



NORTH YORKSHIRE POLYHALITE PROJECT

Installation of Guide Walls

Document Number: 40-AMC-WS-10-SW-RA-0006

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0	May 26, 2017	Bauer			Issued for Use

2a. External Peer Review Required?

YES

NO

Stakeholder submission required:

Purpose of submission: For approval

For information

Other: _____

This document has been reviewed by the following individual for coordination, compliance, integration and acceptance and is acceptable for transmission to the above stakeholder for the above stated purpose.

Sign: _____ Role: _____ Name: _____ Date: _____

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2b. Review by External Peer (if required):

Stakeholder Organisation	Job Title	Name	Signature	Date	Acceptance
					<input type="checkbox"/>

3. Acceptance by *Sirius Minerals*:

Sirius Minerals Review and Acceptance Decal			
This decal is to be used for submitted documents requiring acceptance by <i>Sirius Minerals</i> .			
<input type="checkbox"/>	Code 1.	Accepted. Work May Proceed	
<input type="checkbox"/>	Code 2.	Not Accepted. Revise and resubmit. Work may proceed subject to incorporation of changes indicated	
<input type="checkbox"/>	Code 3.	Not Accepted. Revise and resubmit. Work may not proceed	
<input type="checkbox"/>	Code 4.	Received for information only. Receipt is confirmed	
Reviewed/Accepted by: (signature)	Print Name:	Position:	Date:
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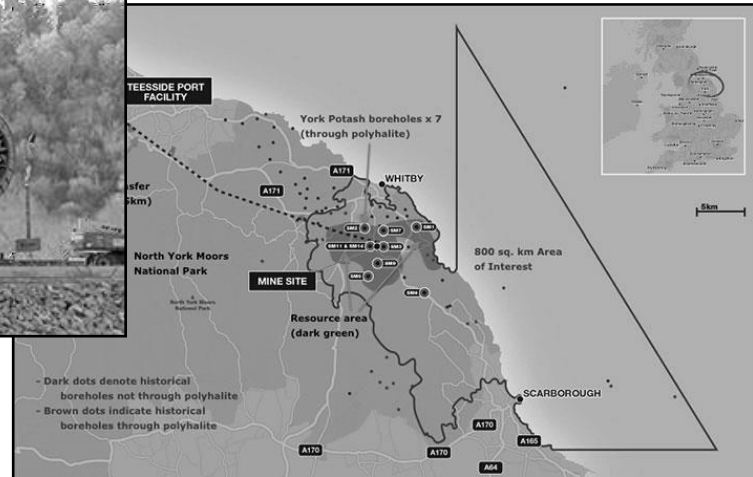
REVISION SHEET

Report title	Installation of Guide Walls				
Document number	40-AMC-WS-10-SW-RA-0006				
Rev.	Revision description	Prepared by	Checked by	Approved by	Rev. Date
A	Internal Review – Edits to whole document	Bauer	SF		Mar. 14, 2017
B	Internal Review – Edits to whole document	Bauer	SW		May 17, 2017
C	Internal Review – Edits to whole document	Bauer	SF/Sirius		May 18, 2017
D	Issued to Sirius for Planning Purposes, Not for Construction	Bauer	SF/Sirius		May 25, 2017
0	Issued for Use	Bauer	SF		May 26, 2017

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NORTH YORKSHIRE POLYHALITE PROJECT – WOODSMITH MINE

INSTALLATION OF GUIDE WALLS

Bauer: YPM-BAU-MS-02

AMC: AMC UK Document No. 40-AMC-WS-10-SW-RA-0006_Rev.0

Revision	Date	Description	Made by	Checked	Signed
A	14.03.17	Original Issue	G. Jahnert	N. Thomas	
B	17.05.17	Including AMC comments (12.04.17 & 16.05.17)	G. Jahnert	N. Thomas	
C	18.05.17	Including AMC comments (18.05.17)	G. Jahnert	N. Thomas	
D	25.05.17	Including AMC comments (24.05.17)	G. Jahnert	N. Thomas	
0	26.05.17	Final AMC UK and Sirius comments incorporated	G. Jahnert	N. Thomas	



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Contract Title: NORTH YORKSHIRE POLYHALITE
PROJECT – WOODSMITH MINE

Made By:
JAG

Checked by:
NT

Work Scope: Installation of guide walls

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Work Scope: Installation of guide walls

1. SCOPE OF WORKS

The scope of works to be constructed by Bauer Technologies Ltd. (BTL) for Associated Mining Construction UK (AMC UK) comprises the installation of three circular diaphragm wall shafts at the Woodsmith Mine site. This method statement describes the construction of guide walls for these diaphragm walls. Guide walls will be constructed in accordance with the guide wall design and diaphragm wall panel layout provided by Bauer. Following the completion of works, the guide walls will be fully removed by AMC UK (see Appendix A for the planned location of the guide walls).

The guide walls for all three shafts will be designed for installation of 1200mm thick diaphragm walls using a trench cutter. The Production Shaft (PS) and Service Shaft (SS) each consist of a single large diameter diaphragm wall whilst the Mineral Transfer System shaft (MTS) is a single diaphragm wall shaft of relatively small diameter. The table below summarises the dimensions of all diaphragm walls. The site layout drawing can be found in Appendix A.

Table 1: Summary of diaphragm wall shaft dimensions

Diaphragm wall shaft description	Diameter (inner) [m]	Panel length [m]	Panel width [m]	Number of panels [-]
Service Shaft	35.00	2.80	1.20	48
Production Shaft	32.00	2.80	1.20	44
MTS Shaft	8.25	2.80	1.20	14

The guide walls provide positional accuracy for the hydraulic cutter during excavation of the first 10m of diaphragm wall panels. They are also used to trap-off reinforcement cages for splicing during reinforcement installation.

2. GUIDE WALL CONSTRUCTION

Guide wall construction for diaphragm walls is generally undertaken in 10m long runs and includes a 3.50m deep pre-excitation (rock only). The shape of the guide walls can be trapezoidal (when sitting on rock) or L-shaped (when sitting on soil). For this project, the default guide wall design will be based on a L-shaped cross section in order to mitigate risk associated to sloped rock levels in combination with incomplete soil information. Guide walls will be constructed according to the agreed panel layout drawing. The final guide wall cross sections and dimensions will be confirmed by the Bauer guide wall design.

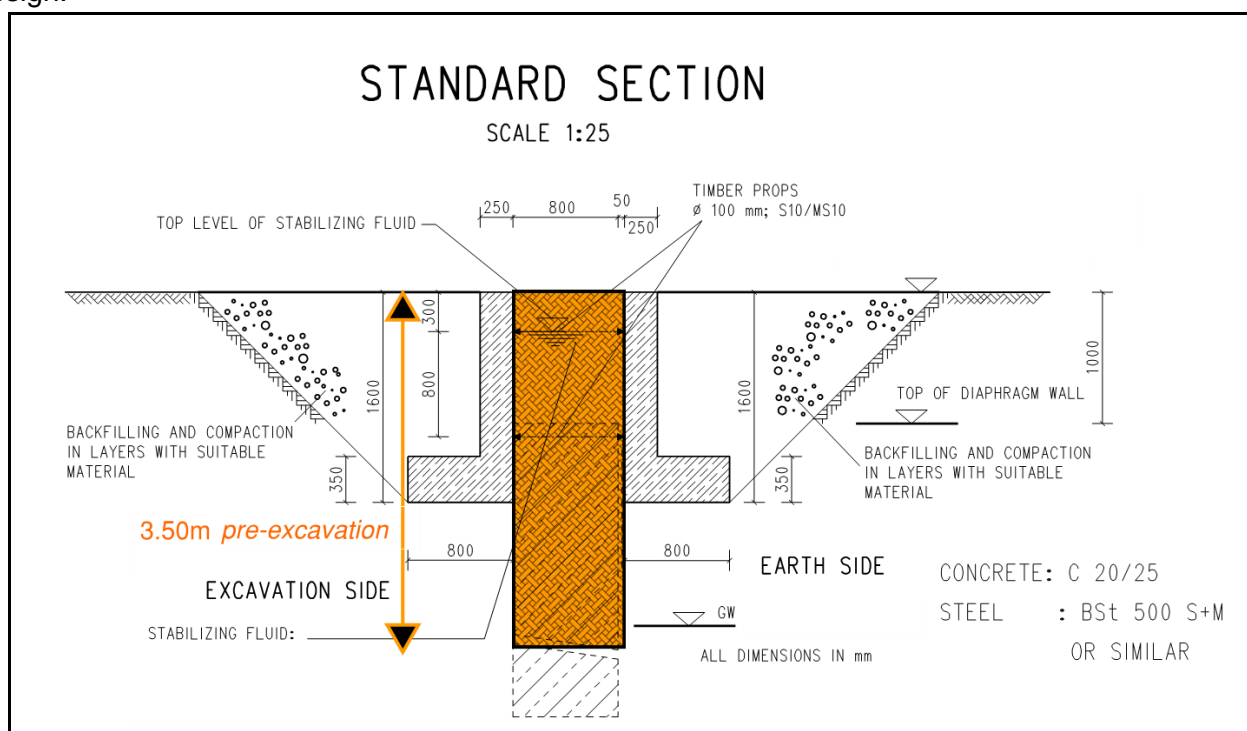


Figure 1: Typical guide wall cross section (L-shaped)

The top of the finished guide walls shall be 100mm lower than the final working platform level in order to install a 100mm thick protective layer of working platform material. This layer will be installed as part of the working platform construction and will allow heavy plant to track over the guide walls without inflicting damage.

The following sequence describes the construction process for L-shaped guide walls:

1. The working platform will be dewatered to -3m (by others).
2. The border of the excavation will be spray-painted along coordinates or the direction of a horizontal laser set out by the Land Surveyor.
3. The trench for the guide wall will be excavated to a given level, 1500mm deep, using an excavator, the movements of which will be controlled by a banksman. Spoil will be placed adjacent to the

excavation and will be used as backfill material if deemed suitable. If the spoil is not suitable for backfill material it will be removed by the excavator and disposed of in accordance with the AMC UK Site Waste Management Plan (40-AMC-WS-71-EN-PL-0006).

4. After excavation to a depth of 1.5m, the excavator will probe the ground for rock to a depth of 3.5m below final working platform level. Should rock be encountered, the excavator will remove all rock to a depth of 3.50m and backfill the trench with compacted, granular material to a depth of 1.5m (or as per guide wall design). The AMC UK Site Waste Management plan will be followed to preferably re-use any granular material excavated from the platform if it is environmentally and geotechnically suitable. The removal of rock to 3.5m depth is required to allow the attending excavator to pre-excavate all panels before insertion of the cutter later in the process. The cutter has to be submerged by 3.5m into the trench before its pumping system can be started.
5. During the guide wall excavation, a temporary exclusion zone will be installed around the trench. The perimeter of the exclusion zone will be designated using barriers with appropriate signage attached.
6. At no point in time will personnel enter the pre-excavation below 1.50m depth. The pre-excavation and backfilling operation will be carried out by the excavator only.
7. Access and egress to the trench will be by means of a temporary staircase with handrail.
8. Timber frame shuttering will be constructed on the base of the guide wall trench and fixed into position using steel road pins fitted with protective caps.
9. The frame will allow accurate placement of the blinding concrete to the underside of the opposing guide walls while maintaining a 1250mm void along the centre of the trench from which to position the wall formwork at a later stage.
10. Concrete blinding will be placed using an excavator with a concrete skip under the direction of a banksman and finished by hand.



Figure 2: Timber frame shutter and blinding

11. When the blinding concrete has reached sufficient strength the timber frame will be removed, cleaned and repositioned for the following pour.
12. Prefabricated base formwork will be lifted into the trench and fixed into position using steel road pins timber props.
13. Base reinforcement and vertical wall starter bars or vertical mesh reinforcement will be fixed. Protective caps are to be used to protect personnel from protruding reinforcement bars.



Figure 3: Construction of the base

14. Once the alignment and level of the base shutters has been checked by the surveyor, concrete will be placed by using the bucket of the excavator or a concrete skip. The banksman will control all vehicle movements during the concrete pour.
15. A concrete poker will be used to compact the concrete during the pour. The concrete kicker at the base maintains the required tolerance and produces a secure fixing for the guide wall formwork.
16. When the base shutters have been stripped, double sided vertical wall formwork will be lowered into the trench and positioned.
17. Stop ends will be constructed from timber. They will be placed where necessary and will allow for continuity of the reinforcement into the subsequent wall section. All projecting reinforcement bars will be capped.
18. Once completed, the line and level of the formwork will be checked by the surveyor. The site supervisor and/or engineer will also inspect the formwork to ensure that adequate bracing support is in place. Concreting will commence following the approval of the form work.

19. The concrete will be evenly poured, from a concrete skip suspended from an excavator, into each opposing wall to ensure balanced pressure on the formwork. When the final level has been reached, it will be checked by the surveyor, with any final concrete finish undertaken by hand float.
20. To provide an appropriate working height, an access platform will be installed into vertical shutters.



Figure 4: Access platform between vertical shutters.

21. Wall shutters will be struck once the concrete has reached self-supporting strength, and temporary timber struts will be positioned between the walls to provide additional resistance to lateral earth pressure until diaphragm wall construction is commenced.
22. The excavation outside of the guide walls as well as the void in between the guide walls will be backfilled with working platform material in compacted layers as required. The AMC UK Site Waste Management plan will be followed to preferably re-use the excavated material as backfill if it is environmentally and geotechnically suitable.
23. The 100mm protective layer will be installed and compacted as per Arup drawing number 40-ARI-WS-71-CI-DR-1061.

3. SIGNIFICANT RISKS AND CONTROLS

The following key risks have been identified for the diaphragm wall works. Risk mitigations have been planned in line with the full risk assessment for diaphragm wall construction (refer to Appendix B).

1) Risk: Slips, trips and falls

Controls: Implement solid housekeeping procedures and maintain piling platforms and walkways. Provide adequate storage facilities for small tools and consumables as well as designated material storage/laydown areas. Provide waste segregation facilities. Ensure that all operatives wear safety



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Work Scope: Installation of guide walls

footwear with adequate ankle protection. Clean up spillages on walkways immediately to avoid slippery surfaces. De-ice walkways as required during winter months.

2) Risk: Open excavations

Controls: Maintain edge protection (e.g. pedestrian barriers with signage) around guide wall excavations and provide safe access into excavation (e.g. temporary stair case with handrail). Provide safe access to top of shutters (e.g. timber plank walkway).

3) Risk: Injury by exposed steel bars

Controls: Avoid exposed steel bars where possible. Install mushroom caps on exposed bars.

4) Risk: Lifting operations

Controls: Produce lift plans for all cranes, HIABs and excavators used for lifting on site. The personnel in charge of lifting operations will be competent and certified. All plant and lifting equipment will be subject to periodic thorough examination.

The slingers will inspect every load prior to lifting. Operators will lift in line with the applicable lift plans and the manufacturer's instructions. Operators will not lift over personnel. Operatives will use taglines to control loads during lifting operations.

5) Risk: Plant pedestrian interface

Controls: All heavy plant and vehicle movements will be supervised by qualified banksmen. All plant operators will be competent and certified. During construction, the arrangement of heavy equipment on site will be constantly controlled by the site supervisor. Pedestrians and plant will be physically separated by implementing walkways as much as reasonably practical. All movement of heavy equipment will be controlled by banksmen. All persons on site will be briefed during toolbox talks on how to move and work safely on site.

6) Risk: Fuel Spillage

Controls: Wherever possible, refuelling is to be carried out at least 5m-10m from access to surface water and open excavations that have a pathway to groundwater (exemption: cutter unit when cutter is submerged in panel excavation). Refuel plant with suction hose refuelling system where possible. If plant does not have suction hoses fitted, refuel with care using pump operated refuelling system. Provide double bunded diesel bowsers and use plant nappies/drip trays as proactive measure. Have spill kits available on major plant items and in designated spill response stations around the project. Preventative controls for oil and fuel spills caused by broken hoses, refuelling and maintenance include:

- Service/repairs of equipment to be carried out on a hard standing.
- Proper maintenance of the equipment has to be documented in the maintenance reports.
- Daily pre-use equipment inspections have to be carried out by the machine operator and to be documented.



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- Drip trays shall be placed below the machine in order to hinder oils/fluids from penetrating the platform.
- Corrective controls for oil and fuel spills caused by broken hoses, refuelling and maintenance include:
- Immediate measures should be taken to contain the spill and prevent potential migration of contamination in accordance to the COSHH sheet.
- Oil spill response shall be carried out in accordance to the Environmental Emergency Preparedness Plan (40-AMC-WS-71-EN-PL-0005)
- Contaminated materials/soil have to be disposed in accordance with local regulations.

7) Risk: Concrete spillage

Controls:

- Concrete lorries not allowed to washout on site.
- Concrete wagons must not be allowed to empty their wagons of any excessive concrete on platform.
- Any spillages to be cleaned/cleared immediately using the attending excavator.



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Work Scope: Installation of guide walls

4. PLANT & EQUIPMENT

- 360 Degree Excavator
- Formwork
- 0.5m³ Concrete Skip
- Petrol / Electrical Powered Poker
- Various small hand tools
- 110V Stihl Saw
- 110V Drill
- Petrol Disc Cutter
- Plate Compactor

4.1. Dust and Emissions

If there is nuisance dust caused by vehicular movement, the areas will be dampened by AMC.

The guide walls require smaller plant and external hire equipment so they may be older than 5 years. All pieces of plant are subject to regular maintenance to guarantee good mechanical condition. Operators will be briefed to switch off engines when idle.

4.2. Abnormal Loads

The guide wall construction excavator will be delivered on a semi-low loader. All other equipment and materials will be transported to site using standard 20” rigid or 45” articulated lorries.

5. HEALTH AND SAFETY LEGISLATION

All works are to be carried out in accordance with this method statement and the following documents:

- AMC UK Construction Phase Health & Safety Plan Woodsmith Mine Site - Phase 4 – Diaphragm Wall Construction (40-AMC-WS-71-PM-PL-0002)
- AMC UK Environmental Management Plan (EMP) Woodsmith Mine Site - Phase 4 – Diaphragm Wall Construction (40-AMC-WS-71-EN-PL-0004)
- AMC UK Environmental Emergency Preparedness Plan (EPPP) Woodsmith Mine Site - Phase 4 –Diaphragm Wall Construction (40-AMC-WS-71-EN-PL-0005)
- AMC UK Site Waste Management Plan (SWMP) Woodsmith Mine Site - Phase 4 – Diaphragm Wall Construction (40-AMC-WS-71-EN-PL-0006)
- Bauer Health and Safety Plan (40-AMC-WS-10-HS-PL-0001)
- Bauer Environmental Plan (40-AMC-WS-10-EN-PL-0001)



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- Bauer Slurry Management Plan (40-AMC-WS-10-EN-PL-0002)
- Bauer H&S Policy (Appendix C)
- Risk Assessment (Appendix B)
- COSHH Assessments (Appendix D)
- All relevant regulations, HSE Guidance Notes, Environmental Agency Guidance Notes, Codes of Practice, National and International Standards.

6. COSHH

The Control of Substances Hazardous to Health Regulations, 2002, (C.O.S.H.H. Regulations), requires that an assessment is undertaken of health risks created by work involving substances hazardous to health. These refer to the use of chemicals on a site and state that the precautions to be taken are recorded on a Substance C.O.S.H.H. Record.

The C.O.S.H.H. Assessment Record is based on information obtained from a data sheet received from the substance supplier.

A copy of all the Company's Substance Identification Records are held on site and are shown in Appendix D.



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7. FIRST AID ARRANGEMENTS

The First Aid arrangements for the site are detailed in the AMC UK Construction Phase Health & Safety Plan Woodsmith Mine Site - Phase 4 – Diaphragm Wall Construction (40-AMC-WS-71-PM-PL-0002). Sirius Minerals provides a full time paramedic. In addition, Bauer will provide first aid kits and at least three first aiders per shift.

8. PERSONAL PROTECTIVE EQUIPMENT

- High Visibility Clothing (EN 471)
- Eye Protection (EN 166F)
- Hearing Protection (EN 352)
- Safety Helmets (EN397 MM, LD)
- Protective Gloves (EN 388)
- Safety Harness for working at height and in vicinity of open bore whilst casing is <1.0m above ground (EN 361)
- Protective Footwear (EN 345 P) – Safety boots must have steel mid sole.

All Personal Protective Equipment will be replaced as required during the contract. Safety harnesses will be stored appropriately and inspected on a regular basis as part of the lifting gear inspection regime.

9. ENVIRONMENTAL PROTECTION

All works to be compliant with the AMC UK Environmental Management Plan (EMP) Woodsmith Mine Site - Phase 4 – Diaphragm Wall (40-AMC-WS-71-EN-PL-0004).

- Noise: The noise generated during diaphragm wall construction is monitored by Sirius Minerals.
- Vibration: Monitor exposure of operatives to concrete poker vibration
- Dust: Dust suppression will be implemented by AMC UK (e.g. dampening of dusty areas)
- Emissions: All major plant will be of recent year of manufacture and will be subject to regular maintenance. Engines will be turned off when idle for extended periods of time.



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10. MANUAL HANDLING

Mechanical plant is provided as far as possible to reduce manual handling to a minimum. Due to the nature of the work, excavators and cranes will be mainly used for most lifting operations and moving of plant and equipment.

11. ACCIDENTS, INCIDENTS AND RIDDOR

The arrangements for Reporting of Injuries, Diseases and Dangerous Occurrences under the Regulations are as detailed in the company safety manual, a copy of which will be held by the site supervisor. The ultimate responsibility for reporting/investigating is held by the BTL Health & Safety Manager. In the unfortunate event of any accident or near miss, the BTL Health & Safety Manager will be informed immediately and he in turn would forward details to the AMC UK Health & Safety Manager and if necessary, the HSE. This also applies to environmental incidents.

12. EXISTING SERVICES / HAZARDS

No existing services have been notified to by AMC UK.

A signed Permit to Dig must be issued by AMC UK prior to commencement of any excavation works.



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13. KEY CONTACTS & SITE PERSONNEL

Name	Company	Position	Assist
Jonathan White	AMC	Operations Director	
Thomas Prinz	AMC	Site Supervisor	+
Siegfried Wenninger	AMC	Lead Engineer - Mining	tbc
tbc	AMC	H&S Manager	tbc
Gustav Jahnert	Bauer	Senior Project Manager	
Asad Khan	Bauer	Site Agent	
Norbert Hoffmann	Bauer	Site Agent	
tbc	Bauer	Site Supervisor	tbc
tbc	Groundworker	Site Supervisor	tbc

All site personnel will have as a minimum a CSCS card and where applicable a CPCS card. All operatives will have their CSCS/CPCS cards.

Site Supervisors to hold SSSTS certification and Site Manager will hold SMSTS certification



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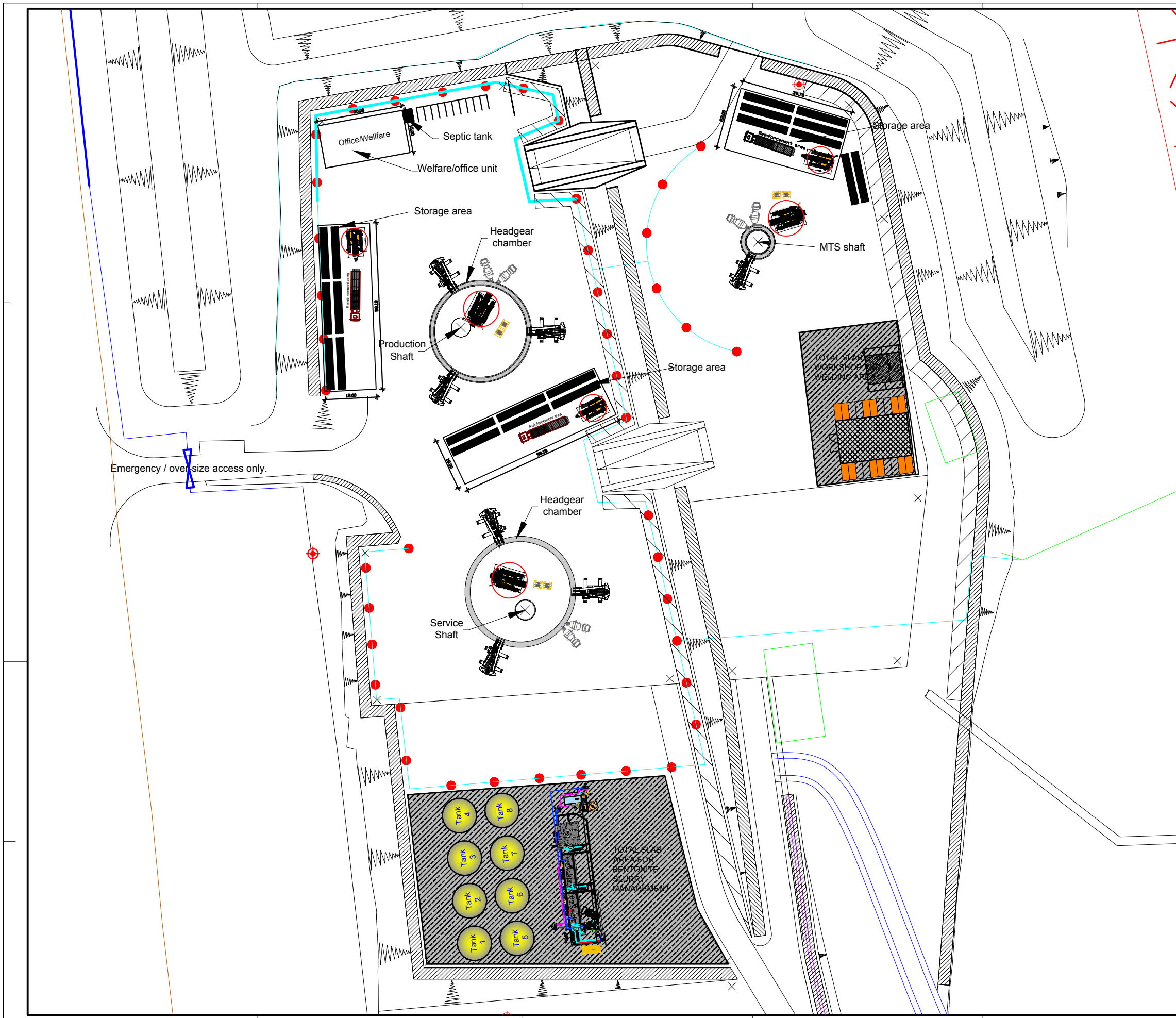
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APPENDIX A – DRAWINGS



**FOR PLANNING PURPOSES
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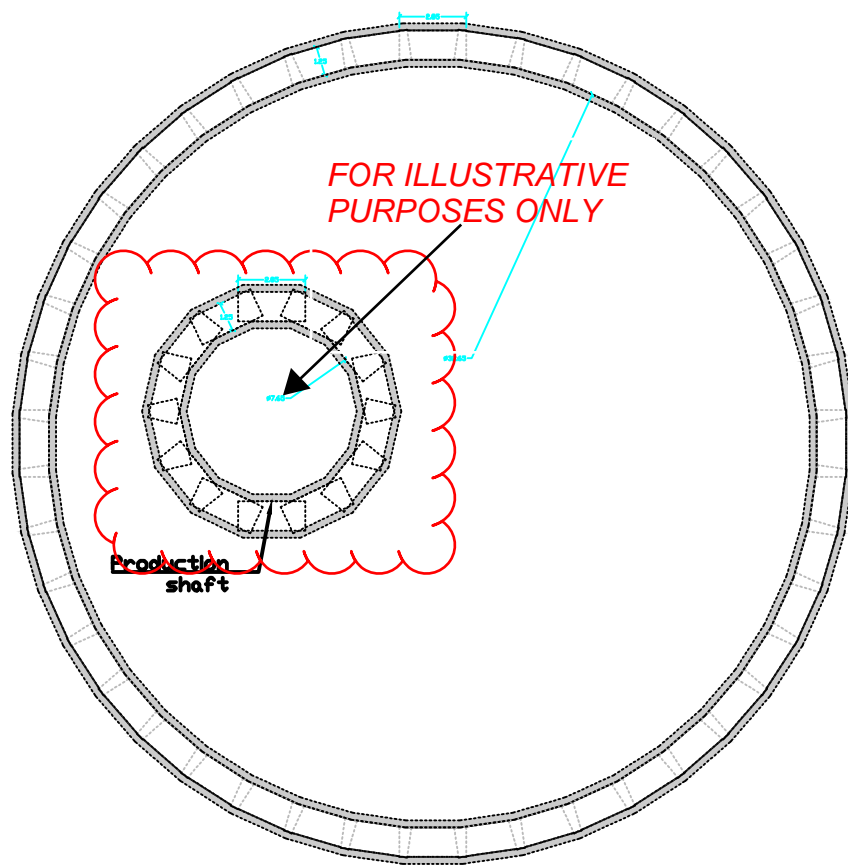
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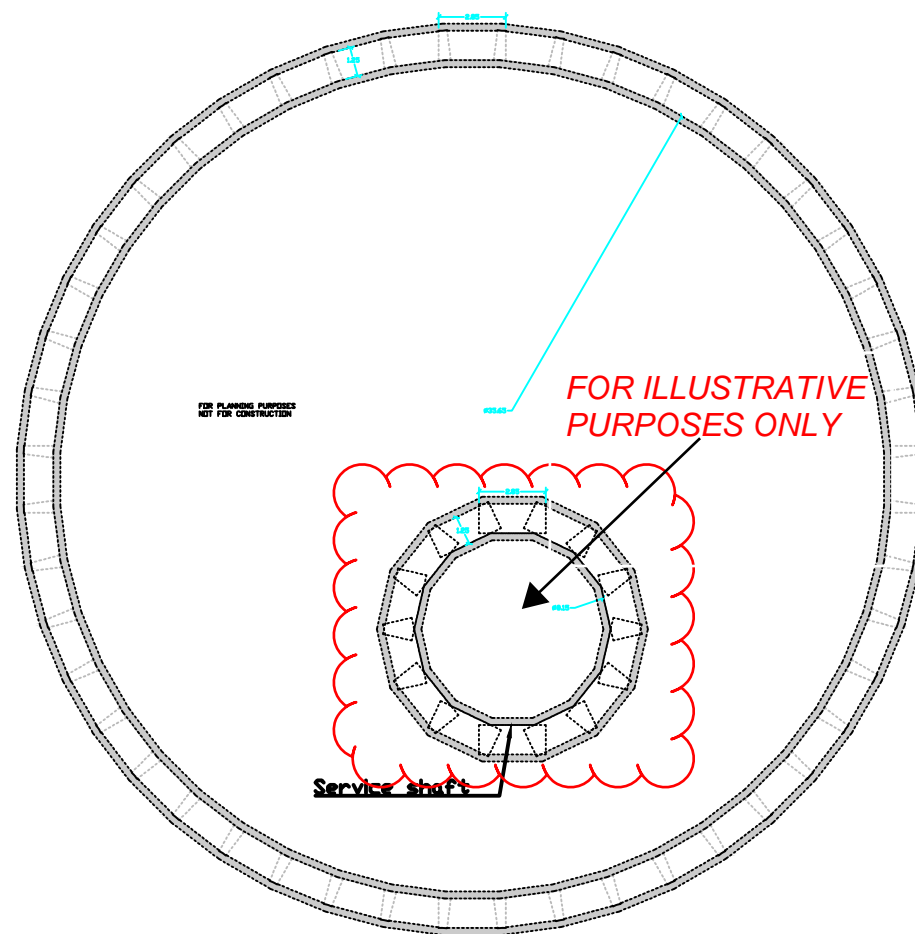
BAUER Technologies Ltd
 Millers Three, Southmill Road Bishops
 Stortford, Herts, UK, CM23 3DH

CLIENT	Sirius Minerals Plc		
MAIN CONTRACTOR	Associated Mining Construction AMC (UK) Limited		
SUB CONTRACTOR	BAUER Technologies Limited		
PROJECT	NORTH YORKSHIRE POLYHALITE PROJECT		
DRAWING	Preliminary Diaphragm Wall Site Installation Option B: SS + PS 60 m and Farmer Tanks		
SCALE: No	DRAWN: B. Serfnel	DATE: 25.05.2017	
	CHECKED: N. Hoffmann	DATE: 25.05.2017	
	PLAN SIZE: A0	DESIGNED BY: BAUER	DATE: 25.05.2017
PROJECT NO.: A	DRAWING NO.:	Rev_03	

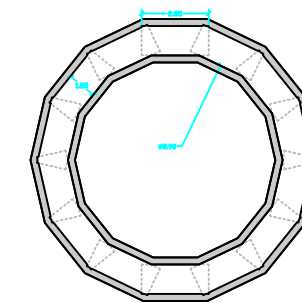
Top View Guide Wall Production Shaft



Top View Panel Layout Service Shaft



Top View Guide Wall MTS / TBM Shaft



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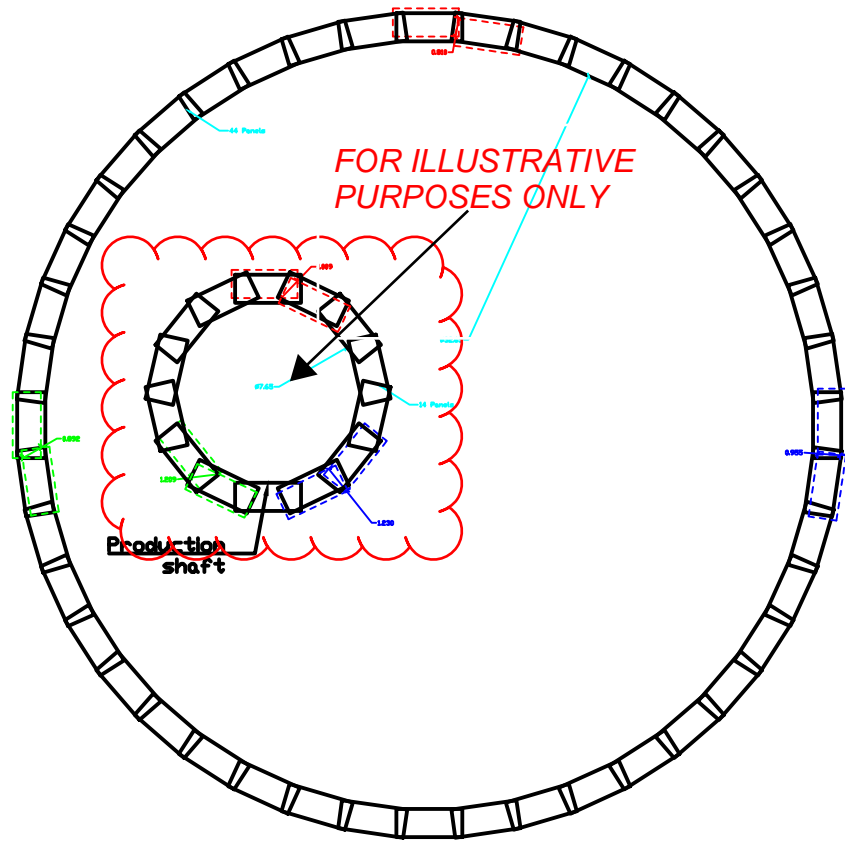
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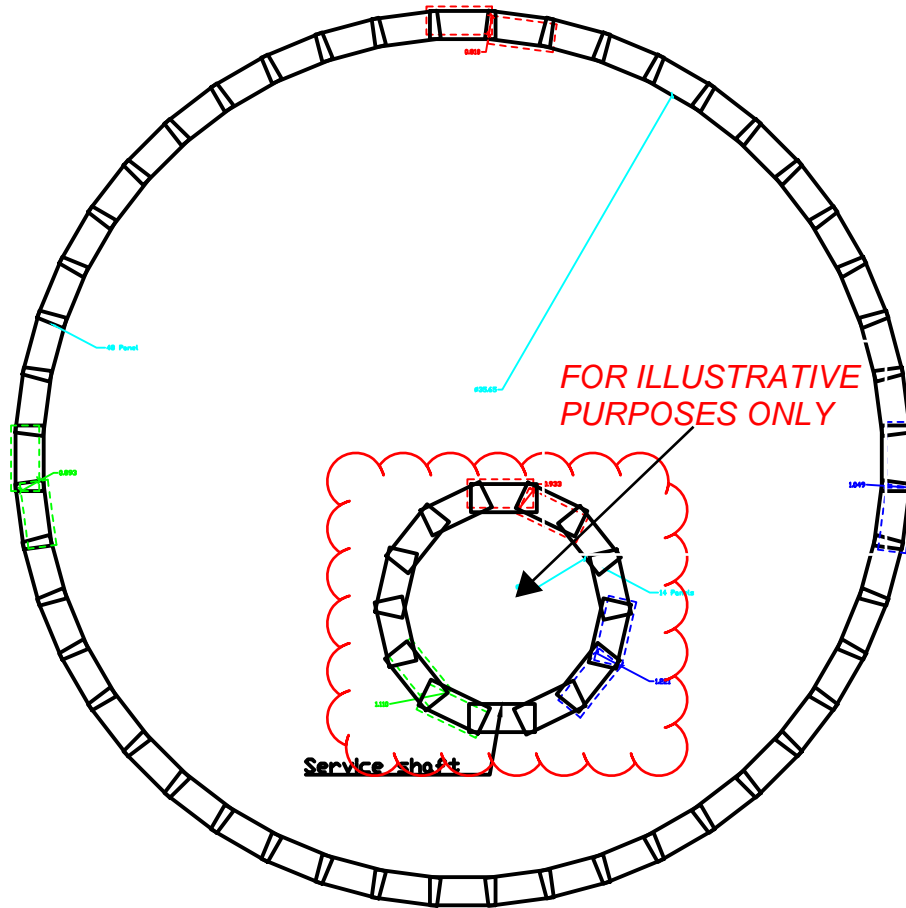
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CLIENT	Sirius Minerals Plc		
MAIN CONTRACTOR	AMC Associated Mining Construction UK		
PROJECT	NORTH YORKSHIRE POLYHALITE PROJECT		
DRAWING	Preliminary Guide Wall Layout		
SCALE:	DRAWN : C.Saller	DATE : 23.05.2017	
	CHECKED : N.Hoffmann	DATE : 23.05.2017	
PLAN SIZE: A0	DESIGNED BY: ---	DATE: 23.05.2017	
PROJECT NO.:	A-	DRAWING NO.:	Y17015001-

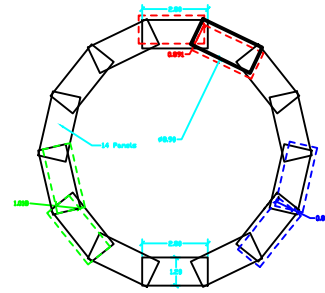
Top View Panel Layout Production Shaft



Top View Panel Layout Service Shaft



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CLIENT	Sirius Minerals Plc
MAIN CONTRACTOR	AMC Associated Mining Construction UK
PROJECT	NORTH YORKSHIRE POLYHALITE PROJECT
DRAWING	Preliminary Diaphragm Wall Panel Layout
SCALE:	DRAWN : C.Saller DATE: 23.05.2017
	CHECKED : N.Hoffmann DATE: 23.05.2017
PLAN SIZE: A0	DESIGNED BY: --- DATE: 23.05.2017
PROJECT NO.:	A- DRAWING NO.: Y17015002-



Document Ref. YPM-BAU-MS-02_Rev 0

Page
No.16

Date: 26.05.2017

Contract Title: NORTH YORKSHIRE POLYHALITE
PROJECT – WOODSMITH MINE

Made By:
JAG

Checked by:
NT

Work Scope: Installation of guide walls

APPENDIX B – RISK ASSESSMENT



Hazard/Risk Assessment											
					RA Number	1			Sheet	1 of 1	
Operation/Task:		Lifting			MS Name	Guide Wall Installation					
					MS No	YPM-BAU-MS-02		RA Written by	Gustav Jahnert		
Location/Area:		NORTH YORKSHIRE POLYHALITE PROJECT			Name of person completing Assessment						
Item	Activity	Hazards/Risks Identified	Risk Rating			Control	Risk Rating			Responsibility	Monitoring Responsibility
			S	L	RR		S	L	RR		
1	Lifting operations using excavator	Poor ground conditions could cause plant to overturn causing injury and damage to property	4	4	16	No work to commence until working platform certificate is in place. Working platform to be checked and maintained (by AMC UK) as required and in particular post inclement weather.	4	1	4	Site Supervisor	Site management
		Lifting gear could fail, dropped load causing injury or damage to property	4	4	16	Check all test certificates are in date and lifting gear tagged. Slinger signaller to use lifting gear as detailed in the lift plan. Visual inspection of equipment prior to any lifting operations. Check driver is qualified prior to commencement of lifts. Check slinger/signaller is qualified prior to commencement of lifts.	4	1	4	Site Supervisor, Lifting Supervisor, Slingsers/ Signaller	Appointed person
		Plant could fail, dropped load causing injury or damage to property	4	4	16	All lifting operations to be carried out in accordance with the approved lift plan. All lift plans to be prepared by an Appointed Person. All lifts to be carried out by qualified operator and trained slinger/signaller. Ensure the lifting area is clear of people not involved in the operation	4	1	4	Site Supervisor, Lifting Supervisor, Slingsers/ Signaller	Appointed person
KEY											
Severity		Likelihood		Risk Rating			Catastrophic	Extremely Harmful	Harmful	Slightly Harmful	
4	Very severe	4	Very high	13-16	Intolerable	Very likely	16	12	8	4	
3	Severe	3	High	8-12	Substantial	Likely	12	9	6	3	
2	Minor	2	Moderate	5-7	Moderate	Unlikely	8	6	4	2	
1	Negligible	1	Low	1-4	Tolerable	Highly unlikely	1	3	2	1	
Approved by:		Nicholas Thomas			Signature		Date:		25/05/2017		



Hazard/Risk Assessment												
						RA Number	2			Sheet	1 of 2	
Operation/Task: Concreting						MS Name	Guide Wall Installation					
						MS No	YPM-BAU-MS-02			RA Written by	Gustav Jahnert	
Location/Area: NORTH YORKSHIRE POLYHALITE PROJECT						Name of person completing Assessment						
Item	Activity	Hazards/Risks Identified	Risk Rating			Control	Risk Rating			Responsibility	Monitoring Responsibility	
			S	L	RR		S	L	RR			
1	Concreting the guide walls	Sensitisation of skin & development of dermatitis	3	4	12	Long sleeves and rubberised gloves to be worn during concreting. Ensure all operatives have been briefed on the COSHH assessment and follow the required instructions. If the operatives get in contact with cement/concrete, ensure that the exposed skin is washed off immediately. Ensure there are sufficient hygiene/washing facilities available nearby.	3	1	3	Operative	Site Supervisor	
		Damage to eyes and skin from concrete splashes	4	4	16	Eye protection to be worn at all times. Ensure there are sufficient hygiene/washing facilities available nearby. Ensure sufficient eye washout facilities are available and close to the working area.	4	1	4	Operatives	Site Supervisor	
		Trapping by concrete lorries causing injuries or death by crushing	4	4	16	Banksman to control all reversing vehicles associated with works. Ensure concrete lorries have all equipment in good working condition and to CLOCS standards i.e. warning lights, warning sounds etc.	4	1	4	Banksman	Site Supervisor / Management	
		Slips, trips and falls caused by concrete spillage on the access/egress routes	3	4	12	Concrete lorries not allowed to washout on site. Concrete wagons must not be allowed to empty there wagons of any excessive concrete on platform. Any spillages to be cleaned/cleared immediately using the attending excavator.	3	1	3	Operatives / Site Supervisor	Management	
KEY												
Severity		Likelihood		Risk Rating			Catastrophic	Extremely Harmful	Harmful	Slightly Harmful		
4	Very severe	4	Very high	13-16	Intolerable	Very likely	16	12	8	4		
3	Severe	3	High	8-12	Substantial	Likely	12	9	6	3		
2	Minor	2	Moderate	5-7	Moderate	Unlikely	8	6	4	2		
1	Negligible	1	Low	1-4	Tolerable	Highly unlikely	1	3	2	1		
Approved by: Nicholas Thomas						Signature			Date:		25/05/2017	



Hazard/Risk Assessment												
Operation/Task: Concreting						RA Number	2			Sheet	2 of 2	
Location/Area: NORTH YORKSHIRE POLYHALITE PROJECT						MS Name	Guide Wall Installation			MS No	YPM-BAU-MS-02	
						RA Written by	Gustav Jahmert					
Name of person completing Assessment												
Item	Activity	Hazards/Risks Identified	Risk Rating			Control	Risk Rating			Responsibility	Monitoring Responsibility	
			S	L	RR		S	L	RR			
1	Concreting the guide walls <i>contd.</i>	Dropping load/concrete from height causing injury while transporting concrete using concrete skip	4	4	16	Ensure lifting area is cleared of people not involved in operations. All lifts to be carried out by qualified operator and trained slinger/signaller. Lifting to be carried out in accordance with the lift plan prepared by an AP. Discharge of concrete from the skip to be carried out by a competent person and ensure non working personnel are not in close proximity. Concrete skip must be lowered down and as close to the area as possible before any concrete discharge is carried out.	4	1	4	Operatives / Slinger & Signaller	Site Supervisor / Appointed Person	
		HAVS caused by prolonged use of concrete vibrator/poker	3	2	6	An assessment of the exposure time has been calculated using industry guidance and the HSE calculation sheets. The results are attached to the document and the exposure is below the EAV.	3	1	3	Operatives	Site Supervisor / Management	
KEY												
Severity		Likelihood		Risk Rating		Catastrophic	Extremely Harmful	Harmful	Slightly Harmful			
4	Very severe	4	Very high	13-16	Intolerable	Very likely	16	12	8	4		
3	Severe	3	High	8-12	Substantial	Likely	12	9	6	3		
2	Minor	2	Moderate	5-7	Moderate	Unlikely	8	6	4	2		
1	Negligible	1	Low	1-4	Tolerable	Highly unlikely	1	3	2	1		
Approved by:		Nicholas Thomas			Signature		Date:		25/05/2017			



Hazard/Risk Assessment												
				RA Number	3			Sheet	1 of 1			
Operation/Task:		Mobilisation, demobilisation & deliveries			MS Name	Guide Wall Installation						
					MS No	YPM-BAU-MS-02		RA Written by	Gustav Jahmert			
Location/Area:		NORTH YORKSHIRE POLYHALITE PROJECT			Name of person completing Assessment							
Item	Activity	Hazards/Risks Identified	Risk Rating			Control	Risk Rating			Responsibility	Monitoring Responsibility	
			S	L	RR		S	L	RR			
1	Mobilisation, demobilisation and deliveries of plant and equipment	Crushing caused by movements of trucks	4	4	16	Manoeuvre all trucks using a trained banksman. Keep all delivery vehicles on designated haul roads and loading areas. Only trained personnel to operate and erect the equipment. Ensure delivery vehicles have all equipment in good working condition and to CLOCS standards i.e. warning lights, warning sounds etc.	4	1	4	Banksman	Site Supervisor	
		Falls from height	4	4	16	All personnel to wear a full body harness clipped above while working at heights. No operatives will access or work on the trailer bed without fall prevention measures in place. Where possible loads should be pre-slung to avoid the need to access the trailer bed. If not possible, edge protection should be erected against the side of the trailer, or fall arrestors and harnesses should be used attached to fixed point above. Check security of loads prior to unloading. If loads have moved during transport or are unsafe then the load will be rejected and returned.	4	1	4	Crane Supervisor / Slinger and Signaller	Site Supervisor	
KEY												
Severity		Likelihood		Risk Rating			Catastrophic	Extremely Harmful	Harmful	Slightly Harmful		
4	Very severe	4	Very high	13-16	Intolerable	Very likely	16	12	8	4		
3	Severe	3	High	8-12	Substantial	Likely	12	9	6	3		
2	Minor	2	Moderate	5-7	Moderate	Unlikely	8	6	4	2		
1	Negligible	1	Low	1-4	Tolerable	Highly unlikely	1	3	2	1		
Approved by:		Nicholas Thomas			Signature			Date:		25/05/2017		



Hazard/Risk Assessment

	RA Number	4	Sheet	1 of 1
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Operation/Task: Unloading delivery vehicles	MS Name	Guide Wall Installation
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	MS No	YPM-BAU-MS-02	RA Written by	Gustav Jahnert
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Location/Area: NORTH YORKSHIRE POLYHALITE PROJECT	Name of person completing Assessment
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Item	Activity	Hazards/Risks Identified	Risk Rating			Control	Risk Rating			Responsibility	Monitoring Responsibility
			S	L	RR		S	L	RR		
1	Unloading delivery vehicles	Working on trailer without edge protection.	4	4	16	Operatives will not access or work on the trailer bed without fall prevention measures in place. Where possible loads should be pre-slung. If not possible, edge protection should be erected against the side of trailer or fall arrestors & harnesses should be used attached to fixed point above.	4	1	4	Operatives	Site Supervisor
		Falling loads from lifting operations	4	4	16	Ensure there are sufficient hygiene/washing facilities available nearby. The slinger signaller will control and maintain the work area at all times. Long loads will be controlled with rope tag lines. All lifting operations to be carried out in accordance with the approved lift plan. Check security of loads prior to unloading. If loads have moved during transport or are unsafe then the load will be rejected and returned.	4	1	4	Lift Supervisor / Slinger and signaller	Site Supervisor
		Using ladders or steps to access/egress the trailer	4	4	16	Where possible use of ladders must be avoided and alternative means of access to lorries/trailers must be used such as access steps, elevated platforms etc. If no other means of access is available then a permit to use ladders must be obtained from AMC prior to using ladders. Ladders must be in good conditions and regularly inspected. Ladders must have an inspection tag and updated upon inspection. Ladders must be secured or footed at all times. A three point contact must be maintained at all times by the operatives.	4	1	4	Operatives / Supervisors	Site Management

KEY

Severity	Likelihood	Risk Rating	Catastrophic	Extremely Harmful	Harmful	Slightly Harmful
4 Very severe	4 Very high	13-16 Intolerable	16	12	8	4
3 Severe	3 High	8-12 Substantial	12	9	6	3
2 Minor	2 Moderate	5-7 Moderate	8	6	4	2
1 Negligible	1 Low	1-4 Tolerable	1	3	2	1

Approved by: Nicholas Thomas	Signature	Date:	25/05/2017
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Hazard/Risk Assessment												
				RA Number	5			Sheet	1 of 3			
Operation/Task:		Excavating using 360			MS Name	Guide Wall Installation						
Location/Area:		NORTH YORKSHIRE POLYHALITE PROJECT			MS No	YPM-BAU-MS-02	RA Written by	Gustav Jahnert				
				Name of person completing Assessment								
Item	Activity	Hazards/Risks Identified	Risk Rating			Control	Risk Rating			Responsibility	Monitoring Responsibility	
			S	L	RR		S	L	RR			
1	Excavating for guide walls	Striking underground services	4	4	16	Ensure there are no known utilities or services in the location of the dig. A permit to dig must be in place prior to any excavation is carried out. Any known services within the close proximity to the excavation will be marked out on a drawing attached to the permit to dig and sprayed on site.	4	1	4	Operatives & Supervisor	Site Management	
		Collapse of excavation	4	4	16	Excavations will be battered back. All operatives will be kept clear of the excavation and the dig process.	4	1	4	Operatives / Banksman	Site Supervisor	
		Personnel, vehicles or plant falling into open excavation	4	4	16	Edge protection will be placed around the excavation a minimum of 1m away from edges to prevent access of personnel. All non essential personnel will be kept clear of excavations. Banksman to control all moving plant and vehicles when working in close proximity. Clear and visible signage will be in place on barriers.	4	1	4	Operatives / Banksman	Site Supervisor	
		Plant collision with persons or other plant	4	4	16	All non essential personnel will be kept clear of excavations. A minimum of 600mm clearance will be maintained from other plant and obstructions. A banksman will work with the excavator to monitor operations and maintain an exclusion zone. Only trained operatives with appropriate certification will operate plant and machinery.	4	1	4	Operatives / Banksman	Site Supervisor	
KEY												
Severity		Likelihood		Risk Rating			Catastrophic	Extremely Harmful	Harmful	Slightly Harmful		
4	Very severe	4	Very high	13-16	Intolerable	Very likely	16	12	8	4		
3	Severe	3	High	8-12	Substantial	Likely	12	9	6	3		
2	Minor	2	Moderate	5-7	Moderate	Unlikely	8	6	4	2		
1	Negligible	1	Low	1-4	Tolerable	Highly unlikely	1	3	2	1		
Approved by:		Nicholas Thomas			Signature				Date:	25/05/2017		



Hazard/Risk Assessment												
Operation/Task: Excavating using 360						RA Number	5			Sheet	2 of 3	
Location/Area: NORTH YORKSHIRE POLYHALITE PROJECT						MS Name	Guide Wall Installation					
						MS No	YPM-BAU-MS-02	RA Written by		Gustav Jahnert		
Item	Activity	Hazards/Risks Identified	Risk Rating			Control	Risk Rating			Responsibility	Monitoring Responsibility	
			S	L	RR		S	L	RR			
1	Excavating for guide walls <i>contd.</i>	Falling spoil or equipment stored near excavation causing injuries to personnel working in the area	4	4	16	1m safe distance to be kept from working plant & edge of excavation. All materials and equipment to be stored as far away as possible from the safe distance which will be demarcated with clear signage on barriers.	4	1	4	Operatives / Supervisor	Site Management	
		Injuries caused to personnel due to unsafe access to excavation	4	4	16	Access into excavation will be made via steps with handrails. No other means of access will be allowed into the excavation Excavations to be visually inspected at beginning of each shift for safe access and working within the excavation	4	1	4	Operatives / Supervisor	Site Supervisor	
		Mechanical failure of the excavator resulting in damage to plant and/or personnel	4	4	16	Daily plant inspections to be carried out & recorded. Plant certificates to be checked and in date. A clear distance of 1m to be kept between excavator and other plant. Area to be barriered off and only personnel briefed and involved in the task to be allowed in the 'work area'.	4	1	4	Operatives / Banksman	Site Supervisor	
		Excavator operator getting hit by Flying debris/objects	4	4	16	Operator to keep the cab door and windows shut during excavation. Operator to ensure the front grillage is in place prior to excavation.	4	1	4	Excavator Operator	Site Supervisor	
		Operator falling when accessing the excavator	4	4	16	Access steps on the excavator to be used for accessing the cab	4	1	4	Excavator Operator	Site Supervisor	
		Damage to hearing while working close to noisy plant	3	4	12	Noise assessment carried out for all activities generating accessive noise and included in the occupational health plan. Hearing protection to be worn to BS EN 352 at all times while working next to the excavator.	3	1	3	Banksman / Operatives	Site Supervisor	
KEY												
Severity	Likelihood		Risk Rating			Catastrophic	Extremely Harmful	Harmful	Slightly Harmful			
4 Very severe	4	Very high	13-16	Intolerable	Very likely	16	12	8	4			
3 Severe	3	High	8-12	Substantial	Likely	12	9	6	3			
2 Minor	2	Moderate	5-7	Moderate	Unlikely	8	6	4	2			
1 Negligible	1	Low	1-4	Tolerable	Highly unlikely	1	3	2	1			
Approved by:	Nicholas Thomas			Signature				Date:	25/05/2017			



Hazard/Risk Assessment												
				RA Number	5			Sheet	3 of 3			
Operation/Task:				Excavating using 360			MS Name	Guide Wall Installation				
				MS No	YPM-BAU-MS-02		RA Written by	Gustav Jahnert				
Location/Area:				NORTH YORKSHIRE POLYHALITE PROJECT			Name of person completing Assessment					
Item	Activity	Hazards/Risks Identified	Risk Rating			Control	Risk Rating			Responsibility	Monitoring Responsibility	
			S	L	RR		S	L	RR			
2	Refueling Plant	Fuel leakage or fuel catching plant	4	3	12	Store fuel in double bunded bowser. Do not smoke in vicinity of fuel. Have spill kits available and clear spills immediately (dispose of used spill kit in hazardous waste skip).	4	1	4	Operatives	Site Supervisor	
KEY												
Severity		Likelihood		Risk Rating		Catastrophic	Extremely Harmful	Harmful	Slightly Harmful			
4	Very severe	4	Very high	13-16	Intolerable	Very likely	16	12	8	4		
3	Severe	3	High	8-12	Substantial	Likely	12	9	6	3		
2	Minor	2	Moderate	5-7	Moderate	Unlikely	8	6	4	2		
1	Negligible	1	Low	1-4	Tolerable	Highly unlikely	1	3	2	1		
Approved by:				Nicholas Thomas			Signature				Date:	25/05/2017



Hazard/Risk Assessment											
				RA Number	6			Sheet	1 of 2		
Operation/Task:		Steel Fixing			MS Name	Guide Wall Installation					
				MS No	YPM-BAU-MS-02	RA Written by	Gustav Jahnert				
Location/Area:		NORTH YORKSHIRE POLYHALITE PROJECT			Name of person completing Assessment						
Item	Activity	Hazards/Risks Identified	Risk Rating			Control	Risk Rating			Responsibility	Monitoring Responsibility
			S	L	RR		S	L	RR		
1	Cutting Steel using hand held cutting wheels and grinders such as Stihl saws	Injury from flying debris/blade shattering	4	4	16	Ensure only trained and experienced operatives are using the equipment. Whenever possible establish exclusion zone, limiting personnel access in the area. Full face impact shield must be worn when using equipment.	4	1	4	Operatives	Site Supervisor
		Damage to hearing	4	4	16	Specific noise assessment carried out for tools generating excessive noise and is included in the occupational health plan. Hearing protection to be worn to BS EN 352 at all times while operating the tool.	4	1	4	Operatives	Site Supervisor
		Cuts and abrasions	4	4	16	Ensure there are sufficient hygiene/washing Keep area clear of all obstructions i.e. ropes, wires. Task specific protective gloves to be worn.	4	1	4	Operatives	Site Supervisor
		Fire/Explosion - particularly during fuelling	4	4	16	Hot work permit must be in place. Avoid unintentional starting, don't carry plugged-in tool with finger on switch. Be sure switch is OFF when plugging in.	4	1	4	Operatives	Site Supervisor / Site Manager
KEY											
Severity		Likelihood		Risk Rating		Catastrophic	Extremely Harmful	Harmful	Slightly Harmful		
4	Very severe	4	Very high	13-16	Intolerable	Very likely	16	12	8	4	
3	Severe	3	High	8-12	Substantial	Likely	12	9	6	3	
2	Minor	2	Moderate	5-7	Moderate	Unlikely	8	6	4	2	
1	Negligible	1	Low	1-4	Tolerable	Highly unlikely	1	3	2	1	
Approved by:		Nicholas Thomas			Signature				Date:	25/05/2017	



Hazard/Risk Assessment											
						RA Number	6			Sheet	2 of 2
Operation/Task: Steel Fixing						MS Name		Guide Wall Installation			
						MS No		YPM-BAU-MS-02	RA Written by		Gustav Jahnert
Location/Area: NORTH YORKSHIRE POLYHALITE PROJECT						Name of person completing Assessment					
Item	Activity	Hazards/Risks Identified	Risk Rating			Control	Risk Rating			Responsibility	Monitoring Responsibility
			S	L	RR		S	L	RR		
2	Installing steel in guide wall	Injury to hand from fixing wire	3	3	9	Wear protective gloves to BS EN 374 Tails on ties to be bent.	3	1	3	Operatives	Site Supervisor
		Tripping and falling as a result of tying wire thrown on floor	3	3	9	Clear the area of any unused tying wire after completion of task. Good housekeeping must be observed and 'Tidy as you go' policy to be briefed to all operatives.	3	1	3	Site Supervisor / Operatives	Site Manager
		Injury caused by protruding bars	4	4	16	All protruding bars to be protected with mushroom caps.	4	1	4	Operatives	Site Supervisor
		Injuries caused to personnel due to unsafe access to working area	4	4	16	Access into excavation will be made via steps with handrails. No other means of access will be allowed into the excavation. Excavation will be visually inspected in the morning prior to work for safe access and working	4	1	4	Operatives	Site Supervisor
		Contact with sharp edges causing injury	4	4	16	All personnel to be briefed daily of access/egress, working areas and the tasks of the day. Correct PPE including hand protection and safety boots to be worn at all times. Personnel not involved in the tasks must be kept from the working area.	4	1	4	Site Supervisor / Operatives	Site Manager
KEY											
Severity		Likelihood		Risk Rating			Catastrophic	Extremely Harmful	Harmful	Slightly Harmful	
4	Very severe	4	Very high	13-16	Intolerable	Very likely	16	12	8	4	
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1	Negligible	1	Low	1-4	Tolerable	Highly unlikely	1	3	2	1	
Approved by:		Nicholas Thomas			Signature			Date:		25/05/2017	



Hazard/Risk Assessment											
				RA Number	7			Sheet	1 of 2		
Operation/Task:		Form Work			MS Name	Guide Wall Installation					
				MS No	YPM-BAU-MS-02	RA Written by	Gustav Jahmert				
Location/Area:		NORTH YORKSHIRE POLYHALITE PROJECT			Name of person completing Assessment						
Item	Activity	Hazards/Risks Identified	Risk Rating			Control	Risk Rating			Responsibility	Monitoring Responsibility
			S	L	RR		S	L	RR		
1	Cutting timber with hand saw	Inhalation of dust	4	4	16	Good ventilation or forced ventilation. All personnel working within exclusion zone to wear FFP3 particle filter mask to BS EN 149. Face fit testing for masks to be carried out for personnel required to wear masks	4	1	4	Operatives	Site Supervisor
		Cuts and abrasions	3	4	12	Wear protective gloves to BS EN 374. Keep area clear of all obstructions i.e. ropes, wires.	3	1	3	Operatives	Site Supervisor
		Dust entering the eye	4	3	12	Always wear eye protection. Wash eyes immediately if dust enters eye . Ensure there are sufficient hygiene/washing facilities available nearby.	4	1	4	Operatives	Site Supervisor
2	Cutting timber using 110v circular wood saw and using 100v drill	Damage to hearing	4	4	16	Specific noise assessment carried out for tools generating excessive noise and is included in the occupational health plan. Hearing protection to be worn to BS EN 352 at all times while operating the tool.	4	1	4	Operatives	Site Supervisor
		Contact with rotating parts of equipment/tools	4	4	16	Only trained and competent personnel to use the tools Guards on the tool must be in place prior to using the tool. Don't over reach, keep proper footing and balance at all times. Avoid unintentional starting, don't carry plugged-in tool with finger on switch. Be sure switch is OFF when plugging in.	4	1	4	Operatives	Site Supervisor
KEY											
Severity		Likelihood		Risk Rating			Catastrophic	Extremely Harmful	Harmful	Slightly Harmful	
4	Very severe	4	Very high	13-16	Intolerable	Very likely	16	12	8	4	
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Approved by:		Nicholas Thomas			Signature			Date:	25/05/2017		



Hazard/Risk Assessment											
					RA Number	7		Sheet	2 of 2		
Operation/Task:		Form Work			MS Name	Guide Wall Installation					
					MS No	YPM-BAU-MS-02	RA Written by	Gustav Jahnert			
Location/Area:		NORTH YORKSHIRE POLYHALITE PROJECT			Name of person completing Assessment						
Item	Activity	Hazards/Risks Identified	Risk Rating			Control	Risk Rating			Responsibility	Monitoring Responsibility
			S	L	RR		S	L	RR		
3	Cutting timber using 110v circular wood saw and using 100v drill <i>contd.</i>	Electrocution due to faulty or damaged cables/equipment	4	4	16	All electric equipment and cables must be inspected daily for damage. Weekly inspection sheets must be filled out by the operative. Damaged equipment/cables must be clearly marked and put into 'quarantine area'. Damaged equipment/cables must not be used. Equipment/cables damaged should be brought to supervisors/managements attention in first instance. All electrical tools and cables must have a valid PAT test certificate.	4	1	4	Operatives / Supervisor	Management
4	Using hammer	Improper use of hammers could cause injury to fingers	3	2	6	Hand protection to be worn at all time.	3	1	3	Operatives	Site Supervisor
5	Installation of formwork	Lifting heavy items by hand causing back injury	4	3	12	All operatives to be briefed on manual handling policy. A specific risk assessment has been carried out and included in the 'occupation health plan' for items identified requiring manual handling. All heavy items to be lifted mechanically in accordance with an approved lift plan. If an item is too heavy to lift manually, always seek assistance.	4	1	4	Operatives	Site Supervisor
		Collapsing formwork causing injury	4	3	12	Supervisor to ensure all formwork is installed and fixed appropriately prior to concrete pour. Keep concreting speed low and check stability of formwork as concrete rises.	4	1	4	Operatives / Site Supervisor	Site Management
KEY											
Severity		Likelihood		Risk Rating			Catastrophic	Extremely Harmful	Harmful	Slightly Harmful	
4	Very severe	4	Very high	13-16	Intolerable	Very likely	16	12	8	4	
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Approved by:		Nicholas Thomas			Signature		Date:		25/05/2017		



Document Ref. YPM-BAU-MS-02_Rev 0

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No.17

Date: 26.05.2017

Contract Title: NORTH YORKSHIRE POLYHALITE
PROJECT – WOODSMITH MINE

Made By:
JAG

Checked by:
NT

Work Scope: Installation of guide walls

APPENDIX C – BAUER H&S POLICY

Staying Safe & Healthy

Bauer Technologies is committed to ensuring the safety and health of our employees is not affected by the work they do. In order to ensure this we have implemented the following policies:

- Working Safely
- Working Hours
- Drugs and Alcohol
- Driving Safely



Working Safely

If you consider that the work activity you are being asked to undertake involves an unacceptable risk of either injury or ill-health to you or others, or damage to equipment, or damage to the environment, then you have the right to refuse to continue work until the risk is reduced to an acceptable level. Employees raising an honest and reasonable complaint are protected by law from any discrimination or disciplinary action. We believe that any employee raising genuine concern is carrying out a valuable service to the Company and should be supported.

If an employee believes they, or others, are at risk they should stop, move to a place of safety and report the situation to the person in charge of the workplace. The activity must be reviewed and, if it is agreed that the activity is unsafe, then the work must be re-planned so it can be carried out in a safe manner. If the employee still believes the situation is unsafe or if suitable resolution is not achieved the matter should be escalated to the Health and Safety Manager or the Managing Director.

We will investigate the complaint and, if justified, take such measures as are necessary to reduce the risk to an acceptable level. If it is decided that the situation is safe the employee will in no way be disadvantaged but will be asked to complete the activity.

Where employees are working within the Rail environment, concerns about safety should in the first instance be raised with your line manager. However if the employee feels that these channels are inappropriate or inadequate they may contact CIRAS, the rail industry's confidential reporting system. All reports are treated in absolute confidence and CIRAS is free to anyone working on or around the rail network.

Telephone number:

or Freepost CIRAS or <http://www.ciras.org.uk/>.

Martin Blower
Managing Director
January 2015



Working Hours

In order to safeguard our employees and ensure they can work safely in accordance with procedures we have implemented the following policy in relation to the hours which our employees work.

- No person shall work more than 13 consecutive turns of duty
- No person shall spend more than 72 hours at the workplace in any consecutive 7 day period.
- No turn of duty shall be rostered to consist of more than 12 hours at the workplace
- The minimum time away from the workplace between turns of duty shall be 12 hours except that a short break of 8 hours between shifts is permitted: -
 - When changing turns at weekends or
 - When there are short breaks between no more than 2 consecutive shifts
- The maximum permitted traveling time is limited such that the total time of travel plus planned shift length does not exceed 14 hours. In any case travelling time prior to the start of the shift must not exceed 3 hours.

Note: the 'time' at the workplace does not include traveling time incurred by relief staff, redundancy traveling time, or 'wash up' or 'handover' time incurred by staff in some functions. The workplace means the site of work or it's booking on point.

Where staff are called out after completing a normal day of duty then providing the call out ends before 22:30 hours with at least 9 hours rest after call out then this will not prevent the individual from taking up their normal day turn at the normal booking on time. It is not expected that these circumstances should apply more than twice during a week.

Changes to working time patterns which introduce a need to work outside of the stated limits must be subjected to a formal risk assessment. Consultation with the staff affected by the change allows an opportunity for fatigue to be discussed.

DISPENSATION FROM LIMITS

The above limits will be observed in all cases. It is recognised however that in exceptional circumstances where owing to adverse weather, emergency, equipment failure, accident or other incident, extended working exceeding these limits may be necessary in order to avoid or reduce risk to people or significant disruption to services and it is not reasonably practicable to make alternative arrangements.

If any of the above circumstances occur the Supervisor will inform the Construction Manager and the Project Manager and complete an incident form detailing the circumstance. Where required the shift supervisor will ensure that all documentation has been completed and copied to the site file.

RECORDING

For each job a working hours (timesheet) form will be completed. The form will be completed per shift by the Supervisor and will detail:

- The member of staff
- The total travel time for the day
- The total working time – including any standing time

The form when completed will be returned to the Operations Manager for review, filing and where appropriate collating into a report. The form will be reviewed by the Project Manager, signed off and filed as appropriate. Where required by the Principal Contractor this information will be made available.

Where the records show that members of staff have exceeded the working time regulations this will be recorded

Policy Booklet

and the data made available for the regular management meetings.

MONITORING AND REVIEW

In view of the increased risk potential of staff accidents resulting from staff exceeding the working time limits it is necessary, as part of the monitoring process for the management to review the working hour reports. The statistics provided will be reviewed at management meetings and where appropriate regular exceedences are subject to discussion at this meeting.

The requirements of the Working Hour Regulations must be considered when compiling work rotas. The job sheet relating to a particular job is to be signed off in the relevant section to signify it has been reviewed and resourced for Working Hour Regulations by the Project Manager.

This policy conforms to the Working Time Regulations and Network Rail Standards NR/GN/INI/001 & NR/L2/ERG/003

Martin Blower
Managing Director
January 2015



Policy Booklet

Drugs & Alcohol

We are committed to a healthy & safe working environment for our people. Accordingly the consumption or sale of alcohol or drugs at our places of work is prohibited. In order to ensure that everyone is aware of the acceptable standards and to ensure employees are treated in a fair and consistent manner we have put in place the following policy.

Employees should:

- Not present themselves for work if, due to alcohol or drugs, they are unfit,
- Not present themselves for work if they have just consumed or taken drink or drugs.
- Not be in possession of drink or drugs in the workplace (this includes in any company vehicles).
- Not consume or take drink or drugs whilst at work

If employees are on prescribed medication or are taking medicines that may make them drowsy, e.g. cold cures, Solpadine, hay fever remedies, etc. they should advise their Doctor to seek alternatives AND report the fact to the Health & Safety Manager who can check the possible effects of any medicines using the 'Chemist on Call' service provided by Healthcare Connections.

If employees are considered unfit for work then we have a legal duty to test their blood, urine or breath for drink or drugs.

For the purpose of 'general' works the drink drive limits will be adopted as the limits for detection of testing unless the work is classified as safety critical (e.g. when working on Network Rail infrastructure or similar) in which case the limits shall be:

- More than 29 milligrams per 100ml of blood;
- More than 13 micrograms of alcohol in 100ml of breath; or
- More than 39 milligrams of alcohol in 100ml of urine.

Any traces of illegal drugs, such as Cannabis, Cocaine, Amphetamines, Barbiturates, Methadone's etc. found will be deemed a positive test result.

If an employee is taking any medication they must declare this at the time of testing. If laboratory analysis reveals the presence of prohibited substances consistent with a therapeutic dosage of undeclared medication the employee will be interviewed to establish the reason for non-declaration. If the Medical Officer is satisfied a 'negative' result may be given. If the Medical Officer is not satisfied this will be recorded as a No Result and the employee must be re-tested immediately and will not be allowed to work until a negative (pass) result is achieved.

Any employee who is tested and is identified as positive for alcohol or drugs shall be subject to disciplinary action. A refusal to submit to test shall be subject to the same disciplinary action as a positive result.

All employees who hold PTS certification or are holders of Safety Critical Work posts should be aware that while working on Network Rail Managed Infrastructure, additional legislation is applicable to them and their work. In particular the Transport and Works Act 1992 Part 2 Section 27 specifically notes the need for employees to be free from the effects of Alcohol and Drugs. The requirements of Network Rail Company Standard **NR/L1/OHS/051** applies. If proved positive the individual's NCCA card will be removed and they will be immediately suspended, removed from the Contract and possibly the Company and reported to NCCA & Network Rail. Testing will be carried out by Link-Up approved medical providers.

The Company will not victimise employees who admit to having a drink or drug related problem if they approach the Company for help and are prepared to undergo an agreed form of treatment. We offer to assist any employee who voluntarily declares an alcohol or drug related problem. This will include confidential support and guidance to employees and their families. If you have or think that you may be developing an alcohol or drug related problem



Policy Booklet

then you must advise the Managing Director immediately so that the help procedures can be applied. Disclosure or discovery of a problem prompted by a positive test result or an impending test is not acceptable.

All employees are strongly advised to leave 12 hours between drinking and commencing a shift. Don't forget to take into account any on-call, weekend or night shift work. Unannounced drug & alcohol testing will be carried out annually on a random selection of staff and operatives and our sub-contractors on a no-notice basis.

All new employees (and those existing employees who wish to start work on Network Rail Managed Infrastructure) will be required to undertake full screening for drugs and alcohol before employment. We will not knowingly employ people who are either recreational or habitual users of drugs.

For-cause screening will be carried out with no notice if there are reasonable grounds to suspect that an individual is under the influence of alcohol or drugs, or if their behavior prompts it, or if there has been an incident or accident in the work area.

Many of our clients also have a policy of unannounced screening for which no notice will be given.

Martin Blower
Managing Director
January 2015



Driving for Work

Driving is one of the most hazardous activities which many of us undertake on a daily basis. A Company Car Handbook is provided to all employees who have access to a company car. However over and above this all employees who drive are required to consider the following points in order to minimise the risk of being involved in an accident.

- Plan your journey to include a 15 minute break approximately every two hours of driving.
- Allow plenty of time for your journey.
- Plan your route well in advance.
- Try to avoid peak hour traffic and areas with heavy traffic congestion where possible.
- Plan your workload carefully & raise any schedule conflicts with your line manager
- Do not undertake unnecessary journeys if there is specific risk of adverse weather conditions.

If you feel tired or drowsy, find a safe place to take a stop and take a break. Feeling tired at the wheel can affect your ability to concentrate, correctly perceive, assess and respond to road hazards and to make safe driving decisions.

It is your responsibility to ensure your car is properly maintained to comply with the manufacturer's recommendations, relevant laws and regulations. You should arrange routine vehicle servicing and carry out routine checks in line with the vehicle manufacturer's recommendations.

It is illegal to use a hand held mobile phone while driving. The definition of a 'hand held phone' will include any electronic device used for accessing oral, text or pictorial communications (including the internet) if the device is hand held during at least part of its operation. The definition of 'holding a phone' does not include operating a phone that is held in a cradle. You will be regarded as 'driving' if the engine is running – even if the vehicle is stationary. The law also states that drivers must have a proper control of their vehicles at all times. You can be prosecuted for careless or inconsiderate driving, or even dangerous driving, if using a phone causes you to drive in this manner.

If you are not an 'essential car user' you will not be expected to take calls when driving, but you will be expected to stop at the most convenient point within your journey and return the call. You must at all times drive with your own and others safety in mind. Essential car users are defined as those who have the use of a company vehicle or receive a car allowance.

Any accident which occurs whilst driving on company business should be reported regardless of whether the vehicle is a company car or not. Driving on company business does not include driving to or from your regular place of work.

You are required to inform your line manager if you have been convicted of a driving offence or banned from driving a vehicle. Failure to do so may lead to disciplinary action.

Martin Blower
Managing Director
January 2015





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No.18

Date: 26.05.2017

Contract Title: NORTH YORKSHIRE POLYHALITE
PROJECT – WOODSMITH MINE

Made By:
JAG

Checked by:
NT

Work Scope: Installation of guide walls

APPENDIX D – COSHH ASSESSMENT

COSHH Assessment Form



COSHH Assessment Number	BTL 122		
Product/Substance Name(s)	Concrete Ready mix		
Uses	General Construction		
Risks to health	Irritant		
Storage precautions	Store in mixer until required		
Transport precautions	Transported in ready mix trucks Concrete pipes to be inspected before use		
Manual Handling precautions	Not applicable		
Factors which increase risks	Wind can cause dust to be breathed in		
Name, address and telephone number of supplier of substance: Tremco Coupland Road, Hindley Green, Wigan, WN2 4HT			
HARMFUL EXPOSURE ROUTES (tick relevant options)			
Eye Contact	<input checked="" type="checkbox"/>	Ingestion	<input checked="" type="checkbox"/>
Skin Contact	<input checked="" type="checkbox"/>	Skin Absorption	<input type="checkbox"/>
Inhalation	<input type="checkbox"/>	Injection / sharps	<input type="checkbox"/>
Symptoms of over exposure	Not applicable		
Personal protective equipment: (state type and when to be worn) Hi Visibility Clothing Gloves Safety Boots Hard Hat Overalls General purpose safety glasses (EN166 F)			
EMERGENCY ACTIONS			
Emergency action: first aid	On skin - wash off and flush with clean water Eyes - purge with eye wash for min 15 mins If irritation occurs seek medical advice		
Emergency action: fire	Non combustible		
Emergency action: spillage	Do not allow into water courses or drains		
Disposal precautions:	Dispose of as general construction waste		
Emergency action: contact person	R. Ayres -		
Authorized by		Date approved	23/08/12

COSHH Assessment Form



COSHH Assessment Number	BTL 107		
Product/Substance Name(s)	Diesel oil		
Uses	Fuel oil		
Risks to health	Irritant Harmful Toxic		
Storage precautions	Store in double bunded diesel containers		
Transport precautions	Transport in double bunded bowsers		
Manual Handling precautions	None moved in double bunded containers		
Factors which increase risks	Mixing with other substances		
Name, address and telephone number of supplier of substance: Murco Petroleum Ltd St Albans			
HARMFUL EXPOSURE ROUTES (tick relevant options)			
Eye Contact	<input checked="" type="checkbox"/>	Ingestion	<input checked="" type="checkbox"/>
Skin Contact	<input checked="" type="checkbox"/>	Skin Absorption	<input type="checkbox"/>
Inhalation	<input checked="" type="checkbox"/>	Injection / sharps	<input type="checkbox"/>
Symptoms of over exposure	Drowsiness and dizziness		
Personal protective equipment: (state type and when to be worn) Gloves Safety Boots Overalls General purpose safety glasses (EN166 F) Hard Hat Hi Visibility Clothing			
EMERGENCY ACTIONS			
Emergency action: first aid	Eyes - wash out Skin - wash with soap and water Ingestion - DO NOT INDUCE VOMITING. seek medical advice Inhalation - remove to fresh air seek medical advice		
Emergency action: fire	Carbon dioxide, dry powder or foam		
Emergency action: spillage	Spillage will be limited due to less than 5 litres held Contain spillage, do not allow into water course Treat as environmental spillage		
Disposal precautions:	Via licenced waste remover		
Emergency action: contact person	R. Ayres – HSEQ Systems Manager		
Authorized by		Date approved	23/08/12

COSHH Assessment Form











COSHH Assessment Number	BTL 108		
Product/Substance Name(s)	WD40		
Uses	Anti squeak, moisture repellent, releasing agent		
Risks to health	Irritant		
Storage precautions	Store in containers provided		
Transport precautions	Transport in containers provided		
Manual Handling precautions	None when used in aerosol containers		
Factors which increase risks	Mixing with other substances		
Name, address and telephone number of supplier of substance: WD40 Company Milton Keynes			
HARMFUL EXPOSURE ROUTES (tick relevant options)			
Eye Contact	<input checked="" type="checkbox"/>	Ingestion	<input checked="" type="checkbox"/>
Skin Contact	<input checked="" type="checkbox"/>	Skin Absorption	<input type="checkbox"/>
Inhalation	<input checked="" type="checkbox"/>	Injection / sharps	<input type="checkbox"/>
Symptoms of over exposure	Drowsiness, headache, nausea and dizziness		
Personal protective equipment: (state type and when to be worn) Gloves Safety Boots Overalls General purpose safety glasses (EN166 F) Hard Hat Hi Visibility Clothing			

EMERGENCY ACTIONS

Emergency action: first aid	Eyes - wash out Skin - wash with soap and water Ingestion - DO NOT INDUCE VOMITING. seek medical advice Inhalation - remove to fresh air seek medical advice		
Emergency action: fire	Foam, water spray, dry chemicals, sand		
Emergency action: spillage	Contain spillage, do not allow into water course Treat as environmental spillage		
Disposal precautions:	Via licenced waste remover		
Emergency action: contact person	R. Ayres -		
	Authorized by	R. Ayres	Date approved
			17.06.13

COSHH Assessment Form



COSHH Assessment Number	BTL 136		
Product/Substance Name(s)	Lithium Grease		
Uses	Lubricating grease		
Risks to health: <input type="checkbox"/> Flammable  <input checked="" type="checkbox"/> Harmful  <input type="checkbox"/> Biohazard  <input type="checkbox"/> Corrosive  <input type="checkbox"/> Oxidising  <input type="checkbox"/> Toxic  <input checked="" type="checkbox"/> Environmental  <input checked="" type="checkbox"/> Irritant 			
Storage precautions	Store away from strong oxidizing agents and elevated temperature. Keep container tightly closed		
Transport precautions	Not classified as dangerous for transport		
Manual Handling precautions	As per standard manual handling procedures		
Factors which increase risks	Avoid extreme heat, strong oxidizers and sources of ignition		
Name, address and telephone number of supplier of substance:			
Solent Lubricants, Osbourne Works, Leicester, England, LE18 1AT, +			
HARMFUL EXPOSURE ROUTES (tick relevant options)			
Eye Contact	<input checked="" type="checkbox"/>	Ingestion	<input checked="" type="checkbox"/>
Skin Contact	<input checked="" type="checkbox"/>	Skin Absorption	<input type="checkbox"/>
Inhalation	<input checked="" type="checkbox"/>	Injection / sharps	<input type="checkbox"/>
Symptoms of over exposure	Mild inflammation and irritation of skin		
Personal protective equipment: (state type and when to be worn)			
<input checked="" type="checkbox"/> Hard Hat <input checked="" type="checkbox"/> Hi Visibility Clothing <input checked="" type="checkbox"/> Safety Boots <input checked="" type="checkbox"/> Overalls <input checked="" type="checkbox"/> Gloves <input checked="" type="checkbox"/> Safety Goggles			
Notes:			

EMERGENCY ACTIONS

COSHH Assessment Form



Emergency action: first aid	Eye Contact - Flush eyes with water. Skin Contact - If burned by hot material, cool skin with large amounts of water. Wash exposed skin with mild soap and water. Ingestion - Rinse out mouth with water but DO NOT induce vomiting.
Emergency action: fire	Use dry chemical, foam, CO2 or water fog extinguishers. Combustion may cause toxic gases to be released.
Emergency action: spillage	Absorb spilt material with earth, sand etc and place in waste containers. Prevent area into waterways.
Disposal precautions:	Disposal in line with local regulations for hazardous material.
Emergency action: contact person	R. Ayres – HSEQ Manager Tel:

Authorized by		Date approved	15 th July 2013
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No.19

Date: 26.05.2017

Contract Title: NORTH YORKSHIRE POLYHALITE
PROJECT – WOODSMITH MINE

Made By:
JAG

Checked by:
NT

Work Scope: Installation of guide walls

APPENDIX E – PLANT REGISTER



NORTH YORKSHIRE POLYHALITE PROJECT - GUIDE WALL AND DIAPHRAGM WALL WORKS

Plant register (environmental)

Author: JAG
 Update: 25-May-17
 Stage: Pre-construction phase

Notes: *The listed plant is indicative and may change due to operational requirements and available types of equipment at the time of construction.
 The shown durations are indicative / based on the latest time schedule and may change.*

Construction phase	Activity ID	Activity	Location	Plant	Numbers	Type	Sound power level LWA [db(A)]	Sound pressure level LpA [db(A)]	Power rating [kW]	% on-time	Start	Finish	24 hour working	Comments
Mobilisation	MOB	Guide wall construction	Guide wall area	Excavator	3	20T excavator	85	78	85	75	July 2017	August 2017	Day only	
Mobilisation	MOB	Guide wall construction	Guide wall area	Wacker plate	3	tbc	85	78	40	25	July 2017	August 2017	Day only	Estimated average values
Mobilisation	MOB	Guide wall construction	Guide wall area	Hand tool: Timber/steel saw	6	tbc	91	75	1	50	July 2017	August 2017	Day only	Estimated average values
Mobilisation	MOB	Guide wall construction	Guide wall area	Hand tool: Drill	6	tbc	91	75	1	50	July 2017	August 2017	Day only	Estimated average values
Mobilisation	MOB	Guide wall construction	Guide wall area	Hand tool: Poker	6	tbc	91	75	1	10	July 2017	August 2017	Day only	Estimated average values
Mobilisation	MOB	Guide wall construction	Guide wall area	Jet wash	3	With water bowser	80	70	35	25	July 2017	August 2017	Day only	Estimated average values
Mobilisation	MOB	Guide wall construction	Guide wall area	Delivery Lorries	Estimated: 2 per day	various: 20' rigid, 45' artic, low loaders	85	80	150	25	July 2017	August 2017	Day only	Estimated average values



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No.20

Date: 26.05.2017

Contract Title: NORTH YORKSHIRE POLYHALITE
PROJECT – WOODSMITH MINE

Made By:
JAG

Checked by:
NT

Work Scope: Installation of guide walls

APPENDIX F – PERSONNEL HISTOGRAM



NORTH YORKSHIRE POLYHALITE PROJECT - GUIDE WALL AND DIAPHRAGM WALL WORKS

Personnel histogram

Author: JAG
 Update: 16-May-17
 Stage: Pre-construction phase

Notes: The listed numbers are indicative and may change due to operational requirements and final construction programme.
 Percentage of local labour is likely to be <5% as the availability of local skilled diaphragm wall operatives is very limited
 Day shift working hours: 07am - 07pm, start Monday morning at 07am.
 Night shift working hours: 07pm - 07am, finish Saturday morning at 07am.
 If instructed, diaphragm wall construction working hours may be extended to 24/7 working.

Construction phase	Activity ID	Month	Site Management (DAYSHIFT)	Site Management (NIGHTSHIFT)	Site Operatives (DAYSHIFT)	Site Operatives (NIGHTSHIFT)	Suppliers / subcontractors (DAYSHIFT)	Suppliers / subcontractors (NIGHTSHIFT)	Total (DAYSHIFT)	Total (NIGHTSHIFT)	TOTAL
Mobilisation	MOB	Jul-17	6	4	15	15	15	0	36	19	55
Diaphragm wall construction	D-WALL	Aug-17	10	4	35	35	2	2	47	41	88
Diaphragm wall construction	D-WALL	Sep-17	10	4	35	35	2	2	47	41	88
Diaphragm wall construction	D-WALL	Oct-17	10	4	35	35	2	2	47	41	88
Diaphragm wall construction	D-WALL	Nov-17	10	4	35	35	2	2	47	41	88
Diaphragm wall construction	D-WALL	Dec-17	10	4	35	35	2	2	47	41	88
Diaphragm wall construction	D-WALL	Jan-18	10	4	35	35	2	2	47	41	88
Diaphragm wall construction	D-WALL	Feb-18	10	4	35	35	2	2	47	41	88
Diaphragm wall construction	D-WALL	Mar-18	10	4	35	35	2	2	47	41	88

NORTH YORKSHIRE POLYHALITE PROJECT

Personnel histogram - BAUER

