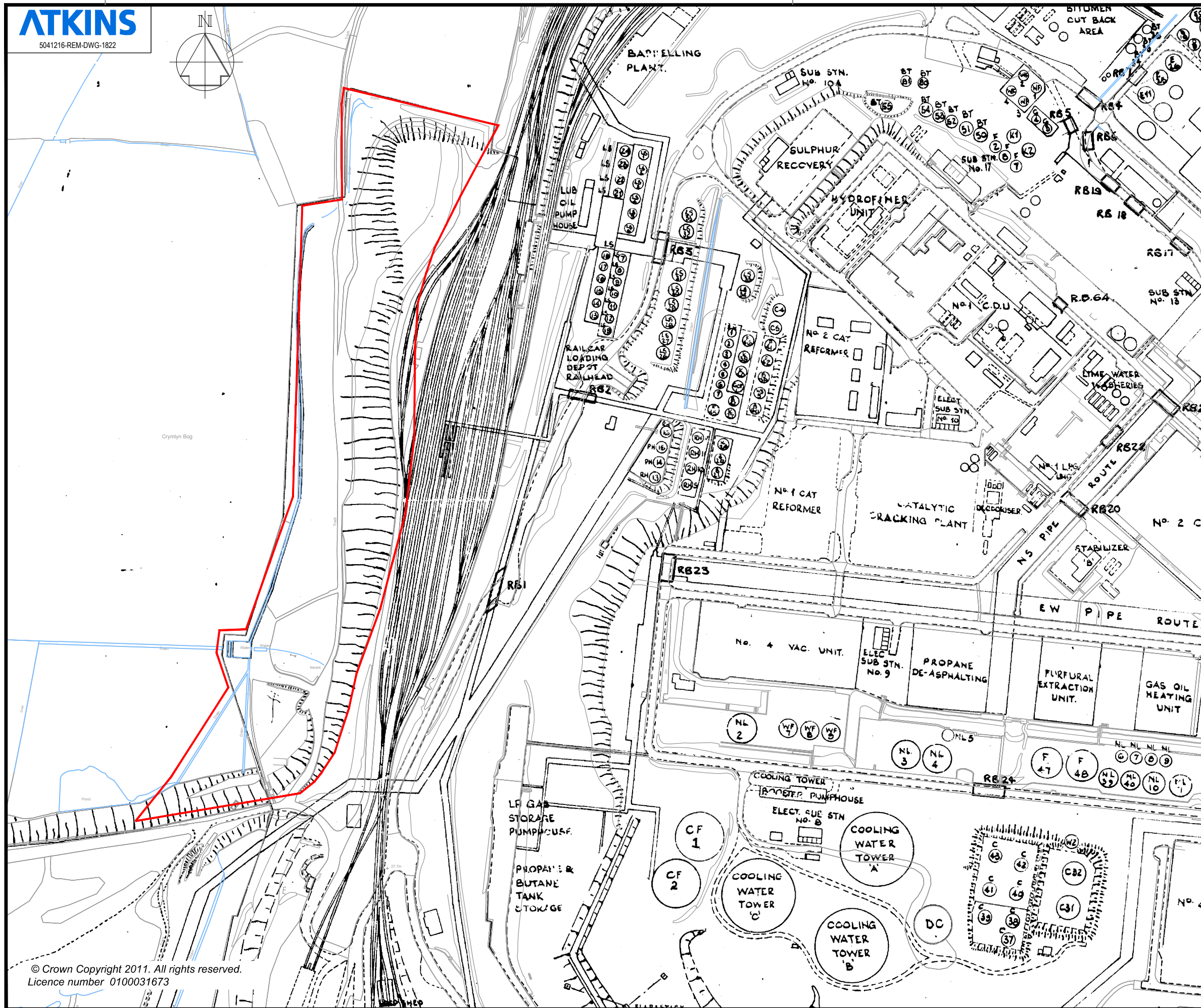
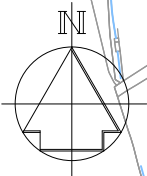




KEY

PUBLIC OPEN SPACE ZONE C

TRIAL PIT LOCATION

P1 FIRST ISSUE MJ MT 24/03/15

REVISIONS Drawn By Checked By Date

PURPOSE OF ISSUE Rev. Authorised for issue Date

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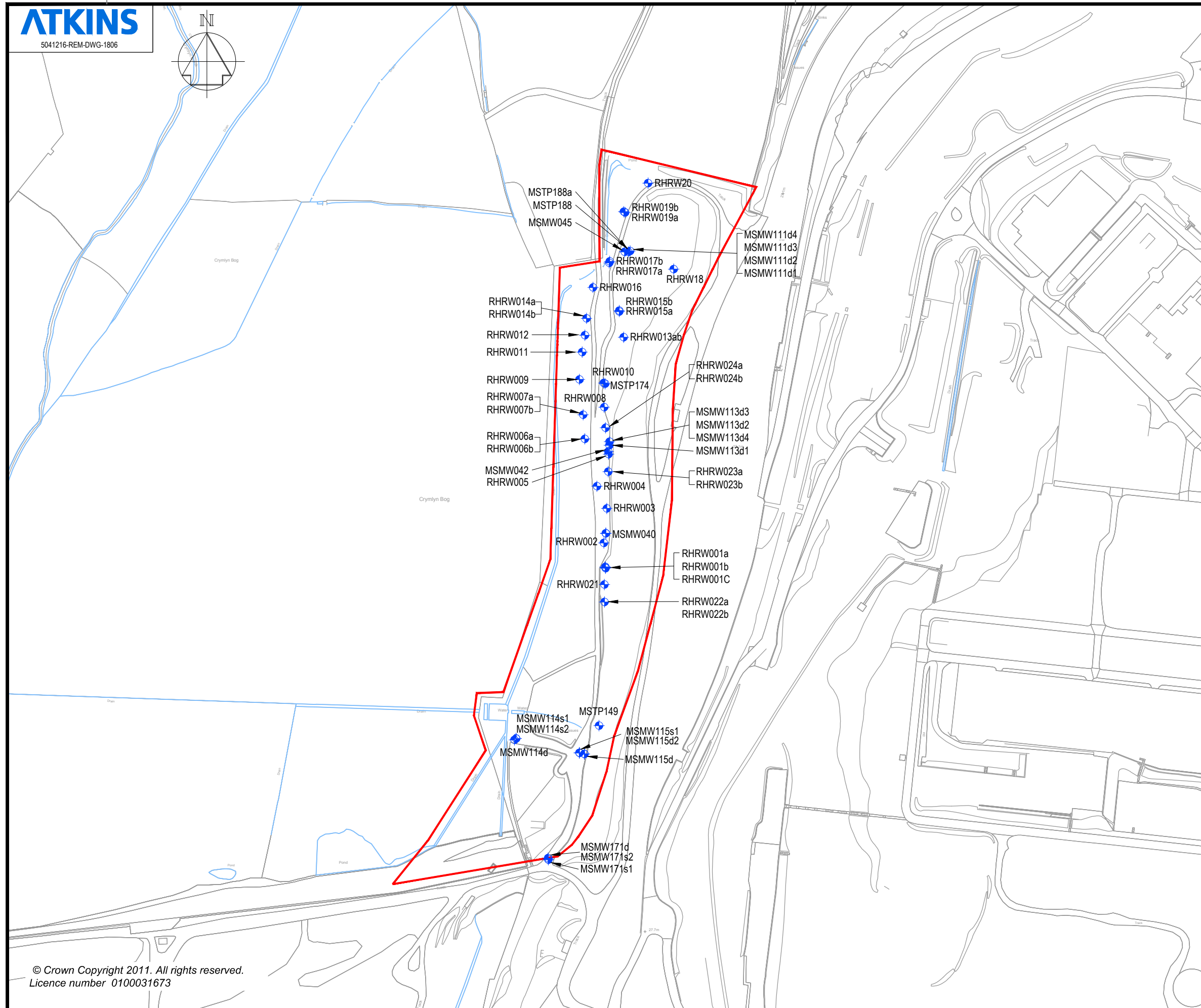
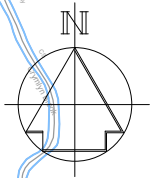
CLIENT **ST.MODWEN**

PROJECT COED DARCY

DRAWING TITLE
PUBLIC OPEN SPACE ZONE C
WESTERN MARGIN WOODLAND
HISTORICAL LAYOUT

SCALE 1:2500	DRAWN MJ	CHECKED MT	CO-ORD CHECK
	DATE 24/03/15	DATE 24/03/15	DATE

DRAWING NO 5041216-REM-DWG-1822	SHEET A3	PLOT DATE 24.03.15	REV P1
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KEY



PUBLIC OPEN SPACE ZONE C



HISTORIC EXPLORATORY HOLE

P1	FIRST ISSUE	MJ	MT	05.03.15
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REVISIONS	Drawn By	Checked By	Date
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PURPOSE OF ISSUE	Rev.	Authorised for issue	Date
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CLIENT	ST.MODWEN
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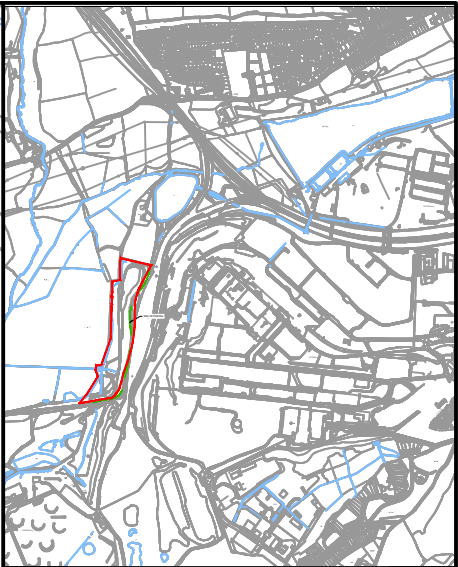
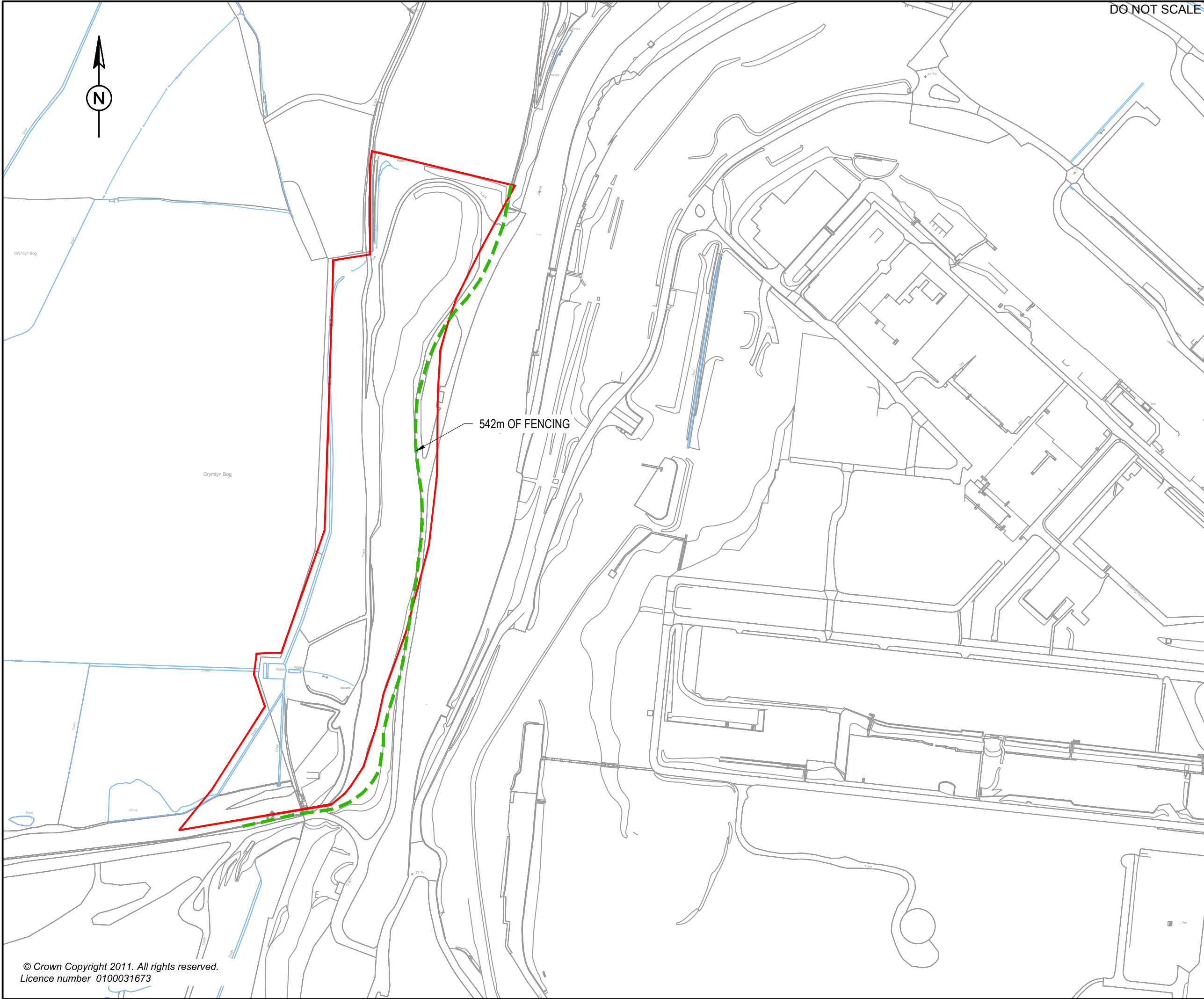
PROJECT	COED DARCY
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DRAWING TITLE	PUBLIC OPEN SPACE ZONE C HISTORIC EXPLORATORY HOLE LOCATIONS
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SCALES	DRAWN	CHECKED	CO-ORD CHECK
1:2,500	MJ	MT	
	DATE	DATE	DATE
	05.03.15	05.03.15	

DRAWING NO	SHEET	PLOT DATE
5041216-REM-DWG-1806	A3	27.04.15

REV	P1
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LOCATION PLAN
SCALE 1:25,000

KEY	
—	PUBLIC OPEN SPACE ZONE C
- - -	FENCING

NOTE
542m TOTAL LENGTH OF FENCING REQUIRED

P1	03/09/15	FIRST ISSUE	MJ	MT	ML
Rev.	Date	Description	By	Chk'd	App'd

Drawing Status	FOR INFORMATION	Suitability	S2
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Client

Project Title
COED DARCY

Drawing Title
**PUBLIC OPEN SPACE ZONE C
LONG TERM RECEPTORS
ACCESS AND LANDSCAPING PROPOSALS**

Scale	Designed	Drawn	Checked	Authorised
1:2500	MT	MJ	MT	ML
Original Size	Date	Date	Date	Date
A3	03/09/15	03/09/15	03/09/15	03/09/15
Drawing Number	Revision			
5041216-ATK-DR-C-REM-002016	P 1			

Appendix A - Historical Exploratory Hole Logs

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW001A		PAGE 1 of 1		
	NUMBER	TYPE					START DATE: 20/12/00		DRILLING METHOD: DYNAMIC SAMPLING		
							FINISH DATE: 20/12/00		BOREHOLE DIAMETER: 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		Loose, black, slightly gravelly coarse SAND comprising ash and clinker (MADE GROUND)		No staining or odour.	0
						0.5		Soft, yellow-orange-brown, silty and sandy CLAY (MADE GROUND)		No staining or odour	0.5
						1.0		Loose, black, slightly gravelly coarse SAND comprising ash and clinker (MADE GROUND)		Slight hydrocarbon odour. Damp at 0.9m	1.0
						1.5		Soft, brown, woody, silty and clayey PEAT		Slight H ₂ S odour	1.5
						2.0		Soft to firm, yellow-brown, sandy, clayey SILT with occasional sub-rounded gravel		Strong hydrocarbon odour. Black Staining. Wet	2.0
						2.5		Medium dense to dense, yellow-brown, slightly silty, very sandy medium to coarse sub-rounded GRAVEL with occasional cobbles		Strong hydrocarbon odour	2.5
						3.0		Borehole terminated at 3.0 mbgl on refusal		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	
				App'd DRAFT Ref. SG/CR/BR5 Date MAR 2001 Job No. 39991-016-402	
		Dames & Moore O'Brien Kreitzberg Thorburn Colquhoun			

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW001B		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 20/12/00		DRILLING METHOD: DYNAMIC SAMPLING	
							FINISH DATE: 20/12/00		BOREHOLE DIAMETER: 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		
							Loose, black, gravelly medium to coarse SAND comprising ash and clinker (MADE GROUND)	Slight hydrocarbon odour. Damp	0	
							Hard orange sandstone COBBLE	Damp. No odour or staining	0.5	
							Loose, black, gravelly medium to coarse SAND comprising ash and clinker (MADE GROUND)			
								Wet from 1m	1.0	
*82.1 *11.1 *23.8 *4032							Soft, red-brown, very silty PEAT with twigs	Wet. Natural odour	1.5	
							Firm, brown, clayey SILT with some sand	Damp. Staining and strong hydrocarbon odour noted.	1.5	
							Borehole terminated at 1.5 mbgl		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)	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
2. After drilling water at 1.4m		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: RHRW001C		PAGE 1 of 1		
	NUMBER	TYPE					START DATE: 20/12/00		DRILLING METHOD: DYNAMIC SAMPLING		
							FINISH DATE: 20/12/00		BOREHOLE DIAMETER: 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	Loose, black, gravelly coarse SAND comprising ash and clinker (MADE GROUND)	Slight hydrocarbon odour. Damp	0		
						0.5	Soft, yellow-brown, sandy clayey SILT with occasional fine gravel (MADE GROUND)	No staining. Slight odour. Damp	0.5		
							Loose, black, gravelly coarse SAND comprising ash and clinker (MADE GROUND)				
						1.0	Cobbles from 1-1.15m		1.0		
							Soft, dark brown, woody, silty PEAT	Natural odour. Damp			
						1.5	Soft to firm, yellow-brown, sandy, SILT with occasional sub-angular coarse gravel	Damp to wet. Strong hydrocarbon odour and staining	1.5		
							Becomes clayey from 1.8m				
						2.0	Medium dense, yellow-brown, gravelly, very silty SAND	Wet. Some staining and strong hydrocarbon odour	2.0		
							Silty from 2.5-2.7m				
							Gravelly and cobbly from 2.7-3m	Becomes drier from 2.5m. Hydrocarbon odour noted	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)		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/BR5 Date MAR 2001 Job No. 39991-016-402		
		Dames & Moore O'Brien Kreitzberg Thorburn Colquhoun			

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW002		PAGE 1 of 1						
	NUMBER	TYPE					START DATE: 19/12/00		DRILLING METHOD: DYNAMIC SAMPLING						
							FINISH DATE: 19/12/00		BOREHOLE DIAMETER: 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		Loose, black, slightly gravelly coarse SAND comprising ash and clinker (MADE GROUND)				0			
						0.5				Moderate hydrocarbon odour from 0.5m		0.5			
						1.0				Yellow-brown, very sandy SILT with some gravel		Very strong hydrocarbon odour		1.0	
						1.5				Dense, blue-grey and yellow-brown, slightly silty coarse, sub-angular sandstone GRAVEL with cobbles		Moderate hydrocarbon odour		1.5	
						2.0				Medium dense, very gravelly and silty fine SAND		Some black staining. Strong hydrocarbon odour		2.0	
						2.3		Grades to very sandy, fine to medium sub-rounded gravel at 2.3m				2.3			
						2.5		Borehole terminated at 2.5 mbgl on refusal				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	
				App'd DRAFT Ref. SG/CR/BRS Date MAR 2001 Job No. 39991-016-402	
		Dames & Moore O'Brien Kreitzberg Thorburn Colquhoun			

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW003		PAGE 1 of 1				
	NUMBER	TYPE					START DATE: 19/12/00		DRILLING METHOD: DYNAMIC SAMPLING				
							FINISH DATE: 19/12/00		BOREHOLE DIAMETER: 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		Loose, black-brown, silty, sandy fine GRAVEL comprising ash and clinker (MADE GROUND)		No staining or odour.		0	
						0.5		Firm to stiff, black to dark brown, slightly gravelly CLAY with clinker and ash (MADE GROUND)		Slight hydrocarbon odour.		0.5	
						1.0		Loose, black, slightly gravelly, coarse SAND comprising ash and clinker (MADE GROUND)		Sewer-like odour (H ₂ S) Strong hydrocarbon odour		1.0	
						1.5		Dense, black, sandy and silty coarse GRAVEL with cobbles		Very strong hydrocarbon odour		1.5	
						2.0		Dense, yellow-brown, very sandy and silty sub-rounded, fine to loose GRAVEL with cobbles		Very strong light hydrocarbon odour		2.0	
						2.5		Borehole terminated at 2.5 mbgl on refusal		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			
						App'd DRAFT Ref. SG/CR/BRS Date MAR 2001 Job No. 39991-016-402	
				Dames & Moore O'Brien Kreitzberg Thorburn Colquhoun			

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW004		PAGE 1 of 1		
	NUMBER	TYPE					START DATE: 19/12/00		DRILLING METHOD: DYNAMIC SAMPLING		
							FINISH DATE: 19/12/00		BOREHOLE DIAMETER: 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	Soft, dark brown sandy SILT (TOPSOIL)			0	
						0.5	Loose black sandy and slightly silty, fine to medium GRAVEL comprising ash and clinker (MADE GROUND)	Slight hydrocarbon odour.		0.5	
						1.0	Loose, black, clayey, fine GRAVEL comprising mainly clinker (MADE GROUND)	Slight to moderate hydrocarbon odour. Damp		1.0	
						1.5	Loose black sandy and slightly silty, fine to medium GRAVEL comprising ash and clinker (MADE GROUND)	Very strong hydrocarbon odour. Wet		1.5	
						2.0	Soft black, slightly sandy SILT	Very strong hydrocarbon odour		2.0	
						2.5	Dense, yellow-brown, very silty, sandy, sub-rounded GRAVEL with some cobbles	Very strong hydrocarbon odour		2.5	
						3.0	Borehole terminated at 2.6 mbgl on refusal				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
			App'd
		Dames & Moore O'Brien Kreitzberg Thorburn Colquhoun	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: RHRW005		PAGE 1 of 1			
	NUMBER	TYPE					START DATE: 19/12/00		DRILLING METHOD: DYNAMIC SAMPLING			
							FINISH DATE: 19/12/00		BOREHOLE DIAMETER: 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		Loose, black and orange-red-brown, sandy, fine to medium GRAVEL comprising clinker and some ash (MADE GROUND)		No staining or odour.		0
						0.5		Loose, black, slightly silty, fine SAND (Fly ash) (MADE GROUND)		No staining or odour		0.5
						1.0		Loose, black and orange-re-brown, sandy, fine to medium GRAVEL comprising clinker and some ash (MADE GROUND)		Damp		1.0
						1.5		Stiff, dark brown to black, slightly gravelly CLAY (MADE GROUND)		Dry. Slight hydrocarbon odour.		1.5
						2.0		CONCRETE with fine grained sandstone cobbles (MADE GROUND)		Dry. Slight hydrocarbon odour.		2.0
						2.5		Loose, black and orange-re-brown, sandy, fine to medium GRAVEL comprising clinker and some ash (MADE GROUND)		Damp. Slight hydrocarbon odour.		2.5
						3.0		Soft, black, woody, fibrous PEAT		Moderate hydrocarbon odour.		3.0
						3.5		Soft, light brown, very sandy and slightly gravelly SILT with occasional sandy lenses		Strong hydrocarbon odour		3.5
						4.0		Medium dense to dense, light brown and grey, slightly silty, sandy GRAVEL with cobbles		Strong hydrocarbon odour. Wet		4.0
						4.5		Borehole terminated at 2.7 mbgl on refusal				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 URS 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: RHRW006A/B		PAGE 1 of 1	
		NUMBER	TYPE					START DATE: 18/12/00	DRILLING METHOD: DYNAMIC SAMPLING	FINISH DATE: 18/12/00	BOREHOLE DIAMETER: 128/113/98 mm
A B						0		DESCRIPTION		COMMENTS	0
				*2.61		0		Loose, black, slightly gravelly fine to medium SAND comprising ash and clinker (MADE GROUND)		Slight hydrocarbon odour	
				*120		0.5		Loose, orange-brown, very silty and gravelly, fine SAND (MADE GROUND)		No hydrocarbon odour	
				*94.1		0.5		Loose, black, sandy, fine GRAVEL with some sand comprising ash and clinker (MADE GROUND)		Slight hydrocarbon odour. Wet	0.5
				*>10,000		1.0		Loose, black, very silty and gravelly, fine to medium SAND		Very strong hydrocarbon odour, with visible product. Wet at 0.7m	1.0
				*>10,000		1.5		Soft to firm, dark grey and black, very sandy SILT with occasional fine gravel		Very strong hydrocarbon odour. Damp	1.5
				*>10,000		2.0		Cobble at 1.5m			2.0
				*>10,000		2.5		Medium dense, yellow-orange-brown and dark grey, very sandy, silty GRAVEL		Very strong hydrocarbon odour. Wet	2.5
				*>10,000		3.0		Very cobbly between 2 and 3m			3.0
						3.5		Borehole terminated at 3.0 mbgl			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	
		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: RHRW007A/B		PAGE 1 of 1	
								NUMBER	TYPE	START DATE: 18/12/00	
		FINISH DATE: 18/12/00		BOREHOLE DIAMETER: 128/113/98 mm							
		DRILLER: Geotechnical		SCREEN TYPE & DIAMETER: HDPE 1 mm							
LOGGED BY: SG		APPR'D BY:		SCREEN SLOT SIZE: 1 mm							
A	B							DESCRIPTION	COMMENTS		
						0		Loose, brown and black, slightly gravelly medium SAND comprising ash and clinker (MADE GROUND)	Slight hydrocarbon odour	0	
						0.5		Loose, brown, gravelly coarse SAND comprising ash and clinker (MADE GROUND)	Slight hydrocarbon odour. Wet	0.5	
						1.0		Loose, black, very gravelly, coarse SAND with some silt comprising ash and clinker (MADE GROUND)	Strong hydrocarbon odour. Wet	1.0	
						1.0		Soft, black, fibrous PEAT with some silt	Strong hydrocarbon odour	1.0	
						1.0		Soft, yellow-brown, very sandy SILT	Moderate hydrocarbon odour. Damp	1.0	
						1.5		Soft, black, slightly sandy and gravelly SILT	Very strong hydrocarbon odour. Wet Product at 1.6-1.8m	1.5	
						2.0		Dense, yellow-brown and black, very silty bouldery GRAVEL with some clay	Very strong hydrocarbon odour	2.0	
						2.5				2.5	
						3.0		Dense, yellow-brown, very clayey sub-rounded GRAVEL with some sand	Very strong hydrocarbon odour	3.0	
						3.0		Borehole terminated at 2.8 mbgl		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 X 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 URS 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: RHRW008		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 19/12/00		DRILLING METHOD: DYNAMIC SAMPLING	
							FINISH DATE: 19/12/00		BOREHOLE DIAMETER: 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		
							Loose, black and brown, slightly gravelly medium to coarse SAND comprising ash and clinker (MADE GROUND)	Slight odour	0	
									0.5	
									1.0	
									1.5	
									2.0	
									2.5	
									3.0	
									3.5	
									4.0	
									4.5	
		5.0								
							Firm, yellow-brown, silty CLAY (MADE GROUND)	Damp. Strong hydrocarbon odour	1.0	
							Loose, fibrous, woody, silty CLAY with a piece of cloth-like material (MADE GROUND)	Strong hydrocarbon odour becoming very strong at 1.5m	1.5	
							Firm, dark brown to black, gravelly CLAY	Black staining from 1.5-1.9m. Strong to very strong hydrocarbon odour	2.0	
							Firm to soft, light brown, very sandy and gravelly SILT		2.5	
							Dense, slightly sandy and silty, coarse sub-angular to sub-rounded GRAVEL with cobbles	Wet at 2.6m	3.0	
							Borehole terminated at 3.0 mbgl on refusal		3.5	
									4.0	
									4.5	
									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	
		 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: RHRW009		PAGE 1 of 1		
	NUMBER	TYPE					START DATE: 18/12/00		DRILLING METHOD: DYNAMIC SAMPLING		
							FINISH DATE: 18/12/00		BOREHOLE DIAMETER: 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	Loose, black and brown, slightly gravelly medium to coarse SAND comprising ash and clinker (MADE GROUND)	Slight hydrocarbon odour. Damp	0		
						0.5	Loose, black, slightly gravelly, fine to medium SAND comprising ash and clinker (MADE GROUND)	Slight hydrocarbon odour	0.5		
						1.0	Loose, dark brown, medium GRAVEL	Wet	1.0		
						*92.7	Soft, dark brown, fibrous PEAT with some silt	Slight hydrocarbon odour. H ₂ S odour			
						*156	Soft to firm, brown to black, slightly clayey SILT with occasional root fragments	Moderate hydrocarbon odour			
						*928	Soft to very soft, black, slightly clayey SILT with occasional sub-rounded gravel and cobbles	Black hydrocarbon staining, odour and product visible. Damp	1.5		
						*>10,000	Medium dense, dark grey-brown to black, very silty and very sandy, medium GRAVEL with frequent cobbles	Strong hydrocarbon odour. Product and staining visible	2.0		
						*>10,000			2.5		
						*>10,000			3.0		
						*>10,000			3.5		
						3.0	Dense, black to blue-grey sandstone COBBLES with coarse gravel	Strong light hydrocarbon odour	3.0		
						3.0	Borehole terminated at 2.9 mbgl on refusal				
						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 				
				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: RHRW010		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 19/12/00		DRILLING METHOD: DYNAMIC SAMPLING	
							FINISH DATE: 19/12/00		BOREHOLE DIAMETER: 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		
							Loose, black, (occasionally dark brown), slightly gravelly medium to coarse SAND comprising ash and clinker (MADE GROUND)	Slight hydrocarbon odour.	0	0
								Slight hydrocarbon odour.	0.5	0.5
								Wet at 1.0m with associated hydrocarbon staining and odour	1.0	1.0
							Firm, brown, slightly silty CLAY (MADE GROUND)	Slight hydrocarbon odour.	1.5	1.5
							Loose, black, (occasionally dark brown), slightly gravelly medium to coarse SAND comprising ash and clinker (MADE GROUND)	Damp. Som product visible. Strong hydrocarbon odour	2.0	2.0
							Stiff to very stiff, dark brown, slightly gravelly CLAY with some ash and coal fragments (MADE GROUND)	Wet at 2.2m. Some oil on gravel and smeared on clay. Moderate hydrocarbon odour	2.5	2.5
							Soft, light brown, very gravelly, sandy SILT		3.0	3.0
							Borehole terminated at 3.0 mbgl on refusal		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	Job Title	WESTERN MARGIN INVESTIGATION
			Undisturbed Sample	Location	BP LLANDARCY REFINERY
			Headspace Analysis	Client	BP LLANDARCY LTD
			Down Borehole Analysis		
			Groundwater Table		
			Perched Water Table		
				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: RHRW011		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 15/12/00		DRILLING METHOD: DYNAMIC SAMPLING	
							FINISH DATE: 15/12/00		BOREHOLE DIAMETER: 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	Loose, black, silty and gravelly, fine SAND with ash and clinker (MADE GROUND)	Damp. Strong hydrocarbon odour	0	
						0.5	Leaves and root debris at 0.45m		0.5	
						0.5	Loose, brown, silty, fine SAND with some rootlets and occasional fine to medium gravel (MADE GROUND) Brick at 0.75-0.85m	Damp. Slight hydrocarbon odour		
						1.0	Loose, dark-brown to black, slightly gravelly and silty SAND with some ash and clinker (MADE GROUND) Cobbles at 1.05m and 1.15m	Product visible Damp. Strong hydrocarbon odour	1.0	
						1.5	Soft to firm, light brown, silty CLAY with some sand and occasional angular coarse gravel	Very strong hydrocarbon odour. Damp Water ingress at 1.7m	1.5	
						2.0	Firm, grey to black, (occasionally orange-brown), very gravelly (coarse, sub-angular to sub-rounded), silty CLAY Some gravelly and sandy lenses throughout.	Very strong hydrocarbon odour throughout with product visible from 1.5-2.7m	2.0	
						2.5	Medium dense, dark grey to black, silty and clayey, firm to medium GRAVEL with some sand		2.5	
						2.7	Dense black, sandstone COBBLE			
						3.0	Borehole terminated at 2.7 mbgl on refusal		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. Odours very "light" (petrol-like)		URS 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: RHRW012		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 15/12/00		DRILLING METHOD: DYNAMIC SAMPLING	
							FINISH DATE: 15/12/00		BOREHOLE DIAMETER: 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		0	
							0.5		0.5	
							1.0		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								
							Loose, black, gravelly coarse SAND comprising ash and clinker with brick fragments (MADE GROUND)		No staining or odour.	
							CONCRETE with bricks (MADE GROUND)		No staining or odour	
							Loose, dark grey to black, silty, coarse SAND (MADE GROUND)		Slight hydrocarbon odour.	
							Loose, orange-grey-brown, coarse GRAVEL (MADE GROUND)		Wet. Slight hydrocarbon odour	
							Loose, dark grey to black, silty, medium to coarse SAND (MADE GROUND)		Strong hydrocarbon odour	
							Soft, black, sandy SILT		Very strong hydrocarbon odour with product visible	
							Loose, black, fine to medium GRAVEL comprising ash, clinker and brick (MADE GROUND)		Very strong hydrocarbon odour and product visible	
							Soft, black, silty CLAY with some coarse angular gravel		Strong hydrocarbon odour.	
							Soft, black, fibrous PEAT with some silt		Damp	
							Dense, yellow-brown sandstone COBBLE		Slight hydrocarbon odour	
							Borehole terminated at 2.9 mbgl on refusal			

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/BR5 Date MAR 2001 Job No. 39991-016-402	

BOREHOLE CONSTRUCTION		SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: RHRW013A/B		PAGE 1 of 1	
		NUMBER	TYPE					START DATE: 18/12/00	DRILLING METHOD: DYNAMIC SAMPLING	FINISH DATE: 18/12/00	BOREHOLE DIAMETER: 128/113/98 mm
A B								DESCRIPTION		COMMENTS	
						0		Loose, brown and black, slightly silty and slightly gravelly coarse SAND comprising ash and clinker (MADE GROUND)		Slight hydrocarbon odour	
				*294				Firm black, sandy and gravelly CLAY with ash and clinker fragments (MADE GROUND)			
				*109		0.5		Loose, brown and black, slightly silty and slightly gravelly coarse SAND comprising ash and clinker (MADE GROUND)		Slight hydrocarbon odour	
				*718				Firm to stiff, dark orange-brown, slightly (MADE GROUND)		Medium hydrocarbon odour	
				*647		1.0		Loose, black, silty, coarse SAND with fine to medium gravel (MADE GROUND)		Strong hydrocarbon odour	
								Firm to stiff, black, slightly gravelly CLAY with coarse sand to cobble sized coal fragments (MADE GROUND)		Some product visible Slight hydrocarbon odour	
				*474		1.5		Loose, black, sandy, and slightly silty, fine to medium GRAVEL comprising ash and clinker (MADE GROUND)		Strong hydrocarbon odour	
				*1380		2.0		Soft to firm, brown, slightly sandy SILT with occasional black mottling		Medium to strong hydrocarbon odour	
				*334		2.5		Soft, black, slightly sandy SILT		Strong light hydrocarbon odour. Wet	
				*1602		3.0		Medium dense to dense, silty and sandy, medium to coarse, sub-angular to sub-rounded GRAVEL with occasional cobbles		Strong light hydrocarbon odour	
				* >10,000		3.5		Borehole terminated at 4.3mbgl			
				* >10,000		4.0					
						4.5					
						5.0					
LOCATION / NOTES: 1. All measurements in m below ground level (mbgl) 2. Water rose from 1.25m-0.1m								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			