Thames Tideway Tunnel
Thames Water Utilities Limited

Application for Development Consent

Application Reference Number: WWO10001

Examining Authority's Second Written Round of Questions and Requests for Information

Supporting Appendices

Albert Embankment Foreshore - Initial Results from Archaeological Cores

Doc Ref: **APP54.10.01**

Thames Tideway Tunnel

Creating a cleaner, healthier River Thames

Folder **174**
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APP54.10.01: Albert Embankment Foreshore: Initial results from archaeological cores

Table A.1 TTT Albert Embankment Borehole 7014A

Location		Mono		Comments: TTT Albert Embankment Borehole 7014A		
Level (top)		Drg				
Depth		Context	Samples	Sediment description	Interpretation	
Mono	mOD					
0.00-0.14				GAP (compression)	GAP (compression)	
0.14-0.44				10YR 3/2 very dark greyish brown sandy gravel with brick/cbm. Poorly sorted, gravel <4cm. Sharp boundary.	Foreshore deposit	Fluvial sandy gravels/ foreshore deposits
0.44-0.74				10YR 2/1 black stained sandy gravel. Moderately well sorted, gravel <4cm. The matrix, which is fairly wet, almost watery, is stained rather than the actual sand grains and gravel. Abrupt boundary.	Foreshore deposit Stained due to ?anaerobic conditions	
0.74-0.86				5Y 4/3 olive sandy gravel. Poorly sorted with gravel size smaller than above <1.5cm. Sharp boundary.	Foreshore deposit	
0.86-1.00				5Y 4/3 olive slightly silty sand (fine sand/coarse silt) much finer than above. Faint horizontal laminations towards the bottom. Stone free.	Foreshore deposit, low energy, with inwashes.	
1.00-1.15				GAP (compression)	GAP (compression)	
1.15-2.60				2.5Y 5/4 light olive brown sand with occasional patches of 5Y 2.5 black. Again, the matrix seems to be stained rather than the actual sand grains. Stains the fingers. There is a horizontal band of this staining at the bottom 2.58-2.60. Very sharp boundary.	Foreshore deposit Stained due to ?anaerobic conditions, with inwashes	Foreshore deposits

Location		Mono		Comments: TTT Albert Embankment Borehole 7014A	
Level (top)		Drg			
Depth		Context	Samples	Sediment description	Interpretation
Mono	mOD				
2.60-2.73				5Y 4/4 olive fine sand and coarse silt, laminated with the siltier element towards the top, becoming sandier down profile. Two 1mm wide bands of dark grey clay at 2.70 and 2.73, the sand in between these bands is darker, 5Y 3/1 very dark grey. Stone free. Very sharp boundary.	Fine foreshore deposit with low energy inwashes.
2.73-2.81				10YR 3/1 very dark grey clay with small mottles of 5Y 4/3 olive towards the top. Massive, soft, stone free, no pores observed. Very sharp boundary.	Low energy alluvial deposit.
2.81-2.94				10YR 2/1 black stained sandy gravel. Slight metallic smell. Stains fingers. Again, it appears that the matrix is black rather than the sand grains or gravel. Poorly sorted. Sharp boundary.	Stained foreshore deposit ?anaerobic conditions.
2.94-3.00				2.5Y 4/3 olive brown sandy gravel. Poorly sorted.	Foreshore deposit.

Table A.2 TTT Albert Embankment Borehole 7015

Location		Mono	7015	Comments: TTT Albert Embankment Borehole 7015	
Level (top)		Drg			
Depth		Context	Samples	Sediment description	Interpretation
Mono	mOD				
0.00-0.45				GAP (compression)	GAP (compression)

Location		Mono	7015	Comments: TTT Albert Embankment Borehole 7015		
Level (top)		Drg				
Depth		Context	Samples	Sediment description	Interpretation	
Mono	mOD					
0.45-0.75				Clast supported sandy gravel, poorly sorted, clast size <4cm. Becomes more mixed in with 10YR 3/1y dark grey silty clay with some fine sand towards the bottom. Clear boundary	Foreshore deposit	Fluvial sandy gravels and beach deposits, alternating high energy and low energy events.
0.75-0.85				7.5YR 2.5/1 black soft sticky silty clay with quartz sand grains. Faint horizontality, stone free. Abrupt boundary	Low energy alluvial deposit	
0.85-1.00				10YR 2/1 black stained sandy gravel. Moderately well sorted, gravel <4cm. Stains fingers, slight metallic smell.	Foreshore deposit Stained due to ?anaerobic conditions	
GAP				GAP (compression)	GAP (compression)	
1.34-1.67				10YR 4/6 dark yellowish brown sandy gravel. Fairly well sorted, clast size <1cm. Inwashes of 10YR 3/1 very dark grey stone free sand at 1.52-1.57 and 1.65-1.67. Sharp boundary.	Foreshore deposits with low energy alluvial inwashes.	
1.67-1.79				2.5Y 4/1 dark grey fine sand/coarse silt with a faint horizontality to it. Stone free. Sharp boundary.	Low energy alluvial deposit.	
1.79-1.87				2.5YR 2.5/1 black stained sandy gravel. Moderately well sorted, clast size <4cm. Stains fingers, metallic smell. Sharp boundary.	Foreshore deposit Stained due to ?anaerobic conditions	
1.87-1.91				2.5Y 5/2 greyish brown clay. Massive, slightly firm, stone free. Sharp boundary.	Very low energy alluvial deposit.	

Location		Mono	7015	Comments: TTT Albert Embankment Borehole 7015	
Level (top)		Drg			
Depth		Context	Samples	Sediment description	Interpretation
Mono	mOD				
1.91-2.00				2.5YR 2.5/1 black stained sandy gravel. Moderately well sorted, clast size <4cm. Stains fingers, metallic smell. Sharp boundary.	Foreshore deposit Stained due to ?anaerobic conditions

Table A.3 TTT Albert Embankment Borehole 7027

Location		BH	7027	Comments: TTT Albert Embankment Borehole 7027	
Level (top)		Drg			
Depth		Context	Samples	Sediment description	Interpretation
Mono	mOD				
0.00-0.35				GAP (compression)	GAP (compression)
0.35-0.55				2.5Y 4/3 olive brown sandy gravel. Moderately well sorted gravel clast size <5cm with a decrease in size down profile to <3cm. Clear boundary.	Foreshore deposit
0.55-0.80				10YR 2/1 black stained sandy gravel. Matrix very wet and it is this that is black rather than the sand grains. Poorly sorted with larger clast size than the bottom of above. Lump of chalk approx. 5cm at the bottom. Metallic smell. Clear boundary.	Foreshore deposit ?anaerobic conditions
0.80-1.00				10YR 2/1 black sand with small gravel <2cm. More compact than above contexts. Again, the matrix is black rather than the sand/gravel. Becomes slightly clayey at the bottom 2cm. Metallic smell.	Foreshore deposit, low energy. ?anaerobic conditions.

Fluvial sandy gravels and beach deposits, alternating high energy and low energy events

Location		BH	7027	Comments: TTT Albert Embankment Borehole 7027	
Level (top)		Drg			
Depth		Context	Samples	Sediment description	Interpretation
Mono	mOD				
1.00-1.60				GAP (compression)	GAP (compression)
1.60-1.86				2.5Y 4/3 olive brown sandy gravel with occasional patches of 10YR 2/1 black. Clast size <4cm. Flecks of chalk and brick throughout. Lump of stone 6cm thick at the bottom ?sandstone. Abrupt boundary.	Foreshore deposit
1.86-2.02				10YR 2/1 black fine sand/coarse silt with gravel <4cm. Again, matrix is stained black rather than sand grains. Diesel smell apparent.	Foreshore deposit, low energy. ?anaerobic conditions.

Table A.4 TTT Albert Embankment Borehole 7028

Location		BH	7028	Comments: TTT Albert Embankment Borehole 7028	
Level (top)		Drg			
Depth		Context	Samples	Sediment description	Interpretation
Mono	mOD				
0.00-0.25				GAP (compression)	GAP (compression)
0.25-0.35				10YR 4/3 brown sandy gravel. Matrix supported, poorly sorted. Clast size <4cm. Clear boundary.	Foreshore deposit.
0.35-0.62				10YR 2/1 black sandy gravel with occasional bits of brick. Matrix is very wet and is stained black rather than the sand grains. Fairly compact compared with above. Moderately well sorted, clast size smaller than above <3cm. Metallic smell. Abrupt boundary.	Foreshore deposit ?anaerobic conditions

Fluvial sandy gravels and beach deposits, alternating high energy and low energy events.

Location		BH	7028	Comments: TTT Albert Embankment Borehole 7028	
Level (top)		Drg			
Depth		Context	Samples	Sediment description	Interpretation
Mono	mOD				
0.62-0.70				10YR 4/3 brown sandy gravel. Matrix supported, poorly sorted. Clast size <4cm. Clear boundary.	Foreshore deposit
0.70-0.78				Gley 1 4/1 dark greenish grey sandy clay. Would probably be stone free but it appears a little mixed up with the above context. Clear boundary.	Foreshore deposit, low energy. ?anaerobic conditions
0.78-1.02				10YR 4/3 brown sandy gravel. Matrix supported, moderately well sorted. Clast size <2cm.	Foreshore deposit
1.02-1.60				GAP (compression)	GAP (compression)
1.60-1.97				10YR 4/3 brown sandy gravel with patches of 10YR 2/1 black stained matrix as before. Poorly sorted. Clast size <2cm. Clear boundary.	Foreshore deposit
1.97-2.03				Gley 1 4/1 dark greenish grey sandy clay with some small gravel <2cm mixed in.	Foreshore deposit, low energy.

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