>Analysed</u>
E7500	Moisture (%w/w)	10/06/99	11/06/99
E1220	Total Petroleum Hydrocarbons	08/06/99	11/06/99
E1010	Benzene, Toluene, Ethylbenzene & Xylene	08/06/99	11/06/99
E5910	Metals by ICP-AES	09/06/99	11/06/99

RESULTS

All samples were analysed as received. This report relates specifically to the samples received.
Results relate to the source material only to the extent that the samples as supplied are truly representative of the sample source. This report replaces any preliminary results issued.
Note that for schemes indicated with * NATA accreditation does not cover the performance of this service.

PLEASE SEE ATTACHED PAGES FOR RESULTS


per **G.W. ANDERSON**
Manager Environmental Sydney

Analyte	Lab No	E17885	E17886	E17891	E17894
	Sample Id	ibt 3.0	rt 2.5	2bt 3.5	lt 3.5
	PQL				
Moisture Content	1	15%	15%	16%	15%
E1220 TPH in Soil					
Total C6-C36	10	nd	nd	nd	nd
C7-C9 Fraction	10	nd	nd	nd	nd
C10-C14 Fraction	10	nd	nd	nd	nd
C15-C28 Fraction	50	nd	nd	nd	nd
C29-C36 Fraction	50	nd	nd	nd	nd
E1010 BTEX (P&T) in Soil					
Benzene	0.5	nd	nd	nd	nd
Toluene	1	nd	nd	nd	nd
Ethylbenzene	1	nd	nd	nd	nd
Total Xylenes	3	nd	nd	nd	nd
E5910 Metals in Soil					
Lead	5	22	19	16	16

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

QA/QC APPENDIX NO. 9E01401

<u>Method</u>	<u>Description</u>
E1220	Total Petroleum Hydrocarbons
E1010	Benzene, Toluene, Ethylbenzene & Xylene
E5910	Metals by ICP-AES

Chromatography QA/QC

	Yes	No	N/A
Retention Time Window Within Acceptance Criteria($\pm 2\%$)	√		
Check Standard Within Acceptance Criteria($\pm 10\%$)	√		
Recalibration Within Acceptance Criteria($\pm 15\%$)	√		
Internal Standard (where applicable) shows acceptable recovery	√		

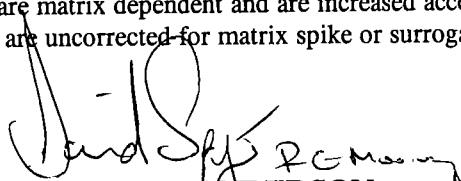
Other QA/QC

Holding time conforming With Method Specification	√		
Chain of Custody Attached	√		

N/A = Not Applicable

Comments

1. Laboratory QA/QC including Method Blanks, Duplicates, Matrix Spike Duplicates, Laboratory Control Samples or CRM's are included in this QA/QC appendix. (Where applicable)
2. Inter-Laboratory proficiency trial results available on request. (Where applicable)
3. Surrogate description and recoveries are recorded in the Report. (Where applicable)
4. Acceptance criteria for specific analytes are available upon request (Refer to SPM-01).
5. Practical Quantitation Limit (PQL is typically 2-10 x method detection limit (MDL)).
6. PQL's are matrix dependent and are increased accordingly where sample extracts are diluted.
7. Results are uncorrected for matrix spike or surrogate recoveries.


 per **G.W. ANDERSON**
Manager Environmental Sydney

QAQC : Method Blank

ANALYTE	SAMPLE ID	Blank				
	PQL					
E1220 TPH in Soil						
Total C6-C36	10	nd				
C6-C9 Fraction	10	nd				
C10-C14 Fraction	10	nd				
C15-C28 Fraction	50	nd				
C29-C36 Fraction	50	nd				
E1010 BTEX (P&T) in Soil						
Benzene	0.5	nd				
Toluene	1	nd				
Ethylbenzene	1	nd				
Total Xylenes	3	nd				
E5910 Metals in Soil						
Lead	5	nd				

PQL = Practical Quantitation Limit
 nd = < PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

Accreditation No. 1464

ENVIRONMENTAL AND INDUSTRIAL SERVICES DIVISION

Trading as Australian Analytical Laboratories Pty Ltd
ACN 001 491 667

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5 Kelray Place
ASQUITH NSW 2077
Telephone: (02) 9482 1922
Facsimile: (02) 9482 1734

CERTIFICATE OF ANALYSIS

Contents :

- 1) Cover Page
- 2) Analysis Report Pages
- 3) QA/QC Appendix

REPORT No : 9E01239
ATTENTION : Mr Stuart Taylor
CLIENT : PPK Adelaide
SAMPLES : 50
REFERENCE : 27K140C-CANBERRA
DATE RECEIVED : 20/05/99
DATE REPORTED : 27/05/99

<u>Method</u>	<u>Description</u>	<u>Extracted</u>	<u>Analysed</u>
E7500	Moisture (%w/w)	24/05/99	24/05/99
E1220	Total Petroleum Hydrocarbons	21/05/99	24/05/99
E1110	Polycyclic Aromatic Hydrocarbons	21/05/99	27/05/99
E5910	Metals by ICP-AES	21/05/99	24/05/99
E5950	Mercury in Soil	21/05/99	26/05/99
E3600	pH in Soil	25/05/99	26/05/99

RESULTS

All samples were analysed as received. This report relates specifically to the samples received.
Results relate to the source material only to the extent that the samples as supplied are truly representative of the sample source. This report replaces any preliminary results issued.
Note that for schemes indicated with * NATA accreditation does not cover the performance of this service.

PLEASE SEE ATTACHED PAGES FOR RESULTS


per **G.W. ANDERSON**
Manager Environmental Sydney

Analyte	Lab No	E15815	E15816	E15817	E15818	E15819
	Sample Id	3A 0.1	3A 1.0	3A 2.0	3A 6.0	3B 0.1
	PQL					
Moisture Content	1	5%	10%	14%	15%	6%
E1220 TPH in Soil						
Total C6-C36	10	nd	nd	nd	nd	nd
C6-C9 Fraction	10	nd	nd	nd	nd	nd
C10-C14 Fraction	10	nd	nd	nd	nd	nd
C15-C28 Fraction	50	nd	nd	nd	nd	nd
C29-C36 Fraction	50	nd	nd	nd	nd	nd
E5910 Metals in Soil						
Arsenic	5	17	35	12	nd	11
Cadmium	0.5	nd	nd	nd	nd	nd
Chromium	5	34	23	22	18	58
Copper	5	23	22	15	10	20
Nickel	2	40	22	20	9	19
Lead	5	29	51	24	21	37
Zinc	5	128	112	70	31	34
Mercury	0.05	0.08	0.12	0.06	nd	0.05
pH	0.1	8.3	7.6	8.1	8.2	6.5

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15820	E15821	E15822	E15823	E15824
	Sample Id	3B 0.5	3B 1.5	3B 3.5	3C 0.1	3C 2.0
	PQL					
Moisture Content	1	7%	11%	12%	7%	11%
E1220 TPH in Soil						
Total C6-C36	10	nd	nd	nd	nd	nd
C6-C9 Fraction	10	nd	nd	nd	nd	nd
C10-C14 Fraction	10	nd	nd	nd	nd	nd
C15-C28 Fraction	50	nd	nd	nd	nd	nd
C29-C36 Fraction	50	nd	nd	nd	nd	nd
E5910 Metals in Soil						
Arsenic	5	33	61	21	18	41
Cadmium	0.5	nd	nd	nd	nd	nd
Chromium	5	21	20	21	31	39
Copper	5	25	33	17	21	22
Nickel	2	16	14	15	33	37
Lead	5	65	56	32	35	34
Zinc	5	71	55	51	62	132
Mercury	0.05	0.07	nd	0.07	nd	0.07
pH	0.1	7.5	7.8	8.2	7.8	8.4

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15825	E15826	E15827	E15828	E15829
	Sample Id	3C 4.0	DUP3	3D 0.1	3D 1.0	3D 3.0
	PQL					
Moisture Content	1	18%	21%	8%	9%	23%
E1220 TPH in Soil						
Total C6-C36	10	nd	nd	nd	nd	nd
C6-C9 Fraction	10	nd	nd	nd	nd	nd
C10-C14 Fraction	10	nd	nd	nd	nd	nd
C15-C28 Fraction	50	nd	nd	nd	nd	nd
C29-C36 Fraction	50	nd	nd	nd	nd	nd
E5910 Metals in Soil						
Arsenic	5	22	26	21	16	16
Cadmium	0.5	nd	nd	nd	nd	nd
Chromium	5	15	13	37	79	21
Copper	5	23	25	33	16	21
Nickel	2	55	59	20	23	56
Lead	5	26	26	46	58	19
Zinc	5	250	230	68	88	174
Mercury	0.05	nd	nd	0.07	0.08	nd
pH	0.1	9.1	9.0	7.1	7.0	9.3

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15830	E15832	E15833	E15834	E15835
	Sample Id	3E 0.1	3F 0.1	3G 0.1	2A 0.1	2J 0.1
	PQL					
Moisture Content	1	16%	8%	12%	13%	12%
E1220 TPH in Soil						
Total C6-C36	10	nd	nd	nd	nd	nd
C6-C9 Fraction	10	nd	nd	nd	nd	nd
C10-C14 Fraction	10	nd	nd	nd	nd	nd
C15-C28 Fraction	50	nd	nd	nd	nd	nd
C29-C36 Fraction	50	nd	nd	nd	nd	nd
E5910 Metals in Soil						
Arsenic	5	16	22	30	6	8
Cadmium	0.5	nd	nd	nd	nd	nd
Chromium	5	44	62	50	58	81
Copper	5	25	19	26	21	21
Nickel	2	29	28	41	19	17
Lead	5	195	75	128	17	34
Zinc	5	104	131	179	18	19
Mercury	0.05	0.13	0.10	0.09	0.09	0.08
pH	0.1	7.4	6.5	7.1	6.4	6.5

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15836	E15837	E15839	E15842	E15845
				GW201	GW202	GW203
	Sample Id	2I 0.1	2G 0.1	5.0	5.0	6.0
	PQL					
Moisture Content	1	10%	4%	8%	13%	15%
E1220 TPH in Soil						
Total C6-C36	10	nd	nd	nd	nd	nd
C6-C9 Fraction	10	nd	nd	nd	nd	nd
C10-C14 Fraction	10	nd	nd	nd	nd	nd
C15-C28 Fraction	50	nd	nd	nd	nd	nd
C29-C36 Fraction	50	nd	nd	nd	nd	nd
E5910 Metals in Soil						
Arsenic	5	11	nd	17	8	6
Cadmium	0.5	1.6	nd	nd	nd	nd
Chromium	5	57	20	26	17	49
Copper	5	26	11	19	17	17
Nickel	2	19	10	61	33	22
Lead	5	103	26	23	19	20
Manganese	5	127	40	226	81	17
Mercury	0.05	0.11	nd	nd	nd	0.11
pH	0.1	6.8	6.9	9.5	8.6	7.9

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15847	E15848	E15849	E15855	E15860
		GW204			GW206	GW211
	Sample Id	5.0	DUP1	DUP2	6.0	7.0
	PQL					
Moisture Content	1	15%	15%	12%	12%	12%
E1220 TPH in Soil						
Total C6-C36	10	nd	nd	nd	nd	nd
C6-C9 Fraction	10	nd	nd	nd	nd	nd
C10-C14 Fraction	10	nd	nd	nd	nd	nd
C15-C28 Fraction	50	nd	nd	nd	nd	nd
C29-C36 Fraction	50	nd	nd	nd	nd	nd
E5910 Metals in Soil						
Arsenic	5	5	7	7	nd	11
Cadmium	0.5	nd	nd	nd	nd	0.9
Chromium	5	16	50	20	20	11
Copper	5	22	18	11	9	16
Nickel	2	42	24	12	9	55
Lead	5	19	26	35	27	23
Zinc	5	101	19	90	64	220
Mercury	0.05	nd	0.07	nd	nd	nd
pH	0.1	8.8	7.8	8.5	8.5	8.7

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15815	E15816	E15817	E15818	E15819
	Sample Id	3A 0.1	3A 1.0	3A 2.0	3A 6.0	3B 0.1
	PQL					
E1110 PAH's in Soil						
Naphthalene	0.5	nd	nd	nd	nd	nd
Acenaphthylene	0.5	nd	nd	nd	nd	nd
Acenaphthene	0.5	nd	nd	nd	nd	nd
Fluorene	0.5	nd	nd	nd	nd	nd
Phenanthrene	0.5	nd	nd	nd	nd	nd
Anthracene	0.5	nd	nd	nd	nd	nd
Fluoranthene	0.5	nd	nd	nd	nd	nd
Pyrene	0.5	nd	nd	nd	nd	nd
Benz(a)anthracene	0.5	nd	nd	nd	nd	nd
Chrysene	0.5	nd	nd	nd	nd	nd
Benzo(b) & (k)fluoranthene	1	nd	nd	nd	nd	nd
Benzo(a)pyrene	0.5	nd	nd	nd	nd	nd
Indeno(1.2.3-cd)pyrene	0.5	nd	nd	nd	nd	nd
Dibenz(a,h)anthracene	0.5	nd	nd	nd	nd	nd
Benzo(g,h,i)perylene	0.5	nd	nd	nd	nd	nd
Total PAH	0.5	nd	nd	nd	nd	nd
2-Fluorobiphenyl-SURROGATE	1	102%	103%	106%	107%	105%
Anthracene-d10-SURROGATE	1	102%	99%	104%	102%	106%
p-Terphenyl-D14-SURROGATE	1	101%	98%	101%	103%	106%

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Job Number : 9E01239
 Client : PPK Adelaide
 Reference : 27K140C-CANBERRA

Analyte	Lab No	E15820	E15821	E15822	E15823	E15824
	Sample Id	3B 0.5	3B 1.5	3B 3.5	3C 0.1	3C 2.0
	PQL					
E1110 PAH's in Soil						
Naphthalene	0.5	nd	nd	nd	nd	nd
Acenaphthylene	0.5	nd	nd	nd	nd	nd
Acenaphthene	0.5	nd	nd	nd	nd	nd
Fluorene	0.5	nd	nd	nd	nd	nd
Phenanthrene	0.5	0.7	nd	nd	nd	nd
Anthracene	0.5	nd	nd	nd	nd	nd
Fluoranthene	0.5	0.8	nd	nd	nd	nd
Pyrene	0.5	0.8	nd	nd	nd	nd
Benz(a)anthracene	0.5	nd	nd	nd	nd	nd
Chrysene	0.5	nd	nd	nd	nd	nd
Benzo(b) & (k)fluoranthene	1	nd	nd	nd	nd	nd
Benzo(a)pyrene	0.5	nd	nd	nd	nd	nd
Indeno(1.2.3-cd)pyrene	0.5	nd	nd	nd	nd	nd
Dibenz(a,h)anthracene	0.5	nd	nd	nd	nd	nd
Benzo(g,h,i)perylene	0.5	nd	nd	nd	nd	nd
Total PAH	0.5	2.3	nd	nd	nd	nd
2-Fluorobiphenyl-SURROGATE	1	107%	104%	106%	97%	103%
Anthracene-d10-SURROGATE	1	102%	102%	106%	99%	101%
p-Terphenyl-D14-SURROGATE	1	104%	102%	108%	100%	102%

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15825	E15826	E15827	E15828	E15829
	Sample Id	3C 4.0	DUP3	3D 0.1	3D 1.0	3D 3.0
	PQL					
E1110 PAH's in Soil						
Naphthalene	0.5	nd	nd	nd	nd	nd
Acenaphthylene	0.5	nd	nd	nd	nd	nd
Acenaphthene	0.5	nd	nd	nd	nd	nd
Fluorene	0.5	nd	nd	nd	nd	nd
Phenanthrene	0.5	nd	nd	nd	nd	nd
Anthracene	0.5	nd	nd	nd	nd	nd
Fluoranthene	0.5	nd	nd	nd	nd	nd
Pyrene	0.5	nd	nd	nd	nd	nd
Benz(a)anthracene	0.5	nd	nd	nd	nd	nd
Chrysene	0.5	nd	nd	nd	nd	nd
Benzo(b) & (k)fluoranthene	1	nd	nd	nd	nd	nd
Benzo(a)pyrene	0.5	nd	nd	nd	nd	nd
Indeno(1.2.3-cd)pyrene	0.5	nd	nd	nd	nd	nd
Dibenz(a,h)anthracene	0.5	nd	nd	nd	nd	nd
Benzo(g,h,i)perylene	0.5	nd	nd	nd	nd	nd
Total PAH	0.5	nd	nd	nd	nd	nd
2-Fluorobiphenyl-SURROGATE	1	103%	101%	103%	102%	103%
Anthracene-d10-SURROGATE	1	107%	105%	99%	106%	107%
p-Terphenyl-D14-SURROGATE	1	107%	109%	101%	108%	107%

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in

Method Header

Analyte	Lab No	E15830	E15832	E15833	E15834	E15835
	Sample Id	3E 0.1	3F 0.1	3G 0.1	2A 0.1	2J 0.1
	PQL					
E1110 PAH's in Soil						
Naphthalene	0.5	nd	nd	nd	nd	nd
Acenaphthylene	0.5	nd	nd	nd	nd	nd
Acenaphthene	0.5	nd	nd	nd	nd	nd
Fluorene	0.5	nd	nd	nd	nd	nd
Phenanthrene	0.5	nd	nd	nd	nd	nd
Anthracene	0.5	nd	nd	nd	nd	nd
Fluoranthene	0.5	nd	nd	nd	nd	nd
Pyrene	0.5	nd	nd	nd	nd	nd
Benz(a)anthracene	0.5	nd	nd	nd	nd	nd
Chrysene	0.5	nd	nd	nd	nd	nd
Benzo(b) & (k)fluoranthene	1	nd	nd	nd	nd	nd
Benzo(a)pyrene	0.5	nd	nd	nd	nd	nd
Indeno(1.2.3-cd)pyrene	0.5	nd	nd	nd	nd	nd
Dibenz(a,h)anthracene	0.5	nd	nd	nd	nd	nd
Benzo(g,h,i)perylene	0.5	nd	nd	nd	nd	nd
Total PAH	0.5	nd	nd	nd	nd	nd
2-Fluorobiphenyl-SURROGATE	1	103 %	103 %	104 %	104 %	103 %
Anthracene-d10-SURROGATE	1	102 %	103 %	103 %	104 %	105 %
p-Terphenyl-D14-SURROGATE	1	106 %	106 %	106 %	104 %	106 %

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15836	E15837	E15839	E15842	E15845
				GW201	GW202	GW203
	Sample Id	2I 0.1	2G 0.1	5.0	5.0	6.0
	PQL					
E1110 PAH's in Soil						
Naphthalene	0.5	nd	nd	nd	nd	nd
Acenaphthylene	0.5	nd	nd	nd	nd	nd
Acenaphthene	0.5	nd	nd	nd	nd	nd
Fluorene	0.5	nd	nd	nd	nd	nd
Phenanthrene	0.5	nd	nd	nd	nd	nd
Anthracene	0.5	nd	nd	nd	nd	nd
Fluoranthene	0.5	nd	nd	nd	nd	nd
Pyrene	0.5	nd	nd	nd	nd	nd
Benz(a)anthracene	0.5	nd	nd	nd	nd	nd
Chrysene	0.5	nd	nd	nd	nd	nd
Benzo(b) & (k)fluoranthene	1	nd	nd	nd	nd	nd
Benzo(a)pyrene	0.5	nd	nd	nd	nd	nd
Indeno(1.2.3-cd)pyrene	0.5	nd	nd	nd	nd	nd
Dibenz(a,h)anthracene	0.5	nd	nd	nd	nd	nd
Benzo(g,h,i)perylene	0.5	nd	nd	nd	nd	nd
Total PAH	0.5	nd	nd	nd	nd	nd
2-Fluorobiphenyl-SURROGATE	1	109%	105%	104%	105%	105%
Anthracene-d10-SURROGATE	1	109%	106%	108%	104%	108%
p-Terphenyl-D14-SURROGATE	1	111%	107%	107%	106%	109%

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in

Method Header

Analyte	Lab No	E15847	E15848	E15849	E15855	E15860
		GW204			GW206	GW211
	Sample Id	5.0	DUP1	DUP2	6.0	7.0
	PQL					
E1110 PAH's in Soil						
Naphthalene	0.5	nd	nd	nd	nd	nd
Acenaphthylene	0.5	nd	nd	nd	nd	nd
Acenaphthene	0.5	nd	nd	nd	nd	nd
Fluorene	0.5	nd	nd	nd	nd	nd
Phenanthrene	0.5	nd	nd	nd	nd	nd
Anthracene	0.5	nd	nd	nd	nd	nd
Fluoranthene	0.5	nd	nd	nd	nd	nd
Pyrene	0.5	nd	nd	nd	nd	nd
Benz(a)anthracene	0.5	nd	nd	nd	nd	nd
Chrysene	0.5	nd	nd	nd	nd	nd
Benzo(b) & (k)fluoranthene	1	nd	nd	nd	nd	nd
Benzo(a)pyrene	0.5	nd	nd	nd	nd	nd
Indeno(1.2.3-cd)pyrene	0.5	nd	nd	nd	nd	nd
Dibenz(a,h)anthracene	0.5	nd	nd	nd	nd	nd
Benzo(g,h,i)perylene	0.5	nd	nd	nd	nd	nd
Total PAH	0.5	nd	nd	nd	nd	nd
2-Fluorobiphenyl-SURROGATE	1	105%	106%	107%	106%	100%
Anthracene-d10-SURROGATE	1	107%	109%	109%	107%	101%
p-Terphenyl-D14-SURROGATE	1	107%	109%	110%	106%	101%

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

QA/QC APPENDIX NO. 9E01239

<u>Method</u>	<u>Description</u>
E1220	Total Petroleum Hydrocarbons
E1110	Polycyclic Aromatic Hydrocarbons
E5910	Metals by ICP-AES
E5950	Mercury in Soil
E3600	pH in Soil

Chromatography QA/QC

	Yes	No	N/A
Retention Time Window Within Acceptance Criteria($\pm 2\%$)	√		
Check Standard Within Acceptance Criteria($\pm 10\%$)	√		
Recalibration Within Acceptance Criteria($\pm 15\%$)	√		
Internal Standard (where applicable) shows acceptable recovery	√		

Other QA/QC

Holding time conforming With Method Specification	√		
Chain of Custody Attached	√		

N/A = Not Applicable

Comments

1. Laboratory QA/QC including Method Blanks, Duplicates, Matrix Spike Duplicates, Laboratory Control Samples or CRM's are included in this QA/QC appendix. (Where applicable)
2. Inter-Laboratory proficiency trial results available on request. (Where applicable)
3. Surrogate description and recoveries are recorded in the Report. (Where applicable)
4. Acceptance criteria for specific analytes are available upon request (Refer to SPM-01).
5. Practical Quantitation Limit (PQL is typically 2-10 x method detection limit (MDL)).
6. PQL's are matrix dependent and are increased accordingly where sample extracts are diluted.
7. Results are uncorrected for matrix spike or surrogate recoveries.



per G.W. ANDERSON
Manager Environmental Sydney

QAQC : Laboratory Control Sample

Analyte	Level	Level	Detected	Recovery Details			
		Result1	Result2	Rec 1 (%)	Rec 2 (%)	Average (%)	RPD (%)
E1220 TPH in Soil							
Total C6-C36	950	967	913	102%	96%	99%	6%
C6-C9 Fraction	400	427	403	107%	101%	104%	6%
C15-C28 Fraction	550	540	510	98%	93%	95%	6%
E5910 Metals in Soil							
Asenic	50	50		100%		100%	
Cadmium	50	51.3		103%		103%	
Chromium	50	55		110%		110%	
Copper	50	45		90%		90%	
Nickel	50	49		98%		98%	
Lead	50	51		102%		102%	
Zinc	50	45		90%		90%	
Mercury	0.50	0.62		124%		124%	
pH	7.40	7.4		100%		100%	

PQL = Practical Quantitation Limit
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

nd = <PQL

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Laboratory Duplicates

Analyte	PQL	Dupl 1	Dupl 2	Average	RPD (%)
E1220 TPH in Soil					
Total C6-C36	10	nd	nd		
C6-C9 Fraction	10	nd	nd		
C10-C14 Fraction	10	nd	nd		
C15-C28 Fraction	50	nd	nd		
C29-C36 Fraction	50	nd	nd		
910 Metals in Soil					
Arsenic	5	14	17	15.5	19%
Cadmium	0.5	nd	nd		
Chromium	5	32	34	33	6%
Copper	5	22	23	22.5	4%
Nickel	2	35	40	37.5	13%
Lead	5	28	29	28.5	3%
Zinc	5	102	128	115	22%
Mercury	0.05	0.08	0.08	0.08	0%
pH	0.1	8.5	8.3	8.4	2%

PQL = Practical Quantitation Limit (S) Soils : mg/kg (ppm) dry weight
 nd = <PQL (W) Waters : mg/L (ppm) unless otherwise specified
 -- = Not Applicable

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Method Blank

ANALYTE	SAMPLE ID	Blank				
	PQL					
E1220 TPH in Soil						
Total C6-C36	10	nd				
C6-C9 Fraction	10	nd				
0-C14 Fraction	10	nd				
C15-C28 Fraction	50	nd				
C29-C36 Fraction	50	nd				
E5910 Metals in Soil						
Arsenic	5	nd				
Cadmium	0.5	nd				
Chromium	5	nd				
Copper	5	nd				
Nickel	2	nd				
Lead	5	nd				
Zinc	5	nd				
Mercury	0.05	nd				
pH	0.1	6.4				

PQL = Practical Quantitation Limit
 nd = <PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98



QAQC : Laboratory Control Sample

Analyte	Level	Level	Detected	Recovery Details			
		Result1	Result2	Rec 1 (%)	Rec 2 (%)	Average (%)	RPD (%)
E1110 PAH's in Soil							
Naphthalene	5	4.8		96%		96%	
Acenaphthylene	5	4.9		98%		98%	
Acenaphthene	5	4.6		92%		92%	
Fluorene	5	4.6		92%		92%	
Phenanthrene	5	4.6		92%		92%	
thracene	5	4.7		94%		94%	
Fluoranthene	5	4.7		94%		94%	
Pyrene	5	4.7		94%		94%	
Benz(a)anthracene	5	4.8		96%		96%	
Chrysene	5	4.8		96%		96%	
Benzo(b) & (k)fluoranthene	10	9		90%		90%	
Benzo(a)pyrene	5	4.8		96%		96%	
Indeno(1.2.3-cd)pyrene	5	4.7		94%		94%	
Dibenz(a.h)anthracene	5	4.6		92%		92%	
Benzo(g.h.i)perylene	5	4.5		90%		90%	

PQL = Practical Quantitation Limit
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified
 nd = <PQL

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Laboratory Duplicates

Analyte	PQL	Dupl 1	Dupl 2	Average	RPD (%)
E1110 PAH's in Soil					
Naphthalene	0.5	nd	nd		
Acenaphthylene	0.5	nd	nd		
Acenaphthene	0.5	nd	nd		
Fluorene	0.5	nd	nd		
Phenanthrene	0.5	nd	nd		
Anthracene	0.5	nd	nd		
Fluoranthene	0.5	nd	nd		
Pyrene	0.5	nd	nd		
Benz(a)anthracene	0.5	nd	nd		
Chrysene	0.5	nd	nd		
Benzo(b) & (k)fluoranthene	1	nd	nd		
Benzo(a)pyrene	0.5	nd	nd		
Indeno(1.2.3-cd)pyrene	0.5	nd	nd		
Dibenz(a,h)anthracene	0.5	nd	nd		
Benzo(g,h,i)perylene	0.5	nd	nd		

PQL = Practical Quantitation Limit
 nd = <PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/L (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Method Blank

ANALYTE	SAMPLE ID	Blank				
	PQL					
E1110 PAH's in Soil						
Naphthalene	0.5	nd				
Acenaphthylene	0.5	nd				
Acenaphthene	0.5	nd				
Fluorene	0.5	nd				
Phenanthrene	0.5	nd				
Anthracene	0.5	nd				
Fluoranthene	0.5	nd				
Pyrene	0.5	nd				
Benz(a)anthracene	0.5	nd				
Chrysene	0.5	nd				
Benzo(b) & (k)fluoranthene	1	nd				
Benzo(a)pyrene	0.5	nd				
Indeno(1.2.3-cd)pyrene	0.5	nd				
Dibenz(a,h)anthracene	0.5	nd				
Benzo(g,h,i)perylene	0.5	nd				

PQL = Practical Quantitation Limit
 nd = <PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

Accreditation No. 1464

ENVIRONMENTAL AND INDUSTRIAL SERVICES DIVISION

Trading as Australian Analytical Laboratories Pty Ltd
ACN 001 491 667

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PO BOX 514
HORNSBY NSW 1630

5 Kelray Place
ASQUITH NSW 2077
Telephone: (02) 9482 1922
Facsimile: (02) 9482 1734

CERTIFICATE OF ANALYSIS

- Contents :
1) Cover Page
2) Analysis Report Pages
3) QA/QC Appendix

REPORT No : 9E01238
ATTENTION : Mr Stuart Taylor
CLIENT : PPK Adelaide
SAMPLES : 1
REFERENCE : 27K140C-CANBERRA
DATE RECEIVED : 19/05/99
DATE REPORTED : 26/05/99

<u>Method</u>	<u>Description</u>	<u>Extracted</u>	<u>Analysed</u>
E7500	Moisture (%w/w)	21/05/99	21/05/99
E5910	Metals by ICP-AES	21/05/99	26/05/99
E5950	Mercury in Soil	21/05/99	21/05/99
E6000	Toxicity Characteristic Leachate Proc.	20/05/99	21/05/99
E6910	Metals in Leachate by ICP-AES	26/05/99	26/05/99
E6950	Mercury in Leachate	26/05/99	26/05/99

RESULTS

All samples were analysed as received. This report relates specifically to the samples received.
Results relate to the source material only to the extent that the samples as supplied are truly representative of the sample source. This report replaces any preliminary results issued.
Note that for schemes indicated with * NATA accreditation does not cover the performance of this service.

PLEASE SEE ATTACHED PAGES FOR RESULTS



per **G.W. ANDERSON**
Manager Environmental Sydney

Analyte	Lab No	E15775				
	Sample Id	AAA				
	PQL					
Moisture Content	1	3%				
E5910 Metals in Soil						
Aluminium	50	13700				
Arsenic	5	8				
Beryllium	5	nd				
Cadmium	0.5	6.0				
Cobalt	5	92				
Chromium	5	193				
Copper	5	4640				
Iron	50	22500				
Lithium	5	10				
Magnesium	50	5210				
Manganese	5	695				
Nickel	2	114				
Lead	5	5420				
Selenium	5	7				
Tin	5	1290				
Vanadium	5	11				
Zinc	5	50600				
Mercury	0.05	nd				

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

	Lab No	E15775				
	Sample Id	AAA				
Analyte	PQL					
E6910 Total Recoverable Metals in Leachate						
Aluminium	0.1	1.8				
Arsenic	0.05	nd				
Beryllium	0.1	nd				
Cadmium	0.01	nd				
Cobalt	0.05	nd				
Chromium	0.05	0.09				
Copper	0.05	2.01				
Iron	0.05	6.62				
Lithium	0.05	nd				
Manganese	0.05	1.04				
Nickel	0.05	0.07				
Lead	0.05	0.27				
Selenium	0.1	nd				
Tin	0.1	nd				
Vanadium	0.05	nd				
Zinc	0.05	18.1				
E6950 Tot. Recoverable Mercury in Leachate						
Mercury	0.001	nd				

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

QA/QC APPENDIX NO. 9E01238

<u>Method</u>	<u>Description</u>
E5910	Metals by ICP-AES
E5950	Mercury in Soil
E6000	Toxicity Characteristic Leachate Proc.
E6910	Metals in Leachate by ICP-AES
E6950	Mercury in Leachate

Chromatography QA/QC

	Yes	No	N/A
Retention Time Window Within Acceptance Criteria($\pm 2\%$)			√
Check Standard Within Acceptance Criteria($\pm 10\%$)			√
Recalibration Within Acceptance Criteria($\pm 15\%$)			√
Internal Standard (where applicable) shows acceptable recovery			√

Other QA/QC

Holding time conforming With Method Specification	√
Chain of Custody Attached	√

N/A=Not Applicable

Comments

1. Laboratory QA/QC including Method Blanks, Duplicates, Matrix Spike Duplicates, Laboratory Control Samples or CRM's are included in this QA/QC appendix. (Where applicable)
2. Inter-Laboratory proficiency trial results available on request. (Where applicable)
3. Surrogate description and recoveries are recorded in the Report. (Where applicable)
4. Acceptance criteria for specific analytes are available upon request (Refer to SPM-01).
5. Practical Quantitation Limit (PQL is typically 2-10 x method detection limit (MDL)).
6. PQL's are matrix dependent and are increased accordingly where sample extracts are diluted.
7. Results are uncorrected for matrix spike or surrogate recoveries.



per G.W. ANDERSON
Manager Environmental Sydney

QAQC : Laboratory Control Sample

Analyte	Level	Level Detected		Recovery Details			
		Result1	Result2	Rec 1 (%)	Rec 2 (%)	Average (%)	RPD (%)
E5910 Metals in Soil							
Aluminium	100	99		99%		99%	
Arsenic	50	42		84%		84%	
Beryllium	50	45		90%		90%	
Cadmium	50	43.4		87%		87%	
Cobalt	50	43		86%		86%	
Chromium	50	44		88%		88%	
Copper	50	51		102%		102%	
Iron	100	100		100%		100%	
Magnesium	480	480		100%		100%	
Manganese	50	46		92%		92%	
Nickel	50	42		84%		84%	
Lead	50	43		86%		86%	
Selenium	50	38		76%		76%	
Tin	50	44		88%		88%	
Vanadium	50	47		94%		94%	
Zinc	50	43		86%		86%	
Mercury	0.50	0.51		102%		102%	

PQL = Practical Quantitation Limit
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight nd = <PQL
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Method Blank

ANALYTE	SAMPLE ID	Blank				
	PQL					
E5910 Metals in Soil						
Aluminium	50	nd				
Arsenic	5	nd				
Beryllium	5	nd				
Cadmium	0.5	nd				
Cobalt	5	nd				
Chromium	5	nd				
Copper	5	nd				
Iron	50	nd				
Lithium	5	nd				
Magnesium	50	nd				
Manganese	5	nd				
Nickel	2	nd				
Lead	5	nd				
Selenium	5	nd				
Tin	5	nd				
Vanadium	5	nd				
Zinc	5	nd				
Mercury	0.05	nd				

PQL = Practical Quantitation Limit
 nd = <PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Spike Recoveries

Analyte	Spike Level	Level	Detected	Recovery Details			
		Spike 1	Spike 2	Rec 1 (%)	Rec 2 (%)	Average (%)	RPD (%)
E6910 Total Recoverable Metals in Leachate							
Aluminium	1.0	0.9	1.0	95%	97%	96%	3%
Arsenic	0.12	0.13	0.14	111%	113%	112%	1%
Beryllium	1.0	1.0	1.0	100%	100%	100%	0%
Cadmium	0.50	0.51	0.51	103%	103%	103%	0%
Cobalt	1.0	1.11	1.11	111%	111%	111%	0%
Chromium	1.00	1.02	1.02	102%	102%	102%	0%
Copper	1.00	1.00	1.02	100%	102%	101%	3%
Iron	1.00	1.01	1.01	101%	101%	101%	0%
Lithium	1.0	0.99	0.97	99%	97%	98%	2%
Manganese	0.50	0.48	0.48	97%	95%	96%	2%
Nickel	1.0	1.07	1.08	107%	108%	108%	0%
Lead	1.00	0.98	0.99	98%	99%	98%	0%
Selenium	1.00	1.1	1.1	106%	109%	108%	3%
Tin	1.0	1.0	1.0	97%	97%	97%	0%
Vanadium	1.00	1.07	1.08	107%	108%	107%	1%
Zinc	0.50	0.46	0.48	91%	96%	94%	5%
E6950 Tot. Recoverable Mercury in Leachate							
Mercury	0.1	0.095	0.097	95%	97%	96%	2%

PQL = Practical Quantitation Limit
 nd = < PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Method Blank

ANALYTE	SAMPLE ID	Blank				
	PQL					
E6910 Total Recoverable Metals in Leachate						
Aluminium	0.1	nd				
Arsenic	0.05	nd				
Beryllium	0.1	nd				
Cadmium	0.01	nd				
Cobalt	0.05	nd				
Chromium	0.05	nd				
Copper	0.05	nd				
Iron	0.05	nd				
Lithium	0.05	nd				
Manganese	0.05	nd				
Nickel	0.05	nd				
Lead	0.05	nd				
Selenium	0.1	nd				
Tin	0.1	nd				
Vanadium	0.05	nd				
Zinc	0.05	nd				
E6950 Tot. Recoverable Mercury in Leachate						
Mercury	0.001	nd				

PQL = Practical Quantitation Limit
 nd = <PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

Accreditation No. 1464

ENVIRONMENTAL AND INDUSTRIAL SERVICES DIVISION

Trading as Australian Analytical Laboratories Pty Ltd
ACN 001 491 667

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PO BOX 514
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5 Kelray Place
ASQUITH NSW 2077
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Facsimile: (02) 9482 1734

CERTIFICATE OF ANALYSIS

Contents :

- 1) Cover Page
- 2) Analysis Report Pages
- 3) QA/QC Appendix

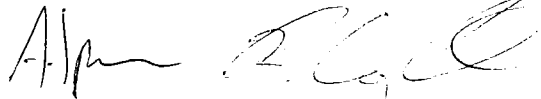
REPORT No : 9E01401
ATTENTION : Mr Stuart Taylor
CLIENT : PPK Adelaide
SAMPLES : 12
REFERENCE : 27k140c-canberra
DATE RECEIVED : 04/06/99
DATE REPORTED : 11/06/99

<u>Method</u>	<u>Description</u>	<u>Extracted</u>	<u>Analysed</u>
E7500	Moisture (% w/w)	10/06/99	11/06/99
E1220	Total Petroleum Hydrocarbons	08/06/99	11/06/99
E1010	Benzene, Toluene, Ethylbenzene & Xylene	08/06/99	11/06/99
E5910	Metals by ICP-AES	09/06/99	11/06/99

RESULTS

All samples were analysed as received. This report relates specifically to the samples received.
Results relate to the source material only to the extent that the samples as supplied are truly representative of the sample source. This report replaces any preliminary results issued.
Note that for schemes indicated with * NATA accreditation does not cover the performance of this service.

PLEASE SEE ATTACHED PAGES FOR RESULTS



per **G.W. ANDERSON**
Manager Environmental Sydney

Analyte	Lab No	E17885	E17886	E17891	E17894
	Sample Id	ibt 3.0	rt 2.5	2bt 3.5	lt 3.5
	PQL				
Moisture Content	1	15%	15%	16%	15%
E1220 TPH in Soil					
Total C6-C36	10	nd	nd	nd	nd
C6-C9 Fraction	10	nd	nd	nd	nd
C10-C14 Fraction	10	nd	nd	nd	nd
C15-C28 Fraction	50	nd	nd	nd	nd
C29-C36 Fraction	50	nd	nd	nd	nd
E1010 BTEX (P&T) in Soil					
Benzene	0.5	nd	nd	nd	nd
Toluene	1	nd	nd	nd	nd
Ethylbenzene	1	nd	nd	nd	nd
Total Xylenes	3	nd	nd	nd	nd
E5910 Metals in Soil					
Lead	5	22	19	16	16

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

QA/QC APPENDIX NO. 9E01401

<u>Method</u>	<u>Description</u>
E1220	Total Petroleum Hydrocarbons
E1010	Benzene, Toluene, Ethylbenzene & Xylene
E5910	Metals by ICP-AES

Chromatography QA/QC

	Yes	No	N/A
Retention Time Window Within Acceptance Criteria ($\pm 2\%$)	√		
Check Standard Within Acceptance Criteria ($\pm 10\%$)	√		
Recalibration Within Acceptance Criteria ($\pm 15\%$)	√		
Internal Standard (where applicable) shows acceptable recovery	√		

Other QA/QC

Holding time conforming With Method Specification	√		
Chain of Custody Attached	√		

N/A = Not Applicable

Comments

1. Laboratory QA/QC including Method Blanks, Duplicates, Matrix Spike Duplicates, Laboratory Control Samples or CRM's are included in this QA/QC appendix. (Where applicable)
2. Inter-Laboratory proficiency trial results available on request. (Where applicable)
3. Surrogate description and recoveries are recorded in the Report. (Where applicable)
4. Acceptance criteria for specific analytes are available upon request (Refer to SPM-01).
5. Practical Quantitation Limit (PQL is typically 2-10 x method detection limit (MDL)).
6. PQL's are matrix dependent and are increased accordingly where sample extracts are diluted.
7. Results are uncorrected for matrix spike or surrogate recoveries.


per G.W. ANDERSON
Manager Environmental Sydney

Appendix G

Sampling Location Plans
(Groundwater)



Canberra Rail Station & Former Municipal Dump Area, Groundwater Monitoring Wells

Figure 4



LEGEND

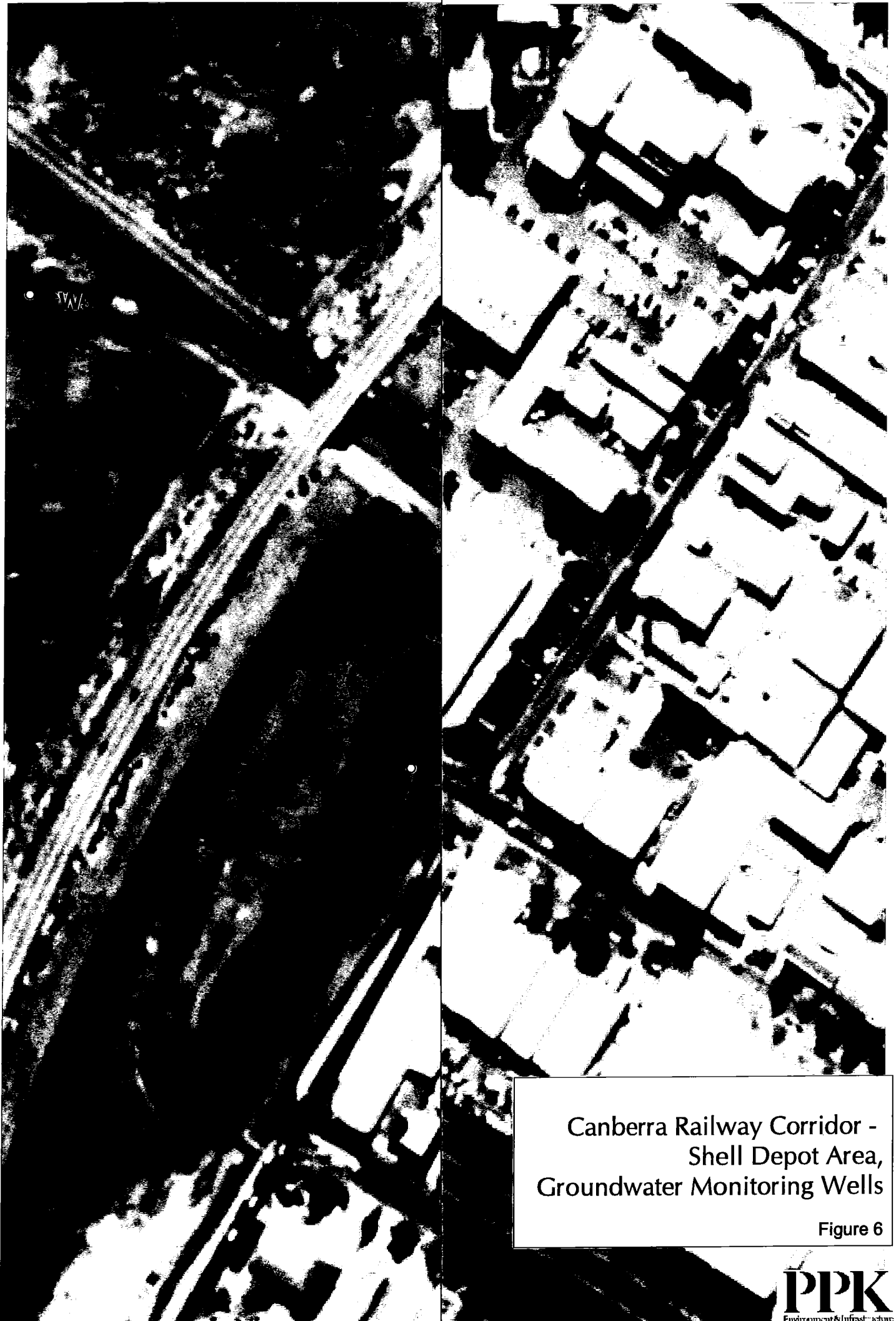
○ Groundwater Wells



0 50 100 Meters

Canberra Railyard & Former Locomotive Refuelling Area - Groundwater Monitoring Well Locations

Figure 5



Canberra Railway Corridor -
Shell Depot Area,
Groundwater Monitoring Wells

Figure 6



Canberra Railway Corridor -
Mobil, Caltex & BP Depot Area.
Groundwater Monitoring Wells

Figure 7

Appendix H

Well Construction Logs



Drilling Co.: UNDERDALES	Permit No.:	GW201
Drill Method: AIR	TOC Elevation:	
Boring Dia: 0.15 Meters	Water Struck At: 6 Meters	Logged By:
Date Drilled: 13/5/99	SWL: Meters	M.REYNOLDS

30-Aug-99 3:08:09 PM

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			1		FILL. Clayey silty sand, dark brown, occasional fine cinders/slag fragments. Sandy Clayey SILT. Brown, yellow brown, fine to medium sand, some fine roots. Silty Sandy CLAY. Mottled orange brown and yellow, shale/siltstone fragments towards base.
			2		Gravelly Silty CLAY. Mottled brown, yellow, red, siltstone fragments fine to coarse, very silty (waxy).
			3		Clayey Silty GRAVEL. yellow, light brown, siltstone fragments, considerable clay.
			4		Silty CLAY. yellowBrown, some gravel.
			5		
			6		
			7		
			8		

C:\Program Files\GBA Technologies\Well Logger\27K140B.wf2

Completion Notes:
Well completed with standpipe and lock

Site:
CANBERRA RAILYARDS
Site Address:
Canberra Railyards



Drilling Co.: UNDERDALES	Permit No.:	GW202
Drill Method: AIR	TOC Elevation:	
Boring Dia: 0.15 Meters	Water Struck At: 6 Meters	Logged By:
Date Drilled: 13/5/99	SWL: Meters	M.REYNOLDS

30-Aug-99 3:08:18 PM

C:\Program Files\GBA Technologies\Well Logger\27K140B.wl2

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
					FILL. Clayey silty sand, brown.
			1		Sandy Clayey SILT. Brown, yellow brown, fine to medium sands.
			2		Silty Sandy CLAY. Mottled orange brown and yellow.
			3		
			4		Gravelly Silty CLAY. Mottled brown, siltstone fragments fine to coarse, very silty (waxy).
			5		Clayey Silty GRAVEL. yellow, light brown, siltstone fragments, considerable clay.
			6		
			7		
			8		

Completion Notes:
Well completed with standpipe and lock

Site:
CANBERRA RAILYARDS

Site Address:
Canberra Railyards



Environment & Infrastructure

Drilling Co.: UNDERDALES

Permit No.:

GW203

Drill Method: AIR

TOC Elevation:

Boring Dia: 0.15 Meters

Water Struck At: 6 Meters

Logged By:

Date Drilled: 13/5/99

SWL: Meters

M.REYNOLDS

30-Aug-99 3:08:27 PM

C:\Program Files\GBA Technologies\Well Logger\27K140B.wl2

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			1		FILL. Clayey silty sand, dark brown. Sandy Clayey SILT. Brown, yellow brown, fine to medium sand, some fine roots. Silty Sandy CLAY. Mottled orange brown and yellow.
			2		Gravelly Silty CLAY. Mottled brown, yellow, red, siltstone fragments fine to coarse, very silty (waxy). Gravelly Silty CLAY. Mottled brown, yellow, siltstone fragments fine, very silty (waxy).
			3		Silty CLAY. mottled brown, yellow very silty.
			4		
			5		
			6		
			7		
			8		

Completion Notes:

Well completed with standpipe and lock

Site:

CANBERRA RAILYARDS

Site Address:

Canberra Railyards

Project No.: **27K140C**

Page 1



Drilling Co.: UNDERDALES	Permit No.: GW204
Drill Method: AIR	TOC Elevation:
Boring Dia: 0.15 Meters	Water Struck At: 6 Meters
Date Drilled: 13/5/99	SWL: Meters
Logged By: M.REYNOLDS	

30-Aug-99 3:08:36 PM

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			1		FILL. Clayey silty sand, dark brown. Sandy Clayey SILT. Brown, yellow brown, fine to medium sand, some fine roots. Silty Sandy CLAY. Mottled orange brown and yellow, shale/siltstone towards base.
			2		Gravelly Silty CLAY. Mottled brown, yellow, red).
			3		Clayey Silty GRAVEL Brown light brown, siltstone fragments, considerable clay
			4		Silty CLAY. brown, some gravel.
			5		
			6		
			7		
			8		

C:\Program Files\CBA Technologies\Well Logger\27K140B.wl2

Completion Notes:

Well completed with standpipe and lock

Site:

CANBERRA RAILYARDS

Site Address:

Canberra Railyards

Project No.: **27K140C**

Page 1



Drilling Co.: UNDERDALES

Permit No.:

GW205

Drill Method: AIR

TOC Elevation:

Boring Dia: 0.15 Meters

Water Struck At: 6 Meters

Logged By:

Date Drilled: 13/5/99

SWL: Meters

M.REYNOLDS

30-Aug-99 3:08:45 PM

C:\Program Files\GBA Technologies\Well Logger\27K140B.wl2

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			1		FILL. Clayey silty sand, dark brown, FILL Clayey SILT. Brown, yellow large rock.
			2		
			3		Silty CLAY. brown.
			4		
			5		
			6		
			7		
			8		

Completion Notes:

Well completed with standpipe and lock

Site:

CANBERRA RAILYARDS

Site Address:

Canberra Railyards

Project No.: **27K140C**

Page 1



Drilling Co.: UNDERDALES	Permit No.:	GW206
Drill Method: AIR	TOC Elevation:	
Boring Dia: 0.15 Meters	Water Struck At: 6 Meters	Logged By:
Date Drilled: 13/5/99	SWL: Meters	M.REYNOLDS

30-Aug-99 3:08:54 PM

C:\Program Files\GBA Technologies\Well Logger\27K140B.wl2

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			1		FILL. Bitumen Clayey silt brown. Sandy Clayey SILT. Brown, yellow brown, fine to medium sand.
			2		Silty Sandy CLAY. Mottled orange brown and yellow.
			3		Gravelly Silty CLAY. Mottled grey, pieces of glass papaer, plastic etc.
			4		Clayey Silty GRAVEL. yellow, light brown, siltstone fragments, considerable clay.
			5		
			6		
			7		
			8		

Completion Notes:

Well completed with standpipe and lock

Site:

CANBERRA RAILYARDS

Site Address:

Canberra Railyards

Project No.: **27K140C**

Page 1



Drilling Co.: UNDERDALES	Permit No.:	GW207
Drill Method: AIR	TOC Elevation:	
Boring Dia: 0.15 Meters	Water Struck At: 6 Meters	Logged By:
Date Drilled: 13/5/99	SWL: Meters	M.REYNOLDS

30-Aug-99 3:09:02 PM

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			0		FILL. Clayey silty sand, dark brown. Sandy Clayey SILT. Brown, yellow brown, fine to medium sand, some fine roots.
			1		Silty Sandy CLAY. Mottled orange brown and yellow.
			2		Gravelly Silty CLAY. Mottled brown, yellow).
			3		
			4		
			5		
			6		
			7		
			8		

C:\Program Files\GBA Technologies\Well Logger\27K140B.wl2

Completion Notes:

Well completed with standpipe and lock

Site:

CANBERRA RAILYARDS

Site Address:

Canberra Railyards

Project No.: **27K140C**

Page 1



Drilling Co.: UNDERDALES	Permit No.:	GW208
Drill Method: AIR	TOC Elevation:	
Boring Dia: 0.15 Meters	Water Struck At: 6 Meters	Logged By:
Date Drilled: 13/5/99	SWL: Meters	M.REYNOLDS

30-Aug-99 3:09:11 PM

C:\Program Files\GSA Technologies\Well Logger\27K140B.w\2

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
					FILL. Gravelly silty CLAY dark brown, orange black mottling, gravel and coal fragments to 60mm.
			1		FILL Ash, Clay, metal, coal and timber fragments, black, brown, no strong odour, some gravel to 30 mm.
			2		
			3		
			4		
			5		
			6		CLAY. silty brown, red medium to fine sands.
			7		
			8		

Completion Notes: Well completed with standpipe and lock	Site: CANBERRA RAILYARDS
	Site Address: Canberra Railyards
Project No.: 27K140C	Page 1



Drilling Co.: UNDERDALES	Permit No.: GW209
Drill Method: AIR	TOC Elevation:
Boring Dia: 0.15 Meters	Water Struck At: 6 Meters
Date Drilled: 13/5/99	SWL: Meters
Logged By: M.REYNOLDS	

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
					FILL. silty clay, brown, large gravel, roots. CLAY Siltstone yellow, brown.
			1		
			2		
			3		
			4		
			5		
			6		
			7		
			8		

30-Aug-99 3:09:19 PM

C:\Program Files\GBA Technologies\Well Logger\27K140B.w\2

Completion Notes:
Well completed with standpipe and lock

Site:
CANBERRA RAILYARDS
Site Address:
Canberra Railyards



Drilling Co.: UNDERDALES

Permit No.:

GW210

Drill Method: AIR

TOC Elevation:

Boring Dia: 0.15 Meters

Water Struck At: 6 Meters

Logged By:

Date Drilled: 13/5/99

SWL: Meters

M.REYNOLDS

30-Aug-99 3:05:29 PM

C:\Program Files\GBA Technologies\Well Logger\27K140B.wl2

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			1		FILL.ballast, ash, Silty clay, brown, large gravel, roots.
			2		
			3		
			4		FILL. Siltstone clay, orange, small gravel chips.
			5		CLAY silty yellow, some fine gravel.
			6		
			7		
			8		

Completion Notes:

Well completed with standpipe and lock

Site:

CANBERRA RAILYARDS

Site Address:

Canberra Railyards

Project No.: **27K140C**

Page 1



Drilling Co.: UNDERDALES	Permit No.:	GW211
Drill Method: AIR	TOC Elevation:	
Boring Dia: 0.15 Meters	Water Struck At: 6 Meters	Logged By:
Date Drilled: 13/5/99	SWL: Meters	M.REYNOLDS

30-Aug-99 3:09:37 PM

C:\Program Files\GBA Technologies\Well Logger\27K140B.w\2

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			0		FILL. Bitumen. FILL. Silty clay, brown, small gravel chips.
			1		FILL. Silty clay, yellow, brown. CLAY. silty yellow.
			2		
			3		
			4		
			5		
			6		Sandy SILT light brown, 70% sand slurry.
			7		
			8		

Completion Notes:

Well completed with standpipe and lock

Site:
CANBERRA RAILYARDS

Site Address:
Canberra Railyards



Drilling Co.: UNDERDALES	Permit No.: GW301
Drill Method: AIR	TOC Elevation:
Boring Dia: 0.15 Meters	Water Struck At: 5 Meters
Date Drilled: 22/7/99	SWL: Meters
Logged By: M.REYNOLDS	

30-Aug-99 3:09:46 PM

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			1		FILL. Clayey silty sand, dark brown, occasional fine cinders/slag fragments. Sandy Clayey SILT. Brown, yellow brown, fine to medium sand, some fine roots. Silty Sandy CLAY. Mottled orange brown and yellow.
			2		Gravelly Silty CLAY. Mottled brown, yellow, red, siltstone fragments fine to coarse, very silty (waxy). Clayey Silty GRAVEL. Brown, light brown, siltstone fragments.
			3		Silty CLAY. Brown.
			4		
			5		
			6		
			7		
			8		

C:\Program Files\GBA Technologies\Well Logger\27K140B.wl2

Completion Notes:
Well completed with standpipe and lock

Site:
CANBERRA RAILYARDS
Site Address:
Canberra Railyards



Drilling Co.: UNDERDALES	Permit No.:	GW302
Drill Method: AIR	TOC Elevation:	
Boring Dia: 0.15 Meters	Water Struck At: 5 Meters	Logged By:
Date Drilled: 22/7/99	SWL: Meters	M.REYNOLDS

30-Aug-99 3:09:53 PM

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			1		FILL. Clayey silty sand, dark brown, occasional fine cinders/slag fragments. Sandy Clayey SILT. Brown, yellow brown, fine to medium sand, some fine roots. Silty Sandy CLAY. Mottled orange brown and yellow.
			2		Gravelly Silty CLAY. Mottled brown, yellow, red, siltstone fragments fine to coarse, very silty (waxy). Clayey Silty GRAVEL. Brown, light brown, siltstone fragments.
			3		Silty CLAY. Brown.
			4		
			5		
			6		
			7		
			8		

C:\Program Files\GBA Technologies\Well Logger\27K140B.wl2

Completion Notes:

Well completed with standpipe and lock

Site:

CANBERRA RAILYARDS

Site Address:

Canberra Railyards

Project No.: **27K140C**

Page 1



Drilling Co.: UNDERDALES	Permit No.:	GW303
Drill Method: AIR	TOC Elevation:	
Boring Dia: 0.15 Meters	Water Struck At: 6 Meters	Logged By:
Date Drilled: 22/7/99	SWL: Meters	M.REYNOLDS

30-Aug-99 3:10:01 PM

C:\Program Files\GSA Technologies\Well Logger\27K140B.wf2

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			0 - 0.5		FILL. Silty clay loam brown. FILL. Silty clay, brown, small gravel chips.
			0.5 - 1.0		FILL. Silty clay, yellow, brown.
			1.0 - 1.5		CLAY. silty yellow.
			1.5 - 2.0		
			2.0 - 2.5		
			2.5 - 3.0		
			3.0 - 3.5		
			3.5 - 4.0		
			4.0 - 4.5		
			4.5 - 5.0		
			5.0 - 5.5		
			5.5 - 6.0		
			6.0 - 6.5		Sandy SILT light brown, 70% sand slurry.
			6.5 - 7.0		
			7.0 - 7.5		
			7.5 - 8.0		
			8.0 - 8.5		

Completion Notes:

Well completed with standpipe and lock

Site:

CANBERRA RAILYARDS

Site Address:

Canberra Railyards

Project No.: **27K140C**

Page 1



Drilling Co.: UNDERDALES	Permit No.:	GW304
Drill Method: AIR	TOC Elevation:	
Boring Dia: 0.15 Meters	Water Struck At: 6 Meters	Logged By:
Date Drilled: 22/7/99	SWL: Meters	M.REYNOLDS

30-Aug-99 3:10:10 PM

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			0		FILL. Bitumen. FILL. Silty clay, brown, small gravel chips.
			1		FILL. Silty clay, yellow, brown.
			2		CLAY. silty yellow.
			3		
			4		
			5		
			6		Sandy SILT light brown, 70% sand slurry.
			7		
			8		

C:\Program Files\GBA Technologies\Well Logger\27K140B.wl2

Completion Notes:

Well completed with ground level gatic

Site:

CANBERRA RAILYARDS

Site Address:

Canberra Railyards

Project No.: **27K140C**

Page 1



Drilling Co.: UNDERDALES	Permit No.:	GW305
Drill Method: AIR	TOC Elevation:	
Boring Dia: 0.15 Meters	Water Struck At: 5 Meters	Logged By:
Date Drilled: 22/7/99	SWL: 5 Meters	M.REYNOLDS

30-Aug-99 3:10:19 PM

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			1		FILL. Clayey silty sand, dark brown, occasional fine cinders/slag fragments. Sandy Clayey SILT. Brown, yellow brown, fine to medium sand, some fine roots. Silty Sandy CLAY. Mottled orange brown and yellow.
			2		Gravelly Silty CLAY. Mottled brown, yellow).
			3		FILL. Some ash, clay, metal, and timber fragments, black, brown, no strong odour, some gravel to 30 mm.
			4		
			5		Clayey Silty GRAVEL. Brown, light brown, siltstone fragments, considerable clay.
			6		
			7		
			8		

C:\Program Files\GBA Technologies\Well Logger\27K140B.wl2

Completion Notes:
Well completed with standpipe and lock

Site:
CANBERRA RAILYARDS

Site Address:
Canberra Railyards

Project No.: 27K140C **Page** 1

Drilling Co.: UNDERDALES

Permit No.:

GW306

Drill Method: AIR

TOC Elevation:

Boring Dia: 0.15 Meters

Water Struck At: 6 Meters

Logged By:

Date Drilled: 22/7/99

SWL: Meters

M.REYNOLDS

30-Aug-99 3:10:28 PM

C:\Program Files\GBA Technologies\Well Logger\27K140B.wl2

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			0		FILL. Bitumen. FILL. Silty clay, brown, small gravel chips.
			1		FILL. Silty clay, yellow, brown.
			2		CLAY. silty yellow.
			3		
			4		
			5		
			6		Sandy SILT light brown, 70% sand slurry.
			7		
			8		

Completion Notes:

Well completed with ground level gatic

Site:

CANBERRA RAILYARDS

Site Address:

Canberra Railyards

Project No.: **27K140C**

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Drilling Co.: UNDERDALES	Permit No.:	GW307
Drill Method: AIR	TOC Elevation:	
Boring Dia: 0.15 Meters	Water Struck At: 5 Meters	Logged By: M.REYNOLDS
Date Drilled: 22/7/99	SWL: Meters	

30-Aug-99 3:10:37 PM

C:\Program Files\GBA Technologies\Well Logger\27K140B.wl2

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			1		FILL. Clayey silty sand, dark brown, occasional fine cinders/slag fragments. Sandy Clayey SILT. Brown, yellow brown, fine to medium sand, some fine roots. Silty Sandy CLAY. Mottled orange brown and yellow.
			2		Gravelly Silty CLAY. Mottled brown, yellow).
			3		FILL. Some ash, clay, metal, and timber fragments, black, brown, no strong odour, some gravel to 30 mm.
			4		
			5		Clayey Silty GRAVEL. Brown, light brown, siltstone fragments, considerable clay.
			6		
			7		
			8		

Completion Notes: Well completed with standpipe and lock	Site: CANBERRA RAILYARDS
	Site Address: Canberra Railyards
Project No.: 27K140C	Page 1



Drilling Co.: UNDERDALES	Permit No.:	GW308
Drill Method: AIR	TOC Elevation:	
Boring Dia: 0.15 Meters	Water Struck At: 6 Meters	Logged By:
Date Drilled: 22/7/99	SWL: Meters	M.REYNOLDS

30-Aug-99 3:10:46 PM

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			0		FILL. Bitumen. FILL. Silty clay, brown, small gravel chips.
			1		FILL. Silty clay, yellow, brown. CLAY. silty yellow.
			2		
			3		
			4		
			5		
			6		Sandy SILT light brown, 70% sand slurry.
			7		
			8		

C:\Program Files\GBA Technologies\Well Logger\27K140B.wl2

Completion Notes:

Well completed with ground level gatic

Site:

CANBERRA RAILYARDS

Site Address:

Canberra Railyards

Project No.: **27K140C**

Page 1



Drilling Co.: UNDERDALES	Permit No.:	GW309
Drill Method: AIR	TOC Elevation:	
Boring Dia: 0.15 Meters	Water Struck At: 5 Meters	Logged By:
Date Drilled: 22/7/99	SWL: Meters	M.REYNOLDS

30-Aug-99 3:10:55 PM

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			1		FILL. Clayey silty sand, dark brown, occasional fine cinders/slag fragments. Sandy Clayey SILT. Brown, yellow brown, fine to medium sand, some fine roots. Silty Sandy CLAY. Mottled orange brown and yellow.
			2		Gravelly Silty CLAY. Mottled brown, yellow).
			3		FILL. Some ash, clay, metal, black, brown, tar type strong odour.
			4		
			5		Clayey Silty GRAVEL. Brown, light brown, siltstone fragments, considerable clay.
			6		
			7		
			8		

C:\Program Files\GSA Technologies\Well Logger\27K140B.wf2

Completion Notes:

Well completed with standpipe and lock

Site:

CANBERRA RAILYARDS

Site Address:

Canberra Railyards

Project No.: **27K140C**

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Drilling Co.: UNDERDALES	Permit No.:	GW310
Drill Method: AIR	TOC Elevation:	
Boring Dia: 0.15 Meters	Water Struck At: 5 Meters	Logged By:
Date Drilled: 22/7/99	SWL: Meters	M.REYNOLDS

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			1		FILL. Clayey silty sand, dark brown, occasional fine cinders/slag fragments. Sandy Clayey SILT. Brown, yellow brown, fine to medium sand, some fine roots. Silty Sandy CLAY. Mottled orange brown and yellow.
			2		Gravelly Silty CLAY. Mottled brown, yellow).
			3		FILL. Some ash, clay, metal, and timber fragments, black, brown, no strong odour, some gravel to 30 mm.
			4		
			5		Clayey Silty GRAVEL. Brown, light brown, siltstone fragments, considerable clay.
			6		
			7		
			8		

30-Aug-99 3:11:05 PM

C:\Program Files\GSA Technologies\Well Logger\27K140B.wf2

Completion Notes:

Well completed with standpipe and lock

Site:

CANBERRA RAILYARDS

Site Address:

Canberra Railyards

Project No.: **27K140C**

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Drilling Co.: UNDERDALES	Permit No.:	GW311
Drill Method: AIR	TOC Elevation:	
Boring Dia: 0.15 Meters	Water Struck At: 6 Meters	Logged By: M.REYNOLDS
Date Drilled: 22/7/99	SWL: Meters	

30-Aug-99 3:11:14 PM

C:\Program Files\GBA Technologies\Well Logger\27K140B.w2

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			0		FILL. Bitumen. FILL. Silty clay, brown, small gravel chips.
			1		FILL. Silty clay, yellow, brown. CLAY. silty yellow.
			2		
			3		
			4		
			5		
			6		Sandy SILT light brown, 70% sand slurry.
			7		
			8		

Completion Notes:
Well completed with ground level gatic

Site:
CANBERRA RAILYARDS
Site Address:
Canberra Railyards

Drilling Co.: UNDERDALES	Permit No.: GW312
Drill Method: AIR	TOC Elevation:
Boring Dia: 0.15 Meters	Water Struck At: 5 Meters
Date Drilled: 22/7/99	SWL: Meters
Logged By: M.REYNOLDS	

30-Aug-99 3:11:23 PM

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			1		FILL. Clayey silty sand, dark brown, occasional fine cinders/slag fragments. Sandy Clayey SILT. Brown, yellow brown, fine to medium sand, some fine roots. Silty Sandy CLAY. Mottled orange brown and yellow.
			2		Gravelly Silty CLAY. Mottled brown, yellow).
			3		Clayey Silty GRAVEL. Brown, light brown, siltstone fragments, considerable clay.
			4		Gravelly Silty CLAY. Mottled grey glass paper plastic etc.
			5		Clayey Silty GRAVEL. Brown, light brown, siltstone fragments, considerable clay.
			6		
			7		
			8		

C:\Program Files\GBA Technologies\Well Logger\27K140B.w\2

Completion Notes:

Well completed with standpipe and lock

Site:

CANBERRA RAILYARDS

Site Address:

Canberra Railyards

Project No.: **27K140C**

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Drilling Co.: UNDERDALES	Permit No.:	GW313
Drill Method: AIR	TOC Elevation:	
Boring Dia: 0.15 Meters	Water Struck At: 5 Meters	Logged By:
Date Drilled: 22/7/99	SWL: Meters	M.REYNOLDS

30-Aug-99 3:11:32 PM

Sample	PID (ppm)	Completion	Depth Meters	Lithology	Description
			1		FILL. Clayey silty sand, dark brown, occasional fine cinders/slag fragments. FILL Sandy Clayey SILT. Brown, yellow brown, fine to medium sand, some fine roots. Silty Sandy CLAY. Mottled orange brown and yellow.
			2		Gravelly Silty CLAY. Mottled brown, yellow).
			3		Clayey Silty GRAVEL. Brown, light brown, siltstone fragments, considerable clay.
			4		Gravelly Silty CLAY. Mottled grey glass paper plastic etc.
			5		Clayey Silty GRAVEL. Brown, light brown, siltstone fragments, considerable clay.
			6		
			7		
			8		

C:\Program Files\GBA Technologies\Well Loggen\27K140B.wl2

Completion Notes:

Well completed with standpipe and lock

Site:

CANBERRA RAILYARDS

Site Address:

Canberra Railyards

Project No.: **27K140C**

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Appendix I

Field Sampling Records

Job Number: 27K140C

Well No. GW 6

Client: INDEC Consulting		Purging Date: 1-3-99			
Site Location: Canberra Railyard		Sampling Date: 1-3-99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 5.19				
Product thickness (mm):	Depth to be purged (m): 2.81				
Equipment Details					
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1			
Conductivity meter ID: MBR TPS1		Other:			
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume: 30 litres (5 well vols)			
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume: 6 litres			
Start time (2400 hr):		Did well purge 'dry'? Y/N If so, when ? 17			
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.48	1.65	N/A	N/A	18.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type: bailer			TPH		BTEX
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 17 °C		Cloud cover: approx. 75%		
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 8

Client: INDEC Consulting		Purging Date: 1-3-99			
Site Location: Canberra Railyard		Sampling Date: 1-3-99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 5.19				
Product thickness (mm):	Depth to be purged (m): 2.81				
Equipment Details					
Water level or interface probe ID: HERON 2	pH meter ID: MBR TPS1				
Conductivity meter ID: MBR TPS1	Other:				
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: waterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>	Planned purge volume:	30	litres (5 well vols)		
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>	Actual purge volume:	6	litres		
Start time (2400 hr):	Did well purge 'dry'?	Y/N	If so, when ? 20		
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.53	1.34	N/A	N/A	18.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type bailer			TPH		BTEX
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 17 °C		Cloud cover: approx. 75%		
Other comments and observations: DUP1 taken here !					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		



Groundwater Field Parameters

Job Number: 27K140C

Well No. GW 103

Client: INDEC Consulting		Purging Date: 1-3-99			
Site Location: Canberra Railyard		Sampling Date: 1-3-99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 4.52				
Product thickness (mm):	Depth to be purged (m): 3.48				
Equipment Details					
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1			
Conductivity meter ID: MBR TPS1		Other:			
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume: 35	litres (5 well vols)		
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume: 7	litres		
Start time (2400 hr):		Did well purge 'dry'? Y/N	If so, when ? 14		
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.24	1.60	N/A	N/A	18.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes <i>(if No, append additional purge data)</i>					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type bailer			TPH		BTEX
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: N O	Temperature: 17 °C		Cloud cover: approx. 75%		
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 104

Client: INDEC Consulting		Purging Date: 1-3-99	
Site Location: Canberra Railyard		Sampling Date: 1-3-99	
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00		
Depth to floating product (m):	Depth to groundwater from TOC (m): 6.87		
Product thickness (mm):	Depth to be purged (m): 1.13		
Equipment Details			
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1	
Conductivity meter ID: MBR TPS1		Other:	
Purging Information			
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>			
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume: 10 litres (5 well vols)	
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume: 2 litres	
Start time (2400 hr):		Did well purge 'dry'? Y/N If so, when ? 10	
Field Results While Purging			
	pH	Conductivity (mS/cm)	Redox (mV)
After 1 purge volume:	7.56	1.57	N/A
After 4 purge volumes:	7.58	1.60	
After 5 purge volumes:	7.54	1.61	
Extra if required			
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>			
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)			
Sampling Details		Analysis Required (tick if yes)	
Method/pump type bailer		TPH	BTEX
Tubing material: HDPE		PAH	
Sampling equipment: Dedicated			
Is there a hydrocarbon sheen?: No			
Colour: Cloudy brown	Odour: YES		
Turbidity: medium			
Weather Conditions			
Rain: NO	Temperature: 17 °C	Cloud cover: approx. 75%	
Other comments and observations:			
Purgers name: Mike Reynolds		Signature:	
Samplers name: Mike Reynolds		Signature:	



Groundwater Field Parameters

Job Number: 27K140C

Well No. GW 105

Client: INDEC Consulting		Purging Date: 1-3-99			
Site Location: Canberra Railyard		Sampling Date: 1-3-99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 6.80				
Product thickness (mm):	Depth to be purged (m): 1.20				
Equipment Details					
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1			
Conductivity meter ID: MBR TPS1		Other:			
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume: 10	litres (5 well vols)		
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume: 2	litres		
Start time (2400 hr):		Did well purge 'dry'? Y/N	If so, when ? 6		
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.21	1.27	N/A	N/A	18.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type: bailer			TPH		BTEX
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 17 °C		Cloud cover: approx. 75%		
Other comments and observations : Dup1 taken here					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Client Canberra Railyards		Date 15/5/99			
Project: Groundwater Sampling		Well ID No. GW1			
Location: Canberra					
Casing Diameter (mm)	50 /100	Well depth from Top of Standpipe (m)	12.12		
Depth to floating product (m)		Depth to groundwater from TOC (m)	6.60		
Product thickness (mm)		Depth to be purged (m)	5.52		
Purging Information					
Method/pump type		Tubing material			
waterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>		HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input type="checkbox"/>			
Start time (2400hr)		Elapsed time (hours)		25	
One purge volume = (2.85 x depth to be purged) m ³ x 1000			1.5 litres		
No. of times purged		Total purge volume		27 litres	
1.7					
Field Results While Purging					
	pH	Conductivity mS/cm	Redox m/V	DO (ppM)	Temp. ° C
After one purge volume	7.70	0.81			15.2
After two purge volume					
After three purge volume					
When measurements for pH are within 0.1 pH units ; conductivity, salinity, and dissolved oxygen are within 10% and temperature is within 0.5 ° C the well sampled is stable and purging may cease.					
Field Results While Sampling					
	pH	Conductivity mS/cm	Redox m/V	DO (ppM)	Temp. ° C
First Sample	7.82	1.46			15.9
Second Sample					
Third Sample					
Sampling Method					
Method/pump type		Tubing material			
waterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input type="checkbox"/>		HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>			
Sample Description					
Odour	Nil	Colour	Brown	Turbidity	L M H
Weather Conditions					
Rain		Temperature	15 °C	Cloud cover	10 %
Other comments and observations: ** dry after 27L					
Purgers name		MBR	Date & signature		MBR
Samplers name		MBR	Date & signature		MBR

Client Canberra Railyards		Date 15/5/99	
Project: Groundwater Sampling		Well ID No. GW2	
Location: Canberra			
Casing Diameter (mm)	50 /100	Well depth from Top of Standpipe (m)	9.78
Depth to floating product (m)		Depth to groundwater from TOC (m)	6.46
Product thickness (mm)		Depth to be purged (m)	3.32
Purging Information			
Method/pump type watterra <input type="checkbox"/> whaler <input checked="" type="checkbox"/> bailer <input type="checkbox"/>		Tubing material HDPE <input type="checkbox"/> PVC <input checked="" type="checkbox"/> S/Steel <input type="checkbox"/>	
Start time (2400hr)		Elapsed time (hours)	
One purge volume = (2.85 x depth to be purged) m ³ x 1000			9.5 litres
No. of times purged		Total purge volume	
2		19 litres	
Field Results While Purging			
	pH	Conductivity mS/cm	Redox m/V
After one purge volume	7.27	1.13	
After two purge volume	7.31	1.12	
After three purge volume			
When measurements for pH are within 0.1 pH units ; conductivity, salinity, and dissolved oxygen are within 10% and temperature is within 0.5 ° C the well sampled is stable and purging may cease.			
Field Results While Sampling			
	pH	Conductivity mS/cm	Redox m/V
First Sample	7.52	1.64	
Second Sample			
Third Sample			
Sampling Method			
Method/pump type watterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input type="checkbox"/>		Tubing material HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input type="checkbox"/>	
Sample Description			
Odour	Nil/faint hydrocarbon	Colour	Brown
		Turbidity	L M H
Weather Conditions			
Rain	Nil	Temperature	15 °C
		Cloud cover	10 %
Other comments and observations:			
Purgers name		MBR	Date & signature
Samplers name		MBR	Date & signature

Client Canberra Railyards		Date 15/5/99	
Project: Groundwater Sampling		Well ID No. GW4	
Location: Canberra			
Casing Diameter (mm)	50 /100	Well depth from Top of Standpipe (m)	8.61
Depth to floating product (m)		Depth to groundwater from TOC (m)	7.18
Product thickness (mm)		Depth to be purged (m)	1.43
Purging Information			
Method/pump type		Tubing material	
waterra <input type="checkbox"/> whaler <input checked="" type="checkbox"/> bailer <input type="checkbox"/>		HDPE <input type="checkbox"/> PVC <input checked="" type="checkbox"/> S/Steel <input type="checkbox"/>	
Start time (2400hr)		Elapsed time (hours)	
One purge volume = (2.85 x depth to be purged) m ³ x 1000			4.0 litres
No. of times purged		Total purge volume	
1.8		7 litres	
Field Results While Purging			
	pH	Conductivity mS/cm	Redox m/V
After one purge volume	7.40	2.04	
After two purge volume			
After three purge volume			
When measurements for pH are within 0.1 pH units ; conductivity, salinity, and dissolved oxygen are within 10% and temperature is within 0.5 ° C the well sampled is stable and purging may cease.			
Field Results While Sampling			
	pH	Conductivity mS/cm	Redox m/V
First Sample	7.53	2.96	
Second Sample			
Third Sample			
Sampling Method			
Method/pump type		Tubing material	
waterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>		HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>	
Sample Description			
Odour	hydrocarbon	Colour	pink/light brown
		Turbidity	
		L	M
		H	
Weather Conditions			
Rain	Nil	Temperature	15 °C
		Cloud cover	80 %
Other comments and observations:			
Purgers name	MBR	Date & signature	MBR
Samplers name	MBR	Date & signature	MBR

Client Canberra Railyards		Date 16/5/99			
Project: Groundwater Sampling		Well ID No. GW10			
Location: Canberra					
Casing Diameter (mm)	50 /100	Well depth from Top of Standpipe (m)	4.53		
Depth to floating product (m)		Depth to groundwater from TOC (m)	1.71		
Product thickness (mm)		Depth to be purged (m)	2.82		
Purging Information					
Method/pump type	waterra <input type="checkbox"/> whaler <input checked="" type="checkbox"/> bailer <input type="checkbox"/>	Tubing material	HDPE <input type="checkbox"/> PVC <input checked="" type="checkbox"/> S/Steel <input type="checkbox"/>		
Start time (2400hr)		Elapsed time (hours)	20 mins		
One purge volume = (2.843 x depth to be purged) m ³ x 1000			8 litres		
No. of times purged	1.6	Total purge volume	13 litres		
Field Results While Purging					
	pH	Conductivity mS/cm	Redox m/V	DO (ppM)	Temp. ° C
After one purge volume	7.10	0.80			16.1
After two purge volume	7.12	0.77			16.5
After three purge volume					
When measurements for pH are within 0.1 pH units ; conductivity, salinity, and dissolved oxygen are within 10% and temperature is within 0.5 ° C the well sampled is stable and purging may cease.					
Field Results While Sampling					
	pH	Conductivity mS/cm	Redox m/V	DO (ppM)	Temp. ° C
First Sample	7.67	1.37			16.2
Second Sample					
Third Sample					
Sampling Method					
Method/pump type	waterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>	Tubing material	HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>		
Sample Description					
Odour	Nil	Colour	Colourless/l. brown	Turbidity	L M H
Weather Conditions					
Rain	Nil	Temperature	17 °C	Cloud cover	90 %
Other comments and observations:					
Purgers name	MBR	Date & signature		MBR	
Samplers name	MBR	Date & signature		MBR	

Client Canberra Railyards		Date 16/5/99			
Project: Groundwater Sampling		Well ID No. GW12			
Location: Canberra					
Casing Diameter (mm)	50 /100	Well depth from Top of Standpipe (m)	7.81		
Depth to floating product (m)		Depth to groundwater from Top of Standpipe (m)	4.88		
Product thickness (mm)		Depth to be purged (m)	2.93		
Purging Information					
Method/pump type	waterra <input type="checkbox"/> whaler <input checked="" type="checkbox"/> bailer <input type="checkbox"/>	Tubing material	HDPE <input type="checkbox"/> PVC <input checked="" type="checkbox"/> S/Steel <input type="checkbox"/>		
Start time (2400hr)		Elapsed time (hours)	20 mins		
One purge volume = (2.85 x depth to be purged) m ³ x 1000			8.5 litres		
No. of times purged	1.3	Total purge volume	11.5 litres		
Field Results While Purging					
	pH	Conductivity mS/cm	Redox m/V	DO (ppM)	Temp. ° C
After one purge volume	7.31	0.36			15.7
After 11.5 L	7.25	0.33			15.9
After three purge volume					
When measurements for pH are within 0.1 pH units ; conductivity, salinity, and dissolved oxygen are within 10% and temperature is within 0.5 ° C the well sampled is stable and purging may cease.					
Field Results While Sampling					
	pH	Conductivity mS/cm	Redox m/V	DO (ppM)	Temp. ° C
First Sample	7.60	0.91			15.0
Second Sample					
Third Sample					
Sampling Method					
Method/pump type	waterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>	Tubing material	HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>		
Sample Description					
Odour	Nil	Colour	Light brown	Turbidity	L M H
Weather Conditions					
Rain	Nil	Temperature	15 °C	Cloud cover	90 %
Other comments and observations:					
Purgers name	MBR	Date & signature		MBR	
Samplers name	MBR	Date & signature		MBR	

Client Canberra Railyards		Date 16/5/99	
Project: Groundwater Sampling		Well ID No. GW14	
Location: Canberra			
Casing Diameter (mm)	50 /100	Well depth from Top of Standpipe (m)	7.890
Depth to floating product (m)		Depth to groundwater from TOC (m)	5.23
Product thickness (mm)		Depth to be purged (m)	2.66
Purging Information			
Method/pump type	waterra <input type="checkbox"/> whaler <input checked="" type="checkbox"/> bailer <input type="checkbox"/>	Tubing material	HDPE <input type="checkbox"/> PVC <input checked="" type="checkbox"/> S/Steel <input type="checkbox"/>
Start time (2400hr)		Elapsed time (hours)	15 mins
One purge volume = (2.85 x depth to be purged) m ³ x 1000			7.5 litres
No. of times purged	0.8	Total purge volume	6 litres
Field Results While Purging			
	pH	Conductivity mS/cm	Redox m/V
After one purge volume	7.84	1.15	
After two purge volume			
After three purge volume			
When measurements for pH are within 0.1 pH units ; conductivity, salinity, and dissolved oxygen are within 10% and temperature is within 0.5 ° C the well sampled is stable and purging may cease.			
Field Results While Sampling			
	pH	Conductivity mS/cm	Redox m/V
First Sample	7.80	1.66	
Second Sample			
Third Sample			
Sampling Method			
Method/pump type	waterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>	Tubing material	HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>
Sample Description			
Odour	Nil	Colour	Brown
		Turbidity	L M H
Weather Conditions			
Rain	Nil	Temperature	15 °C
		Cloud cover	60 %
Other comments and observations:			
Purgers name	MBR	Date & signature	MBR
Samplers name	MBR	Date & signature	MBR

Client Canberra Railyards		Date 17/5/99	
Project: Groundwater Sampling		Well ID No. GW17	
Location: Canberra			
Casing Diameter (mm)	50 /100	Well depth from Top of Standpipe (m)	5.93
Depth to floating product (m)		Depth to groundwater from TOC (m)	2.02
Product thickness (mm)		Depth to be purged (m)	3.91
Purging Information			
Method/pump type watterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>		Tubing material HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>	
Start time (2400hr)		Elapsed time (hours)	
One purge volume = (2.85 x depth to be purged) m ³ x 1000		11.0 litres	
No. of times purged 1.3		Total purge volume 14 litres	
Field Results While Purging			
	pH	Conductivity mS/cm	Temp. ° C
After one purge volume	7.87	1.90	17.5
After two purge volume			
After three purge volume			
When measurements for pH are within 0.1 pH units ; conductivity, salinity, and dissolved oxygen are within 10% and temperature is within 0.5 ° C the well sampled is stable and purging may cease.			
Field Results While Sampling			
	pH	Conductivity mS/cm	Temp. ° C
First Sample	7.67	1.67	16.1
Second Sample			
Third Sample			
Sampling Method			
Method/pump type watterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input type="checkbox"/>		Tubing material HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input type="checkbox"/>	
Sample Description			
Odour	Nil	Colour	Light brown Turbidity L M H
Weather Conditions			
Rain	Nil	Temperature	12 °C Cloud cover 10 %
Other comments and observations:			
Purgers name	MBR	Date & signature	MBR
Samplers name	MBR	Date & signature	MBR

Client Canberra Railyards		Date 17/5/99	
Project: Groundwater Sampling		Well ID No. GW21	
Location: Canberra			
Casing Diameter (mm)	50 /100	Well depth from Top of Standpipe (m)	5.83
Depth to floating product (m)		Depth to groundwater from TOC (m)	1.79
Product thickness (mm)		Depth to be purged (m)	4.04
Purging Information			
Method/pump type watterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>		Tubing material HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>	
Start time (2400hr)		Elapsed time (hours)	
		15 mins	
One purge volume = (2.85 x depth to be purged) m ³ x 1000		11.5 litres	
No. of times purged		Total purge volume	
1.4		16 litres	
Field Results While Purging			
	pH	Conductivity mS/cm	Temp. ° C
After one purge volume	7.85	1.67	16.6
After two purge volume			
After three purge volume			
When measurements for pH are within 0.1 pH units ; conductivity, salinity, and dissolved oxygen are within 10% and temperature is within 0.5 ° C the well sampled is stable and purging may cease.			
Field Results While Sampling			
	pH	Conductivity mS/cm	Temp. ° C
First Sample	7.54	1.33	14.2
Second Sample			
Third Sample			
Sampling Method			
Method/pump type watterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>		Tubing material HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>	
Sample Description			
Odour	Nil/Faint hydrocarbon	Colour	Light brown
		Turbidity	L M H
Weather Conditions			
Rain	Nil	Temperature	15 °C
		Cloud cover	10 %
Other comments and observations:			
Purgers name		MBR	Date & signature
Samplers name		MBR	Date & signature

Client Canberra Railyards		Date 17/5/99	
Project: Groundwater Sampling		Well ID No. GW22	
Location: Canberra			
Casing Diameter (mm)	50 /100	Well depth from Top of Standpipe (m)	6.02
Depth to floating product (m)		Depth to groundwater from TOC (m)	2.23
Product thickness (mm)		Depth to be purged (m)	3.79
Purging Information			
Method/pump type watterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>		Tubing material HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>	
Start time (2400hr)		Elapsed time (hours)	
One purge volume = (2.85 x depth to be purged) m ³ x 1000		11.0 litres	
No. of times purged 1.4		Total purge volume 15.5 litres	
Field Results While Purging			
	pH	Conductivity mS/cm	Redox m/V
After one purge volume	7.60	1.65	
After two purge volume			
After three purge volume			
When measurements for pH are within 0.1 pH units ; conductivity, salinity, and dissolved oxygen are within 10% and temperature is within 0.5 ° C the well sampled is stable and purging may cease.			
Field Results While Sampling			
	pH	Conductivity mS/cm	Redox m/V
First Sample	7.55	1.74	
Second Sample			
Third Sample			
Sampling Method			
Method/pump type watterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>		Tubing material HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>	
Sample Description			
Odour	Faint hydrocarbon	Colour	Brown/red br.
		Turbidity	L M H
Weather Conditions			
Rain	Nil	Temperature	15 °C
		Cloud cover	10 %
Other comments and observations:			
Purgers name	MBR	Date & signature	MBR
Samplers name	MBR	Date & signature	MBR

Client Canberra Railyards		Date 17/5/99			
Project: Groundwater Sampling		Well ID No. GW28			
Location: Canberra					
Casing Diameter (mm)	50 /100	Well depth from Top of Standpipe (m)	6.12		
Depth to floating product (m)		Depth to groundwater from TOC (m)	3.25		
Product thickness (mm)		Depth to be purged (m)	2.87		
Purging Information					
Method/pump type	waterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>	Tubing material	HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>		
Start time (2400hr)		Elapsed time (hours)			
One purge volume = (2.85 x depth to be purged) m ³ x 1000			8.5 litres		
No. of times purged	1.3	Total purge volume	11 litres		
Field Results While Purging					
	pH	Conductivity mS/cm	Redox m/V	DO (ppM)	Temp. ° C
After one purge volume	7.92	1.67			15.8
After two purge volume					
After three purge volume					
When measurements for pH are within 0.1 pH units ; conductivity, salinity, and dissolved oxygen are within 10% and temperature is within 0.5 ° C the well sampled is stable and purging may cease.					
Field Results While Sampling					
	pH	Conductivity mS/cm	Redox m/V	DO (ppM)	Temp. ° C
First Sample	7.92	2.19			16.3
Second Sample					
Third Sample					
Sampling Method					
Method/pump type	waterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>	Tubing material	HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>		
Sample Description					
Odour	Nil/faint hydrocarbon	Colour	Reddish Br.	Turbidity	L M H
Weather Conditions					
Rain	Nil	Temperature	15°C	Cloud cover	5 %
Other comments and observations:					
Purgers name	MBR	Date & signature		MBR	
Samplers name	MBR	Date & signature		MBR	

Client Canberra Railyards		Date 17/5/99	
Project: Groundwater Sampling		Well ID No. GW30	
Location: Canberra			
Casing Diameter (mm)	50 /100	Well depth from Top of Standpipe (m)	6.20
Depth to floating product (m)		Depth to groundwater from TOC (m)	2.15
Product thickness (mm)		Depth to be purged (m)	4.05
Purging Information			
Method/pump type	waterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>	Tubing material	HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>
Start time (2400hr)		Elapsed time (hours)	
One purge volume = (2.85 x depth to be purged) m ³ x 1000			11.5 litres
No. of times purged	2.4	Total purge volume	27.5 litres
Field Results While Purging			
	pH	Conductivity mS/cm	Redox m/V
After one purge volume	7.94	0.99	
After two purge volume	7.74	0.99	
After three purge volume			
When measurements for pH are within 0.1 pH units ; conductivity, salinity, and dissolved oxygen are within 10% and temperature is within 0.5 ° C the well sampled is stable and purging may cease.			
Field Results While Sampling			
	pH	Conductivity mS/cm	Redox m/V
First Sample	7.70	2.22	
Second Sample			
Third Sample			
Sampling Method			
Method/pump type	waterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>	Tubing material	HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>
Sample Description			
Odour	Nil	Colour	Light brown
		Turbidity	L M H
Weather Conditions			
Rain	Nil	Temperature	15 °C
		Cloud cover	95 %
Other comments and observations:			
Purgers name	MBR	Date & signature	MBR
Samplers name	MBR	Date & signature	MBR

Client Canberra Railyards		Date 17/5/99			
Project: Groundwater Sampling		Well ID No. GW32			
Location: Canberra					
Casing Diameter (mm)	50 /100	Well depth from Top of Standpipe (m)	6.00		
Depth to floating product (m)		Depth to groundwater from TOC (m)	3.40		
Product thickness (mm)		Depth to be purged (m)	2.60		
Purging Information					
Method/pump type watterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>		Tubing material HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>			
Start time (2400hr)		Elapsed time (hours)			
One purge volume = (2.85 x depth to be purged) m ³ x 1000			7.5 litres		
No. of times purged		Total purge volume	22.5 litres		
Field Results While Purging					
	pH	Conductivity mS/cm	Redox m/V	DO (ppM)	Temp. ° C
After one purge volume	7.99	0.96			16.5
After two purge volume	8.05	0.93			16.7
After three purge volume	8.06	0.90			16.2
When measurements for pH are within 0.1 pH units ; conductivity, salinity, and dissolved oxygen are within 10% and temperature is within 0.5 ° C the well sampled is stable and purging may cease.					
Field Results While Sampling					
	pH	Conductivity mS/cm	Redox m/V	DO (ppM)	Temp. ° C
First Sample	8.09	1.04			15.7
Second Sample					
Third Sample					
Sampling Method					
Method/pump type watterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>		Tubing material HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>			
Sample Description					
Odour	Nil	Colour	Brown	Turbidity	L M H
Weather Conditions					
Rain	Nil	Temperature	15 °C	Cloud cover	15 %
Other comments and observations: DUP2A taken here !!!					
Purgers name		MBR	Date & signature		MBR
Samplers name		MBR	Date & signature		MBR

Client Canberra Railyards		Date 15/5/99			
Project: Groundwater Sampling		Well ID No. GW34			
Location: Canberra					
Casing Diameter (mm)	50 /100	Well depth from Top of Standpipe (m)	6.020		
Depth to floating product (m)		Depth to groundwater from TOC (m)	Nil		
Product thickness (mm)		Depth to be purged (m)	0		
Purging Information					
Method/pump type waterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input type="checkbox"/>		Tubing material HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input type="checkbox"/>			
Start time (2400hr)		Elapsed time (hours)			
One purge volume = (x depth to be purged) m ³ x 1000			litres		
No. of times purged		Total purge volume	litres		
Field Results While Purging					
	pH	Conductivity mS/cm	Redox m/V	DO (ppM)	Temp. ° C
After one purge volume					
After two purge volume					
After three purge volume					
When measurements for pH are within 0.1 pH units ; conductivity, salinity, and dissolved oxygen are within 10% and temperature is within 0.5 ° C the well sampled is stable and purging may cease.					
Field Results While Sampling					
	pH	Conductivity mS/cm	Redox m/V	DO (ppM)	Temp. ° C
First Sample					
Second Sample					
Third Sample					
Sampling Method					
Method/pump type waterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input type="checkbox"/>		Tubing material HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input type="checkbox"/>			
Sample Description					
Odour		Colour		Turbidity	L M H
Weather Conditions					
Rain		Temperature	°C	Cloud cover	%
Other comments and observations: Well damage, filled with stones and mud					
Purgers name		Date & signature			
Samplers name		Date & signature			

Client Canberra Railyards		Date 15/5/99			
Project: Groundwater Sampling		Well ID No. GW35			
Location: Canberra					
Casing Diameter (mm)	50 /100	Well depth from Top of Standpipe (m)	5.16		
Depth to floating product (m)		Depth to groundwater from TOC (m)	2.02		
Product thickness (mm)		Depth to be purged (m)	3.14		
Purging Information					
Method/pump type watterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>		Tubing material HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>			
Start time (2400hr)		Elapsed time (hours)			
One purge volume = (2.85 x depth to be purged) m ³ x 1000		9.0 litres			
No. of times purged	1.3	Total purge volume	11.5 litres		
Field Results While Purging					
	pH	Conductivity mS/cm	Redox m/V	DO (ppM)	Temp. ° C
After one purge volume	7.35	1.04			17.5
After two purge volume					
After three purge volume					
When measurements for pH are within 0.1 pH units ; conductivity, salinity, and dissolved oxygen are within 10% and temperature is within 0.5 ° C the well sampled is stable and purging may cease.					
Field Results While Sampling					
	pH	Conductivity mS/cm	Redox m/V	DO (ppM)	Temp. ° C
First Sample	7.45	2.08			18.6
Second Sample					
Third Sample					
Sampling Method					
Method/pump type watterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>		Tubing material HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>			
Sample Description					
Odour	Faint hydrocarbon	Colour	Pale pink/brown	Turbidity	L M H
Weather Conditions					
Rain	Nil	Temperature	15 °C	Cloud cover	60 %
Other comments and observations:					
Purgers name	MBR	Date & signature		MBR	
Samplers name	MBR	Date & signature		MBR	

Client	Canberra Railyards			Date	15/5/99		
Project:	Groundwater Sampling			Well ID No.	GW37		
Location:	Canberra						
Casing Diameter (mm)	50 /100		Well depth from Top of Standpipe (m)	4.56			
Depth to floating product (m)			Depth to groundwater from TOC (m)	1.40			
Product thickness (mm)			Depth to be purged (m)	3.16			
Purging Information							
Method/pump type	waterra <input type="checkbox"/>	whaler <input type="checkbox"/>	bailer <input checked="" type="checkbox"/>	Tubing material	HDPE <input type="checkbox"/>	PVC <input type="checkbox"/>	S/Steel <input checked="" type="checkbox"/>
Start time (2400hr)				Elapsed time (hours)			
One purge volume = (2.85 x depth to be purged) m ³ x 1000				9.0 litres			
No. of times purged	3		Total purge volume	27.0 litres			
Field Results While Purging							
	pH	Conductivity mS/cm	Redox m/V	DO (ppM)	Temp. ° C		
After one purge volume	7.75	0.65			12.0		
After two purge volume	7.68	0.58			12.5		
After three purge volume	7.69	0.55			12.5		
When measurements for pH are within 0.1 pH units ; conductivity, salinity, and dissolved oxygen are within 10% and temperature is within 0.5 ° C the well sampled is stable and purging may cease.							
Field Results While Sampling							
	pH	Conductivity mS/cm	Redox m/V	DO (ppM)	Temp. ° C		
First Sample							
Second Sample							
Third Sample							
Sampling Method							
Method/pump type	waterra <input type="checkbox"/>	whaler <input type="checkbox"/>	bailer <input checked="" type="checkbox"/>	Tubing material	HDPE <input type="checkbox"/>	PVC <input type="checkbox"/>	S/Steel <input checked="" type="checkbox"/>
Sample Description							
Odour	Nil		Colour	Brown		Turbidity	L M H
Weather Conditions							
Rain	Nil		Temperature	15 °C		Cloud cover	10 %
Other comments and observations:							
Purgers name	MBR		Date & signature			MBR	
Samplers name	MBR		Date & signature			MBR	

Client Canberra Railyards		Date 15/5/99	
Project: Groundwater Sampling		Well ID No. GW38	
Location: Canberra			
Casing Diameter (mm)	50 /100	Well depth from Top of Standpipe (m)	6.96
Depth to floating product (m)		Depth to groundwater from TOC (m)	5.73
Product thickness (mm)		Depth to be purged (m)	1.23
Purging Information			
Method/pump type watterra <input type="checkbox"/> whaler <input checked="" type="checkbox"/> bailer <input type="checkbox"/>		Tubing material HDPE <input type="checkbox"/> PVC <input checked="" type="checkbox"/> S/Steel <input type="checkbox"/>	
Start time (2400hr)		Elapsed time (hours)	
One purge volume = (2.85 x depth to be purged) m ³ x 1000			3.5 litres
No. of times purged		0.3	Total purge volume
Field Results While Purging			
	pH	Conductivity mS/cm	Redox m/V
After one purge volume	7.67	3.12	
After two purge volume			
After three purge volume			
When measurements for pH are within 0.1 pH units ; conductivity, salinity, and dissolved oxygen are within 10% and temperature is within 0.5 ° C the well sampled is stable and purging may cease.			
Field Results While Sampling			
	pH	Conductivity mS/cm	Redox m/V
First Sample			
Second Sample			
Third Sample			
Sampling Method			
Method/pump type watterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input type="checkbox"/>		Tubing material HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input type="checkbox"/>	
Sample Description			
Odour		Colour	
		Turbidity	
Weather Conditions			
Rain		Temperature	15 °C
		Cloud cover	%
Other comments and observations:			
Purgers name		MBR	
Samplers name		Date & signature	

Client Canberra Railyards		Date 17/5/99	
Project: Groundwater Sampling		Well ID No. PMW1	
Location: Canberra			
Casing Diameter (mm)	50 /100	Well depth from Top of Standpipe (m)	2.32
Depth to floating product (m)		Depth to groundwater from TOC (m)	1.06
Product thickness (mm)		Depth to be purged (m)	1.26
Purging Information			
Method/pump type	waterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>	Tubing material	HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>
Start time (2400hr)		Elapsed time (hours)	
One purge volume = (5.105 x depth to be purged) m ³ x 1000			6.5 litres
No. of times purged	1.6	Total purge volume	10.5 litres
Field Results While Purging			
	pH	Conductivity mS/cm	Redox m/V
After one purge volume	7.52	1.16	
After two purge volume			
After three purge volume			
When measurements for pH are within 0.1 pH units ; conductivity, salinity, and dissolved oxygen are within 10% and temperature is within 0.5 ° C the well sampled is stable and purging may cease.			
Field Results While Sampling			
	pH	Conductivity mS/cm	Redox m/V
First Sample	7.32	1.40	
Second Sample			
Third Sample			
Sampling Method			
Method/pump type	waterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>	Tubing material	HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>
Sample Description			
Odour	hydrocarbon	Colour	Grey
		Turbidity	L M H
Weather Conditions			
Rain	Nil	Temperature	15 °C
		Cloud cover	10 %
Other comments and observations: PVC cap only Purged dry afer 10.5 L			
Purgers name	MBR	Date & signature	MBR
Samplers name	MBR	Date & signature	MBR

Client Canberra Railyards		Date 17/5/99	
Project: Groundwater Sampling		Well ID No. PWM3	
Location: Canberra			
Casing Diameter (mm)	50 /100	Well depth from Top of Standpipe (m)	2.14
Depth to floating product (m)		Depth to groundwater from TOC (m)	0.45
Product thickness (mm)		Depth to be purged (m)	1.69
Purging Information			
Method/pump type	waterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>	Tubing material	HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>
Start time (2400hr)		Elapsed time (hours)	
One purge volume = (5.105 x depth to be purged) m ³ x 1000			8.5 litres
No. of times purged	1.4	Total purge volume	12 litres
Field Results While Purging			
	pH	Conductivity mS/cm	Redox m/V
After one purge volume	8.08	0.91	
After two purge volume			
After three purge volume			
When measurements for pH are within 0.1 pH units ; conductivity, salinity, and dissolved oxygen are within 10% and temperature is within 0.5 ° C the well sampled is stable and purging may cease.			
Field Results While Sampling			
	pH	Conductivity mS/cm	Redox m/V
First Sample	8.01	1.22	
Second Sample			
Third Sample			
Sampling Method			
Method/pump type	waterra <input type="checkbox"/> whaler <input type="checkbox"/> bailer <input checked="" type="checkbox"/>	Tubing material	HDPE <input type="checkbox"/> PVC <input type="checkbox"/> S/Steel <input checked="" type="checkbox"/>
Sample Description			
Odour	hydrocarbon	Colour	Brown
		Turbidity	L M H
Weather Conditions			
Rain	Nil	Temperature	15 °C
		Cloud cover	10 %
Other comments and observations:			
Purgers name	MBR	Date & signature	MBR
Samplers name	MBR	Date & signature	MBR

Job Number: 27K140C

Well No. GW 6

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 5.17				
Product thickness (mm):	Depth to be purged (m): 2.83				
Equipment Details					
Water level or interface probe ID: HERON 2	pH meter ID: MBR TPS1				
Conductivity meter ID: MBR TPS1	Other:				
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: watterra o whaler o bailer o	Planned purge volume: 30 litres (5 well vols)				
Tubing material: HDPE o PVC o S/Steel o	Actual purge volume: 6 litres				
Start time (2400 hr):	Did well purge 'dry'? Y/N If so, when ? 15				
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.50	1.58	N/A	N/A	16.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type: bailer			TPH	BTEX	
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 15 °C	Cloud cover: approx. 75%			
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 8

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 5.16				
Product thickness (mm):	Depth to be purged (m): 2.84				
Equipment Details					
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1			
Conductivity meter ID: MBR TPS1		Other:			
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume: 30 litres (5 well vols)			
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume: 6 litres			
Start time (2400 hr):		Did well purge 'dry'? Y/N If so, when ? 20			
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.58	1.28	N/A	N/A	16.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type: bailer			TPH		BTEX
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 15 °C		Cloud cover: approx. 75%		
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 103

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 4.44				
Product thickness (mm):	Depth to be purged (m): 3.56				
Equipment Details					
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1			
Conductivity meter ID: MBR TPS1		Other:			
Purging Information					
Purge 5 casing volumes or until 'dry' 1 casing volume = 2 L/m for wells of 50 mm ID 1 casing volume = 8 L/m for wells of 100 mm ID					
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume: 35 litres (5 well vols)			
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume: 7 litres			
Start time (2400 hr):		Did well purge 'dry'? Y/N If so, when? 14			
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.29	1.64	N/A	N/A	16.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type: bailer			TPH	BTEX	
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 15 °C		Cloud cover: approx. 75%		
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 104

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 6.93				
Product thickness (mm):	Depth to be purged (m): 1.07				
Equipment Details					
Water level or interface probe ID: HERON 2	pH meter ID: MBR TPS1				
Conductivity meter ID: MBR TPS1	Other:				
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>	Planned purge volume: 10 litres (5 well vols)				
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>	Actual purge volume: 2 litres				
Start time (2400 hr):	Did well purge 'dry'? Y/N If so, when ? 10				
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.50	1.67	N/A	N/A	16.4
After 4 purge volumes:	7.55	1.68			16.4
After 5 purge volumes:	7.56	1.67			16.4
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type: bailer			TPH	BTEX	
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 15 °C	Cloud cover: approx. 75%			
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 105

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 6.81				
Product thickness (mm):	Depth to be purged (m): 1.19				
Equipment Details					
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1			
Conductivity meter ID: MBR TPS1		Other:			
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: <input type="radio"/> watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume: 10 litres (5 well vols)			
Tubing material: <input type="radio"/> HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume: 2 litres			
Start time (2400 hr):		Did well purge 'dry'? Y/N If so, when? 6			
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.25	1.25	N/A	N/A	16.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type: bailer			TPH		BTEX
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 15 °C		Cloud cover: approx. 75%		
Other comments and observations : Dup1 taken here					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 201

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 5.69				
Product thickness (mm):	Depth to be purged (m): 2.31				
Equipment Details					
Water level or interface probe ID: HERON 2	pH meter ID: MBR TPS1				
Conductivity meter ID: MBR TPS1	Other:				
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>	Planned purge volume: 30 litres (5 well vols)				
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>	Actual purge volume: 6 litres				
Start time (2400 hr):	Did well purge 'dry'? Y/N If so, when ? 14				
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.20	1.8	N/A	N/A	16.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type	bailer		TPH	BTEX	
Tubing material:	HDPE		PAH		
Sampling equipment:	Dedicated				
Is there a hydrocarbon sheen?:	No				
Colour: Cloudy brown	Odour:	No			
Turbidity:	medium				
Weather Conditions					
Rain:	NO	Temperature:	15 °C	Cloud cover:	approx. 75%
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		



Groundwater Field Parameters

Job Number: 27K140C

Well No. GW 202

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm):	50mm	Well depth from TOC (m):	8.00		
Depth to floating product (m):		Depth to groundwater from TOC (m):	5.97		
Product thickness (mm):		Depth to be purged (m):	2.03		
Equipment Details					
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1			
Conductivity meter ID: MBR TPS1		Other:			
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume:	20 litres (5 well vols)		
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume:	4 litres		
Start time (2400 hr):		Did well purge 'dry'?	Y/N If so, when ? 13		
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.65	1.42	N/A	N/A	16.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes <i>(if No, append additional purge data)</i>					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type bailer			TPH	BTEX	
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: N O	Temperature: 15 °C		Cloud cover: approx. 75%		
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 203

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 7.26				
Product thickness (mm):	Depth to be purged (m): 0.74				
Equipment Details					
Water level or interface probe ID: HERON 2	pH meter ID: MBR TPS1				
Conductivity meter ID: MBR TPS1	Other:				
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>	Planned purge volume: 6 litres (5 well vols)				
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>	Actual purge volume: 1.5 litres				
Start time (2400 hr):	Did well purge 'dry'? Y/N If so, when ? 5				
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.21	1.23	N/A	N/A	16.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type bailer			TPH		BTEX
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 15 °C		Cloud cover: approx. 75%		
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW204

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m):		5.02		
Product thickness (mm):	Depth to be purged (m):		2.98		
Equipment Details					
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1			
Conductivity meter ID: MBR TPS1		Other:			
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume:	30 litres (5 well vols)		
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume:	6 litres		
Start time (2400 hr):		Did well purge 'dry'?	Y/N If so, when ? 24		
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.13	1.12	N/A	N/A	16.4
After 4 purge volumes:	7.16	1.15			
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type: bailer			TPH		BTEX
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 15 °C		Cloud cover: approx. 75%		
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 211

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 5.73				
Product thickness (mm):	Depth to be purged (m): 2.27				
Equipment Details					
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1			
Conductivity meter ID: MBR TPS1		Other:			
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: <input type="radio"/> watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume: 20 litres (5 well vols)			
Tubing material: <input type="radio"/> HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume: 4 litres			
Start time (2400 hr):		Did well purge 'dry'? Y/N If so, when ? 10			
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.18	1.16	N/A	N/A	16.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes <i>(if No, append additional purge data)</i>					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type bailer			TPH		BTEX
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO		Temperature: 15 °C		Cloud cover: approx. 75%	
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 13

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 4.53				
Product thickness (mm):	Depth to be purged (m): 3.47				
Equipment Details					
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1			
Conductivity meter ID: MBR TPS1		Other:			
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume: 35	litres (5 well vols)		
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume: 7	litres		
Start time (2400 hr):		Did well purge 'dry'? Y/N	If so, when? 21		
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.26	1.22	N/A	N/A	16.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes <i>(if No, append additional purge data)</i>					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type: bailer			TPH		BTEX
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 15 °C		Cloud cover: approx. 75%		
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 39

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 4.87				
Product thickness (mm):	Depth to be purged (m): 3.13				
Equipment Details					
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1			
Conductivity meter ID: MBR TPS1		Other:			
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume: 30 litres (5 well vols)			
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume: 6 litres			
Start time (2400 hr):		Did well purge 'dry'? Y/N If so, when ? 17			
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.21	1.35	N/A	N/A	16.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type bailer			TPH		BTEX
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 15 °C		Cloud cover: approx. 75%		
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW301

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 5.04				
Product thickness (mm):	Depth to be purged (m): 2.96				
Equipment Details					
Water level or interface probe ID: HERON 2	pH meter ID: MBR TPS1				
Conductivity meter ID: MBR TPS1	Other:				
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>	Planned purge volume: 30 litres (5 well vols)				
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>	Actual purge volume: 6 litres				
Start time (2400 hr):	Did well purge 'dry'? Y/N If so, when ? 19				
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.23	1.29	N/A	N/A	16.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type: bailer			TPH	BTEX	
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: N O	Temperature: 15 °C	Cloud cover: approx. 75%			
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 302

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 3.46				
Product thickness (mm):	Depth to be purged (m): 4.54				
Equipment Details					
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1			
Conductivity meter ID: MBR TPS1		Other:			
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume: 45 litres (5 well vols)			
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume: 9 litres			
Start time (2400 hr):		Did well purge 'dry'? Y/N If so, when ? 30			
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.50	1.58	N/A	N/A	16.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type bailer			TPH		BTEX
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO		Temperature: 15 °C		Cloud cover: approx. 75%	
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 303

Client: INDEC Consulting		Purging Date: 17-18/8/99	
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99	
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00		
Depth to floating product (m):	Depth to groundwater from TOC (m): 5.64		
Product thickness (mm):	Depth to be purged (m): 2.36		
Equipment Details			
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1	
Conductivity meter ID: MBR TPS1		Other:	
Purging Information			
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>			
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume: 25 litres (5 well vols)	
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume: 5 litres	
Start time (2400 hr):		Did well purge 'dry'? Y/N If so, when? 21	
Field Results While Purging			
	pH	Conductivity (mS/cm)	Redox (mV)
After 1 purge volume:	7.50	1.57	N/A
After 4 purge volumes:	7.53	1.56	
After 5 purge volumes:			
Extra if required			
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>			
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)			
Sampling Details		Analysis Required (tick if yes)	
Method/pump type: bailer		TPH	BTEX
Tubing material: HDPE		PAH	
Sampling equipment: Dedicated			
Is there a hydrocarbon sheen?: No			
Colour: Cloudy brown	Odour: No		
Turbidity: medium			
Weather Conditions			
Rain: NO	Temperature: 15 °C	Cloud cover: approx. 75%	
Other comments and observations:			
Purgers name: Mike Reynolds		Signature:	
Samplers name: Mike Reynolds		Signature:	

Job Number: 27K140C

Well No. GW 304

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 4.48				
Product thickness (mm):	Depth to be purged (m): 3.52				
Equipment Details					
Water level or interface probe ID: HERON 2	pH meter ID: MBR TPS1				
Conductivity meter ID: MBR TPS1	Other:				
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: <input type="radio"/> watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>	Planned purge volume: 35 litres (5 well vols)				
Tubing material: <input type="radio"/> HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>	Actual purge volume: 7 litres				
Start time (2400 hr):	Did well purge 'dry'? Y/N If so, when ? 17				
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.23	1.34	N/A	N/A	16.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type bailer			TPH		BTEX
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: yes h/c petrol ?				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 15 °C		Cloud cover: approx. 75%		
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		



Groundwater Field Parameters

Job Number: 27K140C

Well No. GW 305

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 5.09				
Product thickness (mm):	Depth to be purged (m): 2.91				
Equipment Details					
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1			
Conductivity meter ID: MBR TPS1		Other:			
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume: 30	litres (5 well vols)		
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume: 6	litres		
Start time (2400 hr):		Did well purge 'dry'? Y/N	If so, when? 21		
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.26	1.19	N/A	N/A	16.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes <i>(if No, append additional purge data)</i>					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type: bailer		TPH		BTEX	
Tubing material: HDPE		PAH			
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 15 °C	Cloud cover: approx. 75%			
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 306

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 4.95				
Product thickness (mm):	Depth to be purged (m): 3.05				
Equipment Details					
Water level or interface probe ID: HERON 2	pH meter ID: MBR TPS1				
Conductivity meter ID: MBR TPS1	Other:				
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: <input type="radio"/> watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>	Planned purge volume: 30		litres (5 well vols)		
Tubing material: <input type="radio"/> HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>	Actual purge volume: 6		litres		
Start time (2400 hr):	Did well purge 'dry'? Y/N		If so, when ? 30		
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.35	1.53	N/A	N/A	16.4
After 4 purge volumes:	7.37	1.55	N/A	N/A	16.2
After 5 purge volumes:	7.39	1.53	N/A	N/A	16.1
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type bailer		TPH		BTEX	
Tubing material: HDPE		PAH			
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 15 °C	Cloud cover: approx. 75%			
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 307

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 3.02				
Product thickness (mm):	Depth to be purged (m): 4.98				
Equipment Details					
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1			
Conductivity meter ID: MBR TPS1		Other:			
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume: 50 litres (5 well vols)			
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume: 10 litres			
Start time (2400 hr):		Did well purge 'dry'? Y/N If so, when? 50			
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.21	1.35	N/A	N/A	16.4
After 4 purge volumes:	7.19	1.34	N/A	N/A	16.0
After 5 purge volumes:	7.21	1.35	N/A	N/A	16.0
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type: bailer		TPH		BTEX	
Tubing material: HDPE		PAH			
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 15 °C	Cloud cover: approx. 75%			
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 308

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 4.08				
Product thickness (mm):	Depth to be purged (m): 3.92				
Equipment Details					
Water level or interface probe ID: HERON 2	pH meter ID: MBR TPS1				
Conductivity meter ID: MBR TPS1	Other:				
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: <input type="radio"/> watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>	Planned purge volume: 40 litres (5 well vols)				
Tubing material: <input type="radio"/> HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>	Actual purge volume: 8 litres				
Start time (2400 hr):	Did well purge 'dry'? Y/N If so, when ? 30				
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.29	1.36	N/A	N/A	16.4
After 4 purge volumes:	7.33	1.37	N/A	N/A	16.1
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type: bailer			TPH	BTEX	
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: maybe ??				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 15 °C	Cloud cover: approx. 75%			
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 309

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm):	50mm	Well depth from TOC (m):	8.00		
Depth to floating product (m):		Depth to groundwater from TOC (m):	4.66		
Product thickness (mm):		Depth to be purged (m):	3.34		
Equipment Details					
Water level or interface probe ID:	HERON 2	pH meter ID:	MBR TPS1		
Conductivity meter ID:	MBR TPS1	Other:			
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type:	waterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>	Planned purge volume:	35 litres (5 well vols)		
Tubing material:	HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>	Actual purge volume:	7 litres		
Start time (2400 hr):		Did well purge 'dry'?	Y/N If so, when ? 23		
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.78	1.69	N/A	N/A	16.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type	bailer		TPH	BTEX	
Tubing material:	HDPE		PAH		
Sampling equipment:	Dedicated				
Is there a hydrocarbon sheen?:	No				
Colour:	Cloudy brown	Odour:	yes tar???		
Turbidity:	medium				
Weather Conditions					
Rain:	N O	Temperature:	15 °C	Cloud cover:	approx. 75%
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 310

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 5.32				
Product thickness (mm):	Depth to be purged (m): 2.68				
Equipment Details					
Water level or interface probe ID: HERON 2	pH meter ID: MBR TPS1				
Conductivity meter ID: MBR TPS1	Other:				
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: <input type="radio"/> watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>	Planned purge volume: 25 litres (5 well vols)				
Tubing material: <input type="radio"/> HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>	Actual purge volume: 5 litres				
Start time (2400 hr):	Did well purge 'dry'? Y/N If so, when ? 18				
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.16	1.24	N/A	N/A	16.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type: bailer		TPH		BTEX	
Tubing material: HDPE		PAH			
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 15 °C	Cloud cover: approx. 75%			
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 311

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 3.90				
Product thickness (mm):	Depth to be purged (m): 4.10				
Equipment Details					
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1			
Conductivity meter ID: MBR TPS1		Other:			
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume: 40	litres (5 well vols)		
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume: 8	litres		
Start time (2400 hr):		Did well purge 'dry'? Y/N	If so, when? 30		
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.34	1.34	N/A	N/A	16.4
After 4 purge volumes:	7.31	1.27	N/A	N/A	16.3
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type bailer			TPH		BTEX
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: N O	Temperature: 15 °C		Cloud cover: approx. 75%		
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 312

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 5.69				
Product thickness (mm):	Depth to be purged (m): 2.46				
Equipment Details					
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1			
Conductivity meter ID: MBR TPS1		Other:			
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: <input type="radio"/> watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume: 25 litres (5 well vols)			
Tubing material: <input type="radio"/> HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume: 5 litres			
Start time (2400 hr):		Did well purge 'dry'? Y/N If so, when ? 15			
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	730	1.23	N/A	N/A	16.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type bailer			TPH		BTEX
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: N O	Temperature: 15 °C		Cloud cover: approx. 75%		
Other comments and observations:					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Job Number: 27K140C

Well No. GW 313

Client: INDEC Consulting		Purging Date: 17-18/8/99			
Site Location: Canberra Railyard		Sampling Date: 17-18/8/99			
Casing Diameter (mm): 50mm	Well depth from TOC (m): 8.00				
Depth to floating product (m):	Depth to groundwater from TOC (m): 5.62				
Product thickness (mm):	Depth to be purged (m): 2.38				
Equipment Details					
Water level or interface probe ID: HERON 2		pH meter ID: MBR TPS1			
Conductivity meter ID: MBR TPS1		Other:			
Purging Information					
<i>Purge 5 casing volumes or until 'dry'</i> <i>1 casing volume = 2 L/m for wells of 50 mm ID</i> <i>1 casing volume = 8 L/m for wells of 100 mm ID</i>					
Method/pump type: watterra <input type="radio"/> whaler <input type="radio"/> bailer <input type="radio"/>		Planned purge volume: 25 litres (5 well vols)			
Tubing material: HDPE <input type="radio"/> PVC <input type="radio"/> S/Steel <input type="radio"/>		Actual purge volume: 5 litres			
Start time (2400 hr):		Did well purge 'dry'? Y/N If so, when? 30			
Field Results While Purging					
	pH	Conductivity (mS/cm)	Redox (mV)	DO (ppm)	Temp. °C
After 1 purge volume:	7.19	1.23	N/A	N/A	16.4
After 4 purge volumes:					
After 5 purge volumes:					
Extra if required					
<i>Measurements for pH should be within 0.1 pH units and measurements for conductivity, salinity and dissolved oxygen should be within 10% and temperature within 0.5 °C before the well is sampled.</i>					
Are the field results acceptable to allow sampling? (circle one): Yes (if No, append additional purge data)					
Sampling Details			Analysis Required (tick if yes)		
Method/pump type: bailer			TPH		BTEX
Tubing material: HDPE			PAH		
Sampling equipment: Dedicated					
Is there a hydrocarbon sheen?: No					
Colour: Cloudy brown	Odour: No				
Turbidity: medium					
Weather Conditions					
Rain: NO	Temperature: 15 °C		Cloud cover: approx. 75%		
Other comments and observations: Dup2 taken here !!!!!					
Purgers name: Mike Reynolds			Signature:		
Samplers name: Mike Reynolds			Signature:		

Appendix J

Chain of Custody Documentation
(Groundwater)

Adelaide
101 Pirie Street Adelaide SA 5000
Tel: (08) 8405 4300 Fax: (08) 8405 4301

Brisbane
348 Edward Street, Brisbane QLD 4000
Tel: (07) 3218 2222 Fax: (07) 3831 4223

Melbourne
44 Albert Road, South Melbourne VIC 3205
Tel: (03) 9697 3333 Fax: (03) 9697 3344

Sydney
97 Broadway, Nedlands WA 6009
Tel: (08) 9389 8668 Fax: (08) 9389 8447

Sydney
9 Blaxland Road, Rhodes NSW 2138
Tel: (02) 9743 0333 Fax: (02) 9736 1568

Order No: 7685

Job Title: **CAN BERRA RAILYARDS**

Laboratory Name: **AMDEL**

Address: **[REDACTED]**

Fax Number:

Phone Number:

Contact Name:

Delivery Method:

Quote Number:

PPK Job Number: **27K1A0C**

Job Location: **CAN BERRA**

Project Manager: **M. REYNOLDS**

Results Expected by/on:

Fax Results to: **A/A**

Fax Number:

Phone Number:

Spreadsheet of Results Required: N

Format:

Turnaround Time Required: **5 DAY**

Invoice to: **A/A**

Comments:

Date Sampled	Time	Sample I.D.	Container Size	Sample Location	Medium*	Preservative Type	Filtered (X)	TPH	BTEX	PAHs	OC/OP/PCBs	Metals**
17/8/99	027861	GW 6 ✓	2x 500 2x 40					X	X	X		
"	62	GW 8 ✓	"					X	X	X		
"	63	GW 103 ✓	"					X	X	X		
"	64	GW 104 ✓	"					X	X	X		
"	65	GW 105 ✓	"					X	X	X		
"	66	GW 201 ✓	"					X	X	X		
"	67	GW 202 ✓	"					X	X	X		
"	68	GW 203 ✓	"					X	X	X		
"	69	GW 204 ✓	"					X	X	X		
"	70	GW 211 ✓	"					X	X	X		
"	71	DUP1 ✓	"					X	X	X		
"	72	Rinse Blank ✓	"					X	X	X		

Initials

Comments/Additional Information and/or Analysis Required

Relinquished by: **M. Reynolds**

Date & Time: **18/8/99**

Company: **PPK**

Signature: **M. Reynolds**

Relinquished by:

Date & Time:

Company:

Signature:

Relinquished by:

Date & Time:

Company:

Signature:

Medium*: S = Soil, W = Water, V = Vapour

Legend**: (circle the following to be tested)

Metals: Al As Be Cd Co Cr Cu Fe Hg
Li Mg Mn Ni Pb Se Sn V Zn

Received in Good Order & Condition by (Name): **Andrew Spencer**

Date & Time: **14-8-99 8:30am**

Company: **AmDel**

Signature: **A. Spencer**

Received in Good Order & Condition by (Name):

Date & Time:

Company:

Signature:

Received in Good Order & Condition by (Name):

Date & Time:

Company:

Signature:

Samples on Ice: Yes No

Please fax back a signed copy when samples are received at the laboratory

Adelaide
101 Pirie Street Adelaide SA 5000
Tel: (08) 8405 4300 Fax: (08) 8405 4301

Brisbane
348 Edward Street, Brisbane QLD 4000
Tel: (07) 3218 2222 Fax: (07) 3831 4223

Melbourne
44 Albert Road, South Melbourne VIC 3205
Tel: (03) 9697 3333 Fax: (03) 9697 3344

Perth
97 Broadway, Nedlands WA 6009
Tel: (08) 9389 8668 Fax: (08) 9389 8447

Sydney
9 Blaxland Road, Rhodes NSW 2138
Tel: (02) 9743 0333 Fax: (02) 9736 1568

Job Title: **CANBERRA RAILYARDS**

Laboratory Name: **AMDEL**

Address:

PPK Job Number:
27K140C

Job Location:
CANBERRA

Project Manager: **M. Reynolds**

Results Expected by/on:

Fax Results to: **A/A**

Fax Number:

Phone Number:

Fax Number:

Phone Number:

Contact Name:

Delivery Method:

Quote Number:

Spreadsheet of Results Required: Y N

Format:

Turnaround Time Required: **5 days**

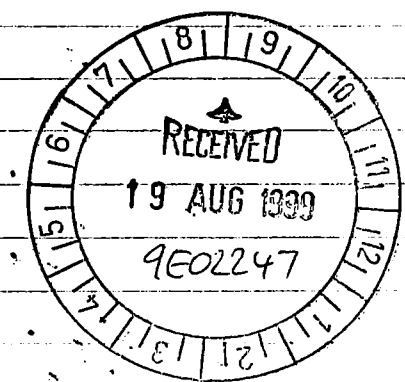
Invoice to: **A/A**

Comments:

Date Sampled	Time	Sample I.D.	Container Size	Sample Location	Medium*	Preservative Type	Filtered (X)	TPH	BTEX	PAH's	OC/OP/PCBs	Metals**
18/8/99	E27873	GW 301 ✓	2 x 500 2 x 40					X	X	X		
"	74	GW 302 ✓	"					X	X	X		
"	75	GW 303 ✓	"					X	X	X		
"	76	GW 304 ✓	"					X	X	X		
"	77	GW 305 ✓	"					X	X	X		
"	78	GW 306 ✓	"					X	X	X		
"	79	GW 307 ✓	"					X	X	X		
"	80	GW 308 ✓	"					X	X	X		
"	81	GW 309 ✓	"					X	X	X		
"	82	GW 310 ✓	"					X	X	X		
"	83	GW 311 ✓	"					X	X	X		
"	84	DUP2 ✓	"					X	X	X		

Initials

Comments/Additional Information and/or Analysis Required



Relinquished by: **M. Reynolds**
Date & Time: **18/8/99**
Company: **PPK**
Signature: **MBR**

Relinquished by:
Date & Time:
Company:
Signature:

Relinquished by:
Date & Time:
Company:
Signature:

Medium*: S = Soil, **W = Water**, V = Vapour
Legend** (circle the following to be tested)
Metals: Al As Be Cd Co Cr Cu Fe Hg
Li Mg Mn Ni Pb Se Sn V Zn

Received in Good Order & Condition by (Name): **Andrew Spencer**
Date & Time: **14-8-99 8:30am**
Company: **Amtdel**
Signature: **AS**

Received in Good Order & Condition by (Name):
Date & Time:
Company:
Signature:

Received in Good Order & Condition by (Name):
Date & Time:
Company:
Signature:

Samples on Ice: Yes No
Please fax back a signed copy when samples are received at the laboratory

Job Title: **CANBERRA RAIL YARDS**

Laboratory Name: **AMDEL**

Address:

Fax Number:

Phone Number:

Contact Name:

Delivery Method:

Quote Number:

PPK Job Number: **27K140C**

Job Location: **CANBERRA**

Project Manager: **M. Reynolds**

Results Expected by/on:

Fax Results to: **AIA**

Fax Number:

Phone Number:

Spreadsheet of Results Required: Y / N

Format:

Turnaround Time Required: **5 days**

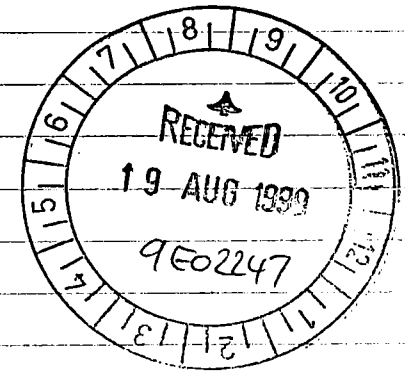
Invoice to: **AIA**

Comments:

Date Sampled	Time	Sample I.D.	Container Size	Sample Location
18/8/99	027985	GW 312 ✓	2 x 500 2 x 40	
"	86	GW 313 ✓	"	
"	87	GW 39 ✓	"	
"	88	GW 13 ✓	"	
"	89	Rinse Blank ✓	"	
"	90	TRIP Blank ✓	1x40	

Medium*	Preservative Type	Filtered (X)	TPH	BTEX	PAH's	OC/OP/PCBs	Metals**
			X	X	X		
			X	X	X		
			X	X	X		
			X	X	X		
			X	X	X		
					X		

Initials	Comments/Additional Information and/or Analysis Required



Relinquished by: **M. Reynolds**

Date & Time: **18/8/99**

Company: **PPK**

Signature: **AMR**

Relinquished by:

Date & Time:

Company:

Signature:

Relinquished by:

Date & Time:

Company:

Signature:

Medium*: S = Soil, **W = Water**, V = Vapour

Legend** (circle the following to be tested)

Metals: Al As Be Cd Co Cr Cu Fe Hg
Li Mg Mn Ni Pb Se Sn V Zn

Received in Good Order & Condition by (Name): **Andrew Spencer**

Date & Time: **19-8-99 8:30am**

Company: **Amel**

Signature: **AJm**

Received in Good Order & Condition by (Name):

Date & Time:

Company:

Signature:

Received in Good Order & Condition by (Name):

Date & Time:

Company:

Signature:

Samples on Ice: Yes No

Please fax back a signed copy when samples are received at the laboratory

Adelaide
101 Pirie Street Adelaide SA 5000
Tel: (08) 8405 4300 Fax: (08) 8405 4301

Brisbane
348 Edward Street, Brisbane QLD 4000
Tel: (07) 3218 2222 Fax: (07) 3831 4223

Melbourne
44 Albert Road, South Melbourne VIC 3205
Tel: (03) 9697 3333 Fax: (03) 9697 3344

Perth
97 Broadway, Northlands WA 6000
Tel: (08) 9389 8668 Fax: (08) 9389 8447

Sydney
9 Blaxland Road, Rhodes NSW 2138
Tel: (02) 9743 0333 Fax: (02) 9736 1568

Job Title: **INDIC**
CANN NERRA
AMBER
 Address:
 Fax Number:
 Phone Number:
 Contact Name:
 Delivery Method:
 Quote Number:

PPK Job Number:
27K140C

Job Location:
CANBERRA

Project Manager: **STAYLER**
 Results Expected by/on:
 Fax Results to: **AIA**
 Fax Number:
 Phone Number:
 Spreadsheet of Results Required: **Y / N**
 Format:
 Turnaround Time Required: **5 days**
 Invoice to: **AIA**
 Comments:

Date Sampled	Time	Sample I.D.	Container Size	Sample Location	Medium*	Preservative Type	Filtered (X)	TPH	PAHS	Metals**	PH	AMMONIA	TKN	Sulphate	Total Phosphate	CYANIDE
16/5/99	E15576	9W11 ✓ <small>IL 010 & 250 No3</small>	X2				1		X	(X)						
11	77	9W10 ✓	X8				1	X	X	X	X	X	X	X	X	X
11	78	9W9 ✓	X8				1	X	X	X	X	X	X	X	X	X
11	79	9W12 ✓	X2				1		X	(X)						
11	80	9W14 ✓	X8				1	X	X	X	X	X	X	X	X	X
11	81	9W13 ✓	X8				1	X	X	X	X	X	X	X	X	X
11	82	9W106 ✓	X8				1	X	X	X	X	X	X	X	X	X
11	83	9W16 ✓	X2				1		X	(X)						
11	84	DYPIA ✓	X2				1		X	(X)						

Initials

Comments/Additional Information and/or Analysis Required

(X) metals Hg, Pb only

Relinquished by: **M. Reynolds**
 Date & Time: **18/5/99**
 Company: **PPK**
 Signature: **UMBR**

Received in Good Order & Condition by (Name): **ZHAMINGTON**
 Date & Time: **19/5/99**
 Company: **amber**
 Signature: **KID**

Relinquished by:
 Date & Time:
 Company:
 Signature:

Received in Good Order & Condition by (Name):
 Date & Time:
 Company:
 Signature:

Relinquished by:
 Date & Time:
 Company:
 Signature:

Received in Good Order & Condition by (Name):
 Date & Time:
 Company:
 Signature:

Medium*: S = Soil, W = Water, V = Vapour

Legend** (circle the following to be tested)

Metals: Al (S) Be (S) Cd (S) Cr (S) Fe (H) Li Mg Mn (S) Ni (S) Pb (S) Se Sn V Zn (S)

Samples on Ice: Yes No

Please fax back a signed copy when samples are received the laboratory

Job Title: **INDEC CANBERRA**

Laboratory Name: **AMDEL NSW**

Address:

PPK Job Number:
27K140 C

Job Location:
CANBERRA

Project Manager: **S. TAYLOR**

Results Expected by/on:

Fax Results to: **A/A**

Fax Number:

Phone Number:

Spreadsheet of Results Required: **Y/N**

Format:

Turnaround Time Required: **5 days**

Invoice to: **A/A**

Comments:

Fax Number:

Phone Number:

Contact Name:

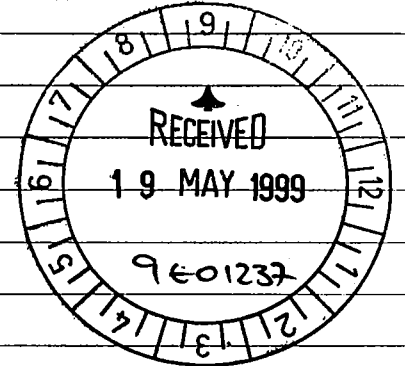
Delivery Method:

Quote Number:

Date Sampled	Time	Sample I.D.	Container Size	Sample Location
17/5/99		DUP 2A	x 5	
11		Rinse BI	x 3	
11		Trip BI	x 1	

Medium*	Preservative Type	Filtered (X)	TPH	BTEX	PAH's	OC/OP/PCBs	Metals**
			X	X	X	X	
			X	X			
				X			

Initials	Comments/Additional Information and/or Analysis Required



Relinquished by: **M. Reynolds**

Date & Time: **18/5/99**

Company: **PPK**

Signature: **[Signature]**

Relinquished by:

Date & Time:

Company:

Signature:

Relinquished by:

Date & Time:

Company:

Signature:

Medium*: S = Soil, **W = Water**, V = Vapour

Legend**: (circle the following to be tested)

Metals: Al As Be Cd Co Cr Cu Fe **Hg**
Li Mg Mn Ni **Pb** Se Sn V Zn

Received in Good Order & Condition by (Name): **R. HARRISON**

Date & Time: **19/5/99**

Company: **AMDEL**

Signature: **[Signature]**

Received in Good Order & Condition by (Name):

Date & Time:

Company:

Signature:

Received in Good Order & Condition by (Name):

Date & Time:

Company:

Signature:

Samples on Ice: Yes No

Please fax back a signed copy when samples are received at the laboratory

Appendix K

Certified Laboratory Results
(Groundwater)

AN CANBERA 27K140A,B,C

	LOR (ug/L)	Assessment Criteria			GW5	GW5	GW5	GW5	GW5	GW6	GW6	GW6	GW6	GW6
		ADWG	NSW EPA	DIL's										
Date of Sampling					Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99
BTEX :														
Benzene	0.5	1	10	(30)	20	Product	Product	Product	Product	nd	nd	nd	nd	nd
Toluene	1	800	800	(1000)	32					nd	nd	nd	nd	nd
Ethyl Benzene	1	300	300	(150)	4					nd	nd	nd	nd	nd
Xylenes	3	600	600	(70)	23					nd	nd	nd	nd	nd
TPH:														
C ₆ -C ₉	10	-	-	-	90	Product	Product	Product	Product	nd	nd	nd	nd	nd
C ₁₀ -C ₁₄	10	-	-	}	44546					nd	nd	nd	88	nd
C ₁₅ -C ₂₈	20	-	-	} 5000**	76057					nd	nd	nd	652	nd
C ₂₉ -C ₃₆	20	-	-	}	1084					nd	nd	nd	nd	nd
Total C₆ - C₃₆														

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)


DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

LOR (ug/L)	Assessment Criteria			GW8	GW8	GW8	GW8	GW8	GW101	GW101	GW101	GW101	GW101	
	ADWG	NSW EPA	DIL's	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	
Date of Sampling														
BTEX :														
Benzene	0.5	1	10	(30)	1	nd	nd	nd	nd	not instal.	1	product	product	product
Toluene	1	800	800	(1000)	nd	nd	nd	nd	nd	not instal.	nd			
Ethyl Benzene	1	300	300	(150)	nd	nd	nd	nd	nd	not instal.	4			
Xylenes	3	600	600	(70)	nd	nd	nd	nd	nd	not instal.	5			
TPH:														
C ₆ -C ₉	10	-	-	-	nd	nd	nd	nd	nd	not instal.	600	product	product	product
C ₁₀ -C ₁₄	10	-	-	}	nd	nd	nd	nd	nd	not instal.	135000			
C ₁₅ -C ₂₈	20	-	-	*** }5000	nd	nd	nd	nd	nd	not instal.	246000			
C ₂₉ -C ₃₆	20	-	-	}	nd	nd	nd	nd	nd	not instal.	2100			
Total C ₆ - C ₃₆											386 90	Product	Product	Product

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

****** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

289 Indicates analyte concentration in excess of laboratory method limit of reporting

Refueling

AN CANBERA 27K140A,B,C

LOR (ug/L)	Assessment Criteria			GW102	GW102	GW102	GW102	GW102	GW103	GW103	GW103	GW103	GW103	
	ADWG	NSW EPA	DIL's	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	
Date of Sampling														
BTEX :														
Benzene	0.5	1	10	(30)	not instal.	1	Product	Product	Product	not instal.	nd	nd	nd	nd
Toluene	1	800	800	(1000)	not instal.	nd				not instal.	nd	nd	nd	nd
Ethyl Benzene	1	300	300	(150)	not instal.	4				not instal.	nd	nd	nd	nd
Xylenes	3	600	600	(70)	not instal.	3				not instal.	nd	nd	nd	nd
TPH:														
C ₆ -C ₉	10	-	-	-	not instal.	2800	Product	Product	Product	not instal.	nd	nd	nd	nd
C ₁₀ -C ₁₄	10	-	-	}	not instal.	408000				not instal.	1900	8390	526	263
C ₁₅ -C ₂₈	20	-	-	*** }5000	not instal.	761000				not instal.	4500	14700	1340	1140
C ₂₉ -C ₃₆	20	-	-	}	not instal.	80				not instal.	nd	nd	nd	nd
Total C₆ - C₃₆											6400	23090	1866	1403

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

****** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

23090 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

LOR (ug/L)	Assessment Criteria			GW104	GW104	GW104	GW104	GW104	GW105	GW105	GW105	GW105	GW105	
	ADWG	NSW EPA	DIL's	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	
BTEX :														
Benzene	0.5	1	10	(30)	not instal.	nd	nd	nd	nd	not instal.	nd	nd	nd	nd
Toluene	1	800	800	(1000)	not instal.	nd	nd	nd	nd	not instal.	nd	nd	nd	nd
Ethyl Benzene	1	300	300	(150)	not instal.	nd	nd	nd	nd	not instal.	nd	nd	nd	nd
Xylenes	3	600	600	(70)	not instal.	nd	nd	nd	nd	not instal.	nd	nd	nd	nd
TPH:														
C ₆ -C ₉	10	-	-	-	not instal.	nd	nd	nd	nd	not instal.	nd	nd	nd	nd
C ₁₀ -C ₁₄	10	-	-	}	not instal.	nd	nd	nd	nd	not instal.	nd	nd	nd	nd
C ₁₅ -C ₂₈	20	-	-	*** }5000	not instal.	nd	nd	nd	nd	not instal.	nd	nd	nd	nd
C ₂₉ -C ₃₆	20	-	-	}	not instal.	nd	nd	nd	nd	not instal.	nd	nd	nd	nd
Total C₆ - C₃₆														

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

**** :** The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

289 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

	LOR (ug/L)	Assessment Criteria			GW201	GW201	GW201	GW201	GW201	GW202	GW202	GW202	GW202	GW202
		ADWG	NSW EPA	DIL's	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99
Date of Sampling					Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99
BTEX :														
Benzene	0.5	1	10	(30)	not instal.	not instal.	not instal.	nd	6.5	not instal.	not instal.	not instal.	nd	nd
Toluene	1	800	800	(1000)	not instal.	not instal.	not instal.	nd	nd	not instal.	not instal.	not instal.	nd	nd
Ethyl Benzene	1	300	300	(150)	not instal.	not instal.	not instal.	nd	nd	not instal.	not instal.	not instal.	nd	nd
Xylenes	3	600	600	(70)	not instal.	not instal.	not instal.	nd	nd	not instal.	not instal.	not instal.	nd	nd
TPH:														
C ₆ -C ₉	10	-	-	-	not instal.	not instal.	not instal.	nd	nd	not instal.	not instal.	not instal.	nd	nd
C ₁₀ -C ₁₄	10	-	-	}	not instal.	not instal.	not instal.	196	nd	not instal.	not instal.	not instal.	979	3080
C ₁₅ -C ₂₈	20	-	-	*** }5000	not instal.	not instal.	not instal.	nd	nd	not instal.	not instal.	not instal.	1670	4390
C ₂₉ -C ₃₆	20	-	-	}	not instal.	not instal.	not instal.	nd	nd	not instal.	not instal.	not instal.	nd	nd
Total C₆ - C₃₆													2649	7470

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

2649 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

	LOR (ug/L)	Assessment Criteria			GW203	GW203	GW203	GW203	GW203	GW204	GW204	GW204	GW204	GW204
		ADWG	NSW EPA	DIL's										
Date of Sampling					Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99
BTEX :														
Benzene	0.5	1	10	(30)	not instal.	not instal.	not instal.	nd	nd	not instal.	not instal.	not instal.	nd	nd
Toluene	1	800	800	(1000)	not instal.	not instal.	not instal.	nd	nd	not instal.	not instal.	not instal.	nd	nd
Ethyl Benzene	1	300	300	(150)	not instal.	not instal.	not instal.	nd	nd	not instal.	not instal.	not instal.	nd	nd
Xylenes	3	600	600	(70)	not instal.	not instal.	not instal.	nd	nd	not instal.	not instal.	not instal.	nd	nd
TPH:														
C ₆ -C ₉	10	-	-	-	not instal.	not instal.	not instal.	nd	nd	not instal.	not instal.	not instal.	nd	nd
C ₁₀ -C ₁₄	10	-	-	}	not instal.	not instal.	not instal.	nd	nd	not instal.	not instal.	not instal.	nd	nd
C ₁₅ -C ₂₈	20	-	-	*** }5000	not instal.	not instal.	not instal.	nd	nd	not instal.	not instal.	not instal.	nd	nd
C ₂₉ -C ₃₆	20	-	-	}	not instal.	not instal.	not instal.	nd	nd	not instal.	not instal.	not instal.	nd	nd
Total C₆ - C₃₆														

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

289 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

	LOR (ug/L)	Assessment Criteria			GW301	GW301	GW301	GW301	GW301	GW302	GW302	GW302	GW302	GW302
		ADWG	NSW EPA	DIL's	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99
Date of Sampling					Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99
BTEX :														
Benzene	0.5	1	10	(30)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
Toluene	1	800	800	(1000)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
Ethyl Benzene	1	300	300	(150)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
Xylenes	3	600	600	(70)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
TPH:														
C ₆ -C ₉	10	-	-	-	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
C ₁₀ -C ₁₄	10	-	-	}	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
C ₁₅ -C ₂₈	20	-	-	*** }5000	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
C ₂₉ -C ₃₆	20	-	-	}	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
Total C₆ - C₃₆														

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

289 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

	LOR (ug/L)	Assessment Criteria			GW303	GW303	GW303	GW303	GW303	GW304	GW304	GW304	GW304	GW304
		ADWG	NSW EPA	DIL's	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99
Date of Sampling					Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99
BTEX :														
Benzene	0.5	1	10	(30)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	14700
Toluene	1	800	800	(1000)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	25900
Ethyl Benzene	1	300	300	(150)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	2160
Xylenes	3	600	600	(70)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	20200
TPH:														
C ₆ -C ₉	10	-	-	-	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	63000
C ₁₀ -C ₁₄	10	-	-	}	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	4760
C ₁₅ -C ₂₈	20	-	-	*** }5000	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
C ₂₉ -C ₃₆	20	-	-	}	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
Total C₆ - C₃₆														67760

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

**** :** The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

289 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

LOR (ug/L)	Assessment Criteria			GW305	GW305	GW305	GW305	GW305	GW306	GW306	GW306	GW306	GW306	
	ADWG	NSW EPA	DIL's	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	
Date of Sampling				Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	
BTEX :														
Benzene	0.5	1	10	(30)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
Toluene	1	800	800	(1000)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
Ethyl Benzene	1	300	300	(150)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
Xylenes	3	600	600	(70)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
TPH:														
C ₆ -C ₉	10	-	-	-	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
C ₁₀ -C ₁₄	10	-	-	}	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
C ₁₅ -C ₂₈	20	-	-	*** }5000	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
C ₂₉ -C ₃₆	20	-	-	}	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
Total C₆ - C₃₆					not instal.									

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

289 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

	LOR (ug/L)	Assessment Criteria			GW307	GW307	GW307	GW307	GW307	GW308	GW308	GW308	GW308	GW308
		ADWG	NSW EPA	DIL's	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99
Date of Sampling														
BTEX :														
Benzene	0.5	1	10	(30)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
Toluene	1	800	800	(1000)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
Ethyl Benzene	1	300	300	(150)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	1
Xylenes	3	600	600	(70)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	4
TPH:														
C ₆ -C ₉	10	-	-	-	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	20
C ₁₀ -C ₁₄	10	-	-	}	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	258
C ₁₅ -C ₂₈	20	-	-	*** }5000	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	32
C ₂₉ -C ₃₆	20	-	-	}	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
Total C₆ - C₃₆														310

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

289 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

LOR (ug/L)	Assessment Criteria			GW309	GW309	GW309	GW309	GW309	GW310	GW310	GW310	GW310	GW310	
	ADWG	NSW EPA	DIL's	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	
Date of Sampling														
BTEX :														
Benzene	0.5	1	10	(30)	not instal.	not instal.	not instal.	not instal.	0.6	not instal.	not instal.	not instal.	not instal.	nd
Toluene	1	800	800	(1000)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
Ethyl Benzene	1	300	300	(150)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
Xylenes	3	600	600	(70)	not instal.	not instal.	not instal.	not instal.	3	not instal.	not instal.	not instal.	not instal.	nd
TPH:														
C ₆ -C ₉	10	-	-	-	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
C ₁₀ -C ₁₄	10	-	-	}	not instal.	not instal.	not instal.	not instal.	100	not instal.	not instal.	not instal.	not instal.	nd
C ₁₅ -C ₂₈	20	-	-	*** }5000	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
C ₂₉ -C ₃₆	20	-	-	}	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	not instal.	nd
Total C₆ - C₃₆														

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

289 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

	LOR (ug/L)	Assessment Criteria			GW311	GW311	GW311	GW311	GW311	GW211	GW211	GW211	GW211	GW211
		ADWG	NSW EPA	DIL's	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99	Jul-98	Dec-98	Mar-99	Jun-99	Aug-99
Date of Sampling														
BTEX :														
Benzene	0.5	1	10	(30)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	nd	nd
Toluene	1	800	800	(1000)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	nd	nd
Ethyl Benzene	1	300	300	(150)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	nd	nd
Xylenes	3	600	600	(70)	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	nd	nd
TPH:														
C ₆ -C ₉	10	-	-	-	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	nd	nd
C ₁₀ -C ₁₄	10	-	-	}	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	277	nd
C ₁₅ -C ₂₈	20	-	-	*** }5000	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	nd	nd
C ₂₉ -C ₃₆	20	-	-	}	not instal.	not instal.	not instal.	not instal.	nd	not instal.	not instal.	not instal.	nd	nd
Total C₆ - C₃₆														
												277		

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

289 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

LOR (ug/L)	Assessment Criteria			GW17	GW17	GW17	GW17	GW17	GW19	GW19	GW19	GW19	GW19
	ADWG	NSW EPA	DIL's	Jul-98	Dec-98	Dec-98_2	May-99	Dec-99	Jul-98	Dec-98	Dec-98_2	May-99	Dec-99
Date of Sampling													
BTEX :													
Benzene	0.5	1	10	(30)	nd	nd	nd	nd	6	nd	4	nd	nd
Toluene	1	800	800	(1000)	nd	nd	nd	2	1	nd	nd	nd	nd
Ethyl Benzene	1	300	300	(150)	nd	nd	nd	nd	18	nd	nd	nd	nd
Xylenes	3	600	600	(70)	nd	nd	nd	nd	85	nd	nd	nd	nd
TPH:													
C ₆ -C ₉	20	-	-	-	nd	nd	nd	nd	120	nd	nd	nd	nd
C ₁₀ -C ₁₄	20	-	-	}	nd	nd	nd	nd	176	nd	nd	nd	nd
C ₁₅ -C ₂₈	100	-	-	} 5000**	nd	nd	nd	nd	nd	nd	nd	nd	nd
C ₂₉ -C ₃₆	100	-	-	}	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total C₆ - C₃₆													

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)


DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

LOR (ug/L)	Assessment Criteria			GW21	GW21	GW21	GW21	GW21	GW22	GW22	GW22	GW22	GW22
	ADWG	NSW EPA	DIL's	Jul-98	Dec-98	Dec-98_2	May-99	Dec-99	Jul-98	Dec-98	Dec-98_2	May-99	Dec-99
Date of Sampling													
BTEX :													
Benzene	0.5	1	10	(30)	nd	4	nd	nd	-	nd	nd	nd	
Toluene	1	800	800	(1000)	nd	nd	nd	nd	-	nd	nd	nd	
Ethyl Benzene	1	300	300	(150)	nd	nd	nd	nd	-	nd	nd	nd	
Xylenes	3	600	600	(70)	nd	nd	nd	nd	-	nd	nd	nd	
TPH:													
C ₆ -C ₉	20	-	-	-	nd	nd	nd	nd	-	nd	nd	nd	
C ₁₀ -C ₁₄	20	-	-	}	nd	nd	nd	nd	-	nd	nd	nd	
C ₁₅ -C ₂₈	100	-	-	} 5000**	nd	nd	nd	nd	-	nd	nd	nd	
C ₂₉ -C ₃₆	100	-	-	}	nd	nd	nd	nd	-	nd	nd	nd	
Total C₆ - C₃₆													

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

289 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

	LOR (ug/L)	Assessment Criteria			GW24	GW24	GW24	GW24	GW24	GW26	GW26	GW26	GW26	GW26
		ADWG	NSW EPA	DIL's	Jul-98	Dec-98	Dec-98_2	May-99	Dec-99	Jul-98	Dec-98	Dec-98_2	May-99	Dec-99
Date of Sampling					Jul-98	Dec-98	Dec-98_2	May-99	Dec-99	Jul-98	Dec-98	Dec-98_2	May-99	Dec-99
BTEX :														
Benzene	0.5	1	10	(30)	54	12	12	2.6		nd	nd	nd	nd	
Toluene	1	800	800	(1000)	35	1	1	1		nd	nd	nd	nd	
Ethyl Benzene	1	300	300	(150)	28	nd	nd	nd		nd	nd	nd	nd	
Xylenes	3	600	600	(70)	46	nd	nd	nd		nd	nd	nd	nd	
TPH:														
C ₆ -C ₉	20	-	-	-	555	40	nd	633		nd	nd	nd	nd	
C ₁₀ -C ₁₄	20	-	-	}	112968	2200	190	40100		nd	nd	nd	nd	
C ₁₅ -C ₂₈	100	-	-	} 5000**	140933	1900	120	37400		nd	nd	nd	203	
C ₂₉ -C ₃₆	100	-	-	}	650	nd	nd	nd		nd	nd	nd	nd	
Total C₆ - C₃₆													203	

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

203 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

LOR (ug/L)	Assessment Criteria			GW28	GW28	GW28	GW28	GW28	GW30	GW30	GW30	GW30	GW30
	ADWG	NSW EPA	DIL's	Jul-98	Dec-98	Dec-98_2	May-99	Dec-99	Jul-98	Dec-98	Dec-98_2	May-99	Dec-99
Date of Sampling													
BTEX :													
Benzene 0.5	1	10	(30)	nd	nd	nd	nd		nd	nd	nd	nd	
Toluene 1	800	800	(1000)	nd	nd	nd	nd		nd	nd	nd	nd	
Ethyl Benzene 1	300	300	(150)	nd	nd	nd	nd		nd	nd	nd	nd	
Xylenes 3	600	600	(70)	nd	nd	nd	nd		nd	nd	nd	nd	
TPH:													
C ₆ -C ₉ 20	-	-	-	nd	nd	nd	nd		nd	nd	nd	nd	
C ₁₀ -C ₁₄ 20	-	-	}	nd	nd	nd	nd		nd	nd	nd	nd	
C ₁₅ -C ₂₈ 100	-	-	} 5000**	nd	nd	nd	nd		nd	nd	nd	190	
C ₂₉ -C ₃₆ 100	-	-	}	nd	nd	nd	nd		nd	nd	nd	nd	
Total C₆ - C₃₆													190

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

289 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

	LOR (ug/L)	Assessment Criteria			GW32	GW32	GW32	GW32	GW32	PMW1	PMW1	PMW1	PMW1	PMW1
		ADWG	NSW EPA	DIL's	Jul-98	Dec-98	Dec-98_2	May-99	Dec-99	Jul-98	Dec-98	Dec-98_2	May-99	Dec-99
BTEX :														
Benzene	0.5	1	10	(30)	-	nd	nd	nd		66	26	18	7.9	
Toluene	1	800	800	(1000)	-	nd	nd	nd		32	1	*<10	nd	
Ethyl Benzene	1	300	300	(150)	-	nd	nd	nd		388	94	58	3	
Xylenes	3	600	600	(70)	-	nd	nd	nd		103	16	*<30	3	
TPH:														
C ₆ -C ₉	20	-	-	-	-	nd	nd	nd		1556	150	570	2320	
C ₁₀ -C ₁₄	20	-	-	}	-	nd	nd	nd		17135	1500	20200	41800	
C ₁₅ -C ₂₈	100	-	-	} 5000**	-	nd	nd	nd		16250	900	30000	42700	
C ₂₉ -C ₃₆	100	-	-	}	-	nd	nd	nd		nd	nd	nd	nd	
Total C₆ - C₃₆										2182	2530	50770	86820	

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

239 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

LOR (ug/L)	Assessment Criteria			PMW2	PMW2	PMW2	PMW2	PMW2	PMW3	PMW3	PMW3	PMW3	PMW3
	ADWG	NSW EPA	DIL's	Jul-98	Dec-98	Dec-98_2	May-99	Dec-99	Jul-98	Dec-98	Dec-98_2	May-99	Dec-99
Date of Sampling													
BTEX :													
Benzene	0.5	1	10	(30)	*<20	1	1	nd	nd	nd	nd	nd	nd
Toluene	1	800	800	(1000)	25	nd	nd	nd	nd	nd	nd	nd	nd
Ethyl Benzene	1	300	300	(150)	148	nd	2	nd	nd	nd	nd	nd	nd
Xylenes	3	600	600	(70)	46	nd	nd	nd	nd	nd	nd	nd	nd
TPH:													
C ₆ -C ₉	20	-	-	-	1191	nd	830	nd	nd	nd	nd	nd	nd
C ₁₀ -C ₁₄	20	-	-	}	10074	nd	47500	295	nd	nd	nd	nd	nd
C ₁₅ -C ₂₈	100	-	-	} 5000**	7416	nd	60200	nd	nd	nd	nd	nd	nd
C ₂₉ -C ₃₆	100	-	-	}	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total C₆ - C₃₆													

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

289 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

LOR (ug/L)	Assessment Criteria			GW1	GW1	GW1	GW1	GW1	GW2	GW2	GW2	GW2	GW2	
	ADWG	NSW EPA	DIL's											
Date of Sampling				Jul-98	Dec-98		May-99	Dec-99	Jul-98	Dec-98		May-99	Dec-99	
BTEX :														
Benzene	0.5	1	10	(30)	nd	nd		nd	-	1792		769		
Toluene	1	800	800	(1000)	nd	nd		nd	-	<250		37		
Ethyl Benzene	1	300	300	(150)	nd	nd		nd	-	1016		13		
Xylenes	3	600	600	(70)	nd	nd		nd	-	210		29		
TPH:														
C ₆ -C ₉	20	-	-	-	nd	nd		nd	-	7300		1170		
C ₁₀ -C ₁₄	20	-	-	}	nd	nd		nd	-	810		367		
C ₁₅ -C ₂₈	100	-	-	} 5000**	nd	nd		nd	-	nd		7430		
C ₂₉ -C ₃₆	100	-	-	}	nd	nd		nd	-	nd		1030		
Total C₆ - C₃₆														
										8119	9997			

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

LOR (ug/L)	Assessment Criteria			GW4	GW4	GW4	GW4	GW4	GW33	GW33	GW33	GW33	GW33
	ADWG	NSW EPA	DIL's	Jul-98	Dec-98	May-99	Dec-99	Jul-98	Dec-98	May-99	Dec-99		
BTEX :													
Benzene	0.5	1	10	(30)	202	10407		11900	-	nd			nd
Toluene	1	800	800	(1000)	248	11572		14000	-	nd			nd
Ethyl Benzene	1	300	300	(150)	528	615		2140	-	nd			nd
Xylenes	3	600	600	(70)	1117	8560		11200	-	nd			nd
TPH:													
C ₆ -C ₉	20	-	-	-	49240	40900		46600	-	nd			nd
C ₁₀ -C ₁₄	20	-	-	}	32660	8900		17100	-	*2000			nd
C ₁₅ -C ₂₈	100	-	-	} 5000**	10240	340		13200	-	539			nd
C ₂₉ -C ₃₆	100	-	-	}	3600	nd		133	-	206			nd
Total C₆ - C₃₆													
2745													

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

**** :** The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

*** :** Result Primarily Due to a Single Peak

289 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

	LOR (ug/L)	Assessment Criteria			GW34	GW34	GW34	GW34	GW34	GW35	GW35	GW35	GW35	GW35
		ADWG	NSW EPA	DIL's										
Date of Sampling					Jul-98	Dec-98		May-99	Dec-99	Jul-98	Dec-98		May-99	Dec-99
BTEX :														
Benzene	0.5	1	10	(30)	-					22126	nd		208	
Toluene	1	800	800	(1000)	-	DAMAGED				4312	nd		97	
Ethyl Benzene	1	300	300	(150)	-					1633	nd		32	
Xylenes	3	600	600	(70)	-					10152	nd		656	
TPH:														
C ₆ -C ₉	20	-	-	-	-					18400	40		1440	
C ₁₀ -C ₁₄	20	-	-	}	-	DAMAGED				12805	60		2570	
C ₁₅ -C ₂₈	100	-	-	} 5000**	-					nd	nd		nd	
C ₂₉ -C ₃₆	100	-	-	}	-					nd	nd		nd	
Total C₆ - C₃₆										289	100		24010	

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

289 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

LOR (ug/L)	Assessment Criteria			GW36	GW36	GW36	GW36	GW36	GW37	GW37	GW37	GW37	GW37
	ADWG	NSW EPA	DIL's	Jul-98	Dec-98	AGES	May-99	Dec-99	Jul-98	Dec-98	May-99	Dec-99	
Date of Sampling				Jul-98	Dec-98	AGES	May-99	Dec-99	Jul-98	Dec-98	May-99	Dec-99	
BTEX :													
Benzene	0.5	1	10	(30)	-	nd	nd		nd	nd		nd	
Toluene	1	800	800	(1000)	-	nd	nd		nd	nd		nd	
Ethyl Benzene	1	300	300	(150)	-	nd	nd		nd	nd		nd	
Xylenes	3	600	600	(70)	-	nd	nd		nd	nd		nd	
TPH:													
C ₆ -C ₉	20	-	-	-	-	nd	nd		nd	nd		nd	
C ₁₀ -C ₁₄	20	-	-	}	-	nd	nd		nd	nd		nd	
C ₁₅ -C ₂₈	100	-	-	} 5000**	-	nd	nd		nd	nd		nd	
C ₂₉ -C ₃₆	100	-	-	}	-	nd	nd		nd	nd		nd	
Total C₆ - C₃₆													

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

289 Indicates analyte concentration in excess of laboratory method limit of reporting

AN CANBERA 27K140A,B,C

	LOR (ug/L)	Assessment Criteria			GW38	GW38	GW38	GW38	GW38
		ADWG	NSW EPA	DIL's	Jul-98	Dec-98	May-99	Dec-99	
Date of Sampling					Jul-98	Dec-98	May-99	Dec-99	
BTEX :									
Benzene	0.5	1	10	(30)	-	nd	nd		
Toluene	1	800	800	(1000)	-	nd	nd		
Ethyl Benzene	1	300	300	(150)	-	nd	nd		
Xylenes	3	600	600	(70)	-	nd	nd		
TPH:									
C ₆ -C ₉	20	-	-	-	-	nd	nd		
C ₁₀ -C ₁₄	20	-	-	}	-	nd	nd		
C ₁₅ -C ₂₈	100	-	-	} 5000**	-	nd	nd		
C ₂₉ -C ₃₆	100	-	-	}	-	nd	nd		
Total C₆ - C₃₆									

ADWG : Australian Drinking Water Guidelines - Health Guideline Values (NH&MRC/ARMCANZ 1996)

NSW EPA : Guidelines for Assessing service Station Sites - Threshold Concentrations For Protection of Drinking Water (NSW EPA 1994)

DIL : Environmental Quality Objectives in the Netherlands - Dutch Intervention Levels

nd : Concentration of Analyte Below the Laboratory Method Limit of Reporting

- : Not specified

** : The nominated DIL criterion refers to total petroleum hydrocarbon concentrations C₁₀ - C₃₆ fractions

Product : Phase Separated Product was observed at the surface of the groundwater, well not sampled.

289 Indicates analyte concentration in excess of laboratory method limit of reporting

Accreditation No. 1464

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CERTIFICATE OF ANALYSIS

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- 2) Analysis Report Pages
- 3) QA/QC Appendix

REPORT No : 9E02247 Rev.1
ATTENTION : Mr Mike Reynolds
CLIENT : PPK Adelaide
SAMPLES : 30
REFERENCE : 27K140C
DATE RECEIVED : 19/08/99
DATE REPORTED : 30/08/99

<u>Method</u>	<u>Description</u>	<u>Extracted</u>	<u>Analysed</u>
E0220	Total Petroleum Hydrocarbons	20/08/99	26/08/99
E0010	Benzene, Toluene, Ethylbenzene & Xylene	20/08/99	26/08/99
E0110	Polycyclic Aromatic Hydrocarbons	23/08/99	25/08/99

RESULTS

All samples were analysed as received. This report relates specifically to the samples received. Results relate to the source material only to the extent that the samples as supplied are truly representative of the sample source. This amended report replaces report issued on 26/08/99. Please replace the previously issued report with this amended report. We apologise for the inconvenience that this causes. Note that for schemes indicated with * NATA accreditation does not cover the performance of this service. Three significant figures (or 2 for < 10PQL) are reported for statistical purposes only.

PLEASE SEE ATTACHED PAGES FOR RESULTS



per G.W. ANDERSON
Manager Environmental Sydney

Analyte	Lab No	E27861	E27862	E27863	E27864	E27865
	Sample Id	GW 6	GW 8	GW 103	GW 104	GW 105
	PQL					
E0110 PAH's in Water (µg/L)						
Naphthalene	1	nd	nd	nd	nd	nd
Acenaphthylene	1	nd	nd	nd	nd	nd
Acenaphthene	1	nd	nd	nd	nd	nd
Fluorene	1	nd	nd	nd	nd	nd
Phenanthrene	1	nd	nd	nd	nd	nd
Anthracene	1	nd	nd	nd	nd	nd
Fluoranthene	1	nd	nd	nd	nd	nd
Pyrene	1	nd	nd	nd	nd	nd
Benz(a)anthracene	1	nd	nd	nd	nd	nd
Chrysene	1	nd	nd	nd	nd	nd
Benzo(b) & (k)fluoranthene	2	nd	nd	nd	nd	nd
Benzo(a)pyrene	1	nd	nd	nd	nd	nd
Indeno(1.2.3-cd)pyrene	1	nd	nd	nd	nd	nd
Dibenz(a,h)anthracene	1	nd	nd	nd	nd	nd
Benzo(g,h,i)perylene	1	nd	nd	nd	nd	nd
Total PAH	1	nd	nd	nd	nd	nd
2-Fluorobiphenyl-SURROGATE	1	83%	87%	89%	89%	82%
Anthracene-D10-SURROGATE	1	92%	92%	96%	99%	94%
p-Terphenyl-D14-SURROGATE	1	95%	93%	97%	100%	97%

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E27866	E27867	E27868	E27869	E27870
	Sample Id	GW 201	GW 202	GW 203	GW 204	GW 211
	PQL					
E0110 PAH's in Water (µg/L)						
Naphthalene	1	nd	* < 10	nd	nd	nd
Acenaphthylene	1	nd	* < 10	nd	nd	nd
Acenaphthene	1	nd	* < 10	nd	nd	nd
Fluorene	1	nd	* < 10	nd	nd	nd
Phenanthrene	1	nd	* < 10	nd	nd	nd
Anthracene	1	nd	* < 10	nd	nd	nd
Fluoranthene	1	nd	* < 10	nd	nd	nd
Pyrene	1	nd	* < 10	nd	nd	nd
Benz(a)anthracene	1	nd	* < 10	nd	nd	nd
Chrysene	1	nd	* < 10	nd	nd	nd
Benzo(b) & (k)fluoranthene	2	nd	* < 20	nd	nd	nd
Benzo(a)pyrene	1	nd	* < 10	nd	nd	nd
Indeno(1.2.3-cd)pyrene	1	nd	* < 10	nd	nd	nd
Dibenz(a,h)anthracene	1	nd	* < 10	nd	nd	nd
Benzo(g,h,i)perylene	1	nd	* < 10	nd	nd	nd
Total PAH	1	nd	nd	nd	nd	nd
2-Fluorobiphenyl-SURROGATE	1	86%	79%	111%	102%	98%
Anthracene-D10-SURROGATE	1	93%	89%	120%	106%	101%
p-Terphenyl-D14-SURROGATE	1	96%	96%	125%	113%	104%

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

* : PQL raised due to matrix interference

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E27871	E27872	E27873	E27874	E27875
			RNSE BLK			
	Sample Id	DUP1	17/8/99	GW 301	GW 302	GW 303
	PQL					
E0110 PAH's in Water (µg/L)						
Naphthalene	1	nd	nd	nd	nd	nd
Acenaphthylene	1	nd	nd	nd	nd	nd
Acenaphthene	1	nd	nd	nd	nd	nd
Fluorene	1	nd	nd	nd	nd	nd
Phenanthrene	1	nd	nd	nd	nd	nd
Anthracene	1	nd	nd	nd	nd	nd
Fluoranthene	1	nd	nd	nd	nd	nd
Pyrene	1	nd	nd	nd	nd	nd
Benz(a)anthracene	1	nd	nd	nd	nd	nd
Chrysene	1	nd	nd	nd	nd	nd
Benzo(b) & (k)fluoranthene	2	nd	nd	nd	nd	nd
Benzo(a)pyrene	1	nd	nd	nd	nd	nd
Indeno(1.2.3-cd)pyrene	1	nd	nd	nd	nd	nd
Dibenz(a,h)anthracene	1	nd	nd	nd	nd	nd
Benzo(g,h,i)perylene	1	nd	nd	nd	nd	nd
Total PAH	1	nd	nd	nd	nd	nd
2-Fluorobiphenyl-SURROGATE	1	98%	109%	95%	85%	90%
Anthracene-D10-SURROGATE	1	109%	121%	99%	92%	94%
p-Terphenyl-D14-SURROGATE	1	113%	125%	105%	96%	99%

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E27876	E27877	E27878	E27879	E27880
	Sample Id	GW 304	GW 305	GW 306	GW 307	GW 308
	PQL					
E0110 PAH's in Water (µg/L)						
Naphthalene	1	660	nd	nd	nd	11
Acenaphthylene	1	nd	nd	nd	nd	nd
Acenaphthene	1	nd	nd	nd	nd	nd
Fluorene	1	nd	nd	nd	nd	nd
Phenanthrene	1	nd	nd	nd	nd	nd
Anthracene	1	nd	nd	nd	nd	nd
Fluoranthene	1	nd	nd	nd	nd	nd
Pyrene	1	nd	nd	nd	nd	nd
Benz(a)anthracene	1	nd	nd	nd	nd	nd
Chrysene	1	nd	nd	nd	nd	nd
Benzo(b) & (k)fluoranthene	2	nd	nd	nd	nd	nd
Benzo(a)pyrene	1	nd	nd	nd	nd	nd
Indeno(1.2.3-cd)pyrene	1	nd	nd	nd	nd	nd
Dibenz(a,h)anthracene	1	nd	nd	nd	nd	nd
Benzo(g,h,i)perylene	1	nd	nd	nd	nd	nd
Total PAH	1	660	nd	nd	nd	11
2-Fluorobiphenyl-SURROGATE	1	90%	84%	89%	91%	83%
Anthracene-D10-SURROGATE	1	96%	92%	94%	93%	91%
p-Terphenyl-D14-SURROGATE	1	97%	102%	96%	98%	94%

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E27881	E27882	E27883	E27884	E27885
	Sample Id	GW 309	GW 310	GW 311	DUP2	GW 312
	PQL					
E0110 PAH's in Water (µg/L)						
Naphthalene	1	22	nd	nd	nd	nd
Acenaphthylene	1	nd	nd	nd	nd	nd
Acenaphthene	1	4	nd	nd	nd	nd
Fluorene	1	1	nd	nd	nd	nd
Phenanthrene	1	1	nd	nd	nd	nd
Anthracene	1	nd	nd	nd	nd	nd
Fluoranthene	1	nd	nd	nd	nd	nd
Pyrene	1	nd	nd	nd	nd	nd
Benz(a)anthracene	1	nd	nd	nd	nd	nd
Chrysene	1	nd	nd	nd	nd	nd
Benzo(b) & (k)fluoranthene	2	nd	nd	nd	nd	nd
Benzo(a)pyrene	1	nd	nd	nd	nd	nd
Indeno(1.2.3-cd)pyrene	1	nd	nd	nd	nd	nd
Dibenz(a,h)anthracene	1	nd	nd	nd	nd	nd
Benzo(g,h,i)perylene	1	nd	nd	nd	nd	nd
Total PAH	1	28	nd	nd	nd	nd
2-Fluorobiphenyl-SURROGATE	1	82%	88%	86%	93%	89%
Anthracene-D10-SURROGATE	1	87%	92%	88%	97%	98%
p-Terphenyl-D14-SURROGATE	1	89%	98%	93%	103%	102%

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E27886	E27887	E27888	E27889	E27890
					RNSE BLK	TRIP
	Sample Id	GW 313	GW 39	GW 13	18/8/99	BLANK
	PQL					
E0110 PAH's in Water (µg/L)						
Naphthalene	1	nd	nd	nd	nd	*
Acenaphthylene	1	nd	nd	nd	nd	*
Acenaphthene	1	nd	nd	nd	nd	*
Fluorene	1	nd	nd	nd	nd	*
Phenanthrene	1	nd	nd	nd	nd	*
Anthracene	1	nd	nd	nd	nd	*
Fluoranthene	1	nd	nd	nd	nd	*
Pyrene	1	nd	nd	nd	nd	*
Benz(a)anthracene	1	nd	nd	nd	nd	*
Chrysene	1	nd	nd	nd	nd	*
Benzo(b) & (k)fluoranthene	2	nd	nd	nd	nd	*
Benzo(a)pyrene	1	nd	nd	nd	nd	*
Indeno(1.2.3-cd)pyrene	1	nd	nd	nd	nd	*
Dibenz(a,h)anthracene	1	nd	nd	nd	nd	*
Benzo(g,h,i)perylene	1	nd	nd	nd	nd	*
Total PAH	1	nd	nd	nd	nd	*
2-Fluorobiphenyl-SURROGATE	1	86%	81%	83%	78%	*
Anthracene-D10-SURROGATE	1	97%	101%	95%	92%	*
p-Terphenyl-D14-SURROGATE	1	100%	107%	101%	95%	*

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

* : Insufficient sample for analysis.

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

QA/QC APPENDIX NO. 9E02247 Rev.1

<u>Method</u>	<u>Description</u>
E0220	Total Petroleum Hydrocarbons
E0010	Benzene, Toluene, Ethylbenzene & Xylene
E0110	Polycyclic Aromatic Hydrocarbons

Chromatography QA/QC

	Yes	No	N/A
Retention Time Window Within Acceptance Criteria($\pm 2\%$)	√		
Check Standard Within Acceptance Criteria($\pm 10\%$)	√		
Recalibration Within Acceptance Criteria($\pm 15\%$)	√		
Internal Standard (where applicable) shows acceptable recovery	√		

Other QA/QC

Holding time conforming With Method Specification	√		
Chain of Custody Attached	√		

N/A = Not Applicable

Comments

1. Laboratory QA/QC including Method Blanks, Duplicates, Matrix Spike Duplicates, Laboratory Control Samples or CRM's are included in this QA/QC appendix. (Where applicable)
2. Inter-Laboratory proficiency trial results available on request. (Where applicable)
3. Surrogate description and recoveries are recorded in the Report. (Where applicable)
4. Acceptance criteria for specific analytes are available upon request (Refer to SPM-01).
5. Practical Quantitation Limit (PQL is typically 2-10 x method detection limit (MDL)).
6. PQL's are matrix dependent and are increased accordingly where sample extracts are diluted.
7. Results are uncorrected for matrix spike or surrogate recoveries.



per G.W. ANDERSON
Manager Environmental Sydney

QAQC : Spike Recoveries

Analyte	Spike Level	Level	Detected	Recovery Details			
		Spike 1	Spike 2	Rec 1 (%)	Rec 2 (%)	Average (%)	RPD (%)
E0110 PAH's in Water (µg/L)							
Naphthalene	10	9		88%		88%	
Acenaphthylene	10	9		88%		88%	
Acenaphthene	10	9		89%		89%	
Fluorene	10	9		87%		87%	
Phenanthrene	10	9		90%		90%	
Anthracene	10	9		89%		89%	
Fluoranthene	10	9		92%		92%	
Pyrene	10	9		92%		92%	
Benz(a)anthracene	10	9		92%		92%	
Chrysene	10	9		94%		94%	
Benzo(b) & (k)fluoranthene	20	18		92%		92%	
Benzo(a)pyrene	10	9		93%		93%	
Indeno(1.2.3-cd)pyrene	10	9		89%		89%	
Dibenz(a,h)anthracene	10	9		87%		87%	
Benzo(g,h,i)perylene	10	9		88%		88%	

PQL = Practical Quantitation Limit
 nd = < PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Laboratory Control Sample

Analyte	Level	Level	Detected	Recovery Details			
		Result1	Result2	Rec 1 (%)	Rec 2 (%)	Average (%)	RPD (%)
E0110 PAH's in Water (µg/L)							
Naphthalene	10	8		84%		84%	
Acenaphthylene	10	8		81%		81%	
Acenaphthene	10	9		86%		86%	
Fluorene	10	8		84%		84%	
Phenanthrene	10	9		90%		90%	
Anthracene	10	9		91%		91%	
Fluoranthene	10	9		94%		94%	
Pyrene	10	9		94%		94%	
Benz(a)anthracene	10	9		94%		94%	
Chrysene	10	10		101%		101%	
Benzo(b) & (k)fluoranthene	20	19		96%		96%	
Benzo(a)pyrene	10	9		88%		88%	
Indeno(1.2.3-cd)pyrene	10	8		81%		81%	
Dibenz(a,h)anthracene	10	9		92%		92%	
Benzo(g,h,i)perylene	10	10		95%		95%	

PQL = Practical Quantitation Limit
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

nd = <PQL

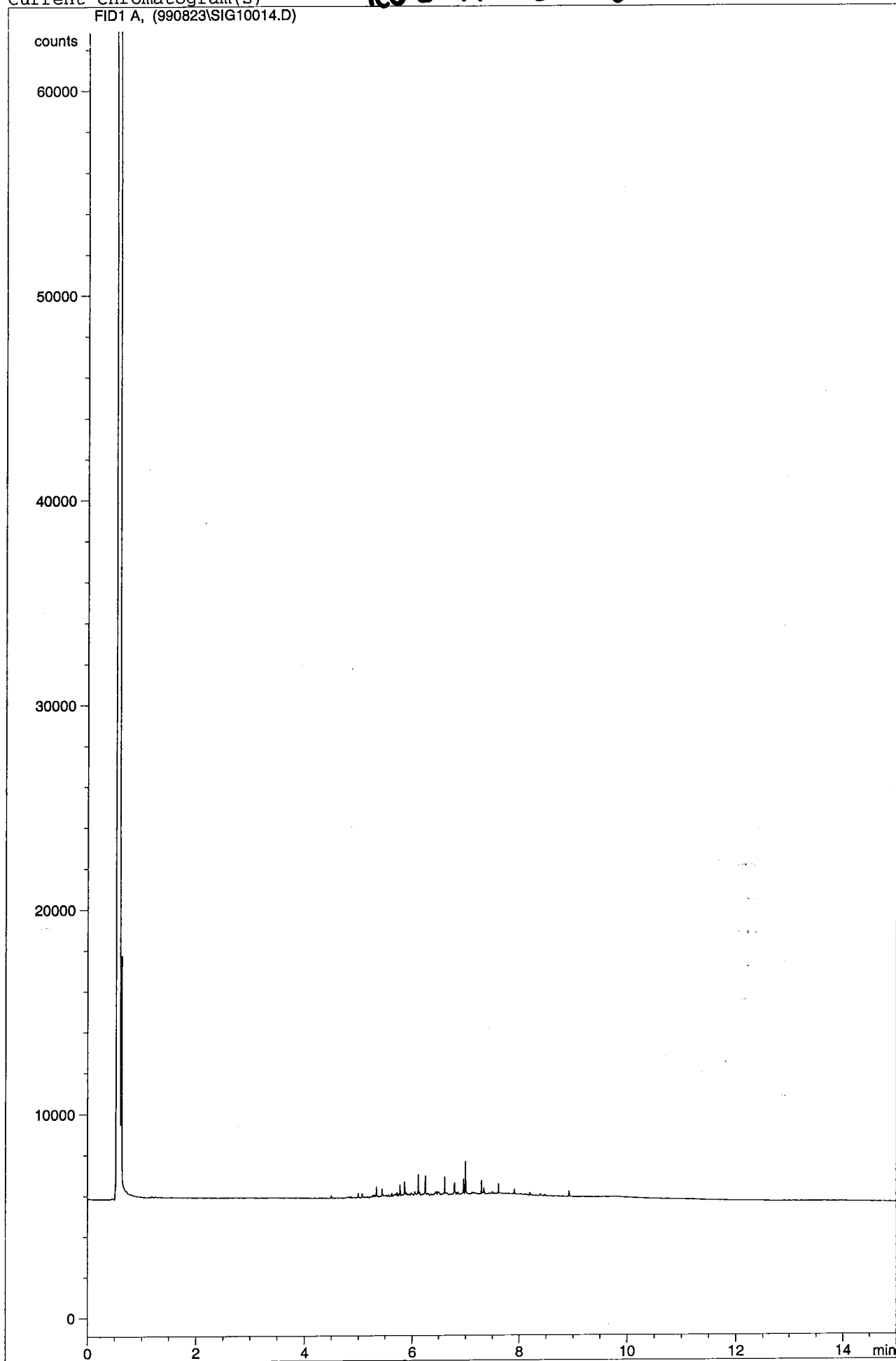
All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

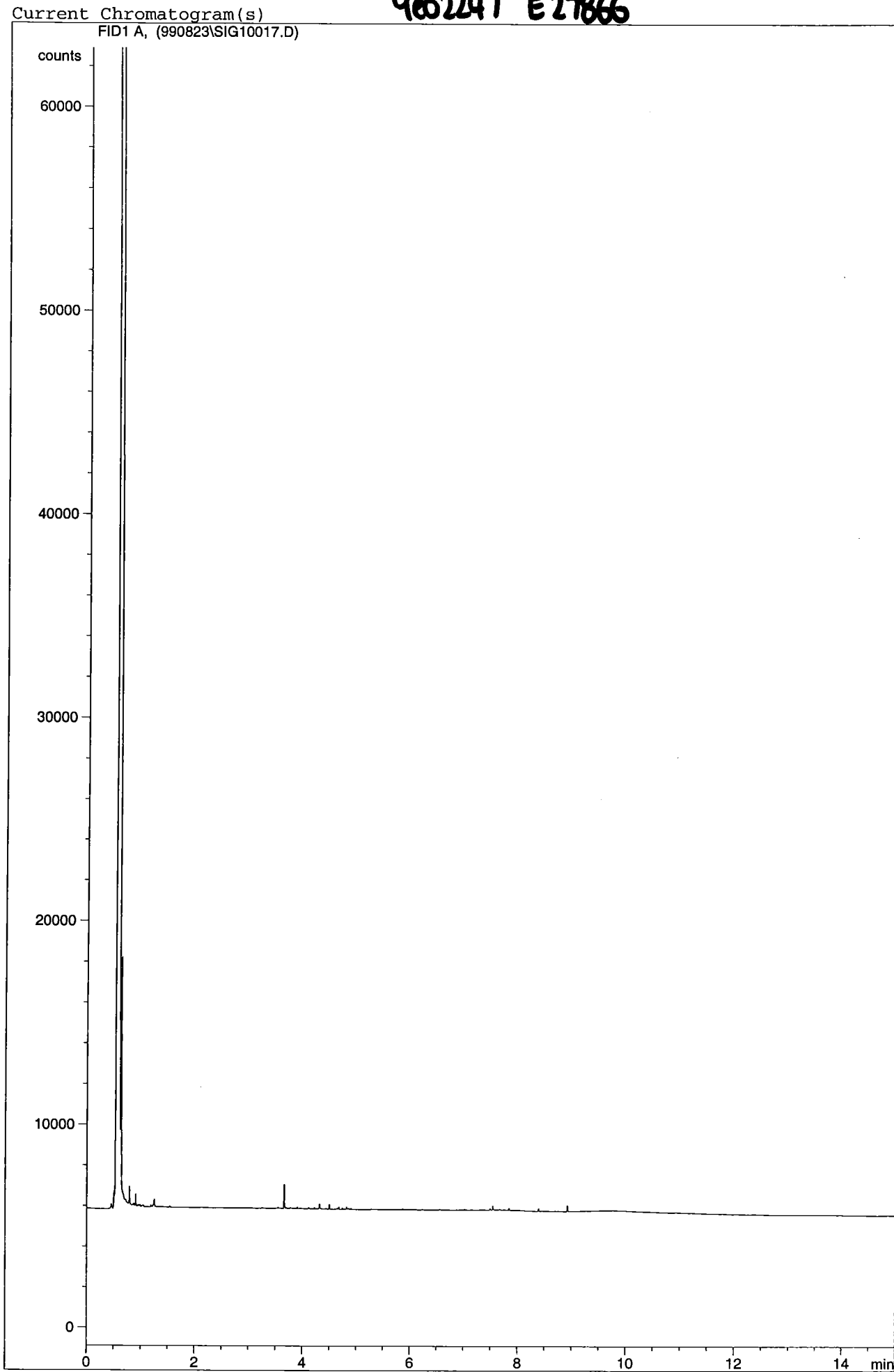
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Current Chromatogram(s)

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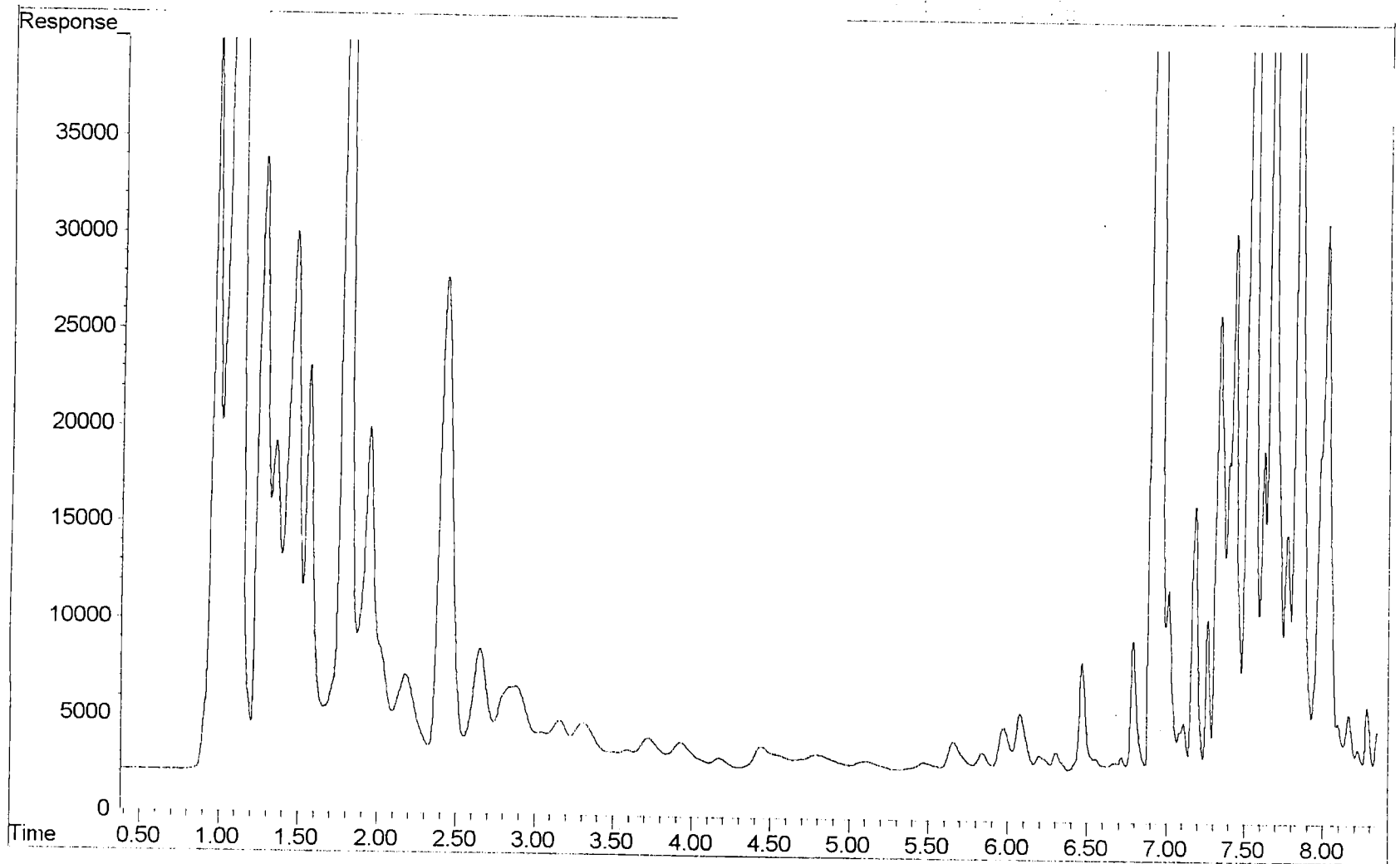


9002247 E27866

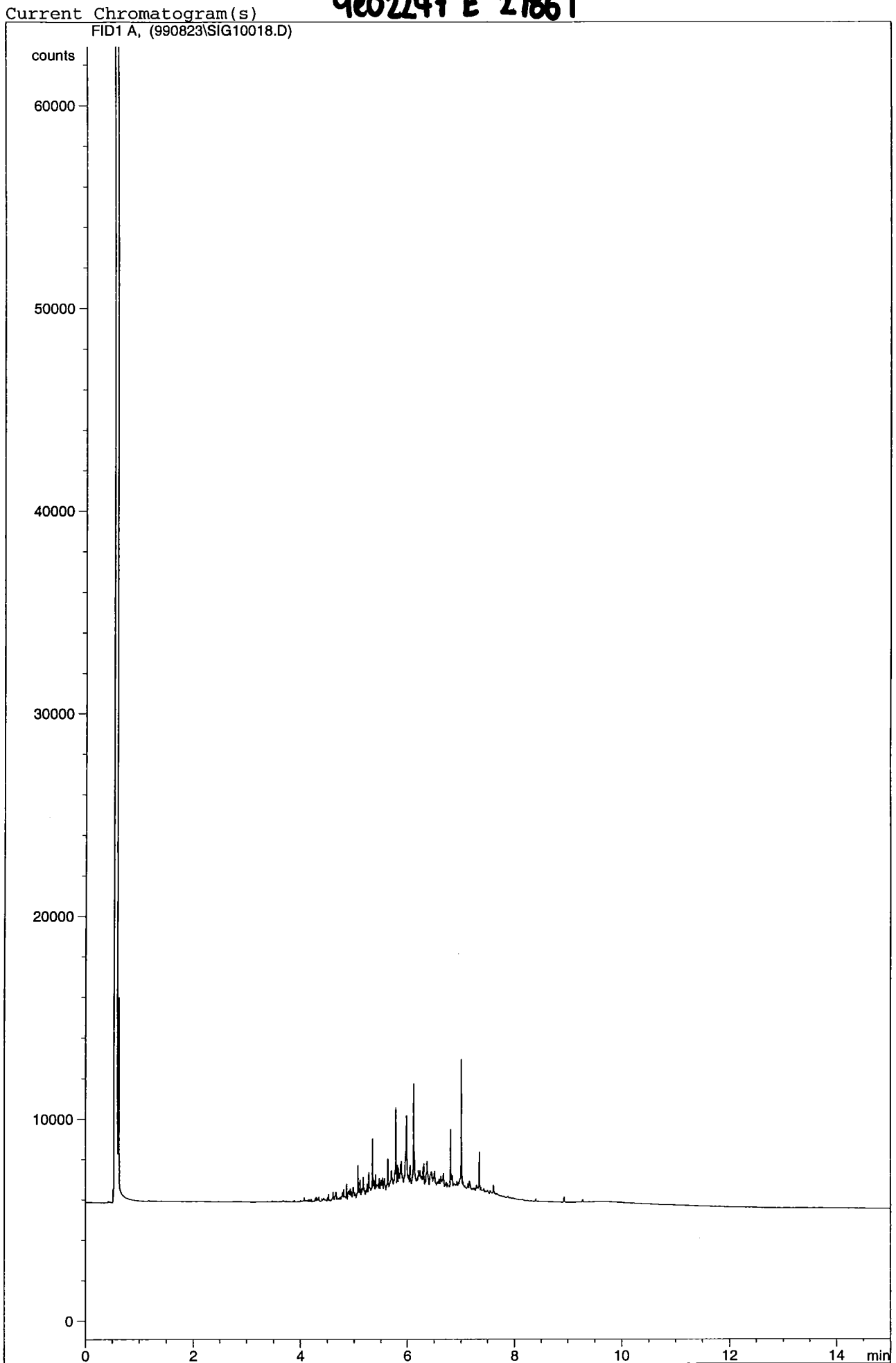


Rox

c-27866



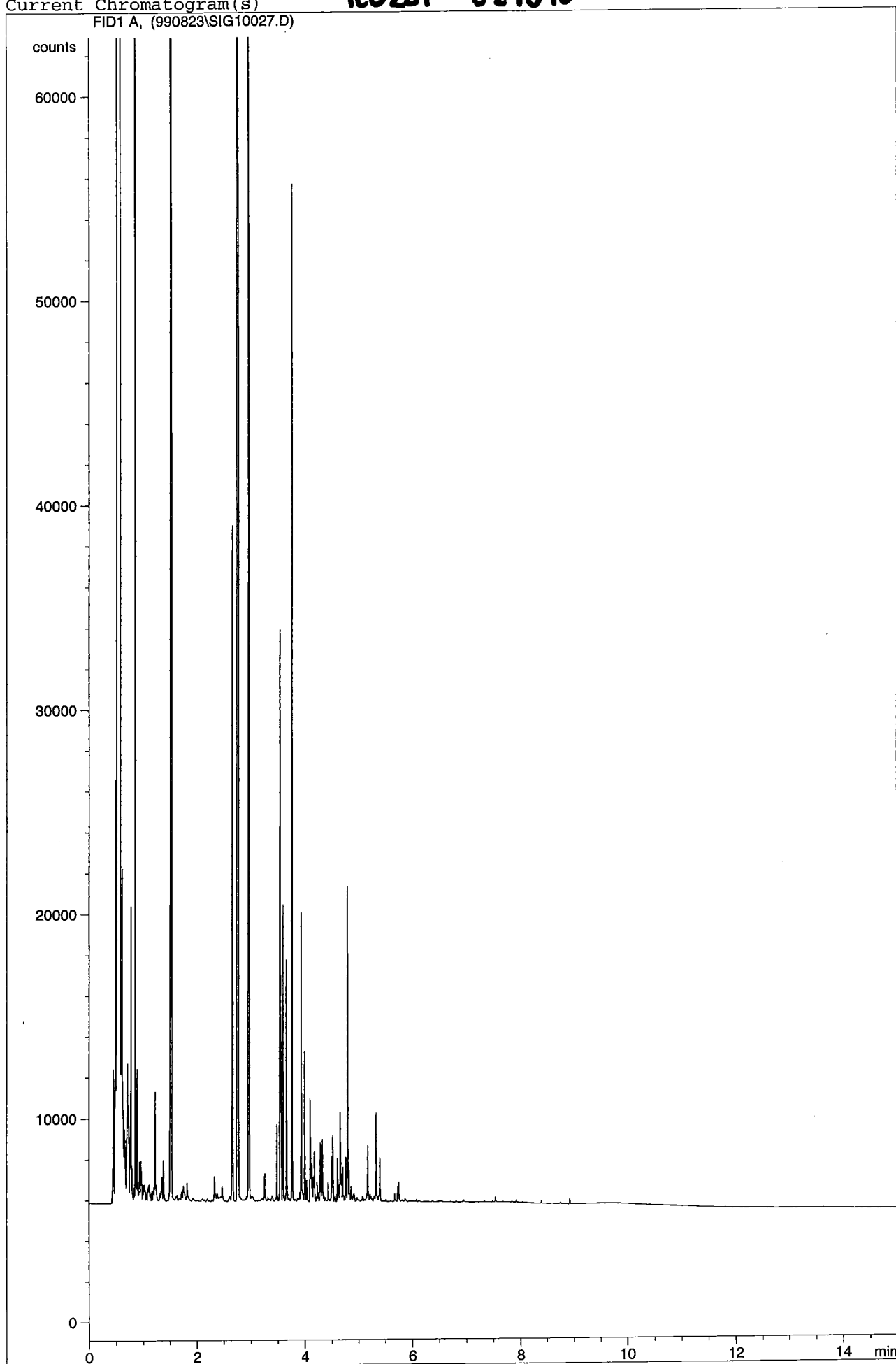
9e02247 E 27867

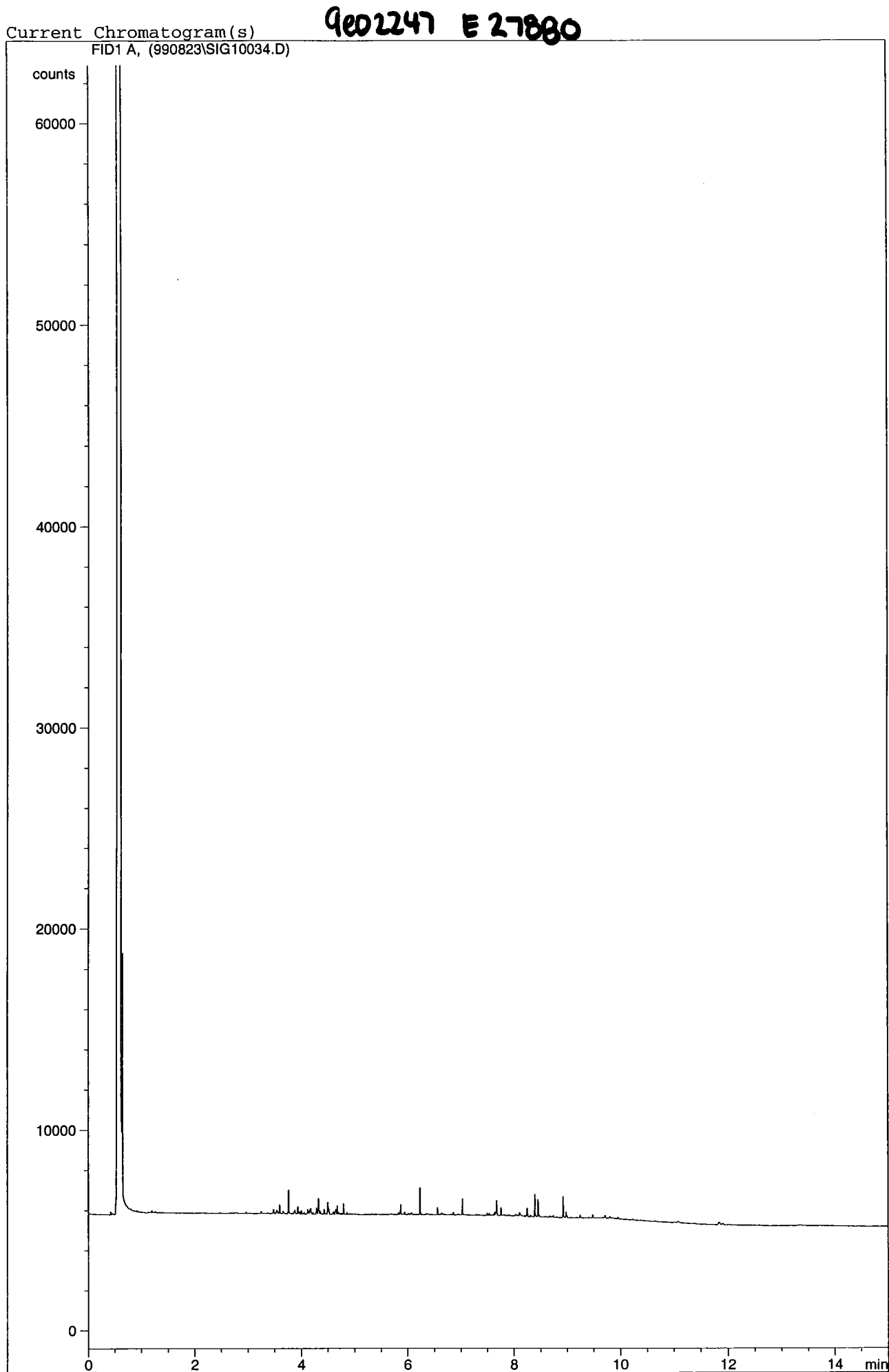


9e0224 E27876

Current Chromatogram(s)

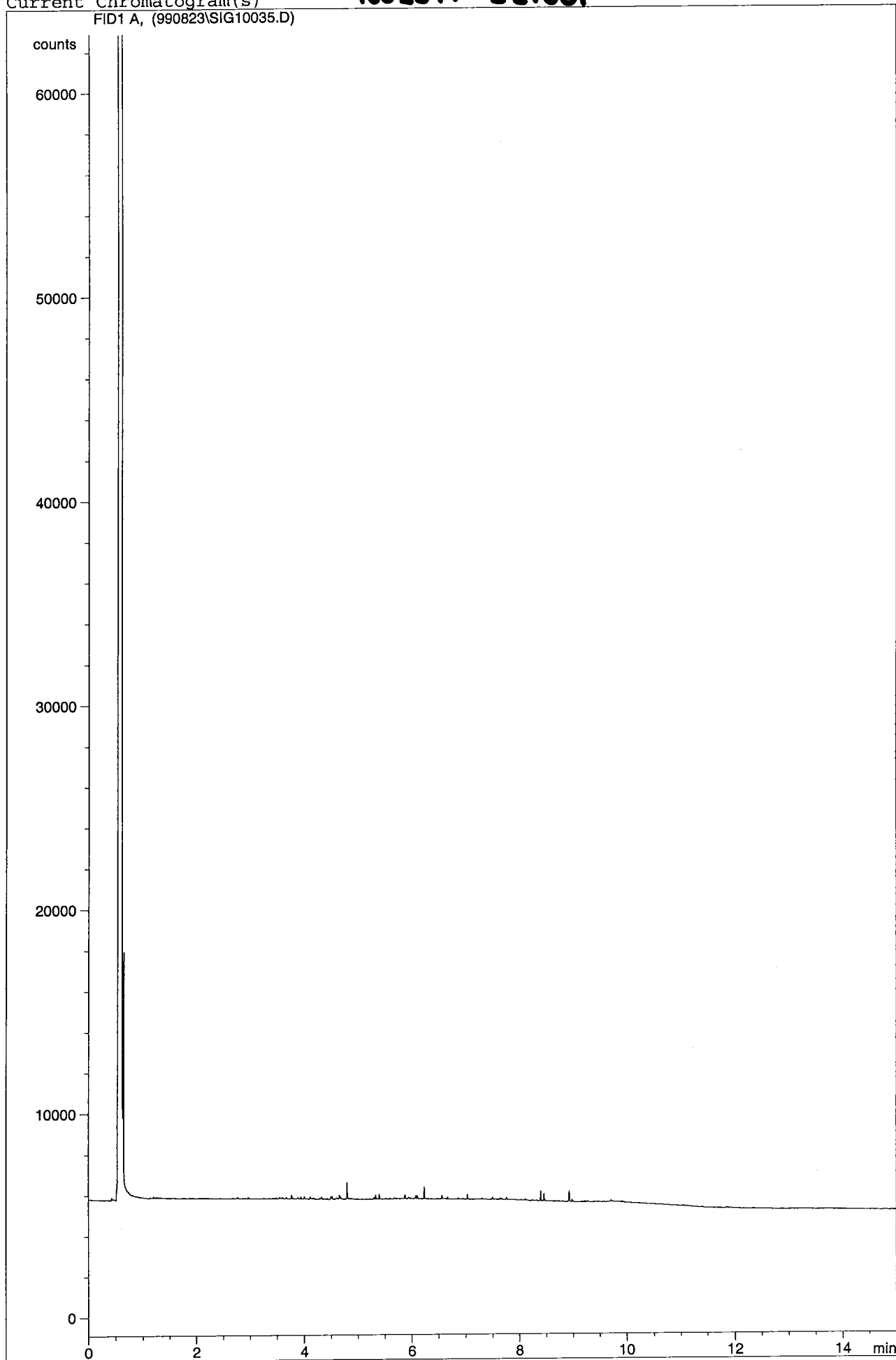
FID1 A, (990823\SIG10027.D)





9e02247 E27881

Current Chromatogram(s)
FID1 A, (990823\SIG10035.D)



Accreditation No. 1464

ENVIRONMENTAL AND INDUSTRIAL SERVICES DIVISION

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CERTIFICATE OF ANALYSIS

Contents :

- 1) Cover Page
- 2) Analysis Report Pages
- 3) QA/QC Appendix

REPORT No : 9E01235
ATTENTION : Mr Stuart Taylor
CLIENT : PPK Adelaide
SAMPLES : 9
REFERENCE : 27K140C/7659
DATE RECEIVED : 19/05/99
DATE REPORTED : 26/05/99

<u>Method</u>	<u>Description</u>	<u>Extracted</u>	<u>Analysed</u>
E0220	Total Petroleum Hydrocarbons	19/05/99	24/05/99
E0180	Semivolatile Organic Compounds	21/05/99	26/05/99
E0110	Polycyclic Aromatic Hydrocarbons	20/05/99	24/05/99
E0290	Volatile Organic Compounds	22/05/99	24/05/99
E4870	Dissolved Metals by ICP-MS	21/05/99	21/05/99
E48501	Mercury low level	21/05/99	21/05/99
E2600	pH	19/05/99	19/05/99
E2330	Ammonia as N	19/05/99	19/05/99
E2770	TKN	20/05/99	21/05/99
E2720	Sulphate	19/05/99	22/05/99
E2640	Phosphorus-Total	20/05/99	21/05/99
E2450	Total Cyanide	20/05/99	20/05/99

RESULTS

All samples were analysed as received. This report relates specifically to the samples received. Results relate to the source material only to the extent that the samples as supplied are truly representative of the sample source. This report replaces any preliminary results issued. Note that for schemes indicated with * NATA accreditation does not cover the performance of this service.

PLEASE SEE ATTACHED PAGES FOR RESULTS


per **G.W. ANDERSON**
Manager Environmental Sydney

Analyte	Lab No	E15577	E15578	E15580	E15581	E15582
	Sample Id	GW 10	GW 9	GW 14	GW 13	GW 106
	PQL					
E0180 Semivolatile Organic Compounds(µg/L)						
Phenol	10	nd	nd	nd	nd	nd
Aniline	100	nd	nd	nd	nd	nd
Bis(2-chloroethyl) ether	10	nd	nd	nd	nd	nd
2-Chlorophenol	10	nd	nd	nd	nd	nd
1,3-Dichlorobenzene	10	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	10	nd	nd	nd	nd	nd
1,2-Dichlorobenzene	10	nd	nd	nd	nd	nd
Benzyl Alcohol	10	nd	nd	nd	nd	nd
2-Methylphenol	10	nd	nd	nd	nd	nd
N-Nitrosodi-n-propylamine	10	nd	nd	nd	nd	nd
Bis(2-chloroisopropyl) ether	10	nd	nd	nd	nd	nd
3 and 4-Methyl phenol	20	nd	nd	nd	nd	nd
Hexachloroethane	10	nd	nd	nd	nd	nd
Nitrobenzene	10	nd	nd	nd	nd	nd
Phosphorone	10	nd	nd	nd	nd	nd
2-Nitrophenol	10	nd	nd	nd	nd	nd
2,4-Dimethylphenol	10	nd	nd	nd	nd	nd
Bis(2-chloroethoxy) methane	10	nd	nd	nd	nd	nd
Benzoic Acid	100	nd	nd	nd	nd	nd
2,4-Dichlorophenol	10	nd	nd	nd	nd	nd
1,2,4-Trichlorobenzene	10	nd	nd	nd	nd	nd
Naphthalene	10	nd	nd	nd	nd	nd
4-Chloroaniline	10	nd	nd	nd	nd	nd
Hexachlorobutadiene	10	nd	nd	nd	nd	nd

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15577	E15578	E15580	E15581	E15582
	Sample Id	GW 10	GW 9	GW 14	GW 13	GW 106
	PQL					
4-Chloro-3-methylphenol	10	nd	nd	nd	nd	nd
2-Methylnaphthalene	10	nd	nd	nd	nd	nd
Hexachlorocyclopentadiene	10	nd	nd	nd	nd	nd
4.6-Trichlorophenol	10	nd	nd	nd	nd	nd
2.4.5-Trichlorophenol	10	nd	nd	nd	nd	nd
2-Chloronaphthalene	10	nd	nd	nd	nd	nd
2-Nitroaniline	10	nd	nd	nd	nd	nd
Dimethyl phthalate	10	nd	nd	nd	nd	nd
2.6-Dinitrotoluene	10	nd	nd	nd	nd	nd
Acenaphthylene	10	nd	nd	nd	nd	nd
3-Nitroaniline	10	nd	nd	nd	nd	nd
Acenaphthene	10	nd	nd	nd	nd	nd
2.4-Dinitrophenol	10	nd	nd	nd	nd	nd
4-Nitrophenol	10	nd	nd	nd	nd	nd
Dibenzofuran	10	nd	nd	nd	nd	nd
Diethyl phthalate	10	nd	nd	nd	nd	nd
Fluorene	10	nd	nd	nd	nd	nd
4-Chlorophenyl phenyl ether	10	nd	nd	nd	nd	nd
4-Nitroaniline	10	nd	nd	nd	nd	nd
4.6-Dinitro-2-methylphenol	10	nd	nd	nd	nd	nd
Azobenzene	100	nd	nd	nd	nd	nd
N-Nitrosodiphenylamine	100	nd	nd	nd	nd	nd
a-BHC	10	nd	nd	nd	nd	nd
4-Bromophenyl phenyl ether	10	nd	nd	nd	nd	nd
Hexachlorobenzene	10	nd	nd	nd	nd	nd

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15577	E15578	E15580	E15581	E15582
	Sample Id	GW 10	GW 9	GW 14	GW 13	GW 106
	PQL					
b-BHC	10	nd	nd	nd	nd	nd
Pentachlorophenol	10	nd	nd	nd	nd	nd
g-BHC	10	nd	nd	nd	nd	nd
Fluorene	10	nd	nd	nd	nd	nd
Anthracene	10	nd	nd	nd	nd	nd
d-BHC	10	nd	nd	nd	nd	nd
Heptachlor	10	nd	nd	nd	nd	nd
Di-n-butyl phthalate	10	nd	nd	nd	nd	nd
Aldrin	10	nd	nd	nd	nd	nd
Heptachlor epoxide	10	nd	nd	nd	nd	nd
Fluoranthene	10	nd	nd	nd	nd	nd
Pyrene	10	nd	nd	nd	nd	nd
Endosulfan 1	10	nd	nd	nd	nd	nd
4,4-DDE	10	nd	nd	nd	nd	nd
Dieldrin	10	nd	nd	nd	nd	nd
Endrin	10	nd	nd	nd	nd	nd
Endosulfan 2	10	nd	nd	nd	nd	nd
4,4-DDD	10	nd	nd	nd	nd	nd
Endrin aldehyde	10	nd	nd	nd	nd	nd
Butyl benzyl phthalate	10	nd	nd	nd	nd	nd
Endosulfan sulfate	10	nd	nd	nd	nd	nd
4,4-DDT	10	nd	nd	nd	nd	nd
3,3-Dichlorobenzidine	100	nd	nd	nd	nd	nd
Benzo(a)anthracene	10	nd	nd	nd	nd	nd
Chrysene	10	nd	nd	nd	nd	nd

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15577	E15578	E15580	E15581	E15582
	Sample Id	GW 10	GW 9	GW 14	GW 13	GW 106
	PQL					
Bis(2-ethylhexyl) phthalate	10	nd	nd	nd	nd	nd
Di-n-octylphthalate	10	nd	nd	nd	nd	nd
Benzo(b)fluoranthene	10	nd	nd	nd	nd	nd
Benzo(k)fluoranthene	10	nd	nd	nd	nd	nd
Benzo(a)pyrene	10	nd	nd	nd	nd	nd
Indeno(1.2.3-cd)pyrene	10	nd	nd	nd	nd	nd
Dibenz(a,h)anthracene	10	nd	nd	nd	nd	nd
Benzo(g,h,i)perylene	10	nd	nd	nd	nd	nd
2-Fluorophenol-SURROGATE	1	83%	83%	71%	64%	84%
Phenol-D5-SURROGATE	1	71%	73%	67%	61%	75%
Nitrobenzene-D5-SURROGATE	1	83%	106%	74%	74%	95%
2-Fluorobiphenyl-SURROGATE	1	88%	112%	80%	77%	97%
2,4,6-Tribromophenol-SURROGATE	1	98%	105%	83%	84%	100%
p-Terphenyl-D14-SURROGATE	1	117%	130%	114%	112%	126%

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15576	E15577	E15578	E15579	E15580
	Sample Id	GW 11	GW 10	GW 9	GW 12	GW 14
	PQL					
E0110 PAH's in Water (µg/L)						
Naphthalene	1	nd	nd	nd	nd	nd
Acenaphthylene	1	nd	nd	nd	nd	nd
Acenaphthene	1	nd	nd	nd	nd	nd
Fluorene	1	nd	nd	nd	nd	nd
Phenanthrene	1	nd	nd	nd	nd	nd
Anthracene	1	nd	nd	nd	nd	nd
Fluoranthene	1	nd	nd	nd	nd	nd
Pyrene	1	nd	nd	nd	nd	nd
Benz(a)anthracene	1	nd	nd	nd	nd	nd
Chrysene	1	nd	nd	nd	nd	nd
Benzo(b) & (k)fluoranthene	2	nd	nd	nd	nd	nd
Benzo(a)pyrene	1	nd	nd	nd	nd	nd
Indeno(1.2.3-cd)pyrene	1	nd	nd	nd	nd	nd
Dibenz(a,h)anthracene	1	nd	nd	nd	nd	nd
Benzo(g,h,i)perylene	1	nd	nd	nd	nd	nd
Total PAH	1	nd	nd	nd	nd	nd
2-Fluorobiphenyl-SURROGATE	1	107%	117%	121%	107%	108%
Anthracene-D10-SURROGATE	1	102%	105%	121%	107%	112%
p-Terphenyl-D14-SURROGATE	1	108%	112%	122%	110%	120%

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15581	E15582	E15583	E15584	
	Sample Id	GW 13	GW 106	GW 16	DUP 1A	
	PQL					
E0110 PAH's in Water (µg/L)						
Naphthalene	1	nd	nd	nd	nd	
Acenaphthylene	1	nd	nd	nd	nd	
Acenaphthene	1	nd	nd	nd	nd	
Fluorene	1	nd	nd	nd	nd	
Phenanthrene	1	nd	nd	nd	nd	
Anthracene	1	nd	nd	nd	nd	
Fluoranthene	1	nd	nd	nd	nd	
Pyrene	1	nd	nd	nd	nd	
Benz(a)anthracene	1	nd	nd	nd	nd	
Chrysene	1	nd	nd	nd	nd	
Benzo(b) & (k)fluoranthene	2	nd	nd	nd	nd	
Benzo(a)pyrene	1	nd	nd	nd	nd	
Indeno(1.2.3-cd)pyrene	1	nd	nd	nd	nd	
Dibenz(a,h)anthracene	1	nd	nd	nd	nd	
Benzo(g,h,i)perylene	1	nd	nd	nd	nd	
Total PAH	1	nd	nd	nd	nd	
2-Fluorobiphenyl-SURROGATE	1	111%	123%	121%	127%	
Anthracene-D10-SURROGATE	1	105%	118%	117%	121%	
p-Terphenyl-D14-SURROGATE	1	107%	119%	119%	124%	

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15577	E15578	E15580	E15581	E15582
	Sample Id	GW 10	GW 9	GW 14	GW 13	GW 106
	PQL					
E0290 Volatile Organic Compounds (µg/L)						
Benzene	5	nd	nd	nd	nd	nd
Bromobenzene	5	nd	nd	nd	nd	nd
Bromochloromethane	5	nd	nd	nd	nd	nd
Bromodichloromethane	5	nd	nd	nd	nd	nd
Bromoform	5	nd	nd	nd	nd	nd
Bromomethane	5	nd	nd	nd	nd	nd
n-Butylbenzene	5	nd	nd	nd	nd	nd
sec-Butylbenzene	5	nd	nd	nd	nd	nd
tert-Butylbenzene	5	nd	nd	nd	nd	nd
Carbon tetrachloride	5	nd	nd	nd	nd	nd
Chlorobenzene	5	nd	nd	nd	nd	nd
Chloroethane	5	nd	nd	nd	nd	nd
Chloroform	5	nd	nd	nd	nd	nd
Chloromethane	5	nd	nd	nd	nd	nd
Chlorotoluene	5	nd	nd	nd	nd	nd
4-Chlorotoluene	5	nd	nd	nd	nd	nd
Dibromochloromethane	5	nd	nd	nd	nd	nd
1,2-Dibromo-3-chloropropane	5	nd	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	5	nd	nd	nd	nd	nd
Dibromomethane	5	nd	nd	nd	nd	nd
1,2-Dichlorobenzene	5	nd	nd	nd	nd	nd
1,3-Dichlorobenzene	5	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	5	nd	nd	nd	nd	nd
Dichlorodifluoromethane	5	nd	nd	nd	nd	nd

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15577	E15578	E15580	E15581	E15582
	Sample Id	GW 10	GW 9	GW 14	GW 13	GW 106
	PQL					
1.1-Dichloroethene	5	nd	nd	nd	nd	nd
1.2-Dichloroethane	5	nd	nd	nd	nd	nd
1.1-Dichloroethane	5	nd	nd	nd	nd	nd
cis-1.2-Dichloroethene	5	nd	nd	nd	nd	nd
trans-1.2-Dichloroethene	5	nd	nd	nd	nd	nd
1.2-Dichloropropane	5	nd	nd	nd	nd	nd
1.3-Dichloropropane	5	nd	nd	nd	nd	nd
2.2-Dichloropropane	5	nd	nd	nd	nd	nd
1.1-Dichloropropylene	5	nd	nd	nd	nd	nd
cis-1.3-Dichloropropylene	5	nd	nd	nd	nd	nd
trans-1.3-Dichloropropylene	5	nd	nd	nd	nd	nd
Ethylbenzene	5	nd	nd	nd	nd	nd
Hexachlorobutadiene	5	nd	nd	nd	nd	nd
Isopropylbenzene	5	nd	nd	nd	nd	nd
p-Isopropyltoluene	5	nd	nd	nd	nd	nd
ethylene chloride	5	nd	nd	nd	nd	nd
Naphthalene	5	nd	nd	nd	nd	nd
n-Propylbenzene	5	nd	nd	nd	nd	nd
Styrene	5	nd	nd	nd	nd	nd
1.1.1.2-Tetrachloroethane	5	nd	nd	nd	nd	nd
1.1.2.2-Tetrachloroethane	5	nd	nd	nd	nd	nd
Tetrachloroethene	5	nd	nd	nd	nd	nd
Toluene	5	nd	nd	nd	nd	nd
1.2.3-Trichlorobenzene	5	nd	nd	nd	nd	nd
1.2.4-Trichlorobenzene	5	nd	nd	nd	nd	nd

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

QA/QC APPENDIX NO. 9E01235

<u>Method</u>	<u>Description</u>
E0220	Total Petroleum Hydrocarbons
E0180	Semivolatile Organic Compounds
E0110	Polycyclic Aromatic Hydrocarbons
E0290	Volatile Organic Compounds
E4870	Dissolved Metals by ICP-MS
E48501	Mercury low level
E2600	pH
E2330	Ammonia as N
E2770	TKN
E2720	Sulphate
E2640	Phosphorus-Total
E2450	Total Cyanide

Chromatography QA/QC

	Yes	No	N/A
Retention Time Window Within Acceptance Criteria($\pm 2\%$)	√		
Check Standard Within Acceptance Criteria($\pm 10\%$)	√		
Recalibration Within Acceptance Criteria($\pm 15\%$)	√		
Internal Standard (where applicable) shows acceptable recovery	√		

Other QA/QC

Holding time conforming With Method Specification	√
Chain of Custody Attached	√

N/A=Not Applicable

Comments

- Laboratory QA/QC including Method Blanks, Duplicates, Matrix Spike Duplicates, Laboratory Control Samples or CRM's are included in this QA/QC appendix. (Where applicable)
- Inter-Laboratory proficiency trial results available on request. (Where applicable)
- Surrogate description and recoveries are recorded in the Report. (Where applicable)
- Acceptance criteria for specific analytes are available upon request (Refer to SPM-01).
- Practical Quantitation Limit (PQL is typically 2-10 x method detection limit (MDL)).
- PQL's are matrix dependent and are increased accordingly where sample extracts are diluted.
- Results are uncorrected for matrix spike or surrogate recoveries.


per G.W. ANDERSON
Manager Environmental Sydney

QAQC : Method Blank

ANALYTE	SAMPLE ID	Blank			
	PQL				
E0180 Semivolatile Organic Compounds($\mu\text{g/L}$)					
Phenol	10	nd			
Aniline	100	nd			
Bis(2-chloroethyl) ether	10	nd			
2-Chlorophenol	10	nd			
1,3-Dichlorobenzene	10	nd			
1,4-Dichlorobenzene	10	nd			
1,2-Dichlorobenzene	10	nd			
Benzyl Alcohol	10	nd			
2-Methylphenol	10	nd			
N-Nitrosodi-n-propylamine	10	nd			
Bis(2-chloroisopropyl) ether	10	nd			
3 and 4-Methyl phenol	20	nd			
Hexachloroethane	10	nd			
Nitrobenzene	10	nd			
Isophorone	10	nd			
Nitrophenol	10	nd			
2,4-Dimethylphenol	10	nd			
Bis(2-chloroethoxy) methane	10	nd			
Benzoic Acid	100	nd			
2,4-Dichlorophenol	10	nd			
1,2,4-Trichlorobenzene	10	nd			
Naphthalene	10	nd			
4-Chloroaniline	10	nd			
Hexachlorobutadiene	10	nd			

PQL = Practical Quantitation Limit
 nd = < PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Method Blank

ANALYTE	SAMPLE ID	Blank			
	PQL				
4-Chloro-3-methylphenol	10	nd			
2-Methylnaphthalene	10	nd			
Hexachlorocyclopentadiene	10	nd			
4.6-Trichlorophenol	10	nd			
2.4.5-Trichlorophenol	10	nd			
2-Chloronaphthalene	10	nd			
2-Nitroaniline	10	nd			
Dimethyl phthalate	10	nd			
2.6-Dinitrotoluene	10	nd			
Acenaphthylene	10	nd			
3-Nitroaniline	10	nd			
Acenaphthene	10	nd			
2.4-Dinitrophenol	10	nd			
4-Nitrophenol	10	nd			
Dibenzofuran	10	nd			
Diethyl phthalate	10	nd			
Styrene	10	nd			
4-Chlorophenyl phenyl ether	10	nd			
4-Nitroaniline	10	nd			
4.6-Dinitro-2-methylphenol	10	nd			
Azobenzene	100	nd			
N-Nitrosodiphenylamine	100	nd			
a-BHC	10	nd			
4-Bromophenyl phenyl ether	10	nd			
Hexachlorobenzene	10	nd			

PQL = Practical Quantitation Limit
 nd = <PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Method Blank

ANALYTE	SAMPLE ID	Blank			
	PQL				
b-BHC	10	nd			
Pentachlorophenol	10	nd			
g-BHC	10	nd			
Benanthrene	10	nd			
Anthracene	10	nd			
d-BHC	10	nd			
Heptachlor	10	nd			
Di-n-butyl phthalate	10	nd			
Aldrin	10	nd			
Heptachlor epoxide	10	nd			
Fluoranthene	10	nd			
Pyrene	10	nd			
Endosulfan 1	10	nd			
4,4-DDE	10	nd			
Dieldrin	10	nd			
Endrin	10	nd			
Endosulfan 2	10	nd			
4,4-DDD	10	nd			
Endrin aldehyde	10	nd			
Butyl benzyl phthalate	10	nd			
Endosulfan sulfate	10	nd			
4,4-DDT	10	nd			
3,3-Dichlorobenzidine	100	nd			
Benzo(a)anthracene	10	nd			
Chrysene	10	nd			

PQL = Practical Quantitation Limit
 nd = <PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Laboratory Control Sample

Analyte	Level	Level Detected		Recovery Details			
		Result1	Result2	Rec 1 (%)	Rec 2 (%)	Average (%)	RPD (%)
E0110 PAH's in Water (µg/L)							
Naphthalene	10	11		110%		110%	
Acenaphthylene	10	11		110%		110%	
Acenaphthene	10	11		110%		110%	
Fluorene	10	11		110%		110%	
Phenanthrene	10	11		110%		110%	
Anthracene	10	11		110%		110%	
Fluoranthene	10	11		110%		110%	
Pyrene	10	11		110%		110%	
Benz(a)anthracene	10	11		110%		110%	
Chrysene	10	11		110%		110%	
Benzo(b) & (k)fluoranthene	20	23		115%		115%	
Benzo(a)pyrene	10	10		100%		100%	
Indeno(1.2.3-cd)pyrene	10	11		110%		110%	
Dibenz(a,h)anthracene	10	10		100%		100%	
Benzo(g,h,i)perylene	10	11		110%		110%	

PQL = Practical Quantitation Limit
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight nd = <PQL
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Method Blank

ANALYTE	SAMPLE ID	Blank			
	PQL				
E0110 PAH's in Water ($\mu\text{g/L}$)					
Naphthalene	1	nd			
Acenaphthylene	1	nd			
Acenaphthene	1	nd			
Fluorene	1	nd			
Phenanthrene	1	nd			
Anthracene	1	nd			
Fluoranthene	1	nd			
Pyrene	1	nd			
Benz(a)anthracene	1	nd			
Chrysene	1	nd			
Benzo(b) & (k)fluoranthene	2	nd			
Benzo(a)pyrene	1	nd			
Indeno(1.2.3-cd)pyrene	1	nd			
Dibenz(a,h)anthracene	1	nd			
Benzo(g,h,i)perylene	1	nd			

PQL = Practical Quantitation Limit
 nd = < PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Method Blank

ANALYTE	SAMPLE ID	Blank			
	PQL				
E0290 Volatile Organic Compounds (µg/L)					
Benzene	5	nd			
Bromobenzene	5	nd			
monochloromethane	5	nd			
Bromodichloromethane	5	nd			
Bromoform	5	nd			
Bromomethane	5	nd			
n-Butylbenzene	5	nd			
sec-Butylbenzene	5	nd			
tert-Butylbenzene	5	nd			
Carbon tetrachloride	5	nd			
Chlorobenzene	5	nd			
Chloroethane	5	nd			
Chloroform	5	nd			
Chloromethane	5	nd			
2-Chlorotoluene	5	nd			
o-Chlorotoluene	5	nd			
Dibromochloromethane	5	nd			
1,2-Dibromo-3-chloropropane	5	nd			
1,2-Dibromoethane (EDB)	5	nd			
Dibromomethane	5	nd			
1,2-Dichlorobenzene	5	nd			
1,3-Dichlorobenzene	5	nd			
1,4-Dichlorobenzene	5	nd			
Dichlorodifluoromethane	5	nd			

PQL = Practical Quantitation Limit
 nd = <PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Method Blank

ANALYTE	SAMPLE ID	Blank			
	PQL				
1.1-Dichloroethene	5	nd			
1.2-Dichloroethane	5	nd			
1.1-Dichloroethane	5	nd			
-1.2-Dichloroethene	5	nd			
trans-1.2-Dichloroethene	5	nd			
1.2-Dichloropropane	5	nd			
1.3-Dichloropropane	5	nd			
2.2-Dichloropropane	5	nd			
1.1-Dichloropropylene	5	nd			
cis-1.3-Dichloropropylene	5	nd			
trans-1.3-Dichloropropylene	5	nd			
Ethylbenzene	5	nd			
Hexachlorobutadiene	5	nd			
Isopropylbenzene	5	nd			
p-Isopropyltoluene	5	nd			
Methylene chloride	5	nd			
naphthalene	5	nd			
n-Propylbenzene	5	nd			
Styrene	5	nd			
1.1.1.2-Tetrachloroethane	5	nd			
1.1.2.2-Tetrachloroethane	5	nd			
Tetrachloroethene	5	nd			
Toluene	5	nd			
1.2.3-Trichlorobenzene	5	nd			
1.2.4-Trichlorobenzene	5	nd			

PQL = Practical Quantitation Limit
 nd = < PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

Accreditation No. 1464

ENVIRONMENTAL AND INDUSTRIAL SERVICES DIVISION

Trading as Australian Analytical Laboratories Pty Ltd

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CERTIFICATE OF ANALYSIS

Contents :

- 1) Cover Page
- 2) Analysis Report Pages
- 3) QA/QC Appendix

REPORT No : 9E01236
ATTENTION : Mr Stuart Taylor
CLIENT : PPK Adelaide
SAMPLES : 8
REFERENCE : 27K140C-CANBERRA
DATE RECEIVED : 19/05/99
DATE REPORTED : 26/05/99

<u>Method</u>	<u>Description</u>	<u>Extracted</u>	<u>Analysed</u>
E0220	Total Petroleum Hydrocarbons	19/05/99	24/05/99
E0010	Benzene, Toluene, Ethylbenzene & Xylene	21/05/99	24/05/99
E4870	Dissolved Metals by ICP-MS	21/05/99	21/05/99
E48501	Mercury low level	21/05/99	21/05/99
E0110	Polycyclic Aromatic Hydrocarbons	20/05/99	26/05/99

RESULTS

All samples were analysed as received. This report relates specifically to the samples received. Results relate to the source material only to the extent that the samples as supplied are truly representative of the sample source. This report replaces any preliminary results issued. Note that for schemes indicated with * NATA accreditation does not cover the performance of this service.

PLEASE SEE ATTACHED PAGES FOR RESULTS


per **G.W. ANDERSON**
Manager Environmental Sydney

Analyte	Lab No	E15568	E15569	E15570	E15571	E15572
	Sample Id	GW1	GW2	GW4	GW35	GW36
	PQL					
E0220 TPH in Water (µg/L)						
Total C6-C36	20	nd	9990	77100	4010	nd
C6-C9 Fraction	20	nd	1170	46600	1440	nd
J-C14 Fraction	20	nd	367	17100	2570	nd
C15-C28 Fraction	100	nd	7430	13200	nd	nd
C29-C36 Fraction	100	nd	1030	133	nd	nd
E0010 BTEX (P&T) in Water (µg/L)						
Benzene	0.5	nd	769	11900	208	nd
Toluene	1	nd	37	14000	97	nd
Ethylbenzene	1	nd	13	2140	32	nd
Total Xylenes	3	nd	29	11200	656	nd
E4870 Dissolved Metals in Waters						
Lead	0.001	nd	nd	0.004	nd	0.016
E48501 Dissolved Mercury in Waters						
Mercury	0.00005	nd	nd	nd	nd	nd

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15573	E15574	E15575		
	Sample Id	GW33	GW37	GW38		
	PQL					
E0220 TPH in Water (µg/L)						
Total C6-C36	20	2740	nd	nd		
C6-C9 Fraction	20	nd	nd	nd		
C10-C14 Fraction	20	*2000	nd	nd		
C15-C28 Fraction	100	539	nd	nd		
C29-C36 Fraction	100	206	nd	nd		
E0010 BTEX (P&T) in Water (µg/L)						
Benzene	0.5	nd	nd	nd		
Toluene	1	nd	nd	nd		
Ethylbenzene	1	nd	nd	nd		
Total Xylenes	3	nd	nd	nd		
E4870 Dissolved Metals in Waters						
Lead	0.001	0.019	nd	0.003		
E48501 Dissolved Mercury in Waters						
Mercury	0.00005	nd	nd	nd		

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable
 * TPH mainly due to a single peak.

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15568	E15569	E15570	E15571	E15572
	Sample Id	GW1	GW2	GW4	GW35	GW36
	PQL					
E0110 PAH's in Water (µg/L)						
Naphthalene	1	nd	2	270	3	nd
Acenaphthylene	1	nd	nd	nd	nd	nd
Acenaphthene	1	nd	nd	1	nd	nd
Fluorene	1	nd	nd	2	nd	nd
Phenanthrene	1	nd	nd	2	nd	nd
Anthracene	1	nd	nd	nd	nd	nd
Fluoranthene	1	nd	nd	nd	nd	nd
Pyrene	1	nd	nd	nd	nd	nd
Benz(a)anthracene	1	nd	nd	nd	nd	nd
Chrysene	1	nd	nd	nd	nd	nd
Benzo(b) & (k)fluoranthene	2	nd	nd	nd	nd	nd
Benzo(a)pyrene	1	nd	nd	nd	nd	nd
Indeno(1.2.3-cd)pyrene	1	nd	nd	nd	nd	nd
Dibenz(a,h)anthracene	1	nd	nd	nd	nd	nd
Benzo(g,h,i)perylene	1	nd	nd	nd	nd	nd
total PAH	1	nd	2	275	3	nd
2-Fluorobiphenyl-SURROGATE	1	111%	113%	108%	111%	126%
Anthracene-D10-SURROGATE	1	115%	112%	110%	115%	128%
p-Terphenyl-D14-SURROGATE	1	128%	118%	117%	122%	130%

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15573	E15574	E15575		
	Sample Id	GW33	GW37	GW38		
	PQL					
E0110 PAH's in Water (µg/L)						
Naphthalene	1	nd	nd	nd		
Acenaphthylene	1	nd	nd	nd		
Acenaphthene	1	nd	nd	nd		
Fluorene	1	nd	nd	nd		
Phenanthrene	1	nd	nd	nd		
Anthracene	1	nd	nd	nd		
Fluoranthene	1	nd	nd	nd		
Pyrene	1	nd	nd	nd		
Benz(a)anthracene	1	nd	nd	nd		
Chrysene	1	nd	nd	nd		
Benzo(b) & (k)fluoranthene	2	nd	nd	nd		
Benzo(a)pyrene	1	nd	nd	nd		
Indeno(1.2.3-cd)pyrene	1	nd	nd	nd		
Dibenz(a,h)anthracene	1	nd	nd	nd		
Benzo(g,h,i)perylene	1	nd	nd	nd		
Total PAH	1	nd	nd	nd		
2-Fluorobiphenyl-SURROGATE	1	111%	112%	103%		
Anthracene-D10-SURROGATE	1	116%	121%	116%		
p-Terphenyl-D14-SURROGATE	1	125%	125%	130%		*

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = < PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

QA/QC APPENDIX NO. 9E01236

<u>Method</u>	<u>Description</u>
E0220	Total Petroleum Hydrocarbons
E0010	Benzene, Toluene, Ethylbenzene & Xylene
E4870	Dissolved Metals by ICP-MS
E48501	Mercury low level
E0110	Polycyclic Aromatic Hydrocarbons

Chromatography QA/QC

	Yes	No	N/A
Retention Time Window Within Acceptance Criteria ($\pm 2\%$)	√		
Check Standard Within Acceptance Criteria ($\pm 10\%$)	√		
Recalibration Within Acceptance Criteria ($\pm 15\%$)	√		
Internal Standard (where applicable) shows acceptable recovery	√		

Other QA/QC

Holding time conforming With Method Specification	√		
Chain of Custody Attached	√		

N/A = Not Applicable

Comments

1. Laboratory QA/QC including Method Blanks, Duplicates, Matrix Spike Duplicates, Laboratory Control Samples or CRM's are included in this QA/QC appendix. (Where applicable)
2. Inter-Laboratory proficiency trial results available on request. (Where applicable)
3. Surrogate description and recoveries are recorded in the Report. (Where applicable)
4. Acceptance criteria for specific analytes are available upon request (Refer to SPM-01).
5. Practical Quantitation Limit (PQL is typically 2-10 x method detection limit (MDL)).
6. PQL's are matrix dependent and are increased accordingly where sample extracts are diluted.
7. Results are uncorrected for matrix spike or surrogate recoveries.



per G.W. ANDERSON
Manager Environmental Sydney

QAQC : Method Blank

ANALYTE	SAMPLE ID	Blank				
	PQL					
E0220 TPH in Water ($\mu\text{g/L}$)						
Total C6-C36	20	nd				
C6-C9 Fraction	20	nd				
C10-C14 Fraction	20	nd				
C15-C28 Fraction	100	nd				
C29-C36 Fraction	100	nd				
E0010 BTEX (P&T) in Water ($\mu\text{g/L}$)						
Benzene	0.5	nd				
Toluene	1	nd				
Ethylbenzene	1	nd				
Total Xylenes	3	nd				
E4870 Dissolved Metals in Waters						
Lead	0.001	nd				
E48501 Dissolved Mercury in Waters						
Mercury	0.00005	nd				

PQL = Practical Quantitation Limit
 nd = < PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98



QAQC : Laboratory Control Sample

Analyte	Level	Level Detected		Recovery Details			
		Result1	Result2	Rec 1 (%)	Rec 2 (%)	Average (%)	RPD (%)
E0110 PAH's in Water (µg/L)							
Naphthalene	10	11		110%		110%	
Acenaphthylene	10	11		110%		110%	
Acenaphthene	10	11		110%		110%	
Fluorene	10	11		110%		110%	
Phenanthrene	10	11		110%		110%	
Anthracene	10	11		110%		110%	
Fluoranthene	10	11		110%		110%	
Pyrene	10	11		110%		110%	
Benz(a)anthracene	10	11		110%		110%	
Chrysene	10	11		110%		110%	
Benzo(b) & (k)fluoranthene	20	23		115%		115%	
Benzo(a)pyrene	10	10		100%		100%	
Indeno(1.2.3-cd)pyrene	10	11		110%		110%	
Dibenz(a,h)anthracene	10	10		100%		100%	
Benzo(g,h,i)perylene	10	11		110%		110%	

PQL = Practical Quantitation Limit
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified
 nd = <PQL

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

Accreditation No. 1464

ENVIRONMENTAL AND INDUSTRIAL SERVICES DIVISION

Trading as Australian Analytical Laboratories Pty Ltd

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CERTIFICATE OF ANALYSIS

Contents :

- 1) Cover Page
- 2) Analysis Report Pages
- 3) QA/QC Appendix

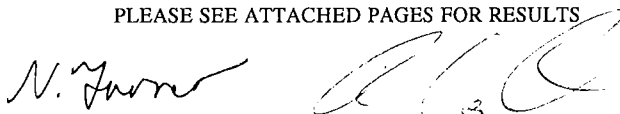
REPORT No : 9E01237
ATTENTION : Mr Stuart Taylor
CLIENT : PPK Adelaide
SAMPLES : 15
REFERENCE : 27K140C/7660-7661
DATE RECEIVED : 19/05/99
DATE REPORTED : 25/05/99

<u>Method</u>	<u>Description</u>	<u>Extracted</u>	<u>Analysed</u>
E0220	Total Petroleum Hydrocarbons	19/05/99	24/05/99
E0010	Benzene, Toluene, Ethylbenzene & Xylene	24/05/99	24/05/99
E0110	Polycyclic Aromatic Hydrocarbons	24/05/99	24/05/99
E4870	Dissolved Metals by ICP-MS	21/05/99	21/05/99
E48501	Mercury low level	21/05/99	25/05/99

RESULTS

All samples were analysed as received. This report relates specifically to the samples received.
Results relate to the source material only to the extent that the samples as supplied are truly representative of the sample source. This report replaces any preliminary results issued.
Note that for schemes indicated with * NATA accreditation does not cover the performance of this service.

PLEASE SEE ATTACHED PAGES FOR RESULTS



per G.W. ANDERSON
Manager Environmental Sydney



Job Number : 9E01237

Client : PPK Adelaide

Reference : 27K140C/7660-7661

Page 1 of 6

plus Cover Page

Analyte	Lab No	E15637	E15638	E15639	E15640	E15641
	Sample Id	GW 32	GW 17	GW 19	GW 21	GW 22
	PQL					
E0220 TPH in Water (µg/L)						
Total C6-C36	20	nd	nd	nd	nd	nd
C6-C9 Fraction	20	nd	nd	nd	nd	nd
C10-C14 Fraction	20	nd	nd	nd	nd	nd
C15-C28 Fraction	100	nd	nd	nd	nd	nd
C29-C36 Fraction	100	nd	nd	nd	nd	nd
E0010 BTEX (P&T) in Water (µg/L)						
Benzene	0.5	nd	nd	nd	nd	nd
Toluene	1	nd	2	nd	nd	nd
Ethylbenzene	1	nd	nd	nd	nd	nd
Total Xylenes	3	nd	nd	nd	nd	nd
E4870 Dissolved Metals in Waters						
Lead	0.001	nd	0.001	0.001	nd	nd
E48501 Dissolved Mercury in Waters						
Mercury	0.00005	nd	nd	nd	0.00005	nd

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15642	E15643	E15644	E15645	E15646
	Sample Id	GW 24	GW 26	GW 28	GW 30	PMW1
	PQL					
E0220 TPH in Water (µg/L)						
Total C6-C36	20	78100	203	nd	190	86800
C6-C9 Fraction	20	633	nd	nd	nd	2320
C10-C14 Fraction	20	40100	nd	nd	nd	41800
C15-C28 Fraction	100	37400	203	nd	190	42700
C29-C36 Fraction	100	nd	nd	nd	nd	nd
E0010 BTEX (P&T) in Water (µg/L)						
Benzene	0.5	2.6	nd	nd	nd	7.9
Toluene	1	1	nd	nd	nd	nd
Ethylbenzene	1	nd	nd	nd	nd	3
Total Xylenes	3	nd	nd	nd	nd	3
E4870 Dissolved Metals in Waters						
Lead	0.001	nd	nd	0.001	nd	0.004
E48501 Dissolved Mercury in Waters						
Mercury	0.00005	nd	nd	0.00029	nd	nd

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15647	E15648	E15649	E15650	E15651
	Sample Id	PMW2	PMW3	DUP 2A	RINSE BL	TRIP BL
	PQL					
E0220 TPH in Water (µg/L)						
Total C6-C36	20	295	nd	nd	nd	--
C6-C9 Fraction	20	nd	nd	nd	nd	--
C10-C14 Fraction	20	295	nd	nd	nd	--
C15-C28 Fraction	100	nd	nd	nd	nd	--
C29-C36 Fraction	100	nd	nd	nd	nd	--
E0010 BTEX (P&T) in Water (µg/L)						
Benzene	0.5	nd	nd	nd	nd	nd
Toluene	1	nd	nd	nd	nd	nd
Ethylbenzene	1	nd	nd	nd	nd	nd
Total Xylenes	3	nd	nd	nd	nd	nd
E4870 Dissolved Metals in Waters						
Lead	0.001	0.002	nd	nd	--	--
E48501 Dissolved Mercury in Waters						
Mercury	0.00005	nd	nd	nd	--	--

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15637	E15638	E15639	E15640	E15641
	Sample Id	GW 32	GW 17	GW 19	GW 21	GW 22
	PQL					
E0110 PAH's in Water (µg/L)						
Naphthalene	1	nd	nd	nd	nd	nd
Acenaphthylene	1	nd	nd	nd	nd	nd
Acenaphthene	1	nd	nd	nd	nd	nd
Fluorene	1	nd	nd	nd	nd	nd
Phenanthrene	1	nd	nd	nd	nd	nd
Anthracene	1	nd	nd	nd	nd	nd
Fluoranthene	1	nd	nd	nd	nd	nd
Pyrene	1	nd	nd	nd	nd	nd
Benz(a)anthracene	1	nd	nd	nd	nd	nd
Chrysene	1	nd	nd	nd	nd	nd
Benzo(b) & (k)fluoranthene	2	nd	nd	nd	nd	nd
Benzo(a)pyrene	1	nd	nd	nd	nd	nd
Indeno(1.2.3-cd)pyrene	1	nd	nd	nd	nd	nd
Dibenz(a,h)anthracene	1	nd	nd	nd	nd	nd
Benzo(g,h,i)perylene	1	nd	nd	nd	nd	nd
Total PAH	1	nd	nd	nd	nd	nd
2-Fluorobiphenyl-SURROGATE	1	99%	111%	91%	112%	100%
Anthracene-D10-SURROGATE	1	93%	106%	87%	102%	95%
p-Terphenyl-D14-SURROGATE	1	102%	112%	99%	109%	102%

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E15642	E15643	E15644	E15645	E15646
	Sample Id	GW 24	GW 26	GW 28	GW 30	PMW1
	PQL					
E0110 PAH's in Water (µg/L)						
Naphthalene	1	3	nd	nd	nd	nd
Acenaphthylene	1	nd	nd	nd	nd	nd
Acenaphthene	1	3	nd	nd	nd	nd
Fluorene	1	5	nd	nd	nd	nd
Phenanthrene	1	2	nd	nd	nd	nd
Anthracene	1	nd	nd	nd	nd	nd
Fluoranthene	1	nd	nd	nd	nd	nd
Pyrene	1	nd	nd	nd	nd	nd
Benz(a)anthracene	1	nd	nd	nd	nd	nd
Chrysene	1	nd	nd	nd	nd	nd
Benzo(b) & (k)fluoranthene	2	nd	nd	nd	nd	nd
Benzo(a)pyrene	1	nd	nd	nd	nd	nd
Indeno(1.2.3-cd)pyrene	1	nd	nd	nd	nd	nd
Dibenz(a,h)anthracene	1	nd	nd	nd	nd	nd
Benzo(g,h,i)perylene	1	nd	nd	nd	nd	nd
Total PAH	1	13	nd	nd	nd	nd
2-Fluorobiphenyl-SURROGATE	1	111%	103%	99%	103%	112%
Anthracene-D10-SURROGATE	1	99%	96%	91%	97%	103%
p-Terphenyl-D14-SURROGATE	1	102%	105%	103%	103%	109%

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in

Method Header

Analyte	Lab No	E15647	E15648	E15649		
	Sample Id	PMW2	PMW3	DUP 2A		
	PQL					
E0110 PAH's in Water (µg/L)						
Naphthalene	1	nd	nd	nd		
Acenaphthylene	1	nd	nd	nd		
Acenaphthene	1	nd	nd	nd		
Fluorene	1	nd	nd	nd		
Phenanthrene	1	nd	nd	nd		
Anthracene	1	nd	nd	nd		
Fluoranthene	1	nd	nd	nd		
Pyrene	1	nd	nd	nd		
Benz(a)anthracene	1	nd	nd	nd		
Chrysene	1	nd	nd	nd		
Benzo(b) & (k)fluoranthene	2	nd	nd	nd		
Benzo(a)pyrene	1	nd	nd	nd		
Indeno(1.2.3-cd)pyrene	1	nd	nd	nd		
Dibenz(a,h)anthracene	1	nd	nd	nd		
Benzo(g,h,i)perylene	1	nd	nd	nd		
Total PAH	1	nd	nd	nd		
2-Fluorobiphenyl-SURROGATE	1	124%	122%	123%		
Anthracene-D10-SURROGATE	1	113%	111%	114%		
p-Terphenyl-D14-SURROGATE	1	115%	114%	123%		

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

QA/QC APPENDIX NO. 9E01237

<u>Method</u>	<u>Description</u>
E0220	Total Petroleum Hydrocarbons
E0010	Benzene, Toluene, Ethylbenzene & Xylene
E0110	Polycyclic Aromatic Hydrocarbons
E4870	Dissolved Metals by ICP-MS
E48501	Mercury low level

Chromatography QA/QC

	Yes	No	N/A
Retention Time Window Within Acceptance Criteria(±2%)	√		
Check Standard Within Acceptance Criteria(±10%)	√		
Recalibration Within Acceptance Criteria(±15%)	√		
Internal Standard (where applicable) shows acceptable recovery	√		

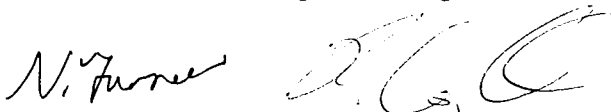
Other QA/QC

Holding time conforming With Method Specification	√		
Chain of Custody Attached	√		

N/A=Not Applicable

Comments

1. Laboratory QA/QC including Method Blanks, Duplicates, Matrix Spike Duplicates, Laboratory Control Samples or CRM's are included in this QA/QC appendix. (Where applicable)
2. Inter-Laboratory proficiency trial results available on request. (Where applicable)
3. Surrogate description and recoveries are recorded in the Report. (Where applicable)
4. Acceptance criteria for specific analytes are available upon request (Refer to SPM-01).
5. Practical Quantitation Limit (PQL is typically 2-10 x method detection limit (MDL)).
6. PQL's are matrix dependent and are increased accordingly where sample extracts are diluted.
7. Results are uncorrected for matrix spike or surrogate recoveries.



per G.W. ANDERSON
Manager Environmental Sydney

QAQC : Laboratory Duplicates

Analyte	PQL	Dupl 1	Dupl 2	Average	RPD (%)
E0220 TPH in Water (µg/L)					
Total C6-C36	20	nd	nd		
C6-C9 Fraction	20	nd	nd		
C10-C14 Fraction	20	nd	nd		
C15-C28 Fraction	100	nd	nd		
C29-C36 Fraction	100	nd	nd		
E0010 BTEX (P&T) in Water (µg/L)					
Benzene	0.5	nd	nd		
Toluene	1	nd	nd		
Ethylbenzene	1	nd	nd		
Total Xylenes	3	nd	nd		
E4870 Dissolved Metals in Waters					
Lead	0.001	0.001	0.001	0.001	0%
E48501 Dissolved Mercury in Waters					
Mercury	0.00005	nd	nd		

PQL = Practical Quantitation Limit
 nd = <PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/L (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Method Blank

ANALYTE	SAMPLE ID	Blank				
	PQL					
E0220 TPH in Water ($\mu\text{g/L}$)						
Total C6-C36	20	nd				
C6-C9 Fraction	20	nd				
C10-C14 Fraction	20	nd				
C15-C28 Fraction	100	nd				
C29-C36 Fraction	100	nd				
E0010 BTEX (P&T) in Water ($\mu\text{g/L}$)						
Benzene	0.5	nd				
Toluene	1	nd				
Ethylbenzene	1	nd				
Total Xylenes	3	nd				
E4870 Dissolved Metals in Waters						
Lead	0.001	nd				
E48501 Dissolved Mercury in Waters						
Mercury	0.00005	nd				

PQL = Practical Quantitation Limit
 nd = <PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Spike Recoveries

Analyte	Spike	Level	Detected	Recovery Details			
	Level	Spike 1	Spike 2	Rec 1 (%)	Rec 2 (%)	Average (%)	RPD (%)
E0110 PAH's in Water (µg/L)							
Naphthalene	10	10	9	97%	93%	95%	4%
Acenaphthylene	10	9	8	94%	83%	89%	12%
Acenaphthene	10	10	9	101%	93%	97%	8%
Fluorene	10	10	9	100%	91%	96%	9%
Phenanthrene	10	11	10	105%	98%	102%	7%
Anthracene	10	10	10	101%	96%	99%	5%
Fluoranthene	10	11	11	105%	105%	105%	0%
Pyrene	10	11	11	107%	106%	107%	1%
Benz(a)anthracene	10	11	11	106%	108%	107%	2%
Chrysene	10	11	10	107%	104%	106%	3%
Benzo(b) & (k)fluoranthene	20	21	21	105%	105%	105%	0%
Benzo(a)pyrene	10	11	11	110%	111%	111%	1%
Indeno(1.2.3-cd)pyrene	10	11	11	109%	109%	109%	0%
Dibenz(a,h)anthracene	10	11	11	105%	106%	106%	1%
Benzo(g,h,i)perylene	10	11	11	106%	109%	108%	3%

PQL = Practical Quantitation Limit
 nd = <PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Laboratory Control Sample

Analyte	Level	Level	Detected	Recovery Details			
		Result1	Result2	Rec 1 (%)	Rec 2 (%)	Average (%)	RPD (%)
E0110 PAH's in Water (µg/L)							
Naphthalene	10	11		110%		110%	
Acenaphthylene	10	11		110%		110%	
Acenaphthene	10	11		110%		110%	
Fluorene	10	11		110%		110%	
Phenanthrene	10	11		110%		110%	
Anthracene	10	11		110%		110%	
Fluoranthene	10	11		110%		110%	
Pyrene	10	11		110%		110%	
Benz(a)anthracene	10	11		110%		110%	
Chrysene	10	11		110%		110%	
Benzo(b) & (k)fluoranthene	20	23		115%		115%	
Benzo(a)pyrene	10	10		100%		100%	
Indeno(1.2.3-cd)pyrene	10	11		110%		110%	
Dibenz(a,h)anthracene	10	10		100%		100%	
Benzo(g,h,i)perylene	10	11		110%		110%	

PQL = Practical Quantitation Limit
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

nd = <PQL

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

QAQC : Method Blank

ANALYTE	SAMPLE ID	Blank				
	PQL					
E0110 PAH's in Water (µg/L)						
Naphthalene	1	nd				
Acenaphthylene	1	nd				
Acenaphthene	1	nd				
Fluorene	1	nd				
Phenanthrene	1	nd				
Anthracene	1	nd				
Fluoranthene	1	nd				
Pyrene	1	nd				
Benz(a)anthracene	1	nd				
Chrysene	1	nd				
Benzo(b) & (k)fluoranthene	2	nd				
Benzo(a)pyrene	1	nd				
Indeno(1.2.3-cd)pyrene	1	nd				
Dibenz(a,h)anthracene	1	nd				
Benzo(g,h,i)perylene	1	nd				

PQL = Practical Quantitation Limit
 nd = <PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

ENVIRONMENTAL AND INDUSTRIAL SERVICES DIVISIONTrading as Australian Analytical Laboratories Pty Ltd
ACN 001 491 667Correspondence to:
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HORNSBY NSW 16305 Kelray Place
ASQUITH NSW 2077
Telephone: (02) 9482 1922
Facsimile: (02) 9482 1734**CERTIFICATE OF ANALYSIS**

Contents :

- 1) Cover Page
- 2) Analysis Report Pages
- 3) QA/QC Appendix

REPORT No : 9E00435
ATTENTION : Mr Stuart Taylor
CLIENT : PPK Adelaide
SAMPLES : 8
REFERENCE : 27K140C-CANBERRA
DATE RECEIVED : 02/03/99
DATE REPORTED : 09/03/99

<u>Method</u>	<u>Description</u>	<u>Extracted</u>	<u>Analysed</u>
E0220	Total Petroleum Hydrocarbons	04/03/99	08/03/99
E0010	Benzene, Toluene, Ethylbenzene & Xylene	08/03/99	08/03/99
E0110	Polycyclic Aromatic Hydrocarbons	04/03/99	09/03/99

RESULTS

All samples were analysed as received. This report relates specifically to the samples received.
Results relate to the source material only to the extent that the samples as supplied are truly representative of the sample source. This report replaces any preliminary results issued.
Note that for schemes indicated with * NATA accreditation does not cover the performance of this service.

PLEASE SEE ATTACHED PAGES FOR RESULTS



per **G.W. ANDERSON**
Manager Environmental Sydney

Analyte	Lab No	E05862	E05863	E05864	E05865	E05866
	Sample Id	GW6	GW8	GW103	GW104	GW105
	PQL					
E0110 PAH's in Water (µg/L)						
Naphthalene	1	nd	nd	nd	nd	nd
Acenaphthylene	1	nd	nd	nd	nd	nd
Acenaphthene	1	nd	nd	nd	nd	nd
Fluorene	1	nd	nd	nd	nd	nd
Phenanthrene	1	nd	nd	nd	nd	nd
Anthracene	1	nd	nd	nd	nd	nd
Fluoranthene	1	nd	nd	nd	nd	nd
Pyrene	1	nd	nd	nd	nd	nd
Benz(a)anthracene	1	nd	nd	nd	nd	nd
Chrysene	1	nd	nd	nd	nd	nd
Benzo(b) & (k)fluoranthene	2	nd	nd	nd	nd	nd
Benzo(a)pyrene	1	nd	nd	nd	nd	nd
Indeno(1,2,3-cd)pyrene	1	nd	nd	nd	nd	nd
Dibenz(a,h)anthracene	1	nd	nd	nd	nd	nd
Benzo(g,h,i)perylene	1	nd	nd	nd	nd	nd
total PAH	1	nd	nd	nd	nd	nd
2-Fluorobiphenyl-SURROGATE	1	93%	84%	93%	101%	101%
Anthracene-D10-SURROGATE	1	98%	88%	99%	103%	99%
p-Terphenyl-D14-SURROGATE	1	98%	93%	95%	107%	102%

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Job Number : 9E00435
 Client : PPK Adelaide
 Reference : 27K140C-CANBERRA

Analyte	Lab No	E05867	E05868			
	Sample Id	DUP1	RINSEB1			
	PQL					
E0110 PAH's in Water (µg/L)						
Naphthalene	1	nd	nd			
Acenaphthylene	1	nd	nd			
Acenaphthene	1	nd	nd			
Fluorene	1	nd	nd			
Phenanthrene	1	nd	nd			
Anthracene	1	nd	nd			
Fluoranthene	1	nd	nd			
Pyrene	1	nd	nd			
Benz(a)anthracene	1	nd	nd			
Chrysene	1	nd	nd			
Benzo(b) & (k)fluoranthene	2	nd	nd			
Benzo(a)pyrene	1	nd	nd			
Indeno(1.2.3-cd)pyrene	1	nd	nd			
Dibenz(a,h)anthracene	1	nd	nd			
Benzo(g,h,i)perylene	1	nd	nd			
Total PAH	1	nd	nd			
2-Fluorobiphenyl-SURROGATE	1	88%	90%			
Anthracene-D10-SURROGATE	1	93%	94%			
p-Terphenyl-D14-SURROGATE	1	97%	102%			

PQL = Practical Quantitation Limit
 LNR = Samples Listed not Received
 nd = <PQL
 -- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
 Waters : mg/L (ppm) unless otherwise specified in Method Header
 Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

QA/QC APPENDIX NO. 9E00435

<u>Method</u>	<u>Description</u>
E0220	Total Petroleum Hydrocarbons
E0010	Benzene, Toluene, Ethylbenzene & Xylene
E0110	Polycyclic Aromatic Hydrocarbons

Chromatography QA/QC

	Yes	No	N/A
Retention Time Window Within Acceptance Criteria($\pm 2\%$)	√		
Check Standard Within Acceptance Criteria($\pm 10\%$)	√		
Recalibration Within Acceptance Criteria($\pm 15\%$)	√		

Other QA/QC

Holding time conforming With Method Specification	√		
Chain of Custody Attached	√		

N/A = Not Applicable

Comments

1. Laboratory QA/QC including Method Blanks, Duplicates, Matrix Spike Duplicates, Laboratory Control Samples or CRM's are included in this QA/QC appendix. (Where applicable)
2. Inter-Laboratory proficiency trial results available on request. (Where applicable)
3. Surrogate description and recoveries are recorded in the Report. (Where applicable)
4. Acceptance criteria for specific analytes are available upon request (Refer to SPM-01).
5. Practical Quantitation Limit (PQL is typically 2-10 x method detection limit (MDL)).
6. PQL's are matrix dependent and are increased accordingly where sample extracts are diluted.
7. Results are uncorrected for matrix spike or surrogate recoveries.



per G.W. ANDERSON
Manager Environmental Sydney

QAQC : Method Blank

ANALYTE	SAMPLE ID	Blank				
	PQL					
E0110 PAH's in Water ($\mu\text{g/L}$)						
Naphthalene	1	nd				
Acenaphthylene	1	nd				
Acenaphthene	1	nd				
Fluorene	1	nd				
Phenanthrene	1	nd				
Anthracene	1	nd				
Fluoranthene	1	nd				
Pyrene	1	nd				
Benz(a)anthracene	1	nd				
Chrysene	1	nd				
Benzo(b) & (k)fluoranthene	2	nd				
Benzo(a)pyrene	1	nd				
Indeno(1.2.3-cd)pyrene	1	nd				
Dibenz(a,h)anthracene	1	nd				
Benzo(g,h,i)perylene	1	nd				

PQL = Practical Quantitation Limit
 nd = < PQL
 -- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
 (W) Waters : mg/l (ppm) unless otherwise specified

All results are within the acceptance criteria:

Refer to Amdel-Sydney Quality Control Manual SPM-01 5th Edition 1/6/98

Accreditation No. 1464

ENVIRONMENTAL AND INDUSTRIAL SERVICES DIVISION

Trading as Australian Analytical Laboratories Pty Ltd

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CERTIFICATE OF ANALYSIS

Contents :

- 1) Cover Page
- 2) Analysis Report Pages
- 3) QA/QC Appendix

REPORT No : 9E01400
ATTENTION : Mr Stuart Taylor
CLIENT : PPK Adelaide
SAMPLES : 16
REFERENCE : 27K140C-CANBERRA
DATE RECEIVED : 04/06/99
DATE REPORTED : 16/06/99

<u>Method</u>	<u>Description</u>	<u>Extracted</u>	<u>Analysed</u>
E0220	Total Petroleum Hydrocarbons	07/06/99	11/06/99
E0180	Semivolatile Organic Compounds	09/06/99	11/06/99
E0110	Polycyclic Aromatic Hydrocarbons	07/06/99	15/06/99
E0290	Volatile Organic Compounds	15/06/99	15/06/99
E4870	Dissolved Metals by ICP-MS	09/06/99	10/06/99
E48501	Mercury low level	15/06/99	15/06/99
E2600	pH	05/06/99	05/06/99
E2330	Ammonia as N	10/06/99	11/06/99
E2770	TKN	10/06/99	16/06/99
E2720	Sulphate	10/06/99	16/06/99
E2640	Phosphorus-Total	10/06/99	16/06/99
E2450	Total Cyanide	10/06/99	16/06/99

RESULTS

All samples were analysed as received. This report relates specifically to the samples received. Results relate to the source material only to the extent that the samples as supplied are truly representative of the sample source. This report replaces any preliminary results issued. Note that for schemes indicated with * NATA accreditation does not cover the performance of this service.

PLEASE SEE ATTACHED PAGES FOR RESULTS


per **G.W. ANDERSON**
Manager Environmental Sydney

Analyte	Lab No	E17974	E17975	E17976	E17977	E17978
	Sample Id	GW 205	GW 206	GW 207	GW 208	GW 109
	PQL					
E0180 Semivolatile Organic Compounds($\mu\text{g/L}$)						
Phenol	10	nd	nd	nd	nd	nd
Aniline	100	nd	nd	nd	nd	nd
Bis(2-chloroethyl) ether	10	nd	nd	nd	nd	nd
2-Chlorophenol	10	nd	nd	nd	nd	nd
1,3-Dichlorobenzene	10	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	10	nd	nd	nd	nd	nd
1,2-Dichlorobenzene	10	nd	nd	nd	nd	nd
Benzyl Alcohol	10	nd	nd	nd	nd	nd
2-Methylphenol	10	nd	nd	nd	nd	nd
N-Nitrosodi-n-propylamine	10	nd	nd	nd	nd	nd
Bis(2-chloroisopropyl) ether	10	nd	nd	nd	nd	nd
3 and 4-Methyl phenol	20	nd	nd	nd	nd	nd
Hexachloroethane	10	nd	nd	nd	nd	nd
Nitrobenzene	10	nd	nd	nd	nd	nd
Isophorone	10	nd	nd	nd	nd	nd
2-Nitrophenol	10	nd	nd	nd	nd	nd
2,4-Dimethylphenol	10	nd	nd	nd	nd	nd
Bis(2-chloroethoxy) methane	10	nd	nd	nd	nd	nd
Benzoic Acid	100	nd	nd	nd	nd	nd
2,4-Dichlorophenol	10	nd	nd	nd	nd	nd
1,2,4-Trichlorobenzene	10	nd	nd	nd	nd	nd
Naphthalene	10	nd	nd	nd	nd	nd
4-Chloroaniline	10	nd	nd	nd	nd	nd
Hexachlorobutadiene	10	nd	nd	nd	nd	nd

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in

Method Header

Analyte	Lab No	E17974	E17975	E17976	E17977	E17978
	Sample Id	GW 205	GW 206	GW 207	GW 208	GW 109
	PQL					
4-Chloro-3-methylphenol	10	nd	nd	nd	nd	nd
2-Methylnaphthalene	10	nd	nd	nd	nd	nd
Hexachlorocyclopentadiene	10	nd	nd	nd	nd	nd
2,4,6-Trichlorophenol	10	nd	nd	nd	nd	nd
2,4,5-Trichlorophenol	10	nd	nd	nd	nd	nd
2-Chloronaphthalene	10	nd	nd	nd	nd	nd
2-Nitroaniline	10	nd	nd	nd	nd	nd
Dimethyl phthalate	10	nd	nd	nd	nd	nd
2,6-Dinitrotoluene	10	nd	nd	nd	nd	nd
Acenaphthylene	10	nd	nd	nd	nd	nd
3-Nitroaniline	10	nd	nd	nd	nd	nd
Acenaphthene	10	nd	nd	nd	nd	nd
2,4-Dinitrophenol	10	nd	nd	nd	nd	nd
4-Nitrophenol	10	nd	nd	nd	nd	nd
Dibenzofuran	10	nd	nd	nd	nd	nd
Diethyl phthalate	10	nd	nd	nd	nd	nd
Fluorene	10	nd	nd	nd	nd	nd
4-Chlorophenyl phenyl ether	10	nd	nd	nd	nd	nd
4-Nitroaniline	10	nd	nd	nd	nd	nd
4,6-Dinitro-2-methylphenol	10	nd	nd	nd	nd	nd
Azobenzene	100	nd	nd	nd	nd	nd
N-Nitrosodiphenylamine	100	nd	nd	nd	nd	nd
a-BHC	10	nd	nd	nd	nd	nd
4-Bromophenyl phenyl ether	10	nd	nd	nd	nd	nd
Hexachlorobenzene	10	nd	nd	nd	nd	nd

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nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Analyte	Lab No	E17974	E17975	E17976	E17977	E17978
	Sample Id	GW 205	GW 206	GW 207	GW 208	GW 109
	PQL					
b-BHC	10	nd	nd	nd	nd	nd
Pentachlorophenol	10	nd	nd	nd	nd	nd
g-BHC	10	nd	nd	nd	nd	nd
Phenanthrene	10	nd	nd	nd	nd	nd
Anthracene	10	nd	nd	nd	nd	nd
d-BHC	10	nd	nd	nd	nd	nd
Heptachlor	10	nd	nd	nd	nd	nd
Di-n-butyl phthalate	10	nd	nd	nd	nd	nd
Aldrin	10	nd	nd	nd	nd	nd
Heptachlor epoxide	10	nd	nd	nd	nd	nd
Fluoranthene	10	nd	nd	nd	nd	nd
Pyrene	10	nd	nd	nd	nd	nd
Endosulfan 1	10	nd	nd	nd	nd	nd
4,4-DDE	10	nd	nd	nd	nd	nd
Dieldrin	10	nd	nd	nd	nd	nd
Endrin	10	nd	nd	nd	nd	nd
Endosulfan 2	10	nd	nd	nd	nd	nd
4,4-DDD	10	nd	nd	nd	nd	nd
Endrin aldehyde	10	nd	nd	nd	nd	nd
Butyl benzyl phthalate	10	nd	nd	nd	nd	nd
Endosulfan sulfate	10	nd	nd	nd	nd	nd
4,4-DDT	10	nd	nd	nd	nd	nd
3,3-Dichlorobenzidine	100	nd	nd	nd	nd	nd
Benzo(a)anthracene	10	nd	nd	nd	nd	nd
Chrysene	10	nd	nd	nd	nd	nd

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

nd = <PQL

-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header