



# ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG  
Regional Office: Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL

Tel: 0191 387 4700 Fax: 0191 387 4710  
Tel: 01772 735 300 Fax: 01772 735 999

## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: E:454449.745 N:520922.379		<b>PRAIRIE_AUK_TP197</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 11.396	Start Date: 29/04/2020	Sheet: 3 of 4

Figure PRAIRIE\_AUK\_TP197.3  
PRAIRIE\_AUK\_TP197



Figure PRAIRIE\_AUK\_TP197.4  
PRAIRIE\_AUK\_TP197







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## TRIAL PIT RECORD

Status:-

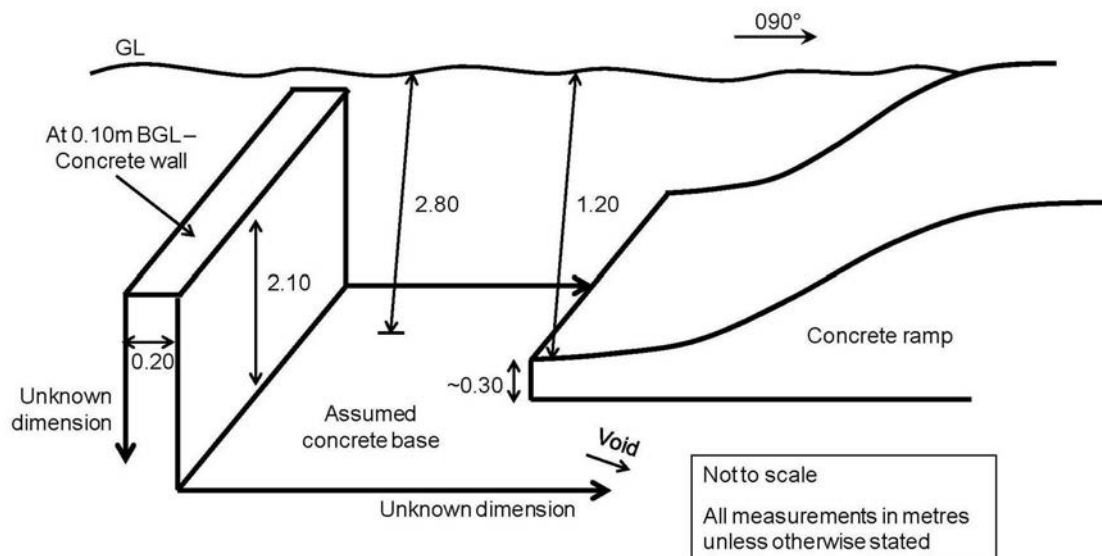
**FINAL**

Project: Prairie Site Ground Investigation Works			Exploratory Hole No.
Client: South Tees Development Corporation	Location: E:454449.745 N:520922.379		PRAIRIE_AUK_TP197
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 11.396	Start Date: 29/04/2020	Sheet: 4 of 4

Figure PRAIRIE\_AUK\_TP197.5  
PRAIRIE\_AUK\_TP197 - Spoil



Figure PRAIRIE\_AUK\_TP197.6  
PRAIRIE\_AUK\_TP197 Sketch





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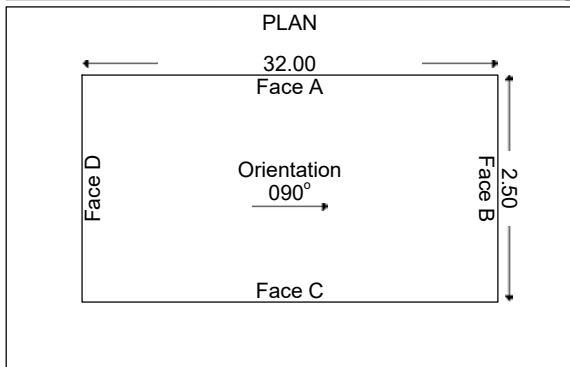
Tel: 0191 387 4700 Fax: 0191 387 4710  
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## TRIAL PIT RECORD

Status:-  
**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No.	
Client: South Tees Development Corporation		Location: E:454458.796 N:520990.155	
Method (Equipment): Machine Excavated (360 Tracked Excavator)		Ground Level (m): 12.937	Start Date: 27/04/2020
		Sheet: 1 of 7	

SAMPLES & TESTS			STRATA					
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
				12.74		0.20	MADE GROUND (Brown grey very sandy gravel with many rootlets. Sand is fine to coarse. Gravel is fine to coarse subangular and includes slag, sandstone and concrete. Slag content is 25-50%. Slag is vesicular grey).	
						(1.00)	MADE GROUND (Red brown black sandy gravel with high cobble and low boulder content and metal and wood. Sand is fine to coarse. Gravel is fine to coarse angular and includes clinker, ash, concrete, red brick and slag. Slag content is 0-25%. Cobbles are angular and include red and yellow brick and concrete (rebar 10-20mm). Boulders are angular and include red and yellow brick sections and concrete (rebar 10-20mm). Slag is vesicular grey green).	
				11.74		1.20		
						(1.40)		
				10.34		2.60	MADE GROUND (Red brown black sandy gravel with high cobble content and fragments of wood. Sand is fine to coarse. Gravel is fine to coarse angular to subangular and includes clinker, ash, coal, concrete and red brick. Cobbles are angular and include red and yellow brick, metal, wood and concrete). at c.1.20m BGL ... concrete, extend pit east. at c.2.60m BGL ... concrete, extend pit east. <i>Terminated at 2.60m BGL - due to concrete obstruction.</i>	



**GROUNDWATER**  
 No groundwater inflow observed.

**STABILITY**  
 Pit sides and base moderately stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	Sketch Taken	
Photographs:	Yes	See additional sheets.

**GENERAL REMARKS**  
 (1) Trial pit excavated across slope exposing various subsurface structures - refer to following sketch.  
 (2) At 2.60m BGL - pit extended north from western end. Same ground conditions encountered to 1.60m BGL.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W</i>	Logged by: D. Portsmouth	Contract No. <b>4251</b>
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## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: E:454458.796 N:520990.155		<b>PRAIRIE_AUK_TP198</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 12.937	Start Date: 27/04/2020	Sheet: 2 of 7

Figure PRAIRIE\_AUK\_TP198.1  
PRAIRIE\_AUK\_TP198



Figure PRAIRIE\_AUK\_TP198.2  
PRAIRIE\_AUK\_TP198







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## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works			Exploratory Hole No.
Client: South Tees Development Corporation	Location: E:454458.796 N:520990.155		PRAIRIE_AUK_TP198
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 12.937	Start Date: 27/04/2020	Sheet: 3 of 7

Figure PRAIRIE\_AUK\_TP198.3  
PRAIRIE\_AUK\_TP198



Figure PRAIRIE\_AUK\_TP198.4  
PRAIRIE\_AUK\_TP198







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## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: E:454458.796 N:520990.155		<b>PRAIRIE_AUK_TP198</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 12.937	Start Date: 27/04/2020	Sheet: 4 of 7

Figure PRAIRIE\_AUK\_TP198.5  
PRAIRIE\_AUK\_TP198



Figure PRAIRIE\_AUK\_TP198.6  
PRAIRIE\_AUK\_TP198







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## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: E:454458.796 N:520990.155		<b>PRAIRIE_AUK_TP198</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 12.937	Start Date: 27/04/2020	Sheet: 5 of 7

Figure PRAIRIE\_AUK\_TP198.7  
PRAIRIE\_AUK\_TP198



Figure PRAIRIE\_AUK\_TP198.8  
PRAIRIE\_AUK\_TP198







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## TRIAL PIT RECORD

Status:-

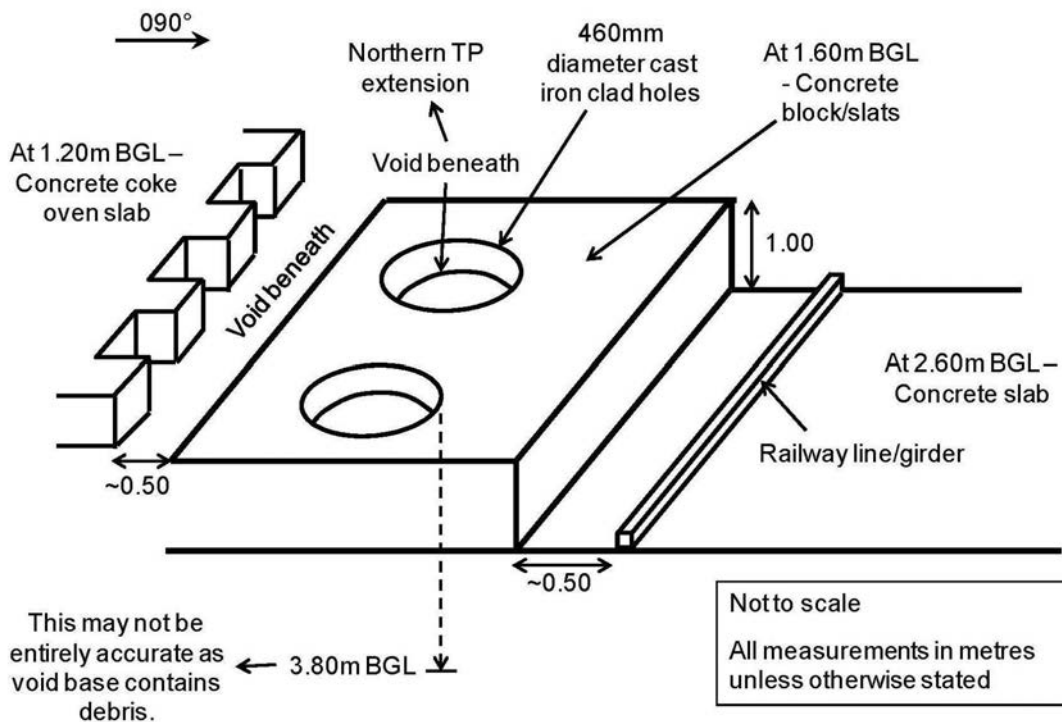
**FINAL**

Project: Prairie Site Ground Investigation Works			Exploratory Hole No.
Client: South Tees Development Corporation	Location: E:454458.796 N:520990.155		<b>PRAIRIE_AUK_TP198</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 12.937	Start Date: 27/04/2020	Sheet: 6 of 7

Figure PRAIRIE\_AUK\_TP198.9  
PRAIRIE\_AUK\_TP198 - Spoil



Figure PRAIRIE\_AUK\_TP198.10  
PRAIRIE\_AUK\_TP198 Sketch







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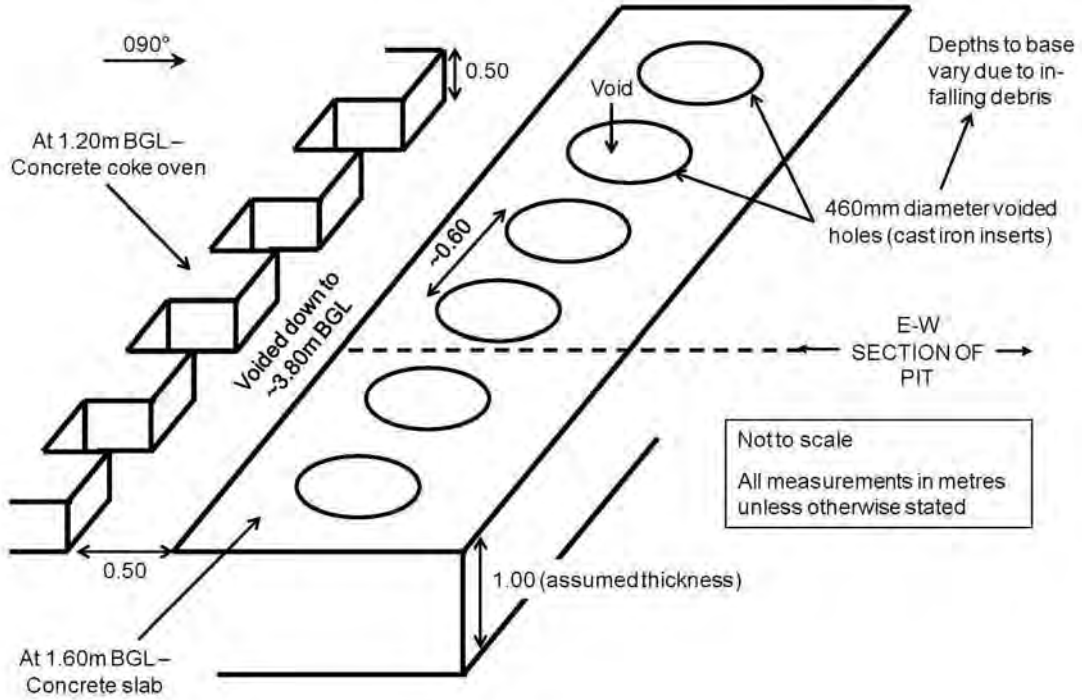
## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works			Exploratory Hole No.
Client: South Tees Development Corporation	Location: E:454458.796 N:520990.155		<b>PRAIRIE_AUK_TP198</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 12.937	Start Date: 27/04/2020	Sheet: 7 of 7

Figure PRAIRIE\_AUK\_TP198.11  
PRAIRIE\_AUK\_TP198 Sketch







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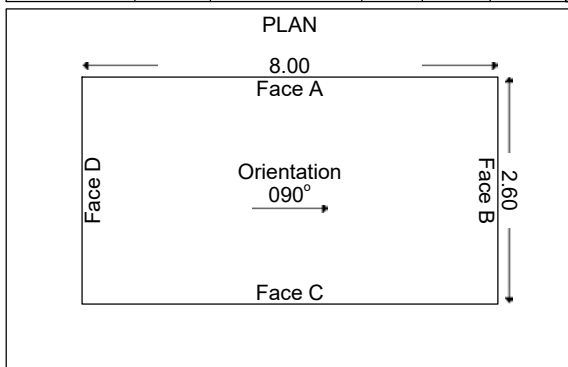
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## TRIAL PIT RECORD

Status:-  
**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No.	
Client: South Tees Development Corporation		Location: E:454465.130 N:521024.309	
Method (Equipment): Machine Excavated (360 Tracked Excavator)		Ground Level (m): 13.209	Start Date: 27/04/2020
		Sheet:	1 of 4

SAMPLES & TESTS			STRATA			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Description
				13.01		0.20 MADE GROUND (Brown grey very sandy gravel. Sand is fine to coarse. Gravel is fine to coarse subangular and includes slag, sandstone and concrete with many rootlets. Slag content is 25-50%. Slag is vesicular grey).
						(2.80) MADE GROUND (Red brown black sandy gravel with high cobble and low boulder content and fragments of wood and metal. Sand is fine to coarse. Gravel is fine to coarse angular to subangular and includes clinker, ash, coal, concrete, wood, red brick and slag. Slag content is 0-25%. Cobbles are angular and includes red and yellow brick and concrete (rebar 10-50mm). Boulders are angular and include red and yellow brick sections and concrete (rebar 10-30mm). Slag is vesicular grey green).
				10.21		3.00 MADE GROUND (Concrete and red brick floor).
				9.41		3.80 MADE GROUND (Red brown black sandy gravel with high cobble content and fragments/sections of metal and wood. Sand is fine to coarse. Gravel is fine to coarse angular to subangular and includes clinker, ash, coal, concrete and red brick. Cobbles are angular and include red and yellow brick and concrete).
				8.21		5.00 Firm to stiff red brown grey slightly sandy CLAY. Sand is fine to medium.
				8.01		5.20 <i>Complete at 5.20m BGL.</i>



**GROUNDWATER**  
 No groundwater inflow observed.

**STABILITY**  
 Pit sides and base moderately stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	Sketch Taken	
Photographs:	Yes	See additional sheets.

**GENERAL REMARKS**  
 (1) Various subsurface structures exposed during excavation - refer to following sketch.  
 (2) No samples taken.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W</i>	Logged by: D. Portsmouth	Contract No. <b>4251</b>
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## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: E:454465.130 N:521024.309		<b>PRAIRIE_AUK_TP199</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 13.209	Start Date: 27/04/2020	Sheet: 2 of 4

Figure PRAIRIE\_AUK\_TP199.1  
PRAIRIE\_AUK\_TP199



Figure PRAIRIE\_AUK\_TP199.2  
PRAIRIE\_AUK\_TP199







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## TRIAL PIT RECORD

Status:-

**FINAL**

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Client: South Tees Development Corporation	Location: E:454465.130 N:521024.309		<b>PRAIRIE_AUK_TP199</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 13.209	Start Date: 27/04/2020	Sheet: 3 of 4

Figure PRAIRIE\_AUK\_TP199.3  
PRAIRIE\_AUK\_TP199



Figure PRAIRIE\_AUK\_TP199.4  
PRAIRIE\_AUK\_TP199 - Spoil







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## TRIAL PIT RECORD

Status:-

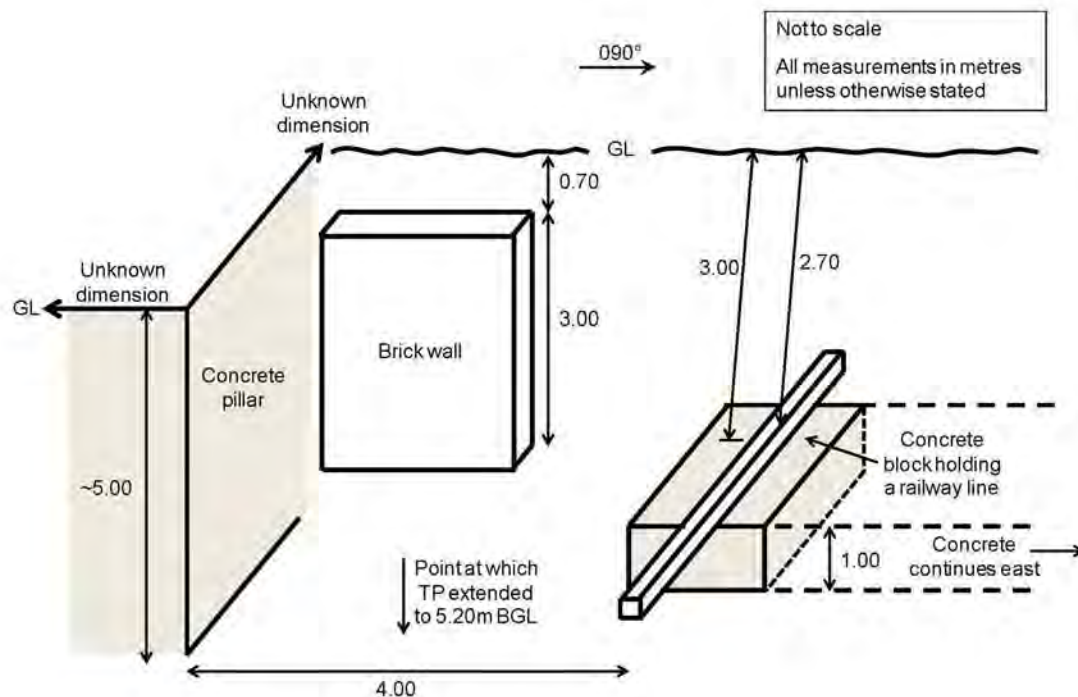
**FINAL**

Project: Prairie Site Ground Investigation Works			Exploratory Hole No.
Client: South Tees Development Corporation	Location: E:454465.130 N:521024.309		<b>PRAIRIE_AUK_TP199</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 13.209	Start Date: 27/04/2020	Sheet: 4 of 4

Figure PRAIRIE\_AUK\_TP199.5  
PRAIRIE\_AUK\_TP199 - Spoil



Figure PRAIRIE\_AUK\_TP199.6  
PRAIRIE\_AUK\_TP199 Sketch







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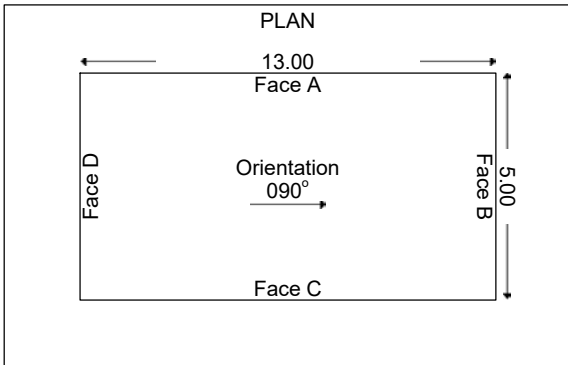
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## TRIAL PIT RECORD

Status:-  
**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No.
Client: South Tees Development Corporation	Location: E:454446.479 N:521086.026	<b>PRAIRIE_AUK_TP200A</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 10.527	Start Date: 28/04/2020
		Sheet: 1 of 6

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description
				10.33		0.20	MADE GROUND (Brown grey very sandy gravel with medium cobble content with many rootlets. Sand is fine to coarse and includes ash. Gravel is fine to coarse subangular and includes slag, sandstone and concrete. Slag content is 25-50%. Cobbles are angular and include red brick. Slag is vesicular grey).
						(0.80)	
				9.53		1.00	MADE GROUND (Brown grey very sandy gravel with medium cobble content. Sand is fine to coarse and includes ash. Gravel is fine to coarse subangular and includes slag, concrete and red and yellow brick. Slag content is 25-50%. Cobbles are angular and include red and yellow brick and concrete. Slag is vesicular grey). at c.0.20m BGL ... concrete encountered - extended pit west.
						(1.50)	
				8.03		2.50	MADE GROUND (Black grey sandy gravel. Sand is fine to coarse and includes ash. Gravel is fine to coarse subangular and includes ash, clinker, coke and red brick). at c.2.00m BGL ... concrete in western end of pit - pit extended.
						2.80	Firm brown grey yellow sandy CLAY. Sand is fine to medium.
				7.73			Complete at 2.80m BGL.



**GROUNDWATER**  
No groundwater inflow observed.

**STABILITY**  
Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	Sketch Taken	
Photographs:	Yes	See additional sheets.

**GENERAL REMARKS**  
 (1) Trial pit extended west on slope.  
 (2) Structures exposed when extending pit west which were backfilled with material the same as between 0.20-1.00m BGL but with medium boulder content (concrete). Structures bottomed out at 3.50m BGL.  
 (3) Various structures exposed during excavation - refer to sketch following PRAIRIE\_AUK\_TP200B.  
 (4) No samples taken.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W</i>	Logged by: D. Portsmouth	Contract No. <b>4251</b>
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## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: E:454446.479 N:521086.026		<b>PRAIRIE_AUK_TP200A</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 10.527	Start Date: 28/04/2020	Sheet: 2 of 6

Figure PRAIRIE\_AUK\_TP200A.1  
PRAIRIE\_AUK\_TP200



Figure PRAIRIE\_AUK\_TP200A.2  
PRAIRIE\_AUK\_TP200







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## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: E:454446.479 N:521086.026		<b>PRAIRIE_AUK_TP200A</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 10.527	Start Date: 28/04/2020	Sheet: 3 of 6

Figure PRAIRIE\_AUK\_TP200A.3  
PRAIRIE\_AUK\_TP200



Figure PRAIRIE\_AUK\_TP200A.4  
PRAIRIE\_AUK\_TP200







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## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: E:454446.479 N:521086.026		<b>PRAIRIE_AUK_TP200A</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 10.527	Start Date: 28/04/2020	Sheet: 4 of 6

Figure PRAIRIE\_AUK\_TP200A.5  
PRAIRIE\_AUK\_TP200



Figure PRAIRIE\_AUK\_TP200A.6  
PRAIRIE\_AUK\_TP200







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## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: E:454446.479 N:521086.026		PRAIRIE_AUK_TP200A
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 10.527	Start Date: 28/04/2020	

Figure PRAIRIE\_AUK\_TP200A.7  
PRAIRIE\_AUK\_TP200 - Spoil



Figure PRAIRIE\_AUK\_TP200A.8  
PRAIRIE\_AUK\_TP200 - Spoil







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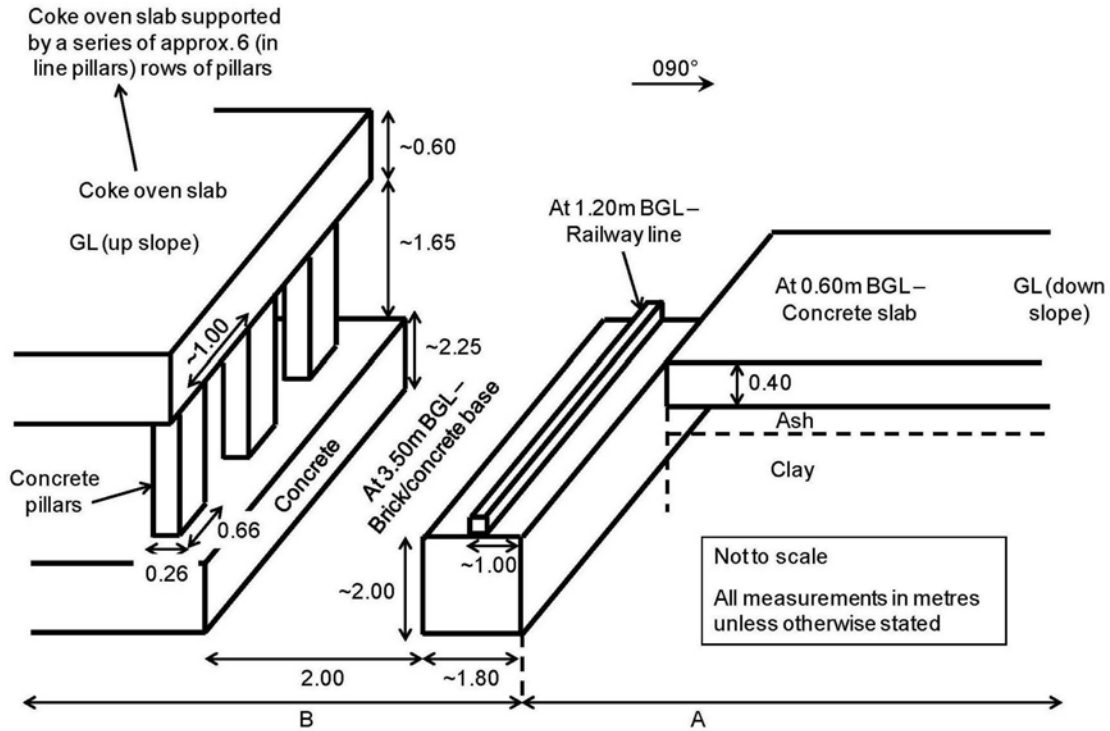
## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works			Exploratory Hole No.
Client: South Tees Development Corporation	Location: E:454446.479 N:521086.026		<b>PRAIRIE_AUK_TP200A</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 10.527	Start Date: 28/04/2020	Sheet: 6 of 6

Figure PRAIRIE\_AUK\_TP200A.9  
PRAIRIE\_AUK\_TP200 Sketch







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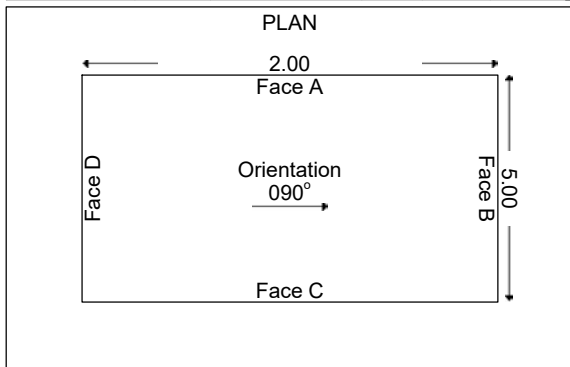
Tel: 0191 387 4700 Fax: 0191 387 4710  
 Tel: 01772 735 300 Fax: 01772 735 999

## TRIAL PIT RECORD

Status:-  
**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No. PRAIRIE_AUK_TP200B	
Client: South Tees Development Corporation		Location: E:454446.479 N:521086.026	
Method (Equipment): Machine Excavated (360 Tracked Excavator)		Ground Level (m): 10.527	Start Date: 28/04/2020
		Sheet: 1 of 6	

SAMPLES & TESTS			STRATA					
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description	
				10.33		0.20	MADE GROUND (Brown grey very sandy gravel with medium cobble content with many rootlets. Sand is fine to coarse and includes ash. Gravel is fine to coarse subangular and includes slag, sandstone and concrete. Slag content is 25-50%. Cobbles are angular and include red brick. Slag is vesicular grey).	
							(3.30)	MADE GROUND (Brown grey very sandy gravel with medium cobble and boulder content. Sand is fine to coarse and includes ash. Gravel is fine to coarse subangular and includes slag, concrete and red and yellow brick. Slag content is 25-50%. Cobbles are angular and include red and yellow brick and concrete. Boulders are angular and include concrete. Slag is vesicular grey).
				7.03			3.50	Terminated at 3.50m BGL - due to concrete/brick base.



**GROUNDWATER**  
 Water strike at 3.50m BGL (slight inflow).

**STABILITY**  
 Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	Sketch Taken	
Photographs:	Yes	See additional sheets.

**GENERAL REMARKS**

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W</i>	Logged by: D. Portsmouth	Contract No. <b>4251</b>
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Tel: 01772 735 300 Fax: 01772 735 999

## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: E:454446.479 N:521086.026		<b>PRAIRIE_AUK_TP200B</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 10.527	Start Date: 28/04/2020	Sheet: 2 of 6

Figure PRAIRIE\_AUK\_TP200B.1  
PRAIRIE\_AUK\_TP200



Figure PRAIRIE\_AUK\_TP200B.2  
PRAIRIE\_AUK\_TP200







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## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: E:454446.479 N:521086.026		<b>PRAIRIE_AUK_TP200B</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 10.527	Start Date: 28/04/2020	Sheet: 3 of 6

Figure PRAIRIE\_AUK\_TP200B.3  
PRAIRIE\_AUK\_TP200



Figure PRAIRIE\_AUK\_TP200B.4  
PRAIRIE\_AUK\_TP200







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## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: E:454446.479 N:521086.026		<b>PRAIRIE_AUK_TP200B</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 10.527	Start Date: 28/04/2020	Sheet: 4 of 6

Figure PRAIRIE\_AUK\_TP200B.5  
PRAIRIE\_AUK\_TP200



Figure PRAIRIE\_AUK\_TP200B.6  
PRAIRIE\_AUK\_TP200







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## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: E:454446.479 N:521086.026		<b>PRAIRIE_AUK_TP200B</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 10.527	Start Date: 28/04/2020	Sheet: 5 of 6

Figure PRAIRIE\_AUK\_TP200B.7  
PRAIRIE\_AUK\_TP200 - Spoil



Figure PRAIRIE\_AUK\_TP200B.8  
PRAIRIE\_AUK\_TP200 - Spoil







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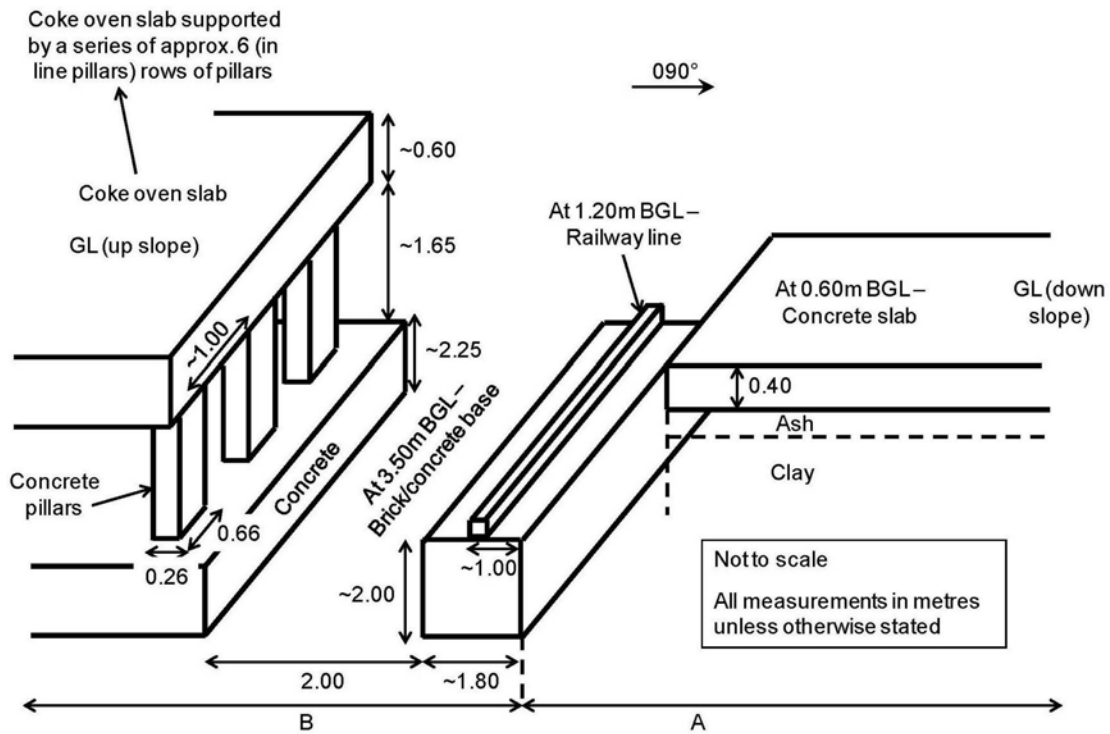
## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works			Exploratory Hole No.
Client: South Tees Development Corporation	Location: E:454446.479 N:521086.026		<b>PRAIRIE_AUK_TP200B</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 10.527	Start Date: 28/04/2020	Sheet: 6 of 6

Figure PRAIRIE\_AUK\_TP200B.9  
PRAIRIE\_AUK\_TP200 Sketch







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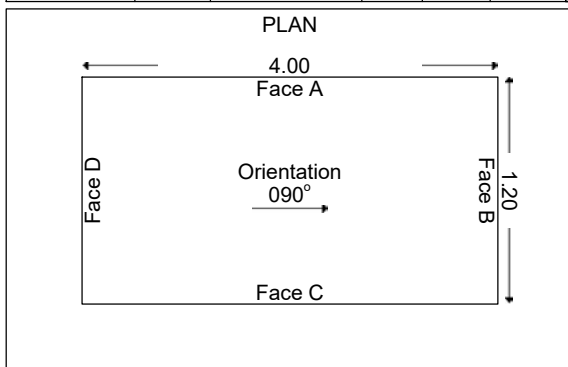
Tel: 0191 387 4700 Fax: 0191 387 4710  
 Tel: 01772 735 300 Fax: 01772 735 999

## TRIAL PIT RECORD

Status:-  
**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No. PRAIRIE_AUK_TP201	
Client: South Tees Development Corporation		Location: E:454512.591 N:520927.507	
Method (Equipment): Machine Excavated (360 Tracked Excavator)		Ground Level (m): 15.534	Start Date: 28/04/2020
		Sheet: 1 of 3	

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Description	
3.60	ES1			15.33		0.20	
				(1.20)		MADE GROUND (Brown black grey compacted ash/clinker. Recovered as a sandy gravel. Sand is fine to coarse and predominantly ash. Gravel is fine to coarse subangular and includes ash and clinker).	
				14.13		1.40	MADE GROUND (Brown grey yellow very sandy gravel with high cobble content. Sand is fine to coarse and includes ash. Gravel is fine to coarse subangular and includes slag, concrete, sandstone and red and yellow brick. Slag content is 0-25%. Cobbles are angular and include red and yellow brick and concrete. Slag is vesicular grey).
				(1.60)			
				12.53		3.00	MADE GROUND (Yellow grey very clayey sandy gravel with high cobble content. Sand is fine to coarse and is predominantly ash. Gravel is fine to coarse subangular and includes ash, clinker, coke, red brick and sandstone. Cobbles are angular and include sandstone and concrete. Engineer notes strata is mixed slightly (in-situ) with strata above due to gradient of slope).
				(1.40)			
				11.13		4.40	Complete at 4.40m BGL.



**GROUNDWATER**  
 No groundwater inflow observed.

**STABILITY**  
 Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	Sketch Taken	
Photographs:	Yes	See additional sheets.

**GENERAL REMARKS**  
 (1) Trial pit excavated into a raised earth bund. All measurements taken from top of slope.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W</i>	Logged by: D. Portsmouth	Contract No. <b>4251</b>
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Tel: 01772 735 300 Fax: 01772 735 999

## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: E:454512.591 N:520927.507		<b>PRAIRIE_AUK_TP201</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 15.534	Start Date: 28/04/2020	Sheet: 2 of 3

Figure PRAIRIE\_AUK\_TP201.1  
PRAIRIE\_AUK\_TP201



Figure PRAIRIE\_AUK\_TP201.2  
PRAIRIE\_AUK\_TP201







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Tel: 01772 735 300 Fax: 01772 735 999

## TRIAL PIT RECORD

Status:-

**FINAL**

Project: Prairie Site Ground Investigation Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: E:454512.591 N:520927.507		<b>PRAIRIE_AUK_TP201</b>
Method (Equipment): Machine Excavated (360 Tracked Excavator)	Ground Level (m): 15.534	Start Date: 28/04/2020	Sheet: 3 of 3

Figure PRAIRIE\_AUK\_TP201.3  
PRAIRIE\_AUK\_TP201



Figure PRAIRIE\_AUK\_TP201.4  
PRAIRIE\_AUK\_TP201 - Spoil





**Groundwater Observations Made at the Time of Site Works**





**ALLIED EXPLORATION & GEOTECHNICS LIMITED**  
**GROUNDWATER OBSERVATIONS MADE AT THE TIME OF SITE WORKS**  
**(WATER STRIKES)**

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 Regional Office: Unit 20 Business Development Centre, Easingham Wharf, Blackburn, BB1 3BL  
 Tel: 01772 755-300 Fax: 01772 735-599  
 Tel: 0191 387 2750 Fax: 0191 387 4740

Exploratory Hole No.	Date	Depth of Water (m)	Depth of Casing (m)	Depth Sealed (m)	Final Depth (m)	Total Time (mins)	Depth After 5 mins	Depth After 10 mins	Depth After 15 mins	Depth After 20 mins	Remarks
PRAIRIE_AUK_BH101	27/04/2020	3.00	2.80	4.00	2.58	20	2.88	2.64	2.60	2.58	Slow inflow.
PRAIRIE_AUK_BH101	28/04/2020	14.80	14.46		12.36	20	14.06	13.72	13.11	12.36	Slow inflow.
PRAIRIE_AUK_BH105	16/04/2020	3.00	2.88	4.00	2.88	20	2.96	2.93	2.90	2.88	Water strike (slow inflow).
PRAIRIE_AUK_BH105	16/04/2020	8.60	8.40		4.32	20	6.84	6.11	5.63	4.32	Water strike.
PRAIRIE_AUK_BH110	21/04/2020	10.30	10.06	12.50	8.47	20	9.42	9.06	8.78	8.47	Water strike.
PRAIRIE_AUK_TP107	06/04/2020	2.00									Water strike.
PRAIRIE_AUK_TP108	06/04/2020	2.30									Water strike.
PRAIRIE_AUK_TP112	22/04/2020	2.40									Water strike.
PRAIRIE_AUK_TP113	06/04/2020	1.70									Water strike.
PRAIRIE_AUK_TP115	08/04/2020	0.30									Water strike.
PRAIRIE_AUK_TP119	22/04/2020	2.20									Water strike.
PRAIRIE_AUK_TP120A	20/04/2020	1.30									Water strike.

<b>Contract Title :-</b>		Prairie Site Ground Investigation Works		<b>Client :-</b>		South Tees Development Corporation		<b>AEG Contract No. :-</b>		4251	
<b>Date of Issue :-</b>		05/11/2020		<b>Checked By :-</b>		LC		<b>Approved By :-</b>		KW	
<b>Page No. :-</b>		1 of 3		<b>Certificate No. :-</b>		GWOWS/4251/1					





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 Regional Office: Unit 20 Business Development Centre, Easing Wharf, Blackburn, BB1 3BL. Tel: 01772 735 300 Fax: 01772 735 889

## GROUNDWATER OBSERVATIONS MADE AT THE TIME OF SITE WORKS (WATER STRIKES)

Exploratory Hole No.	Date	Depth of Water (m)	Depth of Casing (m)	Depth Sealed (m)	Final Depth (m)	Total Time (mins)	Depth After 5 mins	Depth After 10 mins	Depth After 15 mins	Depth After 20 mins	Remarks
PRAIRIE_AUK_TP121	09/04/2020	0.90									Water strike.
PRAIRIE_AUK_TP122	08/04/2020	0.30									Water strike (Heavy inflow).
PRAIRIE_AUK_TP123	08/04/2020	0.60									Water strike.
PRAIRIE_AUK_TP127	23/04/2020	1.70									Water strike.
PRAIRIE_AUK_TP132	02/04/2020	1.90									Water strike.
PRAIRIE_AUK_TP135	15/04/2020	1.10									Water strike.
PRAIRIE_AUK_TP136	15/04/2020	0.30									Water strike.
PRAIRIE_AUK_TP137	15/04/2020	0.50									Water strike.
PRAIRIE_AUK_TP139B	16/04/2020	0.90									Water strike.
PRAIRIE_AUK_TP143	23/04/2020	1.80			1.60						Water strike (Heavy inflow).
PRAIRIE_AUK_TP147	17/04/2020	1.60									Perched water.
PRAIRIE_AUK_TP156	14/04/2020	0.60									Water strike.

**Contract Title :-** Prairie Site Ground Investigation Works

**Date of Issue :-** 05/11/2020

**Client :-** South Tees Development Corporation

**Checked By :-** LC

**Approved By :-** *[Signature]*

**AEG Contract No. :-** 4251

**Certificate No. :-** GWOWS/4251/2





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 Uplift 20 Business Development Centre, Easingham Wharf, Easingham, BB1 3BL      Tel: 01772 735 300 Fax: 01772 735 999  
**GROUNDWATER OBSERVATIONS MADE AT THE TIME OF SITE WORKS**  
**(WATER STRIKES)**

Head office:  
Regional Office:

Exploratory Hole No.	Date	Depth of Water (m)	Depth of Casing (m)	Depth Sealed (m)	Final Depth (m)	Total Time (mins)	Depth After 5 mins	Depth After 10 mins	Depth After 15 mins	Depth After 20 mins	Remarks
PRAIRIE_AUK_TP157B	17/04/2020	1.00									Water strike.
PRAIRIE_AUK_TP158	17/04/2020	1.00									Water strike.
PRAIRIE_AUK_TP190	16/04/2020	0.80									Water strike.
PRAIRIE_AUK_TP190A	16/04/2020	1.20									Water running from brick cable duct in Faces C and D.
PRAIRIE_AUK_TP200B	28/04/2020	3.50									Water strike (Slight inflow).



Contract Title :-		Client :-		AEG Contract No :-	
Prairie Site Ground Investigation Works		South Tees Development Corporation		4251	
Date of Issue :-	Page No. :-	Checked By :-	Approved By :-	Certificate No. :-	
05/11/2020	3 of 3	LC	[Signature]	GWOWS/4251/3	





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## GROUNDWATER OBSERVATIONS MADE AT THE TIME OF SITE WORKS (GROUNDWATER SEEPAGES)

Monitoring Point	Date	Depth (m)	Remarks
PRAIRIE_AUK_TP101	01/04/2020	2.00	Groundwater seepage.
PRAIRIE_AUK_TP114	07/04/2020	0.50	Groundwater seepage.
PRAIRIE_AUK_TP117	23/04/2020	2.60	Groundwater seepage.
PRAIRIE_AUK_TP118	23/04/2020	1.40	Groundwater seepage.
PRAIRIE_AUK_TP120	20/04/2020	1.50	Groundwater seepage.
PRAIRIE_AUK_TP126	17/04/2020	2.70	Slight groundwater seepage (water perched on concrete base).
PRAIRIE_AUK_TP128	17/04/2020	1.00	Saturated strata (slight inflow) at 1.00m BGL. Engineer notes contaminated water seeping from contaminated mudstone pocket into clay.
PRAIRIE_AUK_TP142	23/04/2020	1.20	Saturated strata between 1.00-1.20m BGL (Slight inflow). Water contains globules of oil/contaminants.
PRAIRIE_AUK_TP144	24/04/2020	1.10	Saturated strata (Slight inflow).
PRAIRIE_AUK_TP145	14/04/2020	1.70	Groundwater seepage.
PRAIRIE_AUK_TP146C	14/04/2020	1.20	Groundwater seepage.
PRAIRIE_AUK_TP148A	16/04/2020	1.70	Slight groundwater seepage.
PRAIRIE_AUK_TP155	21/04/2020	0.80	Saturated strata (Slight inflow).
PRAIRIE_AUK_TP159	16/04/2020	1.50	Saturated strata between 0.90-1.50m BGL.
PRAIRIE_AUK_TP162	14/04/2020	2.80	Saturated strata (Heavy inflow).
PRAIRIE_AUK_TP163	14/04/2020	1.10	Saturated strata (Slight inflow).
PRAIRIE_AUK_TP164	16/04/2020	2.40	Saturated strata between 1.20-2.40m BGL (Slow inflow).
PRAIRIE_AUK_TP174	08/04/2020	2.00	Slight groundwater seepage.
PRAIRIE_AUK_TP175	06/04/2020	0.90	Perched water (Slight inflow).
PRAIRIE_AUK_TP177	07/04/2020	1.40	Saturated strata (Heavy inflow).

Contract Title :- Prairie Site Ground Investigation Works	Client :- South Tees Development Corporation
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	Certificate No. :- GWOS/4251/1	Date of Issue :- 05/11/2020	Page No. :- 1 of 2	
	Checked By :- <i>LC</i>	Approved By :- <i>KW</i>	AEG Contract No. :- 4251	





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## GROUNDWATER OBSERVATIONS MADE AT THE TIME OF SITE WORKS (GROUNDWATER SEEPAGES)

Monitoring Point	Date	Depth (m)	Remarks
PRAIRIE_AUK_TP178	09/04/2020	1.50	Perched water (Slight inflow).
PRAIRIE_AUK_TP179	09/04/2020	1.20	Saturated strata (Heavy inflow).
PRAIRIE_AUK_TP181	09/04/2020	1.70	Saturated strata (Slight inflow).
PRAIRIE_AUK_TP182	09/04/2020	1.10	Saturated strata (Slight inflow).
PRAIRIE_AUK_TP186	07/04/2020	1.00	Saturated strata (Moderate inflow). Possibly backfilled cellar/basement.
PRAIRIE_AUK_TP188	08/04/2020	1.70	Saturated strata (Heavy inflow).
PRAIRIE_AUK_TP189	07/04/2020	1.30	Perched water (Slight inflow).
PRAIRIE_AUK_TP192	01/05/2020	1.10	Saturated strata (Slight inflow).
PRAIRIE_AUK_TP193	30/04/2020	0.80	Saturated strata (Slow inflow).
PRAIRIE_AUK_TP194A	29/04/2020	1.50	Saturated strata (Moderate inflow).
PRAIRIE_AUK_TP194B	29/04/2020	1.80	Saturated strata (Heavy inflow).
PRAIRIE_AUK_TP196A	29/04/2020	1.80	Saturated strata (Heavy inflow).
PRAIRIE_AUK_TP196B	29/04/2020	1.80	Saturated strata (Heavy inflow).
PRAIRIE_AUK_TP197	29/04/2020	1.80	Saturated strata (Heavy inflow).

Contract Title :- Prairie Site Ground Investigation Works	Client :- South Tees Development Corporation
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	Certificate No. :- GWOS/4251/2	Date of Issue :- 05/11/2020	Page No. :- 2 of 2	
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## Groundwater Monitoring Results





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## GROUNDWATER MONITORING RESULTS

Monitoring Point	Date and Time	Depth and Type of Well	Ground Level (mAOD)	Water Depth (mBGL)	Reduced Water Level (mAOD)	Remarks
PRAIRIE_AUK_BH101	06/05/2020 00:00	10.00m 19mm SPIE	8.64	2.00	6.64	
PRAIRIE_AUK_BH101	15/06/2020 12:05	10.00m 19mm SPIE	8.64	1.77	6.87	
PRAIRIE_AUK_BH101	30/06/2020 09:27	10.00m 19mm SPIE	8.64	1.69	6.95	
PRAIRIE_AUK_BH101	06/05/2020 00:00	16.50m 50mm SP	8.64	3.00	5.64	
PRAIRIE_AUK_BH101	15/06/2020 12:05	16.50m 50mm SP	8.64	1.78	6.86	
PRAIRIE_AUK_BH101	30/06/2020 09:23	16.50m 50mm SP	8.64	1.64	7.00	
PRAIRIE_AUK_BH102	06/05/2020 00:00	7.20m 50mm SP	8.21	1.10	7.11	
PRAIRIE_AUK_BH102	15/06/2020 14:16	7.20m 50mm SP	8.21	0.83	7.38	
PRAIRIE_AUK_BH102	30/06/2020 09:10	7.20m 50mm SP	8.21	0.90	7.31	
PRAIRIE_AUK_BH103	06/05/2020 00:00	8.50m 50mm SP	7.68	2.25	5.43	
PRAIRIE_AUK_BH103	15/06/2020 11:40	8.50m 50mm SP	7.68	1.71	5.97	
PRAIRIE_AUK_BH103	30/06/2020 08:49	8.50m 50mm SP	7.68	1.92	5.76	
PRAIRIE_AUK_BH104	06/05/2020 00:00	18.50m 50mm SP	8.70	6.40	2.30	
PRAIRIE_AUK_BH104	15/06/2020 14:35	18.50m 50mm SP	8.70	4.06	4.64	
PRAIRIE_AUK_BH104	30/06/2020 11:01	18.50m 50mm SP	8.70	6.21	2.49	
PRAIRIE_AUK_BH105	06/05/2020 00:00	11.00m 50mm SP	8.26	4.60	3.66	
PRAIRIE_AUK_BH105	15/06/2020 15:29	11.00m 50mm SP	8.26	4.49	3.77	
PRAIRIE_AUK_BH105	30/06/2020 12:09	11.00m 50mm SP	8.26	4.51	3.75	
PRAIRIE_AUK_BH106	06/05/2020 00:00	10.00m 50mm SP	8.71	3.94	4.77	
PRAIRIE_AUK_BH106	15/06/2020 14:52	10.00m 50mm SP	8.71	2.73	5.98	

SP = Standpipe - SPIE = Standpipe Piezometer.

Contract Title :- <p style="text-align: center;">Prairie Site Ground Investigation Works</p>	Client :- <p style="text-align: center;">South Tees Development Corporation</p>
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	Certificate No. :- <p style="text-align: center;">GWMR/4251/1</p>	Date of Issue :- <p style="text-align: center;">05/11/2020</p>	Page No. :- <p style="text-align: center;">1 of 2</p>	
	Checked By :- <p style="text-align: center;"><i>LC</i></p>	Approved By :- <p style="text-align: center;"><i>KW</i></p>	AEG Contract No. :- <p style="text-align: center;">4251</p>	

# ALLIED EXPLORATION & GEOTECHNICS LIMITED



Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG    Tel: 0191 387 4700 Fax: 0191 387 4710  
 Regional Office: Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL    Tel: 01772 735 300 Fax: 01772 735 999

## GROUNDWATER MONITORING RESULTS

Monitoring Point	Date and Time	Depth and Type of Well	Ground Level (mAOD)	Water Depth (mBGL)	Reduced Water Level (mAOD)	Remarks
PRAIRIE_AUK_BH106	30/06/2020 11:28	10.00m 50mm SP	8.71	3.28	5.43	
PRAIRIE_AUK_BH107	06/05/2020 00:00	8.00m 50mm SP	10.16	3.16	7.00	
PRAIRIE_AUK_BH107	15/06/2020 12:41	8.00m 50mm SP	10.16	3.21	6.95	
PRAIRIE_AUK_BH107	30/06/2020 13:05	8.00m 50mm SP	10.16	3.12	7.04	
PRAIRIE_AUK_BH108	06/05/2020 00:00	6.00m 19mm SPIE	8.86	2.20	6.66	
PRAIRIE_AUK_BH108	15/06/2020 15:17	6.00m 19mm SPIE	8.86	1.14	7.72	
PRAIRIE_AUK_BH108	30/06/2020 11:55	6.00m 19mm SPIE	8.86	0.35	8.51	
PRAIRIE_AUK_BH108	06/05/2020 00:00	14.00m 50mm SP	8.86	5.00	3.86	
PRAIRIE_AUK_BH108	15/06/2020 15:15	14.00m 50mm SP	8.86	4.91	3.95	
PRAIRIE_AUK_BH108	30/06/2020 11:51	14.00m 50mm SP	8.86	4.81	4.05	
PRAIRIE_AUK_BH109	06/05/2020 00:00	11.80m 50mm SP	12.09	5.44	6.65	
PRAIRIE_AUK_BH109	15/06/2020 13:04	11.80m 50mm SP	12.09	5.97	6.12	
PRAIRIE_AUK_BH109	30/06/2020 13:29	11.80m 50mm SP	12.09	6.72	5.37	
PRAIRIE_AUK_BH110	06/05/2020 00:00	20.80m 50mm SP	7.80	4.00	3.80	
PRAIRIE_AUK_BH110	15/06/2020 12:23	20.80m 50mm SP	7.80	3.84	3.96	
PRAIRIE_AUK_BH110	30/06/2020 09:46	20.80m 50mm SP	7.80	3.87	3.93	

SP = Standpipe - SPIE = Standpipe Piezometer

Contract Title :- <p style="text-align: center;">Prairie Site Ground Investigation Works</p>	Client :- <p style="text-align: center;">South Tees Development Corporation</p>
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	Certificate No. :- <p style="text-align: center;">GWMR/4251/2</p>	Date of Issue :- <p style="text-align: center;">05/11/2020</p>	Page No. :- <p style="text-align: center;">2 of 2</p>	
	Checked By :- <p style="text-align: center;"><i>LC</i></p>	Approved By :- <p style="text-align: center;"><i>AW</i></p>	AEG Contract No. :- <p style="text-align: center;">4251</p>	



## Gas Monitoring Results



# ALLIED EXPLORATION & GEOTECHNICS LIMITED

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 Tel: 01772 735 300 Fax: 01772 735 999

## GAS MONITORING RESULTS

Monitoring Point	Date and Time	Weather Condition	Temperature °C	Depth and Type of Well	Ground Level (mAOD)	Water Depth (MBGL)	Reduced Water Level (mAOD)	Flow Range (l/m)	Diff Pressure (mbar)	ATM Pressure (mbar)	Methane % v/v		Methane % LEL		Carbon Dioxide % v/v		Oxygen % v/v		Hydrogen Sulphide (ppm)	Carbon Monoxide (ppm)	Remarks
											(P)	(S)	(P)	(S)	(P)	(S)	(D)	(S)			
PRAIRIE_AUK_BH101	06/05/2020 00:00	Fair	14	10.00m SPIE 19mm SPIE	8.64	2.00	6.64	-1.2	11.13	1028	0.4	0.4	8.0	8.0	0.1	-0.1	19.0	19.0	1.0	4.0	
PRAIRIE_AUK_BH101	06/05/2020 00:00	Fair	14	16.50m 50mm SP	8.64	3.00	5.64	-0.4	1.53	1028	0.4	0.4	8.0	8.0	0.1	0.1	20.3	20.3	1.0	<0.1	
PRAIRIE_AUK_BH102	06/05/2020 00:00	Fair	14	7.20m 50mm SP	8.21	1.10	7.11	-5.0	-2.43	1028	0.4	0.4	8.0	8.0	0.1	<0.1	20.5	20.5	1.0	<1.0	
PRAIRIE_AUK_BH102	15/06/2020 14:16	Overcast	15	7.20m 50mm SP	8.21	0.83	7.38	0.1	0.33	1016	0.1	0.1	2.0	2.0	0.1	0.1	20.4	20.4	<1.0	1.0	
PRAIRIE_AUK_BH102	30/06/2020 09:10	Overcast	15	7.20m 50mm SP	8.21	0.90	7.31	0.1	-0.07	1001	<0.1	<0.1	<2.0	<2.0	0.1	0.1	20.5	20.5	<1.0	3.0	
PRAIRIE_AUK_BH103	06/05/2020 00:00	Fair	14	8.50m 50mm SP	7.88	2.25	5.43	-5.3	-3.36	1028	0.4	0.4	8.0	8.0	0.1	0.1	20.5	20.5	1.0	6.0	
PRAIRIE_AUK_BH104	06/05/2020 00:00	Fair	14	18.50m 50mm SP	8.70	6.40	2.30	-2.7	2.08	1028	0.4	0.4	8.0	8.0	0.1	0.1	20.4	20.4	1.0	2.0	
PRAIRIE_AUK_BH104	15/06/2020 14:35	Overcast	15	18.50m 50mm SP	8.70	4.06	4.64	0.1	-0.09	1016	0.1	0.1	2.0	2.0	0.3	0.2	18.6	18.6	<1.0	6.0	
PRAIRIE_AUK_BH104	30/06/2020 11:01	Overcast	15	18.50m 50mm SP	8.70	6.21	2.49	0.1	-0.31	1001	0.1	0.1	2.0	2.0	0.3	0.3	18.9	18.9	<1.0	3.0	
PRAIRIE_AUK_BH105	06/05/2020 00:00	Fair	14	11.00m 50mm SP	8.26	4.60	3.66	-0.6	-2.46	1027	0.4	0.4	8.0	8.0	0.1	0.1	20.4	20.4	1.0	<1.0	
PRAIRIE_AUK_BH105	15/06/2020 15:29	Overcast	15	11.00m 50mm SP	8.26	4.49	3.77	0.1	0.02	1016	0.1	0.1	2.0	2.0	0.3	0.3	19.6	19.6	<1.0	5.0	

See attached Calibration Certificate for Model No. and any other details. SP = Standpipe - SPIE = Standpipe Piezometer. (P) = Peak - (S) = Steady - (D) = Decline.

<b>Contract Title :-</b>	Prairie Site Ground Investigation Works	<b>Client :-</b>	South Tees Development Corporation
<b>Date of Issue :-</b>	05/11/2020	<b>Checked By :-</b>	<i>LC</i>
<b>Page No. :-</b>	1 of 3	<b>Approved By :-</b>	<i>AW</i>
<b>Contract No. :-</b>	4251	<b>Certificate No. :-</b>	MON/4251/1



# ALLIED EXPLORATION & GEOTECHNICS LIMITED

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## GAS MONITORING RESULTS

Monitoring Point	Date and Time	Weather Condition	Temperature °C	Depth and Type of Well	Ground Level (mAOD)	Water Depth (mBGL)	Reduced Water Level (mAOD)	Flow Range (l/hr)	Diff Pressure (mbar)	ATM Pressure (mbar)	Methane % v/v		Methane % LEL		Carbon Dioxide % v/v	Oxygen % v/v		Hydrogen Sulphide (ppm)	Carbon Monoxide (ppm)	Remarks
											(P)	(S)	(P)	(S)		(D)	(S)			
PRAIRIE_AUK_BH105	30/06/2020 12:09	Overcast	15	11.00m 50mm SP	8.26	4.51	3.75	0.1	0.05	1002	<0.1	<0.1	<2.0	<2.0	0.2	19.8	19.8	<1.0	4.0	
PRAIRIE_AUK_BH106	06/05/2020 00:00	Fair	14	10.00m 50mm SP	8.71	3.94	4.77	-0.6	-2.46	1027	0.4	0.4	8.0	8.0	0.1	20.4	20.4	1.0	<1.0	
PRAIRIE_AUK_BH106	15/06/2020 14:52	Overcast	15	10.00m 50mm SP	8.71	2.73	5.98	0.0	0.14	1016	0.1	0.1	2.0	2.0	0.1	19.9	19.9	<1.0	2.0	
PRAIRIE_AUK_BH106	30/06/2020 11:28	Overcast	15	10.00m 50mm SP	8.71	3.28	5.43	0.0	0.15	1002	<0.1	<0.1	<2.0	<2.0	0.1	20.6	20.6	<1.0	2.0	
PRAIRIE_AUK_BH107	06/05/2020 00:00	Fair	14	8.00m 50mm SP	10.16	3.16	7.00	-1.1	-2.29	1027	0.4	0.4	8.0	8.0	0.7	19.8	19.8	1.0	2.0	
PRAIRIE_AUK_BH107	15/06/2020 12:41	Overcast	15	8.00m 50mm SP	10.16	3.21	6.95	0.1	0.28	1015	0.1	0.1	2.0	2.0	3.2	16.8	16.8	<1.0	2.0	
PRAIRIE_AUK_BH107	30/06/2020 13:05	Overcast	15	8.00m 50mm SP	10.16	3.12	7.04	0.1	0.05	1002	0.1	0.1	<2.0	<2.0	1.9	18.6	18.6	<1.0	3.0	
PRAIRIE_AUK_BH108	06/05/2020 00:00	Fair	14	6.00m 19mm SPIE	8.86	2.20	6.66	-4.4	5.20	1027	0.5	0.5	10.0	10.0	0.1	20.5	20.2	1.0	<1.0	
PRAIRIE_AUK_BH108	15/06/2020 15:17	Overcast	15	6.00m 19mm SPIE	8.86	1.14	7.72	0.2	-0.06	1016	0.1	0.1	2.0	2.0	0.4	19.4	19.4	<1.0	1.0	
PRAIRIE_AUK_BH108	30/06/2020 11:55	Overcast	15	6.00m 19mm SPIE	8.86	0.35	8.51	0.0	0.24	1002	<0.1	<0.1	<2.0	<2.0	0.1	20.6	20.6	<1.0	<1.0	
PRAIRIE_AUK_BH108	06/05/2020 00:00	Fair	14	14.00m 50mm SP	8.86	5.00	3.86	-7.1	-5.74	1027	0.5	0.5	10.0	10.0	0.1	20.1	20.1	1.0	4.0	

See attached Calibration Certificate for Model No. and any other details. SP = Standpipe - SPIE = Standpipe Piezometer. (P) = Peak - (S) = Steady - (D) = Decline.

<b>Contract Title :-</b>	Prairie Site Ground Investigation Works	<b>Client :-</b>	South Tees Development Corporation
<b>Date of Issue :-</b>	05/11/2020	<b>Checked By :-</b>	<i>LC</i>
<b>Page No. :-</b>	2 of 3	<b>Approved By :-</b>	<i>AW</i>
<b>Contract No. :-</b>	4251	<b>Certificate No. :-</b>	MON/4251/2



# ALLIED EXPLORATION & GEOTECHNICS LIMITED

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## GAS MONITORING RESULTS

Monitoring Point	Date and Time	Weather Condition	Temperature °C	Depth and Type of Well	Ground Level (mAO)	Water Depth (mBGL)	Reduced Water Level (mOD)	Flow Range (l/hr)	Diff Pressure (mbar)	ATM Pressure (mbar)	Methane % V/V		Methane % LEL		Carbon Dioxide % V/V		Oxygen % V/V		Hydrogen Sulphide (ppm)	Carbon Monoxide (ppm)	Remarks
											(P)	(S)	(P)	(S)	(P)	(S)	(D)	(S)			
PRAIRIE_AUK_BH109	06/05/2020 00:00	Fair	14	11.80m 50mm SP	12.09	5.44	6.65	-1.3	-1.92	1027	0.4	0.4	8.0	8.0	0.6	0.2	19.9	19.9	1.0	1.0	
PRAIRIE_AUK_BH109	15/06/2020 13:04	Overcast	15	11.80m 50mm SP	12.09	5.97	6.12	0.1	0.02	1015	0.1	0.1	2.0	2.0	1.7	1.7	18.4	18.4	<1.0	1.0	
PRAIRIE_AUK_BH109	30/06/2020 13:29	Overcast	15	11.80m 50mm SP	12.09	6.72	5.37	0.4	4.79	1002	0.5	0.5	10.0	10.0	4.0	4.0	15.4	15.4	<1.0	10.0	
PRAIRIE_AUK_BH110	06/05/2020 00:00	Fair	14	20.80m 50mm SP	7.80	4.00	3.80	-0.8	-2.25	1028	0.5	0.5	10.0	10.0	0.1	0.1	20.4	20.4	1.0	3.0	
PRAIRIE_AUK_BH110	15/06/2020 12:23	Overcast	15	20.80m 50mm SP	7.90	3.84	3.96	0.1	-0.07	1016	0.1	0.1	2.0	2.0	0.2	0.2	11.9	11.9	<0.1	32.0	
PRAIRIE_AUK_BH110	30/06/2020 09:46	Overcast	15	20.80m 50mm SP	7.80	3.87	3.93	0.1	-0.21	1001	0.1	0.1	2.0	2.0	0.4	0.4	5.5	5.5	<1.0	13.0	

See attached Calibration Certificate for Model No. and any other details. SP = Standpipe - SPIE = Standpipe Piezometer. (P) = Peak - (S) = Steady - (D) = Decline.

<b>Contract Title :-</b>	Prairie Site Ground Investigation Works	<b>Client :-</b>	South Tees Development Corporation
<b>Date of issue :-</b>	05/11/2020	<b>Checked By :-</b>	<i>LC</i>
<b>Page No. :-</b>	3 of 3	<b>Approved By :-</b>	<i>AW</i>
<b>Contract No. :-</b>	4251	<b>Certificate No. :-</b>	MON/4251/3





# CERTIFICATION OF CALIBRATION



Date Of Calibration: 09-Mar-2020

Issued by: QED Environmental Systems Ltd.

Certificate Number: G506066\_2/25251

**Customer:** Allied Exploration & Geotechnics Ltd  
25 Stella Gill Industrial Estate Pelton Fell Chester Le Street  
County Durham DH2 2RG UNITED KINGDOM

**Description:** Gas Analyser

**Model:** GA5000

**Serial Number:** G506066

## UKAS Accredited results:

Results after adjustment :

Methane (CH <sub>4</sub> )		
Certified Gas (%)	Instrument Reading (%)	Uncertainty (%)
5.0	4.9	0.41
15.0	15.0	0.64
50.0	49.6	0.94

Carbon Dioxide (CO <sub>2</sub> )		
Certified Gas (%)	Instrument Reading (%)	Uncertainty (%)
5.0	4.9	0.43
15.0	14.8	0.70
50.0	50.3	1.1

Oxygen (O <sub>2</sub> )		
Certified Gas (%)	Instrument Reading (%)	Uncertainty (%)
21.3	21.4	0.31

The inwards assessment was carried out 02-Mar-2020.

The maximum adjustment is larger than the inwards assessment uncertainty.

Inwards assessment data is available if requested.

All concentrations are molar.

CH<sub>4</sub>, CO<sub>2</sub> readings recorded at : 32.5 °C ± 2.5 °C

O<sub>2</sub> readings recorded at : 24.0 °C ± 2.5 °C

Barometric Pressure : 1002 mbar ± 4 mbar

Method of Test : The analyser is calibrated in a temperature controlled chamber using a series of reference gases, in compliance with procedure LP004.

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Calibration Instance:108 IGC Instance:108

Page 1 of 2 | LP015GIUKAS-2.4

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QED Environmental Systems Ltd. Cyan Park - Unit 3, Jimmy Hill Way, Coventry, CV2 4QP, UNITED KINGDOM

Registered in England and Wales 1898734

# CERTIFICATION OF CALIBRATION



Date Of Calibration: 09-Mar-2020

Certificate Number: G506066\_2/25251

Issued by: QED Environmental Systems Ltd.

*The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.*

Calibrations marked 'Non-UKAS Accredited results' on this certificate have been included for completeness.

### Non-UKAS accredited results after adjustment:

Barometer (mbar)	
Reference	Instrument Reading
1002	1002

Additional Gas Cells		
Gas	Certified Gas (ppm)	Instrument Reading (ppm)
CO	504	509
H <sub>2</sub> S	262	262

Date of Issue : 11-Mar-2020

Approved by Signatory

Laura McBride

Laboratory Inspection

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

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Page 2 of 2 | LP015GIUKAS-2.4

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Registered in England and Wales 1898734



# CERTIFICATION OF CALIBRATION



Date Of Calibration: 18-Jun-2020

Certificate Number: G506065\_2/25880

Issued by: QED Environmental Systems Ltd.

**Customer:** Allied Exploration & Geotechnics Ltd  
25 Stella Gill Industrial Estate Pelton Fell Chester Le Street  
County Durham DH2 2RG UNITED KINGDOM

**Description:** Gas Analyser

**Model:** GA5000

**Serial Number:** G506065

## UKAS Accredited results:

Results after adjustment :

Methane (CH <sub>4</sub> )		
Certified Gas (%)	Instrument Reading (%)	Uncertainty (%)
5.0	4.9	0.41
15.0	15.0	0.64
60.0	59.8	0.94

Carbon Dioxide (CO <sub>2</sub> )		
Certified Gas (%)	Instrument Reading (%)	Uncertainty (%)
5.0	4.9	0.43
15.0	14.8	0.70
39.9	40.0	1.1

Oxygen (O <sub>2</sub> )		
Certified Gas (%)	Instrument Reading (%)	Uncertainty (%)
21.1	21.2	0.31

The inwards assessment was carried out 14-May-2020.

The maximum adjustment is larger than the inwards assessment uncertainty.

Inwards assessment data is available if requested.

All concentrations are molar.

CH<sub>4</sub>, CO<sub>2</sub> readings recorded at : 32.5 °C ± 2.5 °C

O<sub>2</sub> readings recorded at : 22.8 °C ± 2.5 °C

Barometric Pressure : 1000 mbar ± 4 mbar

Method of Test : The analyser is calibrated in a temperature controlled chamber using a series of reference gases, in compliance with procedure LP004.

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Calibration Instance:109 IGC Instance:109

Page 1 of 2 | LP015GIUKAS-2.4

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QED Environmental Systems Ltd. Cyan Park - Unit 3, Jimmy Hill Way, Coventry, CV2 4QP, UNITED KINGDOM

Registered in England and Wales 1898734

# CERTIFICATION OF CALIBRATION



Date Of Calibration: 18-Jun-2020

Certificate Number: G506065\_2/25880

Issued by: QED Environmental Systems Ltd.

*The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.*

Calibrations marked 'Non-UKAS Accredited results' on this certificate have been included for completeness.

**Non-UKAS accredited results after adjustment:**

Barometer (mbar)	
Reference	Instrument Reading
1000	1001

Internal Flow	
Applied (l/hr)	Instrument Reading (l/hr)
5.0	5.1
10.0	9.9

Date of Issue : 19-Jun-2020

Approved by Signatory

Laura McBride

Laboratory Inspection

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

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Page 2 of 2 | LP015GIUKAS-2.4

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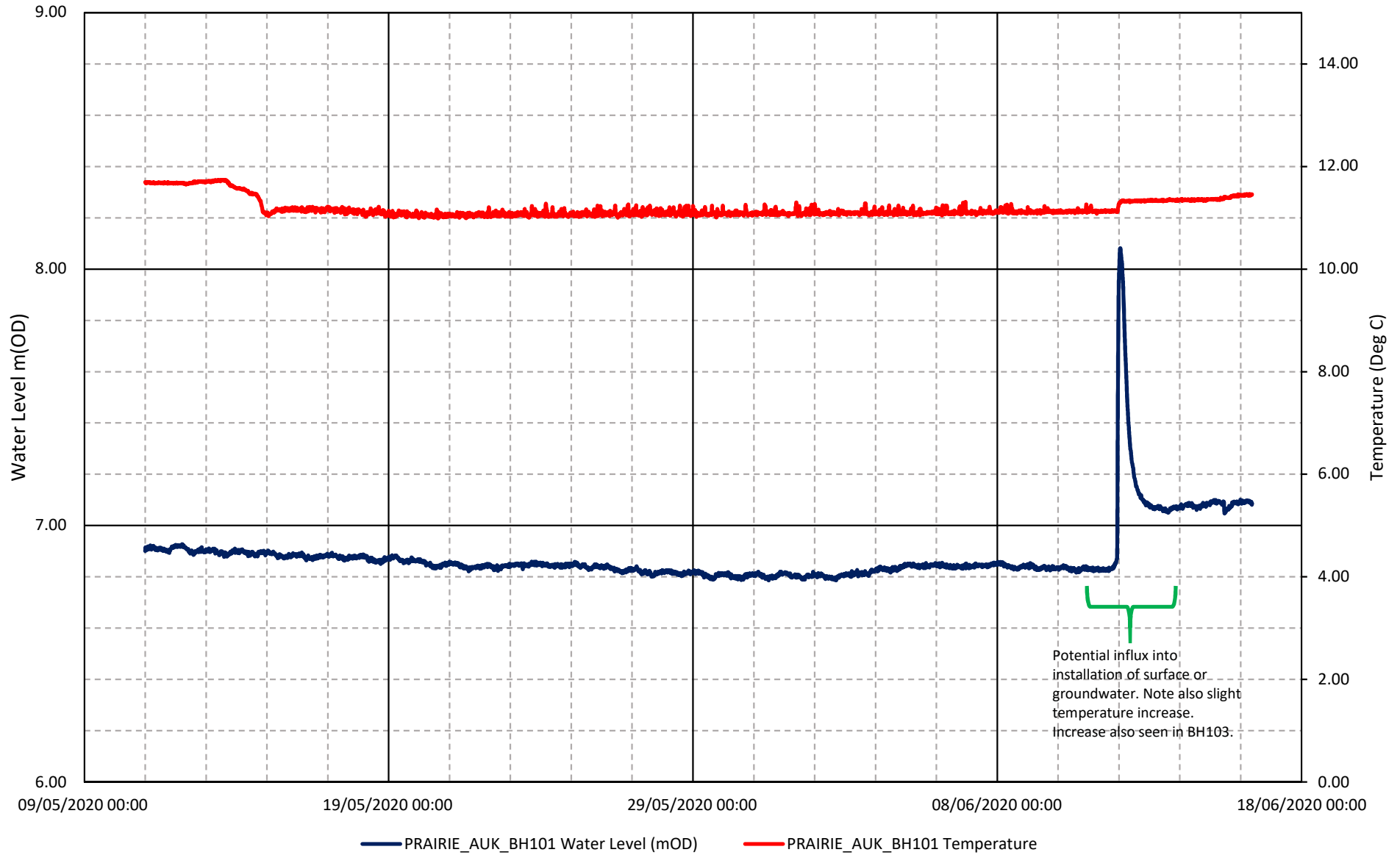


## Continuous Groundwater/Tidal Monitoring Results



# GROUNDWATER MONITORING DATA

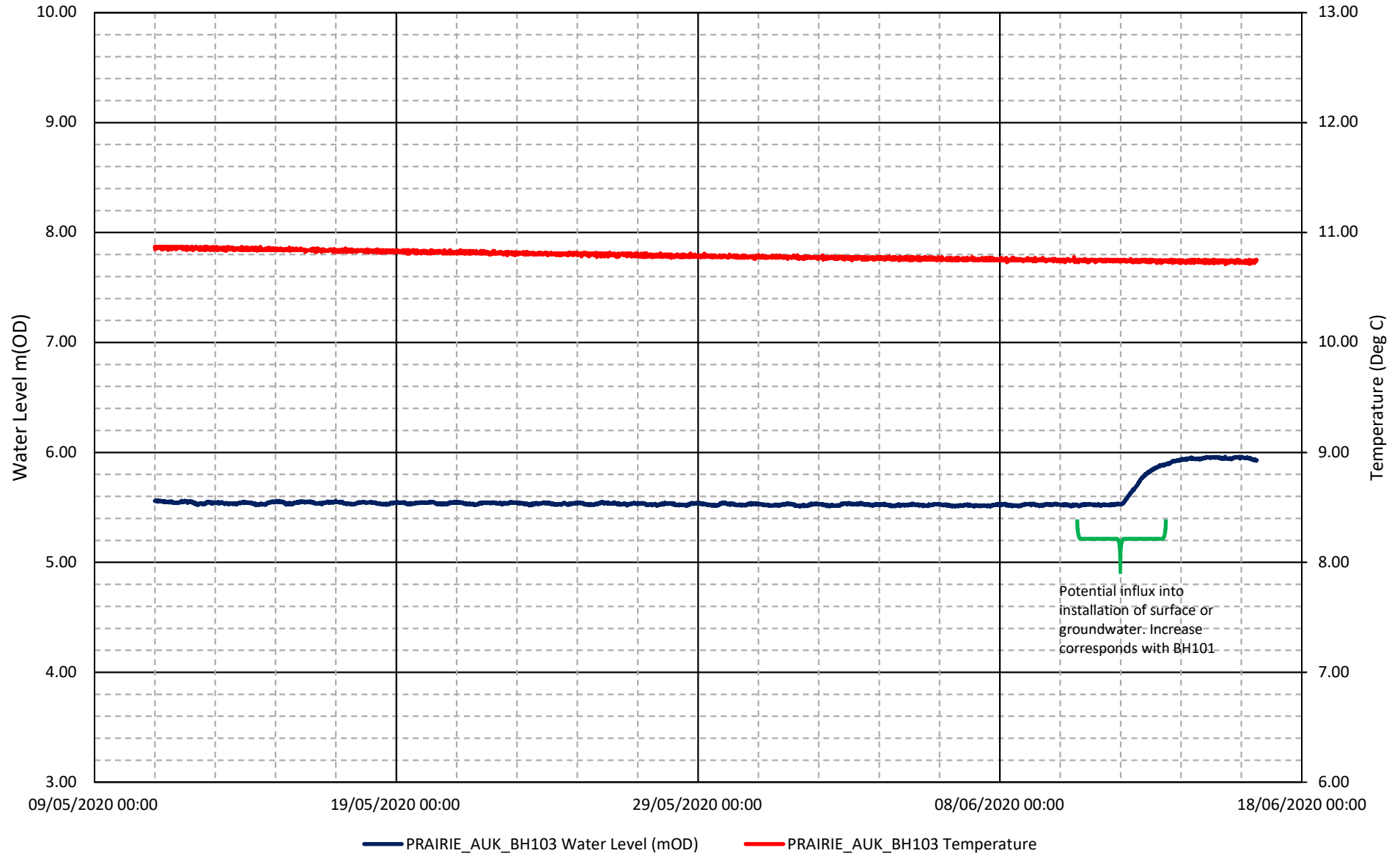
## GROUNDWATER MONITORING DATA





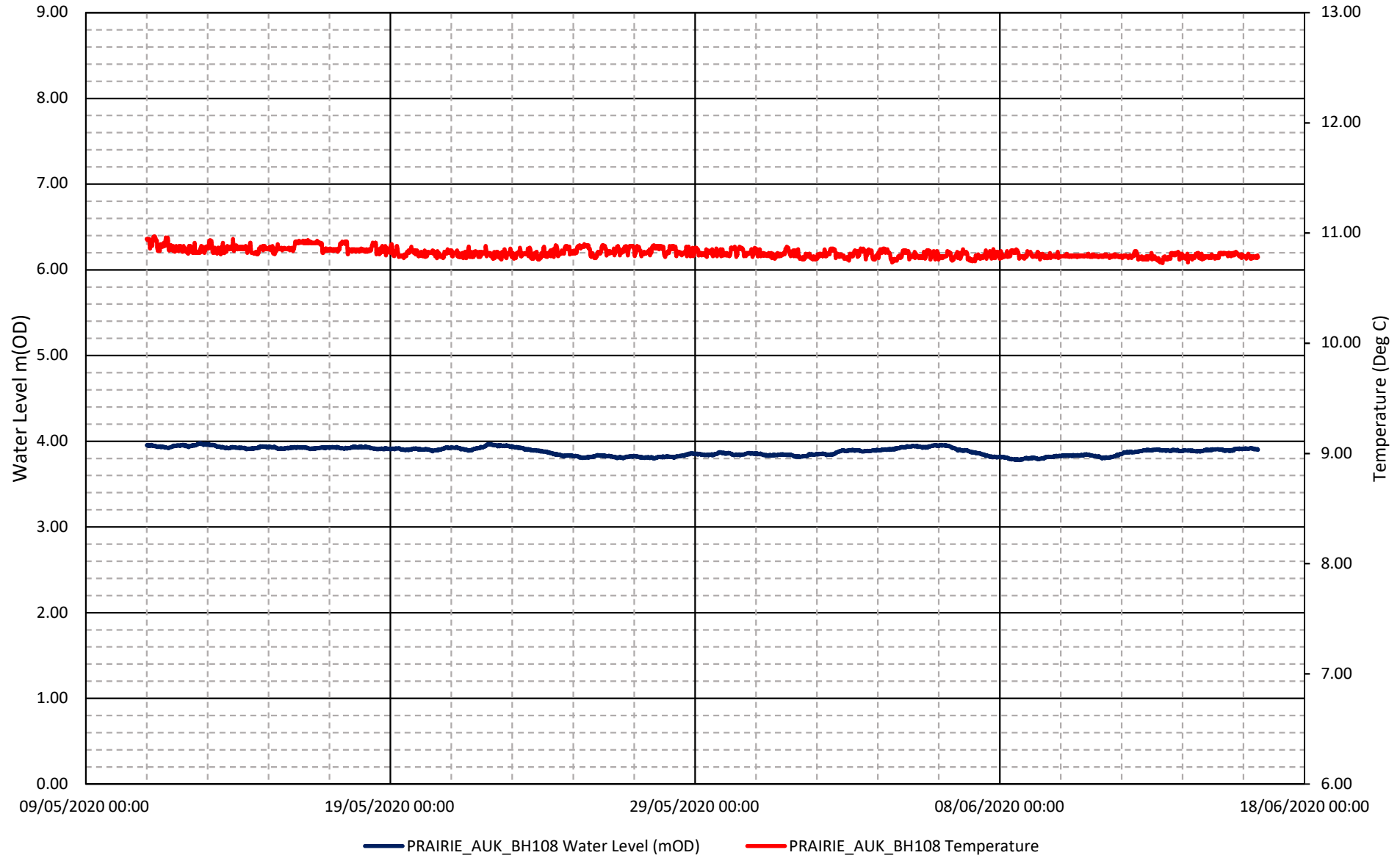
# GROUNDWATER MONITORING DATA

## GROUNDWATER MONITORING DATA



# GROUNDWATER MONITORING DATA

## GROUNDWATER MONITORING DATA

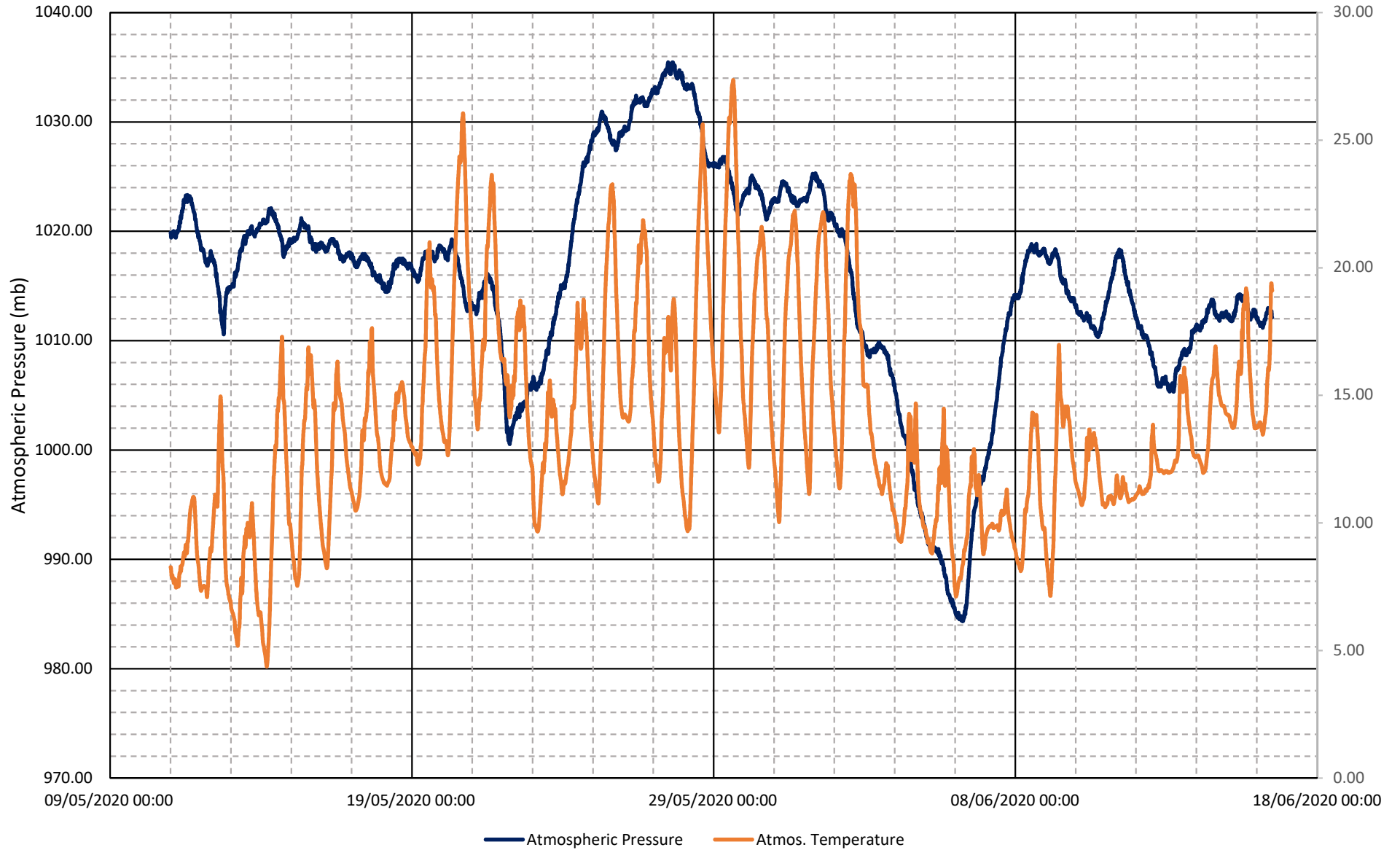


Title: Prairie Site Ground Investigation Works  
Contract No: 4251  
Client: South Tees Development Corporation  
Printed: 05/11/2020



# GROUNDWATER MONITORING DATA

## ATMOSPHERIC PRESSURE MONITORING DATA



*In-situ* Test Report Certificate





# ALLIED EXPLORATION & GEOTECHNICS LIMITED

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Regional Office: Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL - Tel: 01254 503 200 Fax: 01254 662 590



## IN-SITU TESTING REPORT CERTIFICATE



**Contract Title:** Prairie Site Ground Investigation Works

**AEG Reference:** 4251

**Client Address:** South Tees Development Corporation

I certify that *In-situ* testing was carried out on the above contract in accordance with techniques outlined in BS 1377: 1990: Part 9 or other appropriate standards as quoted, and the following results, given on the attached enclosures, were obtained.

The tests carried out are indicated in the attached table showing the enclosure number and the total number of pages.

For and on behalf of Allied Exploration & Geotechnics Limited

- Nick Vater (Managing Director)  
 Kerry Wade (Technical Manager)

Signed

A handwritten signature in blue ink that reads 'Kwade'.

Date: 05 November 2020

Tests marked not UKAS accredited in this certificate are not included in the UKAS accreditation schedule for our laboratory. Any opinions and interpretations expressed herein are outside the scope of the laboratory's UKAS accreditation

# IN-SITU TESTING REPORT CERTIFICATE

## ENCLOSURES

Enclosure Number	Description	UKAS Accredited	Reference	No. of Pages
0	Test Report Certificate	N/A		2
1	Standard Penetration Test Results (SPT)	Yes	BS 1377 Part 9 1990	15
2	Hand Shear Vane Test Results	No		7
3	Photo-Ionisation Detector Test Results	No		7
4	<i>In-situ</i> Water Quality Parameter Test Results	No		9
5	Hydraulic Conductivity: Slug Test Results	No		15
-	Density by Core Cutter Method	Yes	BS 1377 Part 9 1990	-
-	Determination of the Vane Shear Strength (Down the Hole)	Yes	BS 1377 Part 9 1990	-
-	Shallow Pad (skip) Load Test Results	No	BS 1377 Part 9 1990	-
-	Determination of the California Bearing Ratio	Yes	BS 1377 Part 9 1990	-
-	Plate Loading Test Results	No	BS 1377 Part 9 1990	-
-	Apparent Resistivity of Soil	No	BS 1377 Part 9 1990	-
-	Redox Potential of Soil	No	BS 1377 Part 9 1990	-
-	Determination of the Soil Infiltration Rate for Soakaway Design	No	BRE Digest 365:1991	-



## Standard Penetration Test Results






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## STANDARD PENETRATION TEST RESULTS (BS EN ISO 22476-3: 2005)

Exploratory Hole No.	Test Depth (Reduced Level) m	Water Depth (Casing) m	Rod Length m	SPT Hammer Ref.	Energy Ratio E <sub>s</sub> %	TEST DRIVE												Energy Ratio Corr. C <sub>r</sub>	Pen (m)/Blow	SPT'N Value	SPT'N Value (Corr.) N <sub>60</sub>	Shoe or Cone S/C	Remarks					
						SEATING DRIVE						TEST DRIVE												Rod Length Corr. C <sub>r</sub>	Energy Ratio Corr. C <sub>e</sub>	Pen (m)/Blow	SPT'N Value	SPT'N Value (Corr.) N <sub>60</sub>
						Pen mm	Blows No.	Pen mm	Blows No.	Total Pen mm	Total Blows No.	Pen mm	Blows No.	Pen mm	Blows No.	Total Pen mm	Total Blows No.											
PRAIRIE_AUK_BH101	4.00 (4.64)	Dry (3.80)	4.00	ATH09	51	75	2	75	3	150	5	75	3	75	3	75	4	300	13	8	S							
PRAIRIE_AUK_BH101	6.00 (2.64)	Dry (5.80)	6.00	ATH09	51	75	2	75	3	150	5	75	4	75	5	300	17	17.65	12	12	S							
PRAIRIE_AUK_BH101	9.50 (-0.86)	Dry (9.30)	9.50	ATH09	51	75	2	75	3	150	5	75	5	75	5	300	18	16.67	15	15	S							
PRAIRIE_AUK_BH101	12.50 (-3.86)	Dry (12.30)	12.50	ATH09	51	75	9	75	10	150	19	75	22	75	28	285	100	2.85	-	-	S							
PRAIRIE_AUK_BH101	14.00 (-5.36)	Dry (13.80)	14.00	ATH09	51	75	16	75	16	150	32	75	26	75	22	285	100	2.85	-	-	S							
PRAIRIE_AUK_BH101	15.50 (-6.86)	11.36 (15.30)	15.50	ATH09	51	75	17	75	20	150	37	75	25	75	30	245	100	2.45	-	-	S							
PRAIRIE_AUK_BH101	17.00 (-8.36)	12.06 (16.80)	17.00	ATH09	51	75	17	75	10	150	27	75	5	75	12	300	55	5.45	47	47	S							
PRAIRIE_AUK_BH101	18.00 (-9.36)	10.47 (17.80)	18.00	ATH09	51	20	50			20	50	25	100			25	100	0.25	-	-	S							
PRAIRIE_AUK_BH101	18.40 (-9.76)	11.02 (16.20)	18.40	ATH09	51	15	50			15	50	20	100			20	100	0.20	-	-	S							
PRAIRIE_AUK_BH103	3.50 (4.18)	Dry (3.30)	3.50	ATH09	51	75	2	75	3	150	5	75	4	75	5	300	20	0.74	13	13	S							

NOTE: Please refer to calibration certificate for additional information and corresponding Exploratory Hole record for sampling details. Uncorrected and corrected SPT'N values are presented on the attached graphical plot relative to each Exploratory Hole.

	Contract Title :- <b>Prairie Site Ground Investigation Works</b>	Client :- <b>South Tees Development Corporation</b>	AEG Contract No :- 4251
Date of issue :- 05/11/2020	Page No. :- 1 of 5	Checked By :- 	Certificate No. :- SPT/4251/1
Approved By :- 			





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## STANDARD PENETRATION TEST RESULTS (BS EN ISO 22476-3: 2005)

Exploratory Hole No.	Test Depth (Reduced Level) m	Water Depth (Casing) m	Rod Length m	SPT Hammer Ref.	Energy Ratio E <sub>s</sub> %	TEST DRIVE												Pen (m)/Blow	SPT'N Value	SPT'N Value (Corr) No.	Shoe or Cone	Remarks		
						SEATING DRIVE						TEST DRIVE											Energy Ratio Cor <sub>r</sub>	Rod Length Cor <sub>r</sub>
						Pen mm	Blows	Pen mm	Blows	Total Pen mm	Total Blows	Pen mm	Blows	Pen mm	Blows	Total Pen mm	Total Blows							
PRAIRIE_AUK_BH103	5.50 (2.18)	Dry (5.30)	5.50	ATH09	51	Pen 75	3	75	4	150	7	Pen 75	5	75	5	75	6	300	21	15	S			
PRAIRIE_AUK_BH103	8.50 (-0.82)	Dry (8.30)	8.50	ATH09	51	Pen 75	4	75	5	150	9	Pen 75	8	75	8	75	11	300	37	30	S			
PRAIRIE_AUK_BH103	11.50 (-3.82)	Dry (11.30)	11.50	ATH09	51	Pen 75	6	75	17	150	23	Pen 75	24	75	18	75	20	300	80	68	S			
PRAIRIE_AUK_BH103	13.00 (-5.32)	Dry (12.80)	13.00	ATH09	51	Pen 75	9	75	16	150	25	Pen 75	25	75	41	50	34	200	100	-	S			
PRAIRIE_AUK_BH103	13.50 (-5.82)	Dry (13.30)	13.50	ATH09	51	Pen 75	22	75	26	150	48	Pen 75	47	75	53			130	100	-	S			
PRAIRIE_AUK_BH104	7.00 (1.70)	Dry (6.80)	7.00	ATH09	51	Pen 75	5	75	5	150	10	Pen 75	6	75	8	75	8	300	32	24	S			
PRAIRIE_AUK_BH104	10.00 (-1.30)	Dry (9.80)	10.00	ATH09	51	Pen 75	6	75	7	150	13	Pen 75	8	75	9	75	9	300	36	31	S			
PRAIRIE_AUK_BH104	12.00 (-3.30)	Dry (11.80)	12.00	ATH09	51	Pen 75	8	75	18	150	26	Pen 75	19	75	24	75	31	270	100	-	S			
PRAIRIE_AUK_BH104	13.00 (-4.30)	Dry (12.80)	13.00	ATH09	51	Pen 75	10	75	20	150	30	Pen 75	23	75	34	75	43	225	100	-	S			
PRAIRIE_AUK_BH105	4.00 (4.26)	Dry (3.80)	4.00	ATH09	51	Pen 75	2	75	3	150	5	Pen 75	3	75	3	75	4	300	13	8	S			

NOTE: Please refer to calibration certificate for additional information and corresponding Exploratory Hole record for sampling details. Uncorrected and corrected SPT'N values are presented on the attached graphical plot relative to each Exploratory Hole.

	Contract Title :- <b>Prairie Site Ground Investigation Works</b>	Client :- <b>South Tees Development Corporation</b>	AEG Contract No :- <b>4251</b>
Date of Issue :- <b>05/11/2020</b>	Page No. :- <b>2 of 5</b>	Checked By :- 	Certificate No. :- <b>SPT/4251/2</b>
Approved By :- 			



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## STANDARD PENETRATION TEST RESULTS

(BS EN ISO 22476-3: 2005)

Exploratory Hole No.	Test Depth (Reduced Level)	Water Depth (Casing)	Rod Length	SPT Hammer Ref.	Energy Ratio $E_r$	SEATING DRIVE						TEST DRIVE						Energy Ratio Corr. $C_e$	Pen (mm)/Blow	SPT.N. Value	SPT.N. Value (Corr.) $N_{60}$	Shoe of Cone	Remarks		
						Pen	Blows	Pen	Blows	Pen	Blows	Pen	Blows	Pen	Blows	Pen	Blows							Total Pen	Total Blows
						mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.							mm	No.
PRAIRIE_AUK_BH105	6.50 (1.76)	Dry (6.30)	6.50	ATH09	51	75	3	75	4	150	7	75	4	75	5	75	6	300	19	14	S				
PRAIRIE_AUK_BH105	9.50 (-1.24)	4.32 (6.30)	9.50	ATH09	51	75	12	75	23	150	35	75	36	75	26	35	185	100	-	-	S				
PRAIRIE_AUK_BH105	11.00 (-2.74)	7.36 (10.80)	11.00	ATH09	51	50	50	70	100	50	50	100	70	100	1.00	70	100	-	-	-	S				
PRAIRIE_AUK_BH105	11.20 (-2.94)	7.89 (11.00)	11.20	ATH09	51	50	30	55	100	50	30	55	100	55	1.00	55	100	-	-	-	S				
PRAIRIE_AUK_BH106	7.00 (1.71)	Dry (6.80)	7.00	ATH09	51	75	5	75	5	150	10	75	5	75	7	75	9	300	27	20	S				
PRAIRIE_AUK_BH106	10.00 (-1.29)	Dry (9.80)	10.00	ATH09	51	75	5	75	10	150	15	75	16	75	12	75	12	300	52	44	S				
PRAIRIE_AUK_BH106	10.50 (-1.79)	Dry (10.30)	10.50	ATH09	51	75	50	40	100	75	50	40	100	40	1.00	40	100	-	-	-	S				
PRAIRIE_AUK_BH107	4.00 (6.16)	1.63 (3.80)	4.00	ATH09	51	75	2	75	3	150	5	75	3	75	4	75	5	300	17	11	S				
PRAIRIE_AUK_BH107	6.50 (3.66)	Dry (6.30)	6.50	ATH09	51	75	3	75	3	150	6	75	3	75	5	75	5	300	17	12	S				
PRAIRIE_AUK_BH107	9.00 (1.16)	Dry (7.80)	9.00	ATH09	51	75	25	35	25	110	50	40	100	40	1.00	40	100	-	-	-	S				

NOTE: Please refer to calibration certificate for additional information and corresponding Exploratory Hole record for sampling details. Uncorrected and corrected SPT.N. values are presented on the attached graphical plot relative to each Exploratory Hole.

	Contract Title :-		Client :-		AEG Contract No. :-	
	Prairie Site Ground Investigation Works		South Tees Development Corporation		4251	
Date of Issue :-		Checked By :-		Approved By :-		Certificate No. :-
05/11/2020		LC		XW		
Page No. :-		3 of 5		1367		



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## STANDARD PENETRATION TEST RESULTS (BS EN ISO 22476-3: 2005)

Exploratory Hole No.	Test Depth (Reduced Level) m	Water Depth (Casing) m	Rod Length m	SPT Hammer Ref.	Energy Ratio E <sub>s</sub> %	SEATING DRIVE												TEST DRIVE												Energy Ratio Corr. C <sub>e</sub>	Pen (mm)/Blow	SPT'N Value	SPT'N Value (Corr.) N <sub>60</sub>	Shoe or Cone		Remarks
						Blows		Pen		Blows		Pen		Blows		Pen		Blows		Pen		Blows		Pen		Total Blows	Total Pen mm	No.	mm					No.	mm	
						No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm	S/C												
PRAIRIE_AUK_BH108	3.50 (5.36)	Dry (3.30)	3.50	ATH09	51	1	75	3	150	4	75	3	75	3	75	3	75	3	75	3	75	3	75	4	300	13	8	8	S							
PRAIRIE_AUK_BH108	5.50 (3.36)	Dry (5.30)	5.50	ATH09	51	2	75	3	150	5	75	3	75	12	75	14	75	18	300	49	34	34	300	49	6.12	49	34	S								
PRAIRIE_AUK_BH108	7.00 (1.86)	Dry (6.80)	7.00	ATH09	51	8	75	8	150	16	75	15	75	17	75	23	75	21	300	76	57	57	300	76	3.95	76	57	S								
PRAIRIE_AUK_BH108	8.50 (0.36)	Dry (8.30)	8.50	ATH09	51	50	70	50	70	50	55	100	100	55	55	100	100	55	55	100	100	100	55	55	0.55	-	-	S								
PRAIRIE_AUK_BH108	9.00 (-0.14)	Dry (8.80)	9.00	ATH09	51	50	35	50	35	50	40	100	100	40	40	100	100	40	40	100	100	100	40	40	0.40	-	-	S								
PRAIRIE_AUK_BH109	2.00 (10.09)	Dry (1.80)	2.00	ATH09	51	2	75	3	150	5	75	3	75	3	75	4	75	5	300	15	9	9	300	15	20.00	15	9	S								
PRAIRIE_AUK_BH109	4.00 (8.09)	Dry (3.80)	4.00	ATH09	51	2	75	2	150	4	75	3	75	5	75	6	75	7	300	21	14	14	300	21	14.29	21	14	S								
PRAIRIE_AUK_BH109	6.00 (6.09)	Dry (5.80)	6.00	ATH09	51	9	75	20	150	29	75	53	47	35	35	47	47	110	100	100	100	100	110	100	1.10	-	-	S								
PRAIRIE_AUK_BH109	6.50 (5.59)	Dry (6.30)	6.50	ATH09	51	50	60	50	60	50	45	100	100	45	45	100	100	45	45	100	100	100	45	45	0.45	-	-	S								
PRAIRIE_AUK_BH110	6.50 (1.30)	Dry (6.30)	6.50	ATH09	51	3	75	3	150	6	75	3	75	3	75	3	75	4	300	13	10	10	300	13	23.08	13	10	S								

NOTE: Please refer to calibration certificate for additional information and corresponding Exploratory Hole record for sampling details. Uncorrected and corrected SPT'N values are presented on the attached graphical plot relative to each Exploratory Hole.

<b>AEG</b>	Contract Title :-	Client :-	AEG Contract No :-
	Prairie Site Ground Investigation Works	South Tees Development Corporation	4251
Date of Issue :-	Page No. :-	Checked By :-	Approved By :-
05/11/2020	4 of 5	<i>LC</i>	<i>AW</i>
			Certificate No. :- SPT/4251/4



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## STANDARD PENETRATION TEST RESULTS (BS EN ISO 22476-3: 2005)

Exploratory Hole No.	Test Depth (Reduced Level)	Water Depth (Casing)	Rod Length	SPT Hammer Ref.	Energy Ratio E <sub>f</sub>	TEST DRIVE												Rod Length Corr. C <sub>r</sub>	Energy Ratio Corr. C <sub>e</sub>	Pen (mm)/Blow	SPT'N Value	SPT'N Value (Corr.) N <sub>60</sub>	Shoe or Cone	Remarks
						SEATING DRIVE						TEST DRIVE												
						Pen	Blows	Pen	Blows	Total Pen	Total Blows	Pen	Blows	Pen	Blows	Total Pen	Total Blows							
PRAIRIE_AUK_BH110	9.50 (-1.70)	Dry (9.30)	9.50	ATH08	51	3	6	75	75	150	9	6	75	75	9	10	75	75	34	300	59	59	S	
PRAIRIE_AUK_BH110	12.50 (-4.70)	Dry (12.30)	12.50	ATH08	51	9	12	75	75	150	21	13	75	75	19	25	75	75	41	300	98	83	S	
PRAIRIE_AUK_BH110	14.00 (-6.20)	6.74 (13.80)	14.00	ATH08	51	15	19	75	75	150	34	25	75	70	27	48				220	100	-	S	
PRAIRIE_AUK_BH110	15.00 (-7.20)	7.02 (14.80)	15.00	ATH08	51	50		55		55	50	100	70							70	100	-	S	
PRAIRIE_AUK_BH110	15.50 (-7.70)	7.39 (15.30)	15.50	ATH08	51	50		35		35	50	100	50							50	100	-	S	

NOTE: Please refer to calibration certificate for additional information and corresponding Exploratory Hole record for sampling details. Uncorrected and corrected SPT'N values are presented on the attached graphical plot relative to each Exploratory Hole.

<b>Contract Title :-</b>	Prairie Site Ground Investigation Works	<b>Client :-</b>	South Tees Development Corporation
<b>Date of Issue :-</b>	05/11/2020	<b>Approved By :-</b>	
<b>Page No. :-</b>	5 of 5	<b>Checked By :-</b>	
<b>Contract No. :-</b>	AEG Contract No. :- 4251	<b>Certificate No. :-</b>	SPT/4251/5





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Regional Office:

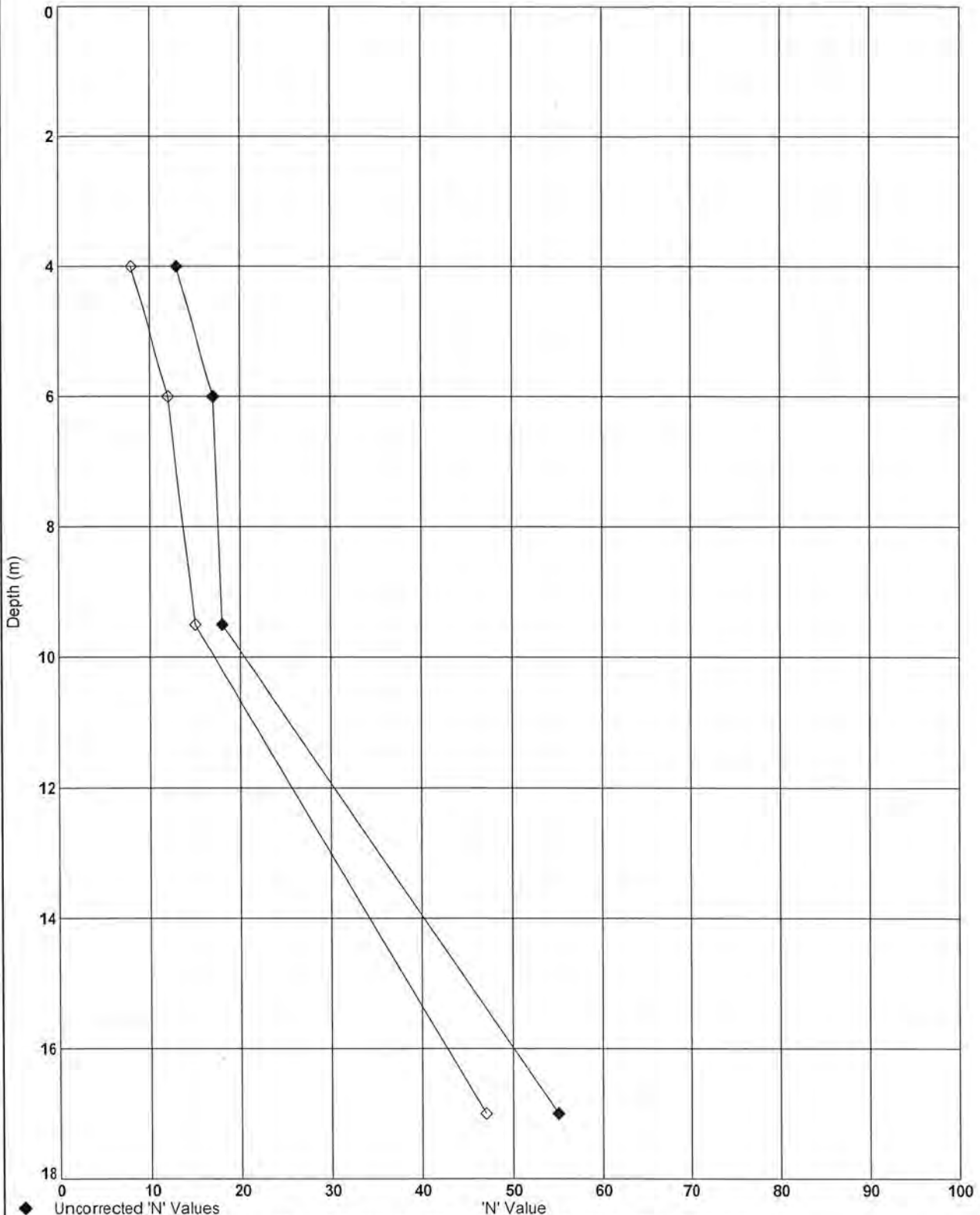
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## STANDARD PENETRATION TEST RESULTS (BS EN ISO 22476-3: 2005)

Exploratory Hole No

PRAIRIE\_AUK\_BH101



◆ Uncorrected 'N' Values  
◇ Corrected 'N' Values

Note: Graph does not display extrapolated SPT results (e.g. refusals).

Contract Title :-  
Prairie Site Ground Investigation Works

Client :-  
South Tees Development Corporation



Date of issue :-  
05/11/2020

Certificate No :-  
SPT/4251/Graph/PRAIRIE\_AUK\_BH101

Operator :-  
L. Selkirk

Checked By :-  
*LC*

Approved By :-  
*ASW*

AEG Contract No. :-  
4251



# ALLIED EXPLORATION & GEOTECHNICS LIMITED

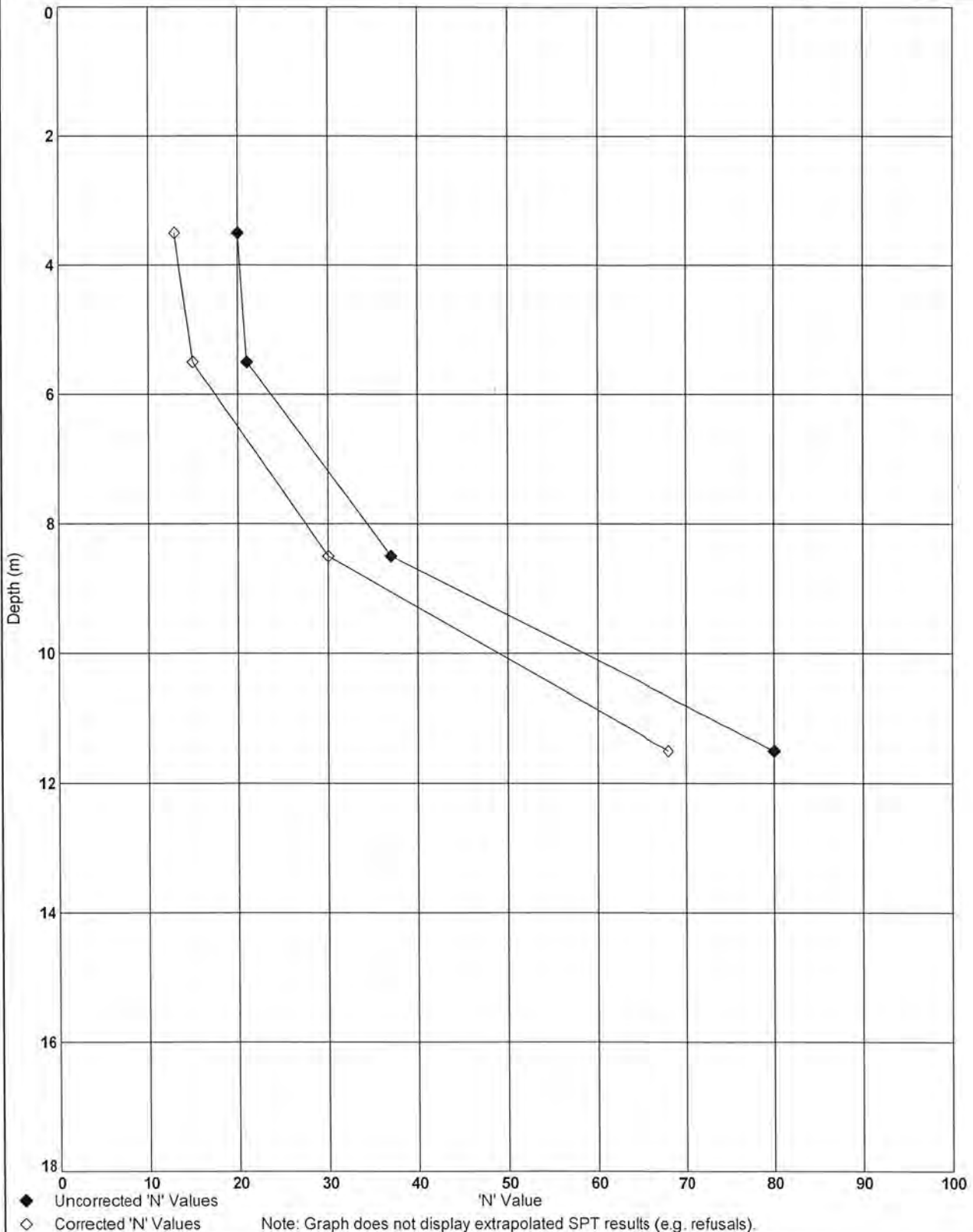
Head Office:  
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## STANDARD PENETRATION TEST RESULTS (BS EN ISO 22476-3: 2005)

Exploratory Hole No  
**PRAIRIE\_AUK\_BH103**



Contract Title :-  
Prairie Site Ground Investigation Works

Client :-  
South Tees Development Corporation



Date of issue :-  
05/11/2020

Certificate No :-  
SPT/4251/Graph/PRAIRIE\_AUK\_BH103

Operator :-  
L. Selkirk

Checked By :-  
*LC*

Approved By :-  
*KW*

AEG Contract No. :-  
4251



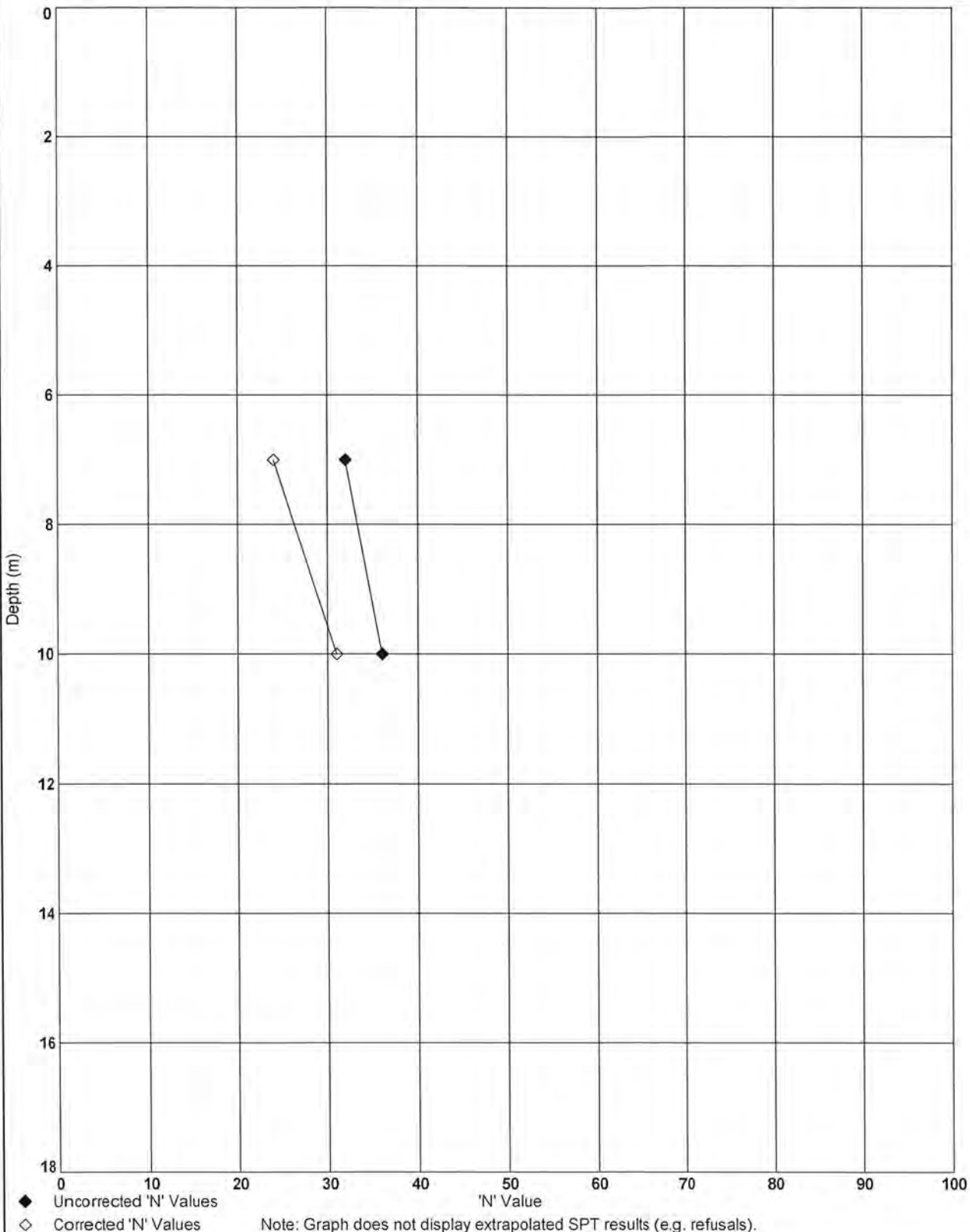


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## STANDARD PENETRATION TEST RESULTS (BS EN ISO 22476-3: 2005)

Exploratory Hole No  
**PRAIRIE\_AUK\_BH104**



Contract Title :- <p style="text-align: center;">Prairie Site Ground Investigation Works</p>	Client :- <p style="text-align: center;">South Tees Development Corporation</p>
---	--

	Date of issue :- <p style="text-align: center;">05/11/2020</p>	Certificate No :- <p style="text-align: center;">SPT/4251/Graph/PRAIRIE_AUK_BH104</p>	Operator :- <p style="text-align: center;">L.S./L.H.</p>
	Checked By :- <p style="text-align: center; font-size: 2em; color: blue;">LC</p>	Approved By :- <p style="text-align: center; font-size: 2em; color: blue;">ALW</p>	AEG Contract No. :- <p style="text-align: center;">4251</p>

# ALLIED EXPLORATION & GEOTECHNICS LIMITED

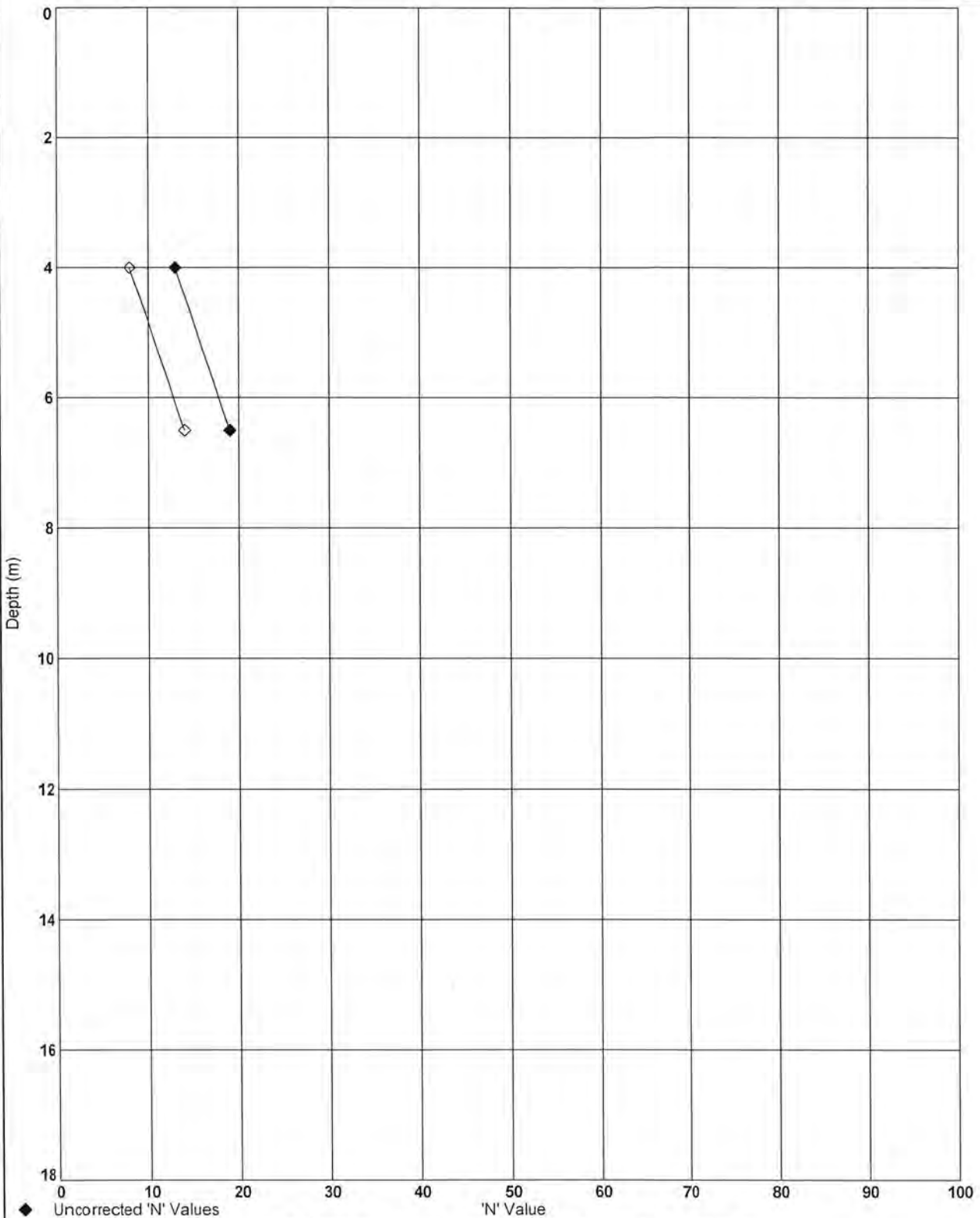
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Regional Office:

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## STANDARD PENETRATION TEST RESULTS (BS EN ISO 22476-3: 2005)

Exploratory Hole No  
PRAIRIE\_AUK\_BH105



Contract Title :- Prairie Site Ground Investigation Works

Client :- South Tees Development Corporation



Date of issue :-  
05/11/2020

Certificate No :-  
SPT/4251/Graph/PRAIRIE\_AUK\_BH105

Operator :-  
L. Selkirk

Checked By :-  
*LC*

Approved By :-  
*ASW*

AEG Contract No. :-  
4251



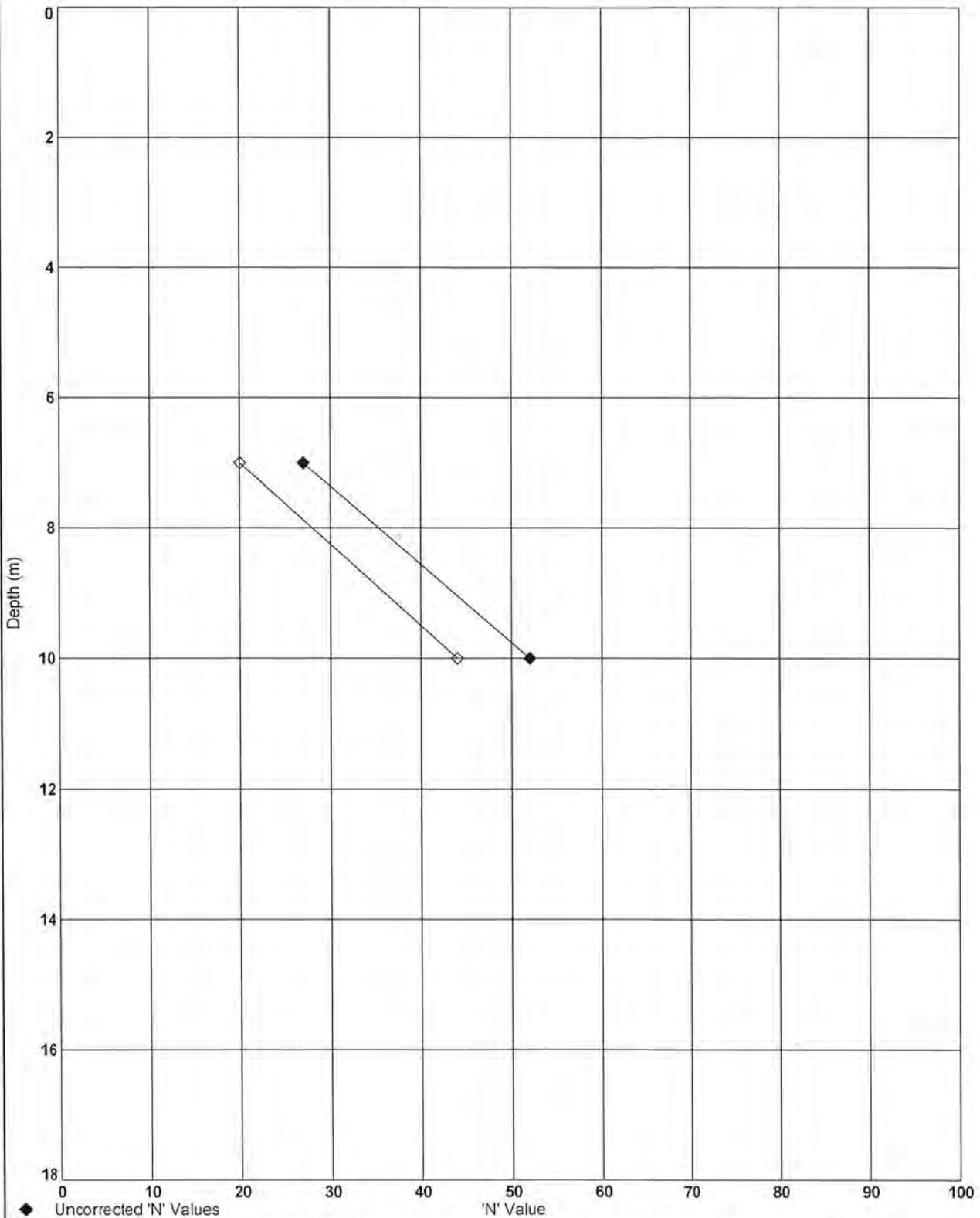


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## STANDARD PENETRATION TEST RESULTS (BS EN ISO 22476-3: 2005)

Exploratory Hole No  
PRAIRIE\_AUK\_BH106



Contract Title :- Prairie Site Ground Investigation Works

Client :- South Tees Development Corporation



Date of issue :-  
05/11/2020

Certificate No :-  
SPT/4251/Graph/PRAIRIE\_AUK\_BH106

Operator :-  
L. Selkirk

Checked By :-  
*LC*

Approved By :-  
*ASW*

AEG Contract No. :-  
4251



# ALLIED EXPLORATION & GEOTECHNICS LIMITED

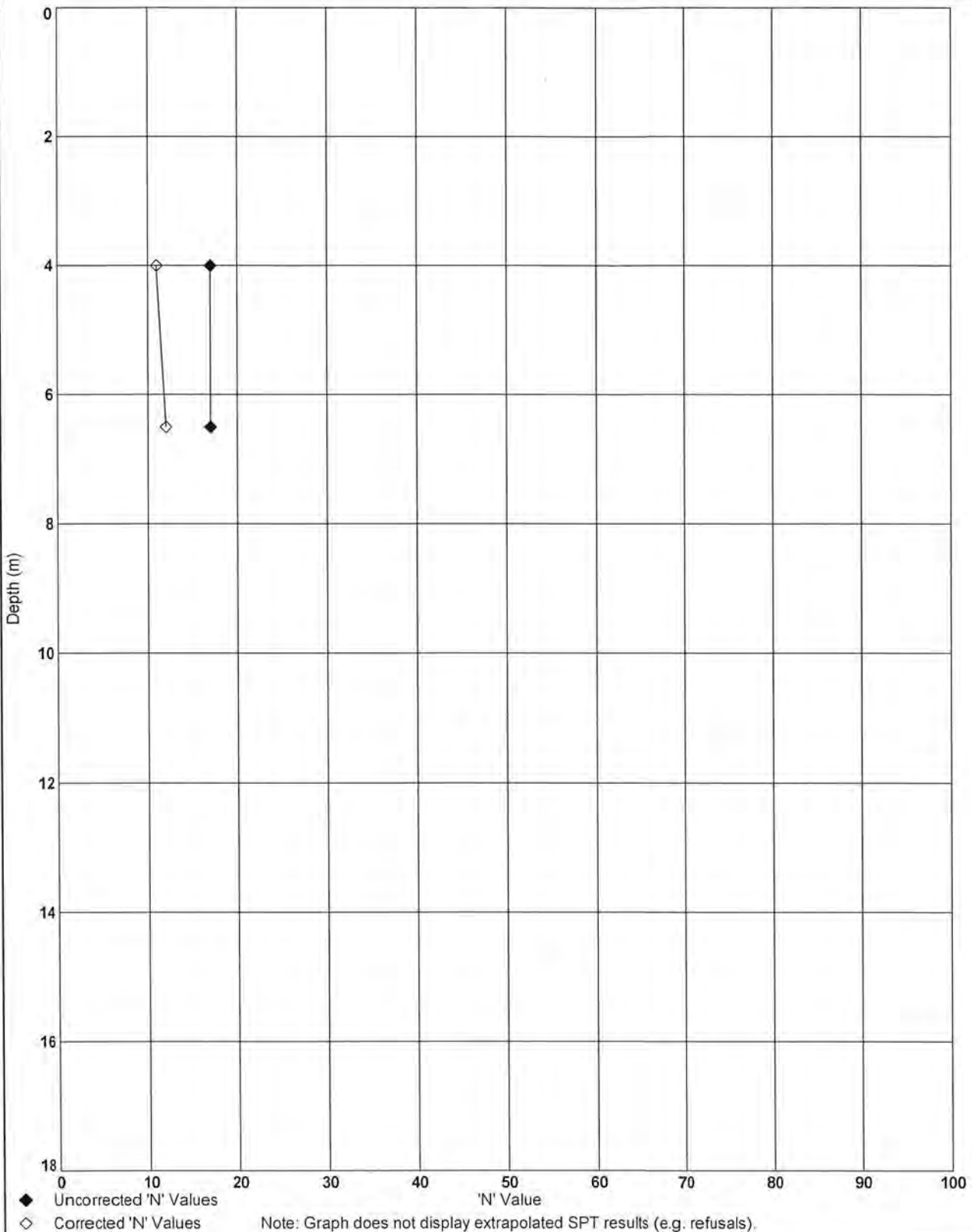
Head Office:  
Regional Office:

Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG  
Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL

Tel: 0191 387 4700 Fax: 0191 387 4710  
Tel: 01772 735 300 Fax: 01772 735 999

## STANDARD PENETRATION TEST RESULTS (BS EN ISO 22476-3: 2005)

Exploratory Hole No  
PRAIRIE\_AUK\_BH107



Contract Title :- Prairie Site Ground Investigation Works

Client :- South Tees Development Corporation



Date of issue :-  
05/11/2020

Certificate No :-  
SPT/4251/Graph/PRAIRIE\_AUK\_BH107

Operator :-  
L. Selkirk



Checked By :-  
*LC*

Approved By :-  
*ASW*

AEG Contract No. :-  
4251



# ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office:  
Regional Office:

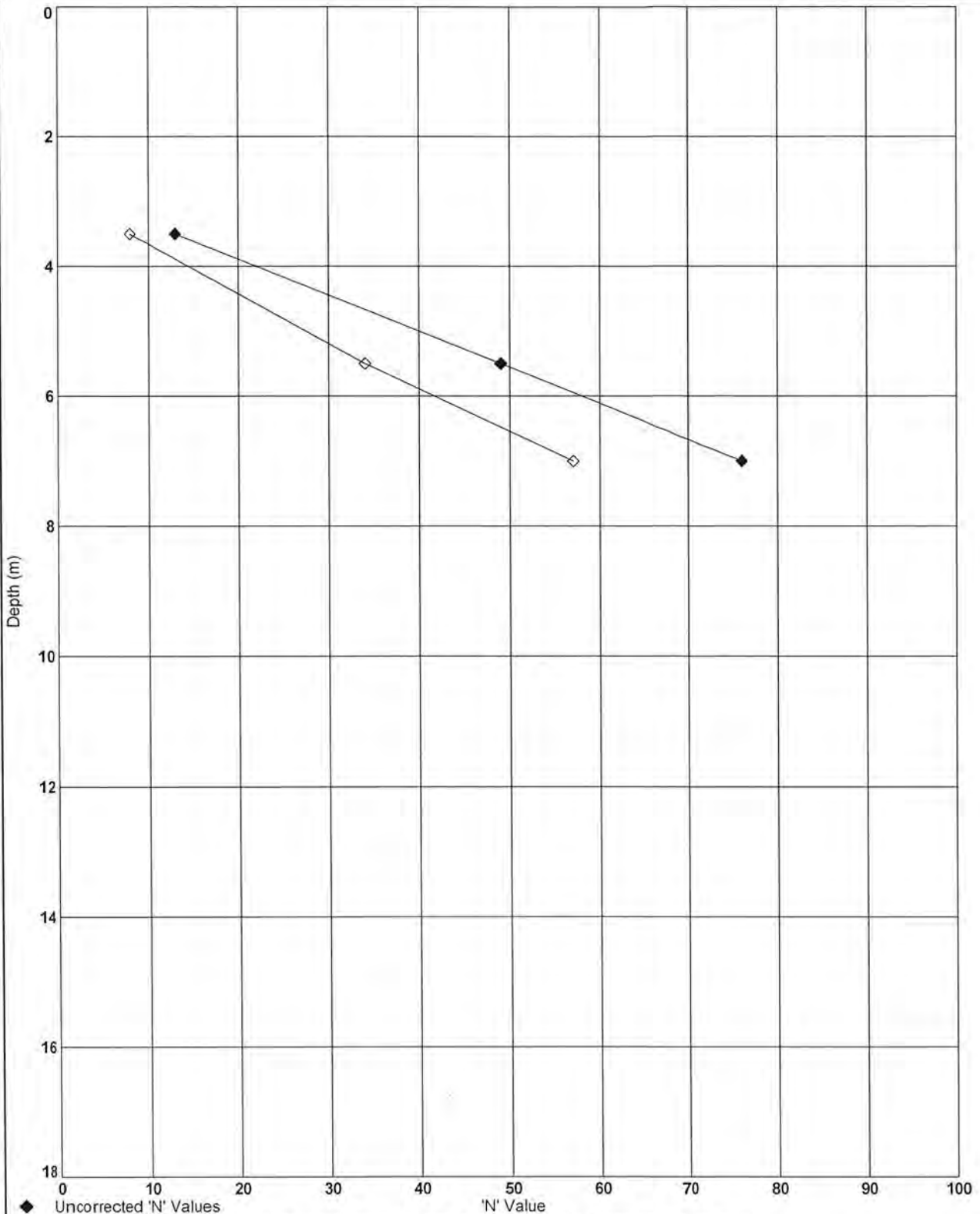
Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG  
Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL

Tel: 0191 387 4700 Fax: 0191 387 4710  
Tel: 01772 735 300 Fax: 01772 735 999

## STANDARD PENETRATION TEST RESULTS (BS EN ISO 22476-3: 2005)

Exploratory Hole No

PRAIRIE\_AUK\_BH108



Contract Title :- Prairie Site Ground Investigation Works

Client :- South Tees Development Corporation



Date of issue :- 05/11/2020

Certificate No :- SPT/4251/Graph/PRAIRIE\_AUK\_BH108

Operator :- L.S./L.H.

Checked By :- *LC*

Approved By :- *ALW*

AEG Contract No. :- 4251



# ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office:  
Regional Office:

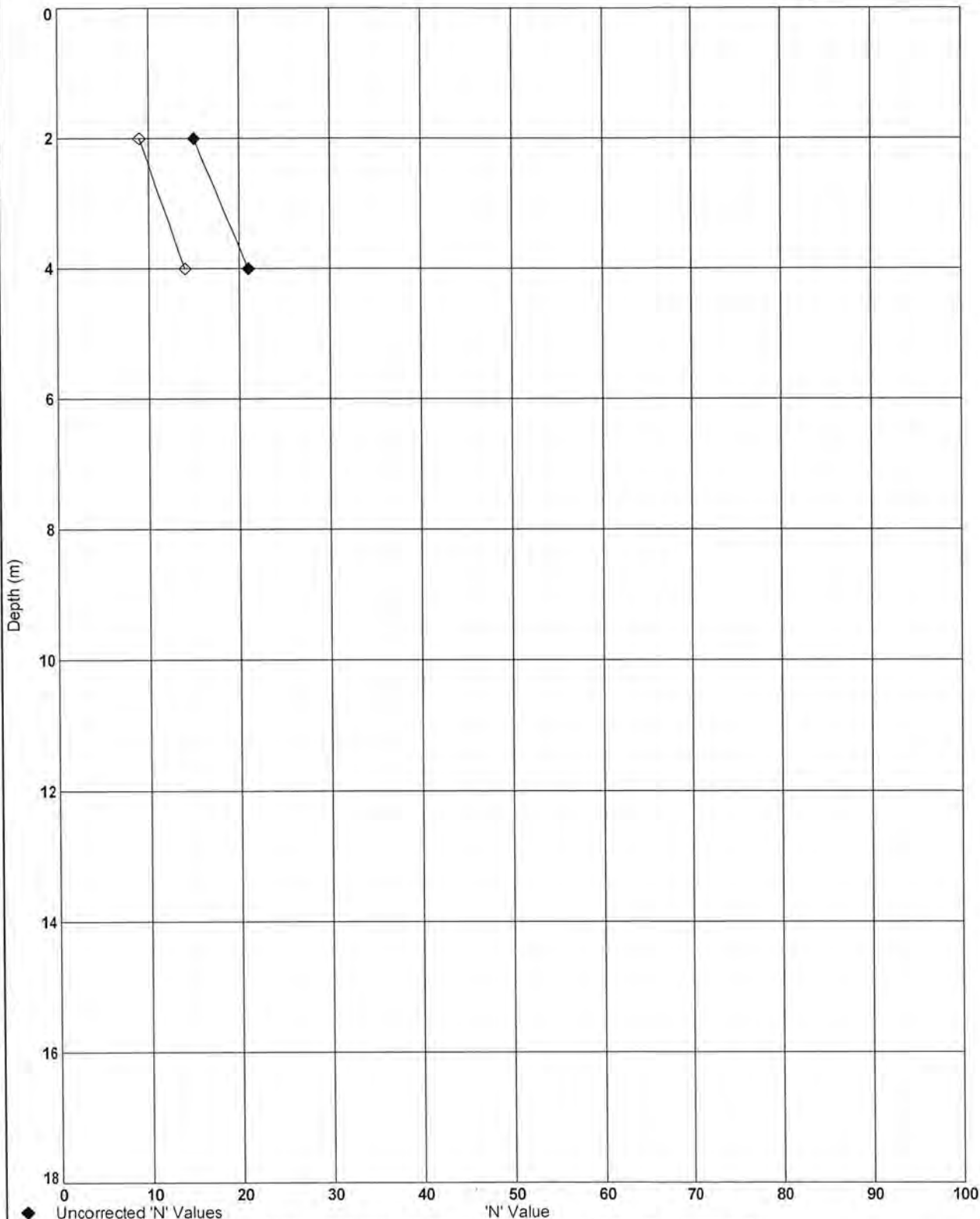
Unit 25 Stella Gill Industrial Estate, Peilton Fell, Chester-le-Street, Co. Durham, DH2 2RG  
Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL

Tel: 0191 387 4700 Fax: 0191 387 4710  
Tel: 01772 735 300 Fax: 01772 735 999

## STANDARD PENETRATION TEST RESULTS (BS EN ISO 22476-3: 2005)

Exploratory Hole No

PRAIRIE\_AUK\_BH109



◆ Uncorrected 'N' Values  
◇ Corrected 'N' Values

Note: Graph does not display extrapolated SPT results (e.g. refusals).

Contract Title :- Prairie Site Ground Investigation Works

Client :- South Tees Development Corporation



Date of issue :-  
05/11/2020

Certificate No :-  
SPT/4251/Graph/PRAIRIE\_AUK\_BH109

Operator :-  
L.S./L.H.

Checked By :-  
*LC*

Approved By :-  
*ALW*

AEG Contract No. :-  
4251



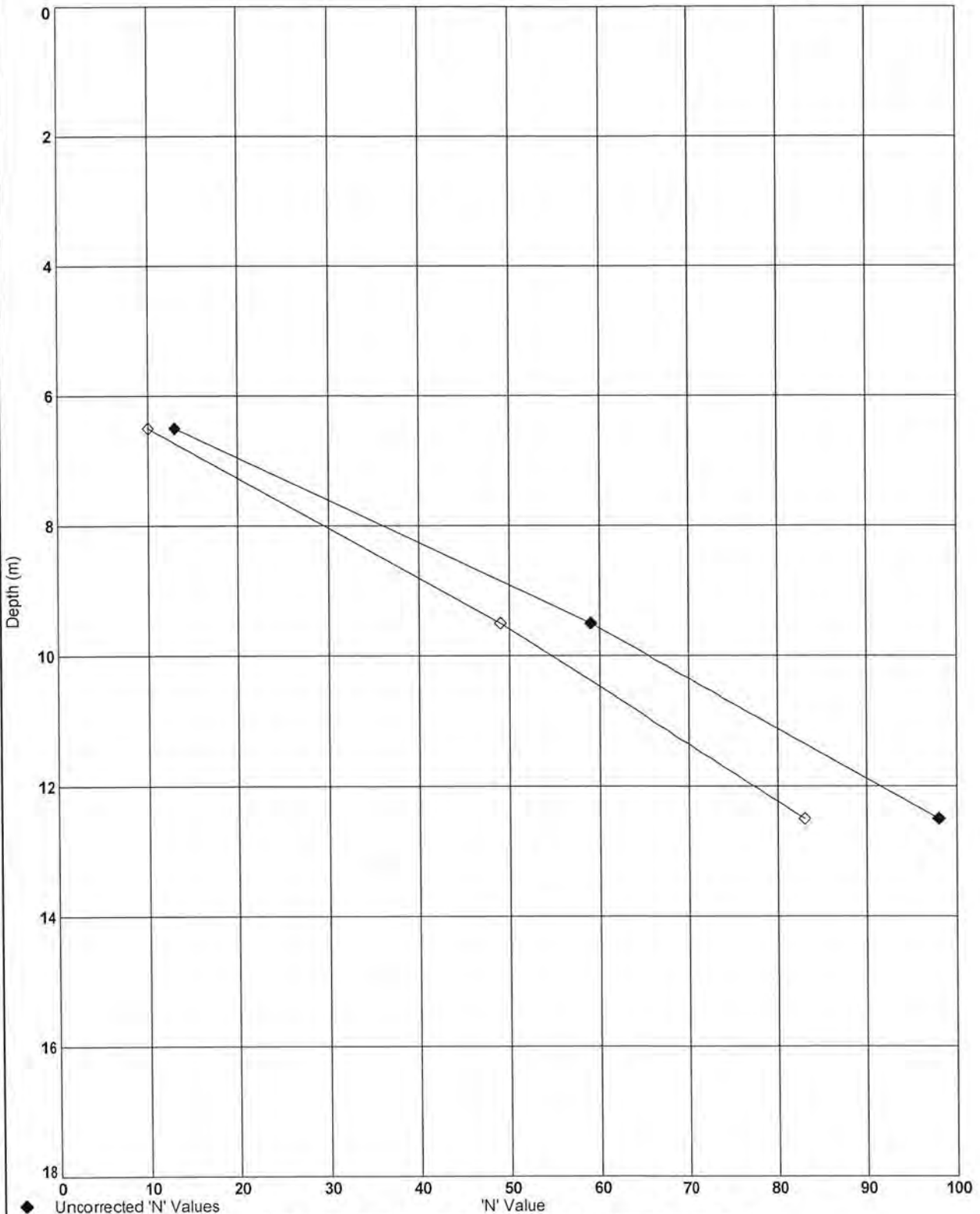


# ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG    Tel: 0191 387 4700 Fax: 0191 387 4710  
 Regional Office: Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL    Tel: 01772 735 300 Fax: 01772 735 999

## STANDARD PENETRATION TEST RESULTS (BS EN ISO 22476-3: 2005)

Exploratory Hole No  
**PRAIRIE\_AUK\_BH110**



◆ Uncorrected 'N' Values      ◇ Corrected 'N' Values      Note: Graph does not display extrapolated SPT results (e.g. refusals).

Contract Title :- **Prairie Site Ground Investigation Works**

Client :- **South Tees Development Corporation**

**AEG**  
 Date of issue :- 05/11/2020  
 Checked By :- *LC*

Certificate No :- SPT/4251/Graph/PRAIRIE\_AUK\_BH110  
 Approved By :- *ALW*

Operator :- L.S./L.H.  
 AEG Contract No. :- 4251



Unit 25 Stella Gill Industrial Estate  
Pelton Fell  
Chester-le-Street  
DH2 2RG

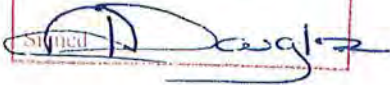
## SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

QUALITY CONTROL  
CHECKED

07 JAN 2020

SPT Hammer Ref: ATH09  
Test Date: 23/05/2019  
Report Date: 07/01/2020  
File Name: ATH09.spt  
Test Operator: BP

Signed: 

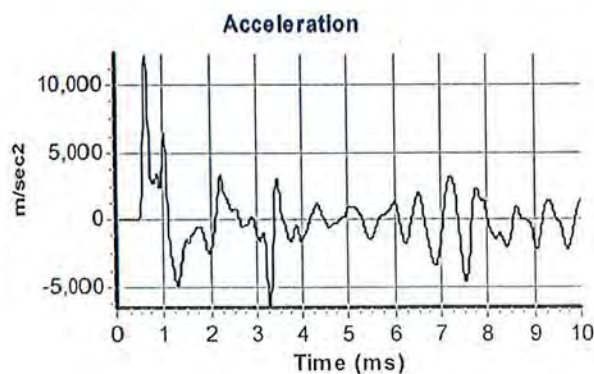
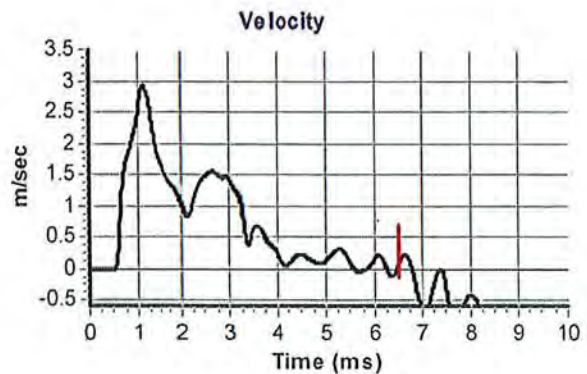
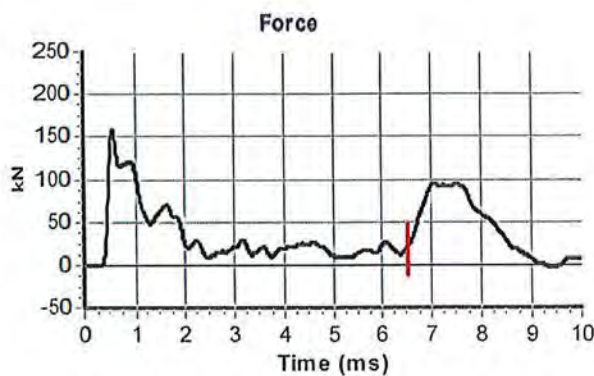
### Instrumented Rod Data

Diameter  $d_r$  (mm): 54  
Wall Thickness  $t_r$  (mm): 6.5  
Assumed Modulus  $E_a$  (GPa): 208  
Accelerometer No.1: 5991  
Accelerometer No.2: 5990

### SPT Hammer Information

Hammer Mass  $m$  (kg): 63.5  
Falling Height  $h$  (mm): 760  
SPT String Length  $L$  (m): 14.1

### Comments / Location

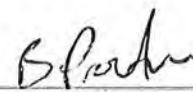


### Calculations

Area of Rod A ( $\text{mm}^2$ ): 970  
Theoretical Energy  $E_{\text{theor}}$  (J): 473  
Measured Energy  $E_{\text{meas}}$  (J): 241

**Energy Ratio  $E_r$  (%):** 51

Signed: Brian Proctor  
Title: Technician



The recommended calibration interval is 12 months



## Hand Shear Vane Test Results



# ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Unit 26 Becta Oil Industrial Estate, Peasen Fall, Chesapeake Street, Southam, OX4 2RG  
 Regional Office: Unit 20 Business Development Centre, Eamam Wharf, Slough, SL1 5BL  
 Tel: 01753 367 4750 Fax: 01753 367 4710  
 Tel: 01772 735 300 Fax: 01772 735 999

## HAND SHEAR VANE TEST RESULTS

Exploratory Hole No.	Date	Depth m	1st Result kPa	2nd Result kPa	3rd Result kPa	4th Result kPa	Average kPa	Remarks
PRAIRIE_AUK_TP101	01/04/2020	1.80	72 (32)	64	66	69	68 (32)	
PRAIRIE_AUK_TP101	01/04/2020	2.80	50 (22)	54	66	42	53 (22)	
PRAIRIE_AUK_TP101	01/04/2020	4.40	52 (18)	44	44	48	47 (18)	
PRAIRIE_AUK_TP104	01/04/2020	3.00	90 (22)	82	88	88	87 (22)	
PRAIRIE_AUK_TP104	01/04/2020	3.90	90 (32)	84	90	80	86 (32)	
PRAIRIE_AUK_TP105	01/04/2020	2.00	60 (20)	60	60	60	60 (20)	
PRAIRIE_AUK_TP105	01/04/2020	3.00	64 (24)	60	68	62	64 (24)	
PRAIRIE_AUK_TP106	23/04/2020	2.00	72 (26)	72	68	68	70 (26)	
PRAIRIE_AUK_TP106	23/04/2020	3.00	130	130	130	130	130	Results in excess of 130kPa - exceeds the device measuring range.
PRAIRIE_AUK_TP107	06/04/2020	1.00	73 (34)	72	68	76	72 (34)	
PRAIRIE_AUK_TP107	06/04/2020	2.50	64 (34)	62	68	72	67 (34)	
PRAIRIE_AUK_TP109	21/04/2020	2.00	76 (40)	82	82	86	82 (40)	

Residual results given in brackets.

	Contract Title :-		Client :-		AEG Contract No :-	
	Prairie Site Ground Investigation Works		South Tees Development Corporation		4251	
Date of Issue :-		Checked By :-		Approved By :-		Certificate No. :-
05/11/2020		1 of 7				HSV/4251/1




# ALLIED EXPLORATION & GEOTECHNICS LIMITED

Head Office: Regional Office:  
 Unit 25 Stevia Cell Industrial Estate, Priton Fall, Chesapeake Street, St. Dunstons, DH2 2RG  
 Unit 20 Business Development Centre, Eastam Yard, Blackburn, BB1 5BL  
 Tel: 0118 287 0700 Fax: 0161 387 4710  
 Tel: 01772 735 300 Fax: 01772 735 999

## HAND SHEAR VANE TEST RESULTS

Exploratory Hole No.	Date	Depth m	1st Result kPa	2nd Result kPa	3rd Result kPa	4th Result kPa	Average kPa	Remarks
PRAIRIE_AUX_TP109	21/04/2020	3.00	100 (40)	110	90	110	103 (40)	
PRAIRIE_AUX_TP110	21/04/2020	3.00	60 (18)	58	56	60	59 (18)	
PRAIRIE_AUX_TP110	21/04/2020	4.00	50 (12)	44	52	50	49 (12)	
PRAIRIE_AUX_TP111	22/04/2020	2.50	60 (30)	64	80	74	70 (30)	
PRAIRIE_AUX_TP111	22/04/2020	3.00	100 (32)	92	112	100	101 (32)	
PRAIRIE_AUX_TP112	22/04/2020	2.50	68 (38)	78	88	68	76 (38)	
PRAIRIE_AUX_TP112	22/04/2020	3.10	54 (24)	52	58	58	56 (24)	
PRAIRIE_AUX_TP113	06/04/2020	3.50	50 (20)	50	60	56	54 (20)	
PRAIRIE_AUX_TP115	08/04/2020	2.00	30 (8)	20	30	20	25 (8)	
PRAIRIE_AUX_TP116	23/04/2020	2.00	100 (68)	90	98	110	100 (68)	
PRAIRIE_AUX_TP116	23/04/2020	3.00	130	130	130	130	130	Results in excess of 130kPa - exceeds the device measuring range.
PRAIRIE_AUX_TP118	23/04/2020	1.60	64 (42)	72	68	68	68 (42)	

Residual results given in brackets.

	Contract Title :-		Client :-		AEG Contract No :-	
	Prairie Site Ground Investigation Works		South Tees Development Corporation		4251	
Date of Issue :-	Page No. :-	Checked By :-	Approved By :-	Certificate No. :-		
05/11/2020	2 of 7	<i>LC</i>	<i>AW</i>	HSV/4251/2		