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Technical Surveyor

COMPETENCE DEVELOPMENT 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													 Safely in our hands				
SECTION 2	RISK ASSESSMENT AND NEAR MISS REPORTING													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

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.

Disclaimer



The **Mining Qualification Committee** (MQC) has developed and reviewed the training and assessment material.

MPQC have provided the accreditation for the training and assessment material.

MAUK have published the training and assessment material and provided access for the underground mining sector.

It remains the responsibility of the **mine operator** to verify the training and assessment material is suitable for their circumstances and application.

	TECHNICAL SURVEYOR																
SECTION 1	Common Induction Modules (certificates will provide evidence)											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)																	
Include the certificates from the knowledge section.		1															
Include the underground assessment.				1													
MPVG02 (Conform to Efficient Work Process)																	
Include the certificates from the knowledge section.		1															
Include the underground assessment.				1													
Total Units		2	0	2	0					Comments							
Signed - Candidate		Signed - Assessor															

			TECHNICAL SURVEYOR																	
SECTION 2			PROM08 - Produce Plans of a Mine Layout (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		
	Mine Plans		PROMS08																	
2.1	Outline the general requirements of the Mines Regulations 2014 (Part 7) (Surveyors and Plans).		PROMS08	K1	1										Question 01					
2.2	Outline what is meant by significant excavations under the Mines Regulations 2014, and the associated guidance.		PROMS08	K1	1										Question 02					
2.3	Outline under the Mines Regulations 2014, and associated guidance the details of any plans which must be kept at the mine.		PROMS08	K1	1										Question 03					
2.4	Detail any specific requirements which relates to tips and tipping under the Mines Regulations 2014, and more specifically how this related to the duties of a surveyor.		PROMS08	K1	1										Question 04					
2.5	Outline the type of information that would be typically found on a section plan, and why it may be important to mine operations to have accurate sections of the seam/ vein systems/ surrounding strata.		PROMS08	K1	1										Question 05					
2.6	Outline why it is important that an accurate plan for the ventilation of the mine is maintained, and how this plan may be used during normal operations and emergency situations.		PROMS08	K1	1										Question 06					
2.7	Outline why it is important that a plan showing the extent of the workings is maintained, define the frequency of update for this type of plan within your own organisation.		PROMS08	K1	1										Question 07					
2.8	Describe the key requirements of the Health and Safety at Work Act 1974, and ensuring that employees are provided with information.		PROMS08	K2	1										Question 08					
2.9	Consider the requirements of the Mines Regulation 2014 (Part 3 - Control of Major Hazards) and consider the contribution of the surveyor and the mine plans to: 1. Fire protection. 2. Explosive atmospheres. 3. Ground movement. 4. Inrushes (and mines working in potential hazardous areas). 5. Mine transport systems.		PROMS08	K2	1										Question 09					
2.10	Consider the requirements of the Mines Regulations 2014 (Part 4 - Ventilation) and consider the contribution of the surveyor and mine plans effectively planning and managing the ventilation in the mine.		PROMS08	K2	1										Question 10					
2.11	Consider the requirements of the Mines Regulations 2014 (Part 6 - Escape and Rescue) and consider the contribution of the surveyor and mine plans to the arrangements for escape and rescue, including: 1. Defining ways out from the place of work. 2. Defining and designating emergency routes. 3. The arrangements for escape. 4. The arrangements for rescue.		PROMS08	K2	1										Question 11					
2.12	Outline the responsibilities of surveyors at your mine when it comes to preparing and planning for major infrastructure installations, and how these duties might be essential to complying with regulations such as PUWER and LOLER.		PROMS08	K2	1										Question 12					
2.13	Outline any standards that may be used by your organisation when developing and maintaining mine plans.		PROMS08	K3	1										Question 13					
2.14	Outline the basic requirements of the National Coal Board, Surveying Practice CR/1, 1982.		PROMS08	K3	1										Question 14					
Total Units					14	0	0	0					Comments							
Signed - Candidate			Signed - Assessor																	

TECHNICAL SURVEYOR																		
SECTION 2		PROM08 - Produce Plans of a Mine Layout (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	
2.27	Outline the type of plans that the survey department may be involved in producing to support mining activities. Consideration should be given to: 1. Installation plans and general layout drawings. 2. Mineral extraction sequencing. 3. Detailing support installation sequencing. 4. Local ventilation requirements. 5. Loading plans. 6. Transport. 7. Unusual mining designs, for example back ripping, dinting/ milling, roadway repair, re-entry and thirling.	PROMS08	K7	1										Question 26				
2.28	Outline how plans are stored and secured at your mine (to include electronic and paper plans).	PROMS08	K8	1										Question 27				
2.29	Outline how access to plans is controlled at your mine (to include paper and electronic).	PROMS08	K8	1										Question 28				
2.30	Describe how version control and updates of electronic (and paper) plans is restricted to those with the authority to make changes.	PROMS08	K8	1										Question 29				
2.31	Note the elements of K5 of PROM08 cover the elements of K9 of PROM08 .	PROMS08	K9															
2.32	Note the elements of K7 of PROM08 cover some of the elements of K10 of PROM08 .	PROMS08	K10															
2.33	Outline the circumstances where additional or specialised plans may be required, and why.	PROMS08	K10	1										Question 30				
2.34	Note the elements of K5 of PROM08 cover the elements of K11 of PROM08 .	PROMS08	K11															
2.35	Provide a summary (in list format) of the types of symbols used on mine plans in your organisation, and what each of those symbols represents.	PROMS08	K12	1										Question 31				
2.36	Outline any symbols that your organisation use which are not aligned with the requirements of NCB, Surveying Practice CR/1, 1982.	PROMS08	K12	1										Question 33				
2.37	Note the elements of K7 of PROM08 cover some of the elements of K13 of PROM08 .	PROMS08	K13	1														
2.38	Outline how changes to plans are communicated or updated mine plans are distributed within your organisation.	PROMS08	K13	1										Question 34				
2.39	Where changes are made to mine plans, who is involved in agreeing and signing off any changes within your organisation.	PROMS08	K13	1										Question 35				
2.40	Where plans have been superseded, identify how these old plans are archived within your organisation.	PROMS08	K14	1										Question 36				
Total Units				11	0	0	0					Comments						
Signed - Candidate		Signed - Assessor																

		TECHNICAL SURVEYOR																
SECTION 2		PROM08 - Produce Plans of a Mine Layout (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	
2.41	Outline where information/ records relating to areas previously worked, seams previously worked are archived within your organisation.	PROMS08	K14	1										Question 37				
2.42	Define why it is important that these types of archives are maintained.	PROMS08	K14	1										Question 38				
2.43	Within your organisation how is access to the archived information controlled.	PROMS08	K14	1										Question 39				
	Surveying	PROMS08																
2.44	Outline the type of equipment that is retained (or brought into) your mine for the purpose of carrying out underground surveys or other survey department activities.	PROMS08	K15	1										Question 40				
2.45	Describe how and where the equipment is housed to preserve the accuracy and integrity.	PROMS08	K15	1										Question 41				
2.46	Describe how the equipment retained at the mine for the purpose of carrying out underground surveys or other survey department activities is checked and calibrated prior to use, your answer should include: 1. Line lasers. 2. Automatic levels. 3. Total stations. 4. Laser scanners. 5. Gyros.	PROMS08	K16	1										Question 42				
2.47	Describe how the equipment retained at (or brought into) the mine for the purpose of carrying out underground surveys or other survey department activities is adjusted after checks.	PROMS08	K16	1										Question 43				
2.48	Outline the different types of survey techniques, their limitations, and when they are appropriate to use.	PROMS08	K18	1										Question 44				
2.49	Describe how a centre line and chainage check is conducted.	PROMS08	K18	1										Question 45				
2.50	Define how to complete a precises traverse (use of both a face left and face right type traverse).	PROMS08	K18	1										Question 46				
2.51	Describe how levels are controlled underground using both traditional techniques and their modern equivalents.	PROMS08	K18	1										Question 47				
Total Units				11	0	0	0					Comments						
Signed - Candidate		Signed - Assessor																

TECHNICAL SURVEYOR																		
SECTION 2		PROM08 - Produce Plans of a Mine Layout (5)												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	
2.52	Outline some of the specialist information that might be commissioned through experts, and how this may be used within your organisation (typical examples may include, coastal erosion surveys, gyro surveys, subsidence surveys, seismic surveys, mineral deposit estimations and bore hold drilling).	PROMS08	K19	1										Question 48				
2.53	Outline what is meant by the Ordnance Datum Newlyn.	PROMS08	K20	1										Question 49				
2.54	Define why it is important that mine workings are defined in relation to the Ordnance Datum Newlyn.	PROMS08	K20	1										Question 50				
2.55	How is the Ordnance Datum Newlyn relevant to the work required when considering precaution against inrushes.	PROMS08	K20	1										Question 51				
2.56	Describe the Ordinance Survey (OS) control network both the traditional and modern control network.	PROMS08	K21	1										Question 52				
2.57	Describe how GPS works, and the importance of including time in the calculations as the celestial sphere is in motion.	PROMS08	K21	1										Question 53				
2.58	Outline which type of system your organisation uses (GPS, GNLONASS, Galileo, or other) to get the required coverage of the site.	PROMS08	K21	1										Question 54				
2.59	Outline the limitations that surface topography and surface structures may have on GPS data.	PROMS08	K21	1										Question 55				
2.60	Explain how shaft plumbing is undertaken and how accuracy is maintained.	PROMS08	K21	1										Question 56				
2.61	Outline some of the limitations that the equipment used at your mine may have on the results being recorded.	PROMS08	K22	1										Question 57				
2.62	Outline the types of secondary and tertiary checks that you can use to ensure that precision and accuracy is maintained.	PROMS08	K22	1										Question 58				
2.63	Define the levels of accuracy that would be acceptable/ unacceptable within your organisation.	PROMS08	K22	1										Question 59				
2.64	Outline if the limits of accuracy may be varied for features such as locality to geological features, existing mine workings, bore holes, and general surface features.	PROMS08	K22	1										Question 60				
Total Units				13	0	0	0					Comments						
Signed - Candidate		Signed - Assessor																

TECHNICAL SURVEYOR																		
SECTION 2		PROM08 - Produce Plans of a Mine Layout (6)												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	
2.65	Outline the traditional booking techniques and the importance of keeping it neat and legible. Outline how this is achieved in a dirty and damp mine environment.	PROMS08	K23	1										Question 61				
2.66	Outline how data may be stored in an instrument and the pro's and con's of storing data in that way.	PROMS08	K23	1										Question 62				
2.67	Once out of the mine, outline how data is stored and backed up within your organisation, and the frequency at which backups are completed.	PROMS08	K23	1										Question 63				
2.68	Outline other precautions taken at your mine to ensure that paper data is preserved in the event of a floor, fire etc.	PROMS08	K23	1										Question 64				
2.69	Describe how the accuracy of survey data is checked as the mine expands and grows as part of the production process.	PROMS08	K24	1										Question 65				
2.70	Outline how the survey process may need to be adjusted to make allowances for installations (for example conveyors) that impact natural survey lines.	PROMS08	K24	1										Question 66				
2.71	Outline how roadway movement can impact survey stations, and the types of checks that are made to ensure survey results remain accurate.	PROMS08	K24	1										Question 67				
2.72	Note the elements of K15 of PROMS08 cover some of the elements of K27 of PROMS08 .	PROMS08	K27															
2.73	Note the elements of K16 of PROMS08 cover some of the elements of K27 of PROMS08 .	PROMS08	K27															
2.74	Define the procedures in place at your mine to ensure that equipment used for underground surveys is not accidentally damaged, and the overall condition of the equipment is maintained.	PROMS08	K27	1										Question 68				
2.75	Describe how to perform the following types of check: 1. The two peg test. 2. Check level bubbles. 3. Plummets. 4. Horizontal angle checks. 5. Vertical angle checks.	PROMS08	K27	1										Question 69				
2.76	Describe the importance of having a clear scope of work before starting a survey, and defining the type and quantity of data to be collected.	PROMS08	K28	1										Question 70				
2.77	Describe how to perform a transformation, and the rule of one, or four or more.	PROMS08	K29	1										Question 71				
Total Units				11	0	0	0					Comments						
Signed - Candidate		Signed - Assessor																

TECHNICAL SURVEYOR																			
SECTION 2				PROM08 - Produce Plans of a Mine Layout (7)												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		
2.78	Outline how to perform and close a traditional level.	PROMS08	K29	1										Question 72					
2.79	Outline how to perform a Bowditch correction or least squares adjustment.	PROMS08	K29	1										Question 73					
2.80	Explain how the methods outlined in 2.77, 2.78, and 2.79 are still important when looking at more modern techniques (for example point clouds which can create the illusion that the data is more accurate and of a higher quality than it actually is).	PROMS08	K29	1										Question 74					
2.81	Outline how drift can be improved.	PROMS08	K29	1										Question 75					
2.82	Explain how error is managed and mitigated.	PROMS08	K30	1										Question 76					
2.83	Describe the checks that can be completed to improve the data sets.	PROMS08	K30	1										Question 77					
2.84	Outline how you would present typical data or information to those that may have to use it in a way that it can easily be understood.	PROMS08	K31	1										Question 78					
2.85	Outline how you would assist the client in understanding the data that they have been presented with.	PROMS08	K31	1										Question 79					
2.86	What are the risks associated with poorly presented or poorly understood data.	PROMS08	K31	1										Question 80					
2.87	Define the importance of the drafting standards defined within NCB, Surveying Practice CR/1, 1982.	PROMS08	K32	1										Question 81					
	Records																		
2.88	Provide a detailed summary of the requirements of the Mines Regulation 2014 (Regulation 59).	PROMS08	K34	1										Question 82					
2.89	Outline your organisation's requirements when it comes to the updating and completion of records.	PROMS08	K35	1										Question 83					
Total Units				12	0	0	0					Comments							
Signed - Candidate		Signed - Assessor																	

TECHNICAL SURVEYOR																		
SECTION 2 PROM08 - Produce Plans of a Mine Layout (8)				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	
2.90	Outline how records have been used in mine disasters (for example, Montagu Colliery, Redding Colliery) and how these disasters may have been avoided.	PROMS08	K36	1										Question 84				
2.91	Outline how records have been used in mine disasters (for example, Montague Colliery, Lofthouse) and how these disasters may have been avoided.	PROMS08	K37	1										Question 85				
2.92	Note the elements of K1 of PROM08 cover all of the elements of K38 of PROM08 .	PROMS08	K38															
	Working with Others																	
2.93	Outline the limits of your responsibilities when it comes to updating and modifying records and plans.	PROMS08	K39	1										Question 86				
2.94	Outline any responsibilities that others within your organisation gave when it comes to completion, amendment, maintenance, storage, and retrieval of mine plans and records.	PROMS08	K40	1										Question 87				
2.95	Define the implications of poor communications across the survey team within your organisation.	PROMS08	K41	1										Question 88				
2.96	Define the implications of poor communications across the departments with which the survey team needs to work (you should consider performance, efficiency, and safety implications).	PROMS08	K41	1										Question 89				
2.97	Outline the way the organisation is structured, and the advantages and disadvantages of that structure in promoting team work.	PROMS08	K42	1										Question 90				
2.98	Outline why teamwork is important within any organisation.	PROMS08	K42	1										Question 91				
2.99	Briefly outline the things that your department/ organisation does to promote teamwork.	PROMS08	K42	1										Question 92				
Total Units				9	0	0	0					Comments						
Signed - Candidate		Signed - Assessor																

TECHNICAL SURVEYOR																		
SECTION 2		PROM08 - Produce Plans of a Mine Layout (9)												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	
	Performance Elements - Prepare for Survey Operations	PROMS08																
P1.1	Confirm the requirements for the survey plan.	PROMS08	P1			2												
P1.2	Confirm the requirements of the production plan.	PROMS08	P1			2												
P2.1	Confirm before starting work that management have given permission.	PROMS08	P2			2												
P3.1	Check for existing information (for example maps, plans, surveys, geological information) relevant to the work to be undertaken.	PROMS08	P3			4												
P4.1	Arrange for suitable equipment to be bought to site.	PROMS08	P4			2												
P5.1	Check, calibrate, and adjust equipment so that it is accurate to use before taking measurements (different evidence for different equipment).	PROMS08	P5			4												
P6.1	Brief people that will be involved in the survey about the survey arrangements and the safety arrangements.	PROMS08	P6			4												
P7.1	Contact relevant stakeholders, provide them with clear and accurate information and ask for their cooperation.	PROMS08	P7			4												
P8.1	Check arrangements for personal safety.	PROMS08	P8			4												
P8.2	Verify access to the site.	PROMS08	P8			4												
	Performance Elements - Produce Plans for a Mine Survey	PROMS08																
P9.1	Conduct the survey in a way that maintains accuracy.	PROMS08	P9			4												
Total Units				0	0	36	0					Comments						
Signed - Candidate		Signed - Assessor																

TECHNICAL SURVEYOR																		
SECTION 2		PROM08 - Produce Plans of a Mine Layout (10)												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	
P9.2	Carry out a survey that collects the required data, and minimises disruption.	PROMS08	P9			4												
P10.1	Conform to safe working practices when in the mine.	PROMS08	P10			4												
P11.1	Consult with specialist when specialist information is needed.	PROMS08	P11			2												
P12.1	Set accurate horizontal and vertical controls and record them.	PROMS08	P12			4												
P13.1	Take accurate observations and measurements using valid methods and meeting organisational requirements.	PROMS08	P13			4												
P14.1	Change work procedures and practices to account for different circumstances and conditions.	PROMS08	P14			2												
P15.1	Record survey data clearly and accurately.	PROMS08	P15			4												
P15.2	Store survey data securely for later analysis.	PROMS08	P15			4												
P16.1	Maintain equipment in an operational condition.	PROMS08	P16			4												
P16.2	Store equipment securely.	PROMS08	P16			4												
	Performance Elements - Analyse and Present Survey Data	PROMS08																
P17.1	Collect enough survey data to allow accurate analysis to be made (see PROMS08 P13 and P15).	PROMS08	P17			0												
P18.1	Check and verify survey data.	PROMS08	P18			4												
Total Units				0	0	40	0					Comments						
Signed - Candidate		Signed - Assessor																

		TECHNICAL SURVEYOR															
SECTION 2		PROM08 - Produce Plans of a Mine Layout (11)												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
P18.2	Adjust survey data to maintain the accuracy and integrity.	PROMS08	P18			4											
P19.1	Analyse the survey data accurately.	PROMS08	P19			4											
P20.1	Present the data analysis, the commentary, and support information accurately and in a format suitable for those using the data.	PROMS08	P20			2											
P21.1	Advise persons using the survey data on how to interpret it.	PROMS08	P21			2											
P22.1	Ensure data and documents are stored according to organisational requirements.	PROMS08	P22			2											
Total Units				0	0	14	0					Comments					
Signed - Candidate		Signed - Assessor															

TECHNICAL SURVEYOR																		
SECTION 3 PROMS17 - Monitor the Method of Mine Working (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	
	Legislative																	
3.1	Outline the main principles of the Health and Safety at Work Act 1974.	PROMS17	K1	1										Question 93				
3.2	Describe how the Health and Safety at Work Act 1974 allows for the development of Regulations, Approved Codes of Practice, and Guidance.	PROMS17	K1	1										Question 94				
3.3	List the UK regulations (other than the Mines Regulations 2014) that are relevant to the operations at your site.	PROMS17	K1	1										Question 95				
3.4	List any guidance that is relevant to surveying and underground surveying and that is used by your organisation.	PROMS17	K1	1										Question 96				
3.5	Outline what the Mines Regulations 2014 say in relation to operations becoming classified as a mine.	PROMS17	K2	1										Question 97				
3.6	Define the various classifications of a mine, considering the types of mineral produced, and it's operation status.	PROMS17	K2	1										Question 98				
3.7	Outline the requirements of the Mines Regulations 2014 when it comes to notification of mining operations.	PROMS17	K2	1										Question 99				
3.8	Outline the requirements of the Mines Regulations 2014, and the requirements of a management structure.	PROMS17	K3	1										Question 100				
3.9	Outline the duties of the Mine Owner under the Mines Regulations 2014.	PROMS17	K4	1										Question 101				
3.10	Outline the duties of the Mine Operator under the Mines Regulations 2014.	PROMS17	K4	1										Question 102				
3.11	Outline the requirements for supervision under the Mines Regulations 2014.	PROMS17	K4	1										Question 103				
3.12	Outline the requirements of the Mines Regulations 2014, in relation to establishing competence, defining roles and responsibilities, and defining limitations on those responsibilities.	PROMS17	K5	1										Question 104				
3.13	Outline the key roles, and the responsibilities of those roles within the survey function at your mine.	PROMS17	K5	1										Question 105				
Total Units				13	0	0	0					Comments						
Signed - Candidate		Signed - Assessor																

TECHNICAL SURVEYOR																		
SECTION 3 PROMS17 - Monitor the Method of Mine Working (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	
3.14	When planning and operating a mine, outline the requirements to establish and define the various areas of the mine (districts).	PROMS17	K6	1										Question 106				
3.15	When planning and operating a mine, outline the requirements for ensuring the that mine can be and is inspected.	PROMS17	K6	1										Question 107				
3.16	Define the duties of employees under the Health and Safety at Work Act 1974.	PROMS17	K7	1										Question 108				
3.17	Define any specific responsibilities that are placed on employees at your mine and how these are communicated and controlled.	PROMS17	K7	1										Question 109				
3.18	Outline the key hazards defined in Part 3 of the Mines Regulations 2014.	PROMS17	K8	1										Question 110				
3.19	For each of the hazards outlined by Part 3 of the Mines Regulations 2014, summarise the requirements of the regulations and guidance.	PROMS17	K8	1										Question 111				
3.20	Outline the requirements of the Mines Regulations 2014, and Part 4, mine ventilation.	PROMS17	K8	1										Question 112				
3.21	Outline the requirements for emergency arrangements under the Mines Regulations 2014.	PROMS17	K8	1										Question 113				
3.22	List any other regulations within the UK that are applicable to underground mining activities (for example PUWER/ LOLER).	PROMS17	K9	1										Question 114				
3.23	Outline the requirement of the Health and Safety at Work Act 1974, to provide a safe system of work.	PROMS17	K10	1										Question 115				
3.24	Outline the requirements of the Management of Health and Safety at Work Regulations 1999, in relation to the assessment of risks, and the development of safe systems of work.	PROMS17	K10	1										Question 116				
3.25	Define the areas of the Mines Regulations 2014, where there are specific requirements to access the risks specific to a work activity, and develop safe systems of work (for example ground control).	PROMS17	K10	1										Question 117				
3.26	Provide a brief definition of hazard, risk, accident, danger, accident rate, frequency, severity, environmental aspect, and environmental incident.	PROMS17	K11	1										Question 118				
3.27	Briefly outline the emergency arrangements at your mine.	PROMS17	K12	1										Question 119				
Total Units				14	0	0	0					Comments						
Signed - Candidate		Signed - Assessor																

TECHNICAL SURVEYOR																		
SECTION 3 PROMS17 - Monitor the Method of Mine Working (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	
3.28	Briefly outline the duties and key responsibilities of those that may be involved in an emergency at your mine.	PROMS17	K12	1										Question 120				
3.29	Describe the role of the surveyor (technical surveyor) and the survey department in the event of an emergency.	PROMS17	K12	1										Question 121				
3.30	Outline the requirements of the Health and Safety at Work Act 1974 in relation to installation, inspection, maintenance, testing, and commissioning of plant.	PROMS17	K13	1										Question 122				
3.31	Outline the requirements of the Mines Regulations 2014, when it comes to ensuring there are systems in place to examine, test, maintain and commission plant installed at the mine.	PROMS17	K13	1										Question 123				
3.32	List any other regulations that are applicable to mining, and define specific requirements for the maintenance of plant and equipment.	PROMS17	K13	1										Question 124				
3.33	Briefly define the hierarchy of control measures that should be applied to the management of risk, and where PPE sits within those hierarchy of controls.	PROMS17	K14	1										Question 125				
3.34	Outline the minimum PPE requirements for routine operations at your mine.	PROMS17	K14	1										Question 126				
3.35	Outline the key requirements of the Personal Protective Equipment at Work (Amendment) Regulations 2022.	PROMS17	K14	1										Question 127				
3.36	List any other personal protective equipment that may be provided at your mine to assist with self escape (or rescue) in the event of an emergency.	PROMS17	K14	1										Question 128				
3.37	Outline how your organisation records the information required to ensure statutory compliance.	PROMS17	K15	1										Question 129				
3.38	List the statutory and organisational procedures for the operation of your mine, including: 1. Surface facilities. 2. Mine access/ egress. 3. Ventilation. 4. Transport. 5. Roadways. 6. Development areas. 7. Mineral production. 8. Storage areas. 9 Abandoned areas.	PROMS17	K16	1										Question 130				
3.39	Define the statutory requirements and operational procedures relating to strata support.	PROMS17	K17	1										Question 131				
Total Units				12	0	0	0					Comments						
Signed - Candidate		Signed - Assessor																

TECHNICAL SURVEYOR																		
SECTION 3		PROMS17 - Monitor the Method of Mine Working (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	
	Condition of the Mine	PROMS17																
3.40	Note some elements of PROMS17 (K18) are covered by the questions 3.19 and 3.20 of K8 of PROMS17 .	PROMS17	K18															
3.41	List the major mining hazards that are present underground at your mine.	PROMS17	K18	1										Question 132				
3.42	For your mine, outline the limitations of the mine, based on layout, design, future development, and previously worked, now abandoned areas.	PROMS17	K19	1										Question 133				
3.43	Define how you detect faults within the geology of the mine.	PROMS17	K20	1										Question 134				
3.44	Define how faults influence the way that the mine is operated, and the additional risks that faulted areas may introduce.	PROMS17	K20	1										Question 135				
3.45	Outline any additional precautions that may be taken/ required when working in a faulted area.	PROMS17	K20	1										Question 136				
3.46	Describe how faults are plotted on the mine and other operational plans.	PROMS17	K20	1										Question 137				
3.47	Outline any other geological features that may be present within your operation and how these features are identified and recorded.	PROMS17	K20	1										Question 138				
3.48	Describe how the features outlined in 3.48 (Question 138) can impact productivity and/ or the product produced.	PROMS17	K20	1										Question 139				
3.49	Describe the process used within your mine/ organisation to identify potential areas that may be affected by outburst or inrush.	PROMS17	K21	1										Question 140				
3.50	Where the risk of features such as those described in 3.50 are identified, outline the process used to verify their presence or otherwise.	PROMS17	K21	1										Question 141				
3.51	Focusing on your operation/ mine, outline how such features change the way the mine is operated, and the precautions that are taken when approaching these areas.	PROMS17	K21	1										Question 142				
3.52	Outline the types of checks that are made as you approach any risk areas (you should consider the checks made by the survey department and the checks made by those with responsibilities for the management and supervision of mining activities).	PROMS17	K21	1										Question 143				
Total Units				12	0	0	0					Comments						
Signed - Candidate		Signed - Assessor																

TECHNICAL SURVEYOR																		
SECTION 3		PROMS17 - Monitor the Method of Mine Working (5)												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	
3.53	Define how areas of geological risk are identified and how they are recorded on plans (or other media).	PROMS17	K21	1										Question 144				
3.54	Define how dimensional control is maintained at your mine, and how changes to roadway profile is controlled.	PROMS17	K22	1										Question 145				
3.55	Define how changes in dimensions are recorded in your organisation.	PROMS17	K22	1										Question 146				
3.56	Outline any specific action/ trigger levels that relate to the condition and profile of the mine workings/ roadways (including roof/ sides and floor).	PROMS17	K22	1										Question 147				
3.57	Note some elements of PROMS17 (K23) are covered by K22 of PROMS17 .	PROMS17	K23															
3.58	Outline how support systems within your organisation are designed.	PROMS17	K23	1										Question 148				
3.59	Define how the support design is translated to support plans/ support rules within your organisation, and who signs off these plans/ rules.	PROMS17	K23	1										Question 149				
3.60	Outline the minimum ventilation requirements for operating your mine.	PROMS17	K24	1										Question 150				
3.61	Within your mine, define the typical minimum quantities of ventilation required at the working area, why is that minimum quantity selected, and what hazards is it designed to control.	PROMS17	K24	1										Question 151				
3.62	How is information related to ventilation presented on the plans that the mine is required to keep.	PROMS17	K24	1										Question 152				
3.63	Within your organisation (and within legislation) what are the minimum and maximum levels of oxygen, flammable/ noxious gasses.	PROMS17	K24	1										Question 153				
3.64	How is information relating to the presence of flammable/ noxious gasses recorded within your organisation.	PROMS17	K24	1										Question 154				
3.65	Note some elements of PROMS17 (K25) are covered by K24 of PROMS17 .	PROMS17	K24															
3.66	Where in the mine are flammable/ noxious gasses likely to accumulate.	PROMS17	K25	1										Question 155				
Total Units				12	0	0	0					Comments						
Signed - Candidate		Signed - Assessor																

		TECHNICAL SURVEYOR																
SECTION 3		PROMS17 - Monitor the Method of Mine Working (6)												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	
3.67	Outline how those with a responsibility for managing and supervising mining operations inspect the mine to identify the presence or otherwise of flammable/ noxious gasses.	PROMS17	K25	1										Question 156				
3.68	Note some elements of PROMS17 (K26) are covered by K24 of PROMS17 .	PROMS17	K26															
3.69	Outline how hazardous dusts may be formed within your mine.	PROMS17	K26	1										Question 157				
3.70	Outline the methods that are used to detect the presence of hazardous dusts in your mine, and how these are sampled and detected.	PROMS17	K26	1										Question 158				
3.71	Identify the types of controls that are in place to ensure that the risks from hazardous dusts are minimised.	PROMS17	K26	1										Question 159				
3.72	Outline how those with the responsibility for managing and supervising mining operations inspect the mine to identify the presence or otherwise of hazardous dusts.	PROMS17	K26	1										Question 160				
3.73	Briefly outline the requirements of any organisational standards that relate to hazard prevention systems (for example dust suppression systems, fire fighting systems etc.).	PROMS17	K27	1										Question 161				
3.74	Outline the requirements of any organisational procedures if any aspect of the condition of the mine may lead to hazardous situation or unsafe working.	PROMS17	K28	1										Question 162				
3.75	Note some elements of PROMS17 (K29) are covered by K24 of PROMS17 .	PROMS17	K29															
3.76	Note some elements of PROMS17 (K29) are covered by K25 of PROMS17 .	PROMS17	K29															
3.77	Note some elements of PROMS17 (K29) are covered by K26 of PROMS17 .	PROMS17	K29															
3.78	Briefly describe the types of monitoring system that are used in your mine to indicate the condition of the mine environment, what are the: 1. Trigger levels for any alarm. 2. The actions to be taken in the event of any alarm.	PROMS17	K29	1										Question 163				
3.79	Describe how operations or issues in one area of the mine can affect another.	PROMS17	K30	1										Question 164				
3.80	Describe how emergency situations can arise in your area of responsibility.	PROMS17	K31	1										Question 165				
Total Units				10	0	0	0					Comments						
Signed - Candidate		Signed - Assessor																

		TECHNICAL SURVEYOR																
SECTION 3		PROMS17 - Monitor the Method of Mine Working (7)												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	
3.81	Note the elements of PROMS17 (K32) are covered by K12 of PROMS17 .	PROMS17	K32															
3.82	Note some elements of PROMS17 (K33) are covered by K24 of PROMS17 .	PROMS17	K33															
3.83	Note some elements of PROMS17 (K33) are covered by K25 of PROMS17 .	PROMS17	K33															
3.84	Note some elements of PROMS17 (K33) are covered by K26 of PROMS17 .	PROMS17	K33															
3.85	K34 of PROMS17 has been removed (relates to coal and combustible dust).	PROMS17	K34															
3.86	When considering mine ventilation, and ventilation plans, outline what is meant by the terms: 1. Quantity. 2. Flow. 3. Pressure. 4. Resistance. 5. Volume. 6. Cross section area.	PROMS17	K35	1										Question 166				
3.87	Outline how the information in 3.87 is defined on working ventilation plans.	PROMS17	K35	1										Question 167				
3.88	Working with Others	PROMS17																
3.89	Outline how the required competencies to carry out certain tasks/ roles are defined within your organisation.	PROMS17	K37	1										Question 168				
3.90	Outline the process for reviewing, maintain, and refreshing competence in your organisation works.	PROMS17	K37	1										Question 169				
3.91	Outline the key requirements of The Health and Safety (First Aid) Regulations 1981.	PROMS17	K38	1										Question 170				
3.92	Briefly outline the arrangements for first aid that exist at your mine.	PROMS17	K38	1										Question 171				
3.93	Briefly outline the arrangements that exist for monitoring or screening the health of the employees at your mine.	PROMS17	K38	1										Question 172				
Total Units				7	0	0	0					Comments						
Signed - Candidate		Signed - Assessor																

TECHNICAL SURVEYOR																		
SECTION 3 PROMS17 - Monitor the Method of Mine Working (8)				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	
3.94	Briefly outline the arrangements that are in place at your mine to ensure the welfare of employees.	PROMS17	K38	1										Question 173				
3.95	As a mine surveyor (technical surveyor) briefly outline your roles and responsibilities.	PROMS17	K39	1										Question 174				
3.96	Outline the limits of the responsibilities that you have as a mine surveyor or technical surveyor.	PROMS17	K39	1										Question 175				
3.97	Outline the process or procedure within your organisation if you need to work outside of the define limits of responsibility.	PROMS17	K39	1										Question 176				
3.98	Outline how tasks are allocated within the survey department.	PROMS17	K40	1										Question 177				
3.99	Note the elements of PROMS17 (K41) are covered by K39 - K42 of PROMS08 .	PROMS17	K41															
3.100	Note the elements of PROMS17 (K42) are covered by K39 - K42 of PROMS08 .	PROMS17	K42															
3.101	Note the elements of PROMS17 (K43) are covered by K39 - K42 of PROMS08 .	PROMS17	K43															
3.102	Note the elements of PROMS17 (K44) are covered by K39 - K42 of PROMS08 .	PROMS17	K44															
3.103	What are the potential dangers of an individual working in isolation.	PROMS17	K45	1										Question 178				
3.104	What are the potential issues for an organisation which works within silos.	PROMS17	K45	1										Question 179				
3.105	Briefly outline the process within your organisation for monitoring the performance of the team and the individual.	PROMS17	K46	1										Question 180				
3.106	Outline the features, advantages and limitations of the methods of working the mine (for example, safe access/ egress, mineral winning, transportation, strata support as applicable).	PROMS17	K47	1										Question 181				
3.107	Identify the main sources of information in relation to methods of working the mine.	PROMS17	K48	1										Question 182				
Total Units				10	0	0	0					Comments						
Signed - Candidate		Signed - Assessor																

TECHNICAL SURVEYOR																			
SECTION 3				PROMS17 - Monitor the Method of Mine Working (9)												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		
3.108	Outline the types of plan required by your organisation.	PROMS17	K49	1										Question 183					
3.109	Outline how these plans are used as part of the wider planning process.	PROMS17	K49	1										Question 184					
3.110	Identify other information that is gathered as part of the wider planning process.	PROMS17	K49	1										Question 185					
3.111	How is the information gathered and consolidated to produce the strategic and operational plans for the mine.	PROMS17	K49	1										Question 186					
3.112	Note the elements of PROMS17 (K50) are covered by the legislative section of PROMS17 .	PROMS17	K50																
3.113	Note the elements of PROMS17 (K51) are covered by the legislative section of PROMS17 .	PROMS17	K51																
3.114	Note the elements of PROMS17 (K52) are covered by K47 of PROMS17 .	PROMS17	K52																
3.115	Note some of the elements of PROMS17 (K53) are covered by the monitor the condition of the mine section of PROMS17 .	PROMS17	K53																
3.116	Briefly outline the operational cycle used for mineral winning within your organisation.	PROMS17	K53	1										Question 187					
3.117	Note some of the elements of PROMS17 (K53) are covered by the monitor the condition of the mine section of PROMS17 .	PROMS17	K54																
3.118	Outline the organisational procedures for dealing with problems/ repairs that are not immediately rectifiable.	PROMS17	K55	1										Question 188					
Total Units				6	0	0	0					Comments							
Signed - Candidate		Signed - Assessor																	

				TECHNICAL SURVEYOR													
SECTION 3		PROMS17 - Monitor the Method of Mine Working (10)										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
P1.1	Verify that workers are completing the work to the required standards.	PROMS17	P1			4											
P2.1	Co-ordinate work activities across various locations and functions.	PROMS17	P2			3											
P3.1	Gather information to review the progress of work.	PROMS17	P2			3											
P3.2	Present the information in a format that shows the progression of work.	PROMS17	P3			3											
P4.1	Using risk management techniques, produce a risk assessment that covers the planned work activities.	PROMS17	P4			4											
P4.2	Produce safe systems of work to control the planned work activities.	PROMS17	P4			4											
P5.1	Issue instructions to relevant persons in the organisation that indicate it is okay for work to continue or progress.	PROMS17	P5			2											
P5.2	Issue instructions to relevant persons in the organisation that indicate that amendments are required to the work activity in order for it to progress.	PROMS17	P5			2											
P6.1	Provide evidence of where you have responded to a specific request for information, the information that you collected, collated, and provided.	PROMS17	P6			2											
P6.2	Provide evidence of where you have responded to a specific situation, and the information that you collected, collated, and provided.	PROMS17	P6			2											
P7.1	Provide evidence of where you have been involved in measuring or setting out to ensure that the installed plant and equipment is commissioned to the required standards.	PROMS17	P7			3											
P7.2	Provide evidence of where you have been involved in measuring or setting out to ensure that the installed plant and equipment is maintained to the required standards.	PROMS17	P7			3											
P8.1	Provide evidence of how records of persons below ground are collated.	PROMS17	P8			1											
P9.1	Provide evidence of reports and show that these meet the required organisational (and if applicable statutory) standards.	PROMS17	P9			2											
Total Units				0	0	38	0					Comments					
Signed - Candidate		Signed - Assessor															

		TECHNICAL SURVEYOR																
SECTION 4		MPQMG37 - Measure and Setout Dimensional Control of the Mining Requirements (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	
4.1	Note some of the elements of MPQM37 (K1) are covered by K22 of PROMS17 .	MPQMG37	K1															
4.2	Note some of the elements of MPQM37 (K1) are covered by K23 of PROMS17 .	MPQMG37	K1															
4.3	Outline how the dimensions for mining requirements are established within your organisation.	MPQMG37	K1	1										Question 189				
4.4	Define how information relating to dimension is controlled through procedures and practices within your organisation.	MPQMG37	K2	1										Question 190				
4.5	Outline the role of the survey department in ensuring that works are completed to the required standard and are within the defined process and procedures.	MPQMG37	K2	1										Question 191				
4.6	Note some of the elements of MPQM37 (K2) are covered by K22 of PROMS17 .	MPQMG37	K2															
4.7	Outline the types of hazards and risks that are associated with carrying out measurement and dimensional control within the mine environment.	MPQMG37	K2	1										Question 192				
4.8	Define the types of controls that you and others put in place to minimise the risks when measuring or setting out.	MPQMG37	K2	1										Question 193				
4.9	Outline any specific planning/ communication that takes place before measurement and setting out activities to ensure that persons are aware that you are carrying out these activities.	MPQMG37	K3	1										Question 194				
4.10	Describe how you receive the detail of work activities, and the objectives that need to be achieved when undertaking that work activity.	MPQMG37	K4	1										Question 195				
4.11	Note some of the elements of MPQM37 (K5) are covered by K15 of PROMS08 .	MPQMG37	K5															
4.12	Note some of the elements of MPQM37 (K5) are covered by K16 of PROMS08 .	MPQMG37	K5															
4.13	Note some of the elements of MPQM37 (K5) are covered by K17 of PROMS08 .	MPQMG37	K5															
4.14	Given the various requirements when setting out work activities, identify some of the tools and equipment that you would typically use.	MPQMG37	K5															
Total Units				7	0	0	0					Comments						
Signed - Candidate		Signed - Assessor																

TECHNICAL SURVEYOR																		
SECTION 4MPQMG37 - Measure and Setout Dimensional Control of the Mining Requirements (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	
4.15	Note some of the elements of MPQM37 (K6) are covered by K15 of PROMS08 .	MPQMG37	K6															
4.16	Note some of the elements of MPQM37 (K6) are covered by K16 of PROMS08 .	MPQMG37	K6															
4.17	Note some of the elements of MPQM37 (K6) are covered by K17 of PROMS08 .	MPQMG37	K6															
4.18	Identify the types of faults and defects that may occur with the tools and equipment used to measure and set out work activities.	MPQMG37	K6	1										Question 196				
4.19	Identify other resources (not including tools and equipment) that may be required to conduct measurement and the setting out of dimensional control. How are these secured, used, and checked.	MPQMG37	K7	1										Question 197				
4.20	When conducting measurements, how do you locate the reference points.	MPQMG37	K8	1										Question 198				
4.21	Describe the methods for verifying that any measurements taken correlate back to the reference point or datum.	MPQMG37	K8	1										Question 199				
4.22	Note all of the elements of MPQM37 (K9) are covered by K18 of PROMS08 .	MPQMG37	K9															
4.23	Outline the types of problems that may occur when carrying out measurement/ setting out dimensional controls.	MPQMG37	K10	1										Question 200				
4.24	What are the potential sources of error when carrying out measurement/ setting out dimensional controls.	MPQMG37	K10	1										Question 201				
4.25	Outline the process for discovering errors/ blunders and to troubleshoot to ensure that these are removed from the output.	MPQMG37	K10	1										Question 202				
4.26	Note all of the elements of MPQM37 (K11) are covered by Working with Others (PROMS17) .	MPQMG37	K11															
4.27	Define the actions that you as an individual may be required to take if the measurement shows deviation from the required work standards.	MPQMG37	K12	1										Question 203				
4.28	Define the actions that the survey department are authorised and required to take if there are deviations from the required work standards.	MPQMG37	K12	1										Question 204				
Total Units				9	0	0	0					Comments						
Signed - Candidate		Signed - Assessor																

		TECHNICAL SURVEYOR																
SECTION 4		MPQMG37 - Measure and Setout Dimensional Control of the Mining Requirements (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	
4.29	Outline the organisational requirements for reports following the completion of measurements and setting out of dimensional controls.	MPQMG37	K13	1										Question 205				
P1.1	Demonstrate carrying out measurement to the required organisational policies, procedures, and practices, observing safety protocols.	MPQMG37	P1			4												
P1.2	Demonstrate carrying out setting out to the required organisational policies, procedures, and practices, observing safety protocols.	MPQMG37	P1			4												
P1.3	Demonstrate carrying out dimensional control/ verification to the required organisational policies, procedures, and practices, observing safety protocols.	MPQMG37	P1			4												
P2.1	Complete a suitable risk assessment for carrying out each of the activities identified in P1.1 to P1.3 inclusive.	MPQMG37	P2			3												
P3.1	Demonstrate the use of communications when entering and leaving the working space.	MPQMG37	P3			3												
P3.2	Demonstrate the use of communication and communication methods when conducting the survey activity.	MPQMG37	P3			3												
P3.3	Demonstrate communicating the initial findings of survey activities to stakeholders.	MPQMG37	P3			3												
P4.1	Develop data from the information taken from an underground survey.	MPQMG37	P4			4												
P4.2	Interpret the data from underground surveys and make recommendations on work activities.	MPQMG37	P4			4												
P5.1	Develop a scope of work for the planned surveying activities, and agree the scope with others.	MPQMG37	P5			2												
P5.2	Work with others to plan survey activities to effectively and efficiently utilise planned gaps in production operations.	MPQMG37	P5			2												
P6.1	Compile resource requirements as part of planning survey activities (P5.1) and verify that these are available.	MPQMG37	P6			2												
Total Units				1	0	38	0					Comments						
Signed - Candidate		Signed - Assessor																

TECHNICAL SURVEYOR																		
SECTION 4		MPQMG37 - Measure and Setout Dimensional Control of the Mining Requirements (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	
P7.1	Locate and confirm reference points prior to undertaking a survey activity.	MPQMG37	P7			4												
P8.1	Install a survey station.	MPQMG37	P8			4												
P8.2	Install a centre line.	MPQMG37	P8			4												
P8.3	Install benchmarks.	MPQMG37	P8			4												
P8.4	Install grade lines.	MPQMG37	P8			4												
P8.5	Make adjustments to a centre line.	MPQMG37	P8			4												
P8.6	Make adjustments to a grade line.	MPQMG37	P8			4												
P8.7	Install or adjust thirl points.	MPQMG37	P8			4												
P9.1	Covered by other elements within <i>MPQMG37</i> .	MPQMG37	P9			0												
P10.1	Report where the planned work has not been completed to the required scope, identify any issues that this creates for operations.	MPQMG37	P10			2												
P11.1	Carry out checks on survey and measuring equipment prior to conducting survey activities.	MPQMG37	P11			4												
P11.2	Identify faults and make suitable arrangements for the withdrawal, repair (or replacement) of the survey equipment.	MPQMG37	P11			3												
P11.3	Demonstrate the correct cleaning/ storage of equipment following completion of survey activities.	MPQMG37	P11			4												
P12.1	Provide survey reports in line with organisational requirements.	MPQMG37	P12			4												
Total Units				0	0	49	0					Comments						
Signed - Candidate		Signed - Assessor																

		TECHNICAL SURVEYOR																
SECTION 5		MPQMG17 - Setout Secondary Dimensional Work Controls (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	
5.1	Note some of the elements of MPQMG17 (K1) are covered by K22 of PROMS17 .	MPQMG17	K1															
5.2	Note some of the elements of MPQMG17 (K1) are covered by K23 of PROMS17 .	MPQMG17	K1															
5.3	Note some of the elements of MPQMG17 (K2) are covered by K3 of MPQMG37 .	MPQMG17	K2															
5.4	Note some of the elements of MPQMG17 (K1) are covered by K4 of MPQMG37 .	MPQMG17	K2															
5.5	Outline the various types of communication systems that are in use underground at your mine.	MPQMG17	K3	1										Question 206				
5.6	Outline how these (and any other) communication systems are used when carrying out surveying activities underground.	MPQMG17	K3	1										Question 207				
5.7	Note some of the elements of MPQMG17 (K1) are covered by K22 of PROMS17 .	MPQMG17	K4															
5.8	Note some of the elements of MPQMG17 (K4) are covered by K2 of MPQMG37 .	MPQMG17	K4															
5.9	Note some of the elements of MPQMG17 (K5) are covered by K15/ K16/ K17 of PROMS08 .	MPQMG17	K5															
5.10	Note some of the elements of MPQMG17 (K5) are covered by K5 of MPQMG37 .	MPQMG17	K5															
5.11	Note some of the elements of MPQMG17 (K6) are covered by K15/ K16/ K17 of PROMS08 .	MPQMG17	K6															
5.12	Note some of the elements of MPQMG17 (K6) are covered by K6 of MPQMG37 .	MPQMG17	K6															
5.13	Note all of the elements of MPQMG17 (K7) are covered by Produce Plans of a Mine Layout (PROMS08) .	MPQMG17	K7															
5.14	Outline the precautions that need to be taken when setting out dimensional work controls.	MPQMG17	K8	1										Question 208				
Total Units				3	0	0	0					Comments						
Signed - Candidate		Signed - Assessor																

		TECHNICAL SURVEYOR																
SECTION 5		MPQMG17 - Setout Secondary Dimensional Work Controls (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	
5.15	Outline any potential sources of error when setting out secondary dimensional work controls.	MPQMG17	K8	1										Question 209				
5.16	Identify some of the problems that may occur when setting out secondary dimensional work controls.	MPQMG17	K9	1										Question 210				
5.17	Outline how you would spot errors or blunders before they create any issues when carrying out secondary dimensional work controls.	MPQMG17	K9	1										Question 211				
5.18	Define the risk with errors or blunders that are not spotted when carrying out secondary dimensional work controls.	MPQMG17	K9	1										Question 212				
5.19	Note all of the elements of MPQMG17 (K10) are covered by Working with Others (PROMS17) .	MPQMG17	K10															
5.20	Note all of the elements of MPQMG17 (K11) are covered by K13 of MPQMG37 .	MPQMG17	K11															
P1.1	Obtain information that defines the standards including the required dimensions/ dimensional control.	MPQMG17	P1			3												
P2.1	Demonstrate the deployment of others that are involved in the survey activities.	MPQMG17	P2			3												
P3.1	See P6.1 of MPQMG37 .	MPQMG17	P3			0												
P4.1	See P6.1/ P11.1 of MPQMG37 .	MPQMG17	P4			0												
P5.1	Complete a survey to check that the work area conforms to the required standard for operations.	MPQMG17	P5			3												
P5.2	Complete a survey to check that the work area conforms to the required standard for an installation.	MPQMG17	P5			3												
P6.1	See P2.1 of MPQMG37 .	MPQMG17	P6			0												
Total Units				4	0	12	0					Comments						
Signed - Candidate		Signed - Assessor																

				TECHNICAL SURVEYOR														
SECTION 5		MPQMG17 - Setout Secondary Dimensional Work Controls (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	
P7.1	See P3.1/ P3.2/P3.3 of MPQMG37 .	MPQMG17	P7			0												
P8.1	Set out dimensional control to a scope of work/ work instructions.	MPQMG17	P8			4												
P9.1	Demonstrate that work activities have been completed to the approved policies, procedures, and practices.	MPQMG17	P9			4												
P10.1	See P10.1 of MPQMG37 .	MPQMG17	P10			0												
P11.1	Provide evidence that the completed work has been checked and complies with the specified scope of works.	MPQMG17	P11			4												
P12.1	See 11.1/ 11.2/ 11.3 of MPQMG37 .	MPQMG17	P12			0												
P13.1	See 11.1/ 11.2/ 11.3 of MPQMG37 .	MPQMG17	P13			0												
P14.1	See 11.1/ 11.2/ 11.3 of MPQMG37 .	MPQMG17	P14			0												
P15.1	See 12.1 of MPQMG37 .	MPQMG17	P15			0												
Total Units				0	0	12	0					Comments						
Signed - Candidate		Signed - Assessor																

TECHNICAL SURVEYOR																		
SECTION 6New Module - Technical Approaches to Mine Surveying (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	
6.1	Describe how drones can be used as part of carrying out survey activities.	NA	K1	1										Question 213				
6.2	Describe some of the advantages and limitations of using drones for survey activities.	NA	K1	1										Question 214				
6.3	Describe the type of information that a drone may be used to collect.	NA	K1	1										Question 215				
6.4	Outline the requirements that the Civil Aviation Authority (CAA) places on the use of drones.	NA	K1	1										Question 216				
6.5	Detail what and who needs to be registered with the CAA when using drones.	NA	K1	1										Question 217				
6.6	Define the type of insurances that may be required when flying the drone in the public airspace.	NA	K1	1										Question 218				
6.7	Outline how LIDAR may be used to gather information for surveys.	NA	K2	1										Question 219				
6.8	Outline some of the advantages and limitations of LIDAR scanners and SLAM algorithms.	NA	K2	1										Question 220				
6.9	Outline the benefits and limitations of using 3D mine models.	NA	K3	1										Question 221				
6.10	Outline how the data outputs from 3D mine models can be used in mine planning activities.	NA	K3	1										Question 222				
6.11	Outline the process for using terrestrial laser scanners.	NA	K4	1										Question 223				
6.12	Outline the types of activities where terrestrial laser scanning may be used.	NA	K4	1										Question 224				
6.13	Outline the advantages and limitations of terrestrial laser scanning.	NA	K4	1										Question 225				
6.14	Outline any potential sources of error when using terrestrial laser scanning.	NA	K4	1										Question 226				
Total Units				14	0	0	0					Comments						
Signed - Candidate		Signed - Assessor																

		TECHNICAL SURVEYOR																
SECTION 6		New Module - Technical Approaches to Mine Surveying (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	
6.15	Outline how GPS can be used to establish quality surface baselines in accordance with National Coal Board, Surveying Practice CR/1, 1982.	NA	K5	1										Question 227				
6.16	Outline the limitations of GPS when being used on mine surfaces.	NA	K5	1										Question 228				
Total Units				2	0	0	0					Comments						
Signed - Candidate		Signed - Assessor																