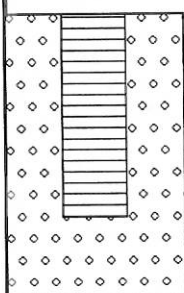
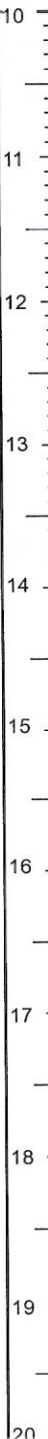
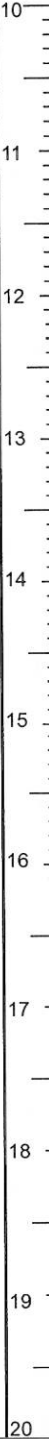


BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW101		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 16/3/99		DRILLING METHOD: CABLE PERCUSSION	
							FINISH DATE: 16/3/99		BOREHOLE DIAMETER: 150 mm	
							DRILLER: CP1		SCREEN TYPE & DIAMETER: 50 mm ID UPVC	
				LOGGED BY: JC APPR'D BY:		SCREEN SLOT SIZE: 0.5 mm				
							DESCRIPTION	COMMENTS		
							Soft dark brown clayey SILT with frequent rootlets	Damp	0	
							Soft mottled orange/brown and dark brown clayey SILT	No hydrocarbon odour	0	
							Soft mottled orange-brown and silver grey sandy SILT		1.0	
							Soft brown-grey clayey sandy SILT with occasional rounded gravel		2.0	
								Dry	2.0	
							Soft light brown clayey SILT with frequent fine to medium angular gravel	Damp	3.0	
							Silty and sandy medium to coarse GRAVEL with cobbles	Water strike at 4.4m	4.0	
							Borehole terminated 5.3 mbgl		5.0	
									6.0	
									7.0	
									8.0	
									9.0	
									10	

LOCATION / NOTES: 1. All measurements in m below ground level (mbgl)		LEGEND Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table	BOREHOLE LOG Job Title SOIL & GROUNDWATER INVESTIGATION Location LLANDARCY REFINERY Client BP LLANDARCY LTD App'd DRAFT Ref. CR/MC/BRS Date MAY 99 Job No. 39991-004-401	DAMES & MOORE GROUP
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BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW100		PAGE 1 of 2	
	NUMBER	TYPE					START DATE: 23/3/99		DRILLING METHOD: ROTARY AIR FLUSH	
							FINISH DATE: 23/3/99		BOREHOLE DIAMETER: 165 mm	
						DRILLER: R3		SCREEN TYPE & DIAMETER: 50 mm ID UPVC		
						LOGGED BY: JC APPR'D BY:		SCREEN SLOT SIZE: 0.5 mm		
						DESCRIPTION	COMMENTS			
						Loose mottled yellow-brown-dark brown sandy SILT with fine gravel and occasional medium to coarse gravel	Dry. No hydrocarbon odour	0		
						Grey-brown clayey SILT with occasional gravel	Damp. Strong hydrocarbon odour	1.0		
						Grey-brown silty SAND with occasional gravel	Minor water seepage at 1.2m	2.0		
						Grey-brown slightly sandy clayey SILT with occasional gravel		3.0		
						Brown very clayey SILT with occasional gravel	Damp	4.0		
						GRAVEL with light brown clay and silt	Water strike at 5.7m	5.0		
								6.0		
							No hydrocarbon odour	7.0		
						Light brown very gravelly, clayey SILT		8.0		
						ROCKHEAD - Weathered, highly fractured blue-grey	Productive	9.0		
								10		

LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
1. All measurements in m below ground level (mbgl)	Disturbed Sample	Job Title SOIL & GROUNDWATER INVESTIGATION	
2. ODEX to 9m, Rotary to 12m	Undisturbed Sample	Location LLANDARCY REFINERY	
3. Riser pulled up 0.8m during casing removal	* Headspace Analysis	Client BP LLANDARCY LTD	
	† Down Borehole Analysis	App'd DRAFT	
	Groundwater Table	Ref. CR/MC/BRS	
	Perched Water Table	Date MAY 99	
		Job No. 39991-004-401	
		DAMES & MOORE	

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW100		PAGE 2 of 2								
	NUMBER	TYPE					START DATE: 23/3/99		DRILLING METHOD: ROTARY AIR FLUSH								
							FINISH DATE: 23/3/99		BOREHOLE DIAMETER: 165 mm								
							DRILLER: R3		SCREEN TYPE & DIAMETER: 50 mm ID UPVC								
							LOGGED BY: JC APPR'D BY:		SCREEN SLOT SIZE: 0.5 mm								
						DESCRIPTION		COMMENTS									
						SANDSTONE (BEDROCK)		Productive									
						Borehole terminated at 12.0 mbgl											
						LOCATION / NOTES:						LEGEND		BOREHOLE LOG			
						1. All measurements in m below ground level (mbgl)						☒ Disturbed Sample ☐ Undisturbed Sample * Headspace Analysis † Down Borehole Analysis  Groundwater Table  Perched Water Table		Job Title			
SOIL & GROUNDWATER INVESTIGATION																	
Location																	
LLANDARCY REFINERY																	
Client																	
BP LLANDARCY LTD																	
App'd		DRAFT															
Ref. CR/MC/BRS		 DAMES & MOORE GROUP															
Date MAY 99																	
Job No. 39991-004-401																	

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: WSMW005		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 13/1/04		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				
							DESCRIPTION	COMMENTS	S,V	
					0.0	Soft, dark brown to red SILT with abundant rootlets.	Wet at surface with iron oxide. Percussive			
					0.2	Spongy, fibrous black PEAT.				
			*1328		0.5	Medium dense, black GRAVEL with occasional coarse sand.	Wet, black free product, hydrocarbon odour	4,5		
					0.8	Soft, light brown with grey staining silty CLAY with occasional gravel and occasional sandstone cobbles.				
			*1602		1.0					
					1.5	Soft to firm SILT, with frequent gravel.	Wet			
					2.0	Soft to firm, light brown to grey, clayey SILT with occasional gravel and sandstone cobbles.	Light hydrocarbon odour, grey staining, patchy oily sheen throughout. Collapse to 1.1m, damp.			
			*588		2.2	Soft to firm, light brown, fine to medium sandy SILT with increasing cobbles with depth.				
					2.4	Probable SANDSTONE bedrock.				
					2.5	Borehole terminated at 2.5m.	From collapse was cased to 2.5m, staining decreased with depth.	3,4		
				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: 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: WSMW004		PAGE 1 of 1		
	NUMBER	TYPE					DRILLING DATES: 7/1/2004		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		
					0.0		Soft, slightly sandy silt with abundant ash, bitumen and gravel, some sandstone cobbles, and decaying organic matter. (MADE GROUND)	Stained black, medium hydrocarbon odour, wet. Percussive	3,3		
			*8.4	0.5			Soft to firm, brown clayey SILT with some sandstone cobbles.			Damp, patches of black staining, fairly strong, light hydrocarbon odour.	4,3
			*858	1.0							
			*55.5	1.5			2.0				
					2.5		Borehole terminated at 2.2m.				
					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: 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: WSMW005 (PIT)		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 24/11/03		DRILLING METHODS: JCB	
							DRILLER: JCB		BOREHOLE DIAMETER: -	
							LOGGED BY: HM		SCREEN TYPE & DIAM: -	
							CHECKED BY: SG		SCREEN SLOT SIZE: -	
							DESCRIPTION	COMMENTS	S,V	
	WSMW005 - 0.5m (S,L)		*618	0.0		Soft to firm brown and orange brown sandy SILT with frequent rootlets.	Damp.	0,1		
			*736	0.5		Soft to firm, grey to black, slightly sandy SILT with occasional fine to coarse gravel and subangular to subrounded cobbles.	Wet, water ingress on Northern side. Oily sheen to water.	4,4		
			*701	1.0		Soft to firm, brown and grey SILT with occasional fine to coarse gravel.	Oily sheen on water, moderate to strong odour.	4,5		
			*780	1.5		With frequent, fine to coarse gravel, cobbles and boulders from 1.6m.	Moderate to strong odour, moderate staining. Slurry	4,4		
	WSMW005 - 2.1m (S,L)			2.0		Trial pit terminated at 2.2m due to refusal.				
				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

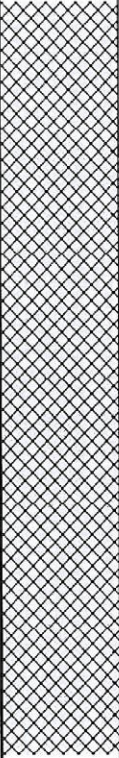
Client: BPWDA

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: WSMW004 (PIT)		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 24/11/03		DRILLING METHODS: JCB	
							DRILLER: JCB		BOREHOLE DIAMETER: -	
							LOGGED BY: HM		SCREEN TYPE & DIAM: -	
							CHECKED BY: SG		SCREEN SLOT SIZE: -	
							DESCRIPTION	COMMENTS	S,V	
	WSMW004 - 0.1m (2xP)				0.0		Ash and clinker bound with oil and tar. (MADE GROUND)	Damp, moderate mid-light hydrocarbon odour with black staining in the clay/silt. Slight water ingress at 0.2m.	1,1	
	WSMW004 - 0.5m (S,L) DUP HM2 (S,L)		*377		0.5		Soft to firm slightly sandy brown SILT with occasional fine to coarse gravel with black silty clay horizons.		4,4	
			*705		1.0		Soft to firm slightly sandy brown SILT with occasional fine to coarse gravel.		4,4	
			*721		1.5		Soft, light grey/beige sandy SILT with occasional gravel and subrounded sandstone cobbles.	Strong odour with black staining on the north east wall. Damp.	4,4	
	WSMW004 - 2.5m (S,L)		*791		2.5		With abundant, fine to coarse gravel, cobbles and occasional subrounded boulders from 2.3m.	Water seepage at 2.6m on north east wall with oily sheen.	4,5	
			*547		3.0		Trial pit terminated at 3.0m due to refusal.			
					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: November 2003
		Drawn: HM	Ref:
		Scale: As scale	Job No: 39991-044-785
		Drg. Size: A4	BOREHOLE LOG

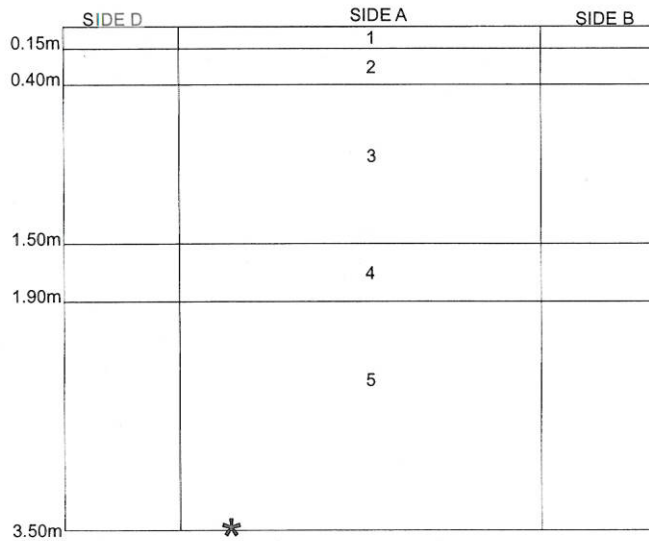
BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSTP260		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 26/02/99	DRILLING METHOD: Window Sampling	FINISH DATE: 26/02/99	BOREHOLE DIAMETER: 100 mm
							DESCRIPTION	COMMENTS		
					0		Loose grey medium GRAVEL with some silt (MADE			0
					0.5		Loose black fine to coarse ASH becoming more coarse with depth with rare clinker fragments (MADE GROUND)			0.5
					1.0		Firm orange brown and grey silty CLAY with occasional medium gravel.			1.0
					1.5					1.5
					2.0					2.0
					2.5					2.5
					3.0		Loose grey coarse GRAVEL.	Water strike		3.0
					3.5		Soft orange brown silty CLAY	Product om water surface		3.5
					4.0		Borehole terminated at 3.6 mbgl			4.0
					4.5					4.5
					5.0					5.0

LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
1. All measurements in m below ground level (mbgl)	Disturbed Sample	Job Title	SOIL & GROUNDWATER INVESTIGATION
2. Water rose to 0.5m	Undisturbed Sample	Location	LLANDARCY REFINERY
3. Borehole collapsed to 2.6m and was backfilled with bentonite on completion	* Headspace Analysis	Client	BP LLANDARCY LTD
4. DUP DD=MSTP260	† Down Borehole Analysis	TI App'd	DRAFT
	Groundwater Table	Ref.	CR/RH/MCH
	Perched Water Table	Date	APRIL 99
		Job No.	39991-004-401
		DAMES & MOORE GROUP	

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSTP258		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 26/02/99	DRILLING METHOD: WINDOW SAMPLER	FINISH DATE: 26/02/99	BOREHOLE DIAMETER: 100 mm
					0		DESCRIPTION	COMMENTS		0
							Loose black SAND with some ash and silt (MADE)			
							Loose orange/brown coarse GRAVEL with sandstone cobbles (MADE GROUND)			
			*3.4		0.5		Firm orange brown very silty gravelly CLAY with occasional	Very faint hydrocarbon odour		0.5
			*0.9		1.0					1.0
			*0.5		1.5					1.5
			*0.6		2.0					2.0
			*20.3		2.5		Firm to stiff brown CLAY	No odour		2.5
							Moderately strong sandstone COBBLES			
					3.0					3.0
							Borehole terminated at 3.6 mbgl.			
					3.5					3.5
					4.0					4.0
					4.5					4.5
					5.0					5.0

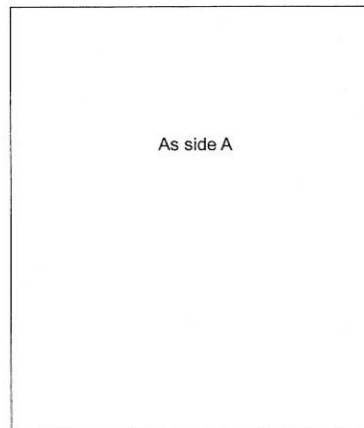
LOCATION / NOTES: 1. All measurements in m below ground level (mbgl) 2. Borehole collapsed to 2.6m		LEGEND Disturbed Sample Undisturbed Sample * Headspace Analysis † Down Borehole Analysis ▽ Groundwater Table ▽ Perched Water Table	BOREHOLE LOG Job Title SOIL & GROUNDWATER INVESTIGATION Location LLANDARCY REFINERY Client BP LLANDARCY LTD TI App'd DRAFT Ref. CR/RH/MCH Date APRIL 99 Job No. 39991-004-401 DAMES & MOORE
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SIDE ELEVATIONS

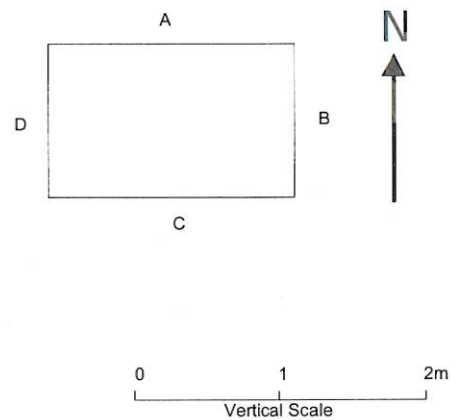


TRIAL PIT NUMBER: MSTP215
 GROUND ELEVATION: -
 DATE OF EXCAVATION: 9/6/98
 WATER LEVEL: DRY
 LOGGED BY: RC
 APPROVED BY:

SIDE C



PLAN



Key:

- * Soil Sample location
- WA Water Sample
- HS Headspace Analysis
- Water Ingress

STRATA DESCRIPTIONS	COMMENTS	SAMPLES
1. Loose brown TOPSOIL with rootlets 2. Loose black ashy SAND (MADE GROUND) 3. Soft to medium brown slightly clayey SAND with coarse sub-angular gravel (MADE GROUND) 4. Medium to soft grey sandy SILT with brown sandy lenses (MADE GROUND) 5. Medium soft brown sandy CLAY with fine to coarse sub-rounded gravel (MADE GROUND) Trial pit terminated at 3.50 mbgl	a. No odour or staining b. Strong hydrocarbon odour c. Very strong hydrocarbon odour	<u>PID RESULTS</u> 0.5m - 0 ppm 1.0m - 7.2 ppm 1.5m - 5.7 ppm 2.0m - 24 ppm 2.5m - 298 ppm 3.0m - 345 ppm 3.5m - 390 ppm <u>SOIL SAMPLES</u> MSTP215-3.5m

Job Title:	SOIL & GROUNDWATER INVESTIGATION	
Location:	LLANDARCY REFINERY	
Client:	BP LLANDARCY	
Job No:	39991-001-401	DRAFT
 DAMES & MOORE		

TRIAL PIT NUMBER: MSTP214
 GROUND ELEVATION: -
 DATE OF EXCAVATION: 25/6/98
 WATER LEVEL: DRY
 LOGGED BY: RF/SP
 APPROVED BY:

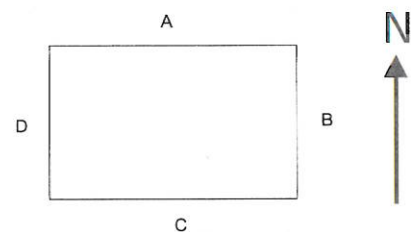
SIDE ELEVATIONS

	SIDE D	SIDE A	SIDE B
0.2m		1	
0.4m		2 *	

SIDE C

As side A

PLAN



0 1 2m
 Vertical Scale

Key:

- * Soil Sample location
- WA Water Sample
- HS Headspace Analysis
- Water Ingress

STRATA DESCRIPTIONS	COMMENTS	SAMPLES
1. Dark brown, firm clay SOIL with worms 2. Orange/dark brown, plastic CLAY and roots Hand augered coring terminated on refusal at 0.4 mbgl	a. No hydrocarbon odour or staining evident b. Hand augered due to access restrictions	<u>PID RESULTS</u> 0.4m - 0 ppm <u>SOIL SAMPLES</u> MSTP214-0.4m

Job Title: SOIL & GROUNDWATER INVESTIGATION

Location: LLANDARCY REFINERY

Client: BP LLANDARCY

Job No: 39991-001-401

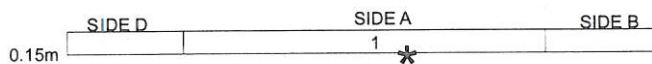
DRAFT



DAMES & MOORE

TRIAL PIT NUMBER: MSTP207
 GROUND ELEVATION: -
 DATE OF EXCAVATION: 25/6/98
 WATER LEVEL: DRY
 LOGGED BY: RF/SP
 APPROVED BY:

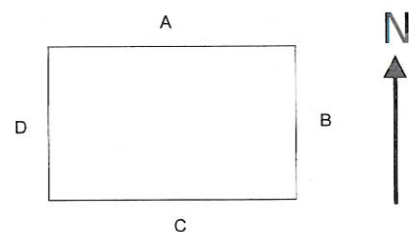
SIDE ELEVATIONS



SIDE C

As side A

PLAN



0 1 2m
 Vertical Scale

Key:

- * Soil Sample location
- WA Water Sample
- HS Headspace Analysis
- Water Ingress

STRATA DESCRIPTIONS	COMMENTS	SAMPLES
1. Cobble rich, dark brown CLAY Hand augered boring terminated on refusal at 0.155 mbgl	a. No hydrocarbon odour or staining evident b. Hand augered	<u>PID RESULTS</u> 0.5m - 0 ppm <u>SOIL SAMPLES</u> MSTP207-0.15m

Job Title: SOIL & GROUNDWATER INVESTIGATION

Location: LLANDARCY REFINERY

Client: BP LLANDARCY

Job No: 39991-001-401

DRAFT



DAMES & MOORE

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW032		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 08/01/01		DRILLING METHOD: DYNAMIC SAMPLING	
							FINISH DATE: 08/01/01		BOREHOLE DIAMETER: 143/128/113/98 mm	
							DRILLER: Geotechnical		SCREEN TYPE & DIAMETER: HDPE 1 mm	
							LOGGED BY: SG APPR'D BY:		SCREEN SLOT SIZE: 1 mm	
						DESCRIPTION		COMMENTS		
						0		No odour or staining		0
						Borehole terminated at 3.0 mbgl on refusal				
						0.5		No odour or staining		0.5
						1.0		No odour or staining		1.0
						1.5		No odour or staining. Dry		1.5
						2.0		Damp. Slight hydrocarbon odour		2.0
						2.5		Slight hydrocarbon dour		2.5
						3.0		Very strong hydrocarbon odour. Wet		3.0
						3.5		Very strong hydrocarbon odour		3.5
						4.0		Very strong hydrocarbon odour		4.0
4.5				4.5						
5.0				5.0						

LOCATION / NOTES:		LEGEND		BOREHOLE LOG	
1. All measurements in m below ground level (mbgl)		Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table		Job Title WESTERN MARGIN INVESTIGATION Location BP LLANDARCY REFINERY Client BP LLANDARCY LTD	
				App'd DRAFT Ref. SG/CR/BRS Date MAR 2001 Job No. 39991-016-402	

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW032		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 08/01/01		DRILLING METHOD: DYNAMIC SAMPLING	
							FINISH DATE: 08/01/01		BOREHOLE DIAMETER: 143/128/113/98 mm	
							DRILLER: Geotechnical		SCREEN TYPE & DIAMETER: HDPE 1 mm	
							LOGGED BY: SG APPR'D BY:		SCREEN SLOT SIZE: 1 mm	
						DESCRIPTION		COMMENTS		
						0		No odour or staining	0	
						Borehole terminated at 3.0 mbgl on refusal				
						0.5		No odour or staining	0.5	
						1.0		No odour or staining	1.0	
						1.5		No odour or staining. Dry	1.5	
						2.0		Damp. Slight hydrocarbon odour	2.0	
						2.5		Slight hydrocarbon dour	2.5	
						3.0		Very strong hydrocarbon odour. Wet	3.0	
						3.5		Very strong hydrocarbon odour	3.5	
						4.0		Very strong hydrocarbon odour	4.0	
4.5			4.5							
5.0			5.0							

LOCATION / NOTES:

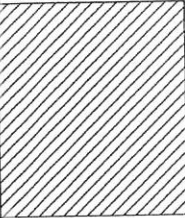
1. All measurements in m below ground level (mbgl)

LEGEND

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

BOREHOLE LOG

Job Title	WESTERN MARGIN INVESTIGATION	
Location	BP LLANDARCY REFINERY	
Client	BP LLANDARCY LTD	
 Dames & Moore O'Brien Kreitzberg Thorburn Colquhoun	App'd	DRAFT
	Ref.	SG/CR/BRS
	Date	MAR 2001
	Job No.	39991-016-402

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW031		PAGE 1 of 1				
	NUMBER	TYPE					START DATE: 08/01/01		DRILLING METHOD: DYNAMIC SAMPLING				
							FINISH DATE: 08/01/01		BOREHOLE DIAMETER: 128/113/98 mm				
							DRILLER: Geotechnical		SCREEN TYPE & DIAMETER: N/A				
				LOGGED BY: SC APPR'D BY:		SCREEN SLOT SIZE: N/A							
						DESCRIPTION		COMMENTS					
						0		Soft, loose, dark brown, sandy, silty GRAVEL with rootlets (TOPSOIL)		Damp. No odour or staining		0	
						0.2		Loose, light brown-yellow, very sandy, sub-angular to sub-rounded, fine to medium GRAVEL		Damp. No odour or staining		0.2	
						0.4		Soft, brown, slightly sandy SILT with occasional gravel with rootlets		Dry. No odour or staining		0.4	
						0.6		Soft, orange-brown, slightly clayey, slightly sandy SILT		Damp. No odour or staining		0.6	
						0.7		Boulder at base				0.7	
						1.0		Borehole terminated at 0.7 mbgl on refusal				1.0	
						1.5						1.5	
						2.0						2.0	
						2.5						2.5	
						3.0						3.0	
						3.5						3.5	
						4.0						4.0	
						4.5						4.5	
						5.0						5.0	

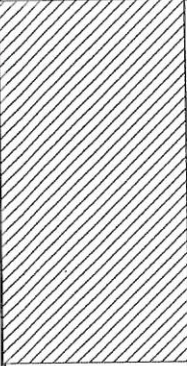
LOCATION / NOTES:		LEGEND		BOREHOLE LOG			
1. All measurements in m below ground level (mbgl)		 Disturbed Sample  Undisturbed Sample  Headspace Analysis  Down Borehole Analysis  Groundwater Table  Perched Water Table		Job Title WESTERN MARGIN INVESTIGATION Location BP LLANDARCY REFINERY Client BP LLANDARCY LTD			
2. Borehole backfilled with bentonite on completion				 Dames & Moore O'Brien Kreitzberg Thorburn Colquhoun		App'd DRAFT Ref. SG/CR/BR5 Date MAR 2001 Job No. 39991-016-402	

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW030C		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 08/01/01		DRILLING METHOD: DYNAMIC SAMPLING	
							FINISH DATE: 08/01/01		BOREHOLE DIAMETER: 128/113/98 mm	
							DRILLER: Geotechnical		SCREEN TYPE & DIAMETER: N/A	
							LOGGED BY: sc APPR'D BY:		SCREEN SLOT SIZE: N/A	
							DESCRIPTION	COMMENTS		
							Soft, dark brown, sandy SILT with rootlets and occasional gravel (TOPSOIL)	Wet. No odour or staining	0	
							Medium soft, brown, sandy SILT with occasional gravel	Damp. No odour or staining		
							Loose, orange-brown, sandy SILT with occasional fine to medium, sub-rounded and cobbles	Damp. No odour or staining	0.5	
							Soft to firm, light brown, gravelly, very sandy SILT with rounded sandstone cobbles Becomes siltier towards base of unit	Damp. No odour or staining		
							Light grey-brown, cobbly (sub-angular to sub-rounded), gravelly, silty SAND	Damp. No odour or staining	1.0	
							Fractured SANDSTONE (BEDROCK)	Dry. No odour or staining	1.5	
							Borehole terminated at 2.0 mbgl on refusal		2.0	
									2.5	
									3.0	
									3.5	
									4.0	
									4.5	
									5.0	

LOCATION / NOTES: 1. All measurements in m below ground level (mbgl) 2. Borehole backfilled with bentonite on completion		LEGEND Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table	BOREHOLE LOG Job Title WESTERN MARGIN INVESTIGATION Location BP LLANDARCY REFINERY Client BP LLANDARCY LTD App'd Ref. SG/CR/BRs Date MAR 2001 Job No. 39991-016-402 DRAFT
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BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW030B		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 08/01/01		DRILLING METHOD: DYNAMIC SAMPLING	
							FINISH DATE: 08/01/01		BOREHOLE DIAMETER: 128/113/98 mm	
							DRILLER: Geotechnical		SCREEN TYPE & DIAMETER: N/A	
				LOGGED BY: sc APPR'D BY:		SCREEN SLOT SIZE: N/A				
							DESCRIPTION	COMMENTS		
							Soft, dark brown, sandy SILT with rootlets (TOPSOIL)	Wet. No odour or staining	0	
							Medium soft, brown, sandy SILT with occasional gravel	Damp. No odour or staining		
							Soft, orange, slightly sandy, SILT with rootlets, occasional gravel and rare cobbles	Dry. No odour or staining	0.5	
							Soft to firm, light brown, very gravelly (sub-angular), and very sandy SILT with rootlets and occasional sub-rounded sandstone cobbles	Damp. No odour or staining		
							Becomes siltier and more orange-brown at 0.9m		1.0	
							Light grey-brown cobbly, gravelly (sub-rounded to sub-angular), silty SAND	Damp. No odour or staining		
							Borehole terminated at 1.2 mbgl on refusal		1.5	
									2.0	
									2.5	
									3.0	
									3.5	
									4.0	
									4.5	
									5.0	

LOCATION / NOTES:		LEGEND		BOREHOLE LOG			
1. All measurements in m below ground level (mbgl) 2. Borehole backfilled with bentonite on completion		Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table		Job Title WESTERN MARGIN INVESTIGATION Location BP LLANDARCY REFINERY Client BP LLANDARCY LTD URS Dames & Moore O'Brien Kreitzberg Thorburn Colquhoun			
				App'd SG/CR/BRS Ref. MAR 2001 Date 39991-016-402 Job No.		DRAFT	

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW030A		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 08/01/01		DRILLING METHOD: DYNAMIC SAMPLING	
							FINISH DATE: 08/01/01		BOREHOLE DIAMETER: 128/113/98 mm	
							DRILLER: Geotechnical		SCREEN TYPE & DIAMETER: N/A	
						LOGGED BY: sc APPR'D BY:		SCREEN SLOT SIZE: N/A		
						DESCRIPTION		COMMENTS		
					0		Soft, dark brown, sandy SILT with rootlets (TOPSOIL)	Wet. No odour or staining	0	
							Medium soft, brown, sandy SILT with occasional gravel	Damp. No odour or staining		
					0.5		Soft, orange, slightly sandy, SILT with rootlets, occasional gravel and rare cobbles	Dry. No odour or staining	0.5	
							Soft to firm, light brown, very gravelly (sub-angular), and very sandy SILT with rootlets and occasional sub-rounded sandstone cobbles	Damp. No odour or staining		
					1.0		Becomes siltier and more orange-brown at 0.9m		1.0	
							Light grey-brown cobbly, gravelly (sub-rounded to sub-angular), silty SAND	Damp. No odour or staining		
					1.5		Borehole terminated at 1.2 mbgl on refusal		1.5	
					2.0				2.0	
					2.5				2.5	
					3.0				3.0	
					3.5				3.5	
					4.0				4.0	
					4.5				4.5	
					5.0				5.0	

LOCATION / NOTES: 1. All measurements in m below ground level (mbgl) 2. Borehole backfilled with bentonite on completion		LEGEND  Disturbed Sample  Undisturbed Sample  * Headspace Analysis  † Down Borehole Analysis  ∇ Groundwater Table  ∇ Perched Water Table	BOREHOLE LOG Job Title WESTERN MARGIN INVESTIGATION Location BP LLANDARCY REFINERY Client BP LLANDARCY LTD	
		 Dames & Moore O'Brien Kreitzberg Thorburn Colquhoun	App'd _____ Ref. SG/CR/BR5 Date MAR 2001 Job No. 39991-016-402	DRAFT

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW029B		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 09/01/01		DRILLING METHOD: DYNAMIC SAMPLING	
							FINISH DATE: 09/01/01		BOREHOLE DIAMETER: 128/113/98 mm	
							DRILLER: Geotechnical		SCREEN TYPE & DIAMETER: N/A	
				LOGGED BY: sc APPR'D BY:		SCREEN SLOT SIZE: N/A				
							DESCRIPTION	COMMENTS	0	
							Soft, black, silty, gravelly, coarse SAND (TOPSOIL)	Damp. No odour or staining	0	
							Soft, brown, gravelly, sandy SILT with rootlets	Damp to dry. No odour or staining	0.5	
							Soft, orange, sub-rounded gravelly, sandy SILT	Damp to dry. No odour or staining	1.0	
							Loose, light brown, sandy, silty, cobbly sub-rounded sandstone GRAVEL	Dry to damp. No odour or staining	1.5	
							Soft, brown-grey, slightly silty SAND with occasional fine to medium gravel	Dry to damp. No odour or staining	2.0	
							Firm, yellow-brown, slightly clayey, friable SILT	Dry. No odour or staining	2.5	
							Soft, dark red-brown SAND Becoming pale yellow with depth	Dry. No odour or staining	3.0	
							Borehole terminated at 1.6 mbgl on refusal		3.5	
									4.0	
									4.5	
									5.0	

LOCATION / NOTES: 1. All measurements in m below ground level (mbgl) 2. Borehole backfilled with bentonite on completion		LEGEND Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table	BOREHOLE LOG Job Title WESTERN MARGIN INVESTIGATION Location BP LLANDARCY REFINERY Client BP LLANDARCY LTD Dames & Moore O'Brien Kreitzberg Thorburn Colquhoun	App'd DRAFT Ref. SG/CR/BR5 Date MAR 2001 Job No. 39991-016-402
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BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW029A		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 08/01/01		DRILLING METHOD: DYNAMIC SAMPLING	
							FINISH DATE: 08/01/01		BOREHOLE DIAMETER: 128/113/98 mm	
							DRILLER: Geotechnical		SCREEN TYPE & DIAMETER: N/A	
							LOGGED BY: SC APPR'D BY:		SCREEN SLOT SIZE: N/A	
						DESCRIPTION	COMMENTS			
						0	Loose, brown, cobbly, gravelly, sandy SILT	Dry. No odour or staining	0	
						0.5	Medium soft, orange-brown, gravelly, sandy SILT	Dry. No odour or staining	0.5	
						0.5	Loose, yellow-brown, gravelly, sandy SILT	Dry. No odour or staining	0.5	
						1.0	Borehole terminated at 2.0 mbgl on refusal		1.0	
						1.5			1.5	
						2.0			2.0	
						2.5			2.5	
						3.0			3.0	
						3.5			3.5	
						4.0			4.0	
						4.5			4.5	
						5.0			5.0	

LOCATION / NOTES:

- All measurements in m below ground level (mbgl)
- Borehole backfilled with bentonite on completion

LEGEND

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

BOREHOLE LOG

Job Title **WESTERN MARGIN INVESTIGATION**

Location **BP LLANDARCY REFINERY**

Client **BP LLANDARCY LTD**

Dames & Moore
O'Brien Kreitzberg
Thorburn Colquhoun

App'd _____

Ref. **SG/CR/BRs**

Date **MAR 2001**

Job No. **39991-016-402**

DRAFT

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW028		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 09/01/01		DRILLING METHOD: DYNAMIC SAMPLING	
							FINISH DATE: 09/01/01		BOREHOLE DIAMETER: 128/113/98 mm	
							DRILLER: Geotechnical		SCREEN TYPE & DIAMETER: N/A	
							LOGGED BY: SC APPR'D BY:		SCREEN SLOT SIZE: N/A	
					DESCRIPTION		COMMENTS			
					0	Soft, brown-black, sandy SILT (TOPSOIL)	Damp. No odour or staining	0		
						Loose, light brown, sandy, sub-rounded) GRAVEL with brick fragments (MADE GROUND)	Damp. No odour or staining			
					*0.1	0.5	Soft, brown, slightly gravelly, sandy SILT	Damp to dry. No odour or staining	0.5	
						Medium soft, orange-brown, sandy SILT	Damp. No odour or staining			
					*0.4	1.0	Soft, orange, sandy SILT	Damp to dry. No odour or staining	1.0	
						Medium soft, light brown sandy SILT	Damp. No odour or staining			
						Medium dense, light brown, very gravelly, sandy SILT	Damp. No odour or staining			
					*1.8	1.5	Medium dense, grey-orange-brown, gravelly, very sandy SILT	Damp. No odour or staining	1.5	
						Sand content increases at 1.75-1.85m	Staining at 1.95m. Damp. Moderate hydrocarbon odour noted			
					*42.1	2.0	Borehole terminated at 2.0 mbgl on refusal		2.0	
					2.5				2.5	
					3.0				3.0	
					3.5				3.5	
					4.0				4.0	
					4.5				4.5	
					5.0				5.0	

LOCATION / NOTES:

- All measurements in m below ground level (mbgl)
- Borehole backfilled with bentonite on completion

LEGEND

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

BOREHOLE LOG

Job Title **WESTERN MARGIN INVESTIGATION**

Location **BP LLANDARCY REFINERY**

Client **BP LLANDARCY LTD**

Dames & Moore
O'Brien Kreitzberg
Thorburn Colquhoun

App'd **DRAFT**

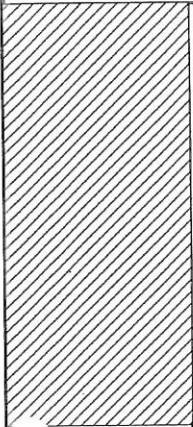
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Date **MAR 2001**

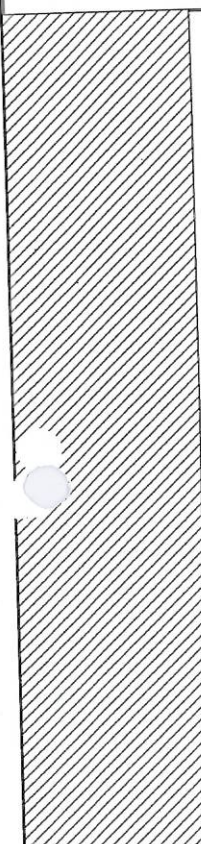
Job No. **39991-016-402**

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW027		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 09/01/01		DRILLING METHOD: DYNAMIC SAMPLING	
							FINISH DATE: 09/01/01		BOREHOLE DIAMETER: 128/113/98 mm	
							DRILLER: Geotechnical		SCREEN TYPE & DIAMETER: N/A	
							LOGGED BY: SC APPR'D BY:		SCREEN SLOT SIZE: N/A	
							DESCRIPTION	COMMENTS		
						Loose, dark brown silty SAND with rootlets (TOPSOIL)	Damp. No odour or staining	0		
						Soft, brown, gravelly, sandy SILT	Damp. No odour or staining			
						Becomes slightly firmer and slightly clayey at 0.45m		0.5		
						Soft, orange, sandy SILT with occasional gravel and small cobbles	Damp. No odour or staining			
						Medium dense, sandy, silty sub-angular to sub-rounded GRAVEL with some orange-brown cobbles	Damp. No odour or staining	1.0		
*1.1 *1.2 *0.9 *1.1						Medium dense, light brown, very gravelly (sub-rounded), slightly silty SAND with occasional cobbles	Damp. No odour or staining	1.5		
						Orange-brown-yellow lens at 1.4m		2.0		
						Borehole terminated at 2.0 mbgl on refusal		2.5		
								3.0		
								3.5		
								4.0		
								4.5		
								5.0		

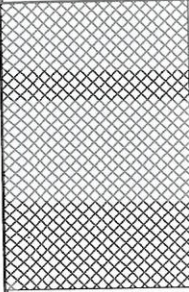
LOCATION / NOTES: 1. All measurements in m below ground level (mbgl) 2. Borehole backfilled with bentonite on completion		LEGEND Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table	BOREHOLE LOG Job Title WESTERN MARGIN INVESTIGATION Location BP LLANDARCY REFINERY Client BP LLANDARCY LTD Dames & Moore O'Brien Kreitzberg Thorburn Colquhoun App'd Ref. SG/CR/BRS Date MAR 2001 Job No. 39991-016-402 DRAFT
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BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW026		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 09/01/01		DRILLING METHOD: DYNAMIC SAMPLING	
							FINISH DATE: 09/01/01		BOREHOLE DIAMETER: 128/113/98 mm	
							DRILLER: Geotechnical		SCREEN TYPE & DIAMETER: N/A	
							LOGGED BY: SC APPR'D BY:		SCREEN SLOT SIZE: N/A	
							DESCRIPTION	COMMENTS		
							0	Loose, dark brown sandy SILT with rootlets (TOPSOIL)	Damp. No odour or staining	0
							0.25	Loose, soft, brown, sandy SILT with occasional gravel	Damp. No odour or staining	
							0.5	Becoming firmer towards base of unit		0.5
							0.75	Soft, orange, slightly gravelly, sandy SILT	Damp. No odour or staining	
							1.0	Loose, orange-brown, silty, sandy sub-rounded GRAVEL	Damp. No odour or staining	1.0
							1.25	Loose, light brown, sandy, cobbly sub-angular to sub-rounded GRAVEL	Damp. No odour or staining	
							1.5	Borehole terminated at 1.4 mbgl		1.5
							2.0			2.0
							2.5			2.5
							3.0			3.0
							3.5			3.5
							4.0			4.0
							4.5			4.5
							5.0			5.0

LOCATION / NOTES: 1. All measurements in m below ground level (mbgl) 2. Borehole backfilled with bentonite on completion		LEGEND  Disturbed Sample  Undisturbed Sample  Headspace Analysis  Down Borehole Analysis  Groundwater Table  Perched Water Table	BOREHOLE LOG Job Title WESTERN MARGIN INVESTIGATION Location BP LLANDARCY REFINERY Client BP LLANDARCY LTD  Dames & Moore O'Brien Kreitzberg Thorburn Colquhoun		App'd Ref. SG/CR/BR5 Date MAR 2001 Job No. 39991-016-402	DRAFT
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BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW025B		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 04/01/01		DRILLING METHOD: DYNAMIC SAMPLING	
							FINISH DATE: 04/01/01		BOREHOLE DIAMETER: 128/113/98 mm	
							DRILLER: Geotechnical		SCREEN TYPE & DIAMETER: N/A	
LOGGED BY: SC		APPR'D BY:		SCREEN SLOT SIZE: N/A						
							DESCRIPTION	COMMENTS		
							Soft, dark brown sandy SILT with rootlets (TOPSOIL)	Damp. No odour or staining	0	
							Loose, brown, sandy SILT with occasional gravel	Damp. No odour or staining		
							Soft to firm, light brown, gravelly, cobbly, sandy SILT	Damp. No odour or staining	0.5	
							Angular cobbles becoming frequent from 1.2m Gravel content increasing		1.0	
							Sub-angular to sub-rounded sandstone cobbles with some gravelly sand		1.5	
								Dry to damp	2.0	
									2.5	
							Borehole terminated at 2.8 mbgl on refusal		3.0	
									3.5	
									4.0	
									4.5	
									5.0	

LOCATION / NOTES:		LEGEND		BOREHOLE LOG	
1. All measurements in m below ground level (mbgl) 2. Borehole backfilled with bentonite on completion		☒ Disturbed Sample ☐ Undisturbed Sample * Headspace Analysis † Down Borehole Analysis  Groundwater Table  Perched Water Table		WESTERN MARGIN INVESTIGATION BP LLANDARCY REFINERY BP LLANDARCY LTD	
		URS Dames & Moore O'Brien Kreitzberg Thorburn Colquhoun		App'd DRAFT Ref. SG/CR/BR5 Date MAR 2001 Job No. 39991-016-402	

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW025A		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 04/01/01		DRILLING METHOD: DYNAMIC SAMPLING	
							FINISH DATE: 04/01/01		BOREHOLE DIAMETER: 143/128/113/98 mm	
							DRILLER: Geotechnical		SCREEN TYPE & DIAMETER: N/A	
							LOGGED BY: SC APPR'D BY:		SCREEN SLOT SIZE: N/A	
							DESCRIPTION	COMMENTS		
						0	Soft, dark brown, sandy SILT with rootlets (TOPSOIL)	Damp. No odour or staining	0	
							Loose, brown, sandy SILT with occasional sub-rounded medium gravel	Damp. No odour or staining		
						0.5	Soft to firm, light brown, gravelly (fine to coarse, sub-rounded), very sandy SILT	Damp. No odour or staining	0.5	
						1.0	Borehole terminated at 0.95 mbgl		1.0	
						1.5			1.5	
						2.0			2.0	
						2.5			2.5	
						3.0			3.0	
						3.5			3.5	
						4.0			4.0	
						4.5			4.5	
						5.0			5.0	

LOCATION / NOTES: 1. All measurements in m below ground level (mbgl)		LEGEND  Disturbed Sample  Undisturbed Sample  Headspace Analysis  Down Borehole Analysis  Groundwater Table  Perched Water Table		BOREHOLE LOG Job Title WESTERN MARGIN INVESTIGATION Location BP LLANDARCY REFINERY Client BP LLANDARCY LTD  Dames & Moore O'Brien Kreitzberg Thorburn Colquhoun				App'd _____ Ref. SG/CR/BR5 Date MAR 2001 Job No. 39991-016-402		DRAFT	
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BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW217D		PAGE 1 of 2		
	NUMBER	TYPE					START DATE: 25/3/99		DRILLING METHOD: ROTARY AIR FLUSH		
							FINISH DATE: 25/3/99		BOREHOLE DIAMETER: 165/115 mm		
							DRILLER: R3		SCREEN TYPE & DIAMETER: 50 mm ID UPVC		
				LOGGED BY: JC APPR'D BY:		SCREEN SLOT SIZE: 0.5 mm					
						DESCRIPTION		COMMENTS			
						Brown silty CLAY with frequent gravel		Damp No hydrocarbon odour		0	
						Dark green-grey clayey SAND with frequent gravel		Water ingress at 2.7m		1.0	
						Dark green-grey silty CLAY with frequent gravel				2.0	
						becoming increasingly gravelly from 5.5m		Water strike at 5.5m		3.0	
						Dark grey silty sandy CLAY with frequent gravel				4.0	
						Grey sandy CLAY with occasional gravel (BOULDER CLAY)		Water cased out		5.0	
								Drier at 9.0m		6.0	
										7.0	
										8.0	
										9.0	
						10					

LOCATION / NOTES:

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

LEGEND

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

BOREHOLE LOG

Job Title **SOIL & GROUNDWATER INVESTIGATION**

Location **LLANDARCY REFINERY**

Client **BP LLANDARCY LTD**

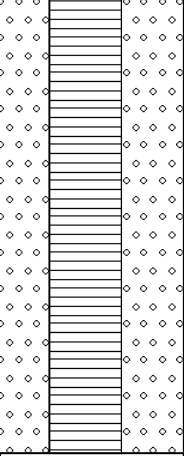
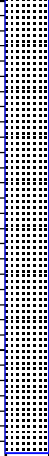
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Ref. **CR/MC/BRS**

Date **MAY 99**

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

DAMES & MOORE

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW217D		PAGE 2 of 2	
	NUMBER	TYPE					START DATE: 25/3/99		DRILLING METHOD: ROTARY AIR FLUSH	
							FINISH DATE: 25/3/99		BOREHOLE DIAMETER: 165/115 mm	
							DRILLER: R3		SCREEN TYPE & DIAMETER: 50 mm ID UPVC	
							LOGGED BY: JC APPR'D BY:		SCREEN SLOT SIZE: 0.5 mm	
						DESCRIPTION		COMMENTS		
					10		SANDSTONE (BEDROCK)	Dry	10	
					11				becoming darker with traces of coal	Damp
					12					12
					13					13
					14					14
					15					15
					16					16
					17					17
					18					18
					19					19
					20					20

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