

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW66d		PAGE 1 of 3		
	NUMBER	TYPE					START DATE: 19/06/98	DRILLING METHOD: Rotary	FINISH DATE: 22/06/98	BOREHOLE DIAMETER: 165/115mm	DRILLER: R3
							DESCRIPTION	COMMENTS			
					0		Coarse GRAVEL (MADE GROUND)				
							Loose silty sandy GRAVEL with clinker and rubble (MADE GROUND)				
					1.0		Stiff grey and brown CLAY (MADE GROUND) with some black staining				
					2.0						
					3.0		Soft light brown and grey CLAY with sandstone gravel (MADE GROUND)				
							becoming soft grey clay with large cobbles at 3.7m				
					4.0		Grey-brown very sandy and silty gravelly CLAY				
					5.0						
					6.0						
					7.0			Damp at 7.0m			
					8.0						
					9.0		Brown very sandy and silty gravelly CLAY				
					10						

LOCATION / NOTES:		LEGEND		BOREHOLE LOG	
1. All measurements in m below ground level (mbgl)		Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table		Job Title SOIL & GROUNDWATER INVESTIGATION Location LLANDARCY REFINERY Client BP LLANDARCY Appd DRAFT Ref. MC/CR/BR Date JUL 98 Job No. 39991-001-401	
2. Water strike at 2.0m, cased out at 2.4m				DAMES & MOORE GROUP	
3. Rotary to 24 mbgl with Odex to 14 mbgl					

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW66d		PAGE 2 of 3	
	NUMBER	TYPE					START DATE: 19/06/98		DRILLING METHOD: Rotary	
							FINISH DATE: 22/06/98		BOREHOLE DIAMETER: 165/115mm	
				DRILLER: R3		SCREEN TYPE & DIAMETER: UPVC 50mm				
				LOGGED BY: SG		APPROD BY:		SCREEN SLOT SIZE: 0.5mm		
						DESCRIPTION	COMMENTS			
						10	Brown very sandy and silty gravelly CLAY	Very strong hydrocarbon odour - similar to plant adjacent to borehole	10	
							Brown very silty gravelly SAND			
						11	Brown very sandy and silty GRAVEL		11	
						12		12		
						13	Grey-brown very sandy and silty gravelly CLAY with cobbles	Dry	13	
						14			14	
						15			15	
						16			16	
						17			17	
						18		Borehole collapsed to 17.9m	18	
						19			19	
						20			20	

LOCATION / NOTES:

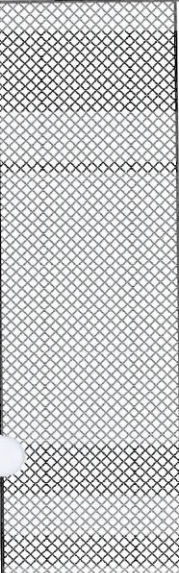
- All measurements in m below ground level (mbgl)
- Water strike at 2.0m, cased out at 2.4m
- Rotary to 24 mbgl with odex to 14 mbgl

LEGEND

- Disturbed Sample
- Undisturbed Sample
- Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

BOREHOLE LOG

Job Title		SOIL & GROUNDWATER INVESTIGATION	
Location		LLANDARCY REFINERY	
Client		BP LLANDARCY	
Appd	DRAFT	DAMES & MOORE GROUP	
Ref.	MC/CR/BRS		
Date	JUL 98		
Job No. 39991-001-401			

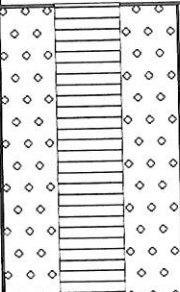
BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW66d		PAGE 3 of 3	
	NUMBER	TYPE					START DATE: 19/06/98	DRILLING METHOD: Rotary	FINISH DATE: 22/06/98	BOREHOLE DIAMETER: 165/115mm
							DESCRIPTION	COMMENTS		
							20 ROCKHEAD: Grey fine to medium grained SANDSTONE (BEDROCK)	No odour	20	
							Borehole terminated at 24 mbgl			
									21	
									22	
									23	
									24	
									25	
									26	
									27	
									28	
									29	
									30	

LOCATION / NOTES: 1. All measurements in m below ground level (mbgl) 2. Borehole collapsed to 17.9 mbgl 3. Rotary to 24 mbgl with odex to 14 mbgl		LEGEND  Disturbed Sample  Undisturbed Sample  Headspace Analysis  Down Borehole Analysis  Groundwater Table  Perched Water Table	BOREHOLE LOG Job Title SOIL & GROUNDWATER INVESTIGATION Location LLANDARCY REFINERY Client BP LLANDARCY Appd DRAFT Ref. MC/CR/BRS Date JUL 98 Job No. 39991-001-401	 DAMES & MOORE GROUP
---	--	---	--	---

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW66s		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 17/06/98	DRILLING METHOD: Cable Percussion	FINISH DATE: 17/06/98	BOREHOLE DIAMETER: 200mm
							DESCRIPTION	COMMENTS		
							Coarse GRAVEL (MADE GROUND)	Mild hydrocarbon odour - no staining	0	
							Loose silty sandy GRAVEL with clinker and rubble (MADE GROUND)		1.0	
							Stiff grey and brown CLAY (MADE GROUND) with some black staining	Moderate hydrocarbon odour with some black staining	2.0	
							Soft light brown and grey CLAY with sandstone gravel (MADE GROUND)	Moderate hydrocarbon odour - no staining	3.0	
							becoming soft grey clay with large cobbles at 3.7m		4.0	
							Borehole terminated at 3.7 mbgl on refusal		5.0	
									6.0	
									7.0	
									8.0	
									9.0	
									10	

LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
1. All measurements in m below ground level (mbgl)	☒ Disturbed Sample ■ Undisturbed Sample * Headspace Analysis † Down Borehole Analysis ▽ Groundwater Table ▽ Perched Water Table	Job Title	SOIL & GROUNDWATER INVESTIGATION
		Location	LLANDARCY REFINERY
		Client	BP LLANDARCY
		App'd	DRAFT
		Ref.	MC/CR/BRS
		Date	JUL 98
		Job No.	39991-001-401
		 DAMES & MOORE	

BOREHOLE CONSTRUCTION		SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW67d		PAGE 1 of 2			
		NUMBER	TYPE					START DATE: 24/06/98	DRILLING METHOD: Rotary	FINISH DATE: 24/06/98	BOREHOLE DIAMETER: 115mm	DRILLER: R2	SCREEN TYPE & DIAMETER: UPVC 50mm
								DESCRIPTION	COMMENTS				
								Loose black sandy SILT with occasional fine gravel					
								Brown-grey very gravelly CLAY with occasional cobbles and boulders	Very strong odour and black staining in patches throughout depth				
								ROCKHEAD: Hard grey medium grained SANDSTONE	Very oily water with moderate to strong light petroleum odour				
LOCATION / NOTES: 1. All measurements in m below ground level (mbgl) 2. Water strike at 7.9 mbgl								LEGEND ☒ Disturbed Sample ■ Undisturbed Sample * Headspace Analysis † Down Borehole Analysis ▼ Groundwater Table ▽ Perched Water Table				BOREHOLE LOG Job Title SOIL & GROUNDWATER INVESTIGATION Location LLANDARCY REFINERY Client BP LLANDARCY Appd DRAFT Ref. MC/CR/BR5 Date JUL 98 Job No. 39991-001-401	
								DAMES & MOORE GROUP					

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW67d		PAGE 2 of 2				
	NUMBER	TYPE					START DATE: 24/06/98		DRILLING METHOD: Rotary				
							FINISH DATE: 24/06/98		BOREHOLE DIAMETER: 115mm				
							DRILLER: R2		SCREEN TYPE & DIAMETER: UPVC 50mm				
						LOGGED BY: SG		APPRD BY:		SCREEN SLOT SIZE: 0.5mm			
						DESCRIPTION		COMMENTS					
						10		Hard grey medium grained SANDSTONE				10	
						11						11	
						12		Borehole terminated at 12 mbgl				12	
						13						13	
						14						14	
						15						15	
						16						16	
						17						17	
						18						18	
						19						19	
						20						20	

LOCATION / NOTES:		LEGEND		BOREHOLE LOG	
1. All measurements in m below ground level (mbgl)		☒ Disturbed Sample ☐ Undisturbed Sample * Headspace Analysis † Down Borehole Analysis  Groundwater Table  Perched Water Table		Job Title SOIL & GROUNDWATER INVESTIGATION Location LLANDARCY REFINERY Client BP LLANDARCY Appd DRAFT Ref. MC/CR/BRs Date JUL 98 Job No. 39991-001-401	
				 DAMES & MOORE GROUP	

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW67s		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 19/06/98		DRILLING METHOD: Cable Percussion	
							FINISH DATE: 19/06/98		BOREHOLE DIAMETER: 200mm	
							DRILLER: CP1		SCREEN TYPE & DIAMETER: UPVC 50mm	
							LOGGED BY: ED APPRD BY:		SCREEN SLOT SIZE: 0.5mm	
							DESCRIPTION	COMMENTS		
			*1838		0		Loose black sandy SILT with occasional fine gravel	No odour	0	
			*1562		1.0				1.0	
					2.0		Obstruction - no returns	No returns	2.0	
					2.0		Borehole terminated at 2.0 mbgl on refusal		2.0	
					3.0				3.0	
					4.0				4.0	
					5.0				5.0	
					6.0				6.0	
					7.0				7.0	
					8.0				8.0	
					9.0				9.0	
					10				10	

LOCATION / NOTES: 1. All measurements in m below ground level (mbgl)	LEGEND		BOREHOLE LOG	
		Disturbed Sample	Job Title SOIL & GROUNDWATER INVESTIGATION	
		Undisturbed Sample	Location LLANDARCY REFINERY	
		Headspace Analysis	Client BP LLANDARCY	
		Down Borehole Analysis	Appd DRAFT	
		Groundwater Table	Ref. MC/CR/BRs	 DAMES & MOORE
		Perched Water Table	Date JUL 98	
			Job No. 39991-001-401	

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW68d		PAGE 1 of 2		
	NUMBER	TYPE					START DATE: 24/06/98		DRILLING METHOD: Rotary		
							FINISH DATE: 24/06/98		BOREHOLE DIAMETER: 115mm		
						DRILLER: R3		SCREEN TYPE & DIAMETER: UPVC 50mm			
						LOGGED BY: SG		APPRD BY:		SCREEN SLOT SIZE: 0.5mm	
						DESCRIPTION		COMMENTS			
						0 Loose light grey angular medium GRAVEL (MADE GROUND) CONCRETE Black-grey sandy silty CLAY		Damp - No odour		0	
										1.0	
								2.0			
								3.0			
								4.0			
						4.0 Grey-brown very sandy and silty gravelly CLAY		Damp - No odour		4.0	
						Brown very sandy and silty gravelly CLAY with cobbles and occasional boulders				5.0	
										6.0	
										7.0	
										8.0	
										9.0	
						Grey-brown sandy and silty gravelly CLAY				10	

LOCATION / NOTES:

1. All measurements in m below ground level (mbgl)

LEGEND

- Disturbed Sample
- Undisturbed Sample
- Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

BOREHOLE LOG

Job Title **SOIL & GROUNDWATER INVESTIGATION**

Location **LLANDARCY REFINERY**

Client **BP LLANDARCY**

Appd **DRAFT**

Ref. **MC/CR/BR5**

Date **JUL 98**

Job No. **39991-001-401**

DAMES & MOORE

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW68d		PAGE 2 of 2			
	NUMBER	TYPE					START DATE: 24/06/98	DRILLING METHOD: Rotary				
							FINISH DATE: 24/06/98	BOREHOLE DIAMETER: 115mm				
						DRILLER: R3	SCREEN TYPE & DIAMETER: UPVC 50mm					
						LOGGED BY: SG	APPRD BY:	SCREEN SLOT SIZE: 0.5mm				
						DESCRIPTION	COMMENTS					
						10	ROCKHEAD: Hard grey-blue coarse grained SANDSTONE (BEDROCK)					
						11						
						12						
						13						
						14						
						15						
						16						
						17						
						18						
						19						
						20						
						10						
						11						
						12						
						13						
						14						
						15						
						16						
						17						
						18						
19												
20												
						Borehole terminated at 14 mbgl						

LOCATION / NOTES:

- All measurements in m below ground level (mbgl)
- Water strike at 13.5m rising to 12m after 20 minutes

LEGEND

- Disturbed Sample
- Undisturbed Sample
- Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

BOREHOLE LOG

Job Title: **SOIL & GROUNDWATER INVESTIGATION**

Location: **LLANDARCY REFINERY**

Client: **BP LLANDARCY**

Appd: **DRAFT**

Ref: **MC/CR/BR5**

Date: **JUL 98**

Job No. **39991-001-401**

DAMES & MOORE

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW068D2		PAGE 1 of 3	
	NUMBER	TYPE					START DATE: 16/4/99	DRILLING METHOD: ROTARY AIR FLUSH	FINISH DATE: 16/4/99	BOREHOLE DIAMETER: 165/115 mm
							DESCRIPTION	COMMENTS		
					0		Loose grey angular medium GRAVEL (MADE GROUND)			0
							CONCRETE (MADE GROUND)			
							CLAY (MADE GROUND)			
							CONCRETE (MADE GROUND)			
					1.0		Soft brown CLAY with boulders and some ash (MADE GROUND)			1.0
					2.0		Loose light grey GRAVEL			2.0
							Stiff grey-black CLAY			
					3.0		Soft to firm green-grey-brown CLAY			3.0
					4.0		Dense brown medium GRAVEL with some CLAY	Water ingress at 4m		4.0
					5.0					5.0
					6.0			water cased out		6.0
							becoming very silty and sandy gravelly CLAY with cobbles and occasional boulders			
					7.0					7.0
					8.0					8.0
							ROCKHEAD - Light grey-brown MUDSTONE			
					9.0					9.0
							Brown MUDSTONE			
					10					10

LOCATION / NOTES:		LEGEND		BOREHOLE LOG	
1. All measurements in m below ground level (mbgl)			Disturbed Sample	Job Title SOIL & GROUNDWATER INVESTIGATION	
			Undisturbed Sample	Location LLANDARCY REFINERY	
			Headspace Analysis	Client BP LLANDARCY LTD	
			Down Borehole Analysis	App'd DRAFT	
			Groundwater Table	Ref. CR/MC/BRS	
			Perched Water Table	Date MAY 99	
				Job No. 39991-004-401	
				DAMES & MOORE	

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW068D2		PAGE 2 of 3	
	NUMBER	TYPE					START DATE: 16/4/99	DRILLING METHOD: ROTARY AIR FLUSH	FINISH DATE: 16/4/99	BOREHOLE DIAMETER: 165/115 mm
							DESCRIPTION	COMMENTS		
						10	Grey MUDSTONE			
						COAL SHALE				
						11	Grey MUDSTONE			
						12				
						13				
						14				
						15	Grey crystalline SANDSTONE			
						16				
						17				
						18				
						19				
						20				

LOCATION / NOTES:

1. All measurements in m below ground level (mbgl)

LEGEND

- Disturbed Sample
- Undisturbed Sample
- Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

BOREHOLE LOG

Job Title **SOIL & GROUNDWATER INVESTIGATION**

Location **LLANDARCY REFINERY**

Client **BP LLANDARCY LTD**

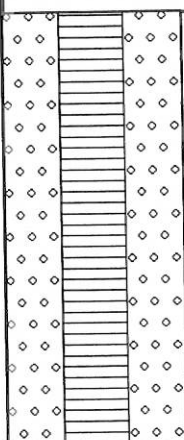
App'd **DRAFT**

Ref. **CR/MC/BRS**

Date **MAY 99**

Job No. **39991-004-401**

DAMES & MOORE

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW068D2		PAGE 3 of 3		
	NUMBER	TYPE					START DATE: 16/4/99		DRILLING METHOD: ROTARY AIR FLUSH		
							FINISH DATE: 16/4/99		BOREHOLE DIAMETER: 165/115 mm		
							DRILLER: R1		SCREEN TYPE & DIAMETER: 50 mm ID UPVC		
							LOGGED BY: MC APPR'D BY:		SCREEN SLOT SIZE: 0.5 mm		
						DESCRIPTION		COMMENTS			
						20 Grey crystalline SANDSTONE		20			
						21		21			
						22		22			
						23 Borehole terminated at 23.0 mbgl		23			
						24		24			
						25		25			
						26		26			
						27		27			
						28		28			
						29		29			
						30		30			
LOCATION / NOTES: 1. All measurements in m below ground level (mbgl)						LEGEND ☒ Disturbed Sample ☐ Undisturbed Sample * Headspace Analysis † Down Borehole Analysis  Groundwater Table  Perched Water Table		BOREHOLE LOG Job Title SOIL & GROUNDWATER INVESTIGATION Location LLANDARCY REFINERY Client BP LLANDARCY LTD App'd DRAFT Ref. CR/MC/BRs Date MAY 99 Job No. 39991-004-401			
								 DAMES & MOORE			

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW068D2		PAGE 2 of 3	
	NUMBER	TYPE					START DATE: 16/4/99	DRILLING METHOD: ROTARY AIR FLUSH	FINISH DATE: 16/4/99	BOREHOLE DIAMETER: 165/115 mm
							DESCRIPTION	COMMENTS		
						10	Grey MUDSTONE			
						COAL SHALE				
						11	Grey MUDSTONE			
						12				
						13				
						14				
						15	Grey crystalline SANDSTONE			
						16				
						17				
						18				
						19				
						20				

LOCATION / NOTES:

1. All measurements in m below ground level (mbgl)

LEGEND

- Disturbed Sample
- Undisturbed Sample
- Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

BOREHOLE LOG

Job Title **SOIL & GROUNDWATER INVESTIGATION**

Location **LLANDARCY REFINERY**

Client **BP LLANDARCY LTD**

App'd **DRAFT**

Ref. **CR/MC/BRS**

Date **MAY 99**

Job No. **39991-004-401**

DAMES & MOORE

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW068D2		PAGE 3 of 3	
	NUMBER	TYPE					START DATE: 16/4/99	DRILLING METHOD: ROTARY AIR FLUSH	FINISH DATE: 16/4/99	BOREHOLE DIAMETER: 165/115 mm
						DESCRIPTION		COMMENTS		
						20	Grey crystalline SANDSTONE			20
						21				21
						22				22
						23	Borehole terminated at 23.0 mbgl			23
						24				24
						25				25
						26				26
						27				27
						28				28
						29				29
						30				30

LOCATION / NOTES: 1. All measurements in m below ground level (mbgl)		LEGEND ☒ Disturbed Sample ☐ Undisturbed Sample * Headspace Analysis † Down Borehole Analysis Groundwater Table Perched Water Table		BOREHOLE LOG Job Title SOIL & GROUNDWATER INVESTIGATION Location LLANDARCY REFINERY Client BP LLANDARCY LTD App'd DRAFT Ref. CR/MC/BR Date MAY 99 Job No. 39991-004-401	
				DAMES & MOORE GROUP	

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW68s		PAGE 1 of 1		
	NUMBER	TYPE					START DATE: 28/06/98		DRILLING METHOD: Cable Percussion		
							FINISH DATE: 28/06/98		BOREHOLE DIAMETER: 200mm		
							DRILLER: CP1		SCREEN TYPE & DIAMETER: UPVC 50mm		
								LOGGED BY: SG		APPRD BY:	
								SCREEN SLOT SIZE: 0.5mm			
								DESCRIPTION		COMMENTS	
								Loose grey angular medium GRAVEL (BALLAST)		No odour	
								CONCRETE (MADE GROUND)			
								CLAY (MADE GROUND)			
								CONCRETE (MADE GROUND)			
								Soft brown CLAY with boulders and some ash (MADE GROUND)			
								Loose light grey GRAVEL		Slight hydrocarbon odour at 1.8m	
								Stiff grey-black CLAY		No odour	
								Soft to firm green-grey -brown CLAY		No odour	
								Dense brown medium GRAVEL with some CLAY		Slight hydrocarbon odour from water	
								Borehole terminated at 5.8 mbgl			

LOCATION / NOTES: 1. All measurements in m below ground level (mbgl)	LEGEND Disturbed Sample Undisturbed Sample Headspace Analysis ↓ Down Borehole Analysis Groundwater Table ↑ Perched Water Table	BOREHOLE LOG Job Title SOIL & GROUNDWATER INVESTIGATION Location LLANDARCY REFINERY Client BP LLANDARCY Appd DRAFT Ref. MC/CR/BRs Date JUL 98 Job No. 39991-001-401 DAMES & MOORE
---	---	---

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW69d		PAGE 1 of 2	
	NUMBER	TYPE					START DATE: 24/06/98		DRILLING METHOD: Rotary	
							FINISH DATE: 24/06/98		BOREHOLE DIAMETER: 165/115mm	
		DRILLER: R3		SCREEN TYPE & DIAMETER: UPVC 50mm						
		LOGGED BY: SG		APPRD BY:		SCREEN SLOT SIZE: 0.5mm				
						DESCRIPTION	COMMENTS			
						Brown sandy silty CLAY	No odour	0		
						Black-grey very sandy silty CLAY	Strong hydrocarbon odour - Damp	1.0		
						Grey-brown very sandy silty gravelly CLAY	Strong hydrocarbon odour in clay	2.0		
								3.0		
								4.0		
								5.0		
								6.0		
								7.0		
								8.0		
								9.0		
						Brown very sandy and silty gravelly CLAY	No odour - Dry	6.0		
						Grey-brown very sandy and silty gravelly CLAY	No odour - Dry	8.0		
						Brown very sandy silty CLAY	No odour	9.0		
						Grey very sandy silty CLAY		10.0		
						Orange-brown silty CLAY with occasional gravel		10.0		

LOCATION / NOTES:

- All measurements in m below ground level (mbgl)
- Water strike at 12m

LEGEND

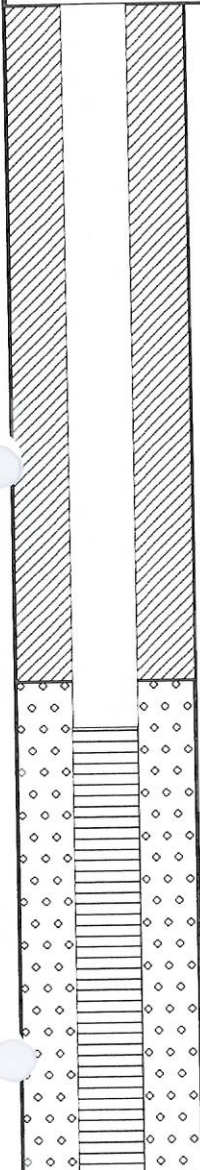
- Disturbed Sample
- Undisturbed Sample
- Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

BOREHOLE LOG

Job Title		SOIL & GROUNDWATER INVESTIGATION	
Location		LLANDARCY REFINERY	
Client		BP LLANDARCY	
Appd	DRAFT		
Ref.	MC/CR/BR5		
Date	JUL 98		
Job No. 39991-001-401			

DAMES & MOORE

GROUP

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW69d		PAGE 2 of 2	
	NUMBER	TYPE					START DATE: 24/06/98	DRILLING METHOD: Rotary	FINISH DATE: 24/06/98	BOREHOLE DIAMETER: 165/115mm
							DESCRIPTION		COMMENTS	
							10	Orange-brown silty CLAY with occasional gravel		
							11			
							12			
							13			
							14	ROCKHEAD: Hard grey coarse grained SANDSTONE		
							15			
							16			
							17			
							18	Borehole terminated at 18.2 mbgl		
							19			
							20			

LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
1. All measurements in m below ground level (mbgl)	 Disturbed Sample	Job Title	SOIL & GROUNDWATER INVESTIGATION
2. Rotary to 18.2 mbgl with odex to 14 mbgl	 Undisturbed Sample	Location	LLANDARCY REFINERY
	 Headspace Analysis	Client	BP LLANDARCY
	 Down Borehole Analysis	Appd	DRAFT
	 Groundwater Table	Ref.	MC/CR/BRS
	 Perched Water Table	Date	JUL 98
		Job No.	39991-001-401
		 DAMES & MOORE	

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW69s		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 17/06/98		DRILLING METHOD: Cable Percussion	
							FINISH DATE: 17/06/98		BOREHOLE DIAMETER: 200mm	
							DRILLER: CP1		SCREEN TYPE & DIAMETER: UPVC 50mm	
							LOGGED BY: SG APPRD BY:		SCREEN SLOT SIZE: 0.5mm	
						DESCRIPTION		COMMENTS		
					0	Loose grey angular medium GRAVEL (BALLAST)		No odour		0
						Soft black-grey silty CLAY		Very strong sweet hydrocarbon odour - black staining		
						Borehole terminated at 0.7 mbgl on refusal		Obstruction at 0.7m		
					1.0					1.0
					2.0					2.0
					3.0					3.0
					4.0					4.0
					5.0					5.0
					6.0					6.0
					7.0					7.0
					8.0					8.0
					9.0					9.0
					10					10

LOCATION / NOTES:		LEGEND		BOREHOLE LOG	
1. All measurements in m below ground level (mbgl)		 Disturbed Sample  Undisturbed Sample  Headspace Analysis  Down Borehole Analysis  Groundwater Table  Perched Water Table		Job Title SOIL & GROUNDWATER INVESTIGATION	
				Location LLANDARCY REFINERY	
				Client BP LLANDARCY	
				Appd DRAFT	
				Ref. MC/CR/BRS	
				Date JUL 98	
				Job No. 39991-001-401	
				 DAMES & MOORE	

Borehole Record - Cable Percussion

Borehole Number: DM 03

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwen

Engineer: PT

Date Started: 20/7/09

Date Completed: 21/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment: Cable percussion



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
		MADE GROUND: Tarmac.	0.20					
		MADE GROUND: Re-inforced CONCRETE.						
		MADE GROUND: Compact dark grey silty sandy GRAVEL and COBBLE of concrete, brick, sandstone, stone chips and ash.	0.60 0.70	G	0.50			
1.0		Hydrocarbon odour.						
		MADE GROUND: CONCRETE slab.						
2.0		Loose grey silty gravelly SAND with cobbles. Gravel of sub-angular to sub-rounded fine to coarse sandstone. Cobbles of sub-angular to tabular sandstone.		G V	1.50			
		Hydrocarbon odour.						
3.0				G V	2.50			
				G V	3.00			
3.50								
4.0		Grey brown sandy clayey GRAVEL with cobbles. Gravel of medium to coarse sub-angular sandstone. Cobbles of sub-angular sandstone.		G V	4.00			
		Hydrocarbon odour.						
		Very limited recovery from 4.50m bgl-5.50m bgl except cobbles (siltstone and sandstone).						
5.0								

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling: 0.60m bgl-07.0m bgl for 45 mins...5.50m bgl-7.50m bgl for 1 hour.

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 0.25m bgl.

Date:

Status:

Borehole Record - Cable Percussion

Borehole Number: DM 03

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwen

Engineer: PT

Date Started: 20/7/09

Date Completed: 21/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment: Cable percussion



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
			5.50					
6.0		Brown/grey very gravelly SAND and cobbles. Sub-angular to rounded sandstone gravel and rounded cobbles of sandstone and quartz. Becoming silty and orange/brown toward base of unit. Slight hydrocarbon/solvent odour.		G V	6.50			
7.0				G V	7.00			
			7.50	G	7.50			
8.0		Grey/brown clayey sandy SILT with orange sandy patches and some gravel and rounded cobbles of sandstone. Slight solvent odour.						
			8.50					
9.0		Brown slightly silty sandy GRAVEL and COBBLES. Gravel of sub-angular to sub-rounded sandstone and cobbles of rounded well cemented hard sandstone. Slight solvent odour.		G	9.40			
			9.60					
10.0				G	10.00			

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling: 0.60m bgl-07.0m bgl for 45 mins...5.50m bgl-7.50m bgl for 1 hour.

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 0.25m bgl.

Date:

Status:

Borehole Record - Cable Percussion

Borehole Number: DM 03

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwen

Engineer: PT

Date Started: 20/7/09

Date Completed: 21/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment: Cable percussion



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
11.0		Dense brown very silty SAND with some fine to coarse sub-angular to sub-rounded sandstone gravel and some black organic coaly flecks. No noticeable odour. Becoming more clayey from 11.00m bgl to 11.50m bgl.	11.50	G	11.00			
12.0		Grey silty fine SAND with clayey laminations and inclusions and some coarse sand/fine gravel of sandstone. No noticeable odour.	12.20	G	12.00			
13.0		Very stiff grey slightly silty CLAY. No odour. Very stiff grey CLAY. No odour.	13.70	D V G	12.40 13.00			
14.0		Very dnese grey/brown SAND and GRAVEL of sandstone.	14.20	G	14.00			
15.0		Borehole terminated at 14.20m bgl on hard brown sandstone. Possible bedrock.						

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling: 0.60m bgl-07.0m bgl for 45 mins...5.50m bgl-7.50m bgl for 1 hour.

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 0.25m bgl.

Date:

Status:

Borehole Record - Cable Percussion

Borehole Number: DM 04

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwen

Engineer: PT

Date Started: 20/7/09

Date Completed: 20/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment: Cable percussion



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
		MADE GROUND: Compact dark grey silty sandy GRAVEL of brick, ash, clinker, sandstone and stone chippings and some cobbles of concrete. Slight hydrocarbon odour.	0.90	G	0.40			
1.0		Firm grey clayey SILT with brown silty partings/inclusions and brown organic inclusions (woody) and some sub-rounded to sub-angular fine to medium gravel. Hydrocarbon odour...Odour becoming stronger with depth.		G	1.00			
2.0				G	2.00			
			2.80					
3.0		Soft to firm brown sandy CLAY with some fine to coarse sub-rounded to sub-angular sandstone gravel and occasional sandstone cobbles. Strong hydrocarbon odour.		G	3.00			
4.0				G	4.00			
			4.90					
5.0				G	5.00			

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling: 7.90m bgl-8.70m bgl for 1 hour.

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 6.30m bgl...5.90m bgl on standing.

Date:

Status:

Borehole Record - Cable Percussion

Borehole Number: DM 04

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwen

Engineer: PT

Date Started: 20/7/09

Date Completed: 20/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment: Cable percussion



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
6.0		Very stiff brown slightly sandy silty CLAY with some fine to coarse sandstone and weathered sandstone (weak) gravel and fine clay stone gravel and grey sandy inclusions. Strong hydrocarbon odour becoming slight odour toward base.	5.90	G	5.80			
		Brown silty sandy CLAY with lenses of grey sand and some sandstone gravel.	6.90					
7.0		Grey very silty SAND with light grey sandy inclusions and some dark brown peaty inclusions. Slight hydrocarbon odour.	7.50	G V	7.00			
		Grey/brown silty gravelly SAND. Gravel of fine to coarse sub-angular to sub-rounded sandstone. Slight hydrocarbon odour.	7.90	G	7.60			
8.0		Brown slightly sandy silty CLAY with some fine to coarse sandstone and weathered sandstone (weak) gravel and fine clay stone gravel and grey sandy inclusions. Strong hydrocarbon odour becoming slight odour toward base. Borehole terminated at 8.70m bgl.	8.70					
9.0								
10.0								

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling: 7.90m bgl-8.70m bgl for 1 hour.

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 6.30m bgl...5.90m bgl on standing.

Date:

Status:

Borehole Record - Cable Percussion

Borehole Number: DM 07

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwens

Engineer: PT

Date Started: 21/7/09

Date Completed: 21/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment: Cable percussion



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
1.0		MADE GROUND: Dense grey/brown sandy GRAVEL and COBBLES of sandstone, quartzite (railway ballast), brick, clinker and concrete. Some plastic.		B	0.50			
		Becoming clay bound gravel and cobble below 1.00m bgl.		SPT	1.00-1.45	S: 6/6/7/10/20/13 N=50		
		Hydrocarbon odour. Stronger below water at 0.50m bgl.	1.80	B G V	1.80-2.00			
2.0		Medium dense grey very silty sandy GRAVEL and COBBLES. Gravel and cobbles of sub-angular sandstone. Some black staining in silty patches.		SPT G	2.00-2.45	S: 2/2/3/5/8/8 N=24		
		Strong hydrocarbon odour.	2.70					
3.0		Very dense grey slightly silty sandy GRAVEL and COBBLES. Gravel and cobbles are sub-angular to sub-rounded of sandstone.		SPT B	3.00-3.15 3.00-3.50	S: -/17/50/-/-/- N=>50		
		Strong hydrocarbon/solvent odour.						
4.0				SPT	4.00-4.15	S: -/12/50/-/-/- N=>50		
				B	4.50-5.00			
5.0								

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling: 1 hour

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 0.50m bgl.

Date:

Status:

Borehole Record - Cable Percussion

Borehole Number: DM 07

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwens

Engineer: PT

Date Started: 21/7/09

Date Completed: 21/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment: Cable percussion



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
5.30		Very stiff grey sandy SILT with some gravel and cobbles of sub-rounded to sub-angular sandstone.	5.30	SPT G B G V	5.20-5.65 5.20-5.65	S: 3/3/4/5/7/7 N=23		
5.80		Slight hydrocarbon odour. Heavy sheen on surface.	5.80					
6.0		Very dense grey/brown clayey GRAVEL and COBBLES with band of brown clay.		SPT	6.30-6.45	S: -/25/50/-/-/- N=>50		
7.0		No significant odour but heavy sheen.		B	7.00-7.50			
8.0		Limited drilling recovery.		SPT	7.80-8.25	S: -/12/50/-/-/- N=>50		
9.0				G	8.50			
9.50			9.50	G	9.50			
10.0								

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling: 1 hour

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 0.50m bgl.

Date:

Status:

Borehole Record - Cable Percussion

Borehole Number: DM 07

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwens

Engineer: PT

Date Started: 21/7/09

Date Completed: 21/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment: Cable percussion



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
11.0		Stiff grey silty CLAY some light grey silty laminations and dark brown peaty inclusions and layers and occasional woody material. No odour.		G V	10.50			
				SPT	10.80-11.25	S: 4/4/5/5/7/8 N=25		
12.0		Borehole completed at 11.80m bgl.	11.80					
13.0								
14.0								
15.0								

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling: 1 hour

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 0.50m bgl.

Date:

Status:

Borehole Record - Cable Percussion

Borehole Number: DM 08

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwen

Engineer: PT

Date Started: 22/7/09

Date Completed: 22/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment:



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
		MADE GROUND: CONCRETE.	0.20					
		MADE GROUND: Compact crushed brick, concrete and stone sub-base.	0.40					
		MADE GROUND: CONCRETE.	0.50	D	0.50			
1.0		MADE GROUND: Grey sandy GRAVEL and COBBLES of crushed concrete, brick and sandstone.		D	1.00			
		Slight hydrocarbon odour. Sheen on surface.						
2.0				D	2.00-3.00			
3.0								
			3.30					
		MADE GROUND: Loose black gravelly sand ash.						
			3.60					
4.0		Grey silty CLAY.		D	3.80			
		Hydrocarbon odour.						
			4.30					
				D	4.50			

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling: 1 hour

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 3.30m bgl.

Date:

Status:

Borehole Record - Cable Percussion

Borehole Number: DM 08

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwen

Engineer: PT

Date Started: 22/7/09

Date Completed: 22/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment:



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
5.0		Grey silty CLAY with browner sandy clay patches and fine silty laminations. Occasional brown woody inclusions. Slight hydrocarbon odour.	5.00	D	5.50			
		Grey/brown silty CLAY with grey mottling.	6.00					
6.0		Brown silty gravelly CLAY with some cobbles. Gravel of fine to coarse sub-angular to sub-rounded sandstone and rounded sandstone and quartzite cobbles. Possible slight hydrocarbon odour.	6.80	D	6.30			
7.0		Brown clayey silty GRAVEL and COBBLES. Gravel of sub-angular to rounded sandstone and weak sandstone. Cobbles of sub-rounded to tabular sandstone. Silt sandy lamination with some black coaly/peaty inclusions. No odour.		D	7.00			
8.0				D	8.00			
9.0				D	9.00			

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling: 1 hour

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 3.30m bgl.

Date:

Status:

Borehole Record - Cable Percussion

Borehole Number: DM 08

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwen

Engineer: PT

Date Started: 22/7/09

Date Completed: 22/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment:



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
10.0		Brown clayey silty GRAVEL and COBBLES. Gravel of sub-angular to rounded sandstone and weak sandstone. Cobbles of sub-rounded to tabular sandstone. Silt sandy lamination with some black coaly/peaty inclusions. No odour.	10.00					
11.0		Borehole completed at 10.00m bgl.						
12.0								
13.0								

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling: 1 hour

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 3.30m bgl.

Date:

Status:

Borehole Record - Cable Percussion

Borehole Number: DM 10

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwen

Engineer: PT

Date Started: 23/7/09

Date Completed: 23/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment: Cable percussion



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
		MADE GROUND: CONCRETE.	0.15					
		MADE GROUND: Hardcore sub-base.	0.25					
		MADE GROUND: Very compact grey quartzite (railway ballast), clinker and slag fill.		G V	0.50			
1.0		Distinct solvent odour (in water).		G	1.00-2.00		Strike at 1.00m bgl.	
2.0				G	2.00-3.00			
3.0			2.90	G V	3.00			
		Compact brown clayey GRAVEL and COBBLES with brown silty clay and grey sand bands/pockets. Gravel of fine sub-rounded claystone and sub-rounded to sub-angular fine to coarse sandstone.						
		No detectable odour.		G V	4.00-5.00			
4.0								
5.0								

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling:

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 1.00m bgl.

Date:

Status:

Borehole Record - Cable Percussion

Borehole Number: DM 10

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwen

Engineer: PT

Date Started: 23/7/09

Date Completed: 23/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment: Cable percussion



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
6.0		Brown clayey GRAVEL and COBBLES with brown silty clay and grey sand bands/pockets. Gravel of fine sub-rounded claystone and sub-rounded to sub-angular fine to coarse sandstone. No detectable odour.		G	6.00-6.50			
7.0			7.00	G	7.00			
7.0		Borehole completed at 7.00m bgl.						
8.0								
9.0								
10.0								

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling:

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 1.00m bgl.

Date:

Status:

Borehole Record - Cable Percussion

Borehole Number: DM 13

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwen

Engineer: PT

Date Started: 23/7/09

Date Completed: 23/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment:



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
		MADE GROUND: CONCRETE.	0.15					
1.0		MADE GROUND: Black sandy GRAVEL and cobbles of sandstone, brick, ash, clinker and concrete. Some clayey patches toward base of unit. Slight hydrocarbon odour and heavy sheen.		G	0.50			
				G V	1.00			
2.0			2.00					
		Firm to stiff dark grey/brown very gravelly CLAY with cobbles. Gravel of fine sub-rounded claystone and fine to coarse sub-angular to sub-rounded sandstone. Cobbles of sub-angular to rounded sandstone.		B SPT G	2.00 2.00-2.45	S: 2/6/5/6/6/5 N=22		
3.0		No odour.						
		Becoming soft and sandy from 4.00m bgl-4.70m bgl.		G V	3.00			
4.0								
				G V	4.00			
5.0			4.70					
		Brown clayey gravelly SAND with pockets of grey sand and brown sandy clay. Gravel of fine to coarse sub-angular to sub-rounded sandstone.		G V	5.00			
		No odour.						
6.0				G V	6.00			

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling:

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 1.00m bgl.

Date: 12/8/09

Status: Prelim 1

Borehole Record - Cable Percussion

Borehole Number: DM 13

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwen

Engineer: PT

Date Started: 23/7/09

Date Completed: 23/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment:



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
7.0		Brown clayey gravelly SAND with pockets of grey sand and brown sandy clay. Gravel of fine to coarse sub-angular to sub-rounded sandstone. No odour.	7.00	G	7.00			
8.0		Borehole completed at 7.00m bgl.						
9.0								
10.0								
11.0								
12.0								

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling:

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 1.00m bgl.

Date: 12/8/09

Status: Prelim 1

Borehole Record - Cable Percussion

Borehole Number: DM 15

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwens

Engineer: PT

Date Started: 23/7/09

Date Completed: 23/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment: Cable percussion



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
		MADE GROUND: CONCRETE.	0.15					
		MADE GROUND: Compact grey SAND and GRAVEL of concrete, brick, sandstone, clinker and ash.		G	0.50			
		Slight hydrocarbon odour.	0.80					
1.0		MADE GROUND: Dark grey silty sandy GRAVEL and COBBLE of concrete, brick, ash and sandstone with grey clayey patches.		G V	1.00			
		Slight hydrocarbon odour.						
			1.80					
2.0		Brown sandy gravelly CLAY with grey/brown sandy pockets and dark brown organic inclusions. Gravel and cobbles are of sub-angular to sub-rounded sandstone.		G V	2.00-2.50			
		No detectable odour.						
3.0								
				G	3.50-4.00			
4.0								
			4.30					
		Stiff grey silty gravelly CLAY with brown pockets and some cobbles. Gravel is of fine to medium sub-angular to sub-rounded sandstone.		G V	4.40			
			4.70					
5.0								

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling:

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 0.80m bgl.

Date:

Status:

Borehole Record - Cable Percussion

Borehole Number: DM 15

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwens

Engineer: PT

Date Started: 23/7/09

Date Completed: 23/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment: Cable percussion



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
		Stiff to very stiff brown silty gravelly CLAY with cobbles with black coaly flecks and silty laminations/partings. Gravel of fine to medium claystone and coarse sandstone. Sandstone cobbles. No odour.	5.70	G	5.40			
6.0		Borehole terminated at 5.70m bgl.						
7.0								
8.0								
9.0								
10.0								

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling:

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 0.80m bgl.

Date:

Status:

Borehole Record - Cable Percussion

Borehole Number: DM 16

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwen

Engineer: PT

Date Started: 22/7/09

Date Completed: 23/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment:



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
		MADE GROUND: CONCRETE.	0.15					
1.0		MADE GROUND: Black silty sandy GRAVEL and COBBLE of concrete, brick, clinker, ash and sandstone. Slight hydrocarbon odour.		G V	1.00		0.80m bgl.	
2.0		Soft grey silty CLAY with some brown mottling. Dark grey staining and some fine to medium sandstone gravel. Slight hydrocarbon/solvent odour. Oil sheen.	1.80	G V	2.00			
3.0		Compact brown silty sandy GRAVEL and COBBLES with some clayey layers/ patches. Gravel of sub-angular to sub-rounded sandstone. Cobbles of sub-angular to rounded sandstone. Slight hydrocarbon/solvent odour. Very limited drilling recovery.	2.50	B	3.00-4.00			
4.0								
5.0								

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling: 1.5 hours...Terminated at 6.6 by Atkins due to slow progress.

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 0.80m bgl.

Date: 12/8/09

Status: Prelim 1

Borehole Record - Cable Percussion

Borehole Number: DM 16

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwen

Engineer: PT

Date Started: 22/7/09

Date Completed: 23/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment:



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
6.0		Dense brown silty sandy GRAVEL and COBBLES with some clayey layers/patches. Gravel of sub-angular to sub-rounded sandstone. Cobbles of sub-angular to rounded sandstone. Slight hydrocarbon/solvent odour. Very limited drilling recovery.	6.60	B	5.50-6.00			
7.0		Borehole terminated at 6.60m bgl.						
8.0								
9.0								
10.0								

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling: 1.5 hours...Terminated at 6.6 by Atkins due to slow progress.

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 0.80m bgl.

Date: 12/8/09

Status: Prelim 1

REC Geotechnical Log						Borehole: DME11			
 Resource & Environmental Consultants Ltd.			Equipment and Methods: Open Hole Rig Location: Coed Darcy, Neath (80132)						
Client: St Modwen			Ground Level:		Coordinates:		Date: 28 & 29/07/09		
Installation	Description	Reduced	Legend	Depth (m)	Sample/Tests			Field Records	
					Depth	Sample			Test
						Type	No.		
	Ground Surface	0.00		0.00	0.00				
	MADE GROUND : Crusher run (compact).	-0.30							
	MADE GROUND : Concrete.	-0.80							
	MADE GROUND : Compact fill.			1.00	1.00				
				2.00	2.00				
				3.00	3.00				
	SAND and GRAVEL. (Hard slow penetration).	-3.00		4.00	4.00				
				5.00	5.00				
				6.00	6.00				
				7.00	7.00				
			8.00	8.00					
			9.00	9.00					
		-10.00		10.00	10.00				

Notes:U-undisturbed B-bulk D-disturbed SPT-standard penetration test U-U100 CPT-cone penetration test

Remarks

63mm diameter standpipe installed to 23.50m.
Strong gas odour with oil and diesel in water from 0.80m to 3.00m.

Notes

Water encountered @ 18.00

Logged by: AD

Scale:

FIG:

REC Geotechnical Log							Borehole: DME11		
 Resource & Environmental Consultants Ltd.			Equipment and Methods: Open Hole Rig Location: Coed Darcy, Neath (80132)						
Client: St Modwen			Ground Level:		Coordinates:		Date: 28 & 29/07/09		
Installation	Description	Reduced	Legend	Depth (m)	Sample/Tests			Field Records	
					Depth	Sample			Test
Type	No.								
	SAND and GRAVEL. (Hard slow penetration).	-12.10		11.00	11.00				
				12.00	12.00				
	Boulder CLAY with gravel.			13.00	13.00				
				14.00	14.00				
		-18.50		15.00	15.00				
				16.00	16.00				
				17.00	17.00				
				18.00	18.00				
	Brown SANDSTONE. (Slow penetration).			19.00	19.00				
		-20.00							
				20.00	20.00				

Notes:U-undisturbed B-bulk D-disturbed SPT-standard penetration test U-U100 CPT-cone penetration test

Remarks

63mm diameter standpipe installed to 23.50m.
Strong gas odour with oil and diesel in water from 0.80m to 3.00m.

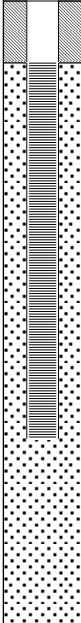
Notes

Water encountered @ 18.00

Logged by: AD

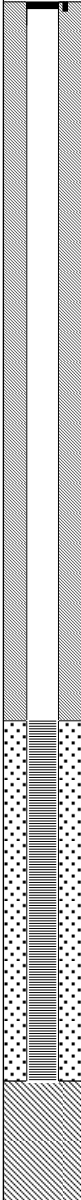
Scale:

FIG:

REC Geotechnical Log							Borehole: DME11		
 Resource & Environmental Consultants Ltd.				Equipment and Methods: Open Hole Rig Location: Coed Darcy, Neath (80132)					
Client: St Modwen				Ground Level:		Coordinates:		Date: 28 & 29/07/09	
Installation	Description	Reduced	Legend	Depth (m)	Sample/Tests			Field Records	
					Depth	Sample			Test
						Type	No.		
	Brown SANDSTONE. (Slow penetration).			21.00	21.00				
				22.00	22.00				
				23.00	23.00				
				24.00	24.00				
				25.00	25.00				
				26.00	26.00				
				27.00	27.00				
				28.00	28.00				
				29.00	29.00				
				30.00	30.00				
	End of Log	-25.00							

Notes:U-undisturbed B-bulk D-disturbed SPT-standard penetration test U-U100 CPT-cone penetration test
Remarks
63mm diameter standpipe installed to 23.50m.
Strong gas odour with oil and diesel in water from 0.80m to 3.00m.
Notes
Water encountered @ 18.00

Logged by: AD
Scale:
FIG:

REC Geotechnical Log						Borehole: DME17			
 Resource & Environmental Consultants Ltd.			Equipment and Methods: Open Hole Rig Location: Coed Darcy, Neath (80132)						
Client: St Modwen			Ground Level:		Coordinates:		Date: 30/07/09		
Installat ion	Description	Reduced	Legend	Depth (m)	Sample/Tests			Field Records	
					Depth	Sample			Test
						Type	No.		
	Ground Surface	0.00		0.00	0.00				
	MADE GROUND : Concrete.	-0.30							
	MADE GROUND : Compact fill.								
	SAND and GRAVEL.	-3.10							
	CLAY.	-5.60							
	SANDSTONE.	-9.00							
	End of Log	-10.00			10.00				

Notes:U-undisturbed B-bulk D-disturbed SPT-standard penetration test U-U100 CPT-cone penetration test

Remarks

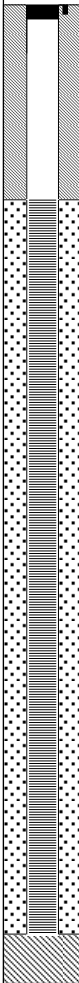
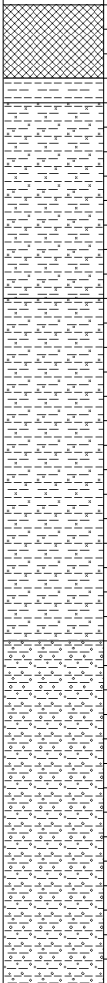
63mm diameter standpipe installed to 9.00m.
Oily fill/heavy diesel smell between 0.30m and 3.10m bgl. Water from 0.80m.

Notes

Logged by: AD

Scale:

FIG:

REC Geotechnical Log						Borehole: DME19			
 Resource & Environmental Consultants Ltd.			Equipment and Methods: Open Hole Rig Location: Coed Darcy, Neath (80132)						
Client: St Modwen			Ground Level:		Coordinates:		Date: 30 & 31/07/09		
Installation	Description	Reduced	Legend	Depth (m)	Sample/Tests			Field Records	
					Depth	Sample			Test
						Type	No.		
	Ground Surface	0.00		0.00	0.00				
	MADE GROUND : Crusher run.	-0.30							
	Soft, wet CLAY. CLAY/SILT.	-0.40							
	SILTS/CLAYS	-1.20		1.00	1.00				
	Stiff GRAVEL/CLAY.	-2.60		2.00	2.00				
	End of Log	-4.00		3.00	3.00				
				4.00	4.00				
				5.00	5.00				

Notes:U-undisturbed B-bulk D-disturbed SPT-standard penetration test U-U100 CPT-cone penetration test

Remarks

63mm diameter standpipe installed to 4.00m.
Strong oily odour from GL to 0.30m, and 1.20m to 2.60m.

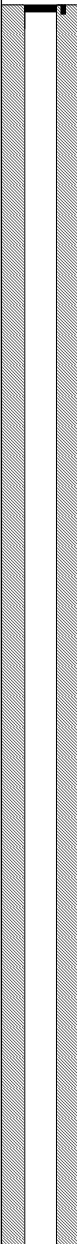
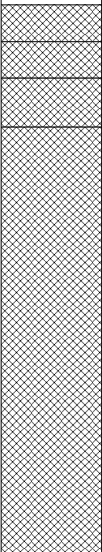
Notes

Trial pit dug to 1.20m.

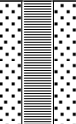
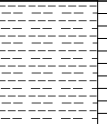
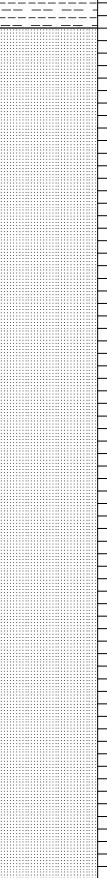
Logged by: AD

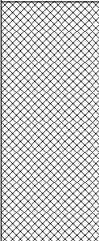
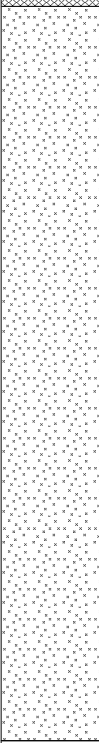
Scale:

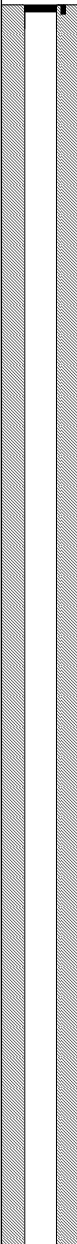
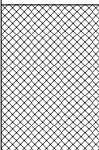
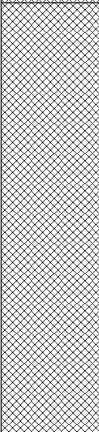
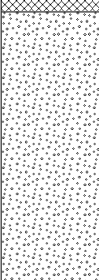
FIG:

REC Geotechnical Log						Borehole: DME2			
 Resource & Environmental Consultants Ltd.			Equipment and Methods: Open Hole Rig Location: Coed Darcy, Neath (80132)						
Client: St Modwen			Ground Level:		Coordinates:		Date: 28/07/09		
Installat ion	Description	Reduced	Legend	Depth (m)	Sample/Tests			Field Records	
					Depth	Sample			Test
						Type	No.		
	Ground Surface	0.00		0.00	0.00				
	MADE GROUND : Crusher run (compact).	-0.30							
	MADE GROUND : SILTS.	-0.60							
	MADE GROUND : CLAY/SILT.	-1.00		1.00					
	MADE GROUND : Compact GRAVEL fill.			2.00					
				3.00	3.00				
				4.00	4.00				
		-4.50		5.00	5.00				
	Compact GRAVEL of brown sandstone. (Slow penetration).			6.00	6.00				
				7.00	7.00				
		-7.30		8.00	8.00				
	Light brown, sandy GRAVEL.			9.00	9.00				
				10.00	10.00				
		-10.00							
Notes:U-undisturbed B-bulk D-disturbed SPT-standard penetration test U-U100 CPT-cone penetration test Remarks Trial pit dug to 1.00m. 63mm diameter standpipe installed to 21.00m. Oily water seepage from GL to 0.30m. Hole collapsing @ 0.30m to 0.60m, full of water. Notes						Logged by: AD Scale: FIG:			

REC Geotechnical Log							Borehole: DME2		
 Resource & Environmental Consultants Ltd.				Equipment and Methods: Open Hole Rig Location: Coed Darcy, Neath (80132)					
Client: St Modwen				Ground Level:		Coordinates:		Date: 28/07/09	
Installation	Description	Reduced	Legend	Depth (m)	Sample/Tests			Field Records	
					Depth	Sample			Test
						Type	No.		
	Light brown, sandy GRAVEL. CLAY with weathered mudstone bands.			11.00	11.00				
				12.00	12.00				
				13.00	13.00				
				14.00	14.00				
				15.00	15.00				
				16.00	16.00				
				17.00	17.00				
				18.00	18.00				
				19.00	19.00				
				-20.00	20.00				
Notes:U-undisturbed B-bulk D-disturbed SPT-standard penetration test U-U100 CPT-cone penetration test Remarks Trial pit dug to 1.00m. 63mm diameter standpipe installed to 21.00m. Oily water seepage from GL to 0.30m. Hole collapsing @ 0.30m to 0.60m, full of water. Notes								Logged by: AD Scale: FIG:	

REC Geotechnical Log							Borehole: DME2		
 Resource & Environmental Consultants Ltd.		Equipment and Methods: Open Hole Rig Location: Coed Darcy, Neath (80132)							
Client: St Modwen		Ground Level:		Coordinates:		Date: 28/07/09			
Installat ion	Description	Reduced	Legend	Depth (m)	Sample/Tests			Field Records	
					Depth	Sample			Test
						Type	No.		
	CLAY with weathered mudstone bands.	-21.20		21.00	21.00				
	Brown SANDSTONE. (Slow penetration).			22.00	22.00				
23.00				23.00					
24.00				24.00					
25.00				25.00					
26.00		26.00							
				27.00	27.00				
				28.00	28.00				
				29.00	29.00				
				30.00	30.00				
	End of Log	-28.00							
Notes:U-undisturbed B-bulk D-disturbed SPT-standard penetration test U-U100 CPT-cone penetration test Remarks Trial pit dug to 1.00m. 63mm diameter standpipe installed to 21.00m. Oily water seepage from GL to 0.30m. Hole collapsing @ 0.30m to 0.60m, full of water. Notes									Logged by: AD Scale: FIG:

REC Geotechnical Log						Borehole: DME20		
 Resource & Environmental Consultants Ltd.		Equipment and Methods: Open Hole Rig Location: Coed Darcy, Neath (80132)						
Client: St Modwen		Ground Level:		Coordinates:		Date: 30/07/09		
Installat ion	Description	Reduced	Legend	Depth (m)	Sample/Tests			Field Records
					Depth	Sample Type No.	Test	
	Ground Surface MADE GROUND : Concrete.	0.00		0.00	0.00			
	MADE GROUND : SILTS and GRAVELS.	-1.00		1.00	1.00			
				2.00	2.00			
				3.00	3.00			
				4.00	4.00			
	End of Log	-4.00		5.00	5.00			
Notes:U-undisturbed B-bulk D-disturbed SPT-standard penetration test U-U100 CPT-cone penetration test Remarks 63mm diameter standpipe installed to 4.00m. Strong odour and water at surface. Notes						Logged by: AD		
						Scale:		
						FIG:		

REC Geotechnical Log							Borehole: DME5		
 Resource & Environmental Consultants Ltd.			Equipment and Methods: Open Hole Rig Location: Coed Darcy, Neath (80132)						
Client: St Modwen			Ground Level:		Coordinates:		Date: 24 & 27/07/09		
Installat ion	Description	Reduced	Legend	Depth (m)	Sample/Tests			Field Records	
					Depth	Sample			Test
						Type	No.		
	Ground Surface	0.00		0.00	0.00				
	MADE GROUND : Compact fill.								
		-1.20		1.00	1.00				
	MADE GROUND : GRAVEL fill.								
				2.00	2.00				
				3.00	3.00				
		-4.80		4.00	4.00				
	Brown, sandy GRAVEL. (Slow penetration).			5.00	5.00				
				6.00	6.00				
		-7.00		7.00	7.00				
	Grey, sandy CLAY.			8.00	8.00				
				9.00	9.00				
		-8.80							
	Brown, sandy GRAVEL. (Slow penetration).			10.00	10.00				
		-10.00							

Notes:U-undisturbed B-bulk D-disturbed SPT-standard penetration test U-U100 CPT-cone penetration test

Remarks

Trial pit dug to 1.20m. 63mm diameter standpipe installed to 19.00m, response zone between 16m and 18m bgl. Groundwater encountered from 18.00m.

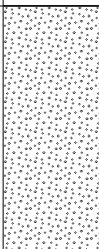
Notes

Oily odour @ 3.00m.

Logged by: AD

Scale:

FIG:

REC Geotechnical Log						Borehole: DME5				
 Resource & Environmental Consultants Ltd.			Equipment and Methods: Open Hole Rig Location: Coed Darcy, Neath (80132)							
Client: St Modwen			Ground Level:		Coordinates:		Date: 24 & 27/07/09			
Installation	Description	Reduced	Legend	Depth (m)	Sample/Tests				Field Records	
					Depth	Sample		Test		
						Type	No.			
	Brown, sandy GRAVEL. (Slow penetration).	-12.00		11.00	11.00					
	Hard GRAVEL with mudstone bands. (Very slow penetration).			12.00	12.00					
				13.00	13.00					
				14.00	14.00					
				15.00	15.00					
	Grey, weathered MUDSTONE.	-16.00		16.00	16.00					
				17.00	17.00					
				18.00	18.00					
				19.00	19.00					
				20.00	20.00					
		-20.00								

Notes:U-undisturbed B-bulk D-disturbed SPT-standard penetration test U-U100 CPT-cone penetration test

Remarks

Trial pit dug to 1.20m. 63mm diameter standpipe installed to 19.00m, response zone between 16m and 18m bgl. Groundwater encountered from 18.00m.

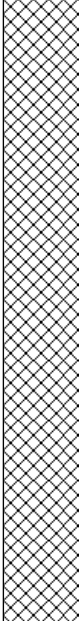
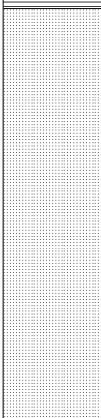
Notes

Oily odour @ 3.00m.

Logged by: AD

Scale:

FIG:

REC Geotechnical Log						Borehole: DME5			
 Resource & Environmental Consultants Ltd.			Equipment and Methods: Open Hole Rig Location: Coed Darcy, Neath (80132)						
Client: St Modwen			Ground Level:		Coordinates:		Date: 24 & 27/07/09		
Installation	Description	Reduced	Legend	Depth (m)	Sample/Tests			Field Records	
					Depth	Sample			Test
						Type	No.		
	Grey, weathered MUDSTONE. COAL.	-21.20		21.00	21.00				
	Grey MUDSTONE.	-21.70		22.00	22.00				
	Brown SANDSTONE. (Slow penetration).			23.00	23.00				
				24.00	24.00				
				25.00	25.00				
	End of Log			26.00	26.00				
				27.00	27.00				
				28.00	28.00				
				29.00	29.00				
				30.00	30.00				

Notes:U-undisturbed B-bulk D-disturbed SPT-standard penetration test U-U100 CPT-cone penetration test

Remarks

Trial pit dug to 1.20m. 63mm diameter standpipe installed to 19.00m, response zone between 16m and 18m bgl. Groundwater encountered from 18.00m.

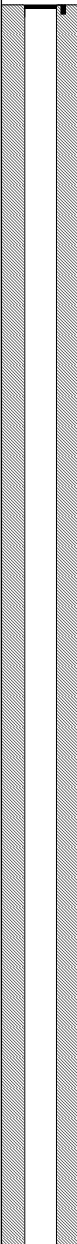
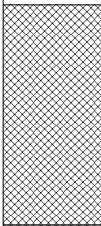
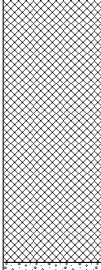
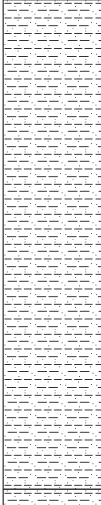
Notes

Oily odour @ 3.00m.

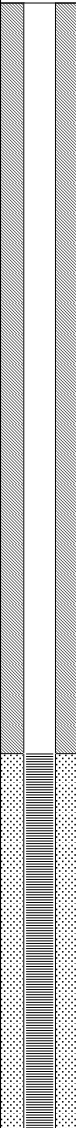
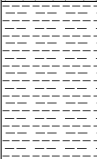
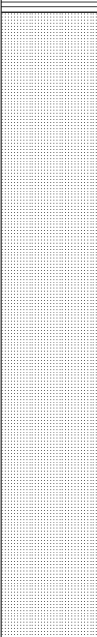
Logged by: AD

Scale:

FIG:

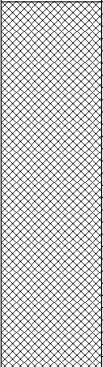
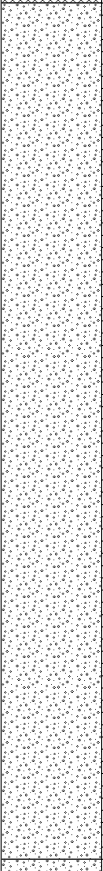
REC Geotechnical Log						Borehole: DME6			
 Resource & Environmental Consultants Ltd.			Equipment and Methods: Open Hole Rig Location: Coed Darcy, Neath (80132)						
Client: St Modwen			Ground Level:		Coordinates:		Date: 29 & 30/07/09		
Installat ion	Description	Reduced	Legend	Depth (m)	Sample/Tests			Field Records	
					Depth	Sample			Test
						Type	No.		
	Ground Surface	0.00		0.00	0.00				
	MADE GROUND : Brick fill.								
		-1.80							
	MADE GROUND : Concrete.	-2.30							
	MADE GROUND : GRAVEL fill.								
		-4.50							
	SAND and GRAVEL.	-6.00							
	Sandy CLAY.								
		-10.00							

Notes:U-undisturbed B-bulk D-disturbed SPT-standard penetration test U-U100 CPT-cone penetration test				Logged by: AD	
Remarks Trial pit dig to 1.20m. 63mm diameter standpipe installed to 19.00m				Scale:	
Notes Hydrocarbon odour from 3.00m.				FIG:	

REC Geotechnical Log						Borehole: DME6			
 Resource & Environmental Consultants Ltd.			Equipment and Methods: Open Hole Rig						
			Location: Coed Darcy, Neath (80132)						
Client: St Modwen			Ground Level:		Coordinates:		Date: 29 & 30/07/09		
Installation	Description	Reduced	Legend	Depth (m)	Sample/Tests			Field Records	
					Depth	Sample			Test
						Type	No.		
	Sandy CLAY.	-10.50							
	Boulder CLAY.			11.00	11.00				
		-12.00		12.00	12.00				
	Grey, weathered MUDSTONE.			13.00	13.00				
				14.00	14.00				
	Grey SANDSTONE.	-14.00		15.00	15.00				
				16.00	16.00				
				17.00	17.00				
				18.00	18.00				
				19.00	19.00				
	End of Log	-19.00		19.00	19.00				
				20.00	20.00				

Remarks Trial pit dig to 1.20m. 63mm diameter standpipe installed to 19.00m	Logged by: AD	
	Scale:	
	FIG:	

Notes Hydrocarbon odour from 3.00m.

REC Geotechnical Log						Borehole: DME9		
 Resource & Environmental Consultants Ltd.		Equipment and Methods: Open Hole Rig Location: Coed Darcy, Neath (80132)						
Client: St Modwen		Ground Level:		Coordinates:		Date: 29 & 30/07/09		
Installat ion	Description	Reduced	Legend	Depth (m)	Sample/Tests			Field Records
					Depth	Sample Type No.	Test	
	Ground Surface	0.00		0.00	0.00			
	MADE GROUND : Compact fill.							
	SAND and GRAVEL. (Slow penetration).	-3.00		3.00	3.00			
				4.00	4.00			
				5.00	5.00			
				6.00	6.00			
				7.00	7.00			
				8.00	8.00			
				9.00	9.00			
		-10.00		10.00	10.00			
Notes:U-undisturbed B-bulk D-disturbed SPT-standard penetration test U-U100 CPT-cone penetration test Remarks 63mm diameter standpipe installed to 18.00m. Strong gas odour with oily water from GL to 3.00m. Notes						Logged by: AD		
						Scale:		
						FIG:		

REC Geotechnical Log							Borehole: DME9		
 Resource & Environmental Consultants Ltd.		Equipment and Methods: Open Hole Rig Location: Coed Darcy, Neath (80132)							
Client: St Modwen		Ground Level:		Coordinates:		Date: 29 & 30/07/09			
Installation	Description	Reduced	Legend	Depth (m)	Sample/Tests			Field Records	
					Depth	Sample Type No.	Test		
	SAND and GRAVEL. (Slow penetration).	-12.40		11.00	11.00				
				12.00	12.00				
				13.00	13.00				
				14.00	14.00				
				15.00	15.00				
		16.00		16.00					
		17.00		17.00					
		18.00		18.00					
		19.00		19.00					
		20.00		20.00					
	CLAY with gravels.	-18.00							
	End of Log								
Notes:U-undisturbed B-bulk D-disturbed SPT-standard penetration test U-U100 CPT-cone penetration test Remarks 63mm diameter standpipe installed to 18.00m. Strong gas odour with oily water from GL to 3.00m. Notes							Logged by: AD Scale: FIG:		

Borehole Record - Cable Percussion

Borehole Number: SBH 07

Project Number: 80132

Contract Name: Coed Darcy

Client: St Mowden's

Engineer: PT

Date Started: 16/7/09

Date Completed: 16/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment: Cable percussive



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
		MADE GROUND: Very compact sandy GRAVEL and COBBLE fill of sandstone, brick and concrete.	0.30					
		Dark mottled grey brown silty CLAY with some fine to coarse sandstone gravel.	0.60					
1.0		Grey silty sandy GRAVEL and COBBLE of sandstone. Some very clayey zones.						
2.0								
3.0			2.90					
4.0		Grey slightly sandy coarse GRAVEL and COBBLE of sandstone...Strong hydrocarbon odour.						
5.0			5.00					

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling: 1 hour

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: Water strike at 2.90m bgl...2.50 after 20 mins

Date:

Status:

Borehole Record - Cable Percussion

Borehole Number: SBH 08

Project Number: 80132

Contract Name: Llandarcy

Client: St Modwen

Engineer: PT

Date Started: 17/7/09

Date Completed: 17/7/09

Elevation AOD (m): N/A

Co-ordinates: N/A

Drilling Equipment: Cable percussion



Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester, M50 2UE
Tel: 0161 868 1300 / Fax: 0161 868 1301
www.recltd.co.uk

SUBSURFACE PROFILE

SAMPLES AND IN-SITU TESTING

Depth (mbgl)	Legend	Description	Depth of Strata (mbgl)	Type	Depth (mbgl)	In-Situ Testing SPT / U100	Water Level (mbgl)	Monitoring Installation
		MADE GROUND: Loose sandstone gravel and cobble with soil and ash.	0.30					
		Dense grey/brown clayey sandy GRAVEL and COBBLE of sub-angular to tabular sandstone.		D	0.50			
1.0		Distinct hydrocarbon odour.	1.30					
		Obstruction on boulder of SANDSTONE.	1.60				Strike at 1.60m bgl.	
2.0		Borehole terminated at 1.60m bgl due to obstruction.						
3.0								
4.0								
5.0								
6.0								

Key

B. Bulk (Bag)

W. Water

U100. 100mm Undisturbed

U38. 38mm Undisturbed Sample

SPT. Standard Penetration Test

D. Disturbed

G. Amber Glass Jar / Bottle

CPT. Cone Penetration Test

U100. Blows (Recovery mm)

V. 40ml Glass Vial

T. Plastic Tub

N. 'N' Value

HV. Hand Shear Vane

PID. Photo Ionisation Detector

Notes

Chiselling:

Services: Prior to drilling the location was scanned with a Cable Avoidance Tool (CAT).

Addition of water: Limited amounts of water were added to aid drilling in hard strata.

Casing diameter: 150mm

Groundwater: None encountered.

Date: 12/8/09

Status: Prelim 1

Appendix B Groundwater Levels

Location	Easting	Northing	Ground level	01/07/1998	01/01/1999	01/05/1999	01/03/2000	01/09/2000	01/10/2000	01/11/2000	01/03/2001	01/04/2001	01/09/2001	01/01/2002	01/02/2002	01/03/2002	01/04/2002
MSMW53	271388.1949	196165.4938	38.2411	36.905	37.504	37.31	37.155	37.293									
MSMW69s	271539.3854	196120.9894	37.2977										37.01			36.901	
MSMW221S1/A	271362.9119	196044.3408	43.0157			40.47	39.9547										
MSMW222S1/A	271476.2253	196121.9681	38.8028			37.43	36.4228									36.5578	
MSMW224S1/A	271555.5835	196077.1843	38.5177			35.82	36.4177	34.4657					35.1767			35.5567	
MSTP306	271308.9316	196149.2241	39.5			38.43	38.23	38.479			38.33						
DSB004	271396.1	196079	39.87			39.227	39.14										
DSB005	271410.4	196076.1	39.87			39.308	39.245										
DSB010	271459.5	196050.7	39.87			38.985	38.982										
DSB015	271510.7	196023.3	39.87			38.138											
DSB017S1	271444.6	196021.1	40.079												38.943	38.839	
DSB019S1	271397.7	196072.2	40.265												39.077		
DSB020S1	271469.7	196062.3	40.132												38.910	38.882	
DSB021S1	271405.7	196113.5	38.923												38.261	37.984	
DSB022S1	271424.2	196115.9	39.09												38.265	38.12	
DSB023S2	271402.5	196143.3	38.815												37.66	37.511	
DSB024S1	271426.9	196155.7	38.328												36.915	36.801	
DSB025S1	271446.9	196139	38.609												37.01		
DSB026S1	271461.2	196133.4	38.997												37.62	37.53	
DSB027S1	271465.7	196106	39.106												38.685	38.59	
DSB028S1	271481	196095.9	39.287												38.47	38.4	
DSB029S1	271505.3	196094.1	39.087												38.035	37.71	
P1BH018	271645.238	196016.158	34.229														
P1BH019	271612.925	195999.283	34.556														
RFSW009	271362.085	196176.675	38.479						37.194	37.206	36.962	37.277				36.833	
RFSW011	271457.846	196151.888	38.189						36.42	36.996	36.885	37.228	36.026			37.085	
RFS012	271478.419	196148.176	38.436						37.044	37.089		36.968	36.641			37.04	
RFSW013	271494.541	196145.368	38.252						36.986	37.006		37.052	36.427			36.93	
RFSW014	271518.638	196140.178	37.529						36.43	36.455	36.068	36.332	35.516			36.194	
RFSW015	271562.191	196133.949	37.224						36.711	36.42	35.41	36.045	35.185			35.465	
RFSW016	271594.12	196137.759	36.714						35.198	36.211	35.209	35.591					

01/09/2002	01/02/2003	01/03/2003	01/04/2003	01/09/2003	01/10/2003	01/02/2004	01/03/2004	01/04/2004	01/08/2004	01/09/2004	01/10/2004	01/04/2005	01/09/2005	01/10/2005	01/03/2006	01/10/2006	01/03/2007	01/09/2007	01/10/2007
				36.9618	35.1358			37.3558		37.3228		37.2398	37.3358						
36.1967		36.0447		35.3777			36.4077			35.5837		35.9047	35.6677		36.3497	36.0977	35.7677	36.1457	36.2127
38.586		38.915			37.775														
37.867																			
37.676		37.959			37.906														
37.465		37.95		37.986	38.11	38.11	38.128					37.985				37.53	37.8		
				37.394													37.421		
36.289		36.587		36.666	37.09														
36.882		35.855		35.554															
36.825		37.458		35.563															
33.254																			
37.067		37.995		37.786	38.41														
37.191																			
	33.307	33.208		33.189															
	33.882	33.706		33.519															
		36.861																	
36.716		36.727		36.23			37.014				37.078	36.915		37.004			36.749		
36.596		36.767		36.469			37.011				37.002	36.951	36.825				36.827	36.896	
36.427		36.686		36.281															
35.832		35.891		35.396			36.274				36.262	36.109	35.81			35.41			
34.724	35.55	35.304		34.577															
34.858							35.1				35.147	35.028		35.238					

01/05/2008 01/06/2008 01/10/2008 01/01/2009 01/08/2009 01/09/2009 01/09/2009 01/10/2009 01/12/2009 01/02/2010 01/02/2010 (B) 01/03/2010

						36.3	36.46	36.9	36.68	36.7	36.38
		36.0077				35.7877	35.6577	36.0077	35.5777	35.9777	35.8577
37.348		37.67	37.74						37.82	37.61	37.75
37.89		37.61	37.77						36.86	37.1	38.03
		37.46	37.51			37.24		37.52	37.42	37.45	37.35
36.606							36.73	37.03	36.97	36.98	36.87
35.85		34.958							36.11	35.38	36.11
			36.9								
				37.17							
37.98		36.91				37.66	37.7	38	37.92	37.91	37.78
		36.93	37.29	36.99		36.68	36.56	37.1	37.02	36.91	36.72
		36.06	37.34	37.16		36.7	36.72	37.24	37.09	37	36.8
		36.32	37.06	36.26		35.75	35.65	34.76	36.46	36.33	35.83
		34.65				34.71	34.71	35.01	34.73	34.72	34.71

Location	Easting	Northing	Ground level	01/07/1998	01/01/1999	01/05/1999
MSMW64s	271445.3062	195999.1892	41.0441	39.595	39.591	39.687
MSMW68s	271660.1283	196055.2119	34.1352		31.97	31.84
MSMW069S2	271537.3779	196121.3847	37.6581			35.5661
MSMW220S1/A	271386	196101	39.8755			37.73
MSMW220S2/B	271386	196101	39.8755			34.20
MSMW221D1/A	271362.9119	196044.3408	43.0157			41.15
MSMW221S2/B	271362.9119	196044.3408	43.0157			
MSMW222S2/A	271477.1645	196120.112	38.7269			33.91
MSMW223S1/A	271502	196018.5	39.876			
MSMW224S2/B	271557.9498	196075.1832	38.4798			33.11
DSB007	271443.5	196088.1	39.87			37.988
DSB011	271487.2	196060.1	39.87			38.88
DSB013	271469.7	196032.2	39.87			38.746
DSB016	271496.1	196037.5	39.87			37.905
DSB017S2	271444.6	196021.1	40.104			
DSB019S2	271397.7	196072.2	40.265			
DSB020S2	271469.7	196062.3	40.162			
DSB021S2	271405.7	196113.5	38.938			
DSB022S2	271424.2	196115.9	39.22			
DSB024S2	271426.9	196155.7	38.491			
DSB025S2	271446.9	196139	38.624			
DSB026S2	271461.2	196133.4	39.017			
DSB027S2	271465.7	196106	39.316			
DSB028S2	271481	196095.9	39.307			
DSB029S2	271505.3	196094.1	39.007			
DSB030S2	271488.5	196126.6	39.169			
P1BH017	271589.465	196039.899	34.99			
RFSW008	271329.418	196172.222	38.02			
DME2	271380	196151	38.24			
DM3	271482	196123	38.8			
DM4	271586	196130	36.71			
DM7	271528	196052	39.18			
DM8	271555	195988	38.9			
DME9	271468	196062	40.16			
DM10	271471	196056	40.16			
DM13	271430	196045	39.87			
DM15	271481	195990	39.87			
DM16	271531	195950	39.05			
DME17	271534	195953	39.05			

[illegible]

[illegible]

[illegible]

[illegible]

01/09/2009 01/09/2009 01/10/2009 01/12/2009 01/02/2010 01/02/2010 (B) 01/03/2010

	39.46	39.49	39.82	39.64	39.56	39.46
		31.72	31.93	31.94	31.88	31.79
	35.5181		36.2581	37.0381	35.9281	35.5581
	37.6255	37.6755	37.6755	37.6455	37.6455	37.6455
	34.6355	34.5555	35.1355	34.9855	34.9955	34.7755
	36.4969		36.8569	38.4269	38.7269	37.5869
	37.67	37.21	37.81	37.7	37.68	37.54
	37.53	37.51	37.89	37.82	37.82	37.65
	36.35	36.39	36.67	36.64	36.61	36.43
				33.92	34.35	33.65
		37.54		33.36	33.39	33.33
	36.93	37.04	37.93	36.63	36.59	37.01
33.77	33.82	33.62	34.22	34.06	33.84	33.75
36.1	36.75	37.27	38.1	38.13	38.1	37.33
32.71	33.65	33.31	35.4	35.64	35.11	34.39
29.475	37.135	37.005	37.475	37.415	37.395	37.215
34.2	33.75	33.71	34.04	33.98	33.91	33.83
35.562	35.122	34.942	35.562	35.462	38.532	35.172
38.762	38.482	38.432	38.722	38.552	35.382	38.402
39.14	38.71	38.71	39.13	38.91	38.87	38.71
39.25	38.86	38.95	39.27	39.11	39.14	38.9
37.75	37.52	37.73	38.29	37.98	37.97	37.79
37.05	36.78	36.78	37.13	36.98	36.35	36.8

Location	Easting	Northing	Ground level	01/07/1998	01/01/1999	01/05/1999
MSMW053D1	271390.1823	196165.0633	38.7547			32.42
MSMW64d	271445.354	195999.1092	41.0449	37.217	39.376	39.636
MSMW65d	271579.742	195907.0961	42.2806		40.35	40.28
MSMW068D2	271660.0014	196057.4072	33.9677			27.08
MSMW68d	271660.064	196053.5956	34.3215	29.74	27.82	29.18
MSMW69d	271539.6601	196119.0391	37.4415			
MSMW069D2	271537.4456	196121.4783	37.6072			
MSMW220D/A	271386	196101	39.8755			33.9505
MSMW221D2/B	271362.9119	196044.3408	43.0157			35.82
MSMW222D1A	271476.2253	196121.9681	38.8028			33.67
MSMW223D2/A	271502	196018.5	39.876			31.29
MSMW223D1/B	271502	196018.5	39.876			34.37
MSMW224D2/A	271555.5835	196077.1843	38.5177			33.07
MSMW224D1/B	271557.9498	196075.1832	38.4798			33.07
MSMW225D	271617.1565	196095.2709	33.808			
DME5	271593	196123	36.71			
DME6	271532	196046	39.18			
DME11	271472	196064	40.16			

01/03/2000 01/09/2000 01/10/2000 01/11/2000 01/03/2001 01/04/2001 01/09/2001 01/01/2002 01/02/2002

32.467	32.238							
39.441						39.42		
				40.6296				
27.11	27.19			27.29		26.91		
28.05	28.17			29.91		31.97		
34.0255								
40.5657								
33.9378								
34.25								
34.446								
32.9827	32.9977			34.0977		32.6817		
32.9298	32.9298			32.7408		32.9088		
27.378	27.147			27.252		27.1148		

01/03/2002 01/04/2002 01/09/2002 01/02/2003 01/03/2003 01/04/2003 01/09/2003 01/10/2003 01/02/2004

		39.31					39.88	
27.25		26.99	27.33	27.66		27.28		
32.16		31.97	32.18	31.79		31.732		
33.8985		33.6655				33.6205	34.2455	34.2455
35.1178		27.0038				21.8728	18.2418	
37.886								
32.7007		32.3307	33.0677	32.7187		32.1677		
33.4298		32.5968	33.0998	32.9648		32.4188		
27.122		26.94	27.283	27.562		27.201		

01/03/2004 01/04/2004 01/08/2004 01/09/2004 01/10/2004 01/04/2005 01/09/2005 01/10/2005 01/03/2006

	32.2206							32.2916
	34.3005			34.3305	34.0795			
						33.9618		
32.7287			32.6257		32.6007	32.4527		32.7377
32.9648			32.8648		32.8388	32.7328		32.9948

01/10/2006 01/03/2007 01/09/2007 01/10/2007 01/05/2008 01/06/2008 01/10/2008 01/01/2009 01/08/2009

						34.2755	33.9855	
							38.8028	
32.3227	32.7627	32.4587	32.4857		35.6777	32.3377	32.3177	
32.5748	32.9888			31.9938		33.0598	33.0798	

01/09/2009 01/09/2009 01/10/2009 01/12/2009 01/02/2010 01/02/2010 (B) 01/03/2010

	39.5006	39.3706	39.9906	39.8906	39.8406	39.6006
		27.47	28.35	27.98	27.67	27.61
	32.28	32.28	32.67	32.56	32.49	32.42
	28.91	28.67	29.36	29.16	29.14	28.87
	27.1072	26.9872	28.0072	27.6272	27.3072	27.1372
	33.8955	33.7155	34.2955	34.1455	34.1155	33.8955
	32.4977	32.3477	33.0877	32.8777	32.6477	32.4177
30.11	29.74	29.67	30.39	30.33	30.21	30.11
37.375	37.495	37.325	37.855	37.675	37.695	37.585
35.262	34.732	34.542	35.092	34.802	35.062	34.402

Appendix C Groundwater Quality

[illegible]

[illegible]

[illegible]

Location	Date	East	North	Aluminium Dissolved	Arsenic Dissolved	Berylium Disolved	Calcium Dissolved	Cadmium Dissolved	Chromium Dissolved	Hexavalent Chromium	Copper Dissolved	Iron Dissolved	Lead Dissolved	Magnesium Dissolved	Manganese Dissolved	Mercury Dissolved	Nickel Dissolved	Potassium Dissolved	Selenium Dissolved	Zinc Dissolved	Chloride	Nitrite	Nitrate	Sulphate	Boron	Total Biochemical Oxygen Demand	Settled Chemical Oxygen Demand	Cyanide total	Cyanide free
MSMDW224D1	18/03/2010	271555.58	196077.18			1.3			<0.1	3.29		<0.85		0.306		<0.01	0.999		8.4	1.62									
MSMW053	01/07/1998	271388.19	196165.49																										
MSMW053d	01/05/1999	271390.18	196165.06																										
MSMW064d	01/07/1998	271445.35	195999.11																										
MSMW064d	01/05/1999	271445.35	195999.11																										
MSMW066D2	01/05/1999	271462.35	196077.58																										
MSMW066D2	25/03/2002	271462.35	196077.58																										
MSMW069D	01/07/1998	271539.66	196119.04																										
MSMW069D	01/05/1999	271539.66	196119.04																										
MSMW069D	01/09/2000	271539.66	196119.04																										
MSMW069D	26/01/2009	271539.66	196119.04		1.9	0		0			0	15000	0	26000.0	5700.0	0.0	6.5	3200.0	0.00	20	190		0	160	0				
MSMW069D2	01/05/1999	271537.45	196121.48																										
MSMW069D2	01/03/2001	271537.45	196121.48																										
MSMW069D2	25/03/2002	271537.45	196121.48																		171								
MSMW069D2	07/04/2004	271537.45	196121.48																		166								
MSMW069D2	27/09/2004	271537.45	196121.48																										
MSMW069D2	26/01/2009	271537.45	196121.48		3.2	0		0			0	8800	0	36000.0	1900.0	0.0	2.4	3800.0	1.00	16	190		0	62	0				
MSMW220D	01/05/1999	271386	196101																		92								
MSMW220D	01/03/2000	271386	196101																		58								
MSMW220D	25/03/2002	271386	196101																		99								
MSMW220D	16/09/2002	271386	196101																		154								
MSMW220D	05/10/2003	271386	196101																		328								
MSMW220D	13/02/2004	271386	196101																		40								
MSMW220D	06/04/2004	271386	196101																		56								
MSMW220D	12/10/2004	271386	196101																										
MSMW220D	13/04/2005	271386	196101																										
MSMW220D	26/01/2009	271386	196101		1.1	0		0			0	6100	0	44000.0	1500.0	0.0	2.6	4400.0	0.00	14	280		0	39	0				
MSMW221d1	01/05/1999	271362.91	196044.34																										
MSMW222d1	01/05/1999	271476.23	196121.97																										
MSMW222d1	12/10/2004	271476.23	196121.97																										
MSMW222d2	01/05/1999	271477.16	196120.11																		848								
MSMW222d2	25/03/2002	271477.16	196120.11																		103								
MSMW222d2	16/09/2002	271477.16	196120.11																										
MSMW222d2	24/10/2003	271477.16	196120.11																		78								
MSMW222d2	05/04/2004	271477.16	196120.11																										
MSMW222d2	13/04/2005	271477.16	196120.11																										
MSMW222d2	23/09/2005	271477.16	196120.11																										
MSMW222D2	27/01/2009	271477.16	196120.11		1.3	0		0	2		2.6	7200	0.4	67000.0	450.0	0.0	1.8	4100.0	1.00	10	370		0	30	0				
MSMW223D1	01/05/1999	271502	196018.5																										
MSMW223D1	01/03/2000	271502	196018.5																										
MSMW223D2	01/05/1999	271502	196018.5																										
MSMW224D1	01/05/1999	271555.58	196077.18																		73								
MSMW224D1	01/03/2000	271555.58	196077.18																		149								
MSMW224D1	01/09/2000	271555.58	196077.18																		55								
MSMW224D1	01/03/2001	271555.58	196077.18																										
MSMW224D1	25/03/2002	271555.58	196077.18																		74								
MSMW224D1	16/09/2002	271555.58	196077.18																		30								
MSMW224D1	12/10/2003	271555.58	196077.18																		364								
MSMW224D1	25/03/2004	271555.58	196077.18																		396								
MSMW224D1	20/01/2009	271555.58	196077.18		2.1	0		0			2.2	1500	0.5	21000.0	3500.0	0.0	2.8	3800.0	5.00	9	190		0	32	0				
MSMW224D2	01/05/1999	271555.58	196077.18																		129								
MSMW224D2	01/03/2000	271555.58	196077.18																		337								
MSMW224D2	01/09/2000	271555.58	196077.18																		167								
MSMW224D2	25/03/2002	271555.58	196077.18																		242								
MSMW224D2	16/09/2002	271555.58	196077.18																		269								
MSMW224D2	12/10/2003	271555.58	196077.18																		87								
MSMW224D2	25/03/2004	271555.58	196077.18																		85								
MSMW224D2	20/01/2009	271555.58	196077.18		1.8	0		0			0	1200	0.6	38000.0	790.0	0.0	0.0	4100.0	4.00	0	180		0	18	0				

Dissolved Oxygen	Ammoniacal Nitrogen as N	Sulphur (free)	Sulphide	Total Organic Carbon	pH	Aliphatic C5- C6	Aliphatic C6- C8	Aliphatic C8- C10	Aliphatic C8- C12	Aliphatic C10- C16	Aliphatic C12- C21	Aliphatic C16- C35	Aliphatic C21- C35	Aromatic C6- C8	Aromatic C7- C10	Aromatic C8- C10	Aromatic C10-C12	Aromatic C12-C16	Aromatic C16-C21	Aromatic C21-C35	Aliphatic C5- C35	Aromatic C6- C35	TPH Ali/Aro	PAH	Total VOC's	1,1 Dichloroethyl ene	Methylene Chloride	Trans-1,2- dichloroethyl ene	1,1- dichloroetha ne	2,2- dichloroprop ane+1,2- dichloroethyl ene	Bromochloro methane	Chloroform	
						<10	<10	<10	<10			<10	<10	<10	<10	<10		<10	<10	<10	<10	<10	<10		< 1				<1.2	<3.8	<1.9	<1.8	
						0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0	0.0	0.0	
						0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						0.0	0.0	0.0	0.0	
						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						0	0	0	0	
							37344																										
						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						0	0	0	0	
						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						0	0	0	0	
						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						0	0	0	0	
						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						0	0	0	0	

[illegible]

[illegible]

Appendix D Analyses of LNAPL Free Product



Jones Environmental Forensics Ltd

Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

Tel: +44 (0) 1244 833780
Fax: +44 (0) 1244 833781

ALcontrol Laboratories
Units 7 & 8 Hawarden Business Park
Manor Road
Hawarden
CH5 3US



Attention: Steven Clark

Date:	3rd February 2009
Your reference:	09-00738
Our reference :	Test Report 09/173
Location :	-
Date samples received:	30th January 2009
Status:	Final Report
Issue:	1

Two product samples were received for analysis on 30th January 2009 which was completed on 3rd February 2009. Please find attached our Test Report which should include all sections if reproduced. All interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Signed

J W Farrell- Jones CChem FRSC
Chartered Chemist

$$H=H_2SO_4, Z=ZnAc, N=NaOH, HN=HN0_3$$
2 of 6



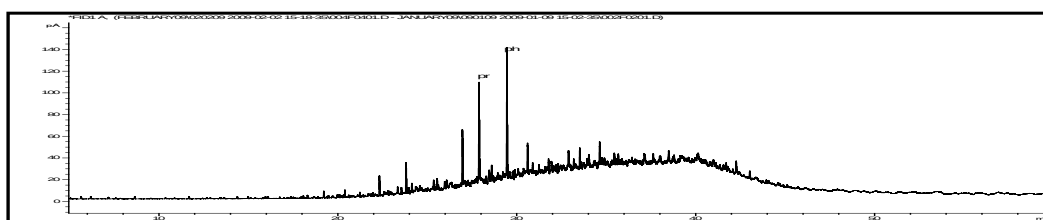
Jones Environmental Forensics Ltd

TPHCWG Analysis

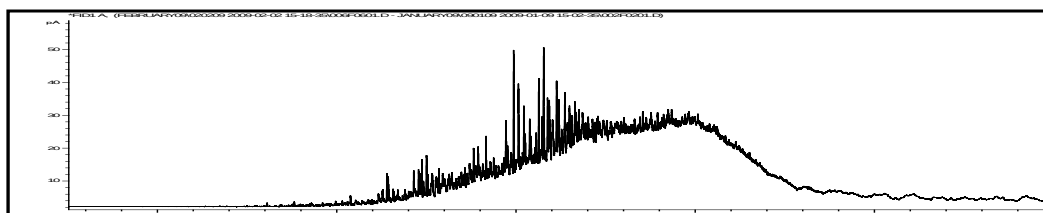
Job Number: 09/173-001
Client ID: 58

173-001	C5 to C6	C6 to C8	C8 to C10	C10 to C12	C12 to C16	C16 to C21	C21 to C35
Aliphatics %wt	<0.01	0.14	0.34	0.56	3.52	14.05	34.36
Aromatics %wt	-	0.06	0.22	0.32	1.98	8.61	23.33

Aliphatic Chromatogram:



Aromatic Chromatogram:





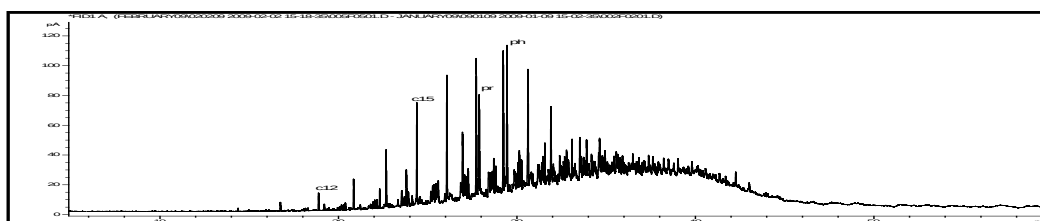
Jones Environmental Forensics Ltd

TPHCWG Analysis

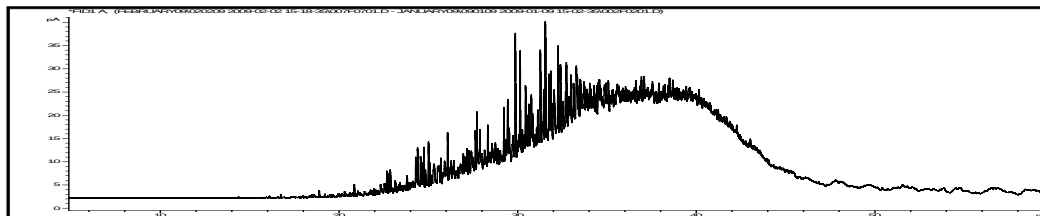
Job Number: 09/173-002
Client ID: 60

173-002	C5 to C6	C6 to C8	C8 to C10	C10 to C12	C12 to C16	C16 to C21	C21 to C35
Aliphatics %wt	<0.01	0.13	0.16	0.25	2.99	16.03	29.48
Aromatics %wt	-	0.04	0.06	0.26	2.08	9.95	25.52

Aliphatic Chromatogram:



Aromatic Chromatogram:



Jones Environmental Forensics Ltd

Client Name: ALcontrol Laboratories

Location:

Report - VOCs - product

JEFL Job No.: 09/173

JEFL Sample No.	1	2											
Client Sample No.	58	60											
Depth/Other													
Sample Date													
Sample Type	Product	Product											
Batch Number	1	1											
Date of Receipt	30/01/09	30/01/09											

Jones Environmental Forensics Ltd

Client Name: ALcontrol Laboratories

Location:

Report - SVOCs - waters

JEFL Job No.: 09/173

JEFL Sample No.	1	2									# UKAS Accredited		
Client Sample No.	58	60											
Depth/Other Sample Date													
Sample Type	Product	Product											
Batch Number	1	1											
Date of Receipt	30/01/09	30/01/09									LOD	Units	Method Number
Phenols													
2-Chlorophenol	<0.01	<0.01									<0.01	%	TM16/PM9
2-Methylphenol	<0.01	<0.01									<0.01	%	TM16/PM9
2-Nitrophenol	<0.01	<0.01									<0.01	%	TM16/PM9
2,4-Dichlorophenol	<0.01	<0.01									<0.01	%	TM16/PM9
2,4-Dimethylphenol	<0.01	<0.01									<0.01	%	TM16/PM9
2,4,5-Trichlorophenol	<0.01	<0.01									<0.01	%	TM16/PM9
2,4,6-Trichlorophenol	<0.01	<0.01									<0.01	%	TM16/PM9
4-Chloro-3-methylphenol	<0.01	<0.01									<0.01	%	TM16/PM9
4-Methylphenol	<0.01	<0.01									<0.01	%	TM16/PM9
4-Nitrophenol	<0.01	<0.01									<0.01	%	TM16/PM9
Pentachlorophenol	<0.01	<0.01									<0.01	%	TM16/PM9
Phenol	<0.01	<0.01									<0.01	%	TM16/PM9
PAHs													
2-Chloronaphthalene	<0.01	<0.01									<0.01	%	TM16/PM9
2-Methylnaphthalene	<0.01	<0.01									<0.01	%	TM16/PM9
Naphthalene	<0.01	<0.01									<0.01	%	TM16/PM9
Acenaphthylene	<0.01	<0.01									<0.01	%	TM16/PM9
Acenaphthene	<0.01	<0.01									<0.01	%	TM16/PM9
Fluorene	<0.01	<0.01									<0.01	%	TM16/PM9
Phenanthrene	0.03	0.02									<0.01	%	TM16/PM9
Anthracene	<0.01	<0.01									<0.01	%	TM16/PM9
Fluoranthene	<0.01	<0.01									<0.01	%	TM16/PM9
Pyrene	<0.01	<0.01									<0.01	%	TM16/PM9
Benz(a)anthracene	<0.01	<0.01									<0.01	%	TM16/PM9
Chrysene	<0.01	<0.01									<0.01	%	TM16/PM9
Benzo(b)fluoranthene	<0.01	<0.01									<0.01	%	TM16/PM9
Benzo(a)pyrene	<0.01	<0.01									<0.01	%	TM16/PM9
Indeno(123cd)pyrene	<0.01	<0.01									<0.01	%	TM16/PM9
Dibenzo(ah)anthracene	<0.01	<0.01									<0.01	%	TM16/PM9
Benzo(ghi)perylene	<0.01	<0.01									<0.01	%	TM16/PM9
Phthalates													
Bis(2-ethylhexyl) phthalate	<0.01	<0.01									<0.01	%	TM16/PM9
Butylbenzyl phthalate	<0.01	<0.01									<0.01	%	TM16/PM9
Di-n-butyl phthalate	<0.01	<0.01									<0.01	%	TM16/PM9
Di-n-Octyl phthalate	<0.01	<0.01									<0.01	%	TM16/PM9
Diethyl phthalate	<0.01	<0.01									<0.01	%	TM16/PM9
Dimethyl phthalate	<0.01	<0.01									<0.01	%	TM16/PM9
Other SVOCs													
1,2-Dichlorobenzene	<0.01	<0.01									<0.01	%	TM16/PM9
1,2,4-Trichlorobenzene	<0.01	<0.01									<0.01	%	TM16/PM9
1,3-Dichlorobenzene	<0.01	<0.01									<0.01	%	TM16/PM9
1,4-Dichlorobenzene	<0.01	<0.01									<0.01	%	TM16/PM9
2-Nitroaniline	<0.01	<0.01									<0.01	%	TM16/PM9
2,4-Dinitrotoluene	<0.01	<0.01									<0.01	%	TM16/PM9
2,6-Dinitrotoluene	<0.01	<0.01									<0.01	%	TM16/PM9
3-Nitroaniline	<0.01	<0.01									<0.01	%	TM16/PM9
4-Bromophenylphenylether	<0.01	<0.01									<0.01	%	TM16/PM9
4-Chloroaniline	<0.01	<0.01									<0.01	%	TM16/PM9
4-Chlorophenylphenylether	<0.01	<0.01									<0.01	%	TM16/PM9
4-Nitroaniline	<0.01	<0.01									<0.01	%	TM16/PM9
Azobenzene	<0.01	<0.01									<0.01	%	TM16/PM9
Bis(2-chloroethoxy)methane	<0.01	<0.01									<0.01	%	TM16/PM9
Bis(2-chloroethyl)ether	<0.01	<0.01									<0.01	%	TM16/PM9
Carbazole	<0.01	<0.01									<0.01	%	TM16/PM9
Dibenzofuran	<0.01	<0.01									<0.01	%	TM16/PM9
Hexachlorobenzene	<0.01	<0.01									<0.01	%	TM16/PM9
Hexachlorobutadiene	<0.01	<0.01									<0.01	%	TM16/PM9
Hexachlorocyclopentadiene	<0.01	<0.01									<0.01	%	TM16/PM9
Hexachloroethane	<0.01	<0.01									<0.01	%	TM16/PM9
Isophorone	<0.01	<0.01									<0.01	%	TM16/PM9
N-nitrosodi-n-propylamine	<0.01	<0.01									<0.01	%	TM16/PM9
Nitrobenzene	<0.01	<0.01									<0.01	%	TM16/PM9



Jones Environmental Forensics Ltd

Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

Tel: +44 (0) 1244 833780
Fax: +44 (0) 1244 833781

ALcontrol Laboratories
Units 7 & 8 Hawarden Business Park
Manor Road
Hawarden
CH5 3US



Attention: Steven Clark

Date:	30th January 2009
Your reference:	09/00738
Our reference :	09/125
Location :	-
Date samples received:	23rd January 2009
Status:	Report
Issue:	2

Three product samples were received for analysis on 23rd January 2009 which was completed on 30th January 2009. Please find attached our Test Report which should include all sections if reproduced. All interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Signed

J W Farrell- Jones CChem FRSC
Chartered Chemist

Jones Environmental

Client Name: ALcontrol Laboratories

Report - Products

Reference: 09/00738

Location: -

Contact: Steven Clark

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle

JE Job No.: 09/125

H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HNO₃

J E Sample No.	1	2	3										
Sample ID	24	40	42										
Depth	-	-	-										
Containers	V	V	V										
Sample Date	-	-	-										
Sample Type	Product	Product	water										
Batch Number	1	1	1										
Date of Receipt	23/01/09	23/01/09	23/01/09								LOD	Units	Method No.
TPH CWG - Aliphatics	30.08	67.50	NDP								<0.01	%	TM6
C5-C6	<0.01	<0.01	NDP								<0.01	%	TM6
>C6-C8	0.35	0.56	NDP								<0.01	%	TM6
>C8-10	11.14	10.59	NDP								<0.01	%	TM6
>C10-C12	12.19	23.84	NDP								<0.01	%	TM6
>C12-C16	5.59	32.18	NDP								<0.01	%	TM6
>C16-21	0.81	2.43	NDP								<0.01	%	TM6
>C21-C35	<0.01	<0.01	NDP								<0.01	%	TM6
TPH CWG - Aromatics	67.50	29.26	NDP										
>EC6-EC8	0.17	0.39	NDP								<0.01	%	TM6
>EC8-EC10	18.72	3.75	NDP								<0.01	%	TM6
>EC10-EC12	29.32	9.32	NDP								<0.01	%	TM6
>EC12-EC16	16.60	11.86	NDP								<0.01	%	TM6
>EC16-EC21	2.69	3.94	NDP								<0.01	%	TM6
>EC21-EC35	<0.01	<0.01	NDP								<0.01	%	TM6

Jones Environmental Forensics Ltd

Client Name: ALcontrol Laboratories

Location:

Report - VOCs - product

JEFL Job No.: 09/125

JEFL Sample No.	1	2	3								M ¹ MCERTS Accredited		
Client Sample No.	24	40	42								# UKAS Accredited		
Depth/Other													
Sample Date													
Sample Type	Product	Product	water										
Batch Number	1	1	1										
Date of Receipt	23/01/09	23/01/09	23/01/09								LOD	Units	Method Number
Dichlorodifluoromethane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Methyl Tertiary Butyl Ether	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Chloromethane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Vinyl Chloride	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Bromomethane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Chloroethane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Trichlorofluoromethane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
1,1-Dichloroethene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Carbon Disulphide	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Dichloromethane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Trans-1,2-Dichloroethene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
1,1 - Dichloroethane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Cis-1,2-Dichloroethene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
2,2 Dichloropropane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Bromochloromethane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Chloroform	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
1,1,1-Trichloroethane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
1,1-Dichloropropene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Carbontetrachloride	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
1,2-Dichloroethane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Benzene	0.05	0.13	<0.01								<0.01	%	TM15/PM10
Trichloroethene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
1,2-Dichloropropane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Dibromomethane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Bromodichloromethane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Cis-1,3-Dichloropropene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Toluene	0.12	0.26	<0.01								<0.01	%	TM15/PM10
Trans-1,3-Dichloropropene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
1,1,2-Trichloroethane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Tetrachloroethene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
1,3,-Dichloropropane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Dibromochloromethane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
1,2-Dibromoethane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Chlorobenzene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
1,1,1,2-Tetrachloroethane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Ethylbenzene	0.08	<0.01	<0.01								<0.01	%	TM15/PM10
m/p Xylene	0.12	0.36	<0.01								<0.01	%	TM15/PM10
o Xylene	0.05	0.18	<0.01								<0.01	%	TM15/PM10
Styrene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Bromoform	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Isopropylbenzene	0.14	0.28	<0.01								<0.01	%	TM15/PM10
1,1,1,2,2 Tetrachloroethane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Bromobenzene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
1,2,3-Trichloropropane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Propylbenzene	0.25	0.24	<0.01								<0.01	%	TM15/PM10
2-Chlorotoluene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
1,3,5-Trimethylbenzene	0.32	0.37	<0.01								<0.01	%	TM15/PM10
4-Chlorotoluene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Tert-Butylbenzene	0.18	0.19	<0.01								<0.01	%	TM15/PM10
1,2,4-Trimethylbenzene	2.75	1.52	<0.01								<0.01	%	TM15/PM10
Sec-Butylbenzene	0.38	0.24	<0.01								<0.01	%	TM15/PM10
4-Isopropyltoluene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
1,4- Dichlorobenzene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
1,3-Dichlorobenzene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
n-Butylbenzene	0.25	0.22	<0.01								<0.01	%	TM15/PM10
1,2-Dichlorobenzene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
1,2-Dibromo-3-Chloropropane	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
1,2,4-Trichlorobenzene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Hexachlorobutadiene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10
Naphthalene	0.12	0.27	<0.01								<0.01	%	TM15/PM10
1,2,3-Trichlorobenzene	<0.01	<0.01	<0.01								<0.01	%	TM15/PM10

Jones Environmental Forensics Ltd

Client Name: ALcontrol Laboratories

Location:

Report - SVOCs - product

JEFL Job No.: 09/125

JEFL Sample No.	1	2	3								# UKAS Accredited		
Client Sample No.	24	40	42								LOD	Units	Method Number
Depth/Other													
Sample Date													
Sample Type	Product	Product	water										
Batch Number	1	1	1										
Date of Receipt	23/01/09	23/01/09	23/01/09										
Phenols													
2-Chlorophenol	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
2-Methylphenol	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
2-Nitrophenol	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
2,4-Dichlorophenol	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
2,4-Dimethylphenol	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
2,4,5-Trichlorophenol	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
2,4,6-Trichlorophenol	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
4-Chloro-3-methylphenol	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
4-Methylphenol	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
4-Nitrophenol	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Pentachlorophenol	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Phenol	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
PAHs													
2-Chloronaphthalene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
2-Methylnaphthalene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Naphthalene	0.15	0.30	<0.01								<0.01	%	TM16/PM9
Acenaphthylene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Acenaphthene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Fluorene	<0.01	0.01	<0.01								<0.01	%	TM16/PM9
Phenanthrene	<0.01	0.02	<0.01								<0.01	%	TM16/PM9
Anthracene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Fluoranthene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Pyrene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Benz(a)anthracene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Chrysene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Benzo(b)fluoranthene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Benzo(a)pyrene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Indeno(123cd)pyrene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Dibenzo(ah)anthracene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Benzo(ghi)perylene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Phthalates													
Bis(2-ethylhexyl) phthalate	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Butylbenzyl phthalate	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Di-n-butyl phthalate	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Di-n-Octyl phthalate	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Diethyl phthalate	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Dimethyl phthalate	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Other SVOCs													
1,2-Dichlorobenzene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
1,2,4-Trichlorobenzene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
1,3-Dichlorobenzene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
1,4-Dichlorobenzene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
2-Nitroaniline	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
2,4-Dinitrotoluene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
2,6-Dinitrotoluene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
3-Nitroaniline	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
4-Bromophenylphenylether	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
4-Chloroaniline	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
4-Chlorophenylphenylether	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
4-Nitroaniline	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Azobenzene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Bis(2-chloroethoxy)methane	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Bis(2-chloroethyl)ether	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Carbazole	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Dibenzofuran	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Hexachlorobenzene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Hexachlorobutadiene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Hexachlorocyclopentadiene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Hexachloroethane	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Isophorone	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
N-nitrosodi-n-propylamine	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9
Nitrobenzene	<0.01	<0.01	<0.01								<0.01	%	TM16/PM9



Jones Environmental Forensics Ltd

Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

Tel: +44 (0) 1244 833780
Fax: +44 (0) 1244 833781

Alcontrol Laboratories
Units 7 & 8
Hawarden Business Park
Manor Road
Hawarden
CH5 3US

Attention: Steve Clark



Date: 30th January 2009

Your reference: 09/00738

Our reference : 09-105

Location :

Date samples received: 21st January 2009

Status: Report

Issue: 2

One product sample was received for analysis on 21st January 2009 which was completed on 30th January 2009. Please find attached our Test Report which should include all sections if reproduced. All interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Signed

J W Farrell- Jones CChem FRSC
Chartered Chemist

$$H=H_2SO_4, Z=ZnAc, N=NaOH, HN=HNO_3$$
2 of 4

Jones Environmental Forensics Ltd

Client Name: Alcontrol Laboratories

Location:

Report - VOCs - product

JEFL Job No.: 09-105

JEFL Sample No.		1												
Client Sample No.		3												
Depth/Other														
Sample Date														
Sample Type		Product												
Batch Number		1												
Date of Receipt		21/01/09												
												M MCERTS Accredited		
												# UKAS Accredited		
												LOD	Units	Method Number
Dichlorodifluoromethane	<0.01											<0.01	%	TM15/PM10
Methyl Tertiary Butyl Ether	<0.01											<0.01	%	TM15/PM10
Chloromethane	<0.01											<0.01	%	TM15/PM10
Vinyl Chloride	<0.01											<0.01	%	TM15/PM10
Bromomethane	<0.01											<0.01	%	TM15/PM10
Chloroethane	<0.01											<0.01	%	TM15/PM10
Trichlorofluoromethane	<0.01											<0.01	%	TM15/PM10
1,1-Dichloroethene	<0.01											<0.01	%	TM15/PM10
Carbon Disulphide	<0.01											<0.01	%	TM15/PM10
Dichloromethane	<0.01											<0.01	%	TM15/PM10
Trans-1,2-Dichloroethene	<0.01											<0.01	%	TM15/PM10
1,1 - Dichloroethane	<0.01											<0.01	%	TM15/PM10
Cis-1,2-Dichloroethene	<0.01											<0.01	%	TM15/PM10
2,2 Dichloropropane	<0.01											<0.01	%	TM15/PM10
Bromochloromethane	<0.01											<0.01	%	TM15/PM10
Chloroform	<0.01											<0.01	%	TM15/PM10
1,1,1-Trichloroethane	<0.01											<0.01	%	TM15/PM10
1,1-Dichloropropene	<0.01											<0.01	%	TM15/PM10
Carbontetrachloride	<0.01											<0.01	%	TM15/PM10
1,2-Dichloroethane	<0.01											<0.01	%	TM15/PM10
Benzene	0.03											<0.01	%	TM15/PM10
Trichloroethene	<0.01											<0.01	%	TM15/PM10
1,2-Dichloropropane	<0.01											<0.01	%	TM15/PM10
Dibromomethane	<0.01											<0.01	%	TM15/PM10
Bromodichloromethane	<0.01											<0.01	%	TM15/PM10
Cis-1,3-Dichloropropene	<0.01											<0.01	%	TM15/PM10
Toluene	0.04											<0.01	%	TM15/PM10
Trans-1,3-Dichloropropene	<0.01											<0.01	%	TM15/PM10
1,1,2-Trichloroethane	<0.01											<0.01	%	TM15/PM10
Tetrachloroethene	<0.01											<0.01	%	TM15/PM10
1,3,-Dichloropropane	<0.01											<0.01	%	TM15/PM10
Dibromochloromethane	<0.01											<0.01	%	TM15/PM10
1,2-Dibromoethane	<0.01											<0.01	%	TM15/PM10
Chlorobenzene	<0.01											<0.01	%	TM15/PM10
1,1,1,2-Tetrachloroethane	<0.01											<0.01	%	TM15/PM10
Ethylbenzene	0.09											<0.01	%	TM15/PM10
m/p Xylene	0.49											<0.01	%	TM15/PM10
o Xylene	0.01											<0.01	%	TM15/PM10
Styrene	<0.01											<0.01	%	TM15/PM10
Bromoform	<0.01											<0.01	%	TM15/PM10
Isopropylbenzene	0.17											<0.01	%	TM15/PM10
1,1,2,2 Tetrachloroethane	<0.01											<0.01	%	TM15/PM10
Bromobenzene	<0.01											<0.01	%	TM15/PM10
1,2,3-Trichloropropane	<0.01											<0.01	%	TM15/PM10
Propylbenzene	0.29											<0.01	%	TM15/PM10
2-Chlorotoluene	<0.01											<0.01	%	TM15/PM10
1,3,5-Trimethylbenzene	0.46											<0.01	%	TM15/PM10
4-Chlorotoluene	0.01											<0.01	%	TM15/PM10
Tert-Butylbenzene	<0.01											<0.01	%	TM15/PM10
1,2,4-Trimethylbenzene	1.44											<0.01	%	TM15/PM10
Sec-Butylbenzene	0.11											<0.01	%	TM15/PM10
4-Isopropyltoluene	0.07											<0.01	%	TM15/PM10
1,4- Dichlorobenzene	<0.01											<0.01	%	TM15/PM10
1,3-Dichlorobenzene	<0.01											<0.01	%	TM15/PM10
n-Butylbenzene	<0.01											<0.01	%	TM15/PM10
1,2-Dichlorobenzene	<0.01											<0.01	%	TM15/PM10
1,2-Dibromo-3-Chloropropane	<0.01											<0.01	%	TM15/PM10
1,2,4-Trichlorobenzene	<0.01											<0.01	%	TM15/PM10
Hexachlorobutadiene	<0.01											<0.01	%	TM15/PM10
Naphthalene	0.1											<0.01	%	TM15/PM10
1,2,3-Trichlorobenzene	<0.01											<0.01	%	TM15/PM10

JEFL Job No.: 09-105

[illegible]

Appendix E Model Parameterisation Tables

Model used:	ConSim v2.5			
Parameter	Unit	Value/Range	PDF	Comment / Justification
Source Zone Properties (Made Ground and Granular Drift)				
Source Area		-		Source area assumed to be whole DiMe Site on a conservative basis
Source Depth	m	0.1 - 2 - 4.8	Triangular	Depth of Made Ground from DiMe Borehole Logs
Dry Bulk Density	g/cm3	1.8	Single value	Assumption, typical for unconsolidated sedimentary materials
Fraction of Organic Carbon	%	0.01 - 0.1	Uniform	ConSim Help files (Clay-silt).
Air Filled Porosity	--	0.1	Single value	Assume total porosity of 0.3 and air filled porosity is 1/3 of total porosity.
Water Filled Porosity	--	0.2	Single value	Assume total porosity of 0.3 and water filled porosity is 2/3 of total porosity.
Infiltration	mm	200 - 500	Uniform	Conservative values. High rates of infiltration assumed.
Vertical pathway (Cohesive Drift)				
Thickness	m	6 - 11.6 - 19.2	Triangular	Thickness of Cohesive Drift from DiMe area borehole logs.
Hydraulic Conductivity	m/s	1×10^{-10} - 1×10^{-7}	Log Triangular	Typical conductivity ranges for Clays & Silts from Domenico and Schwartz (1990). Log triangular to represent range over more than 1 order of magnitude.
Fraction of Organic Carbon	%	0.3 - 2	Triangular	Site specific from samples from DiMe boreholes (2009)
Water Filled Porosity	--	0.05 - 0.3	Uniform	Assumed ranges based on likely effective porosity of clays and silt after Domenico and Schwartz (1990).
Dry Bulk Density	g/cm3	1.8	Single value	Assumption, typical for unconsolidated sedimentary materials
Aquifer Pathway Properties (Coal Measures, Secondary A Aquifer)				
Thickness	m	50	Single value	Full aquifer thickness assumed. Only mixing zone considered in risk assessment.
Mixing Zone Thickness	m	3 - 6	Uniform	Mixing zone parameterised to the likely weathered thickness of Coal Measures.
Hydraulic Conductivity	m/s	1.16×10^{-6} - 8.1×10^{-6} - 2.66×10^{-5}	Triangular	Values from pumping tests on coal measure aquifer. URS report Whole Site Investigation. BP Llandarcy Refinery. August 2005
Hydraulic Gradient	--	0.04 - 0.09	Uniform	Gradient from groundwater water levels monitored across area. (Figure 7)
Dry Bulk Density	g/cm3	2.2	Single value	Assumed for sedimentary rocks consisting of mudstones, siltstones and sandstones (insensitive parameter)
Effective Porosity	--	0.11 - 0.136	Uniform	The Physical Properties of Minor Aquifers in England and Wales (Ref. 6)
Fraction of Organic Carbon	fraction	0.007 - 0.008	Uniform	ConSim Help files (Sandstone).
Distance to Compliance Point				
Distance to Compliance Point	m	360	Single value	Down gradient site boundary

Compound	EALs (mg/l)	Henrys Law Coefficient (cm ³ /cm ³)	Koc Source Zone (l/kg)	Solubility (max 25°C) (mg/l)	Biodegradation Rates (years)	Source Concentrations (mg/l)
Organics						
Aliphatic TPH C ₅ -C ₆	0.01	33	794	36	2	Solubility
Aliphatic TPH C ₆ -C ₈	0.01	50	3981	5.4	2	Solubility
Benzene	0.001	0.23	30.9 - 257	1800	0.027 - 1.97	455 - 50
1,2-Dichloroethane	0.003	0.045	11.5 - 151.4	21850	0.35* - 0.49	21850 - 1120 - 35
Dichloromethane	0.02	0.105	8.8 - 27.5	9960	0.15 - 0.5*	9960 - 1140 - 30

* Values revised upwards (conservatively) to calibrate models

UKDWS (Hydrocarbons)

UK DWS

WHO guidelines

Total Petroleum Hydrocarbon Criteria Working Group Series (TPHCWG), 1999. Human Health Risk-Based Evaluation of Petroleum Release Sites: Implementing the Working Group Approach, Volume 5, Table 1.

Assumed values, greater than benzene, considered conservative due to greater stability benzene ring.

Physical-Chemical Properties and Environmental Fate for Organic Chemicals, Mackay et. al. 2006. 2nd Ed.

Appendix F ConSim Models

DiMe Area - 1,2-Dichloroethane (1,2-DCA)

Concentration at Source [mg/l] - 1000 years

05% of values less than 82.7483	10% of values less than 140.563	25% of values less than 307.285
50% of values less than 564.338	75% of values less than 817.219	90% of values less than 1006.66
Minimum 38.4437s than 1056.89	Maximum 1120	
Mean 565.309	SD 309.773	Variance 95959.3

DiMe Area - Dichloromethane (DCM)

Concentration at Source [mg/l] - 1000 years

05% of values less than 83.7944	10% of values less than 146.329	25% of values less than 315.232
50% of values less than 583.052	75% of values less than 867.878	90% of values less than 1030.99
Minimum 31.0163s than 1076.01	Maximum 1139.73	
Mean 589.445	SD 318.846	Variance 101663

DiMe Area - TPH Aromatic C10-C12

Concentration at Source [mg/l] - 1000 years

05% of values less than 25	10% of values less than 25	25% of values less than 25
50% of values less than 25	75% of values less than 25	90% of values less than 25
Minimum 25s less than 25	Maximum 25	
Mean 25	SD 0	Variance 0

DiMe Area - TPH Aromatic C12-C16

Concentration at Source [mg/l] - 1000 years

05% of values less than 5.8	10% of values less than 5.8	25% of values less than 5.8
50% of values less than 5.8	75% of values less than 5.8	90% of values less than 5.8
Minimum 5.8s less than 5.8	Maximum 5.8	
Mean 5.8	SD 1.27964E-006	Variance -1.63749E-012

DiMe Area - 1,2-Dichloroethane (1,2-DCA)

Unretarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 2.09221	10% of values less than 2.57175	25% of values less than 3.83521
50% of values less than 6.05447	75% of values less than 8.89598	90% of values less than 12.7259
Minimum 1.03405s than 16.4657	Maximum 348.895	
Mean 7.95052	SD 15.106	Variance 228.191

Retarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 14.458	10% of values less than 19.0495	25% of values less than 31.513
50% of values less than 57.4172	75% of values less than 103.749	90% of values less than 156.517
Minimum 5.70879s than 211.064	Maximum 3532.81	
Mean 87.3319	SD 171.658	Variance 29466.6

DiMe Area - Dichloromethane (DCM)

Unretarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 2.09221	10% of values less than 2.57175	25% of values less than 3.83521
50% of values less than 6.05447	75% of values less than 8.89598	90% of values less than 12.7259
Minimum 1.03405s than 16.4657	Maximum 348.895	
Mean 7.95052	SD 15.106	Variance 228.191

Retarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 7.50269	10% of values less than 9.09588	25% of values less than 12.885
50% of values less than 18.6284	75% of values less than 27.6434	90% of values less than 39.6787
Minimum 2.69574s than 50.3299	Maximum 721.522	
Mean 25.1889	SD 41.9106	Variance 1756.5

DiMe Area - TPH Aromatic C10-C12

Unretarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 2.09221	10% of values less than 2.57175	25% of values less than 3.83521
50% of values less than 6.05447	75% of values less than 8.89598	90% of values less than 12.7259
Minimum 1.03405s than 16.4657	Maximum 348.895	
Mean 7.95052	SD 15.106	Variance 228.191

Retarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 577.885	10% of values less than 729.545	25% of values less than 1148.12
50% of values less than 1794.57	75% of values less than 2699.25	90% of values less than 3923.98
Minimum 223.083s than 4882.12	Maximum 56081.2	
Mean 2343.14	SD 3225.02	Variance 1.04007E+007

DiMe Area - TPH Aromatic C12-C16

Unretarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 2.09221	10% of values less than 2.57175	25% of values less than 3.83521
50% of values less than 6.05447	75% of values less than 8.89598	90% of values less than 12.7259
Minimum 1.03405s than 16.4657	Maximum 348.895	
Mean 7.95052	SD 15.106	Variance 228.191

Retarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 1147.56	10% of values less than 1448.91	25% of values less than 2285.63
50% of values less than 3572.4	75% of values less than 5382.07	90% of values less than 7819.99
Minimum 441.203s than 9734.26	Maximum 111680	
Mean 4667.17	SD 6422.59	Variance 4.12496E+007

DiMe Area - 1,2-Dichloroethane (1,2-DCA)

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 1000 years

05% of values less than 3.68332E-008	10% of values less than 3.53936E-006	25% of values less than 0.000834129
50% of values less than 0.0423819	75% of values less than 0.984388	90% of values less than 7.61635
Minimum 0.0000000000000000	Maximum 173.961	
Mean 3.22572	SD 10.8784	Variance 118.339

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

DiMe Area - Dichloromethane (DCM)

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 1000 years

05% of values less than 1.48453E-012	10% of values less than 9.17383E-010	25% of values less than 6.36885E-006
50% of values less than 0.00310907	75% of values less than 0.215285	90% of values less than 3.00155
Minimum 0.es less than 11.111	Maximum 158.419	
Mean 2.19922	SD 9.83129	Variance 96.6542

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

DiMe Area - TPH Aromatic C10-C12

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 8.68164
Minimum 0.05 less than 11.7708	Maximum 20.4045	
Mean 1.7475	SD 4.01256	Variance 16.1006

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

DiMe Area - TPH Aromatic C12-C16

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 4.695	
Mean 0.0713351	SD 0.460308	Variance 0.211884

DiMe Area - 1,2-Dichloroethane (1,2-DCA)

Diluted Concentration [mg/l] Cohesive Drift - 1000 years

05% of values less than 1.20889E-008	10% of values less than 1.07401E-006	25% of values less than 0.000313782
50% of values less than 0.0161379	75% of values less than 0.419345	90% of values less than 3.25038
Minimum 0.0000000000000000	Maximum 81.4907	
Mean 1.47394	SD 5.49125	Variance 30.1538

DiMe Area - Dichloromethane (DCM)

Diluted Concentration [mg/l] Cohesive Drift - 1000 years

05% of values less than 4.29735E-013	10% of values less than 2.7979E-010	25% of values less than 2.22302E-006
50% of values less than 0.00125137	75% of values less than 0.0805704	90% of values less than 1.33095
Minimum 0.0000000000000000	Maximum 90.9051	
Mean 1.04226	SD 5.14614	Variance 26.4828

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

DiMe Area - TPH Aromatic C10-C12

Diluted Concentration [mg/l] Cohesive Drift - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 3.54999
Minimum 0.05 less than 5.57682	Maximum 13.7136	
Mean 0.814467	SD 2.00512	Variance 4.02051

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

DiMe Area - TPH Aromatic C12-C16

Diluted Concentration [mg/l] Cohesive Drift - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.000000	Maximum 2.76026	
Mean 0.0362272	SD 0.247352	Variance 0.061183

1,2-Dichloroethane (1,2-DCA)

Unretarded Travel Time to DiMe Area Receptor [years]

05% of values less than 2.79284	10% of values less than 3.20928	25% of values less than 4.60127
50% of values less than 6.92076	75% of values less than 9.88143	90% of values less than 13.6253
Minimum 1.03405s than 17.403	Maximum 348.895	
Mean 8.77981	SD 15.1272	Variance 228.832

Retarded Travel Time to DiMe Area Receptor [years]

05% of values less than 15.2071	10% of values less than 19.6854	25% of values less than 32.3103
50% of values less than 58.1205	75% of values less than 104.309	90% of values less than 156.94
Minimum 5.80993s than 211.169	Maximum 3533.51	
Mean 88.2505	SD 171.674	Variance 29471.9

Dichloromethane (DCM)

Unretarded Travel Time to DiMe Area Receptor [years]

05% of values less than 2.79284	10% of values less than 3.20928	25% of values less than 4.60127
50% of values less than 6.92076	75% of values less than 9.88143	90% of values less than 13.6253
Minimum 1.03405s than 17.403	Maximum 348.895	
Mean 8.77981	SD 15.1272	Variance 228.832

Retarded Travel Time to DiMe Area Receptor [years]

05% of values less than 8.22418	10% of values less than 9.86406	25% of values less than 13.5804
50% of values less than 19.4883	75% of values less than 28.4033	90% of values less than 40.2047
Minimum 2.69574s than 51.1326	Maximum 721.522	
Mean 26.0384	SD 41.9301	Variance 1758.13

TPH Aromatic C10-C12

Unretarded Travel Time to DiMe Area Receptor [years]

05% of values less than 2.79284	10% of values less than 3.20928	25% of values less than 4.60127
50% of values less than 6.92076	75% of values less than 9.88143	90% of values less than 13.6253
Minimum 1.03405s than 17.403	Maximum 348.895	
Mean 8.77981	SD 15.1272	Variance 228.832

Retarded Travel Time to DiMe Area Receptor [years]

05% of values less than 582.126	10% of values less than 732.211	25% of values less than 1150.45
50% of values less than 1798.61	75% of values less than 2703.86	90% of values less than 3925.92
Minimum 234.763s than 4882.37	Maximum 56083.8	
Mean 2346.75	SD 3225.1	Variance 1.04012E+007

TPH Aromatic C12-C16

Unretarded Travel Time to DiMe Area Receptor [years]

05% of values less than 2.79284	10% of values less than 3.20928	25% of values less than 4.60127
50% of values less than 6.92076	75% of values less than 9.88143	90% of values less than 13.6253
Minimum 1.03405s than 17.403	Maximum 348.895	
Mean 8.77981	SD 15.1272	Variance 228.832

Retarded Travel Time to DiMe Area Receptor [years]

05% of values less than 1155.02	10% of values less than 1453.34	25% of values less than 2285.75
50% of values less than 3583.87	75% of values less than 5383.84	90% of values less than 7826.72
Minimum 461.569s than 9734.69	Maximum 111684	
Mean 4673.56	SD 6422.73	Variance 4.12514E+007

1,2-Dichloroethane (1,2-DCA)

Concentration at DiMe Area Receptor [mg/l] - 1000 years

05% of values less than 2.12986E-009	10% of values less than 2.86332E-007	25% of values less than 5.55063E-005
50% of values less than 0.00335474	75% of values less than 0.0964627	90% of values less than 0.817688
Minimum 0.0000000000000000	Maximum 37.8152	
Mean 0.411386	SD 1.91122	Variance 3.65275

Dichloromethane (DCM)

Concentration at DiMe Area Receptor [mg/l] - 1000 years

05% of values less than 3.85055E-014	10% of values less than 4.63606E-011	25% of values less than 3.3194E-007
50% of values less than 0.000212715	75% of values less than 0.0133253	90% of values less than 0.203346
Minimum 0.es less than 0.9303	Maximum 18.3294	
Mean 0.232044	SD 1.31953	Variance 1.74117

TPH Aromatic C10-C12

Concentration at DiMe Area Receptor [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 2.0302
Minimum 0.05 less than 3.54283	Maximum 11.3059	
Mean 0.497718	SD 1.29553	Variance 1.67841

TPH Aromatic C12-C16

Concentration at DiMe Area Receptor [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.000000	Maximum 2.61282	
Mean 0.0207956	SD 0.159827	Variance 0.0255448

1,2-Dichloroethane (1,2-DCA)

Unretarded Travel Time to Site boundary [years]

05% of values less than 4.20941	10% of values less than 4.86971	25% of values less than 6.41839
50% of values less than 9.02984	75% of values less than 12.1599	90% of values less than 15.9236
Minimum 2.28757s than 20.1635	Maximum 350.465	
Mean 10.8419	SD 15.208	Variance 231.283

Retarded Travel Time to Site boundary [years]

05% of values less than 17.5496	10% of values less than 21.5986	25% of values less than 34.3764
50% of values less than 60.4153	75% of values less than 106.75	90% of values less than 157.723
Minimum 7.42534s than 212.425	Maximum 3535.11	
Mean 90.5375	SD 171.693	Variance 29478.4

Dichloromethane (DCM)

Unretarded Travel Time to Site boundary [years]

05% of values less than 4.20941	10% of values less than 4.86971	25% of values less than 6.41839
50% of values less than 9.02984	75% of values less than 12.1599	90% of values less than 15.9236
Minimum 2.28757s than 20.1635	Maximum 350.465	
Mean 10.8419	SD 15.208	Variance 231.283

Retarded Travel Time to Site boundary [years]

05% of values less than 9.68852	10% of values less than 11.8969	25% of values less than 15.6295
50% of values less than 21.5851	75% of values less than 30.6458	90% of values less than 41.9004
Minimum 4.43944s than 53.0281	Maximum 723.145	
Mean 28.1506	SD 41.9594	Variance 1760.59

TPH Aromatic C10-C12

Unretarded Travel Time to Site boundary [years]

05% of values less than 4.20941	10% of values less than 4.86971	25% of values less than 6.41839
50% of values less than 9.02984	75% of values less than 12.1599	90% of values less than 15.9236
Minimum 2.28757s than 20.1635	Maximum 350.465	
Mean 10.8419	SD 15.208	Variance 231.283

Retarded Travel Time to Site boundary [years]

05% of values less than 587.824	10% of values less than 744.63	25% of values less than 1159.57
50% of values less than 1809.95	75% of values less than 2713.35	90% of values less than 3930.68
Minimum 259.095s than 4887.19	Maximum 56089.5	
Mean 2355.77	SD 3225.07	Variance 1.04011E+007

TPH Aromatic C12-C16

Unretarded Travel Time to Site boundary [years]

05% of values less than 4.20941	10% of values less than 4.86971	25% of values less than 6.41839
50% of values less than 9.02984	75% of values less than 12.1599	90% of values less than 15.9236
Minimum 2.28757s than 20.1635	Maximum 350.465	
Mean 10.8419	SD 15.208	Variance 231.283

Retarded Travel Time to Site boundary [years]

05% of values less than 1164.55	10% of values less than 1475.15	25% of values less than 2302.68
50% of values less than 3599.67	75% of values less than 5399.08	90% of values less than 7835.21
Minimum 503.998s than 9743.28	Maximum 111694	
Mean 4689.49	SD 6422.68	Variance 4.12508E+007

1,2-Dichloroethane (1,2-DCA)

Concentration at Site boundary [mg/l] - 1000 years

05% of values less than 1.08056E-010	10% of values less than 2.10245E-008	25% of values less than 4.63684E-006
50% of values less than 0.00021419	75% of values less than 0.00957452	90% of values less than 0.10051
Minimum 0.es less than 0.252362	Maximum 3.20008	
Mean 0.0520677	SD 0.215433	Variance 0.0464113

Dichloromethane (DCM)

Concentration at Site boundary [mg/l] - 1000 years

05% of values less than 1.16549E-015	10% of values less than 1.20172E-012	25% of values less than 9.14E-009
50% of values less than 7.85722E-006	75% of values less than 0.000573133	90% of values less than 0.0111734
Minimum 0.000000000000000	Maximum 2.47425	
Mean 0.0205957	SD 0.142246	Variance 0.0202338

TPH Aromatic C10-C12

Concentration at Site boundary [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 1.11336
Minimum 0.05 less than 1.97174	Maximum 5.90484	
Mean 0.270161	SD 0.6973	Variance 0.486227

TPH Aromatic C12-C16

Concentration at Site boundary [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.000000	Maximum 1.35752	
Mean 0.0110901	SD 0.080158	Variance 0.00642531

1,2-Dichloroethane (1,2-DCA)

Unretarded Travel Time to DiMe bedrock [years]

05% of values less than 2.72203	10% of values less than 3.12676	25% of values less than 4.51454
50% of values less than 6.81735	75% of values less than 9.80115	90% of values less than 13.8609
Minimum 1.25103s than 18.7106	Maximum 1.00001E+006	
Mean 9998.66	SD 99499.1	Variance 9.90006E+009

Retarded Travel Time to DiMe bedrock [years]

05% of values less than 15.1564	10% of values less than 19.6455	25% of values less than 32.3651
50% of values less than 58.878	75% of values less than 105.575	90% of values less than 171.358
Minimum 5.70879s than 222.903	Maximum 1.18992E+006	
Mean 11369.8	SD 112439	Variance 1.26426E+010

Dichloromethane (DCM)

Unretarded Travel Time to DiMe bedrock [years]

05% of values less than 2.72203	10% of values less than 3.12676	25% of values less than 4.51454
50% of values less than 6.81735	75% of values less than 9.80115	90% of values less than 13.8609
Minimum 1.25103s than 18.7106	Maximum 1.00001E+006	
Mean 9998.66	SD 99499.1	Variance 9.90006E+009

Retarded Travel Time to DiMe bedrock [years]

05% of values less than 8.1529	10% of values less than 9.78503	25% of values less than 13.5209
50% of values less than 19.4642	75% of values less than 28.6866	90% of values less than 41.1934
Minimum 3.73532s than 55.4404	Maximum 1.03429E+006	
Mean 10214.6	SD 101481	Variance 1.02984E+010

TPH Aromatic C10-C12

Unretarded Travel Time to DiMe bedrock [years]

05% of values less than 2.72203	10% of values less than 3.12676	25% of values less than 4.51454
50% of values less than 6.81735	75% of values less than 9.80115	90% of values less than 13.8609
Minimum 1.25103s than 18.7106	Maximum 1.00001E+006	
Mean 9998.66	SD 99499.1	Variance 9.90006E+009

Retarded Travel Time to DiMe bedrock [years]

05% of values less than 582.37	10% of values less than 735.733	25% of values less than 1166.42
50% of values less than 1815.89	75% of values less than 2739.21	90% of values less than 4069.58
Minimum 233.132s than 5286.11	Maximum 4.89621E+006	
Mean 45807.6	SD 433886	Variance 1.88257E+011

TPH Aromatic C12-C16

Unretarded Travel Time to DiMe bedrock [years]

05% of values less than 2.72203	10% of values less than 3.12676	25% of values less than 4.51454
50% of values less than 6.81735	75% of values less than 9.80115	90% of values less than 13.8609
Minimum 1.25103s than 18.7106	Maximum 1.00001E+006	
Mean 9998.66	SD 99499.1	Variance 9.90006E+009

Retarded Travel Time to DiMe bedrock [years]

05% of values less than 1155.03	10% of values less than 1464.28	25% of values less than 2318.29
50% of values less than 3614.26	75% of values less than 5461.98	90% of values less than 8104.45
Minimum 458.725s than 10532.6	Maximum 8.77381E+006	
Mean 81445.4	SD 766941	Variance 5.88198E+011

1,2-Dichloroethane (1,2-DCA)

Concentration at DiMe bedrock [mg/l] - 1000 years

05% of values less than 3.9693E-010	10% of values less than 1.21969E-007	25% of values less than 5.79237E-005
50% of values less than 0.00439709	75% of values less than 0.136781	90% of values less than 1.03407
Minimum 0.0000000000000000	Maximum 25.9066	
Mean 0.469986	SD 1.69583	Variance 2.87585

Dichloromethane (DCM)

Concentration at DiMe bedrock [mg/l] - 1000 years

05% of values less than 3.12939E-015	10% of values less than 3.07105E-011	25% of values less than 3.99058E-007
50% of values less than 0.000303004	75% of values less than 0.0190478	90% of values less than 0.272185
Minimum 0.000000000000000	Maximum 25.9758	
Mean 0.306918	SD 1.72747	Variance 2.98417

TPH Aromatic C10-C12

Concentration at DiMe bedrock [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 2.3306
Minimum 0.05 less than 4.04787	Maximum 11.536	
Mean 0.552218	SD 1.39239	Variance 1.93875

TPH Aromatic C12-C16

Concentration at DiMe bedrock [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.0es less than 0	Maximum 2.22035	
Mean 0.0222244	SD 0.159297	Variance 0.0253757

1,2-Dichloroethane (1,2-DCA)

Unretarded Travel Time to Half way to boundary [years]

05% of values less than 3.54356	10% of values less than 4.0213	25% of values less than 5.49192
50% of values less than 8.02251	75% of values less than 10.9177	90% of values less than 14.8752
Minimum 1.78977s than 18.6441	Maximum 349.66	
Mean 9.78418	SD 15.1537	Variance 229.634

Retarded Travel Time to Half way to boundary [years]

05% of values less than 16.4779	10% of values less than 20.5647	25% of values less than 33.3831
50% of values less than 59.2876	75% of values less than 105.795	90% of values less than 157.322
Minimum 6.6388ss than 211.773	Maximum 3534.29	
Mean 89.3644	SD 171.682	Variance 29474.6

Dichloromethane (DCM)

Unretarded Travel Time to Half way to boundary [years]

05% of values less than 3.54356	10% of values less than 4.0213	25% of values less than 5.49192
50% of values less than 8.02251	75% of values less than 10.9177	90% of values less than 14.8752
Minimum 1.78977s than 18.6441	Maximum 349.66	
Mean 9.78418	SD 15.1537	Variance 229.634

Retarded Travel Time to Half way to boundary [years]

05% of values less than 8.91058	10% of values less than 10.8873	25% of values less than 14.4932
50% of values less than 20.5528	75% of values less than 29.5366	90% of values less than 40.9174
Minimum 3.46602s than 51.8219	Maximum 722.313	
Mean 27.0671	SD 41.9396	Variance 1758.93

TPH Aromatic C10-C12

Unretarded Travel Time to Half way to boundary [years]

05% of values less than 3.54356	10% of values less than 4.0213	25% of values less than 5.49192
50% of values less than 8.02251	75% of values less than 10.9177	90% of values less than 14.8752
Minimum 1.78977s than 18.6441	Maximum 349.66	
Mean 9.78418	SD 15.1537	Variance 229.634

Retarded Travel Time to Half way to boundary [years]

05% of values less than 584.871	10% of values less than 737.533	25% of values less than 1156.43
50% of values less than 1804.33	75% of values less than 2710.87	90% of values less than 3928.24
Minimum 246.626s than 4884.72	Maximum 56086.6	
Mean 2351.14	SD 3225.08	Variance 1.04012E+007

TPH Aromatic C12-C16

Unretarded Travel Time to Half way to boundary [years]

05% of values less than 3.54356	10% of values less than 4.0213	25% of values less than 5.49192
50% of values less than 8.02251	75% of values less than 10.9177	90% of values less than 14.8752
Minimum 1.78977s than 18.6441	Maximum 349.66	
Mean 9.78418	SD 15.1537	Variance 229.634

Retarded Travel Time to Half way to boundary [years]

05% of values less than 1160.09	10% of values less than 1463.11	25% of values less than 2297.14
50% of values less than 3590.61	75% of values less than 5394.05	90% of values less than 7830.86
Minimum 482.255s than 9738.87	Maximum 111689	
Mean 4681.32	SD 6422.7	Variance 4.12511E+007

1,2-Dichloroethane (1,2-DCA)

Concentration at Half way to boundary [mg/l] - 1000 years

05% of values less than 5.15205E-010	10% of values less than 8.36925E-008	25% of values less than 1.75614E-005
50% of values less than 0.0010347	75% of values less than 0.0355629	90% of values less than 0.30661
Minimum 0.0000000000000000	Maximum 11.5452	
Mean 0.148865	SD 0.619067	Variance 0.383244

Dichloromethane (DCM)

Concentration at Half way to boundary [mg/l] - 1000 years

05% of values less than 8.17922E-015	10% of values less than 1.00449E-011	25% of values less than 7.1347E-008
50% of values less than 5.11057E-005	75% of values less than 0.00326535	90% of values less than 0.0496631
Minimum 0.es less than 0.227085	Maximum 4.79803	
Mean 0.0675157	SD 0.38606	Variance 0.149042

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

TPH Aromatic C10-C12

Concentration at Half way to boundary [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 1.56602
Minimum 0.05 less than 2.66562	Maximum 8.38321	
Mean 0.386551	SD 0.976374	Variance 0.953307

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

TPH Aromatic C12-C16

Concentration at Half way to boundary [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.000000	Maximum 1.93319	
Mean 0.0162933	SD 0.117293	Variance 0.0137576

Aquifer Flow [m³/yr]

DiMe Area

05% of values less than 11947.4	10% of values less than 15414.3	25% of values less than 22897.8
50% of values less than 34912.2	75% of values less than 52690.1	90% of values less than 69879.7
Minimum 4169.02s than 78841	Maximum 140636	
Mean 39420.4	SD 21834.3	Variance 4.76738E+008

Project: Controlled Waters Risk Assessment - DiME**Project Number: 5041216**

Project Details

Title: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

Prepared By:

Date: 2010-07-08 15:52:26

Client Name:

Comments:

Consim version 2.05

Simulation Level

Level 3

Simulation Parameters

Iterations 1001

Timeslices:100, 1000, 10000

Water Quality Standard

User Defined

Project: Controlled Waters Risk Assessment - DiMe**Project Number: 5041216**

Source

DiMe Area

Dry Bulk Density [g/cm³] SINGLE(1.8)

Air Filled Porosity [fraction] SINGLE(0.1)

Water Filled Porosity [fraction] SINGLE(0.2)

Thickness [m] TRIANGULAR(0.1,1.5,4.8)

Fraction of Organic Carbon [%] UNIFORM(0.01,0.1)

Contaminated Land

Constant Source Term

Overall Unsaturated Zone Thickness [m] TRIANGULAR(6,11.6,19.2)

Infiltration

Infiltration [mm/year] UNIFORM(200,500)

Source Inventory:*1,2-Dichloroethane (1,2-DCA)*

Measured as Leachable Concentrate

Organic

Leachate Concentration [mg/l] UNIFORM(35,1120)

Dichloromethane (DCM)

Measured as Leachable Concentrate

Organic

Leachate Concentration [mg/l] UNIFORM(30,1140)

TPH Aromatic C10-C12

Measured as Leachable Concentrate

Organic

Leachate Concentration [mg/l] SINGLE(25)

TPH Aromatic C12-C16

Measured as Leachable Concentrate

Organic

Leachate Concentration [mg/l] SINGLE(5.8)

Unsaturated Pathway: Cohesive Drift

Active

Porous Medium

Thickness [m] TRIANGULAR(6,11.6,19.2)

Dry Bulk Density [g/cm³] SINGLE(1.8)

Vertical Dispersivity [m] TRIANGULAR(0.06,0.116,0.192)

Fraction of Organic Carbon [%] UNIFORM(0.3,2)

Water Filled Porosity [fraction] UNIFORM(0.05,0.3)

Unsaturated Conductivity [m/s] UNIFORM(1e-010,1e-007)

Unsaturated Pathway Contaminants*1,2-Dichloroethane (1,2-DCA)*

koc [ml/g] UNIFORM(11.5,151.4)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] UNIFORM(0.35,0.49)

Dichloromethane (DCM)

koc [ml/g] UNIFORM(8.79,27.54)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] UNIFORM(0.15,0.5)

TPH Aromatic C10-C12

koc [ml/g] SINGLE(2512)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] UNIFORM(2,5)

TPH Aromatic C12-C16

koc [ml/g] SINGLE(5012)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] UNIFORM(3,5)

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

Aquifer Pathway

Thickness [m] SINGLE(50)
 Dry Bulk Density [g/cm³] SINGLE(2.2)
 Fraction of Organic Carbon [%] UNIFORM(0.007,0.008)
 Mixing Zone Thickness [m] UNIFORM(3,6)
 Hydraulic Conductivity [m/s] TRIANGULAR(1.16e-006,8.1e-006,2.66e-005)
 Effective Porosity [fraction] UNIFORM(0.11,0.136)
 Hydraulic Gradient UNIFORM(0.04,0.09)
 Groundwater Flow Direction (degrees), 80.00
 Longitudinal Dispersivity [m] SINGLE(36)
 Lateral Dispersivity [m] SINGLE(3.6)

Contaminant Inventory*1,2-Dichloroethane (1,2-DCA)*

koc [ml/g] UNIFORM(11.5,151.4) Calculate kd
 Simulate Degradation in Dissolved Phase only
 Halflife [years] UNIFORM(0.35,0.49)

Dichloromethane (DCM)

koc [ml/g] UNIFORM(8.79,27.54) Calculate kd
 Simulate Degradation in Dissolved Phase only
 Halflife [years] UNIFORM(0.15,0.5)

TPH Aromatic C10-C12

koc [ml/g] SINGLE(2512) Calculate kd
 Simulate Degradation in Dissolved Phase only
 Halflife [years] SINGLE(2)

TPH Aromatic C12-C16

koc [ml/g] SINGLE(5012) Calculate kd
 Simulate Degradation in Dissolved Phase only
 Halflife [years] SINGLE(2)

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

Receptor

DiMe Area Receptor	X 271664.892583	Y 196143.993074
Site boundary	X 272012.546710	Y 196115.142439
DiMe bedrock	X 271659.112829	Y 196046.550705
Half way to boundary	X 271840.454986	Y 196095.554763

Input Correlations

No Correlations

DiMe Area - 1,2-Dichloroethane (1,2-DCA)

Concentration at Source [mg/l] - 10 years

05% of values less than 1.26896E-006	10% of values less than 0.000503383	25% of values less than 0.0487201
50% of values less than 1.1859	75% of values less than 8.5461	90% of values less than 30.4806
Minimum 0es less than 44.7563	Maximum 303.527	
Mean 9.32879	SD 21.1789	Variance 448.546

Concentration at Source [mg/l] - 20 years

05% of values less than 0	10% of values less than 3.44016E-010	25% of values less than 6.05808E-006
50% of values less than 0.00292975	75% of values less than 0.142193	90% of values less than 1.48796
Minimum 0es less than 2.97205	Maximum 86.3289	
Mean 0.739407	SD 3.84758	Variance 14.8039

Concentration at Source [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 7.98821E-010
50% of values less than 6.83191E-006	75% of values less than 0.00226005	90% of values less than 0.0721417
Minimum 0es less than 0.219938	Maximum 24.5536	
Mean 0.105079	SD 0.942271	Variance 0.887874

Concentration at Source [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 1.13687E-013
50% of values less than 1.59314E-008	75% of values less than 3.713E-005	90% of values less than 0.00368852
Minimum 0es less than 0.0151753	Maximum 6.98349	
Mean 0.0203047	SD 0.250031	Variance 0.0625157

Concentration at Source [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Source [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

DiMe Area - 1,2-Dichloroethane (1,2-DCA)

Concentration at Source [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Source [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Source [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Source [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

DiMe Area - Dichloromethane (DCM)

Concentration at Source [mg/l] - 10 years

05% of values less than 9.29975E-008	10% of values less than 2.9147E-005	25% of values less than 0.00808557
50% of values less than 0.308691	75% of values less than 3.01627	90% of values less than 11.7037
Minimum 0es less than 21.0892	Maximum 113.67	
Mean 4.10102	SD 10.5726	Variance 111.779

Concentration at Source [mg/l] - 20 years

05% of values less than 0	10% of values less than 1.59162E-012	25% of values less than 1.64693E-007
50% of values less than 0.000218501	75% of values less than 0.0173557	90% of values less than 0.265966
Minimum 0es less than 0.75049	Maximum 13.6956	
Mean 0.182039	SD 0.917667	Variance 0.842113

Concentration at Source [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 4.26326E-012
50% of values less than 1.44958E-007	75% of values less than 0.000105624	90% of values less than 0.00635785
Minimum 0es less than 0.030665	Maximum 1.91712	
Mean 0.0135177	SD 0.100696	Variance 0.0101397

Concentration at Source [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 9.08358E-011	75% of values less than 6.55062E-007	90% of values less than 0.00014255
Minimum 0es less than 0.00137594	Maximum 0.268362	
Mean 0.00127845	SD 0.0122402	Variance 0.000149821

Concentration at Source [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Source [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

DiMe Area - Dichloromethane (DCM)

Concentration at Source [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Source [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Source [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Source [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Controlled Waters Risk Assessment - DiMe

Project Number: 5041216

DiMe Area - TPH Aromatic C10-C12

Concentration at Source [mg/l] - 10 years

05% of values less than 1.53435	10% of values less than 2.649	25% of values less than 7.12399
50% of values less than 12.5692	75% of values less than 16.4387	90% of values less than 18.9017
Minimum 0.00746715	Maximum 22.574	
Mean 11.7209	SD 5.83474	Variance 34.0441

Concentration at Source [mg/l] - 20 years

05% of values less than 0.0941691	10% of values less than 0.280689	25% of values less than 2.03005
50% of values less than 6.3194	75% of values less than 10.8092	90% of values less than 14.2909
Minimum 2.23034E-006	Maximum 20.3835	
Mean 6.85559	SD 5.18103	Variance 26.8431

Concentration at Source [mg/l] - 30 years

05% of values less than 0.00577953	10% of values less than 0.0297418	25% of values less than 0.578481
50% of values less than 3.17719	75% of values less than 7.10757	90% of values less than 10.8049
Minimum 6.66169E-010	Maximum 18.4055	
Mean 4.38284	SD 4.22101	Variance 17.8169

Concentration at Source [mg/l] - 40 years

05% of values less than 0.000354713	10% of values less than 0.00315144	25% of values less than 0.164844
50% of values less than 1.59739	75% of values less than 4.67357	90% of values less than 8.16923
Minimum 1.98952E-013	Maximum 16.6195	
Mean 2.95262	SD 3.39998	Variance 11.5599

Concentration at Source [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 3.65752E-011	90% of values less than 3.19417E-007
Minimum 0	Maximum 0.0328435	
Mean 7.90206E-005	SD 0.00121777	Variance 1.48297E-006

Concentration at Source [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 4.49774E-012	90% of values less than 7.89149E-008
Minimum 0	Maximum 0.019715	
Mean 4.36367E-005	SD 0.000717771	Variance 5.15195E-007

DiMe Area - TPH Aromatic C10-C12

Concentration at Source [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 5.50671E-013	90% of values less than 1.94967E-008
Minimum 0.es less than 1.28753E-006	Maximum 0.0118343	
Mean 2.43795E-005	SD 0.000424115	Variance 1.79874E-007

Concentration at Source [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 2.02505E-013	Maximum 9.33253E-006	
Mean 1.22002E-008	SD 3.02957E-007	Variance 9.1783E-014

Concentration at Source [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 6.75016E-014	Maximum 5.60204E-006	
Mean 7.21153E-009	SD 1.81361E-007	Variance 3.28918E-014

Concentration at Source [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 2.13163E-014	Maximum 3.36274E-006	
Mean 4.2671E-009	SD 1.086E-007	Variance 1.17939E-014

Project: Controlled Waters Risk Assessment - DiMe

Project Number: 5041216

DiMe Area - TPH Aromatic C12-C16

Concentration at Source [mg/l] - 10 years

05% of values less than 1.22125	10% of values less than 1.72054	25% of values less than 2.93249
50% of values less than 4.0516	75% of values less than 4.65489	90% of values less than 5.02018
Minimum 0.051268	Maximum 5.50385	
Mean 3.69459	SD 1.25499	Variance 1.575

Concentration at Source [mg/l] - 20 years

05% of values less than 0.257149	10% of values less than 0.510389	25% of values less than 1.48267
50% of values less than 2.83025	75% of values less than 3.73586	90% of values less than 4.3452
Minimum 0.000453174	Maximum 5.22281	
Mean 2.62473	SD 1.38221	Variance 1.91052

Concentration at Source [mg/l] - 30 years

05% of values less than 0.0541455	10% of values less than 0.151404	25% of values less than 0.749641
50% of values less than 1.97708	75% of values less than 2.99828	90% of values less than 3.76098
Minimum 4.00574E-006	Maximum 4.95613	
Mean 1.96384	SD 1.31263	Variance 1.72301

Concentration at Source [mg/l] - 40 years

05% of values less than 0.0114009	10% of values less than 0.0449133	25% of values less than 0.37902
50% of values less than 1.38109	75% of values less than 2.40632	90% of values less than 3.2553
Minimum 3.5408E-008	Maximum 4.70307	
Mean 1.51686	SD 1.19689	Variance 1.43253

Concentration at Source [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 4.32861E-010	75% of values less than 3.58687E-006	90% of values less than 0.000486785
Minimum 0	Maximum 0.192272	
Mean 0.00123434	SD 0.00917751	Variance 8.42267E-005

Concentration at Source [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 7.2002E-011	75% of values less than 1.19433E-006	90% of values less than 0.000236478
Minimum 0	Maximum 0.147948	
Mean 0.000837309	SD 0.00679467	Variance 4.61676E-005

DiMe Area - TPH Aromatic C12-C16

Concentration at Source [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 1.19762E-011	75% of values less than 3.97676E-007	90% of values less than 0.00011488
Minimum 0.es less than 0.0010458	Maximum 0.113841	
Mean 0.000574332	SD 0.00505753	Variance 2.55786E-005

Concentration at Source [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 8.17124E-014	90% of values less than 4.68392E-009
Minimum 0.es less than 3.35021E-007	Maximum 0.00290389	
Mean 5.99446E-006	SD 0.000104205	Variance 1.08586E-008

Concentration at Source [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 2.66454E-014	90% of values less than 2.27543E-009
Minimum 0.es less than 1.8857E-007	Maximum 0.00223445	
Mean 4.46257E-006	SD 7.95927E-005	Variance 6.335E-009

Concentration at Source [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 8.88178E-015	90% of values less than 1.1054E-009
Minimum 0.es less than 1.06139E-007	Maximum 0.00171934	
Mean 3.32989E-006	SD 6.08235E-005	Variance 3.6995E-009

DiMe Area - 1,2-Dichloroethane (1,2-DCA)

Unretarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 1.90482	10% of values less than 2.42445	25% of values less than 3.82292
50% of values less than 6.20897	75% of values less than 9.17782	90% of values less than 12.6865
Minimum 0.901622	Maximum 586.484	
Mean 8.41918	SD 20.2701	Variance 410.875

Retarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 15.1837	10% of values less than 18.8793	25% of values less than 31.8387
50% of values less than 59.4341	75% of values less than 104.506	90% of values less than 157.373
Minimum 4.0292	Maximum 1995.12	
Mean 81.9941	SD 103.495	Variance 10711.2

DiMe Area - Dichloromethane (DCM)

Unretarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 1.90482	10% of values less than 2.42445	25% of values less than 3.82292
50% of values less than 6.20897	75% of values less than 9.17782	90% of values less than 12.6865
Minimum 0.901622 than 16.0541	Maximum 586.484	
Mean 8.41918	SD 20.2701	Variance 410.875

Retarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 6.59306	10% of values less than 8.67548	25% of values less than 12.8891
50% of values less than 19.2503	75% of values less than 28.0301	90% of values less than 38.9634
Minimum 3.46158s than 50.0174	Maximum 1241.07	
Mean 25.2867	SD 45.3543	Variance 2057.01

DiMe Area - TPH Aromatic C10-C12

Unretarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 1.90482	10% of values less than 2.42445	25% of values less than 3.82292
50% of values less than 6.20897	75% of values less than 9.17782	90% of values less than 12.6865
Minimum 0.901622 than 16.0541	Maximum 586.484	
Mean 8.41918	SD 20.2701	Variance 410.875

Retarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 537.64	10% of values less than 707.688	25% of values less than 1134.03
50% of values less than 1824.3	75% of values less than 2780.75	90% of values less than 3770.19
Minimum 279.468s than 5012.94	Maximum 87301.2	
Mean 2343.53	SD 3443.96	Variance 1.18609E+007

DiMe Area - TPH Aromatic C12-C16

Unretarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 1.90482	10% of values less than 2.42445	25% of values less than 3.82292
50% of values less than 6.20897	75% of values less than 9.17782	90% of values less than 12.6865
Minimum 0.901622 than 16.0541	Maximum 586.484	
Mean 8.41918	SD 20.2701	Variance 410.875

Retarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 1070.47	10% of values less than 1408.79	25% of values less than 2253.47
50% of values less than 3626.92	75% of values less than 5540.82	90% of values less than 7511.29
Minimum 556.06ss than 9994.76	Maximum 173602	
Mean 4667.49	SD 6853.48	Variance 4.69701E+007

DiMe Area - 1,2-Dichloroethane (1,2-DCA)

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 34.9224	
Mean 0.109565	SD 1.41409	Variance 1.99966

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 2.13857E-006
Minimum 0.es less than 0.00913641	Maximum 68.8359	
Mean 0.169264	SD 2.40109	Variance 5.76523

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.000495009
Minimum 0.es less than 0.0207497	Maximum 72.7583	
Mean 0.144859	SD 2.50345	Variance 6.26727

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 1.10186E-009	90% of values less than 0.000323452
Minimum 0.es less than 0.00952044	Maximum 21.0977	
Mean 0.0658491	SD 0.798942	Variance 0.638309

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 8.75972E-016	
Mean 8.75161E-019	SD 2.76868E-017	Variance 7.6656E-034

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 5.47216E-017	
Mean 5.46702E-020	SD 1.72959E-018	Variance 2.99147E-036

DiMe Area - 1,2-Dichloroethane (1,2-DCA)

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 3.41843E-018	
Mean 3.4152E-021	SD 1.08046E-019	Variance 1.1674E-038

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 8.38887E-030	
Mean 8.38049E-033	SD 2.65147E-031	Variance 7.03028E-062

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 3.2172E-030	
Mean 3.21398E-033	SD 1.01686E-031	Variance 1.034E-062

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 1.23382E-030	
Mean 1.23259E-033	SD 3.89973E-032	Variance 1.52079E-063

DiMe Area - Dichloromethane (DCM)

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.00593548
Minimum 0.05 less than 0.359925	Maximum 77.5699	
Mean 0.24311	SD 2.86136	Variance 8.18738

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 9.10243E-012	75% of values less than 6.72681E-005	90% of values less than 0.00606774
Minimum 0.05 less than 0.0688061	Maximum 7.60279	
Mean 0.0396898	SD 0.338376	Variance 0.114499

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 4.8948E-022
50% of values less than 2.08319E-009	75% of values less than 5.20112E-006	90% of values less than 0.00038653
Minimum 0.05 less than 0.00388712	Maximum 1.10913	
Mean 0.00619782	SD 0.0583037	Variance 0.00339932

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 2.09086E-017
50% of values less than 3.07753E-011	75% of values less than 7.97704E-008	90% of values less than 1.17209E-005
Minimum 0.05 less than 0.000175534	Maximum 0.459206	
Mean 0.000931472	SD 0.0156694	Variance 0.000245531

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.05 less than 0	Maximum 3.08498E-029	
Mean 3.08189E-032	SD 9.75068E-031	Variance 9.50757E-061

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.05 less than 0	Maximum 1.10319E-029	
Mean 1.10208E-032	SD 3.48684E-031	Variance 1.2158E-061

DiMe Area - Dichloromethane (DCM)

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 3.94498E-030	
Mean 3.94104E-033	SD 1.24689E-031	Variance 1.55474E-062

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

DiMe Area - TPH Aromatic C10-C12

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 3.08605E-005	Maximum 7.7699	
Mean 0.0446523	SD 0.414726	Variance 0.171998

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 1.80471E-005	Maximum 2.5637	
Mean 0.0149099	SD 0.133592	Variance 0.0178467

DiMe Area - TPH Aromatic C10-C12

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 2.55064E-005	Maximum 6.32891	
Mean 0.021232	SD 0.264766	Variance 0.0701012

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 2.20242E-007
Minimum 0.es less than 0.00122354	Maximum 3.39149	
Mean 0.0146072	SD 0.152289	Variance 0.023192

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 1.39182E-007
Minimum 0.es less than 0.000643418	Maximum 2.9443	
Mean 0.0201994	SD 0.198128	Variance 0.0392549

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 1.41063E-007
Minimum 0.es less than 0.000291549	Maximum 8.15246	
Mean 0.0365075	SD 0.413658	Variance 0.171113

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

DiMe Area - TPH Aromatic C12-C16

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 1.41255	
Mean 0.00309126	SD 0.0625011	Variance 0.00390639

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0.795566	
Mean 0.00203726	SD 0.0344305	Variance 0.00118546

DiMe Area - TPH Aromatic C12-C16

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 1.01645	
Mean 0.00182877	SD 0.034892	Variance 0.00121745

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 2.24E-005	Maximum 1.95634	
Mean 0.00760925	SD 0.0840666	Variance 0.00706719

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 1.69149E-005	Maximum 1.36747	
Mean 0.00783828	SD 0.080291	Variance 0.00644664

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 8.02869E-006	Maximum 1.9392	
Mean 0.00996081	SD 0.108814	Variance 0.0118404

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

DiMe Area - 1,2-Dichloroethane (1,2-DCA)

Diluted Concentration [mg/l] Cohesive Drift - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 22.6868	
Mean 0.0547473	SD 0.803109	Variance 0.644984

Diluted Concentration [mg/l] Cohesive Drift - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 1.24444E-006
Minimum 0.es less than 0.00346093	Maximum 40.8216	
Mean 0.087198	SD 1.35808	Variance 1.84438

Diluted Concentration [mg/l] Cohesive Drift - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.000201115
Minimum 0.es less than 0.00751044	Maximum 24.404	
Mean 0.048685	SD 0.835557	Variance 0.698156

Diluted Concentration [mg/l] Cohesive Drift - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 4.34357E-010	90% of values less than 0.000160024
Minimum 0.es less than 0.00409026	Maximum 12.731	
Mean 0.0317551	SD 0.451995	Variance 0.204299

Diluted Concentration [mg/l] Cohesive Drift - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 5.91862E-017	
Mean 5.91343E-020	SD 1.8707E-018	Variance 3.49951E-036

Diluted Concentration [mg/l] Cohesive Drift - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 3.69734E-018	
Mean 3.694E-021	SD 1.16862E-019	Variance 1.36567E-038

DiMe Area - 1,2-Dichloroethane (1,2-DCA)

Diluted Concentration [mg/l] Cohesive Drift - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 2.30971E-019	
Mean 2.3076E-022	SD 7.30029E-021	Variance 5.32943E-041

Diluted Concentration [mg/l] Cohesive Drift - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 1.84021E-031	
Mean 1.83837E-034	SD 5.81636E-033	Variance 3.383E-065

Diluted Concentration [mg/l] Cohesive Drift - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 7.05736E-032	
Mean 7.05031E-035	SD 2.23062E-033	Variance 4.97566E-066

Diluted Concentration [mg/l] Cohesive Drift - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 2.70656E-032	
Mean 2.70385E-035	SD 8.5546E-034	Variance 7.31812E-067

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

DiMe Area - Dichloromethane (DCM)

Diluted Concentration [mg/l] Cohesive Drift - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.00297574
Minimum 0.134332	Maximum 54.8135	
Mean 0.127085	SD 1.86757	Variance 3.48781

Diluted Concentration [mg/l] Cohesive Drift - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 2.45445E-012	75% of values less than 2.89886E-005	90% of values less than 0.00293861
Minimum 0.0267213	Maximum 3.0012	
Mean 0.0180868	SD 0.154072	Variance 0.0237382

Diluted Concentration [mg/l] Cohesive Drift - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 3.65225E-022
50% of values less than 7.81816E-010	75% of values less than 1.94848E-006	90% of values less than 0.000172273
Minimum 0.00150384	Maximum 0.358527	
Mean 0.00242262	SD 0.0216303	Variance 0.000467869

Diluted Concentration [mg/l] Cohesive Drift - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 7.2125E-018
50% of values less than 1.21715E-011	75% of values less than 3.22436E-008	90% of values less than 4.3709E-006
Minimum 0.00635E-005	Maximum 0.208458	
Mean 0.000404842	SD 0.0071206	Variance 5.0703E-005

Diluted Concentration [mg/l] Cohesive Drift - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.00635E-005	Maximum 6.76732E-031	
Mean 6.76056E-034	SD 2.13894E-032	Variance 4.57508E-064

Diluted Concentration [mg/l] Cohesive Drift - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.00635E-005	Maximum 2.41999E-031	
Mean 2.41757E-034	SD 7.64885E-033	Variance 5.85049E-065

DiMe Area - Dichloromethane (DCM)

Diluted Concentration [mg/l] Cohesive Drift - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 8.65386E-032	
Mean 8.64522E-035	SD 2.73522E-033	Variance 7.48145E-066

Diluted Concentration [mg/l] Cohesive Drift - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Cohesive Drift - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Cohesive Drift - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

DiMe Area - TPH Aromatic C10-C12

Diluted Concentration [mg/l] Cohesive Drift - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Cohesive Drift - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Cohesive Drift - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Cohesive Drift - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Cohesive Drift - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 2.0048E-005	Maximum 3.39008	
Mean 0.0181457	SD 0.172076	Variance 0.0296101

Diluted Concentration [mg/l] Cohesive Drift - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 7.63116E-006	Maximum 1.04655	
Mean 0.00599299	SD 0.0526064	Variance 0.00276744

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

DiMe Area - TPH Aromatic C10-C12

Diluted Concentration [mg/l] Cohesive Drift - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 1.52555E-005	Maximum 1.86924	
Mean 0.00711674	SD 0.084659	Variance 0.00716715

Diluted Concentration [mg/l] Cohesive Drift - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 1.34135E-007
Minimum 0.es less than 0.000325172	Maximum 1.26573	
Mean 0.0059134	SD 0.0634385	Variance 0.00402445

Diluted Concentration [mg/l] Cohesive Drift - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 4.80813E-008
Minimum 0.es less than 0.000293852	Maximum 1.96662	
Mean 0.00909392	SD 0.0967302	Variance 0.00935673

Diluted Concentration [mg/l] Cohesive Drift - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 3.88792E-008
Minimum 0.es less than 0.000163378	Maximum 2.79311	
Mean 0.0126517	SD 0.139885	Variance 0.0195679

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

DiMe Area - TPH Aromatic C12-C16

Diluted Concentration [mg/l] Cohesive Drift - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Cohesive Drift - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Cohesive Drift - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Cohesive Drift - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Cohesive Drift - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0.765229	
Mean 0.00159977	SD 0.0319904	Variance 0.00102338

Diluted Concentration [mg/l] Cohesive Drift - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0.526495	
Mean 0.00111229	SD 0.0198743	Variance 0.000394987

DiMe Area - TPH Aromatic C12-C16

Diluted Concentration [mg/l] Cohesive Drift - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0.381471	
Mean 0.000844962	SD 0.0144505	Variance 0.000208817

Diluted Concentration [mg/l] Cohesive Drift - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 1.46925E-005	Maximum 0.665359	
Mean 0.00283008	SD 0.0295028	Variance 0.000870414

Diluted Concentration [mg/l] Cohesive Drift - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 7.16463E-006	Maximum 0.614997	
Mean 0.00293938	SD 0.0308959	Variance 0.000954557

Diluted Concentration [mg/l] Cohesive Drift - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 3.23444E-006	Maximum 1.17017	
Mean 0.00402547	SD 0.0515692	Variance 0.00265938

1,2-Dichloroethane (1,2-DCA)

Unretarded Travel Time to DiMe Area Receptor [years]

05% of values less than 2.52473	10% of values less than 3.23826	25% of values less than 4.75337
50% of values less than 7.126	75% of values less than 10.3184	90% of values less than 13.9232
Minimum 1.13606s than 17.0384	Maximum 586.816	
Mean 9.30577	SD 20.273	Variance 410.993

Retarded Travel Time to DiMe Area Receptor [years]

05% of values less than 16.0679	10% of values less than 20.2019	25% of values less than 32.8298
50% of values less than 60.4619	75% of values less than 105.333	90% of values less than 158.43
Minimum 4.13883s than 196.403	Maximum 1995.47	
Mean 82.9779	SD 103.492	Variance 10710.6

Dichloromethane (DCM)

Unretarded Travel Time to DiMe Area Receptor [years]

05% of values less than 2.52473	10% of values less than 3.23826	25% of values less than 4.75337
50% of values less than 7.126	75% of values less than 10.3184	90% of values less than 13.9232
Minimum 1.13606s than 17.0384	Maximum 586.816	
Mean 9.30577	SD 20.273	Variance 410.993

Retarded Travel Time to DiMe Area Receptor [years]

05% of values less than 7.57289	10% of values less than 9.72298	25% of values less than 13.8201
50% of values less than 20.1636	75% of values less than 28.6491	90% of values less than 39.7899
Minimum 4.15722s than 51.2605	Maximum 1241.41	
Mean 26.1948	SD 45.3355	Variance 2055.31

TPH Aromatic C10-C12

Unretarded Travel Time to DiMe Area Receptor [years]

05% of values less than 2.52473	10% of values less than 3.23826	25% of values less than 4.75337
50% of values less than 7.126	75% of values less than 10.3184	90% of values less than 13.9232
Minimum 1.13606s than 17.0384	Maximum 586.816	
Mean 9.30577	SD 20.273	Variance 410.993

Retarded Travel Time to DiMe Area Receptor [years]

05% of values less than 541.244	10% of values less than 715.407	25% of values less than 1139.99
50% of values less than 1826.13	75% of values less than 2786.24	90% of values less than 3789.23
Minimum 282.483s than 5017.25	Maximum 87302.6	
Mean 2347.41	SD 3443.82	Variance 1.18599E+007

TPH Aromatic C12-C16

Unretarded Travel Time to DiMe Area Receptor [years]

05% of values less than 2.52473	10% of values less than 3.23826	25% of values less than 4.75337
50% of values less than 7.126	75% of values less than 10.3184	90% of values less than 13.9232
Minimum 1.13606s than 17.0384	Maximum 586.816	
Mean 9.30577	SD 20.273	Variance 410.993

Retarded Travel Time to DiMe Area Receptor [years]

05% of values less than 1076.18	10% of values less than 1421.72	25% of values less than 2262.14
50% of values less than 3636	75% of values less than 5552.3	90% of values less than 7545.21
Minimum 561.398s than 10002.3	Maximum 173604	
Mean 4674.35	SD 6853.23	Variance 4.69667E+007

1,2-Dichloroethane (1,2-DCA)

Concentration at DiMe Area Receptor [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 1.53896	
Mean 0.00490798	SD 0.0623705	Variance 0.00389008

Concentration at DiMe Area Receptor [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0.000407261	Maximum 4.8032	
Mean 0.0129569	SD 0.193185	Variance 0.0373205

Concentration at DiMe Area Receptor [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 4.14636E-005
Minimum 0.es less than 0.0023831	Maximum 7.9437	
Mean 0.0108623	SD 0.25243	Variance 0.0637211

Concentration at DiMe Area Receptor [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 4.77777E-011	90% of values less than 2.59433E-005
Minimum 0.es less than 0.00125614	Maximum 8.49396	
Mean 0.013999	SD 0.275155	Variance 0.0757104

Concentration at DiMe Area Receptor [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 2.23598E-017	
Mean 2.23416E-020	SD 7.06726E-019	Variance 4.99461E-037

Concentration at DiMe Area Receptor [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 1.39681E-018	
Mean 1.39564E-021	SD 4.41489E-020	Variance 1.94913E-039

1,2-Dichloroethane (1,2-DCA)

Concentration at DiMe Area Receptor [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 8.72583E-020	
Mean 8.71837E-023	SD 2.75797E-021	Variance 7.6064E-042

Concentration at DiMe Area Receptor [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe Area Receptor [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe Area Receptor [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

Dichloromethane (DCM)

Concentration at DiMe Area Receptor [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.000111255
Minimum 0.es less than 0.0233102	Maximum 7.07741	
Mean 0.0238	SD 0.274689	Variance 0.0754542

Concentration at DiMe Area Receptor [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 2.90263E-006	90% of values less than 0.000397045
Minimum 0.es less than 0.00467955	Maximum 0.384674	
Mean 0.00290175	SD 0.0233347	Variance 0.000544508

Concentration at DiMe Area Receptor [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 1.20864E-010	75% of values less than 3.64689E-007	90% of values less than 4.37644E-005
Minimum 0.es less than 0.000325107	Maximum 0.161473	
Mean 0.000573769	SD 0.00660604	Variance 4.36397E-005

Concentration at DiMe Area Receptor [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 5.74078E-019
50% of values less than 1.70091E-012	75% of values less than 7.05402E-009	90% of values less than 9.27627E-007
Minimum 0.es less than 1.92088E-005	Maximum 0.0402372	
Mean 8.72485E-005	SD 0.00145823	Variance 2.12643E-006

Concentration at DiMe Area Receptor [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe Area Receptor [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

Dichloromethane (DCM)

Concentration at DiMe Area Receptor [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe Area Receptor [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe Area Receptor [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe Area Receptor [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

TPH Aromatic C10-C12

Concentration at DiMe Area Receptor [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe Area Receptor [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe Area Receptor [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe Area Receptor [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe Area Receptor [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 7.38406E-006	Maximum 2.7169	
Mean 0.0120889	SD 0.124517	Variance 0.0155045

Concentration at DiMe Area Receptor [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 3.81713E-006	Maximum 0.988062	
Mean 0.00469163	SD 0.0451233	Variance 0.00203612

TPH Aromatic C10-C12

Concentration at DiMe Area Receptor [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 1.35996E-005	Maximum 1.78288	
Mean 0.00618733	SD 0.0773347	Variance 0.00598066

Concentration at DiMe Area Receptor [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 1.00304E-007
Minimum 0.es less than 0.000278538	Maximum 1.04647	
Mean 0.00370132	SD 0.0437854	Variance 0.00191717

Concentration at DiMe Area Receptor [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 3.53817E-008
Minimum 0.es less than 0.000107588	Maximum 1.34519	
Mean 0.00431675	SD 0.052631	Variance 0.00277002

Concentration at DiMe Area Receptor [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 2.54253E-008
Minimum 0.es less than 4.55925E-005	Maximum 0.82619	
Mean 0.00456362	SD 0.0475081	Variance 0.00225702

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

TPH Aromatic C12-C16

Concentration at DiMe Area Receptor [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe Area Receptor [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe Area Receptor [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe Area Receptor [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe Area Receptor [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0.41526	
Mean 0.000468697	SD 0.0132308	Variance 0.000175054

Concentration at DiMe Area Receptor [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0.379838	
Mean 0.000715838	SD 0.0139078	Variance 0.000193427

TPH Aromatic C12-C16

Concentration at DiMe Area Receptor [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.0es less than 0	Maximum 0.361361	
Mean 0.000821211	SD 0.0137115	Variance 0.000188005

Concentration at DiMe Area Receptor [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.0es less than 1.25017E-005	Maximum 0.466869	
Mean 0.00209841	SD 0.021755	Variance 0.000473279

Concentration at DiMe Area Receptor [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.0es less than 5.55401E-006	Maximum 0.386237	
Mean 0.00194534	SD 0.0216223	Variance 0.000467524

Concentration at DiMe Area Receptor [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.0es less than 2.36878E-006	Maximum 1.05353	
Mean 0.00261759	SD 0.0370643	Variance 0.00137376

1,2-Dichloroethane (1,2-DCA)

Unretarded Travel Time to Site boundary [years]

05% of values less than 4.21476	10% of values less than 4.78938	25% of values less than 6.63945
50% of values less than 9.21558	75% of values less than 12.5771	90% of values less than 16.494
Minimum 2.1642ss than 20.0231	Maximum 588.047	
Mean 11.4038	SD 20.3484	Variance 414.058

Retarded Travel Time to Site boundary [years]

05% of values less than 17.809	10% of values less than 22.1773	25% of values less than 35.1067
50% of values less than 62.5292	75% of values less than 107.906	90% of values less than 160.433
Minimum 5.71192s than 199.11	Maximum 1996.76	
Mean 85.3042	SD 103.577	Variance 10728.1

Dichloromethane (DCM)

Unretarded Travel Time to Site boundary [years]

05% of values less than 4.21476	10% of values less than 4.78938	25% of values less than 6.63945
50% of values less than 9.21558	75% of values less than 12.5771	90% of values less than 16.494
Minimum 2.1642ss than 20.0231	Maximum 588.047	
Mean 11.4038	SD 20.3484	Variance 414.058

Retarded Travel Time to Site boundary [years]

05% of values less than 9.76605	10% of values less than 11.4349	25% of values less than 15.9053
50% of values less than 22.0792	75% of values less than 31.0592	90% of values less than 42.0991
Minimum 5.48343s than 53.6006	Maximum 1242.67	
Mean 28.3443	SD 45.3693	Variance 2058.38

TPH Aromatic C10-C12

Unretarded Travel Time to Site boundary [years]

05% of values less than 4.21476	10% of values less than 4.78938	25% of values less than 6.63945
50% of values less than 9.21558	75% of values less than 12.5771	90% of values less than 16.494
Minimum 2.1642ss than 20.0231	Maximum 588.047	
Mean 11.4038	SD 20.3484	Variance 414.058

Retarded Travel Time to Site boundary [years]

05% of values less than 549.05	10% of values less than 722.804	25% of values less than 1147.31
50% of values less than 1836.55	75% of values less than 2803.05	90% of values less than 3804.41
Minimum 291.663s than 5030.02	Maximum 87307.7	
Mean 2356.59	SD 3443.79	Variance 1.18597E+007

TPH Aromatic C12-C16

Unretarded Travel Time to Site boundary [years]

05% of values less than 4.21476	10% of values less than 4.78938	25% of values less than 6.63945
50% of values less than 9.21558	75% of values less than 12.5771	90% of values less than 16.494
Minimum 2.1642ss than 20.0231	Maximum 588.047	
Mean 11.4038	SD 20.3484	Variance 414.058

Retarded Travel Time to Site boundary [years]

05% of values less than 1086.86	10% of values less than 1434.87	25% of values less than 2278.55
50% of values less than 3653.72	75% of values less than 5573.63	90% of values less than 7581.12
Minimum 577.655s than 10024.8	Maximum 173613	
Mean 4690.58	SD 6853.17	Variance 4.69659E+007

1,2-Dichloroethane (1,2-DCA)

Concentration at Site boundary [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 1.41365	
Mean 0.0019617	SD 0.0452507	Variance 0.00204762

Concentration at Site boundary [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 1.86919E-005	Maximum 1.68649	
Mean 0.00318797	SD 0.0653731	Variance 0.00427364

Concentration at Site boundary [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 2.45842E-006
Minimum 0.es less than 0.000212961	Maximum 0.334646	
Mean 0.00099439	SD 0.0133159	Variance 0.000177314

Concentration at Site boundary [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 2.15509E-013	90% of values less than 2.34169E-006
Minimum 0.es less than 9.79224E-005	Maximum 0.733447	
Mean 0.0018568	SD 0.0266161	Variance 0.000708418

Concentration at Site boundary [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 6.34393E-018	
Mean 6.33798E-021	SD 2.00512E-019	Variance 4.02052E-038

Concentration at Site boundary [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 3.96303E-019	
Mean 3.95928E-022	SD 1.25259E-020	Variance 1.56899E-040

1,2-Dichloroethane (1,2-DCA)

Concentration at Site boundary [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 2.47569E-020	
Mean 2.47333E-023	SD 7.8249E-022	Variance 6.12291E-043

Concentration at Site boundary [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Site boundary [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Site boundary [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Dichloromethane (DCM)

Concentration at Site boundary [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 5.04489E-005	Maximum 0.303346	
Mean 0.00174197	SD 0.0169538	Variance 0.00028743

Concentration at Site boundary [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 1.38323E-007	90% of values less than 3.20972E-005
Minimum 0es less than 0.000340178	Maximum 0.0644345	
Mean 0.000295672	SD 0.00267203	Variance 7.13977E-006

Concentration at Site boundary [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 8.44873E-012	75% of values less than 2.37979E-008	90% of values less than 4.29427E-006
Minimum 0es less than 3.79084E-005	Maximum 0.0452721	
Mean 0.000111839	SD 0.00155403	Variance 2.415E-006

Concentration at Site boundary [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 4.58494E-020
50% of values less than 1.52953E-013	75% of values less than 5.46606E-010	90% of values less than 8.17314E-008
Minimum 0es less than 1.30059E-006	Maximum 0.00242579	
Mean 4.84434E-006	SD 8.085E-005	Variance 6.53671E-009

Concentration at Site boundary [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Site boundary [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Dichloromethane (DCM)

Concentration at Site boundary [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Site boundary [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Site boundary [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Site boundary [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

TPH Aromatic C10-C12

Concentration at Site boundary [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Site boundary [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Site boundary [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Site boundary [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Site boundary [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 2.9703E-006	Maximum 0.866673	
Mean 0.0046676	SD 0.0444598	Variance 0.00197668

Concentration at Site boundary [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 5.24226E-006	Maximum 0.648937	
Mean 0.00355732	SD 0.032815	Variance 0.00107683

TPH Aromatic C10-C12

Concentration at Site boundary [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 1.16677E-005	Maximum 1.15898	
Mean 0.00421504	SD 0.0531779	Variance 0.00282789

Concentration at Site boundary [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 4.01348E-008
Minimum 0es less than 0.000171557	Maximum 0.769709	
Mean 0.00254794	SD 0.0302446	Variance 0.000914735

Concentration at Site boundary [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 2.17292E-008
Minimum 0es less than 6.44456E-005	Maximum 0.712451	
Mean 0.00205079	SD 0.0284873	Variance 0.000811526

Concentration at Site boundary [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 2.13703E-008
Minimum 0es less than 4.58127E-005	Maximum 1.01718	
Mean 0.00368642	SD 0.0422883	Variance 0.0017883

TPH Aromatic C12-C16

Concentration at Site boundary [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Site boundary [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Site boundary [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Site boundary [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Site boundary [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0.0977962	
Mean 9.88377E-005	SD 0.00309122	Variance 9.55562E-006

Concentration at Site boundary [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0.206065	
Mean 0.000450139	SD 0.00810376	Variance 6.5671E-005

TPH Aromatic C12-C16

Concentration at Site boundary [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0.321794	
Mean 0.000507695	SD 0.0106805	Variance 0.000114074

Concentration at Site boundary [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 1.6711E-006	Maximum 0.188356	
Mean 0.00102547	SD 0.010633	Variance 0.000113061

Concentration at Site boundary [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 2.37878E-006	Maximum 0.32176	
Mean 0.00103931	SD 0.013873	Variance 0.000192461

Concentration at Site boundary [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 9.87956E-007	Maximum 0.19015	
Mean 0.000680785	SD 0.00804679	Variance 6.47508E-005

1,2-Dichloroethane (1,2-DCA)

Unretarded Travel Time to DiMe bedrock [years]

05% of values less than 2.4347	10% of values less than 3.11405	25% of values less than 4.67045
50% of values less than 7.03623	75% of values less than 10.3927	90% of values less than 14.6626
Minimum 1.25053s than 18.6502	Maximum 1.00006E+006	
Mean 12996.2	SD 113275	Variance 1.28312E+010

Retarded Travel Time to DiMe bedrock [years]

05% of values less than 15.9043	10% of values less than 20.1941	25% of values less than 32.8102
50% of values less than 60.7692	75% of values less than 106.856	90% of values less than 161.953
Minimum 4.03339s than 215.842	Maximum 1.19481E+006	
Mean 14594.3	SD 126698	Variance 1.60525E+010

Dichloromethane (DCM)

Unretarded Travel Time to DiMe bedrock [years]

05% of values less than 2.4347	10% of values less than 3.11405	25% of values less than 4.67045
50% of values less than 7.03623	75% of values less than 10.3927	90% of values less than 14.6626
Minimum 1.25053s than 18.6502	Maximum 1.00006E+006	
Mean 12996.2	SD 113275	Variance 1.28312E+010

Retarded Travel Time to DiMe bedrock [years]

05% of values less than 7.53669	10% of values less than 9.60903	25% of values less than 13.7026
50% of values less than 20.1402	75% of values less than 29.179	90% of values less than 40.7479
Minimum 4.01521s than 55.8576	Maximum 1.03601E+006	
Mean 13344.3	SD 116168	Variance 1.34949E+010

TPH Aromatic C10-C12

Unretarded Travel Time to DiMe bedrock [years]

05% of values less than 2.4347	10% of values less than 3.11405	25% of values less than 4.67045
50% of values less than 7.03623	75% of values less than 10.3927	90% of values less than 14.6626
Minimum 1.25053s than 18.6502	Maximum 1.00006E+006	
Mean 12996.2	SD 113275	Variance 1.28312E+010

Retarded Travel Time to DiMe bedrock [years]

05% of values less than 543.919	10% of values less than 717.052	25% of values less than 1141.53
50% of values less than 1838.78	75% of values less than 2810.21	90% of values less than 3879.62
Minimum 281.867s than 5477.47	Maximum 4.98606E+006	
Mean 60111.8	SD 504762	Variance 2.54785E+011

TPH Aromatic C12-C16

Unretarded Travel Time to DiMe bedrock [years]

05% of values less than 2.4347	10% of values less than 3.11405	25% of values less than 4.67045
50% of values less than 7.03623	75% of values less than 10.3927	90% of values less than 14.6626
Minimum 1.25053s than 18.6502	Maximum 1.00006E+006	
Mean 12996.2	SD 113275	Variance 1.28312E+010

Retarded Travel Time to DiMe bedrock [years]

05% of values less than 1080.56	10% of values less than 1427.06	25% of values less than 2266.7
50% of values less than 3658.51	75% of values less than 5602.22	90% of values less than 7728.69
Minimum 560.309s than 10925.3	Maximum 8.95307E+006	
Mean 107002	SD 894596	Variance 8.00302E+011

1,2-Dichloroethane (1,2-DCA)

Concentration at DiMe bedrock [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 4.74481	
Mean 0.0116547	SD 0.185045	Variance 0.0342417

Concentration at DiMe bedrock [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0.000984428	Maximum 5.21267	
Mean 0.0168246	SD 0.221358	Variance 0.0489992

Concentration at DiMe bedrock [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 3.86568E-005
Minimum 0.es less than 0.00289609	Maximum 9.50624	
Mean 0.0142124	SD 0.304584	Variance 0.0927715

Concentration at DiMe bedrock [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 5.21429E-011	90% of values less than 3.42436E-005
Minimum 0.es less than 0.00136757	Maximum 10.601	
Mean 0.0185045	SD 0.345651	Variance 0.119475

Concentration at DiMe bedrock [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 2.30958E-017	
Mean 2.30777E-020	SD 7.29989E-019	Variance 5.32884E-037

Concentration at DiMe bedrock [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 1.44279E-018	
Mean 1.44161E-021	SD 4.56022E-020	Variance 2.07956E-039

1,2-Dichloroethane (1,2-DCA)

Concentration at DiMe bedrock [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 9.01306E-020	
Mean 9.00554E-023	SD 2.84876E-021	Variance 8.11541E-042

Concentration at DiMe bedrock [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe bedrock [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe bedrock [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

Dichloromethane (DCM)

Concentration at DiMe bedrock [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.000130875
Minimum 0.es less than 0.0245236	Maximum 7.9767	
Mean 0.0359402	SD 0.375793	Variance 0.14122

Concentration at DiMe bedrock [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 4.85544E-006	90% of values less than 0.000507017
Minimum 0.es less than 0.00516809	Maximum 0.852766	
Mean 0.00473949	SD 0.04031	Variance 0.00162489

Concentration at DiMe bedrock [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 1.39798E-010	75% of values less than 3.91363E-007	90% of values less than 6.19129E-005
Minimum 0.es less than 0.000395939	Maximum 0.175428	
Mean 0.000811316	SD 0.0082106	Variance 6.74139E-005

Concentration at DiMe bedrock [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 3.94885E-019
50% of values less than 1.81638E-012	75% of values less than 7.56224E-009	90% of values less than 1.09689E-006
Minimum 0.es less than 1.49421E-005	Maximum 0.0349945	
Mean 7.05368E-005	SD 0.00118043	Variance 1.39342E-006

Concentration at DiMe bedrock [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe bedrock [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Dichloromethane (DCM)

Concentration at DiMe bedrock [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe bedrock [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe bedrock [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe bedrock [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

TPH Aromatic C10-C12

Concentration at DiMe bedrock [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe bedrock [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe bedrock [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe bedrock [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe bedrock [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 7.77528E-006	Maximum 2.89111	
Mean 0.0124968	SD 0.129192	Variance 0.0166907

Concentration at DiMe bedrock [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 6.8188E-006	Maximum 1.04107	
Mean 0.00494526	SD 0.0469254	Variance 0.002202

TPH Aromatic C10-C12

Concentration at DiMe bedrock [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 1.41055E-005	Maximum 1.80001	
Mean 0.00607044	SD 0.0779483	Variance 0.00607594

Concentration at DiMe bedrock [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 4.79372E-008
Minimum 0.es less than 0.000188352	Maximum 1.07943	
Mean 0.00378072	SD 0.0436564	Variance 0.00190588

Concentration at DiMe bedrock [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 3.59426E-008
Minimum 0.es less than 0.000133618	Maximum 1.39996	
Mean 0.00534406	SD 0.0628655	Variance 0.00395208

Concentration at DiMe bedrock [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 2.32016E-008
Minimum 0.es less than 6.54707E-005	Maximum 0.803333	
Mean 0.00497088	SD 0.0495602	Variance 0.00245622

TPH Aromatic C12-C16

Concentration at DiMe bedrock [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe bedrock [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe bedrock [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe bedrock [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at DiMe bedrock [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0.44055	
Mean 0.00104067	SD 0.020274	Variance 0.000411034

Concentration at DiMe bedrock [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0.403614	
Mean 0.000909406	SD 0.015593	Variance 0.000243143

TPH Aromatic C12-C16

Concentration at DiMe bedrock [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0.361295	
Mean 0.000777017	SD 0.0133905	Variance 0.000179304

Concentration at DiMe bedrock [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 1.2946E-005	Maximum 0.499645	
Mean 0.00207601	SD 0.0218013	Variance 0.000475295

Concentration at DiMe bedrock [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 5.57923E-006	Maximum 0.389604	
Mean 0.00200675	SD 0.0222205	Variance 0.00049375

Concentration at DiMe bedrock [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 1.88734E-006	Maximum 1.11668	
Mean 0.00277698	SD 0.0394385	Variance 0.00155539

1,2-Dichloroethane (1,2-DCA)

Unretarded Travel Time to Half way to boundary [years]

05% of values less than 3.37152	10% of values less than 4.02326	25% of values less than 5.71895
50% of values less than 8.15832	75% of values less than 11.4761	90% of values less than 15.2355
Minimum 1.60219s than 18.6725	Maximum 587.416	
Mean 10.3274	SD 20.2987	Variance 412.039

Retarded Travel Time to Half way to boundary [years]

05% of values less than 17.0373	10% of values less than 21.3114	25% of values less than 33.8263
50% of values less than 61.7404	75% of values less than 106.543	90% of values less than 159.113
Minimum 4.9058ss than 197.723	Maximum 1996.1	
Mean 84.1107	SD 103.529	Variance 10718.3

Dichloromethane (DCM)

Unretarded Travel Time to Half way to boundary [years]

05% of values less than 3.37152	10% of values less than 4.02326	25% of values less than 5.71895
50% of values less than 8.15832	75% of values less than 11.4761	90% of values less than 15.2355
Minimum 1.60219s than 18.6725	Maximum 587.416	
Mean 10.3274	SD 20.2987	Variance 412.039

Retarded Travel Time to Half way to boundary [years]

05% of values less than 8.67539	10% of values less than 10.4038	25% of values less than 14.9831
50% of values less than 21.2406	75% of values less than 29.8474	90% of values less than 40.7226
Minimum 5.05149s than 52.5925	Maximum 1242.02	
Mean 27.2415	SD 45.3462	Variance 2056.28

TPH Aromatic C10-C12

Unretarded Travel Time to Half way to boundary [years]

05% of values less than 3.37152	10% of values less than 4.02326	25% of values less than 5.71895
50% of values less than 8.15832	75% of values less than 11.4761	90% of values less than 15.2355
Minimum 1.60219s than 18.6725	Maximum 587.416	
Mean 10.3274	SD 20.2987	Variance 412.039

Retarded Travel Time to Half way to boundary [years]

05% of values less than 545.02	10% of values less than 719.013	25% of values less than 1143.4
50% of values less than 1831.09	75% of values less than 2794.43	90% of values less than 3796.76
Minimum 286.959s than 5023.47	Maximum 87305.1	
Mean 2351.88	SD 3443.8	Variance 1.18598E+007

TPH Aromatic C12-C16

Unretarded Travel Time to Half way to boundary [years]

05% of values less than 3.37152	10% of values less than 4.02326	25% of values less than 5.71895
50% of values less than 8.15832	75% of values less than 11.4761	90% of values less than 15.2355
Minimum 1.60219s than 18.6725	Maximum 587.416	
Mean 10.3274	SD 20.2987	Variance 412.039

Retarded Travel Time to Half way to boundary [years]

05% of values less than 1081.36	10% of values less than 1428.13	25% of values less than 2271.26
50% of values less than 3647.01	75% of values less than 5566.95	90% of values less than 7566.94
Minimum 569.325s than 10013.3	Maximum 173609	
Mean 4682.25	SD 6853.19	Variance 4.69662E+007

1,2-Dichloroethane (1,2-DCA)

Concentration at Half way to boundary [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.0es less than 0	Maximum 2.48804	
Mean 0.00449016	SD 0.0822452	Variance 0.00676427

Concentration at Half way to boundary [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.0es less than 0.000101146	Maximum 2.94763	
Mean 0.00660674	SD 0.116143	Variance 0.0134891

Concentration at Half way to boundary [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 6.7041E-006
Minimum 0.0es less than 0.000599951	Maximum 0.509169	
Mean 0.00158182	SD 0.0203398	Variance 0.000413707

Concentration at Half way to boundary [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 1.94377E-012	90% of values less than 7.8451E-006
Minimum 0.0es less than 0.000272972	Maximum 2.64129	
Mean 0.00510619	SD 0.0880685	Variance 0.00775607

Concentration at Half way to boundary [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.0es less than 0	Maximum 1.21374E-017	
Mean 1.21266E-020	SD 3.83626E-019	Variance 1.47169E-037

Concentration at Half way to boundary [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.0es less than 0	Maximum 7.58218E-019	
Mean 7.57532E-022	SD 2.3965E-020	Variance 5.7432E-040

1,2-Dichloroethane (1,2-DCA)

Concentration at Half way to boundary [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 4.73655E-020	
Mean 4.73222E-023	SD 1.49708E-021	Variance 2.24125E-042

Concentration at Half way to boundary [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Half way to boundary [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Half way to boundary [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

Dichloromethane (DCM)

Concentration at Half way to boundary [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0.00415659	Maximum 2.53895	
Mean 0.00839026	SD 0.0980478	Variance 0.00961338

Concentration at Half way to boundary [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 6.25708E-007	90% of values less than 0.00012738
Minimum 0.es less than 0.00110536	Maximum 0.124633	
Mean 0.000942215	SD 0.00728103	Variance 5.30134E-005

Concentration at Half way to boundary [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 3.43788E-011	75% of values less than 8.8547E-008	90% of values less than 1.41852E-005
Minimum 0.es less than 0.000114144	Maximum 0.0878194	
Mean 0.000250409	SD 0.00312602	Variance 9.77201E-006

Concentration at Half way to boundary [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 8.43709E-020
50% of values less than 4.56808E-013	75% of values less than 1.61316E-009	90% of values less than 2.4703E-007
Minimum 0.es less than 3.51138E-006	Maximum 0.00965923	
Mean 1.68934E-005	SD 0.000314233	Variance 9.87425E-008

Concentration at Half way to boundary [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Half way to boundary [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Dichloromethane (DCM)

Concentration at Half way to boundary [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Half way to boundary [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Half way to boundary [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Half way to boundary [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

TPH Aromatic C10-C12

Concentration at Half way to boundary [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Half way to boundary [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Half way to boundary [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Half way to boundary [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Half way to boundary [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 5.65798E-006	Maximum 1.61967	
Mean 0.00795078	SD 0.0776411	Variance 0.00602813

Concentration at Half way to boundary [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 5.55131E-006	Maximum 0.800728	
Mean 0.00399833	SD 0.0375866	Variance 0.00141275

TPH Aromatic C10-C12

Concentration at Half way to boundary [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 1.28115E-005	Maximum 1.54881	
Mean 0.00548867	SD 0.06942	Variance 0.00481913

Concentration at Half way to boundary [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 4.35694E-008
Minimum 0.es less than 0.000180656	Maximum 0.900702	
Mean 0.00312848	SD 0.036224	Variance 0.00131218

Concentration at Half way to boundary [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 3.14647E-008
Minimum 0.es less than 0.000101053	Maximum 0.830707	
Mean 0.00366002	SD 0.0441655	Variance 0.00195059

Concentration at Half way to boundary [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 2.17367E-008
Minimum 0.es less than 5.69501E-005	Maximum 0.98659	
Mean 0.00425788	SD 0.0459231	Variance 0.00210893

TPH Aromatic C12-C16

Concentration at Half way to boundary [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Half way to boundary [mg/l] - 20 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Half way to boundary [mg/l] - 30 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Half way to boundary [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Half way to boundary [mg/l] - 650 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0.252207	
Mean 0.000372813	SD 0.00882564	Variance 7.78919E-005

Concentration at Half way to boundary [mg/l] - 700 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0.259011	
Mean 0.000736441	SD 0.0117751	Variance 0.000138653

TPH Aromatic C12-C16

Concentration at Half way to boundary [mg/l] - 750 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0.357479	
Mean 0.000797966	SD 0.0137337	Variance 0.000188614

Concentration at Half way to boundary [mg/l] - 1450 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 3.27153E-006	Maximum 0.215046	
Mean 0.00126269	SD 0.0125147	Variance 0.000156617

Concentration at Half way to boundary [mg/l] - 1500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 4.98781E-006	Maximum 0.361335	
Mean 0.00159256	SD 0.0181909	Variance 0.00033091

Concentration at Half way to boundary [mg/l] - 1550 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 1.77396E-006	Maximum 0.646694	
Mean 0.00181397	SD 0.0240074	Variance 0.000576357

Aquifer Flow [m³/yr]

DiMe Area

05% of values less than 11029.9	10% of values less than 14119.5	25% of values less than 22674.8
50% of values less than 34703.5	75% of values less than 50078.2	90% of values less than 68269
Minimum 3350.91s than 79406.1	Maximum 126967	
Mean 38503.6	SD 21527.4	Variance 4.63429E+008

Project: Controlled Waters Risk Assessment - DiME**Project Number: 5041216**

Project Details

Title: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

Prepared By:

Date: 2010-07-08 16:11:42

Client Name:

Comments:

Consim version 2.05

Simulation Level

Level 3

Simulation Parameters

Iterations 1001

Timeslices:10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 500, 550, 600, 650, 700, 750, 800, 1200, 1250, 1300, 1350, 1400, 1450, 1500, 1550, 1600

Water Quality Standard

User Defined

Project: Controlled Waters Risk Assessment - DiME**Project Number: 5041216**

Source

DiMe Area

Dry Bulk Density [g/cm³] SINGLE(1.8)

Air Filled Porosity [fraction] SINGLE(0.1)

Water Filled Porosity [fraction] SINGLE(0.2)

Thickness [m] TRIANGULAR(0.1,1.5,4.8)

Fraction of Organic Carbon [%] UNIFORM(0.01,0.1)

Contaminated Land

Declining Source Term

Overall Unsaturated Zone Thickness [m] TRIANGULAR(6,11.6,19.2)

Infiltration

Infiltration [mm/year] UNIFORM(200,500)

Source Inventory:*1,2-Dichloroethane (1,2-DCA)*

Measured as Leachable Concentrate

Leachate Concentration [mg/l] UNIFORM(35,1120)

Organic

koc [ml/g] UNIFORM(11.5,151.4)

Calculate kd

Henry's Law Constant SINGLE(0.045)

Dichloromethane (DCM)

Measured as Leachable Concentrate

Leachate Concentration [mg/l] UNIFORM(30,1140)

Organic

koc [ml/g] UNIFORM(8.79,27.54)

Calculate kd

Henry's Law Constant SINGLE(0.105)

TPH Aromatic C10-C12

Measured as Leachable Concentrate

Leachate Concentration [mg/l] SINGLE(25)

Organic

koc [ml/g] SINGLE(2512)

Calculate kd

Henry's Law Constant SINGLE(0.14)

TPH Aromatic C12-C16

Measured as Leachable Concentrate

Leachate Concentration [mg/l] SINGLE(5.8)

Organic

koc [ml/g] SINGLE(5012)

Calculate kd

Henry's Law Constant SINGLE(0.053)

Unsaturated Pathway: Cohesive Drift

Active

Porous Medium

Thickness [m] TRIANGULAR(6,11.6,19.2)

Dry Bulk Density [g/cm³] SINGLE(1.8)

Vertical Dispersivity [m] TRIANGULAR(0.06,0.116,0.192)

Fraction of Organic Carbon [%] UNIFORM(0.3,2)

Water Filled Porosity [fraction] UNIFORM(0.05,0.3)

Unsaturated Conductivity [m/s] UNIFORM(1e-010,1e-007)

Unsaturated Pathway Contaminants*1,2-Dichloroethane (1,2-DCA)*

koc [ml/g] UNIFORM(11.5,151.4)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] UNIFORM(0.35,0.49)

Dichloromethane (DCM)

koc [ml/g] UNIFORM(8.79,27.54)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] UNIFORM(0.15,0.5)

TPH Aromatic C10-C12

koc [ml/g] SINGLE(2512)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] UNIFORM(2,5)

TPH Aromatic C12-C16

koc [ml/g] SINGLE(5012)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] UNIFORM(3,5)

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

Aquifer Pathway

Thickness [m] SINGLE(50)

Dry Bulk Density [g/cm³] SINGLE(2.2)

Fraction of Organic Carbon [%] UNIFORM(0.007,0.008)

Mixing Zone Thickness [m] UNIFORM(3,6)

Hydraulic Conductivity [m/s] TRIANGULAR(1.16e-006,8.1e-006,2.66e-005)

Effective Porosity [fraction] UNIFORM(0.11,0.136)

Hydraulic Gradient UNIFORM(0.04,0.09)

Groundwater Flow Direction (degrees), 80.00

Longitudinal Dispersivity [m] SINGLE(36)

Lateral Dispersivity [m] SINGLE(3.6)

Contaminant Inventory*1,2-Dichloroethane (1,2-DCA)*

koc [ml/g] UNIFORM(11.5,151.4)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] UNIFORM(0.35,0.49)

Dichloromethane (DCM)

koc [ml/g] UNIFORM(8.79,27.54)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] UNIFORM(0.15,0.5)

TPH Aromatic C10-C12

koc [ml/g] SINGLE(2512)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] SINGLE(2)

TPH Aromatic C12-C16

koc [ml/g] SINGLE(5012)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] SINGLE(2)

Receptor

DiMe Area Receptor	X 271664.892583	Y 196143.993074
Site boundary	X 272012.546710	Y 196115.142439
DiMe bedrock	X 271659.112829	Y 196046.550705
Half way to boundary	X 271840.454986	Y 196095.554763

Input Correlations

No Correlations

DiMe Area - 1,2-Dichloroethane (1,2-DCA)

Concentration at Source [mg/l] - 40 years

05% of values less than 2032.28	10% of values less than 3136.88	25% of values less than 6322.27
50% of values less than 11233.5	75% of values less than 16065.1	90% of values less than 19684.4
Minimum 1185.8ss than 20644.2	Maximum 21850	
Mean 11252.1	SD 5918.52	Variance 3.50289E+007

DiMe Area - Dichloromethane (DCM)

Concentration at Source [mg/l] - 40 years

05% of values less than 1567.45	10% of values less than 2064.34	25% of values less than 3406.44
50% of values less than 5534.52	75% of values less than 7797.73	90% of values less than 9093.8
Minimum 1148.08s than 9451.53	Maximum 9957.85	
Mean 5585.32	SD 2533.53	Variance 6.4188E+006

DiMe Area - TPH Aromatic C10-C12

Concentration at Source [mg/l] - 40 years

05% of values less than 25	10% of values less than 25	25% of values less than 25
50% of values less than 25	75% of values less than 25	90% of values less than 25
Minimum 25s less than 25	Maximum 25	
Mean 25	SD 0	Variance 0

DiMe Area - TPH Aromatic C12-C16

Concentration at Source [mg/l] - 40 years

05% of values less than 5.8	10% of values less than 5.8	25% of values less than 5.8
50% of values less than 5.8	75% of values less than 5.8	90% of values less than 5.8
Minimum 5.8s less than 5.8	Maximum 5.8	
Mean 5.8	SD 1.27964E-006	Variance -1.63749E-012

DiMe Area - 1,2-Dichloroethane (1,2-DCA)

Unretarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 2.09221	10% of values less than 2.57175	25% of values less than 3.83521
50% of values less than 6.05447	75% of values less than 8.89598	90% of values less than 12.7259
Minimum 1.03405s than 16.4657	Maximum 348.895	
Mean 7.95052	SD 15.106	Variance 228.191

Retarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 14.458	10% of values less than 19.0495	25% of values less than 31.513
50% of values less than 57.4172	75% of values less than 103.749	90% of values less than 156.517
Minimum 5.70879s than 211.064	Maximum 3532.81	
Mean 87.3319	SD 171.658	Variance 29466.6

DiMe Area - Dichloromethane (DCM)

Unretarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 2.09221	10% of values less than 2.57175	25% of values less than 3.83521
50% of values less than 6.05447	75% of values less than 8.89598	90% of values less than 12.7259
Minimum 1.03405s than 16.4657	Maximum 348.895	
Mean 7.95052	SD 15.106	Variance 228.191

Retarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 7.50269	10% of values less than 9.09588	25% of values less than 12.885
50% of values less than 18.6284	75% of values less than 27.6434	90% of values less than 39.6787
Minimum 2.69574s than 50.3299	Maximum 721.522	
Mean 25.1889	SD 41.9106	Variance 1756.5

DiMe Area - TPH Aromatic C10-C12

Unretarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 2.09221	10% of values less than 2.57175	25% of values less than 3.83521
50% of values less than 6.05447	75% of values less than 8.89598	90% of values less than 12.7259
Minimum 1.03405s than 16.4657	Maximum 348.895	
Mean 7.95052	SD 15.106	Variance 228.191

Retarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 577.885	10% of values less than 729.545	25% of values less than 1148.12
50% of values less than 1794.57	75% of values less than 2699.25	90% of values less than 3923.98
Minimum 223.083s than 4882.12	Maximum 56081.2	
Mean 2343.14	SD 3225.02	Variance 1.04007E+007

DiMe Area - TPH Aromatic C12-C16

Unretarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 2.09221	10% of values less than 2.57175	25% of values less than 3.83521
50% of values less than 6.05447	75% of values less than 8.89598	90% of values less than 12.7259
Minimum 1.03405s than 16.4657	Maximum 348.895	
Mean 7.95052	SD 15.106	Variance 228.191

Retarded Travel Time to Base of Unsaturated Zone Cohesive Drift [years]

05% of values less than 1147.56	10% of values less than 1448.91	25% of values less than 2285.63
50% of values less than 3572.4	75% of values less than 5382.07	90% of values less than 7819.99
Minimum 441.203s than 9734.26	Maximum 111680	
Mean 4667.17	SD 6422.59	Variance 4.12496E+007

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

DiMe Area - 1,2-Dichloroethane (1,2-DCA)

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.357272	90% of values less than 41.6366
Minimum 0.es less than 163.407	Maximum 2262.63	
Mean 32.8802	SD 150.09	Variance 22526.9

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

DiMe Area - Dichloromethane (DCM)

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 40 years

05% of values less than 0	10% of values less than 1.55094E-015	25% of values less than 2.89954E-005
50% of values less than 0.0299677	75% of values less than 2.04937	90% of values less than 31.1303
Minimum 0.es less than 118.447	Maximum 1391.33	
Mean 20.8982	SD 89.8366	Variance 8070.61

DiMe Area - TPH Aromatic C10-C12

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

DiMe Area - TPH Aromatic C12-C16

Concentration at Base of Unsaturated Zone Cohesive Drift [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

DiMe Area - 1,2-Dichloroethane (1,2-DCA)

Diluted Concentration [mg/l] Cohesive Drift - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.132867	90% of values less than 15.8319
Minimum 0.es less than 77.5568	Maximum 1385.71	
Mean 15.3408	SD 76.5818	Variance 5864.78

DiMe Area - Dichloromethane (DCM)

Diluted Concentration [mg/l] Cohesive Drift - 40 years

05% of values less than 0	10% of values less than 2.80569E-016	25% of values less than 1.08739E-005
50% of values less than 0.0110845	75% of values less than 0.755092	90% of values less than 13.7136
Minimum 0.es less than 47.5011	Maximum 798.382	
Mean 9.94066	SD 46.9137	Variance 2200.9

DiMe Area - TPH Aromatic C10-C12

Diluted Concentration [mg/l] Cohesive Drift - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

DiMe Area - TPH Aromatic C12-C16

Diluted Concentration [mg/l] Cohesive Drift - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

1,2-Dichloroethane (1,2-DCA)

Unretarded Travel Time to DiMe Area Receptor [years]

05% of values less than 2.79284	10% of values less than 3.20928	25% of values less than 4.60127
50% of values less than 6.92076	75% of values less than 9.88143	90% of values less than 13.6253
Minimum 1.03405s than 17.403	Maximum 348.895	
Mean 8.77981	SD 15.1272	Variance 228.832

Retarded Travel Time to DiMe Area Receptor [years]

05% of values less than 15.2071	10% of values less than 19.6854	25% of values less than 32.3103
50% of values less than 58.1205	75% of values less than 104.309	90% of values less than 156.94
Minimum 5.80993s than 211.169	Maximum 3533.51	
Mean 88.2505	SD 171.674	Variance 29471.9

Dichloromethane (DCM)

Unretarded Travel Time to DiMe Area Receptor [years]

05% of values less than 2.79284	10% of values less than 3.20928	25% of values less than 4.60127
50% of values less than 6.92076	75% of values less than 9.88143	90% of values less than 13.6253
Minimum 1.03405s than 17.403	Maximum 348.895	
Mean 8.77981	SD 15.1272	Variance 228.832

Retarded Travel Time to DiMe Area Receptor [years]

05% of values less than 8.22418	10% of values less than 9.86406	25% of values less than 13.5804
50% of values less than 19.4883	75% of values less than 28.4033	90% of values less than 40.2047
Minimum 2.69574s than 51.1326	Maximum 721.522	
Mean 26.0384	SD 41.9301	Variance 1758.13

TPH Aromatic C10-C12

Unretarded Travel Time to DiMe Area Receptor [years]

05% of values less than 2.79284	10% of values less than 3.20928	25% of values less than 4.60127
50% of values less than 6.92076	75% of values less than 9.88143	90% of values less than 13.6253
Minimum 1.03405s than 17.403	Maximum 348.895	
Mean 8.77981	SD 15.1272	Variance 228.832

Retarded Travel Time to DiMe Area Receptor [years]

05% of values less than 582.126	10% of values less than 732.211	25% of values less than 1150.45
50% of values less than 1798.61	75% of values less than 2703.86	90% of values less than 3925.92
Minimum 234.763s than 4882.37	Maximum 56083.8	
Mean 2346.75	SD 3225.1	Variance 1.04012E+007

TPH Aromatic C12-C16

Unretarded Travel Time to DiMe Area Receptor [years]

05% of values less than 2.79284	10% of values less than 3.20928	25% of values less than 4.60127
50% of values less than 6.92076	75% of values less than 9.88143	90% of values less than 13.6253
Minimum 1.03405s than 17.403	Maximum 348.895	
Mean 8.77981	SD 15.1272	Variance 228.832

Retarded Travel Time to DiMe Area Receptor [years]

05% of values less than 1155.02	10% of values less than 1453.34	25% of values less than 2285.75
50% of values less than 3583.87	75% of values less than 5383.84	90% of values less than 7826.72
Minimum 461.569s than 9734.69	Maximum 111684	
Mean 4673.56	SD 6422.73	Variance 4.12514E+007

1,2-Dichloroethane (1,2-DCA)

Concentration at DiMe Area Receptor [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.0207035	90% of values less than 4.83415
Minimum 0.es less than 16.2312	Maximum 759.76	
Mean 4.68368	SD 32.9238	Variance 1083.98

Dichloromethane (DCM)

Concentration at DiMe Area Receptor [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 1.25295E-006
50% of values less than 0.00193288	75% of values less than 0.127278	90% of values less than 2.07324
Minimum 0.05 less than 8.85226	Maximum 160.979	
Mean 2.2587	SD 12.6941	Variance 161.14

TPH Aromatic C10-C12

Concentration at DiMe Area Receptor [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

TPH Aromatic C12-C16

Concentration at DiMe Area Receptor [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

1,2-Dichloroethane (1,2-DCA)

Unretarded Travel Time to Site boundary [years]

05% of values less than 4.20941	10% of values less than 4.86971	25% of values less than 6.41839
50% of values less than 9.02984	75% of values less than 12.1599	90% of values less than 15.9236
Minimum 2.28757s than 20.1635	Maximum 350.465	
Mean 10.8419	SD 15.208	Variance 231.283

Retarded Travel Time to Site boundary [years]

05% of values less than 17.5496	10% of values less than 21.5986	25% of values less than 34.3764
50% of values less than 60.4153	75% of values less than 106.75	90% of values less than 157.723
Minimum 7.42534s than 212.425	Maximum 3535.11	
Mean 90.5375	SD 171.693	Variance 29478.4

Dichloromethane (DCM)

Unretarded Travel Time to Site boundary [years]

05% of values less than 4.20941	10% of values less than 4.86971	25% of values less than 6.41839
50% of values less than 9.02984	75% of values less than 12.1599	90% of values less than 15.9236
Minimum 2.28757s than 20.1635	Maximum 350.465	
Mean 10.8419	SD 15.208	Variance 231.283

Retarded Travel Time to Site boundary [years]

05% of values less than 9.68852	10% of values less than 11.8969	25% of values less than 15.6295
50% of values less than 21.5851	75% of values less than 30.6458	90% of values less than 41.9004
Minimum 4.43944s than 53.0281	Maximum 723.145	
Mean 28.1506	SD 41.9594	Variance 1760.59

TPH Aromatic C10-C12

Unretarded Travel Time to Site boundary [years]

05% of values less than 4.20941	10% of values less than 4.86971	25% of values less than 6.41839
50% of values less than 9.02984	75% of values less than 12.1599	90% of values less than 15.9236
Minimum 2.28757s than 20.1635	Maximum 350.465	
Mean 10.8419	SD 15.208	Variance 231.283

Retarded Travel Time to Site boundary [years]

05% of values less than 587.824	10% of values less than 744.63	25% of values less than 1159.57
50% of values less than 1809.95	75% of values less than 2713.35	90% of values less than 3930.68
Minimum 259.095s than 4887.19	Maximum 56089.5	
Mean 2355.77	SD 3225.07	Variance 1.04011E+007

TPH Aromatic C12-C16

Unretarded Travel Time to Site boundary [years]

05% of values less than 4.20941	10% of values less than 4.86971	25% of values less than 6.41839
50% of values less than 9.02984	75% of values less than 12.1599	90% of values less than 15.9236
Minimum 2.28757s than 20.1635	Maximum 350.465	
Mean 10.8419	SD 15.208	Variance 231.283

Retarded Travel Time to Site boundary [years]

05% of values less than 1164.55	10% of values less than 1475.15	25% of values less than 2302.68
50% of values less than 3599.67	75% of values less than 5399.08	90% of values less than 7835.21
Minimum 503.998s than 9743.28	Maximum 111694	
Mean 4689.49	SD 6422.68	Variance 4.12508E+007

1,2-Dichloroethane (1,2-DCA)

Concentration at Site boundary [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.00070196	90% of values less than 0.306132
Minimum 0.05 less than 2.36606	Maximum 64.2941	
Mean 0.575632	SD 3.57727	Variance 12.7969

Dichloromethane (DCM)

Concentration at Site boundary [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 1.72887E-008
50% of values less than 7.09293E-005	75% of values less than 0.00534023	90% of values less than 0.121178
Minimum 0.es less than 0.540872	Maximum 27.1228	
Mean 0.197441	SD 1.3846	Variance 1.91712

TPH Aromatic C10-C12

Concentration at Site boundary [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

TPH Aromatic C12-C16

Concentration at Site boundary [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

1,2-Dichloroethane (1,2-DCA)

Unretarded Travel Time to DiMe bedrock [years]

05% of values less than 2.72203	10% of values less than 3.12676	25% of values less than 4.51454
50% of values less than 6.81735	75% of values less than 9.80115	90% of values less than 13.8609
Minimum 1.25103s than 18.7106	Maximum 1.00001E+006	
Mean 9998.66	SD 99499.1	Variance 9.90006E+009

Retarded Travel Time to DiMe bedrock [years]

05% of values less than 15.1564	10% of values less than 19.6455	25% of values less than 32.3651
50% of values less than 58.878	75% of values less than 105.575	90% of values less than 171.358
Minimum 5.70879s than 222.903	Maximum 1.18992E+006	
Mean 11369.8	SD 112439	Variance 1.26426E+010

Dichloromethane (DCM)

Unretarded Travel Time to DiMe bedrock [years]

05% of values less than 2.72203	10% of values less than 3.12676	25% of values less than 4.51454
50% of values less than 6.81735	75% of values less than 9.80115	90% of values less than 13.8609
Minimum 1.25103s than 18.7106	Maximum 1.00001E+006	
Mean 9998.66	SD 99499.1	Variance 9.90006E+009

Retarded Travel Time to DiMe bedrock [years]

05% of values less than 8.1529	10% of values less than 9.78503	25% of values less than 13.5209
50% of values less than 19.4642	75% of values less than 28.6866	90% of values less than 41.1934
Minimum 3.73532s than 55.4404	Maximum 1.03429E+006	
Mean 10214.6	SD 101481	Variance 1.02984E+010

TPH Aromatic C10-C12

Unretarded Travel Time to DiMe bedrock [years]

05% of values less than 2.72203	10% of values less than 3.12676	25% of values less than 4.51454
50% of values less than 6.81735	75% of values less than 9.80115	90% of values less than 13.8609
Minimum 1.25103s than 18.7106	Maximum 1.00001E+006	
Mean 9998.66	SD 99499.1	Variance 9.90006E+009

Retarded Travel Time to DiMe bedrock [years]

05% of values less than 582.37	10% of values less than 735.733	25% of values less than 1166.42
50% of values less than 1815.89	75% of values less than 2739.21	90% of values less than 4069.58
Minimum 233.132s than 5286.11	Maximum 4.89621E+006	
Mean 45807.6	SD 433886	Variance 1.88257E+011

TPH Aromatic C12-C16

Unretarded Travel Time to DiMe bedrock [years]

05% of values less than 2.72203	10% of values less than 3.12676	25% of values less than 4.51454
50% of values less than 6.81735	75% of values less than 9.80115	90% of values less than 13.8609
Minimum 1.25103s than 18.7106	Maximum 1.00001E+006	
Mean 9998.66	SD 99499.1	Variance 9.90006E+009

Retarded Travel Time to DiMe bedrock [years]

05% of values less than 1155.03	10% of values less than 1464.28	25% of values less than 2318.29
50% of values less than 3614.26	75% of values less than 5461.98	90% of values less than 8104.45
Minimum 458.725s than 10532.6	Maximum 8.77381E+006	
Mean 81445.4	SD 766941	Variance 5.88198E+011

1,2-Dichloroethane (1,2-DCA)

Concentration at DiMe bedrock [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.022845	90% of values less than 6.31067
Minimum 0.es less than 21.1546	Maximum 384.536	
Mean 4.99268	SD 24.6567	Variance 607.953

Dichloromethane (DCM)

Concentration at DiMe bedrock [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 1.18131E-006
50% of values less than 0.00263443	75% of values less than 0.177322	90% of values less than 2.89636
Minimum 0.es less than 11.0432	Maximum 228.668	
Mean 2.88546	SD 15.8208	Variance 250.299

TPH Aromatic C10-C12

Concentration at DiMe bedrock [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

TPH Aromatic C12-C16

Concentration at DiMe bedrock [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

1,2-Dichloroethane (1,2-DCA)

Unretarded Travel Time to Half way to boundary [years]

05% of values less than 3.54356	10% of values less than 4.0213	25% of values less than 5.49192
50% of values less than 8.02251	75% of values less than 10.9177	90% of values less than 14.8752
Minimum 1.78977s than 18.6441	Maximum 349.66	
Mean 9.78418	SD 15.1537	Variance 229.634

Retarded Travel Time to Half way to boundary [years]

05% of values less than 16.4779	10% of values less than 20.5647	25% of values less than 33.3831
50% of values less than 59.2876	75% of values less than 105.795	90% of values less than 157.322
Minimum 6.6388ss than 211.773	Maximum 3534.29	
Mean 89.3644	SD 171.682	Variance 29474.6

Dichloromethane (DCM)

Unretarded Travel Time to Half way to boundary [years]

05% of values less than 3.54356	10% of values less than 4.0213	25% of values less than 5.49192
50% of values less than 8.02251	75% of values less than 10.9177	90% of values less than 14.8752
Minimum 1.78977s than 18.6441	Maximum 349.66	
Mean 9.78418	SD 15.1537	Variance 229.634

Retarded Travel Time to Half way to boundary [years]

05% of values less than 8.91058	10% of values less than 10.8873	25% of values less than 14.4932
50% of values less than 20.5528	75% of values less than 29.5366	90% of values less than 40.9174
Minimum 3.46602s than 51.8219	Maximum 722.313	
Mean 27.0671	SD 41.9396	Variance 1758.93

TPH Aromatic C10-C12

Unretarded Travel Time to Half way to boundary [years]

05% of values less than 3.54356	10% of values less than 4.0213	25% of values less than 5.49192
50% of values less than 8.02251	75% of values less than 10.9177	90% of values less than 14.8752
Minimum 1.78977s than 18.6441	Maximum 349.66	
Mean 9.78418	SD 15.1537	Variance 229.634

Retarded Travel Time to Half way to boundary [years]

05% of values less than 584.871	10% of values less than 737.533	25% of values less than 1156.43
50% of values less than 1804.33	75% of values less than 2710.87	90% of values less than 3928.24
Minimum 246.626s than 4884.72	Maximum 56086.6	
Mean 2351.14	SD 3225.08	Variance 1.04012E+007

TPH Aromatic C12-C16

Unretarded Travel Time to Half way to boundary [years]

05% of values less than 3.54356	10% of values less than 4.0213	25% of values less than 5.49192
50% of values less than 8.02251	75% of values less than 10.9177	90% of values less than 14.8752
Minimum 1.78977s than 18.6441	Maximum 349.66	
Mean 9.78418	SD 15.1537	Variance 229.634

Retarded Travel Time to Half way to boundary [years]

05% of values less than 1160.09	10% of values less than 1463.11	25% of values less than 2297.14
50% of values less than 3590.61	75% of values less than 5394.05	90% of values less than 7830.86
Minimum 482.255s than 9738.87	Maximum 111689	
Mean 4681.32	SD 6422.7	Variance 4.12511E+007

1,2-Dichloroethane (1,2-DCA)

Concentration at Half way to boundary [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.00397732	90% of values less than 1.39512
Minimum 0.05 less than 6.80002	Maximum 231.959	
Mean 1.70085	SD 10.5617	Variance 111.55

Dichloromethane (DCM)

Concentration at Half way to boundary [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 1.87057E-007
50% of values less than 0.000468739	75% of values less than 0.0301896	90% of values less than 0.491619
Minimum 0.es less than 2.22626	Maximum 52.5962	
Mean 0.652393	SD 3.73061	Variance 13.9175

TPH Aromatic C10-C12

Concentration at Half way to boundary [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

TPH Aromatic C12-C16

Concentration at Half way to boundary [mg/l] - 40 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0.es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Aquifer Flow [m³/yr]

DiMe Area

05% of values less than 11947.4	10% of values less than 15414.3	25% of values less than 22897.8
50% of values less than 34912.2	75% of values less than 52690.1	90% of values less than 69879.7
Minimum 4169.02s than 78841	Maximum 140636	
Mean 39420.4	SD 21834.3	Variance 4.76738E+008

Project: Controlled Waters Risk Assessment - DiME**Project Number: 5041216**

Project Details

Title: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

Prepared By:

Date: 2010-07-08 15:33:32

Client Name:

Comments:

Consim version 2.05

Simulation Level

Level 3

Simulation Parameters

Iterations 1001

Timeslices:10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 500, 1000

Water Quality Standard

User Defined

Project: Controlled Waters Risk Assessment - DiMe**Project Number: 5041216**

Source

DiMe Area

Dry Bulk Density [g/cm³] SINGLE(1.8)

Air Filled Porosity [fraction] SINGLE(0.1)

Water Filled Porosity [fraction] SINGLE(0.2)

Thickness [m] TRIANGULAR(0.1,1.5,4.8)

Fraction of Organic Carbon [%] UNIFORM(0.01,0.1)

Contaminated Land

Constant Source Term

Overall Unsaturated Zone Thickness [m] TRIANGULAR(6,11.6,19.2)

Infiltration

Infiltration [mm/year] UNIFORM(200,500)

Source Inventory:*1,2-Dichloroethane (1,2-DCA)*

Measured as Leachable Concentrate

Organic

Leachate Concentration [mg/l] UNIFORM(1120,21850)

Dichloromethane (DCM)

Measured as Leachable Concentrate

Organic

Leachate Concentration [mg/l] UNIFORM(1140,9960)

TPH Aromatic C10-C12

Measured as Total Concentration in Soil

Organic

K_{oc} [ml/g] SINGLE(2512)

Henry's Law Constant SINGLE(0.14)

Concentration [mg/kg] SINGLE(1000)

Calculate K_d

Maximum Solubility [mg/l] SINGLE(25)

TPH Aromatic C12-C16

Measured as Total Concentration in Soil

Organic

K_{oc} [ml/g] SINGLE(5012)

Henry's Law Constant SINGLE(0.053)

Concentration [mg/kg] SINGLE(1000)

Calculate K_d

Maximum Solubility [mg/l] SINGLE(5.8)

Unsaturated Pathway: Cohesive Drift

Active

Porous Medium

Thickness [m] TRIANGULAR(6,11.6,19.2)

Dry Bulk Density [g/cm³] SINGLE(1.8)

Vertical Dispersivity [m] TRIANGULAR(0.06,0.116,0.192)

Fraction of Organic Carbon [%] UNIFORM(0.3,2)

Water Filled Porosity [fraction] UNIFORM(0.05,0.3)

Unsaturated Conductivity [m/s] UNIFORM(1e-010,1e-007)

Unsaturated Pathway Contaminants*1,2-Dichloroethane (1,2-DCA)*

koc [ml/g] UNIFORM(11.5,151.4)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] UNIFORM(0.35,0.49)

Dichloromethane (DCM)

koc [ml/g] UNIFORM(8.79,27.54)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] UNIFORM(0.15,0.5)

TPH Aromatic C10-C12

koc [ml/g] SINGLE(2512)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] UNIFORM(2,5)

TPH Aromatic C12-C16

koc [ml/g] SINGLE(5012)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] UNIFORM(3,5)

Project: Controlled Waters Risk Assessment - DiME

Project Number: 5041216

Aquifer Pathway

Thickness [m] SINGLE(50)

Dry Bulk Density [g/cm³] SINGLE(2.2)

Fraction of Organic Carbon [%] UNIFORM(0.007,0.008)

Mixing Zone Thickness [m] UNIFORM(3,6)

Hydraulic Conductivity [m/s] TRIANGULAR(1.16e-006,8.1e-006,2.66e-005)

Effective Porosity [fraction] UNIFORM(0.11,0.136)

Hydraulic Gradient UNIFORM(0.04,0.09)

Groundwater Flow Direction (degrees), 80.00

Longitudinal Dispersivity [m] SINGLE(36)

Lateral Dispersivity [m] SINGLE(3.6)

Contaminant Inventory*1,2-Dichloroethane (1,2-DCA)*

koc [ml/g] UNIFORM(11.5,151.4)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] UNIFORM(0.35,0.49)

Dichloromethane (DCM)

koc [ml/g] UNIFORM(8.79,27.54)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] UNIFORM(0.15,0.5)

TPH Aromatic C10-C12

koc [ml/g] SINGLE(2512)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] SINGLE(2)

TPH Aromatic C12-C16

koc [ml/g] SINGLE(5012)

Calculate kd

Simulate Degradation in Dissolved Phase only

Halflife [years] SINGLE(2)

Receptor

DiMe Area Receptor	X 271664.892583	Y 196143.993074
Site boundary	X 272012.546710	Y 196115.142439
DiMe bedrock	X 271659.112829	Y 196046.550705
Half way to boundary	X 271840.454986	Y 196095.554763

Input Correlations

No Correlations

