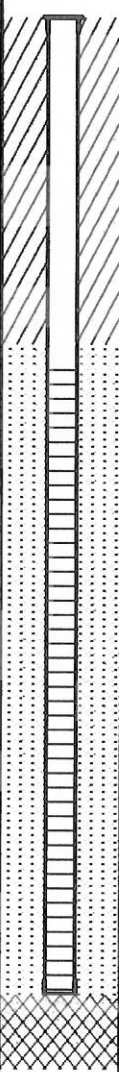


BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: P1BH019-PIT		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 4/2/03		DRILLING METHODS : CAT excavator	
							DRILLER : Jason		BOREHOLE DIAMETER : N/A	
							LOGGED BY : LT		SCREEN TYPE & DIAM: N/A	
							CHECKED BY : TR		SCREEN SLOT SIZE: N/A	
DESCRIPTION		COMMENTS								
	P1BH019-PIT-0.2m LTDUP1		*5.4		0.0	Medium dense, pale brown crushed concrete with hardcore angular gravel.	NVO, perched water ingress at 0.3m with sheen	0,0		
	P1BH019-PIT-0.5m		*1558 *1742 *1674		0.5	Firm, dark grey-brown sandy silt with occasional gravel and brick.	black stained 0.3-0.5m, strong (light H/C) odour	3,4		
			*1933			Firm, pale brown-grey (with orange mottling), sandy, slightly clayey silt with rootlets and occasional sub-rounded gravel.		3,2		
	P1BH019-PIT-1.1m LTDUP2		*2429		1.0	Soft, dark brown, organic rich horizon with frequent roots.	Strong (light H/C) odour	4,2		
			*30.2		1.5	Soft, pale brown-grey, slightly sandy, clayey silt.	Strong (light H/C) odour and with discolouration	4,2		
			*45.1		2.0	With increasing fine sand from 1.5m.	Odour decreasing from 1.5m, light discolouration	2,1		
						Becoming very sandy silt 1.75m and with woody material.				
	P1BH019-PIT-2.25m +PSD		*8.9		2.0	With occasional sub-rounded coarse gravel and cobbles.	Slight odour, no visual staining	1,0		
					2.5	Terminated at 2.35m	Very faint odour by 2.3m	0-1,0		
					3.0					
				3.5						
				4.0						
				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 17.8ppm in air above TP at 1.5m depth		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 : LT 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		0.8		Firm, grey-brown, sandy, clayey silt with occasional roots and orange mottling	Black staining and H/C odour	3,2	
			*592		1.0					
			*839		1.2		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	
					2.5		grading to soft to firm, grey, sandy clay with roots	NVO, wet-saturated	0,0	
					3.0		becoming clayey, fine sand	NVO. Wet.	0,0	
			*1.6		3.5		more sandy horizons from 2.8 to 4.1m		0,0	
				4.0		with increasing rounded, coarse gravel and cobbles from 3.5m	NVO	0,0		
				4.5		with occasional weathered sandstone fragments from 4.1m	NVO	0,0		
				5.0		Terminated at 4.2m				

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 - PIT		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 4/2/03		DRILLING METHODS : CAT excavator	
							DRILLER : Jason		BOREHOLE DIAMETER : N/A	
							LOGGED BY : ABB		SCREEN TYPE & DIAM: N/A	
							CHECKED BY : TR		SCREEN SLOT SIZE: N/A	
DESCRIPTION		COMMENTS								
	P1BH018 - PIT - 0.4m		*14.9		0.0	Tarmac	NVO, dry	0,0		
	P1BH018 - PIT - 0.75m		*16.4		0.5	Loose, grey, sub-angular, fine to coarse gravel (sub-base)	NVO, dry	0,0		
	P1BH018 - PIT - 1.0m		*420		1.0	Loose to dense, creamy grey-brown, silty fine sand to fine gravel with frequent bricks and brick fragments from 0.5m	NVO, damp-wet	0,0		
	P1BH018 - PIT - 1.3m		*396		1.5	Loose, dark brown-orange, sandy, coarse sand to fine gravel of brick and process residue/slag	Water sitting at 0.75m Weak odour of weathered H/C	1,0		
					2.0	Firm, mottled orange and grey, slightly sandy silt with occasional, rounded gravel	Black staining and strong heavy end H/C odour. Black, very oily water	4,4		
						2.5	Terminated at 1.3m (drainpipe in TP location at 1.0m depth)			
						3.0				
						3.5				
						4.0				
						4.5				
						5.0				

LOCATION / NOTES:

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

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

Can smell H/C in ambient air after 0.75m

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 : LT

Ref:

Scale:

Job No: 39991-035-785

Drg. Size:

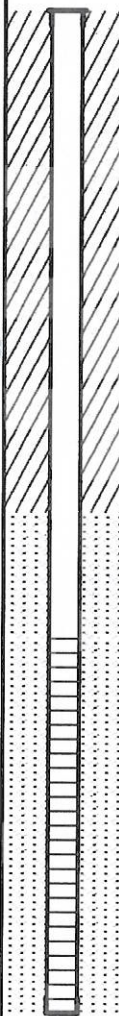
BOREHOLE LOG

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 *16.4 *420 *396 *455 *425	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		
				0.5		Concrete rubble		0,0		
				1.0		Loose, brown-black, sandy, angular gravel.		1,1		
				1.0		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		
				1.5		becoming clayey silt at 1.3m	Moderate odour and black staining	3,3		
				1.5		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		Loose to medium dense, brown-dark grey silty sand	Wet, sand collapsing in hole	3,3		
				3.0			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: P1BH017 - PIT		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 4/2/03		DRILLING METHODS: CAT excavator	
							DRILLER: Jason		BOREHOLE DIAMETER: N/A	
							LOGGED BY: LT		SCREEN TYPE & DIAM: N/A	
							CHECKED BY: TR		SCREEN SLOT SIZE: N/A	
				DESCRIPTION		COMMENTS				
	P1BH017 - PIT - 0.2m		*11.7		0.0		Medium dense, pale brown, crushed concrete with coarse angular gravel and cobbles of hardcore	NVO	0,0	
	P1BH017 - PIT - 0.45m		*24.1 *25.8		0.5		Changing to grey at 0.25m, continuing to change with depth to dark grey-black at 0.5m Terminated at 0.5m (refusal on concrete footing)	Grey staining at 0.3m Black staining, strong heavy end H/C odour, product droplets and sheen on water at base of pit.	2,2 3,3 3,4	
					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 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: LT 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	0.0	Medium dense, pale grey-brown, crushed concrete and angular ballast gravel with cobbles of hardcore.	NVO, moist	0,0			
			*14.6	0.5	Concrete	Black staining & heavy H/C odour from 0.3m	3,4			
			*337	1.0	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	1.5	Loose, black, gravelly sand of ash with fine to coarse sand	Black staining and strong H/C odour from 0.75m	3,4			
			*94	2.0	Firm, mottled grey and orange, clayey silt with some roots	Some staining and H/C odour	3,3			
	P1BH017 - 2.6 - 2.7m		*108	2.5	Soft to firm, grey-brown, silty, slightly clayey, fine to medium sand changing to clayey sand at 1.6m	Moderate staining and H/C odour	3,2			
				3.0		Sample loss from tube. Sandy - BH collapsing	3,2			
				3.5		Casing installed to 2.5m	3,2			
				4.0		Moist-wet				
				4.5		AF 3.0 - 4.0m	3,2			
				Terminated at 4.0m						

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

URS

App'd:

Drawn : ABB

Scale:

Drg. Size:

Date: February 2003

Ref:

Job No: 39991-035-785

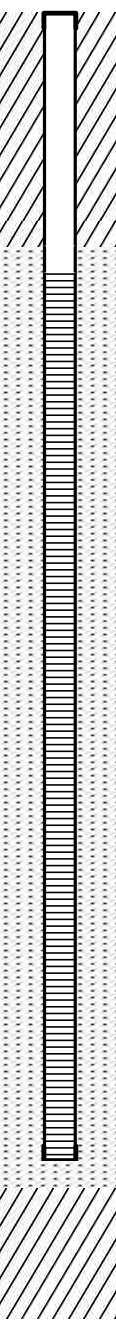
BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: P1BH016 - PIT		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 4/2/03		DRILLING METHODS : CAT excavator	
							DRILLER : Jason		BOREHOLE DIAMETER : N/A	
							LOGGED BY : ABB		SCREEN TYPE & DIAM: N/A	
							CHECKED BY : TR		SCREEN SLOT SIZE: N/A	
						DESCRIPTION	COMMENTS			
	P1BH016 - PIT - 0.2m		*2.5		0.0	Loose, dark grey, angular, medium to coarse gravel	NVO, wet at surface	0,0		
			*0.0		0.5	Loose to dense, dark grey-brown-cream, sandy, angular gravel of ash and slag with frequent, broken brick and rock	NVO, damp	0,0		
						Loose to medium dense, orange and dark grey, coarse, irregular-shaped process residue gravel and sands	NVO, damp	0,0		
	P1BH016 - PIT - 1.0m		*70.1		1.0		Strong H/C odour, black staining, water ingress at 1.05m with froth and globules of product	3,4		
	P1BH016 - PIT - 1.5m		*7.3		1.5	Soft, dark brown, organic-rich, fine silty clay with abundant (decomposed) wood fragments and plant parts (seeds, stems, etc.)	Peaty alluvial layer	1,0		
	P1BH016 - PIT - 1.8m					Soft to firm, light grey-brown, slightly fine sandy silt with abundant wood and plant fragments	Feint H/C odour, damp	0,0		
			*1.6		2.0		NVO, dry at 1.9m			
			*3.6		2.5	Sand content increasing and wood content decreasing with depth	NVO, saturated at 2.4m	0,0		
						Terminated at 2.5m (clean material)				
					3.0					
					3.5					
					4.0					
					4.5					
					5.0					

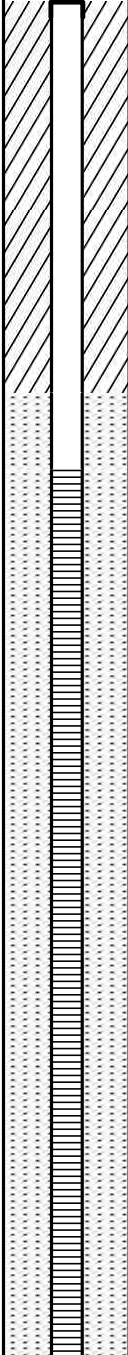
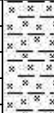
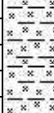
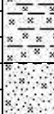
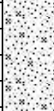
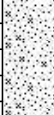
LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence H/C = Hydrocarbon	Disturbed Sample	Job Title: Phase 1 Investigation Works	
4,2 = Scoring for (odour, visual) contamination	Undisturbed Sample	Location: BP Llandarcy Refinery, Neath	
	Headspace Analysis	Client: BP/WDA	
	Down Borehole Analysis		App'd: _____ Date: February 2003
	Groundwater Table		Drawn : LT Ref: _____
	Perched Water Table		Scale: _____ Job No: 39991-035-785
			Drg. Size: _____ 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
								0.0	Loose, dark brown-black, sandy, angular gravel with black ash and fragments of brick and concrete	NVO, moist	0,0
								0.5	predominantly black-brown ash from 0.5m		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.		2,0
								3.0			1,0
								3.5			0,0
								4.0	Terminated at 4.0m		
P1BH016 - 2.5 - 2.7m		*188									

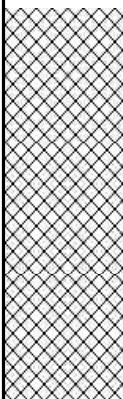
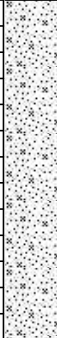
LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence H/C = Hydrocarbon 4,2 = Scoring for (odour, visual) contamination	Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table	URS Job Title: Phase 1 Investigation Works Location: BP Llandarcy Refinery, Neath Client: BP/WDA 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: WSMW078		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 9/1/2004		DRILLING METHODS : Beretta	
							DRILLER : APEX - Rhymal		BOREHOLE DIAMETER : 100-115mm	
							LOGGED BY : HM		SCREEN TYPE & DIAM: 50mm HDPE	
							CHECKED BY : SG		SCREEN SLOT SIZE: 1mm	
	SPT - 0.5m 4,2,1,1,1,2 (N= 5)				0.0	Loose, dark brown, fine to coarse sand with fine to coarse gravel, cobbles, sandstone and brick. (MADE GROUND)	Dry - damp	S,V		
					0.5				Soft, light brown, slightly sandy silt with occasional gravel. (MADE GROUND)	Damp - wet
	SPT - 2.5m 3,4,4,2,3,3 (N= 12)				1.0	Concrete boulder at 1.5m.	ODEX and casing used			
					1.5		Wet			
	SPT- 4.0m 5,4,5,13,50 REFUSAL				2.5	Firm, brown silty CLAY.	Percussive No recovery, switch to ODEX			
					3.0		Damp			
					3.5	Increasing boulders and cobbles with depth.	nvo, wet.			
					4.0					
					4.5	Borehole terminated at 5.0m.				
					5.0					

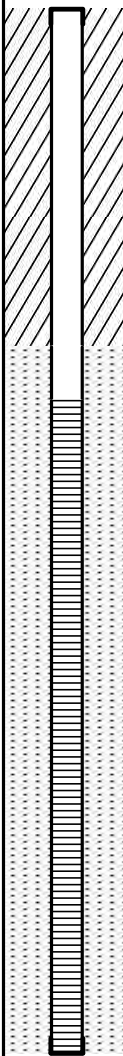
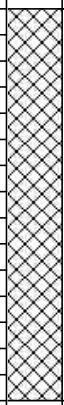
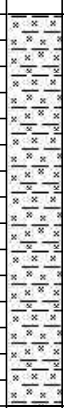
LOCATION / NOTES:		LEGEND		BOREHOLE LOG		
NVO = No visual or olfactory evidence of contamination S,V = Contamination Observations S - Odour score (0-5) V - Visual score (0-5)			Disturbed Sample	Job Title: BP Llandarcy Whole Site Investigation		
			Undisturbed Sample	Location: BP Llandarcy Refinery		
			Headspace Analysis	Client: BP/WDA		
			Down Borehole Analysis		App'd:	Date: February 2004
			Groundwater Table		Drawn : CM	Ref:
			Perched Water Table	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: WSMW076		PAGE 1 of 2	
	NUMBER	TYPE					DRILLING DATES: 28/11/2003		DRILLING METHODS : Beretta - Various	
							DRILLER : APEX - Rhymal		BOREHOLE DIAMETER : 100-115mm	
							LOGGED BY : SS		SCREEN TYPE & DIAM: 50mm HDPE	
							CHECKED BY : SG		SCREEN SLOT SIZE: 1mm	
							DESCRIPTION	COMMENTS	S,V	
					0.0		Hole advanced to 3.0m using air hammer. See trial pit log for details.			
					0.5					
					1.0					
					1.5					
					2.0					
					2.5					
					3.0					
		*32.1			3.0		Soft, grey to brown, slightly clayey, fine sandy SILT with occasional gravel and sand horizons.	Damp-wet within sandy horizons.		
		*488			3.5			Wet from 3.5m, grey staining and moderate hydrocarbon odour	3,3	
		*29.3			4.0		Becoming firm from 3.8m.	Strong odour with grey staining		
		*10.3			4.0					
		*7.3			4.5			Wet. Slight grey staining, moderate hydrocarbon odour	3,1	
		*4.9			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		App'd: _____ Date: December 2004								
 Perched Water Table		Drawn : SS 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: WSMW076		PAGE 2 of 2											
	NUMBER	TYPE					DRILLING DATES: 28/11/2003		DRILLING METHODS : Beretta - Various											
							DRILLER : APEX - Rhymal		BOREHOLE DIAMETER : 100-115mm											
							LOGGED BY : SS		SCREEN TYPE & DIAM: 50mm HDPE											
							CHECKED BY : SG		SCREEN SLOT SIZE: 1mm											
									COMMENTS	S,V										
					5.5				Borehole terminated at 6.2m.											
					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  <table border="1"> <tr> <td>App'd:</td> <td>Date: December 2004</td> </tr> <tr> <td>Drawn : SS</td> <td>Ref:</td> </tr> <tr> <td>Scale: As scale</td> <td>Job No: 39991-044-785</td> </tr> <tr> <td>Drg. Size: A4</td> <td>BOREHOLE LOG</td> </tr> </table>				App'd:	Date: December 2004	Drawn : SS	Ref:	Scale: As scale	Job No: 39991-044-785	Drg. Size: A4	BOREHOLE LOG
App'd:	Date: December 2004																			
Drawn : SS	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: WSMW074B		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 28/11/2003		DRILLING METHODS : Beretta - Various	
							DRILLER : APEX - Rhymal		BOREHOLE DIAMETER : 100-115mm	
							LOGGED BY : SS		SCREEN TYPE & DIAM: 50mm HDPE	
							CHECKED BY : SG		SCREEN SLOT SIZE: 1mm	
	WSMW074 - 0.2m (P)				0.0		Concrete hardstanding. (MADE GROUND)		Air hammer used to break concrete	
	SPT - 0.5m 1,1,2,3,1,2 (N=8)				0.5		Soft to firm, golden brown, slightly sandy SILT with occasional gravel.		Dry-damp. NVO	0,0
					1.0				Slight hydrocarbon odour, no staining.	1,0
					1.5		Borehole Terminated at 1.5m on suspected pipe. Relocated and re-drilled as WSMW074A.			
					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	Job Title: BP Llandarcy Whole Site Investigation	
			Undisturbed Sample	Location: BP Llandarcy Refinery	
			Headspace Analysis	Client: BP/WDA	
			Down Borehole Analysis		App'd:
	Groundwater Table	Drawn : SS	Ref:		
	Perched Water Table	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: WSMW074A		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 28/11/2003		DRILLING METHODS : Beretta - Various	
							DRILLER : APEX - Rhymal		BOREHOLE DIAMETER : 100-115mm	
							LOGGED BY : SS		SCREEN TYPE & DIAM: 50mm HDPE	
							CHECKED BY : SG		SCREEN SLOT SIZE: 1mm	
							DESCRIPTION	COMMENTS	S,V	
	SPT - 0.5m 1,1/2,3,1,2 (N=8)				0.0		Loose, orange brown, sandy silt with occasional gravel. (MADE GROUND)	Damp. NVO	0,0	
	SPT - 1.5m 0,1/2,1,2,3 (N=8)				0.5			Damp. Slight hydrocarbon odour	1,0	
	SPT - 2.5m 0,0/0,0,0,1 (N=1)				1.0		No recovery due to very soft sample - air flush used. See trial pit log for details.	Grey staining, moderate to strong hydrocarbon odour		
	SPT - 3.5m no SPT due to obstruction				1.5		Soft to firm, grey to brown, slightly clayey SILT with rare sand and gravel.	Moderate hydrocarbon odour, grey staining	3,3	
					2.5				Wet with strong hydrocarbon odour	
							Borehole terminated at 4.0m.			

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
										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.	Black hydrocarbon staining and heavy odour, ODEX and casing. Oily sheen and some brown FP.		
								Chippings becoming silvery and gravelly, with spent coke.	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

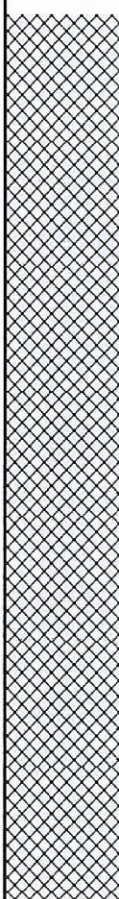
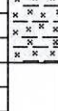
Job Title: BP Llandarcy Whole Site Investigation

Location: BP Llandarcy Refinery

Client: BP/WDA

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

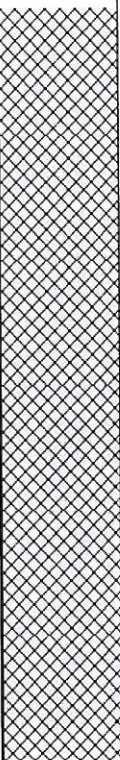
BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: WSMW078 (PIT)		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 03/12/03		DRILLING METHODS: JCB	
							DRILLER: JCB-Viv		BOREHOLE DIAMETER: -	
							LOGGED BY: EM		SCREEN TYPE & DIAM: -	
							CHECKED BY: SG		SCREEN SLOT SIZE: -	
							DESCRIPTION		COMMENTS	S,V
					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
					0.5					
					1.0		Trial pit terminated at 0.9m due to refusal.			
					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 App'd: _____ Date: December 2003 Drawn: EM Ref: _____ Scale: As Scale Job No: 39991-044 Drg. Size: A4 BOREHOLE LOG		

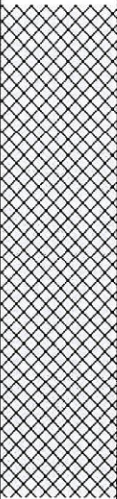
BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: WSMW076 (PIT)		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 26/11/2003		DRILLING METHODS : JCB	
							DRILLER : JCB		BOREHOLE DIAMETER : -	
							LOGGED BY : OG		SCREEN TYPE & DIAM: -	
							CHECKED BY : 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)		*26.8		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	Job Title: BP Llandarcy Whole Site Investigation		
			Undisturbed Sample	Location: BP Llandarcy Refinery		
			Headspace Analysis	Client: BP/WDA		
			Down Borehole Analysis		App'd:	Date: February 2004
			Groundwater Table		Drawn : HM	Ref:
			Perched Water Table		Scale: As scale	Job No: 39991-044-785
					Drg. Size: A4	BOREHOLE LOG

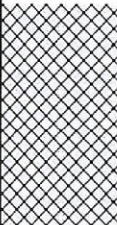
BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: WSMW075 (PIT)		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 08/12/03		DRILLING METHODS : JCB	
							DRILLER : JCB-Viv		BOREHOLE DIAMETER : -	
							LOGGED BY : EM		SCREEN TYPE & DIAM: -	
							CHECKED BY : 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	
						1.5	Soft, dark grey to brown (with occasional black mottling) silty CLAY.	Moist. Faint hydrocarbon odour and small patches of staining	1,2	
	WSMW075 - 1.3m (S,L)		*13.8			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: 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.	0,0	
					0.5		Firm, slightly sandy SILT with occasional fine to coarse gravel.	Damp	0,0	
	WSMW074 - 0.95m (S,L)		*10.5		1.0		Soft, compact, mottled blue, grey and brown clayey SILT.	Damp. Clay pipe at 0.7m.		
			*8.7	1.5			Blue grey staining, moderate mid to light hydrocarbon odour, damp. Cable at 1.0m.	4,4		
	WSMW074 - 2.0m (S,L)		*22.2		2.0			12" pipe.	4,4	
			*15.5		2.5		With increasing angular to subangular sandstone cobbles.	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		3.0			Less blue, more grey staining.	3,5	
					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	
								Org. Size: A4	BOREHOLE LOG	

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: WSMW073B (PIT)		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 4/12/03		DRILLING METHODS: JCB	
							DRILLER: JCB-JOHN		BOREHOLE DIAMETER: -	
							LOGGED BY: JG		SCREEN TYPE & DIAM: -	
							CHECKED BY: SG		SCREEN SLOT SIZE: -	
							DESCRIPTION	COMMENTS	S,V	
	WSMW073 - 0.5m (S,L)		*5.7		0.0	Reinforced concrete hardstanding. (MADE GROUND)				
					0.5	Loose, grey gravel with frequent concrete fragments. (MADE GROUND)	NVO	0, 0		
			*4.6		1.0	Firm to stiff, clayey SILT with frequent angular gravels and occasional boulders.	NVO	0, 2		
			*4.7		1.5	Boulders becoming more frequent.	NVO	0, 2		
			*4.9		2.0	Trial pit terminated at 2.0m due to refusal.	NVO	0, 2		
					2.5					
					3.0					
					3.5					
					4.0					
					4.5					
					5.0					

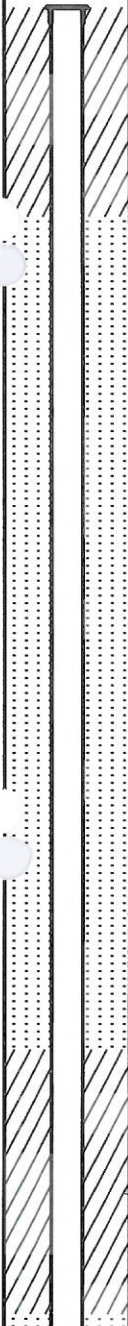
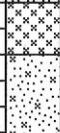
LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence of contamination S,V = Contamination Observations S - Odour score (0-5) V - Visual score (0-5)	 Disturbed Sample  Undisturbed Sample  Headspace Analysis  Down Borehole Analysis  Groundwater Table  Perched Water Table	Job Title: BP Llandarcy Whole Site Investigation Location: BP Llandarcy Refinery Client: BP/WDA 	
		App'd:	Date: December 2003
		Drawn: JG	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: WSMW073a (PIT)		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 14/11/2003		DRILLING METHODS : JCB	
							DRILLER : JCB		BOREHOLE DIAMETER : -	
							LOGGED BY : HM		SCREEN TYPE & DIAM: -	
				CHECKED BY : SG		SCREEN SLOT SIZE: -				
	WSMW073 - 0.2m (2xP)				0.0		DESCRIPTION		COMMENTS	S,V
	Reinforced concrete hardstanding. (MADE GROUND)		NVO	0,0						
	WSMW073 - 0.8m (S,L)				0.5		Brown sand with frequent bricks, brick gravel, some wood, cables, 6"old pipe, polythene, metal grid. (MADE GROUND)		Saturated, oily sheen on water.	
					1.0		Trial pit terminated at 0.9m due to refusal on concrete.			1,5
					1.5					
					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 : 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: WSMW001 (PIT)		PAGE 1 of 1		
	NUMBER	TYPE					DRILLING DATES: 8/12/03		DRILLING METHODS : JCB		
							DRILLER : JCB - Will		BOREHOLE DIAMETER : -		
							LOGGED BY : J.G		SCREEN TYPE & DIAM: -		
							CHECKED BY : SG		SCREEN SLOT SIZE: -		
							DESCRIPTION	COMMENTS	S,V		
	WSMW001 0.5m (2xP)				0.0		Loose gravel (MADE GROUND)	Surface water ingress Black staining, black water with sheen			
							0.5				Loose gravel and cobbles (MADE GROUND)
							1.0				Trial pit terminated at 0.7m due to refusal on concrete.
					1.5						
					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: January 2004
		Drawn: JG	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: 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		
	DDMW4- 3.2m		*103		0.0		Concrete	Wet. Weak odour.	0.0	
					0.5		Loose, black, fine, flinty gravel with some silty sand.		0.5	
					1.0		Soft, pale grey, slightly sandy silt with some orange-brown mottling.		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				Odour stops at 4.3m	4.5
						Weaker odour				
	DDMW4- 4.2m		*7.8		5.0				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: 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 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0		DESCRIPTION		COMMENTS	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.			1.0
							Becoming more sandy at 1.0m.		Dry	1.0
							Soft brown, fine, slightly silty sand with some sub-rounded cobbles and boulders.			1.5
									Very strong kerosene/diesel odour starts at 1.0m	1.5
									Wet	2.0
									Cased to 2.9m	2.5
										3.0
		Strong kerosene/diesel odour	3.5							
			4.0							
			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

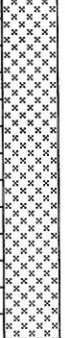
Location: BP Llandarcy Refinery

Client: BP Oil Llandarcy Refinery

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: 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	*1620		2.0		Very strong odour	2.0		
								2.5		
								3.0		
								3.5		
								4.0		
DSB029 3.9m		*977	*366		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		
								5.0		
								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		
	DSB029 6.5m					End of Borehole		Weak to mod. odour		
						5.5			5.5	
						6.0			6.0	
						6.5			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: 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: DSB029S1		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				0.0	Tarmac (8cm), compact gravel (road chippings) and cobbles	Very strong HC odour. Sheen on arisings	0.0		
					0.5	Concrete with wood		0.5		
					1.0	Soft, black, stained sandy SILT with cobbles		1.0		
					1.5	Soft, brown, slightly silty, fine SAND with frequent medium to coarse gravel and cobbles		1.5		
					2.0			Very strong odour	2.0	
2.5	Wet	2.5								
3.0	Cased to 3.0m	3.0								
DSB029 3.9m					3.5	Firm, dark brown/grey, slightly sandy SILT with some sub-rounded and sub-angular medium-coarse gravel	Dry/damp. Cased to 4.0m	3.5		
					4.0			4.0		
					4.5			Moderate to strong odour	4.5	
					5.0				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

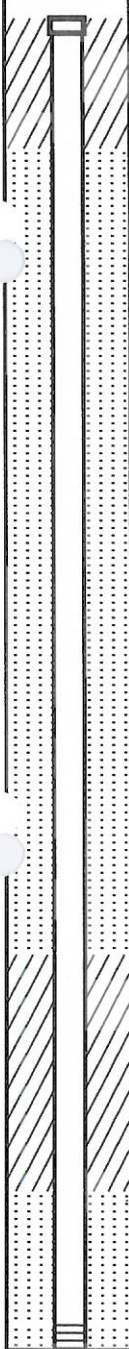
Location: BP Llandarcy Refinery

Client: BP Oil Llandarcy Refinery

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: 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 Very gravelly horizon at 6.2m						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: 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 	
				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: DSB028S2		PAGE 1 of 2	
	NUMBER	TYPE					DRILLING DATES: 15/01/02		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			
						Concrete. MADE GROUND	Very strong solvent and HC odour	0.0		
						Loose, coarse GRAVEL and cobbles of brick fragments with ash. MADE GROUND		0.5		
						Soft, grey-brown, very sandy SILT with occasional to frequent coarse, rounded gravel and small rounded cobbles.	Very strong HC and solvent odour	1.0		
						Brown from 1.5m		1.5		
						Interbedded layers of silty SAND with GRAVEL from 2.5m		2.0		
						Slight HC and solvent odour.	3.5			
							Loose, brown, medium silty SAND with gravel	4.0		
							Silty SAND with abundant cobbles and gravels	4.5		
						Poor sample returns	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: DSB028S2		PAGE 2 of 2	
	NUMBER	TYPE					DRILLING DATES: 15/01/02		DRILLING METHODS : Hydraulic Percussive	
							DRILLER : Geotechnical Engineering		BOREHOLE DIAMETER : 125mm	
							LOGGED BY : PEW		SCREEN TYPE & DIAM: HDPE 50mm	
							CHECKED BY :		SCREEN SLOT SIZE: 1mm	
	DSB028 5.2m				5.5				COMMENTS Strong solvent odour	5.5
					6.0		Loose, brown, very silty SAND with abundant coarse, rounded gravel			
	DSB028 6.15m				6.5	End of Borehole				
					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: 18/09/2002 Drawn : SS Ref: _____ Scale: As scale Job No: 39991-022 Drg. Size: A4 BOREHOLE LOG