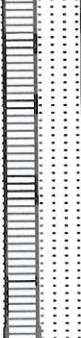
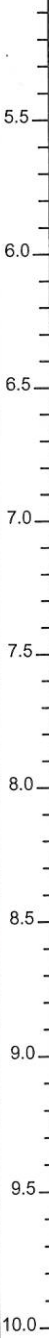


BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: DSB029S1		PAGE 2 of 2	
	NUMBER	TYPE					DRILLING DATES: 24/01/02 - 25/01/02		DRILLING METHODS : Hydraulic Percussive	
							DRILLER : Geotechnical Engineering		BOREHOLE DIAMETER : 125mm	
							LOGGED BY : LT		SCREEN TYPE & DIAM: HDPE 50mm	
							CHECKED BY :		SCREEN SLOT SIZE: 1mm	
	DSB029 5.1m		*102		5.5 6.0		Soft, brown, slightly silty, fine to medium SAND with frequent sub-angular and sub-rounded gravels and cobbles.		COMMENTS	5.5 6.0
	Sand becomes more coarse and dense from 5.5m						Weak to mod. odour	6.5 7.0 7.5 8.0 8.5 9.0 9.5 10.0		
	DSB029 6.5m				6.5 7.0 7.5 8.0 8.5 9.0 9.5 10.0				End of Borehole	

LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence	Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table	Job Title: DiMe Investigation Location: BP Llandarcy Refinery Client: BP Oil Llandarcy Refinery 	
		App'd: Drawn : SS Scale: As scale Drg. Size: A4	Date: 18/09/2002 Ref: Job No: 39991-022 BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: DSB029S2		PAGE 1 of 2	
	NUMBER	TYPE					DRILLING DATES: 24/01/02 - 25/01/02		DRILLING METHODS: Hydraulic Percussive	
							DRILLER : Geotechnical Engineering		BOREHOLE DIAMETER : 125mm	
							LOGGED BY : LT		SCREEN TYPE & DIAM: HDPE 50mm	
							CHECKED BY :		SCREEN SLOT SIZE: 1mm	
							DESCRIPTION	COMMENTS		
	DSB029 3.0m		*1397		0.0		Tarmac (8cm), compact gravel (road chippings) and cobbles	Very strong HC odour. Sheen on arisings	0.0	
							Concrete with wood		0.5	
							Soft, black, stained sandy SILT with cobbles		1.0	
							Soft, brown, slightly silty, fine SAND with frequent medium to coarse gravel and cobbles		1.5	
									2.0	
	DSB029 3.9m		*1301		2.0			Very strong odour	2.0	
			*1620		2.5			Wet	2.5	
			*977		3.0			Cased to 3.0m	3.0	
	DSB029 3.9m		*366		3.5				3.5	
					4.0		Firm, dark brown/grey, slightly sandy SILT with some sub-rounded and sub-angular medium-coarse gravel	Dry/damp. Cased to 4.0m	4.0	
					4.5			Moderate to strong odour	4.5	
					5.0				5.0	

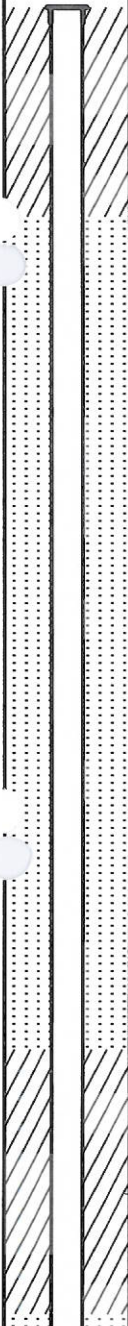
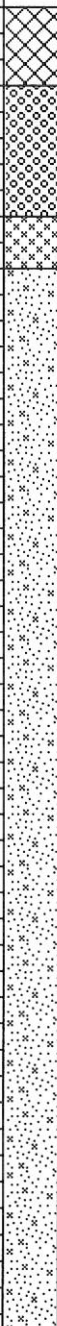
LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence	Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table	Job Title: DiMe Investigation Location: BP Llandarcy Refinery Client: BP Oil Llandarcy Refinery 	
		App'd:	Date: 18/09/2002
		Drawn : SS	Ref:
		Scale: As scale	Job No: 39991-022
		Drg. Size: A4	BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: DSB029S2		PAGE 2 of 2	
	NUMBER	TYPE					DRILLING DATES: 24/01/02 - 25/01/02		DRILLING METHODS : Hydraulic Percussive	
							DRILLER : Geotechnical Engineering		BOREHOLE DIAMETER : 125mm	
							LOGGED BY : LT		SCREEN TYPE & DIAM: HDPE 50mm	
							CHECKED BY :		SCREEN SLOT SIZE: 1mm	
	DSB029 5.1m		*102			Soft, brown, slightly silty, fine to medium SAND with frequent sub-angular and sub-rounded gravels and cobbles. Sand becomes more coarse and dense from 5.5m Very gravelly horizon at 6.2m		COMMENTS Weak to mod. odour		
	DSB029 6.5m									

LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence	 Disturbed Sample  Undisturbed Sample  Headspace Analysis  Down Borehole Analysis  Groundwater Table  Perched Water Table	Job Title: DiMe Investigation Location: BP Llandarcy Refinery Client: BP Oil Llandarcy Refinery 	
		App'd: Drawn : SS Scale: As scale Drg. Size: A4	Date: 18/09/2002 Ref: Job No: 39991-022 BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: DSB030S1		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 14/01/02		DRILLING METHODS : Hydraulic Percussive	
							DRILLER : Geotechnical Engineering		BOREHOLE DIAMETER : 125mm	
							LOGGED BY : PEW		SCREEN TYPE & DIAM: HDPE 50mm	
							CHECKED BY :		SCREEN SLOT SIZE: 1mm	
	DDMW4-3.2m				0.0	Concrete	DESCRIPTION		COMMENTS	0.0
					0.5	Loose, black, fine, flinty gravel with some silty sand.		Wet. Weak odour.	0.5	
					1.0	Soft, pale grey, slightly sandy silt with some orange-brown mottling.		Dry	1.0	
					1.5	Becoming more sandy at 1.0m. Soft brown, fine, slightly silty sand with some sub-rounded cobbles and boulders.		Very strong kerosene/diesel odour starts at 1.0m	1.5	
					2.0			Wet	2.0	
					2.5			Cased to 2.9m	2.5	
					3.0				3.0	
					3.5			Strong kerosene/diesel odour	3.5	
					4.0				4.0	
					4.5				4.5	
5.0				5.0						

LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence	Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table	Job Title: DiMe Investigation Location: BP Llandarcy Refinery Client: BP Oil Llandarcy Refinery	
			App'd: _____ Date: 20/09/2002 Drawn: SS Ref: _____ Scale: As scale Job No: 39991-022 Drg. Size: A4 BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: DSB030S2		PAGE 1 of 2		
	NUMBER	TYPE					DRILLING DATES: 14/01/02		DRILLING METHODS : Hydraulic Percussive		
							DRILLER : Geotechnical Engineering		BOREHOLE DIAMETER : 125mm		
							LOGGED BY : PEW		SCREEN TYPE & DIAM: HDPE 50mm		
							CHECKED BY :		SCREEN SLOT SIZE: 1mm		
							DESCRIPTION	COMMENTS			
			*103 *1702 *2777 *503 DDMW4-3.2m DDMW4-4.2m *7.8		0.0	Concrete	Wet. Weak odour.	0.0			
								Loose, black, fine, flinty gravel with some silty sand.	0.5		
							Soft, pale grey, slightly sandy silt with some orange-brown mottling.	Dry	1.0		
							Becoming more sandy at 1.0m. Soft brown, fine, slightly silty sand with some sub-rounded cobbles and boulders.		1.5		
								Very strong kerosene/diesel odour starts at 1.0m	2.0		
								Wet	2.5		
								Cased to 2.9m	3.0		
								Strong kerosene/diesel odour	3.5		
								Odour stops at 4.3m	4.0		
								Weaker odour	4.5		
									5.0		

LOCATION / NOTES:

NVO = No visual or olfactory evidence

LEGEND

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

BOREHOLE LOG

Job Title: DiMe Investigation

Location: BP Llandarcy Refinery

Client: BP Oil Llandarcy Refinery

URS

App'd: Date: 20/09/2002

Drawn : SS Ref:

Scale: As scale Job No: 39991-022

Drg. Size: A4 BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: DSB030S2		PAGE 2 of 2	
	NUMBER	TYPE					DRILLING DATES: 14/01/02		DRILLING METHODS : Hydraulic Percussive	
							DRILLER : Geotechnical Engineering		BOREHOLE DIAMETER : 125mm	
							LOGGED BY : PEW		SCREEN TYPE & DIAM: HDPE 50mm	
							CHECKED BY :		SCREEN SLOT SIZE: 1mm	
	DDMW4-5.7m		*15.3		5.5				COMMENTS No odour at 5.7m. Dry	5.5
					6.0		Firm, brown, sandy silt with occasional sub-rounded & rounded coarse gravel and cobbles. Borehole terminated at 6.45m, collapsed to 6.2m.			6.0
	DDMW4-6.3m		*0.0		6.5	End of Borehole		6.5		
					7.0			7.0		
					7.5					7.5
					8.0					8.0
					8.5					8.5
					9.0					9.0
					9.5					9.5
					10.0					10.0

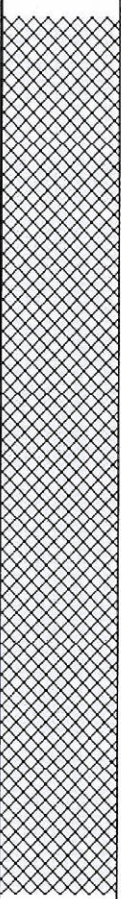
LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence	Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table	Job Title: DiMe Investigation Location: BP Llandarcy Refinery Client: BP Oil Llandarcy Refinery	
			App'd: _____ Date: 20/09/2002 Drawn : SS Ref: _____ Scale: As scale Job No: 39991-022 Drg. Size: A4 BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: WSMW060 (PIT)		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 27/11/03		DRILLING METHODS : JCB	
							DRILLER : JCB-Viv		BOREHOLE DIAMETER : -	
							LOGGED BY : EM		SCREEN TYPE & DIAM: -	
							CHECKED BY : SG		SCREEN SLOT SIZE: -	
	WSMW060 - 0.5m. (S,L,2xP)				0.0		DESCRIPTION		COMMENTS	S,V
					Loose, dark brown, slag gravels with silt and fine sand, with red brick fragments and brick dust. (MADE GROUND)		Damp. NVO Brick layer in places	0,0		
					Concrete hardstanding. (MADE GROUND)					
					Soft to firm, silty sandy clay with frequent fine to coarse gravels, subangular to subround cobbles and occasional boulders. (MADE GROUND)		Damp. NVO. Water seepage at 0.9m.	0,0		
					Grading to soft, dark brown, silty clay with frequent fine to coarse gravels, occasional subangular to subrounded cobbles and boulders, occasional tabular cobbles and boulders. (MADE GROUND)					
	WSMW060 - 2.5m (S,L)					1.0			Moist. NVO	0,0
						1.5			Moist. NVO	0,0
						2.0		Becoming very soft, with occasional grey and orange mottling.	Moist. NVO	0,0
						2.5		Becoming dark grey brown with frequent rounded cobbles.	Moist. NVO	0,0
						Trial pit terminated at 2.6m due refusal at concrete.		Moist. NVO		
		3.0								
		3.5								
		4.0								
		4.5								
		5.0								

LOCATION / NOTES:		LEGEND		BOREHOLE LOG	
NVO = No visual or olfactory evidence of contamination S,V = Contamination Observations S - Odour score (0-5) V - Visual score (0-5)		Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table		Job Title: BP Llandarcy Whole Site Investigation Location: BP Llandarcy Refinery Client: BP/WDA	
		URS		App'd:	Date: December 2003
				Drawn : EM	Ref:
				Scale: As Scale	Job No: 39991-044
				Drg. Size: A4	BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: WSMW061 (PIT)		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 05/12/03		DRILLING METHODS : JCB	
							DRILLER : JCB-Viv		BOREHOLE DIAMETER : -	
							LOGGED BY : EM		SCREEN TYPE & DIAM: -	
							CHECKED BY : SG		SCREEN SLOT SIZE: -	
DESCRIPTION		COMMENTS	S,V							
	WSMW061 - 0.6m. (S,L,P)		*63.4	0.0	Tarmac hardstanding. (MADE GROUND)	Damp. NVO	0,0			
				0.5	Loose, dark red, silty sandy gravel with frequent cobbles, brick fragments and entire bricks. (MADE GROUND)	Damp. Faint hydrocarbon odour	1,3			
				1.0	Soft, black, slightly sandy SILT with patches of unstained grey brown silt. Occasional fine to coarse gravels, subrounded to rounded cobbles and boulders.	Damp. Faint hydrocarbon odour and moderate staining	1,3			
				1.5	With mottling of yellow brown unstained silt. Grading to grey in colour with yellow brown mottling.	Damp. Slight hydrocarbon odour and moderate staining	2,3			
				2.0	Becoming silty CLAY.	Damp. Faint hydrocarbon odour and slight staining	1,2			
	WSMW061 - 3.0m. (S,L)		*87.1	2.5	With increasing angular, subangular and tabular cobbles and boulders of sandstone from 1.8m.	Moist due to seepage from 0.3m	1,2			
				3.0	Soft to firm, dark grey, sandy SILT with frequent fine to coarse gravel, rounded to subrounded cobbles and boulders.	Moist. Faint hydrocarbon odour and staining	3,2			
				3.5	With small patches of yellow brown discolouration.	Moderate light hydrocarbon odour and staining				
				4.0	With increasing frequency of yellow brown mottling. Frequent large round boulders within clay.					
				4.5	Tial pit terminated at 3.4m due to refusal.					
				5.0						

LOCATION / NOTES:		LEGEND		BOREHOLE LOG	
NVO = No visual or olfactory evidence of contamination		 Disturbed Sample		Job Title: BP Llandarcy Whole Site Investigation	
S,V = Contamination Observations		 Undisturbed Sample		Location: BP Llandarcy Refinery	
S - Odour score (0-5)		 Headspace Analysis		Client: BP/WDA	
V - Visual score (0-5)		 Down Borehole Analysis			
		 Groundwater Table		App'd: _____ Date: December 2003	
		 Perched Water Table		Drawn: EM Ref: _____	
				Scale: As Scale Job No: 39991-044	
				Drg. Size: A4 BOREHOLE LOG	

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: WSMW062 (PIT)		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 6/11/03		DRILLING METHODS: JCB	
							DRILLER: JCB		BOREHOLE DIAMETER: -	
							LOGGED BY: CM		SCREEN TYPE & DIAM: -	
				CHECKED BY: SG		SCREEN SLOT SIZE: -				
	WSMW062 - 0.8m (S,L)		*4.7		0.0		DESCRIPTION		COMMENTS	S,V
							Tarmac hardstanding (MADE GROUND)			
							Loose grey brown slightly silty fine to coarse sand and angular to subrounded fine to coarse gravel. (MADE GROUND)		Dry	0,0
							Compact, firm, orange brown slightly gravelly, fine, sandy SILT. Gravel is angular to subrounded fine to coarse and of sandstone.			
							Medium dense brown slightly silty sandy subangular to rounded fine to coarse GRAVEL of sandstone with occasional cobbles and rare boulders.		Dry	0,0
							With frequent cobbles and boulders.		Dry	0,0
							Becoming grey.		Dry - damp	3,1
	WSMW062 - 3.2m-3.3m (PSD)		*570		3.0				Damp	3,1
	WSMW062 - 3.5m (S,L)		*422		3.5		Trial pit terminated at 3.5m due to refusal.			3,1
					4.0					
					4.5					
					5.0					

LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence of contamination S,V = Contamination Observations S - Odour score (0-5) V - Visual score (0-5)	 Disturbed Sample  Undisturbed Sample  Headspace Analysis  Down Borehole Analysis  Groundwater Table  Perched Water Table	Job Title: BP Llandarcy Whole Site Investigation Location: BP Llandarcy Refinery Client: BP/WDA 	
		App'd:	Date: November 2003
		Drawn: CM	Ref:
		Scale: As scale	Job No: 39991-044-785
		Drg. Size: A4	BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: WSMW063 (PIT)		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 12/11/03		DRILLING METHODS : JCB	
							DRILLER : JCB		BOREHOLE DIAMETER : -	
							LOGGED BY : CM		SCREEN TYPE & DIAM: -	
							CHECKED BY : SG		SCREEN SLOT SIZE: -	
							DESCRIPTION	COMMENTS	S,V	
	WSMW063 - 0.6m (S,L)		*0.3		0.0		Grass over;	Dry	0,0	
							Loose brown silty gravelly fine sand with occasional bricks and cobble to boulder size concrete. Gravel is subangular to subrounded fine to coarse fragments of sandstone and concrete.	Dry	0,0	
							(MADE GROUND)	Dry	0,0	
							Concrete hardsanding. (MADE GROUND)	Dry	0,0	
							Loose brown (locally light) slightly silty, slightly gravelly fine sand with occasional bricks and cobble to boulder size concrete fragments. Gravel is subangular to subrounded fine to coarse of sandstone and concrete. (MADE GROUND)	Dry	0,0	
			*0.6		1.0		Dark brown with rare cobbles from 1.2m. Brick wall at 1.6m.	Dry Sides frequently collapsing from surface	0,0	
			*1.6		1.5			Dry	0,0	
	WSMW063 - 2.0m (S,L)				2.0		Trial pit terminated at 2.2m due to refusal.	Dry Slow seepage	1,0	
					2.5					
					3.0					
					3.5					
					4.0					
					4.5					
					5.0					

LOCATION / NOTES:

NVO = No visual or olfactory evidence of contamination
 S,V = Contamination Observations
 S - Odour score (0-5)
 V - Visual score (0-5)

LEGEND

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

BOREHOLE LOG

Job Title: BP Llandarcy Whole Site Investigation

Location: BP Llandarcy Refinery

Client: BP/WDA

App'd: _____ Date: November 2003

Drawn : CM Ref: _____

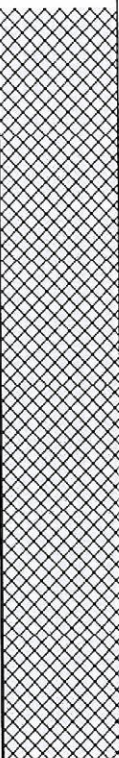
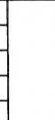
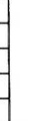
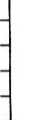
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Drg. Size: A4 BOREHOLE LOG

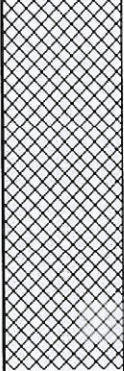
BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: WSMW065 (PIT)		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 26/11/03		DRILLING METHODS: JCB	
							DRILLER: JCB-Will		BOREHOLE DIAMETER: -	
							LOGGED BY: EM		SCREEN TYPE & DIAM: -	
							CHECKED BY: SG		SCREEN SLOT SIZE: -	
DESCRIPTION		COMMENTS	S,V							
	WSMW065 - 0.3m. (P)	*246	0.0	Loose, light brown, fine to medium sand with silt and clay. Frequent fine to coarse gravels. (MADE GROUND)	Damp. NVO	0,0				
	WSMW065 - 0.5m. (S,L)		0.5	Loose, black, fine to coarse sand comprising ash (MADE GROUND)	Damp. NVO	0,0				
	WSMW065 - 1.0m. (S,L)	*344	1.0	Firm, light grey to light brown, fine sandy SILT with occasional fine to coarse gravel. Occasional subangular cobbles.	Damp to dry. Strong hydrocarbon odour and staining	4,3				
	DUPLICATE (S,L)		1.5	With frequent subangular cobbles	With occasional black hydrocarbon staining from 1.0m.	4,3				
		*246	2.0	Trial pit terminated at 1.8m due to refusal.	Damp to dry. Strong hydrocarbon odour and moderate staining	4,3				
LOCATION / NOTES:		LEGEND		BOREHOLE LOG						
NVO = No visual or olfactory evidence of contamination S,V = Contamination Observations S - Odour score (0-5) V - Visual score (0-5)		 Disturbed Sample  Undisturbed Sample  Headspace Analysis  Down Borehole Analysis  Groundwater Table  Perched Water Table		Job Title: BP Llandarcy Whole Site Investigation Location: BP Llandarcy Refinery Client: BP/WDA 						
				App'd: _____ Date: December 2003 Drawn: EM Ref: _____ Scale: As Scale Job No: 39991-044 Drg. Size: A4 BOREHOLE LOG						

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: WSMW072(PIT)		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 13/11/03		DRILLING METHODS : JCB	
							DRILLER : JCB		BOREHOLE DIAMETER : -	
							LOGGED BY : HM		SCREEN TYPE & DIAM: -	
							CHECKED BY : SG		SCREEN SLOT SIZE: -	
							DESCRIPTION	COMMENTS	S,V	
	WSMW072 - 0.3M (2xP)		*7.2		0.0		Loose, very silty sand and gravel, abundant subangular brick and cobbles. (MADE GROUND)	NVO, dry.	0,0	
	WSMW072 - 0.5m (S,L)				0.5		Soft to firm, brown clayey SILT with occasional fine to coarse gravel and occasional subrounded sandstone cobbles.	Wet, oily sheen to soil.	1,4	
					1.0			Stained grey, damp.	1,5	
					1.5		Grading to soft to firm, grey brown, slightly sandy SILT with some fine to coarse gravel, with occasional subangular to subrounded sandstone cobbles.	Patchy black staining. Slow seepage of black tarry oily product.	2,2	
					2.0		Frequent subangular to subrounded sandstone cobbles, with occasional subangular to rounded boulders.	Dry, staining as above.	3,3	
					2.5		Loose to medium dense, dark grey silty SAND with abundant fine to coarse gravel, subangular to subrounded cobbles and occasional subrounded to rounded boulders.	Black, dark grey, damp.		
					3.0		Increasing fine to coarse GRAVEL, abundant subrounded to rounded cobbles and occasional sandstone boulders. Very little sandy silt in the gravel.	Wet with slight sheen.	3,4	
					3.5			Very wet.	3,4	
					4.0		Trial pit terminated at 4.0m due to refusal.			
		WSMW072 - 4.0m (S,L)		*159						

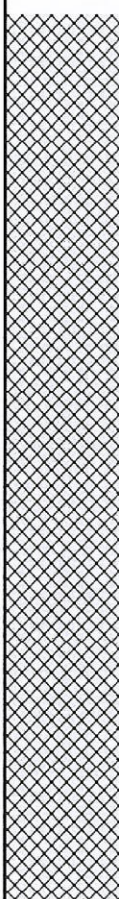
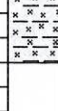
LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence of contamination S,V = Contamination Observations S - Odour score (0-5) V - Visual score (0-5)	Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table	Job Title: BP Llandarcy Whole Site Investigation Location: BP Llandarcy Refinery Client: BP/WDA 	
		App'd:	Date: November 2003
		Drawn : HM	Ref:
		Scale: As scale	Job No: 39991-044-785
		Drp. Size: A4	BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: WSMW074 (PIT)		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 27/11/03		DRILLING METHODS : JCB	
							DRILLER : JCB		BOREHOLE DIAMETER : -	
							LOGGED BY : HM		SCREEN TYPE & DIAM: -	
							CHECKED BY : SG		SCREEN SLOT SIZE: -	
							DESCRIPTION	COMMENTS	S,V	
	WSMW074 - 0.3m (P)		*2.3		0.0		Loose, black to brown sand with abundant tarmac gravel, bricks, concrete, tiles and ash. (MADE GROUND)	NVO, damp-wet. Potential asbestos. Damp	0,0 0,0	
	WSMW074 - 0.95m (S,L)		*10.5		0.5		Firm, slightly sandy SILT with occasional fine to coarse gravel.	Damp. Clay pipe at 0.7m.		
			*8.7		1.0		Soft, compact, mottled blue, grey and brown clayey SILT.	Blue grey staining, moderate mid to light hydrocarbon odour, damp. Cable at 1.0m.	4,4	
	WSMW074 - 2.0m (S,L)		*22.2		1.5		With increasing angular to subangular sandstone cobbles.	12" pipe.	4,4	
			*15.5		2.0			Blue grey staining, becoming wetter. Sheen in wet areas with strong odour of heavy hydrocarbon. Seepage at 2.1m of product.	4,5	
			*12.3		2.5		Trial pit terminated at 3.0m due to refusal.	Less blue, more grey staining.	3,5	
					3.0					
					3.5					
					4.0					
					4.5					
					5.0					

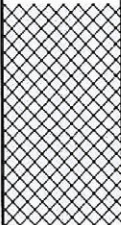
LOCATION / NOTES:		LEGEND		BOREHOLE LOG	
NVO = No visual or olfactory evidence of contamination S,V = Contamination Observations S - Odour score (0-5) V - Visual score (0-5)			Disturbed Sample	Job Title: BP Llandarcy Whole Site Investigation	
			Undisturbed Sample	Location: BP Llandarcy Refinery	
			Headspace Analysis	Client: BP/WDA	
			Down Borehole Analysis		
			Groundwater Table		
			Perched Water Table	App'd:	Date: December 2003
				Drawn : HM	Ref:
				Scale: As scale	Job No: 39991-044-785
				Drg. Size: A4	BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: WSMW075 (PIT)		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 08/12/03		DRILLING METHODS : JCB	
							DRILLER : JCB-Viv		BOREHOLE DIAMETER : -	
							LOGGED BY : EM		SCREEN TYPE & DIAM: -	
							CHECKED BY : SG		SCREEN SLOT SIZE: -	
							DESCRIPTION	COMMENTS	S,V	
	WSMW075 - 0.5m (S,L,P)		*1.4	0.0		Loose, dark brown, fine sandy silt with abundant coarse gravel. (MADE GROUND)	Dry. NVO	0,0		
				0.5		Loose, dark brown, coarse gravel with occasional silt and sand, brick fragments, entire bricks and wood. (MADE GROUND)	Damp. Faint hydrocarbon odour	1,0		
				1.0			Saturated. Faint hydrocarbon odour and moderate staining	1,3		
	WSMW075 - 1.3m (S,L)		*13.8	1.5		Soft, dark grey to brown (with occasional black mottling) silty CLAY.	Moist. Faint hydrocarbon odour and small patches of staining	1,2		
				1.5		Trial pit terminated at 1.5m due to collapse.	Rapid inflow of water at base causing trial pit to collapse.			
				2.0						
				2.5						
				3.0						
				3.5						
				4.0						
				4.5						
				5.0						

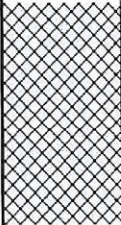
LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence of contamination S,V = Contamination Observations S - Odour score (0-5) V - Visual score (0-5)	 Disturbed Sample  Undisturbed Sample  Headspace Analysis  Down Borehole Analysis  Groundwater Table  Perched Water Table	Job Title: BP Llandarcy Whole Site Investigation Location: BP Llandarcy Refinery Client: BP/WDA 	
		App'd:	Date: December 2003
		Drawn : EM	Ref:
		Scale: As Scale	Job No: 39991-044
		Drg. Size: A4	BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: WSMW076 (PIT)		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 26/11/2003		DRILLING METHODS : JCB	
							DRILLER : JCB		BOREHOLE DIAMETER : -	
							LOGGED BY : OG		SCREEN TYPE & DIAM: -	
							CHECKED BY : SG		SCREEN SLOT SIZE: -	
DESCRIPTION		COMMENTS	S,V							
	WSMW076 - 0.6m (S,L,2xP)		*0.6		0.0		Soft, light brown clay with occasional angular to subangular gravel to cobbles and frequent rootlets. (MADE GROUND)		Grass at surface	0,0
					0.5		Loose, 90% black fine to coarse sand sized ash, occasional gravel sized brick, occasional whole bricks and fragments of clay pipe. (MADE GROUND)		Damp, nvo	
					1.0		Soft, light brown clay with occasional patches of firm light brown, orange to grey clayey silt with occasional subangular gravel. (MADE GROUND)		Damp	2,1
					1.5		With frequent angular sandstone cobbles and small to medium boulders from 1.0m. (MADE GROUND)		White, crystalline proces waste (isolated)	1,0
	WSMW076 - 0.95m (PROCESS WASTE)		*1.8		2.0		As above with whole bricks to 1.5m.		3" pipe running length of pit. Colour change from brown to grey at 1.4m on west side, brick wall on East side	0,0
					2.5		Soft, light brown fine sandy silty CLAY, occasional subangular to subrounded small grey to brown boulders.		Steady water ingress at 1.65m, brown with slight froth.	
					3.0				Faint hydrocarbon odour	3,3
					3.5		With frequent angular cobbles to boulders from 3.5m.		Strong hydrocarbon odour	4,4
	WSMW076 - 3.2m (S,L)		*226		4.0		Trial pit terminated at 3.6m due to refusal.			
					4.5					
						5.0				

LOCATION / NOTES:		LEGEND		BOREHOLE LOG	
NVO = No visual or olfactory evidence of contamination S,V = Contamination Observations S - Odour score (0-5) V - Visual score (0-5)		 Disturbed Sample  Undisturbed Sample  Headspace Analysis  Down Borehole Analysis  Groundwater Table Perched Water Table		Job Title: BP Llandarcy Whole Site Investigation Location: BP Llandarcy Refinery Client: BP/WDA	
				App'd:	Date: February 2004
				Drawn : HM	Ref:
				Scale: As scale	Job No: 39991-044-785
				Drg. Size: A4	BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: WSMW077 (PIT)		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 03/12/03		DRILLING METHODS : JCB	
							DRILLER : JCB-Viv		BOREHOLE DIAMETER : -	
							LOGGED BY : EM		SCREEN TYPE & DIAM: -	
							CHECKED BY : SG		SCREEN SLOT SIZE: -	
							DESCRIPTION	COMMENTS	S,V	
					0.0		Soft, brown, silt with abundant rootlets. (MADE GROUND)	Damp. NVO	0,0	
	WSMW077 - 0.5m. (S,L,2xP)		*3.8		0.5		Soft, dark brown, fine sandy silt with frequent fine to coarse gravels, subangular cobbles and boulders. Occasional tabular boulders. (MADE GROUND)	Damp. NVO	0,0	
	WSMW077 - 0.8m. (S,L)		*3.5		1.0		Soft to firm, brown, silty clay with occasional fine to coarse gravels, subangular cobbles and boulders. (MADE GROUND)	Damp. NVO	0,0	
					1.5		Trial pit terminated at 0.9m due to refusal on concrete.			
					2.0					
					2.5					
					3.0					
					3.5					
					4.0					
					4.5					
					5.0					

LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence of contamination S,V = Contamination Observations S - Odour score (0-5) V - Visual score (0-5)	 Disturbed Sample  Undisturbed Sample  Headspace Analysis  Down Borehole Analysis  Groundwater Table  Perched Water Table	Job Title: BP Llandarcy Whole Site Investigation Location: BP Llandarcy Refinery Client: BP/WDA 	
		App'd:	Date: December 2003
		Drawn : EM	Ref:
		Scale: As Scale	Job No: 39991-044
		Drg. Size: A4	BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: WSMW078 (PIT)		PAGE 1 of 1										
	NUMBER	TYPE					DRILLING DATES: 03/12/03		DRILLING METHODS: JCB										
							DRILLER: JCB-Viv		BOREHOLE DIAMETER: -										
							LOGGED BY: EM		SCREEN TYPE & DIAM: -										
							CHECKED BY: SG		SCREEN SLOT SIZE: -										
							DESCRIPTION		COMMENTS	S,V									
	WSMW078 - 0.7m (S,L)		*4.6		0.0		Loose, dark brown, fine to medium sand with occasional fine to coarse gravels, subangular and subrounded cobbles, boulders, occasional red and beige brick fragments and entire bricks. (MADE GROUND)		Damp. NVO	0,0									
							Trial pit terminated at 0.9m due to refusal.												
					0.5														
					1.0														
					1.5														
					2.0														
					2.5														
					3.0														
					3.5														
					4.0														
					4.5														
					5.0														
LOCATION / NOTES: NVO = No visual or olfactory evidence Trial Pit moved to WSMW078a						LEGEND  Disturbed Sample  Undisturbed Sample  Headspace Analysis  Down Borehole Analysis  Groundwater Table  Perched Water Table			BOREHOLE LOG Job Title: BP Llandarcy Whole Site Investigation Location: BP Llandarcy Refinery Client: BP/WDA  <table border="1"> <tr> <td>App'd:</td> <td>Date: December 2003</td> </tr> <tr> <td>Drawn: EM</td> <td>Ref:</td> </tr> <tr> <td>Scale: As Scale</td> <td>Job No: 39991-044</td> </tr> <tr> <td>Drg. Size: A4</td> <td>BOREHOLE LOG</td> </tr> </table>			App'd:	Date: December 2003	Drawn: EM	Ref:	Scale: As Scale	Job No: 39991-044	Drg. Size: A4	BOREHOLE LOG
App'd:	Date: December 2003																		
Drawn: EM	Ref:																		
Scale: As Scale	Job No: 39991-044																		
Drg. Size: A4	BOREHOLE LOG																		

Shallow Borehole Construction	Deep Borehole Construction	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: WSMW001		PAGE 2 of 2			
		NUMBER	TYPE					DRILLING DATES: 16/1/2004	DRILLING METHODS: Beretta - various	DRILLER: APEX - Rhymal	BOREHOLE DIAMETER: 100-115mm	LOGGED BY: HM	SCREEN TYPE & DIAM: 50mm HDPE
										COMMENTS	S,V		
						5.5							
						6.0							
						6.5							
						7.0							
						7.5							
						8.0							
						8.5							
						9.0							
						9.5							
						10.0							
LOCATION / NOTES: NVO = No visual or olfactory evidence of contamination S,V = Contamination Observations S - Odour score (0-5) V - Visual score (0-5)								LEGEND  Disturbed Sample  Undisturbed Sample  Headspace Analysis  Down Borehole Analysis  Groundwater Table  Perched Water Table		BOREHOLE LOG Job Title: BP Llandarcy Whole Site Investigation Location: BP Llandarcy Refinery Client: BP/WDA 		App'd: _____ Date: February 2004 Drawn: CM Ref: _____ Scale: As scale Job No: 39991-044-785 Drg. Size: A4 BOREHOLE LOG	

Shallow Borehole Construction	Deep Borehole Construction	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: WSMW001		PAGE 1 of 2	
		NUMBER	TYPE					DRILLING DATES: 16/1/2004		DRILLING METHODS: Beretta - various	
								DRILLER: APEX - Rhymal		BOREHOLE DIAMETER: 100-115mm	
								LOGGED BY: HM		SCREEN TYPE & DIAM: 50mm HDPE	
				CHECKED BY: SG		SCREEN SLOT SIZE: 1mm					
								DESCRIPTION	COMMENTS	S,V	
								Loose, brown, fine to coarse sand with some fine to coarse gravel. (MADE GROUND)	Wet		
								Sand becoming cohesive, fairly dense. Chippings becoming silvery and gravelly, with spent coke.	Black hydrocarbon staining and heavy odour, ODEX and casing. Oily sheen and some brown FP. Wet, moderate odour		
								Sands and gravel becoming darker brown in colour.	Damp		
								Soft to fine brown SILT with occasional fine to coarse gravel.			
								Stiff to firm, blue grey with mottled orange/brown/red fine to medium very sandy CLAY with occasional coarse subangular to rounded gravel and frequent subangular to subrounded cobbles.	Percussive and then ODEX and casing. Slight odour, grey/red staining, damp.		

LOCATION / NOTES:

NVO = No visual or olfactory evidence of contamination
S,V = Contamination Observations
S - Odour score (0-5)
V - Visual score (0-5)

LEGEND

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

BOREHOLE LOG

Job Title: BP Llandarcy Whole Site Investigation
Location: BP Llandarcy Refinery
Client: BP/WDA

App'd:	Date: February 2004
Drawn: CM	Ref:
Scale: As scale	Job No: 39991-044-785
Dwg. Size: A4	BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: P1BH016		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 5/2/03		DRILLING METHODS : Percussive	
							DRILLER : APEX - Terry		BOREHOLE DIAMETER : 100mm	
							LOGGED BY : TRR		SCREEN TYPE & DIAM: 50mm uPVC	
							CHECKED BY : LT		SCREEN SLOT SIZE: 1mm	
							DESCRIPTION	COMMENTS		
	P1BH016 - 1.2 - 1.3m	*18	*68.1	*330	*33.9	*34.8	0.0	Loose, dark grey-grey, angular to sub-angular, medium to coarse gravel	NVO	0,0
							0.5	Loose, dark brown-black, sandy, angular gravel with black ash and fragments of brick and concrete predominantly black-brown ash from 0.5m	NVO, moist	0,0
							1.0	with occasional, angular gravel from 1.1m	Black staining and strong H/C odour	0,0
							1.5	Soft, dark brown, organic-rich, clayey silt / silty clay.	Wet at 1.2m	3,4
							2.0		Feint H/C odour, moist	1,0
							2.5	Firm to stiff, grey-pale brown, slightly sandy, clayey silt, with some roots and rare orange mottling.	Cased to 2.5m due to water ingress from above.	2,0
							3.0			1,0
							3.5			0,0
							4.0	Terminated at 4.0m		
							4.5			
5.0										

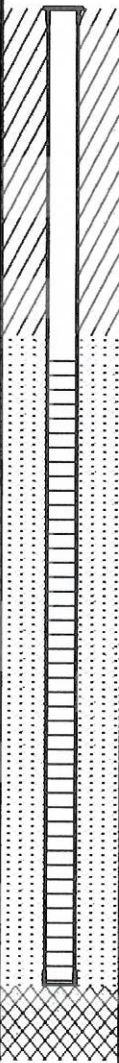
LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence H/C = Hydrocarbon	Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table	Job Title: Phase 1 Investigation Works Location: BP Llandarcy Refinery, Neath Client: BP/WDA	
4,2 = Scoring for (odour, visual) contamination			App'd: LT Date: February 2003 Drawn : ABB Ref: Scale: Job No: 39991-035-785 Drg. Size: BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: P1BH017		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 5/2/03		DRILLING METHODS : Percussive / AF	
							DRILLER : APEX - Terry		BOREHOLE DIAMETER : 100mm	
							LOGGED BY : TRR		SCREEN TYPE & DIAM: 50mm uPVC	
							CHECKED BY : LT		SCREEN SLOT SIZE: 1mm	
DESCRIPTION		COMMENTS								
	P1BH017 - 0.8 - 0.9m		*0.8	Medium dense, pale grey-brown, crushed concrete and angular ballast gravel with cobbles of hardcore.	NVO, moist	0,0				
			*14.6	Concrete	Black staining & heavy H/C odour from 0.3m	3,4				
			*337	Medium dense, pale grey-brown, crushed concrete and angular ballast gravel with cobbles of hardstanding	AF 0.4 - 0.6m NVO, wet	0,0				
			*211	Loose, black, gravelly sand of ash with fine to coarse sand	Black staining and strong H/C odour from 0.75m	3,4				
			*94	Firm, mottled grey and orange, clayey silt with some roots	Some staining and H/C odour	3,3				
			*108	Soft to firm, grey-brown, silty, slightly clayey, fine to medium sand	Moderate staining and H/C odour	3,2				
	P1BH017 - 2.6 - 2.7m			changing to clayey sand at 1.6m	Sample loss from tube. Sandy - BH collapsing	3,2				
				Medium dense, grey, clayey, fine to medium, sandy, rounded gravel (<40mm) with occasional orange mottling	Casing installed to 2.5m	3,2				
					Moist-wet					
					AF 3.0 - 4.0m	3,2				
			Terminated at 4.0m		3,2					

LOCATION / NOTES:		LEGEND		BOREHOLE LOG	
NVO = No visual or olfactory evidence H/C = Hydrocarbon 4,2 = Scoring for (odour, visual) contamination		Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table		Job Title: Phase 1 Investigation Works Location: BP Llandarcy Refinery, Neath Client: BP/WDA	
				App'd:	Date: February 2003
				Drawn : ABB	Ref:
				Scale:	Job No: 39991-035-785
				Drg. Size:	BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: P1BH018		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 5/2/03		DRILLING METHODS : Percussive / AF	
							DRILLER : APEX - Terry		BOREHOLE DIAMETER : 100mm	
							LOGGED BY : TRR		SCREEN TYPE & DIAM: 50mm uPVC	
							CHECKED BY : LT		SCREEN SLOT SIZE: 1mm	
	P1BH018 - 2.0 - 2.3m		*14.9	0.0	Tarmacadam hardstand	AF 0.0 - 0.2m	0,0			
			0.5	Loose, grey, fine to coarse, sub-angular to angular gravel with some fine to coarse sand	Moist	0,0				
			*16.4	Concrete rubble		0,0				
			*420	Loose, brown-black, sandy, angular gravel.		1,1				
			*396	Soft to firm, dark brown-dark grey, sandy silt with some orange-brown mottling and rare rounded gravel	Black staining, some H/C odour, wet from 0.8m	3,4				
			*455	becoming clayey silt at 1.3m	Moderate odour and black staining	3,3				
				increasing fine sand from 1.5	Casing driven to 1.6m	3,3				
			2.0	Soft, dark grey and black, silty, clay with rare fine sand	Black staining, strong H/C odour, wet	4,4				
			2.5							
			3.0	Loose to medium dense, brown-dark grey silty sand	Wet, sand collapsing in hole	3,3				
3.5		No sample retrieved								
4.0	Terminated at 4.0m									
4.5										
5.0										

LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence H/C = Hydrocarbon 4,2 = Scoring for (odour, visual) contamination	Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table	Job Title: Phase 1 Investigation Works Location: BP Llandarcy Refinery, Neath Client: BP/WDA 	
		App'd:	Date: February 2003
		Drawn : ABB	Ref:
		Scale:	Job No: 39991-035-785
		Drg. Size:	BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: P1BH019		PAGE 1 of 1		
	NUMBER	TYPE					DRILLING DATES: 4/2/03		DRILLING METHODS : Percussive		
							DRILLER : APEX - Terry		BOREHOLE DIAMETER : 100mm		
							LOGGED BY : TRR		SCREEN TYPE & DIAM: 50mm uPVC		
							CHECKED BY : LT		SCREEN SLOT SIZE: 1mm		
							DESCRIPTION		COMMENTS		
		*0.2					0.0	Medium dense to dense, grey, crushed concrete and angular gravel ballast with some sand	Moist		
							0.5	Medium dense, dark grey-black-brown, sandy, silty, angular gravel and brick fragments	NVO, wet. Sheen on water	3,4	
		*272						Firm, grey-brown, sandy, clayey silt with occasional roots and orange mottling	Black staining and H/C odour	3,2	
		*592					1.0				
		*839						Soft to firm, dark grey-black, clayey silt	Strong, (light) H/C odour, moist-wet	4,2	
		*34					1.5	becoming pale grey at 1.3m becoming sandy at 1.4m	Wet	2,1	
		*13.6					2.0	Loose to dense, grey-dark grey, silty sand	Moist-wet	1,0	
								grading to soft to firm, grey, sandy clay with roots	NVO, wet-saturated	0,0	
							2.5			0,0	
		*1.6					3.0	becoming clayey, fine sand more sandy horizons from 2.8 to 4.1m	NVO. Wet.	0,0	
										0,0	
							3.5	with increasing rounded, coarse gravel and cobbles from 3.5m	NVO	0,0	
							4.0	with occasional weathered sandstone fragments from 4.1m Terminated at 4.2m	NVO	0,0	
LOCATION / NOTES:							LEGEND		BOREHOLE LOG		
NVO = No visual or olfactory evidence H/C = Hydrocarbon 4,2 = Scoring for (odour, visual) contamination							Disturbed Sample		Job Title: Phase 1 Investigation Works		
							Undisturbed Sample		Location: BP Llandarcy Refinery, Neath		
							Headspace Analysis		Client: BP/WDA		
							Down Borehole Analysis				
							Groundwater Table				
							Perched Water Table		App'd:	Date: February 2003	
									Drawn : ABB	Ref:	
									Scale:	Job No: 39991-035-785	
									Drg. Size:	BOREHOLE LOG	

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: P1BH022 (+ PIT)		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 7/2/03		DRILLING METHODS: Perc + DTH	
							DRILLER: APEX - Terry		BOREHOLE DIAMETER: 100mm	
							LOGGED BY: TRR		SCREEN TYPE & DIAM: 50mm uPVC	
							CHECKED BY: TR		SCREEN SLOT SIZE: 1mm	
	P1BH022 - 0.2 - 0.4m	X	*0		0.0	Loose to firm, brown-orange and grey, silty, sand, occasional, angular gravel and some orange mottling	NVO, moist	0,0		
	P1BH022 - 0.4 - 0.5m	X	*0		0.5	Firm, grey-black, clayey, fine to medium sand with rare black charcoal/organic-rich material	NVO, moist	0,0		
	P1BH022 - 1.0 - 1.1m	X	*0		1.0	Firm, pale brown-grey, clayey, fine sand with occasional rounded to sub-angular, sandstone gravel	NVO, moist	0,0		
						Medium dense to hard, pale brown-grey mottled orange, medium sandstone gravel with sandy clay matrix.	NVO, moist	0,0		
						Weak-hard, pale grey, weathered, fine grained sandstone with some iron staining				
						Interbedded with some dark grey bands and more weathered fracture zones around 2.5m	Possible moist fracture	2,1		
			*65		3.5				3,1	
			*105		4.5					
					5.5	Terminated at 5.6m				
					6.0					

LOCATION / NOTES:

NVO = No visual or olfactory evidence
H/C = Hydrocarbon

4,2 = Scoring for (odour, visual) contamination

LEGEND

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

BOREHOLE LOG

Job Title: Phase 1 Investigation Works
Location: BP Llandarcy Refinery, Neath
Client: BP/WDA

App'd:	Date: February 2003
Drawn: ABB	Ref:
Scale:	Job No: 39991-035-785
Drg. Size:	BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW066D2		PAGE 1 of 4	
	NUMBER	TYPE					START DATE: 17/5/99		DRILLING METHOD: ROTARY AIR FLUSH	
							FINISH DATE: 17/5/99		BOREHOLE DIAMETER: 200 mm	
							DRILLER: R4		SCREEN TYPE & DIAMETER: 50 mm Polypropylene	
LOGGED BY: PW		APPRD BY:		SCREEN SLOT SIZE: 0.5 mm						
							DESCRIPTION	COMMENTS		
							Very loose coarse angular GRAVEL with clinker (MADE GROUND)	Strong hydrocarbon odour Poor returns	0	
							Loose light grey sandy GRAVEL		1.0	
								2.0		
								3.0		
								4.0		
							Loose dark grey very silty CLAY with frequent rounded cobbles (BOULDER CLAY)	Strong hydrocarbon odour and dark staining Damp from 5.0m	4.0	
							Loose grey-brown very sandy and silty CLAY with frequent rounded cobbles (BOULDER CLAY)	Dry from 5.7m	5.0	
								6.0		
								7.0		
								8.0		
	9.0									
	10.0									
							Loose dark brown very sandy CLAY (BOULDER CLAY)	Dry following rod connection at 7.1m Solvent odour	7.0	
							Loose orange-brown very sandy CLAY (BOULDER CLAY)	Damp Solvent odour	8.0	
							Loose grey-brown very sandy CLAY (BOULDER CLAY)	Strong solvent	9.0	
									10.0	

LOCATION / NOTES:

- All measurements in m below ground level (mbgl)
- Bedrock addition to existing shallow and

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**

Appd **DRAFT**

Ref. **CR/MC/BRS**

Date **MAY 99**

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

DAMES & MOORE