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Mechanical Technician (Underground)

COMPETENCE PORTFOLIO

INSTRUCTIONS TO CANDIDATES



The document is divided into various sections and the candidate must complete every section.

Knowledge Section

The candidate is expected to develop a portfolio that demonstrates the knowledge that has been gained.

All the information contained within the knowledge section must be their own work.

The candidate may use manufactures and operational material or other open source material, but must provide a reference.

The candidate may use pictures, photographs etc. to illustrate any knowledge elements.

Practical Elements

The candidate uses this section to demonstrate that they can apply the knowledge in a training and operational environment.

The candidate may use photographs, video etc. to form a record for future assessment.

The candidate may also get instructors and workmates to write statements of how the practical elements were demonstrated.

The candidate must provide a reference to any material that they wish to use as evidence, and include within their portfolio.

Number of Occasions

YEAR 1	RESCUE WORKERS APPRENTICESHIP STANDARD													 Build on our legends				
SECTION 2	RISK ASSESSMENT AND NEAR MISS REPORTING																	
Development Area				Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
							1	2	3	4	5			1	2	3	4	5

The number of knowledge examples is listed here

The number of practical examples is listed here

The number completed is tracked here

References are included and listed here

The sheets contained within this document form a record of progress, and a point for referencing.

The candidate must maintain these sheets to demonstrate progress, and these will be periodically reviewed by the assessor.

		L3 MECHANICAL CRAFTSMAN															
SECTION 1		COMMON INDUCTION MODULES											NAME				
Development Area		Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
					1	2	3	4	5			1	2	3	4	5	
MPVG01 (Safe in the Underground Environment)																	
1.1	Include the certificates from the knowledge section.	1															
1.2	Include the underground assessment.			1													
MPVG02 (Conform to Efficient Work Process)																	
1.3	Include the certificates from the knowledge section.	1															
1.4	Include the underground assessment.			1													
Total Units		2	0	2	0												
Signed - Candidate		Signed - Assessor			Comments												

		L3 MECHANICAL CRAFT																
SECTION 2		RELEVANT LEGISLATION/ STANDARDS/ GUIDANCE AND PROCEDURES												NAME				
Development Area		Standard	Ref	Know. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
							1	2	3	4	5			1	2	3	4	
Pressure Equipment Regulations 1999																		
2.1	Outline the requirements of these regulations, when it comes to selling pressure equipment and putting the equipment to use.	PROMT16	K9	1										Portfolio 2.1				
2.2	Outline how you can verify that pressure equipment has been certified to the appropriate standards.	PROMT16	K9	1										Portfolio 2.2				
Pressure Systems Safety Regulations 2000																		
2.3	Outline the requirements when designing a pressure system.	PROMT16	K9	1										Portfolio 2.3				
2.4	Outline the requirements when installing a pressure system.	PROMT16	K9	1										Portfolio 2.4				
2.5	Outline the key requirements when considering the scheme of maintenance for a pressure system.	PROMT16	K9	1										Portfolio 2.5				
2.6	Define the requirements to provide information relating to the use of a pressure system.	PROMT16	K9	1										Portfolio 2.6				
2.7	Define the type of information that you would normally find provided on or with a pressure system.	PROMT16	K9	1										Portfolio 2.7				
Reporting of Injuries, Diseases and Dangerous Occurrences Regulation (RIDDOR)																		
2.8	Outline the requirements of RIDDOR when it comes to dangerous occurrence relating to plant and equipmnet used within mines.	PROMT16/ 25	K9/ K18	1										Portfolio 2.8				
2.9	Outline the requirement of RIDDOR when it comes to dangerous occurrences that involve mechanical plant and equipment.	PROMT16/ 25	K9/ K18	1										Portfolio 2.9				
Health and Safety at Work Act																		
2.10	Outline what the Act says with regard to the safe use of equipment.	PROMT16	K3	1										Portfolio 2.10				
2.11	Outline what the Act says about the requirement of employees to follow instructions.	PROMT16	K3	1										Portfolio 2.11				
2.12	Outline what the act says in relation to the maintenance of equipment.	PROMT25	K15	1										Portfolio 2.12				
2.13	Outline what the Act says in relation to the need to follow instructions given by the employer.	PROMT25	K23	1										Portfolio 2.13				
Total Units				13	0	0	0											
Signed - Candidate				Signed - Assessor				Comments										

		L3 MECHANICAL CRAFT																
SECTION 2		RELEVANT LEGISLATION/ STANDARDS/ GUIDANCE AND PROCEDURES (2)												NAME				
Development Area		Standard	Ref	Know. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
							1	2	3	4	5			1	2	3	4	
Mines Regulations 2014																		
2.14	Outline the major mining hazards that are specifically mentioned within the regulations.	PROMT16/25	K7/ K18	1										Portfolio 2.14				
2.15	Outline the requirements of MR2014 in relation to inspection, examination and testing of equipment.	PROMT16/25	K2/ K19	1										Portfolio 2.15				
2.16	Outline the requirements of MR2014 in relation to the production of reports following maintenance activates.	PROMT16/25	K2/ K19	1										Portfolio 2.16				
Lifting Operations and Lifting Equipment Regulations (LOLER) 1999																		
2.17	Outline what is meant by lifting operations, lifting equipment.	PROMT16	K9	1										Portfolio 2.17				
2.18	Outline the requirements for the testing of lifting equipment.	PROMT16	K9	1										Portfolio 2.18				
2.19	Define how your organistion organises the inspection of equipment, and how equipment is identified as being usable within your organisation.	PROMT16	K9	1										Portfolio 2.19				
2.20	Define how LOLER applies to mining.	PROMT25	K15	1										Portfolio 2.20				
Provision and Use of Work Equipment Regulations (PUWER) 1989																		
2.21	Outline what PUWER says in relation to the safe use of equipment.	PROMT16/25	K9/ 15	1										Portfolio 2.21				
2.22	Outline what PUWER says in relation to providing instruction.	PROMT16/25	K9/ 23	1										Portfolio 2.22				
2.23	Define the principles of Regulation 5, and the requirement to maintain equipment.	PROMT25	K17	1										Portfolio 2.23				
2.24	Define the principles of Regulation 22, and the requirement to construct/ adapt equipment in a way to. Account for the risks of carrying out maintenance activities.	PROMT25	K17	1										Portfolio 2.24				
Total Units				11	0	0	0											
Signed - Candidate				Signed - Assessor				Comments										

		L3 MECHANICAL CRAFT																	
SECTION 2		RELEVANT LEGISLATION/ STANDARDS/ GUIDANCE AND PROCEDURES (3)												NAME					
Development Area		Standard	Ref	Know. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4		
Dangerous Substances and Explosive Atmosphere Regulations (DSEAR) 2002																			
2.25	Understand how the DSEAR regulations are applied to underground mining operations and the types of assessment that may be required.	PROMT16	K9	1										Portfolio 2.25					
2.26	The types of mine environment that the DSEAR regulations would be applicable to.	PROMT16	K9	1										Portfolio 2.26					
Supply of Machinery (Safety) Regulations 2008																			
2.27	Provide a brief overview of the key requirements of these regulations in relation to the use of equipment.	PROMT16/25	K9/ K23	1										Portfolio 2.27					
2.28	Outline how equipment is marked to show conformity with a standard (for example CE or UKC marking).	PROMT16	K9	1										Portfolio 2.28					
The Management of Health and Safety at Work Regulations 1999																			
2.29	Provide a brief overview of what is required by the regulations in relation to the production of risk assessments.	PROMT16	K3	1										Portfolio 2.29					
2.30	Outline the hierarchy of controls that are listed in the regulations and how this hierarchy should be applied when completing a risk assessment.	PROMT16	K3	1										Portfolio 2.30					
2.31	Provide a description of how the information from a risk assessment is utilised to develop safe systems of work, and how these should be communicated.	PROMT16	K3	1										Portfolio 2.31					
Control of Substances Hazardous to Health Regulations 2002																			
2.32	Briefly outline the regulations in relation to providing information on substances being used within mines	PROMT25	K14	1										Portfolio 2.32					
2.33	Briefly outline the type of information that would be found on a data sheet	PROMT25	K14	1										Portfolio 2.33					
2.33	Describe where the information covering substances hazardous to health is stored at your mine, and how this is accessed	PROMT25	K14	1										Portfolio 2.34					
Total Units				10	0	0	0												
Signed - Candidate				Signed - Assessor				Comments											

	L3 MECHANICAL CRAFT																
SECTION 3	HAZARD AND RISK (1)												NAME				
Development Area	Standard	Ref	Know. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
						1	2	3	4	5			1	2	3	4	
General Hazards																	
3.1 Can outline the general hazards that might be present in a mine.	PROMT16/SEM305	K3/ K2	1										Portfolio 3.1				
3.2 Can outline the general hazards that are normally present in your place of work.	PROMT16	K7	1										Portfolio 3.2				
3.3 Identify some of the controls that are in place to manage those hazards. Consider the controls that the mechanical department have in place to assist in managing these risks.	PROMT16	K7	1										Portfolio 3.3				
3.4 Define the steps that you could take to identify the general risks that have been identified above.	PROMT16	K7	1										Portfolio 3.4				
3.5 Outline the principles associated with applying the hierarchy of controls.	PROMT16	K2	1										Portfolio 3.5				
Health Related Hazards																	
3.6 Identify any areas that pose a risk of exposure to high levels of dust and the methods for control.	PROMT16	K6	1										Portfolio 3.6				
3.7 Identify areas within the operation where corrosive substances may be present and how these are controlled.	PROMT16	K6	1										Portfolio 3.7				
3.8 Identify processes within the operation where skin diseases may be caused and the controls that need to be maintained to prevent these types of issues.	PROMT16	K6	1										Portfolio 3.8				
3.9 Identify areas within the operation where there may be high levels of noise, identify the types of controls, such as engineering or PPE that might be used.	PROMT16	K6	1										Portfolio 3.9				
Major Mining Hazards																	
3.10 Outline the major mining hazards that could be present in your mine.	PROMT16	K7	1										Portfolio 3.10				
3.11 Outline the various assessment techniques that are used at your mine to review and categorise the major mining hazards.	PROMT16	K7	1										Portfolio 3.11				
Total Units			11	0	0	0											
Signed - Candidate			Signed - Assessor			Comments											

		L3 MECHANICAL CRAFT																
SECTION 3		HAZARD AND RISK (2)												NAME				
Development Area		Standard	Ref	Know. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
							1	2	3	4	5			1	2	3	4	
Fatal Hazards																		
3.12	Identify other hazards that may be present in the mine environment that have the potential for a fatal outcome if incorrectly controlled.	PROMT16	K7	1										Portfolio 3.12				
Key Definitions																		
3.13	Outline what is meant by a risk.	PROMT16/ PROMPR23	K2/ K1	1										Portfolio 3.13				
3.14	Outline what is meant by a hazard.	PROMT16/ PROMPR23	K2/ K1	1										Portfolio 3.14				
3.15	Outline what is meant by severity.	PROMT16	K2	1										Portfolio 3.15				
3.16	Outline what is meant by frequency.	PROMT16	K2	1										Portfolio 3.16				
3.17	Outline what is meant by control.	PROMT16	K2	1										Portfolio 3.17				
3.18	Outline how your organisation evaluates and scores risk.	PROMT16	K3	1										Portfolio 3.18				
Completing a Risk Assessment																		
3.19	Outline the organisational requirement when determining the need for a risk assessment, and completing a risk assessment prior to starting work.	PROMT16/ PROMPR23	K3/ K1											Portfolio 3.19				
Escalation																		
3.20	Define how you would escalate any issues or concerns relating to a risk asseement not being suitable for the task/ situation.	PROMT16	K3	1										Portfolio 3.20				
Total Units				8	0	0	0											
Signed - Candidate				Signed - Assessor				Comments										

		L3 MECHANICAL CRAFT																
SECTION 3		HAZARD AND RISK (3)												NAME				
Development Area		Standard	Ref	Know. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
							1	2	3	4	5			1	2	3	4	
Practical Elements																		
3.21	Produce a risk assessment, to your organisational standard, for a typical work activity, using the hierarch of controls to minimise risk.					2												
3.22	Produce a point of work risk assessment using your organisations paperwork for a range of tasks.					4												
3.23	Provide feedback on an organisational procedure that has been written to control the risks associated with isolation.					1												
3.24	Provide feedback on an organisational procedure that has been written to control the risks associated with maintenance.					1												
3.25	Provide feedback on an organisational procedure that has been written to control the risks associated with working on hydraulic or pneumatic systems.					1												
3.26	Provide feedback on an organisational procedure that has been written to control the risks associated with the installation of plant and equipment.					1												
Total Units				0	0	10	0											
Signed - Candidate				Signed - Assessor				Comments										

			L3 MECHANICAL CRAFT																
SECTION 4			SCHEME OF MAINTENANCE/ MODIFICATION/ REPAIR FOR THE MINE (1)											NAME					
Development Area			Standard	Ref	Know. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
								1	2	3	4	5			1	2	3	4	
Maintenance Scheme and Scheduling																			
4.1	Define the organisations requirements for the systematic inspection, examination and testing of equipment installed below ground.		SEMEM309	K7	1										Portfolio 4.1				
4.2	Define what is meant by the term Inspection.		SEMEM309	K1	1										Portfolio 4.2				
4.3	Define what is meant by the term Examination.		SEMEM309	K1	1										Portfolio 4.3				
4.4	Define what is meant by the term Test.		SEMEM309	K1	1										Portfolio 4.4				
4.5	Identify how the organisation schedules maintenance to avoid impacting the safety of others in the mine (for example stopping ventilating fans).		PROMPR23	K1	1										Portfolio 4.5				
4.6	Outline the procedures that may be used to restrict access to areas where maintenance is taking place.		PROMPR23	K1	1										Portfolio 4.6				
4.7	Outline the company procedure for accessing spare or replacement parts.		PROMPR23	K7	1										Portfolio 4.7				
4.8	Understands how stock levels of critical parts are maintained and the importance of booking parts used for maintenance out of the systems.		PROMPR23	K7	1										Portfolio 4.8				
4.9	Understands the process of dealing with old parts that have been used in maintenance or repair activities.		PROMPR23	K7	1										Portfolio 4.9				
4.10	Outline how you would check that any spares used for repair or maintenance activities are like for like, and the types of details that would be marked on the part.		PROMPR23	K8	1										Portfolio 4.10				
4.11	Briefly outline the typical scheme of maintenance for key mechanical apparatus at the mine.		SEMEM309	K7	1										Portfolio 4.11				
4.12	Define how the frequency of maintenance is set at your mine.		SEMEM309	K7	1										Portfolio 4.12				
4.13	Outline how your organisation schedules maintenance activities.		SEMEM309	K7	1										Portfolio 4.13				
4.14	Define how those with a responsibility for carrying out maintenance activities are given the information/ parts etc.				1										Portfolio 4.14				
4.15	Can identify the various reports that need to be completed following maintenance activities.		PROMPR23	K23	1										Portfolio 4.15				
4.16	Outline how any defects that are identified through maintenance are entered in to the mines maintenance system.		PROMPR23	K23	1										Portfolio 4.16				
4.17	Outline how the system generates the extra work requests to deal with defects that have been identified.		PROMPR23	K23	1										Portfolio 4.17				
4.18	Outline how defects are prioritised/ categorised.		PROMPR23	K23	1										Portfolio 4.18				
Total Units					18	0	0	0											
Signed - Candidate					Signed - Assessor					Comments									

	L3 MECHANICAL CRAFT																	
SECTION 4		SCHEME OF MAINTENANCE/ MODIFICATION/ REPAIR FOR THE MINE (2)													NAME			
Development Area		Standard	Ref	Know. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
							1	2	3	4	5			1	2	3	4	
Maintenance Scheme and Scheduling																		
4.19	Outline the types of problems that may occur during and after maintenance activities.	PROMT11/14	K29/ K24	1											Portfolio 4.19			
4.20	Identify times where it may be necessary to reschedule maintenance.	PROMPR23	K18	1											Portfolio 4.20			
4.21	Outline how circuit isolations are planned, reviewed and verified as part of the planned maintenance of electrical equipment in your organisation.	PROMT25	K1	1											Portfolio 4.21			
4.22	Outline how maintenance activities and isolations are agreed within your organisation to prevent safety, maintenance and operational conflicts.	PROMT25	K1	1											Portfolio 4.22			
4.23	Identify where your organistion uses a changeout maintenance scheduling, and why this type of scheduling is important considering safety/ failure modes/ operational efficiency.	PROMPR23	K18	1											Portfolio 4.23			
Identifying Issues																		
4.24	Outline how senses such as smell/ touch/ hearing etc. can be used to determine if a problem is present.	SEMEM309/SEMEM305	K10/ K12	1											Portfolio 4.24			
4.25	Describe the types of things that you may be looking for when approaching a piece of plant or equipment as part of a planned maintenance/ repair.	SEMEM309/SEMEM305	K10/ K12	1											Portfolio 4.25			
Arrangement for Replacement Parts																		
4.26	Identify how any parts that have not been utilised as part of planned maintenance activities are returned to stores.	PROMP23	K7	1											Portfolio 4.26			
4.27	Outline your organistions requirements when it comes to dealing with used/ worn parts.	PROMP23	K7	1											Portfolio 4.27			
4.28	Identify your organistions policy in relation to the use of new versus refurbished parts as part of planned maintenance activities.	PROMP23	K8	1											Portfolio 4.28			
4.29	Identify your organistions policy on using third party and OEM replacement parts as part of planned maintenance activities.	PROMP23	K8	1											Portfolio 4.29			
4.30	Where parts are repaired and upgraded, outline how your organistion controls the repair specification and quality.	PROMP23	K8	1											Portfolio 4.30			
4.31	Define how you would know that a replacement part is to the correct specification or standard.	PROMP23	K8	1											Portfolio 4.31			
Total Units				13	0	0	0											
Signed - Candidate				Signed - Assessor				Comments										

	L3 MECHANICAL CRAFT																		
SECTION 4	SCHEME OF MAINTENANCE/ MODIFICATION/ REPAIR FOR THE MINE (3)													NAME					
Development Area		Standard	Ref	Know. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4		
Evaluating the Overall Equipment Effectiveness																			
4.32	Outline why it is important to understand how a piece of plant or equipment is operating.	SEMEM309	K8	1										Portfolio 4.32					
4.33	Define the business implications if plant and equipment is performing below design/ budget standards.	SEMEM309	K8	1										Portfolio 4.33					
4.34	Define how your organisation records the running efficiency and calculates overall equipment effectiveness.	SEMEM309	K8	1										Portfolio 4.34					
4.35	Define why considering the overall cumulative effect of overall equipment effectiveness is important to the operational efficiency of the mining process.	SEMEM309	K8	1										Portfolio 4.35					
Reinstatement Following Maintenance Activities																			
4.36	Outline where the normal operating characteristics for plant and equipment can be found (for example pressures, temperatures, flow rates etc.).	SEMEM309	K12	1										Portfolio 4.36					
4.37	Define how you would confirm that a piece of plant or equipment was operating within the prescribed limits following the completion of planned maintenance.	SEMEM309	K12	1										Portfolio 4.37					
4.38	Where the plant and equipment is operating outside of the prescribed limits, describe the process you would go through to correct that situation.	SEMEM309	K12	1										Portfolio 4.38					
4.39	Define how the plant and equipment is tested following adjustment or planned maintenance to ensure it is operating safely.	SEMEM309	K12	1										Portfolio 4.39					
4.40	Outline the actions that you would need to take if a piece of plant or equipment could not be returned to safe operating parameters following the completion of maintenance activities.	SEMEM309	K12	1										Portfolio 4.40					
4.41	How changes to operating systems are communicated within the organisation following modification.	PROMT19	K8	1										Portfolio 4.41					
4.42	Identify how your organisation ensures that planned maintenance activities have been completed to the correct standard, before closing compartments and removing isolations.	PROM19	K5	1										Portfolio 4.42					
4.43	Identify how the organisation carried out functionality testing prior to handing equipment over following planned maintenance activities.	PROM19	K5	1										Portfolio 4.43					
4.44	Identify who other than mechanical technicians may be involved in functionality testing, and why their involvement is important.	PROMT19	K7	1										Portfolio 4.44					
4.45	Define how the person/ team that you are handing the plant back to signs off to say that they accept the plant and have been made aware of any change.	SEMEM309	K12	1										Portfolio 4.45					
4.46	Outline any paperwork that must be completed and how that information is kept when changes have been made to operating parameters.	PROMT19	K8	1										Portfolio 4.46					
Total Units				15	0	0	0												
Signed - Candidate				Signed - Assessor				Comments											

		L3 MECHANICAL CRAFT																
SECTION 4		SCHEME OF MAINTENANCE/ MODIFICATION/ REPAIR FOR THE MINE (4)												NAME				
Development Area		Standard	Ref	Know. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
							1	2	3	4	5			1	2	3	4	
Safe Disposal of Waste																		
4.47	Outline the procedure that your organisation uses to dispose of waste mechanical products generated from maintenance/ repair activities.	PROMPR23	K27	1										Portfolio 4.47				
Practical Elements																		
4.48	See section 9 (Maintaining Mechanical Equipment) for some practical elements.																	
4.49	Identify maintenance requirements from a planned maintenance check sheet.					2												
4.50	Procure the equipment and spares to complete the maintenance to the required standard.					2												
4.51	Complete the maintenance records to the required organisational standard.					2												
4.52	Identify and raise outstanding maintenance actions to the organisational standard.					4												
4.53	Complete a defect report to the required organisational standard.					4												
4.54	Complete a shift report to the required organisational standard.					4												
Total Units				1	0	18	0											
Signed - Candidate				Signed - Assessor				Comments										

		L3 MECHANICAL CRAFT																
SECTION 5		DRAWINGS/ PLANS AND INFORMATION													NAME			
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
							1	2	3	4	5			1	2	3	4	5
Document Management																		
5.1	Knows where information is stored on site, and how to book this out and return it.	PROMT09/ PROMPR23	K1/ K9	1											Portfolio 5.1			
5.2	Can define how the documents are managed and updated.	PROMT09/ SEMEM305	K2/ K6	1											Portfolio 5.2			
5.3	Can outline the procedure if the right document/ information is not available.	PROMT09	K2	1											Portfolio 5.3			
5.4	Can identify how manufactures provide information updates, and how this information is used to update the systems.	PROMT09/ PROMPR23	K1/ K6	1											Portfolio 5.4			
5.5	Can identify the organisational procedure for modifying documents and ensuring the version is controlled.	PROMT09	K2/ K10	1											Portfolio 5.5			
5.6	Outline the requirements of the OEM to provide a technical file.	PROMPR23	K9	1											Portfolio 5.6			
5.7	Identify alternative sources of information that are used within your organisation.	SEMEM305	K6	1											Portfolio 5.7			
Understanding Drawings																		
5.8	Outline what is meant by schematic diagram.	PROMT09/ SEMEM305	K2/ K6	1											Portfolio 5.8			
5.9	Outline what is meant by hosing diagram.	PROMT09/ SEMEM305	K2/ K6	1											Portfolio 5.9			
5.10	Define the various common symbols that might be found on the drawings above.	PROMT09/ SEMEM305	K6/ K6	1											Portfolio 5.10			
5.11	Define the various common symbols that might be found on the drawings above.	PROMT09/ SEMEM305	K6/ K6	1											Portfolio 5.11			
5.12	Define how hose sizes, connections, valves, pressure rating and other common mechanical/ relevant information is shown on drawings.	PROMT09/ SEMEM305	K6/ K6	1											Portfolio 5.12			
5.13	Understands what is meant by the terms isometric/ first angle/ third angle.	PROMT09/ SEMEM305	K7/ K6	1											Portfolio 5.13			
5.14	Understands the principles of CE marking/ UK Certification.	PROMT09	K9	1											Portfolio 5.14			
5.15	Can scale from drawings and convert measurements.	PROMT09	K8			1									Portfolio 5.15			
Total Units						14	0	1	0									
Signed - Candidate		Signed - Assessor				Comments												

		L3 MECHANICAL CRAFT																	
SECTION 5		DRAWINGS/ PLANS AND INFORMATION (2)												NAME					
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
Other Information Plans/ Diagrams/ Information																			
5.16	Understands the types of plans that must be maintained at the mine and those that the mechanical department have responsibility for maintaining and updating.	PROMT09	K3	1										Portfolio 5.16					
5.17	Can define how discrepancies in drawings are reported and updated within your organisation.	PROMT09	K4	1										Portfolio 5.17					
5.18	Understands what is meant by the phrase engineering tolerances, and how these might be identified on a drawing.	PROMT09	K8	1										Portfolio 5.18					
5.19	Outline other standards and how they might be relevant (for example British Standards/ ISO Standards/ ATEX etc.).	PROMT09	K9	1										Portfolio 5.19					
Practical Elements																			
5.20	Demonstrate the use of a schematic/ hose diagram as part of fault finding on a system.					4													
5.21	Demonstrate the use of a schematic/ hose diagram when modifying a circuit.					4													
5.22	Update a set of drawings following a completed modification and enter them in to your organisations document management system.					2													
5.23	Use a drawing or plan, to estimate the quantities of material required to complete a job.					1													
5.24	Use a schematic drawing to identify key isolation and pressure dissipation points.					4													
5.25	Follow a distribution drawing and outline the areas affected by isolating a defined point.					1													
5.26	Demonstrate scaling off of a plan.					1													
5.27	Can find measurements using a scale and convert the measurements from metric to imperial and vice versa.					1													
5.28	Demonstrate identifying replacement parts required using drawings, manufactures and other sources of information (for example internet, maintenance scheme).					1													
5.29	Can check that components are within defined engineering tolerances.					1													
Total Units						4	0	20	0										
Signed - Candidate						Signed - Assessor				Comments									

		L3 MECHANICAL CRAFT																	
SECTION 6		WORK PLANNING AND ISOLATION													NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5				1	2	3	4	5
Terms Associated With Isolation																			
6.1	Identify what is meant by an approved lock.	PROMT25/ PROMPR23	K2/ K9	1											Portfolio 6.1				
6.2	Identify what is meant by the term personal lock.	PROMT25/ PROMPR23	K2/ K9	1											Portfolio 6.2				
6.3	Identify what is meant by the term authorised.	PROMT25/ PROMPR23	K2/ K9	1											Portfolio 6.3				
6.4	Identify what is meant by the hierarchy of isolation.	PROMT25/ PROMPR23	K2/ K9	1											Portfolio 6.4				
6.5	Identify what is meant by the term isolated.	PROMT25/ PROMPR23	K2/ K9	1											Portfolio 6.5				
6.6	Identify what is meant by the term dissipated.	PROMT25/ PROMPR23	K2/ K9	1											Portfolio 6.6				
6.7	What is a danger notice, and when and how should it be used.	PROMT25/ PROMPR23	K2/ K9	1											Portfolio 6.7				
6.8	What is meant by the term permit to work.	PROMT25/ PROMPR23	K2/ K9	1											Portfolio 6.8				
6.9	What are meant by the term LOTOTO	PROMT25/ PROMPR23	K2/ K9	1											Portfolio 6.9				
6.10	What is meant by the term safety lock.	PROMT25/ PROMPR23	K2/ K9	1											Portfolio 6.10				
6.11	What is meant by the term operational lock.	PROMT25/ PROMPR23	K2/ K9	1											Portfolio 6.11				
6.12	What is the purpose of a lockbox.	PROMT25/ PROMPR23	K2/ K9	1											Portfolio 6.12				
6.13	What is meant by the term scheduled work.	PROMT25/ PROMPR23	K2/ K9	1											Portfolio 6.13				
6.14	What is meant by the term safe system of work.	PROMT25/ PROMPR23	K2/ K9	1											Portfolio 6.14				
Plant and Equipment that Requires Isolation																			
6.15	Identify items of plant and equipment that is in use at your mine that would require isolation and/ or dissipation of energy prior to working on that plant or equipment.	PROMT25	K24	1											Portfolio 6.15				
Total Units						15	0	0	0										
Signed - Candidate		Signed - Assessor					Comments												

		L3 MECHANICAL CRAFT																	
SECTION 6		WORK PLANNING AND ISOLATION (2)													NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
General Planning																			
6.16	Define how work is scheduled at your mine to ensure that activities are co-ordinated.	PROMT8/25	K1/ 28	1											Portfolio 6.16				
6.17	Identify how the items that need work scheduling are identified at your mine.	PROMT8	K1	1											Portfolio 6.17				
6.18	How are the number of people allocated to the task?	PROMT8/25	K2/ 28	1											Portfolio 6.18				
6.19	How the relevant parts/ materials/ equipment/ tools are identified for a task.	PROMT8	K2	1											Portfolio 6.19				
Preparing a Work Programme																			
6.20	Identify how your mine produces a work programme, and the type of information that might be included to ensure that the task(s) are completed safely.	PROMT8	K3	1											Portfolio 6.20				
6.21	Define how progress is measured against any prepared plan on a daily (or other time basis).	PROMT8	K5	1											Portfolio 6.21				
6.22	How potential interactions on work programmes are identified.	PROMT8	K5	1											Portfolio 6.22				
6.23	How priorities for work activities are established to ensure the safe/ expedient delivery with minimal operational impact.	PROMT8	K5	1											Portfolio 6.23				
6.24	How elements that might influence the safety of the mine (for example loss of a pumping facility) as part of a planned job are identified and the affects minimised.	PROMT8	K7	1											Portfolio 6.24				
Isolation Procedures																			
6.25	Outline the isolation procedure that is used within your organisation for pressure systems.	PROMT25 PROMPR23	K1/ K1	1											Portfolio 6.25				
6.26	Outline the isolation procedures that are used within your organisation for dealing with other energy systems (including energy stored within the system).	PROMT25 PROMPR23 SEMEM305	K1/ K1/ K2	1											Portfolio 6.26				
6.27	Outline what is meant by energy dissipation, and provide examples of this in relation to electrical systems.	PROMT25 PROMPR23	K1/ K1	1											Portfolio 6.27				
6.28	Outline what is meant by energy dissipation, and provide examples of this in relation to energy systems.	PROMT25 PROMPR23	K1/ K1	1											Portfolio 6.28				
6.29	Define how fixed plant is isolated, and how the isolation is brought to the attention of plant operators and other people.	PROMT25 PROMPR23	K24/ K1	1											Portfolio 6.29				
Total Units						14	0	0	0										
Signed - Candidate		Signed - Assessor					Comments												

		L3 MECHANICAL CRAFT																	
SECTION 6		WORK PLANNING AND ISOLATION (3)													NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
Isolations																			
6.30	Define what is meant by isolating for self.	PROMPT25	K1	1											Portfolio 6.30				
6.31	Define what is meant by isolating for self and others.	PROMPT25	K1	1											Portfolio 6.31				
6.32	Define what is meant by remote isolation, and if in use at your mine, how is this type of system operated.	PROMPT25	K1	1											Portfolio 6.32				
6.33	How the relevant parts/ materials/ equipment/ tools are identified for a task.	PROMPT25	K1	1											Portfolio 6.33				
Verifying Isolation																			
6.34	Define the process that you use in your organisation to verify that a piece of equipment is isolated.	PROMPT25	K1	1											Portfolio 6.34				
6.35	Define how the safety equipment that is available to you can be used to confirm that a hydraulic circuit or energy system has been dissipated prior to removing components.	PROMPT25	K1/ 24	1											Portfolio 6.35				
6.36	Outline other visual indications that may be available to confirm that pressure circuits and energy systems have been dissipated prior to removing covers and guards.	PROMPT25	K1/ 24	1											Portfolio 6.36				
6.37	Define the systems that your organisation uses to ensure that electricity (or other sources of energy) can not be inadvertently reapplied following an isolation.	PROMPT25	K24	1											Portfolio 6.37				
Method Statements and Isolation Schedules																			
6.38	Identify the type of information that would typically be shown on a method statement/ isolation schedule.	PROMPT25	K1	1											Portfolio 6.38				
6.39	Define why it is important that the procedural steps are taken when completing and verifying any isolation.	PROMPT25	K1	1											Portfolio 6.39				
6.40	Define why it is important that the isolation procedures and dissipation procedures are followed.	PROMPT25	K1	1											Portfolio 6.40				
6.41	Within your organisation identify how method statements are used to avoid interaction or the inadvertent stoppage of safety critical equipment.	PROMPT25	K1	1											Portfolio 6.41				
Total Units						12	0	0	0										

Signed - Candidate

Signed - Assessor

Comments

		L3 MECHANICAL CRAFT																
SECTION 6		WORK PLANNING AND ISOLATION (4)													NAME			
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
							1	2	3	4	5			1	2	3	4	5
Reinstatement Following Completion of Work																		
6.42	Define the process for removing isolations.	PROMT25	K1	1										Portfolio 6.42				
6.43	Define the process for reapplying energy sources back to plant.	PROMT25	K1	1										Portfolio 6.43				
6.44	Outline the methods used to identify plant that must remain isolated, following the reinstatement of supplies to other equipment.	PROMT25	K1	1										Portfolio 6.44				
6.45	Outline the process that may be used to apply energy to a system for the purpose of testing that system.	PROMT25	K1	1										Portfolio 6.45				
6.46	Identify the level of authorisation that is required in your organisation to allow live working.	PROMT25	K1	1										Portfolio 6.46				
Failure of Isolation																		
6.47	Identify the potential injuries that may result from a high pressure injury.	PROMT25	K10	1										Portfolio 6.47				
6.48	Can identify the main sources of energy used at the mine and the circumstances that may lead to a failure or unplanned discharge of pressure/ energy.	PROMT25	K9	1										Portfolio 6.48				
6.49	Can identify systems that have other forms of energy at the mine and the injuries that these might cause if not adequality controlled and dissipated.	PROMT25	K10	1										Portfolio 6.49				
6.50	Define your organisations procedure for investigating and reporting any incident that occurs with pressure systems or systems with other sources of energy.	PROMT25	K13	1										Portfolio 6.50				
Identification of Services																		
6.51	Outline how equipment is provided with an identification number, and how these are used at your operation.	PROMT25	K6	1										Portfolio 6.51				
6.52	Identify how pipes and other mechanical services are colour coded in your organisation.	PROMT25	K6	1										Portfolio 6.52				
6.53	Define how your organisation identifies and references isolation valves in the underground pipe networks in use at your mine.	PROMT25	K6	1										Portfolio 6.53				
6.54	Define the process used by your organisation for tracing and verifying pipe ranges and other mechanical services underground at your mine.	PROMT25	K6	1										Portfolio 6.54				
Total Units						13	0	0	0									
Signed - Candidate		Signed - Assessor				Comments												

		L3 MECHANICAL CRAFT																
SECTION 6		WORK PLANNING AND ISOLATION (5)												NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
							1	2	3	4	5			1	2	3	4	5
Practical Elements																		
6.55	Use a workplan to schedule work activities.					1												
6.56	Use a workplan to show progress is part of a planned installation.					1												
6.57	Demonstrate the arrangements to isolate and lock off various pieces of switchgear in your organisation as part of safe isolations.					4												
6.58	Demonstrate how you would isolate and lock off a range of valves used underground in your mine.					4												
6.59	Demonstrate the arrangements for other energy sources underground, and where applicable how energy is dissipated within those systems.					4												
6.60	Demonstrate the completion of your organisations paperwork following a local isolation.					4												
6.61	Demonstrate the completion of your organisations paperwork for a remote isolation.					4												
6.62	Use a method statement and isolation schedule to complete a series of complex isolations.					1												
6.63	Demonstrate how isolation principles are followed for unplanned/ breakdown situations.					4												
6.64	Demonstrate the arrangements for verifying isolation.					1												
6.65	Remark pipes/ hoses where required following the completion of a planned job involving changes.					2												
6.66	Mark up a method of work and isolation schedule to show the status of incomplete works at the end of your shift.					1												
NOTE: some of the above practical requirements will be completed in parallel with the practical elements within the permit to work section.																		
Total Units						0	0	31	0									
Signed - Candidate		Signed - Assessor				Comments												

		L3 MECHANICAL CRAFT																	
SECTION 7		PERMIT SYSTEMS													NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
Permits to Work																			
7.1	Define the legal status of a permit to work.	PROMT25	K3	1											Portfolio 7.1				
7.2	Identify when in your organisation a permit to work would be required.	PROMT25	K3	1											Portfolio 7.2				
7.3	Identify circumstances in your organisation where a permit would not be required.	PROMT25	K3	1											Portfolio 7.3				
Procedures for the Issue and Signing Off of Permits to Work																			
7.4	Define how permits to work are produced on site.	PROMT25	K4	1											Portfolio 7.4				
7.5	Define how an individual would sign on to a permit in their organisation.	PROMT25	K4	1											Portfolio 7.5				
7.6	Define the process for reinstatement of energy on completion of a planned task.	PROMT25	K4	1											Portfolio 7.6				
7.7	Define how permits are cleared following the completion of a task.	PROMT25	K4	1											Portfolio 7.7				
7.8	Define the arrangements if work has not been completed and the permit needs to remain in place.	PROMT25	K4	1											Portfolio 7.8				
7.9	How the permits used in your organisation can accommodate more than one person, or more than one discipline where simultaneous tasks are being carried out.	PROMT25	K4	1											Portfolio 7.9				
7.10	Outline how permits may be suspended/ cancelled to allow for the testing of plant and equipment, and how your organisation would sanction these operations.	PROMT25	K4	1											Portfolio 7.10				
Aligning Permits with Other Operational Procedures																			
7.11	How a permit to work is used as part of carrying out a task as part of a method statement and isolation schedule.	PROMT25	K5	1											Portfolio 7.11				
7.12	Define the information that needs to be returned with a method statement, isolation schedule and permit to work.	PROMT25	K5	1											Portfolio 7.12				
Total Units						12	0	0	0										
Signed - Candidate						Signed - Assessor				Comments									

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		L3 MECHANICAL CRAFT																
SECTION 8		WORKING SAFELY ON PLANT AND EQUIPMENT												NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
							1	2	3	4	5			1	2	3	4	5
Safe Isolation																		
See section 6 (Work Planning and Isolation).																		
Permit to Works																		
See section 7 (Permit Systems).																		
Tests on Mechanical Circuits																		
8.1	Define what is meant by a pressure test.	PROMT25	K7	1										Portfolio 8.1				
8.2	Define what is meant by a flow test.	PROMT25	K7	1										Portfolio 8.2				
8.3	Define how to complete a rotational speed test.	PROMT25	K7	1										Portfolio 8.3				
8.4	Define how to complete an inclined speed test.	PROMT25	K7	1										Portfolio 8.4				
8.5	Briefly define how speed and torque can be measured.	PROMT25	K7	1										Portfolio 8.5				
8.6	Define your organisational limitations when it comes to working on systems that are energised.	PROMT25	K7	1										Portfolio 8.6				
8.7	Outline your organisations process controls that are required to allow work to be completed on systems that are energised or under pressure.	PROMT25	K7	1										Portfolio 8.7				
8.8	Define how you would verify that the test results are aligned with those designed by the original equipment manufacturer.	PROMT25	K7	1										Portfolio 8.8				
8.9	Identify how test results are recorded in your organistions.	PROMT25	K7	1										Portfolio 8.9				
8.10	Outline why making a record of tests is important and how that information might be used by your maintenance planning department.	PROMT25	K7	1										Portfolio 8.10				
Total Units						10	0	0	0									
Signed - Candidate		Signed - Assessor				Comments												

		L3 MECHANICAL CRAFT																	
SECTION 9		MAINTAINING MECHANICAL EQUIPMENT												NAME					
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
Preparing for Dismantling or Reassembling Mechanical Equipment																			
9.1	Outline how you would identify and select the correct tools for dismantling or reassembling components of a mechanical system.	PROMPR23	K9	1										Portfolio 9.1					
9.2	Outline the importance of creating a clean work environment.	PROMPR23	K9	1										Portfolio 9.2					
9.3	Outline how you would create the clean work environment underground at your mine.	PROMPR23	K9	1										Portfolio 9.3					
9.4	Identify how you would layout components so that you can easily identify the sequence of reassembly.	PROMPR23	K9	1										Portfolio 9.4					
9.5	Define how you would record the process of dismantling and reassembling mechanical components/ systems at your mine.	PROMPR23	K9	1										Portfolio 9.5					
9.6	Outline the process that you would use for measuring the components as they are removed or checked prior to reassembly.	PROMPR23	K9/ K11/ K18	1										Portfolio 9.6					
9.7	Identify some of the equipment that you might use to check the tolerance of components as they are dismantled or assembled.	PROMPR23	K9/ 11	1										Portfolio 9.7					
9.8	Outline the methods that you may use to clean a component prior to reassembly.	PROMPR23	K9	1										Portfolio 9.8					
Safety when Dismantling Mechanical Components or Systems																			
9.9	Outline the ways in which you might release pressure that is stored within a system prior to disassembly.	PROMPR23	K10	1										Portfolio 9.9					
9.10	Outline the ways in which you might release force that is stored within a system prior to disassembly (for example springs, belts, chain tensions).	PROMPR23	K10	1										Portfolio 9.10					
9.11	Outline extraction techniques that may be used for bolts/ pins/ bushes/ bearings/ gears/ pulleys.	PROMPR23	K10	1										Portfolio 9.11					
9.12	Identify the potential risks with the various techniques you have identified for extracting various components.	PROMPR23	K10	1										Portfolio 9.12					
9.13	Identify the potential for damaging components if the wrong technique for extraction is selected.	PROMPR23	K10	1										Portfolio 9.13					
Checking Component are Fit for Purpose																			
9.14	Identify how you would complete movement checks such as clearance and fit.	PROMPR23	K11/ K18	1										Portfolio 9.14					
9.15	Identify how you would check a component to see if it has been overheating, and the signs that you would be looking for.	PROMPR23	K11/ 18	1										Portfolio 9.15					
Total Units				15	0	0	0												
Signed - Candidate		Signed - Assessor				Comments													

		L3 MECHANICAL CRAFT																
SECTION 9		MAINTAINING MECHANICAL EQUIPMENT (2)													NAME			
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
							1	2	3	4	5				1	2	3	4
Safety when Reassembling Mechanical Components or Systems																		
9.16	Outline installation techniques that may be used for bolts/ pins/ bushes/ bearings/ gears/ pulleys.	PROMPR23	K10	1											Portfolio 9.16			
9.17	Identify the potential risks with the various techniques you have identified for installing various components.	PROMPR23	K10	1											Portfolio 9.17			
9.18	Identify the potential for damaging components if the wrong technique for installation is selected.	PROMPR23	K10	1											Portfolio 9.18			
Alignment and Balancing Systems																		
9.19	Outline how you would check that the mechanical components are correctly aligned following reassembly.	PROMPR23	K10/ K11	1											Portfolio 9.19			
9.20	Define the various techniques that you use at your mine to check the alignment of mechanical components.	PROMPR23	K10	1											Portfolio 9.20			
9.21	Outline how you would check that the mechanical components are correctly aligned following reassembly.	PROMPR23	K10/ K11	1											Portfolio 9.21			
9.22	Define the various techniques that you use at your mine to check the balancing of mechanical components.	PROMPR23	K10	1											Portfolio 9.22			
Understanding How a System Works																		
9.23	Identify why it is important to understand how a piece of plant or equipment could normally operate and function.	PROMPR23	K12	1											Portfolio 9.23			
9.24	Identify the issues with not understanding how components that make up a system are supposed to interact and function.	PROMPR23	K12	1											Portfolio 9.24			
9.25	Outline why it is important that the operating parameters are fully understood prior to completing a maintenance task.	PROMPR23	K12	1											Portfolio 9.25			
Fitting Mechanical Components																		
9.26	Outline the methods for installing new bearings (for example roller bearings, thrust bearings etc.).	PROMPR23	K13	1											Portfolio 9.26			
9.27	Outline the methods for fitting keys and splined components.	PROMPR23	K14	1											Portfolio 9.27			
9.28	Outline the methods for fitting different types of gears.	PROMPR23	K15	1											Portfolio 9.28			
Total Units						13	0	0	0									
Signed - Candidate		Signed - Assessor					Comments											

		L3 MECHANICAL CRAFT																
SECTION 9		MAINTAINING MECHANICAL EQUIPMENT (3)													NAME			
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
							1	2	3	4	5			1	2	3	4	5
Tensioning Belts and Chains																		
9.29	Identify where you would typically find the information that defines the maximum tension of a belt or chain.	PROMPR23	K16	1										Portfolio 9.29				
9.30	Define the implication of over tensioning the belt or chain.	PROMPR23	K16	1										Portfolio 9.30				
9.31	Define how you would check the tension using a variety of methods such as belt deflection or other instruments.	PROMPR23	K16	1										Portfolio 9.31				
Retaining Devices																		
9.32	Identify where a grub screw may be used as a retaining device, and what the advantages and disadvantages are of this type of retaining device.	PROMPR23	K17	1										Portfolio 9.32				
9.33	Identify where a keeper plate may be used as a retaining device, and what the advantages and disadvantages are of this type of retaining device.	PROMPR23	K17	1										Portfolio 9.33				
9.34	Identify where a castled nut may be used as a retaining device, and what the advantages and disadvantages are of this type of retaining device.	PROMPR23	K17	1										Portfolio 9.34				
9.35	Identify where a tab washer may be used as a retaining device, and what the advantages and disadvantages are of this type of retaining device.	PROMPR23	K17	1										Portfolio 9.35				
9.36	Outline other systems that are used on various mechanical systems at your mine to retain gears, pins etc, and the advantages and disadvantages that these have over some of the systems already identified.	PROMPR23	K17	1										Portfolio 9.36				
Maintenance Scheduling																		
See section 4 (Scheme of Maintenance).																		
9.37	Define why equipment that may have a limited operational life may be routinely replaced as part of maintenance or breakdown activates.	PROMPR23	K18	1										Portfolio 9.37				
Use of Charts																		
9.38	Identify how measurement charts may be used when using various types of measuring equipment.	PROMPR23	K18	1										Portfolio 9.38				
9.39	Identify how conversion tables may be used.	PROMPR23	K18	1										Portfolio 9.39				
Total Units						11	0	0	0									
Signed - Candidate		Signed - Assessor					Comments											

		L3 MECHANICAL CRAFT																		
SECTION 9		MAINTAINING MECHANICAL EQUIPMENT (4)													NAME					
Development Area		Standard		Ref		Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
									1	2	3	4	5			1	2	3	4	5
Reinstatement following Maintenance Activities																				
See section 4 (Scheme of Maintenance).																				
See section 6 (Work Planning and Isolation).																				
See section 7 (Permit to Work).																				
9.40	Define how a load test would be carried out following a maintenance activity.	PROMPR23	K21	1												Portfolio 9.40				
9.41	Identify the things that would typically be measured during a load test.	PROMPR23	K21	1												Portfolio 9.41				
9.42	Outline the risks that could be introduced when carrying out a load test, and how these could be minimised.	PROMPR23	K21	1												Portfolio 9.42				
9.43	Identify any restrictions that may be placed on the mechanical technician when it comes to carrying out these types of test.	PROMPR23	K22	1												Portfolio 9.43				
9.44	Identify any limits of authority that your organisation places on the mechanical technician when it comes to signing off equipment following maintenance activities.	PROMPR23	K22	1												Portfolio 9.44				
Use of Lifting and Handling Equipment during Maintenance Activities																				
9.45	Describe how you would identify the capacity/ rating of lifting equipment required to complete a maintenance task.	PROMPR23	K25	1												Portfolio 9.45				
9.46	Outline how you would plan a lift (this may include refence to such things as lift points/ GoG etc.).	PROMPR23	K25	1												Portfolio 9.46				
9.47	When selecting equipment for a lift, identify how you would determine the rating of the equipment that has been selected.	PROMPR23	K25	1												Portfolio 9.47				
9.48	Describe how your organistion identifies that the equipment being selected has been checked and examined as required.	PROMPR23	K25	1												Portfolio 9.48				
9.49	Outline how your organistions defines a simple lift.	PROMPR23	K25	1												Portfolio 9.49				
9.50	Outline how your organisation defines a complex lift.	PROMPR23	K25	1												Portfolio 9.50				
9.51	Outline the pre-use checks that you would typically carry out on lifting equipment prior to use.	PROMPR23	K25	1												Portfolio 9.51				
9.52	Outline any limitations your organisation has when it comes to manual handling.	PROMPR23	K25	1												Portfolio 9.52				
Total Units						13	0	0	0											
Signed - Candidate		Signed - Assessor					Comments													

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		L3 MECHANICAL CRAFT																		
SECTION 9		MAINTAINING MECHANICAL EQUIPMENT (5)													NAME					
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References						
							1	2	3	4	5			1	2	3	4	5		
Identifying and Overcoming Problems when Completing Maintenance Activities																				
9.53	Define the potential issues of exposing components to the underground mine environment.	PROMPR23	K26	1											Portfolio 9.53					
9.54	Define the potential issues with topping up fluids and the actions that can be taken to avoid unintentional contamination.	PROMPR23	K26	1											Portfolio 9.54					
9.55	Identify how maintenance activities are planned to ensure that there is minimum disruption to operational activities.	PROMPR23	K26	1											Portfolio 9.55					
9.56	Identify how your organisation ensures that the components required for the maintenance task are available.	PROMPR23	K26	1											Portfolio 9.56					
9.57	Outline the actions that you would take should the required components not be available, or additional components are identified during the maintenance activity.	PROMPR23	K26	1											Portfolio 9.57					
Practical Elements																				
9.58	Preparing a work area for maintenance activities.					4														
9.59	Using drawings to identify components.					4														
9.60	Dismantling a piece of plant or equipment and preparing it for maintenance.					4														
9.61	Using the correct tools to safely dismantle a piece of plant and equipment.					4														
9.62	Carrying out visual checks on components removed as part of planned maintenance activities.					4														
9.63	Carrying out measurements using micrometres.					2														
9.64	Carrying out measurements using thickness gauges.					2														
9.65	Carrying out measurements using vernier gauges.					2														
9.66	Carrying out measurements using a rule.					4														
9.67	Identifying components that have exceeded their wear parameters, through the use of measurement and drawings.					4														
Total Units						5	0	34	0											
Signed - Candidate						Signed - Assessor				Comments										

		L3 MECHANICAL CRAFT																	
SECTION 9		MAINTAINING MECHANICAL EQUIPMENT (6)													NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
Practical Elements (Continued)																			
9.68	Removing a bearing using the correct tools.					4													
9.69	Replacing a bearing using the correct tools.					4													
9.70	Removing a gear using the correct tools.					4													
9.71	Replacing a gear using the correct tools.					4													
9.72	Creating and fitting a key using the correct tools.					2													
9.73	Carrying out the alignment of mechanical components to the required tolerances.					4													
9.74	Carrying out the balancing of mechanical components to the required tolerances.					2													
9.75	Identifying the correct fluid and refilling or topping up fluids as part of maintenance activities.					4													
9.76	Verifying that maintenance activities have been completed by using a check sheet.					4													
9.77	Verifying that the equipment has been returned to an operational condition prior to applying energy to the system.					4													
9.78	Completing reinstalment checks to a defined check sheet on completion of maintenance and the application of energy to the system.					4													
9.79	Making a report of the maintenance activities completed.					4													
9.80	Returning unused components to the store.					2													
9.81	Safely disposing of worn components in line with organisational policy.					2													
Other Practical																			
9.82	Routine oiling of plant and equipment.					4													
9.83	Routine greasing of plant and equipment.					4													
9.84	Use of various techniques for monitoring the condition (temperature/ vibration/ tribology) of plant and equipment.					4													
Total Units						0	0	60	0										
Signed - Candidate		Signed - Assessor				Comments													

		L3 MECHANICAL CRAFT																	
SECTION 10		FAULT DIAGNOSIS ON MECHANICAL EQUIPMENT													NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
General																			
See section 3 (Risk).																			
See section 5 (Drawings and Information).																			
See section 6 (Work Planning and Isolation).																			
See section 7 (Permits to Work).																			
Ensuring that Stored Energy is Dissipated																			
10.1	Outline the types of system that are in use within your organisation that retain energy due to tension.	SEMEM305	K1	1										Portfolio 10.1					
10.2	Outline the types of plant and equipment in use within your organisation where there might be energy stored due to the effect of weight and gravity.	SEMEM305	K1	1										Portfolio 10.2					
Isolation for the Purpose of Breakdown and Fault Find																			
10.3	Outline any special organisational procedures that exists for isolations for use in unplanned circumstances (for example breakdowns).	SEMEM305	K3	1										Portfolio 10.3					
10.4	Define how isolations can be applied and removed for aiding fault finding, and the organisational procedure that needs to be followed.	SEMEM305	K3	1										Portfolio 10.4					
Hazards Associated with Carrying Out Fault Diagnosis																			
10.5	Identify the hazards associated with moving plant and equipment within the mine environment.	SEMEM305	K5	1										Portfolio 10.5					
10.6	Identify the hazards associated with the use of oils and greases.	SEMEM305	K5	1										Portfolio 10.6					
10.7	Identify the hazards associated with high pressure injection injuries.	SEMEM305	K5	1										Portfolio 10.7					
10.8	Identify the hazards that exist from using tools that are not correctly maintained or calibrated.	SEMEM305	K5	1										Portfolio 10.8					
10.9	Define the arrangements within the organisation to ensure that there are standard operating procedures in place to control mechanical activities under fault conditions.	SEMEM305	K5	1										Portfolio 10.9					
Total Units						9	0	0	0										
Signed - Candidate		Signed - Assessor				Comments													

		L3 MECHANICAL CRAFT																	
SECTION 10		FAULT DIAGNOSIS ON MECHANICAL EQUIPMENT (2)												NAME					
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
Establishing the Background to the Fault																			
10.10	Describe how you would establish how the plant and equipment would normally operate.	SEMEM305	K7	1										Portfolio 10.10					
10.11	Identify the various sources of information that may be available to help you establish how the plant and equipment would normally operate, and any specific operating characteristics or parameters.	SEMEM305	K7	1										Portfolio 10.11					
10.12	Describe how you would investigate what was happening at the time the piece of plant and equipment failed/ varied from its standard operating parameters.	SEMEM305	K7	1										Portfolio 10.12					
10.13	Describe how operators may be useful in establishing the facts, and what the limitations and risk may be in this approach.	SEMEM305	K7	1										Portfolio 10.13					
10.14	Outline the various techniques that could be used to analyse the information that has been collected.	SEMEM305	K7	1										Portfolio 10.14					
10.15	Outline the various techniques that could be used to determine that the systems or components are operating within the defined/ prescribed limits.	SEMEM305	K8	1										Portfolio 10.15					
Fault Finding Techniques																			
10.16	Describe what is meant by a half split when testing a circuit.	SEMEM305	K9	1										Portfolio 10.16					
10.17	Describe what is meant by input/ output testing.	SEMEM305	K9	1										Portfolio 10.17					
10.18	Describe the principles of emergent problem sequencing.	SEMEM305	K9	1										Portfolio 10.18					
10.19	Describe what is meant by function testing.	SEMEM305	K9	1										Portfolio 10.19					
10.20	Describe what is meant by unit substitution.	SEMEM305	K9	1										Portfolio 10.20					
10.21	Describe what is meant by self diagnostics.	SEMEM305	K9	1										Portfolio 10.21					
Total Units					12	0	0	0											
Signed - Candidate		Signed - Assessor				Comments													

		L3 MECHANICAL CRAFT																	
SECTION 10		FAULT DIAGNOSIS ON MECHANICAL EQUIPMENT (3)													NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
Identify and Using the Correct Test Equipment																			
10.22	Identify the test equipment that can be used to identify flow with a hydraulic or pneumatic circuit.	SEMEM305	K10	1											Portfolio 10.22				
10.23	Identify the test equipment that can be used to identify pressure with a hydraulic or pneumatic circuit.	SEMEM305	K10	1											Portfolio 10.23				
10.24	Identify the equipment that would be used to identify the thickness or integrity of metal wear surfaces or structure.	SEMEM305	K10	1											Portfolio 10.24				
10.25	Identify the type of equipment that may be used to identify tensions in things like chains, ropes or conveyor systems.	SEMEM305	K10	1											Portfolio 10.25				
10.26	Identify the type of equipment that may be used to detect cracks or breaks within ropes/ chains and other mechanical components.	SEMEM305	K10	1											Portfolio 10.26				
10.27	Identify the various techniques that may be used to establish the operating temperatures of plant and equipment.	SEMEM305	K10	1											Portfolio 10.27				
10.28	Identify when and why you might use an endoscope as part of fault finding.	SEMEM305	K10	1											Portfolio 10.28				
10.29	Describe how tribology might be used to determine that something has failed or is starting to fail.	SEMEM305	K10	1											Portfolio 10.29				
10.30	Outline how vibration analysis may be used to provide an indication that something has failed or is failing.	SEMEM305	K10	1											Portfolio 10.30				
10.31	Outline the various non-destructive testing techniques that are used within your organisation.	SEMEM305	K10	1											Portfolio 10.31				
10.32	For all of the above provide how you would verify that the information is correctly calibrated and suitable for the task.	SEMEM305	K10/ K11	1											Portfolio 10.32				
10.33	For the testing techniques that require the instruments and gauges to be inserted in to the circuit, outline the process for ensuring this is done correctly.	SEMEM305	K11	1											Portfolio 10.33				
10.34	Define the types of human senses that may be used as part of diagnosing faults.	SEMEM305	K12	1											Portfolio 10.34				
Intermittent Faults																			
10.35	Define the process that could be used to identify the area of equipment or circuit where the problem is occurring if the default comes and goes.	SEMEM305	K13	1											Portfolio 10.35				
Total Units						14	0	0	0										
Signed - Candidate		Signed - Assessor					Comments												

		L3 MECHANICAL CRAFT																	
SECTION 10		FAULT DIAGNOSIS ON MECHANICAL EQUIPMENT (4)													NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
Identifying the Risks of Running Equipment with a Fault Present																			
10.36	Identify the risks of running (mobile) plant with an internal combustion engine.	SEMEM305	K16	1										Portfolio 10.36					
10.37	Identify the risks of running plant and equipment with a fault on a high pressure system.	SEMEM305	K16	1										Portfolio 10.37					
10.38	Identify the risks of running plant and equipment with a fault on dust suppression equipment.	SEMEM305	K16	1										Portfolio 10.38					
10.39	Identify the risks of running plant and equipment with a fault on the guarding system (this may include nip guards).	SEMEM305	K16	1										Portfolio 10.39					
10.40	Identify the risks of running plant and equipment with a fault on the lubrication system.	SEMEM305	K16	1										Portfolio 10.40					
10.41	Identify the risks of running plant and equipment with a fault on the ignition control equipment (for use in potentially explosive atmospheres if present at your mine).	SEMEM305	K16	1										Portfolio 10.41					
10.42	Identify the risks of running plant and equipment with a bearing that has failed or is in the process of failing.	SEMEM305	K16	1										Portfolio 10.42					
10.43	Identify the risks of running plant and equipment with a fault on the cooling system (which may or may not be required to maintain operational integrity).	SEMEM305	K16	1										Portfolio 10.43					
10.44	Identify the risks of running plant and equipment with a fault on the fire detection or fire suppression systems.	SEMEM305	K16	1										Portfolio 10.44					
10.45	Outline the process for assessing the risk if continue to operate, and when this process may be used to review the decision on the actions to continue/ repair.	SEMEM305	K17	1										Portfolio 10.45					
Reporting																			
10.46	Identify the type of information that should be included in a report in order to allow fault finding to continue.	SEMEM305	K18	1										Portfolio 10.46					
10.47	Identify the type of information that should be included in a report following the successful diagnosis and repair of a fault.	SEMEM305	K18	1										Portfolio 10.47					
Total Units					12	0	0	0											
Signed - Candidate						Signed - Assessor				Comments									

Signed - Candidate	Signed - Assessor	Comments
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		L3 MECHANICAL CRAFT																
SECTION 11		RESTORING MECHANICAL EQUIPMENT TO A USEFUL CONDITION BY REPAIR												NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
							1	2	3	4	5			1	2	3	4	5
General																		
See section 3 (Risk).																		
See section 4 (Scheme of Maintenance).																		
See section 5 (Drawings and Information).																		
See section 6 (Work Planning and Isolation).																		
See section 7 (Permits to Work).																		
See section 8 (Working Safely on Mechanical Plant).																		
See section 10 (Fault Diagnosis).																		
Creating a Safe Work Area																		
11.1	Outline the method for creating an exclusion zone to prevent persons entering the space whilst repairs are being made.	PROMT22	K3	1										Portfolio 11.1				
11.2	Identify the potential hazards that might exist, and the types of notice that may be posted to warn people of the hazards.	PROMT22	K3	1										Portfolio 11.2				
Personal Hazards when Using Fixed Tools as Part of Repair Activities																		
11.3	Outline the hazards and controls when using a saw (various types), and how you verify that they are operating correctly.	PROMT22/ PROMT23	K5/ K2	1										Portfolio 11.3				
11.4	Outline the hazards and controls when using a drill (various types), and how you verify that they are operating correctly.	PROMT22/ PROMT23	K5/ K2	1										Portfolio 11.4				
11.5	Outline the hazards and controls when using a grinder (various types), and how you verify that they are operating correctly.	PROMT22/ PROMT23	K5/ K2	1										Portfolio 11.5				
11.6	Outline the hazards and controls when using turning equipment such as a lathe, and how you verify that they are operating correctly.	PROMT22/ PROMT23	K5/ K2	1										Portfolio 11.6				
11.7	Outline the hazards and controls when using milling equipment, and how you verify that they are operating correctly.	PROMT22/ PROMT23	K5/ K2	1										Portfolio 11.7				
Total Units						7	0	0	0									
Signed - Candidate		Signed - Assessor				Comments												

		L3 MECHANICAL CRAFT																				
SECTION 11		RESTORING MECHANICAL EQUIPMENT TO A USEFUL CONDITION BY REPAIR (2)													NAME							
Development Area		Standard		Ref		Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References						
									1	2	3	4	5									
Personal Hazards when Using Fixed Tools as Part of Repair Activities																						
11.8	Outline the hazards and controls when using thread cutting equipment.	PROMT22/ PROMT23		K5/ K2		1											Portfolio 11.8					
11.9	Identify for the fixed workshop type equipment the safety features that are provided.	PROMT22		K5		1											Portfolio 11.9					
11.10	Outline any organisational requirements that must be followed when carrying out hot works.	PROMT22		K5		1											Portfolio 11.10					
Organisational Restrictions on Rpairs																						
11.11	Outline the restrictions that your organisation has on the repair versus replacement of components used in various types of plant, outline how your organisation differentiates between safety critical and other equipment.	PROMT22		K7		1											Portfolio 11.11					
11.12	Outline the organisational requirements for signing off any repairs prior to returning the plant and equipment back to use.	PROMT22		K7		1											Portfolio 11.12					
Creating Surface Finishes to the Correct Tolerance																						
11.13	Identify the various techniques that can be used to prepare a surface/ finish.	PROMT22		K11		1											Portfolio 11.13					
11.14	Outline the methods that can be used to check that the surface has been prepared to the required tolerances.	PROMT22		K11		1											Portfolio 11.14					
11.15	Outline what is meant by a clearance fit.	PROMT22		K13		1											Portfolio 11.15					
11.16	Outline what is meant by a transition fit.	PROMT22		K13		1											Portfolio 11.16					
11.17	Outline what is meant by an interference fit.	PROMT22		K13		1											Portfolio 11.17					
11.18	Outline what is meant by a mating fit.	PROMT22		K13		1											Portfolio 11.18					
Total Units						11	0	0	0													
Signed - Candidate		Signed - Assessor													Comments							

		L3 MECHANICAL CRAFT																	
SECTION 11		RESTORING MECHANICAL EQUIPMENT TO A USEFUL CONDITION BY REPAIR (3)													NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
Portable Power Tools																			
11.19	Identify the types of portable power tools that are available for use in your organisation.	PROMT22	K15	1										Portfolio 11.19					
11.20	Identify any restrictions which restrict the use of portable power tools (for example zones/ equipment types etc.).	PROMT22	K15	1										Portfolio 11.20					
11.21	Where using mains powered portable tools, what checks should be made prior to connecting them to the power supply.	PROMT22	K16	1										Portfolio 11.21					
11.22	Identify any protection device that should be in the circuit when using portable power tools within your organisation.	PROMT22	K16	1										Portfolio 11.22					
11.23	Where extension cables are used, identify any checks that need to be completed prior to using them.	PROMT22	K16	1										Portfolio 11.23					
11.24	Where battery tools are used, identify any checks that need to be completed prior to their use, and any limitations that are placed on their use within your organisation.	PROMT22	K16	1										Portfolio 11.24					
11.25	Where pneumatic or hydraulic tools are used, what checks must be completed prior to connecting to the energy source.	PROMT22	K16	1										Portfolio 11.25					
Hot Works/ Thermal Process																			
11.26	Outline any organisational requirements that must be followed when carrying out hot works.	PROMT22	K5 / K25	1										Portfolio 11.26					
11.27	Identify any specific procedures that must be adopted if carrying out hot works underground.	PROMT22	K25	1										Portfolio 11.27					
11.28	Identify how fumes from hot works are controlled.	PROMT22	K25	1										Portfolio 11.28					
11.29	Identify how gasses associated with various types of hot works are stored and controlled within your organistions (include any limitations on quantities).	PROMT22	K25	1										Portfolio 11.29					
11.30	Identify any standards that must be followed when producing welded components that may act under tension or compression when in use.	PROMT22	K25	1										Portfolio 11.30					
Total Units						12	0	0	0										
Signed - Candidate		Signed - Assessor					Comments												

		L3 MECHANICAL CRAFT																	
SECTION 11		RESTORING MECHANICAL EQUIPMENT TO A USEFUL CONDITION BY REPAIR (4)													NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
Practical Elements																			
11.31	Identify the specification of a piece of equipment from drawings and other sources of information.					2													
11.32	Using a pedestal drill, select the appropriate drill, and drill holes to the correct size.					4													
11.33	Using a lathe turn a shaft to the correct diameter.					1													
11.34	Use a pedestal grinder to prepare the surface.					2													
11.35	Use a tap to produce internal threads to the required specification.					4													
11.36	Use a die to produce external threads to the required specification.					4													
11.37	Use a handheld drill to produce a hole to the required standard (including a suitable inspection).					4													
11.38	Use a hand held grinder to prepare surfaces (including an inspection).					4													
11.39	Use a range of hand tools to prepare the surface.					4													
11.40	Use a range of tools to fit components together.					4													
11.41	Use a hand held saw to cut off excess material and produce a cut to the correct specification.					4													
11.42	Use a hammer and chisel to separate components/ remove fasteners.					4													
Other Elements																			
11.43	Establish the protocols to carry out hot works.					1													
11.44	Complete the safety checks having completed hot work activities underground.					1													
Total Units						0	0	43	0										
Signed - Candidate						Signed - Assessor				Comments									

		L3 MECHANICAL CRAFT																	
SECTION 12		INSTALLATION OF MECHANICAL EQUIPMENT													NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
General																			
See section 3 (Risk).																			
See section 4 (Scheme of Maintenance).																			
See section 5 (Drawings and Information).																			
See section 6 (Work Planning and Isolation).																			
See section 7 (Permits to Work).																			
Supervision of Mechanical Installations																			
12.1	Outline the organisational procedure when it comes to the supervision of mechanical installations.	SEMIC305		1										Portfolio 12.1					
12.2	Define the role of the mechanical technician when it comes to providing instruction to those assisting with the installation, but are not qualified/ competent mechanical technicians.	SEMIC305		1										Portfolio 12.2					
Preparing the Work Area for Installation																			
12.3	Identify the process for ensuring that the work area has been marked out to identify where components should be fitted.	SEMIC305		1										Portfolio 12.3					
12.4	Outline what is meant by the term centre line, and how this would be used during an installation.	SEMIC305		1										Portfolio 12.4					
12.5	Outline what is meant by the term offset, and how this would be used during an installation.	SEMIC305		1										Portfolio 12.5					
12.6	Identify how your organistion identifies the position of anchor points.	SEMIC305		1										Portfolio 12.6					
12.7	Identify how your organistion identifies and positions lifting points ahead of the installation.	SEMIC305		1										Portfolio 12.7					
Total Units						7	0	0	0										
Signed - Candidate		Signed - Assessor				Comments													

		L3 MECHANICAL CRAFT																		
SECTION 12		INSTALLATION OF MECHANICAL EQUIPMENT (2)													NAME					
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References						
							1	2	3	4	5			1	2	3	4	5		
Preparing the Work Area for Installation (continued)																				
12.8	Outline how any foundations are checked to ensure that they are correctly positioned and to the correct standard before allowing the installation to progress.	SEMIC305		1										Portfolio 12.8						
12.9	Outline the process for controlling the access of people and plant and equipment to the work area.	SEMIC305		1										Portfolio 12.9						
12.10	Define how the equipment required for the installation is organised to ensure it arrives at site in the correct sequence.	SEMIC305		1										Portfolio 12.10						
12.11	Identify how you would verify that the correct installation drawings had been produced, and were available ahead of the installation.	SEMIC305		1										Portfolio 12.11						
12.12	Identify how you would identify how all of the required components are available prior to commencing the installation.	SEMIC305		1										Portfolio 12.12						
Carrying Out the Installation																				
12.13	Define how you verify that the components are being installed to the appropriate standards and that the installed components align with the drawing requirements.	SEMIC305		1										Portfolio 12.13						
12.14	Define how you would verify that the equipment is being installed to the correct tolerances.	SEMIC305		1										Portfolio 12.14						
12.15	Define the various specifications that exist for mechanical fasteners such as nuts and bolts, and how you would identify the appropriate tensile strength from drawings etc.	SEMIC305		1										Portfolio 12.15						
12.16	Identify the tools that would be used to ensure that mechanical fasteners are torqued to the correct level.	SEMIC305		1										Portfolio 12.16						
12.17	Define the implications of having mechanical fasteners that are either under or over torqued.	SEMIC305		1										Portfolio 12.17						
12.18	Where mechanical fasteners are used on mobile or vibrating plant, identify the various means that may be used to prevent them from becoming loose.	SEMIC305		1										Portfolio 12.18						
12.19	Where the required torques settings cannot be achieved, identify the potential issues, and the action that you would take.	SEMIC305		1										Portfolio 12.19						
12.20	If mechanical fasteners were being used on a 'blind' hole, what actions could be taken if the required torque settings could not be achieved.	SEMIC305		1										Portfolio 12.20						
12.21	What methods are used during the installation to ensure that the equipment is aligned.	SEMIC305		1										Portfolio 12.21						
12.22	Outline the techniques used within your organistions to move components in to place.	SEMIC305		1										Portfolio 12.22						
12.23	Outline the techniques that would be used to temporarily secure equipment above ground level whilst it is being installed.	SEMIC305		1										Portfolio 12.23						
Total Units						16	0	0	0											
Signed - Candidate		Signed - Assessor						Comments												

		L3 MECHANICAL CRAFT																	
SECTION 12		INSTALLATION OF MECHANICAL EQUIPMENT (3)													NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
Carrying Out the Installation (continued)																			
12.24	Define how you would check the stability of equipment installed temporarily above ground level prior to accessing the work area.	SEMIC305		1										Portfolio 12.24					
Transferring Power between Components																			
12.25	Identify how power can be transferred between one component and another using pulleys/ belts and chains.	SEMIC305		1										Portfolio 12.25					
12.26	Identify how power can be transferred between components through the use of solid couplings.	SEMIC305		1										Portfolio 12.26					
12.27	Identify how power can be transferred between components through the use of fluid filled couplings.	SEMIC305		1										Portfolio 12.27					
12.28	Identify how power can be transferred between components using clutches.	SEMIC305		1										Portfolio 12.28					
Energy Supply Systems																			
12.29	Identify the various energy systems that may be used to power the completed installation.	SEMIC305		1										Portfolio 12.29					
Securing the System Prior to Energising																			
12.30	Identify the methods used in your organistions to secure fixed plant to the roof or floor.	SEMIC305		1										Portfolio 12.30					
12.31	Identify the types of fixings that are used, and the organisational standards to ensure that they are installed to the correct standard.	SEMIC305		1										Portfolio 12.31					
12.32	Outline how the fixings are tested following their installation.	SEMIC305		1										Portfolio 12.32					
12.33	Define the actions to be taken if any of the fixings fail the test.	SEMIC305		1										Portfolio 12.33					
Total Units				10	0	0	0												
Signed - Candidate		Signed - Assessor				Comments													

		L3 MECHANICAL CRAFT																	
SECTION 12		INSTALLATION OF MECHANICAL EQUIPMENT (4)													NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
Checking that the Installation Conforms to the Required Standards																			
12.34	Outline your organisational procedures for recommissioning any mechanical installation prior to energising.	SEMIC305		1											Portfolio 12.34				
12.35	Outline your organisational procedures for completing commissioning and handover tests once the system has been energised.	SEMIC305		1											Portfolio 12.35				
12.36	Outline how you would verify that the system is operating within the design and installation parameters.	SEMIC305		1											Portfolio 12.36				
12.37	Define the actions that would be taken should it fail any of the commissioning/ functionality tests.	SEMIC305		1											Portfolio 12.37				
12.38	Define the actions that the organisation takes should the installation not achieve the OEM tests during commissioning.	SEMIC305		1											Portfolio 12.38				
12.39	Define the action that the organisation would take if the installation failed to deliver the required performance following a successful commissioning.	SEMIC305		1											Portfolio 12.39				
12.40	Outline the organisational procedure for raising commissioning or other defects, and how these defects are tracked to completion.	SEMIC305		1											Portfolio 12.40				
12.41	The organisational procedure for handover from the engineering function to the operational team.	SEMIC305		1											Portfolio 12.41				
Other Elements																			
12.42	Outline how your organisation tracks progress of the installation against a plan.	SEMIC305		1											Portfolio 12.42				
12.43	Define why it is important that there is a timed plan available.	SEMIC305		1											Portfolio 12.43				
12.44	Provide examples of corrective actions that may be taken if the installation is falling behind the timed installation plan.	SEMIC305		1											Portfolio 12.44				
Practical																			
12.45	Provide evidence of a minor installation taking between 1 and 3 days, provide a summary that supports installation, commissioning and handover.	SEMIC305				3													
12.46	Provide evidence of a minor installation taking over 4 days, provide a summary that supports installation, commissioning and handover.	SEMIC305				2													
Total Units						11	0	5	0										
Signed - Candidate						Signed - Assessor				Comments									

		L3 MECHANICAL CRAFT																			
SECTION 13		HYDRAULIC & PNEUMATIC SYSTEMS													NAME						
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References							
							1	2	3	4	5			1	2	3	4	5			
General																					
See section 2 (UK Legislation).																					
See section 2 (Risk).																					
See section 5 (Drawings and Information).																					
See section 6 (Work Planning and Isolation).																					
See section 7 (Permits to Work).																					
Safety Precautions when Working on Electro-Pneumatic and Electro-Hydraulic Systems																					
13.1	When working on electro-pneumatic or electro-hydraulic systems, outline the various components that need to be isolated.	Ref K/600/0204		1											Portfolio 13.1						
13.2	Outline the potential hazards associated with the release of fluids at a high pressure.	Ref K/600/0204		1											Portfolio 13.2						
13.3	Outline the potential health risks associated with hydraulic oil coming in to contact with the skin, and the controls that may be used to reduce those risks.	Ref K/600/0204		1											Portfolio 13.3						
13.4	Outline why it is important that residual pressure is removed from systems before carrying out any work.	Ref K/600/0204		1											Portfolio 13.4						
13.5	Describe what may happen if a piece of plant inadvertently moves due to retained pressure/ fluids whilst you are working on it.	Ref K/600/0204		1											Portfolio 13.5						
Fluid Power Devices																					
13.6	When conditioning a fluid for use in a hydraulic system outline the purpose of the supply tank.	Ref K/600/0204		1											Portfolio 13.6						
13.7	When conditioning a fluid for use in a hydraulic system outline the purpose of a filter.	Ref K/600/0204		1											Portfolio 13.7						
Total Units						7	0	0	0												
Signed - Candidate		Signed - Assessor										Comments									

		L3 MECHANICAL CRAFT																	
SECTION 13		HYDRAULIC & PNEUMATIC SYSTEMS (2)													NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
Fluid Power Devices (Continued)																			
13.8	When conditioning a fluid for use in a hydraulic system outline the purpose of a pump.	Ref K/600/0204		1											Portfolio 13.8				
13.9	When conditioning a fluid for use in a hydraulic system outline the purpose of a cooler.	Ref K/600/0204		1											Portfolio 13.9				
13.10	When conditioning a fluid for use in a hydraulic system outline the purpose of a dryer.	Ref K/600/0204		1											Portfolio 13.10				
13.11	When conditioning a fluid for use in a hydraulic system outline the purpose of a recover.	Ref K/600/0204		1											Portfolio 13.11				
13.12	When conditioning a fluid for use in a hydraulic system outline the purpose of an accumulator.	Ref K/600/0204		1											Portfolio 13.12				
13.13	Outline the various ways that the parts making up a hydraulic circuit may be connected together, what are the advantages and disadvantages of each.	Ref K/600/0204		1											Portfolio 13.13				
13.14	Define the various types of connectors that may be used in a hydraulic circuit.	Ref K/600/0204		1											Portfolio 13.14				
13.15	Define why drainage points are provided within hydraulic circuits.	Ref K/600/0204		1											Portfolio 13.15				
13.16	Electro-hydraulic systems require a power supply, identify what is meant by mains power supply/ AC power supply/ DC power supply.	Ref K/600/0204		1											Portfolio 13.16				
Control Valves																			
13.17	Outline the difference between a manual control valve and a solenoid controlled valve.	Ref K/600/0204		1											Portfolio 13.17				
13.18	Define what is meant by a pilot valve.	Ref K/600/0204		1											Portfolio 13.18				
13.19	Using diagrams describe what is meant by a port on a valve (for example 4 port or 5 port).	Ref K/600/0204		1											Portfolio 13.19				
13.20	Describe how a pressure reducer works, and how these can be adjusted.	Ref K/600/0204		1											Portfolio 13.20				
13.21	Outline the purpose of a non-return valve.	Ref K/600/0204		1											Portfolio 13.21				
Total Units				14	0	0	0												
Signed - Candidate		Signed - Assessor				Comments													

		L3 MECHANICAL CRAFT																	
SECTION 13		HYDRAULIC & PNEUMATIC SYSTEMS (3)													NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
Actuators																			
13.22	What is meant by a linear actuator, provide examples of where these are used on equipment at your mine.	Ref K/600/0204		1											Portfolio 13.22				
13.23	What is meant by a rotary actuator, provide examples of where these are used on equipment at your mine.	Ref K/600/0204		1											Portfolio 13.23				
13.24	What is a motor, provide examples where compressed air or hydraulic motors are used as part of a system at your mine.	Ref K/600/0204		1											Portfolio 13.24				
Control and Sensing Devices																			
13.25	Identify the various types of switches and position indicators that might be found as part of an electro-pneumatic or electro-hydraulic system.	Ref K/600/0204		1											Portfolio 13.25				
13.26	Identify what the term PLC means, and what its function is within an electro-pneumatic or electro-hydraulic system.	Ref K/600/0204		1											Portfolio 13.26				
Components and Symbols																			
13.27	Produce a chart that shows the typical common components within a circuit using symbols and labels.	Ref K/600/0204		1											Portfolio 13.27				
Circuit Diagram																			
13.28	Identify what is meant by a hydraulic or pneumatic circuit drawing.	Ref K/600/0204		1											Portfolio 13.28				
13.29	What is meant by a block diagram.	Ref K/600/0204		1											Portfolio 13.29				
13.30	What is meant by a system layout drawing.	Ref K/600/0204		1											Portfolio 13.30				
Total Units				9	0	0	0												
Signed - Candidate		Signed - Assessor				Comments													

		L3 MECHANICAL CRAFT																	
SECTION 13		HYDRAULIC & PNEUMATIC SYSTEMS (4)													NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
Fluid Power Principles																			
13.31	Identify the principles expressed by Boyles Law.	Ref K/600/0204		1										Portfolio 13.31					
13.32	Identify the principles expressed by Charles Law.	Ref K/600/0204		1										Portfolio 13.32					
13.33	Identify the principles of the general gas laws.	Ref K/600/0204		1										Portfolio 13.33					
13.34	Define what is meant by dew point.	Ref K/600/0204		1										Portfolio 13.34					
13.35	Outline what is meant by Bernoulli's principle.	Ref K/600/0204		1										Portfolio 13.35					
13.36	Identify the principles expressed by Pascals Law.	Ref K/600/0204		1										Portfolio 13.36					
Units																			
13.37	Identify the units used for pressure in a circuit.	Ref K/600/0204		1										Portfolio 13.37					
13.38	Express the units that may be used to express the pressure drop in a circuit.	Ref K/600/0204		1										Portfolio 13.38					
13.39	Identify the units to express flow rate within a circuit.	Ref K/600/0204		1										Portfolio 13.39					
13.40	Identify the units that may be used to identify the force generated within a system.	Ref K/600/0204		1										Portfolio 13.40					
Total Units				10	0	0	0												
Signed - Candidate						Signed - Assessor				Comments									

	L3 MECHANICAL CRAFT																	
SECTION 13	HYDRAULIC & PNEUMATIC SYSTEMS (5)															NAME		
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
							1	2	3	4	5			1	2	3	4	5
Practical Elements																		
Reading Circuit Diagrams																		
13.41	Can identify the components within a hydraulic circuit from a circuit or block diagram.					4												
13.42	Can identify the specification of components from circuit diagrams, or manufactures data sheets.					4												
Safe Isolation and Pressure Dissipation																		
13.43	Can safely isolate the hydraulic/ pneumatic part of the circuit.					4												
13.44	Can safely isolate the control part of the circuit.					4												
13.45	Can dissipate any stored energy within the circuit, and use various methods to verify that the pressure has been dissipated.					4												
Fault Location																		
13.46	Can use a range of techniques to identify the faulty component within a hydraulic circuit.					4												
13.47	Can identify the appropriate replacement parts and safely install the part in to the circuit.					4												
13.48	Can set the pressure and flows up within a circuit following the maintenance.					4												
13.49	Can safely restore the system to normal operations.					4												
Routine Maintenance Activities																		
13.50	Can identify the required maintenance from the maintenance scheduling system at the mine or manufactures technical documentation.					4												
13.51	Can test the flows and pressures within a circuit.					4												
Total Units						0	0	44	0									
Signed - Candidate		Signed - Assessor				Comments												

		L3 MECHANICAL CRAFT													 MR TRAINING S & R RESCUE <i>Safe in our hands</i>				
SECTION 13		HYDRAULIC & PNEUMATIC SYSTEMS (6)													NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
Practical Elements (continued)																			
Routine Maintenance Activities (continued)																			
13.52	Can change disposable components such as filters.					4													
13.53	Can identify hoses that are becoming worn, identify a suitable replacement and change.					4													
13.54	Can identify leaks within a system, and take steps to rectify the leak.					4													
13.55	Can test and set up pressure relief valves.					4													
						</													

		L3 MECHANICAL CRAFT																			
SECTION 14		OWN AND OTHERS SAFETY													NAME						
Development Area		Standard		Ref		Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
									1	2	3	4	5			1	2	3	4	5	
Limits of Responsibility																					
14.1	Define the various levels of authority that exist in your organisation (these may include limitation on voltages, isolations, equipment).	PROMT09/ 16/ 19/ 22/ SEMEM305/ PROMPR23		K11/ K14/ K15/ K30/ K19/ K28		1										Portfolio 14.1					
14.2	Outline what is required within your organisation to progress between these levels of authority.	PROMT09/ 16/ 19/ 22/ SEMEM305/ PROMPR23		K11/ K14/ K15/ K30/ K19/ K28		1										Portfolio 14.2					
14.3	Outline any current limits that are placed on you, and why these are in place at this time.	PROMT09/ 16/ 19/ 22/ SEMEM305/ PROMPR23		K11/ K14/ K15/ K30/ K19/ K28		1										Portfolio 14.3					
High Pressure Injection																					
14.4	Outline the main sources of potential high pressure injection injuries.	PROMT25		K9		1										Portfolio 14.4					
14.5	Can identify the potential failures that may lead to a high pressure discharge from mechanical components.	PROMT25		K9		1										Portfolio 14.5					
14.6	Define how the operation of rams and actuators may increase the pressure of fluids within circuits that have previously been isolated and dissipated.	PROMT25		K9		1										Portfolio 14.6					
14.7	Define the type of injuries that may occur as a result of high pressure injuries.	PROMT25		K10		1										Portfolio 14.7					
14.8	Identify the organisational procedure for making yourself and others safe when approaching the potential victim of a high pressure injection injury.	PROMT25		K11		1										Portfolio 14.8					
14.9	Identify the equipment that may be required when dealing with a high pressure injection injury.	PROMT25		K11		1										Portfolio 14.9					
14.10	Define the treatment that should be provided to any person that is suspected to have received a high pressure injection injury.	PROMT25		K12		1										Portfolio 14.10					
Communication of Injuries																					
14.11	Outline the details that must be shared to allow medical treatment of any persons suspected of suffering high pressure injection injuries.	PROMT25		K14		1										Portfolio 14.11					
14.12	Outline how your organisation would share any outcomes from an incident investigation to reduce the potential for repeat incidents.	PROMT25		K14		1										Portfolio 14.12					
14.13	Outline how your organisation shares information with the wider sector, including suppliers and other mine operators.	PROMT25		K14		1										Portfolio 14.13					
Total Units						13	0	0	0												
Signed - Candidate		Signed - Assessor										Comments									

		L3 MECHANICAL CRAFT																				
SECTION 14		OWN AND OTHERS SAFETY (2)													NAME							
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References								
							1	2	3	4	5			1	2	3	4	5				
General Communication																						
14.14	Outline how your organisation communicates effectively on matters such as deployment, work activity, completed and outstanding issues.	PROMT25	K27	1										Portfolio 14.14								
14.15	Identify the various communication systems that are used within your area of responsibility and the advantages and disadvantages of each.	PROMT25	K27	1										Portfolio 14.15								
PPE																						
14.16	Define why it is important the correct PPE is selected and worn during specific activities.	PROMT19	K4	1										Portfolio 14.16								
14.17	Define where you would obtain PPE in your organisations.	PROMT19/ PROMT25	K4/ K21	1										Portfolio 14.17								
14.18	Outline the procedure to be followed if the correct PPE was not available.	PROMT19	K4	1										Portfolio 14.18								
14.19	Define the types of PPE that may be required when carrying out fault diagnosis on mechanical equipment.	SEMEMP305	K4	1										Portfolio 14.19								
14.20	Define the types of PPE that may be required when carrying out maintenance activities on mechanical equipment.	PROMPR23/ PROMT22	K5/ K4	1										Portfolio 14.20								
14.21	Identify maintenance areas, where various types of PPE might be required to ensure cleanliness of the system, identify maintenance tasks in your organisation that require clean areas.	PROMPT23	K4	1										Portfolio 14.21								
14.22	Outline the general PPE that you are required to have available at all times within your organisation (this will include personal lighting, escape equipment etc.).	PROMT25	K21	1										Portfolio 14.22								
14.23	Identify any specific maintenance tasks, or routine checks that need to be carried out on PPE.	PROMT25	K21	1										Portfolio 14.23								
Emergency Arrangements																						
Covered within MG1 and MG2.																						
Total Units					10	0	0	0														
Signed - Candidate						Signed - Assessor												Comments				

		L3 MECHANICAL CRAFT																	
SECTION 15		HANDING OVER, COMMISSIONING AND CONFIRMING MAINTENANCE ACTIVITES													NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References					
							1	2	3	4	5			1	2	3	4	5	
Passing on Information																			
15.1	The organisational procedures for passing on information to oncoming shifts.	PROMT19	K1	1										Portfolio 15.1					
15.2	The organisational procedure relating to incomplete works, and leaving the place safe for the next shift.	PROMT19	K1	1										Portfolio 15.2					
Handover Arrangements																			
See section 6 (Work Planning and Isolation).																			
See section 7 (Permit Systems).																			
15.3	Outline the arrangements to check that all persons and equipment are clear following maintenance activities.	PROMT19	K5	1										Portfolio 15.3					
15.4	Define the organisation requirement to carry out functionality testing following maintenance activities.	PROMT19	K6	1										Portfolio 15.4					
15.5	The organisational procedures for managing any changes as part of the maintenance process.	PROMT19	K8	1										Portfolio 15.5					
15.6	The organisational arrangements to make operators aware of any changes to the equipment/ plant or system.	PROMT19	K10	1										Portfolio 15.6					
15.7	Outline the organisational procedure for handing plant back for operational use, and how the operational team accept the plant back in to service.	PROMT19	K11	1										Portfolio 15.7					
15.8	Identify any paperwork that needs to be completed as part of the handover process.	PROMT19	K12	1										Portfolio 15.8					
Total Units						8	0	0	0										
Signed - Candidate						Signed - Assessor				Comments									

		L3 MECHANICAL CRAFT																
SECTION 15		HANDING OVER, COMMISSIONING AND CONFIRMING MAINTENANCE ACTIVITES (2)												NAME				
Development Area		Standard	Ref	Knowl. Elements	Comp	Practical Elements	Practical Elements Completed					Candidates Signature	Reviewers Signature	Practical and Knowledge Evidence References				
							1	2	3	4	5			1	2	3	4	5
End of Shift Handover																		
15.9	Define the type of information that you would typically provide within an end of shift report (insert an example of a completed report).	PROMT19	K1	1										Portfolio 15.9				
15.10	Outline how you would be required to handover (communicate) to an oncoming shift in your organisation.	PROMT19	K1	1										Portfolio 15.10				
15.11	At the end of the shift, define the requirements that are in place within your organisation in relation to leaving uncompleted work safe.	PROMT19	K1	1										Portfolio 15.11				
15.12	Identify any issues that may occur or have occurred with the shift handover and how you overcame these issue (or how you would overcome issues).	PROMT19	K14	1										Portfolio 15.12				
Modification of Mechanical Circuits or Components																		
15.13	Outline why it is important that you understand how a machine or system would normally operate prior to carrying out any modifications.	PROMT19	K10	1										Portfolio 15.13				
15.14	Identify issues that may occur when modifying a mechanical circuit.	PROMT19	K20	1										Portfolio 15.14				
15.15	Briefly outline how the equipment would be recommissioned before being put back to use.	PROMT19	K6	1										Portfolio 15.15				
15.16	Briefly outline how the maintenance schedule is updated to reflect the modifications.	PROMT19	K9	1										Portfolio 15.16				
Commissioning																		
15.17	Define the key elements of the commissioning system in use within your organisation.	PROMT19	K12	1										Portfolio 15.17				
15.18	Define what is meant by static commissioning, and outline typical static commissioning tests.	PROMT19	K12	1										Portfolio 15.18				
15.19	Define what is meant by dynamic commissioning.	PROMT19	K12	1										Portfolio 15.19				
15.20	Outline the arrangements that your organisation requires to be in place to allow dynamic commissioning to take place.	PROMT19	K12	1										Portfolio 15.20				
15.21	Outline how commissioning is signed off in your organisation prior to handing over an operation system.	PROMT19	K12	1										Portfolio 15.21				
Total Units				13	0	0	0											
Signed - Candidate		Signed - Assessor				Comments												