



LITERACY PROFILE:

B Grade Quarry Manager

This literacy profile identifies the reading, writing, speaking and listening, critical thinking, and use of information and communication technology used by B grade quarry managers. B grade managers have staff management, safety auditing, production management and planning responsibilities as well as carrying out quarry operations. The particular tasks a B grade manager performs will vary depending on how the quarry they work operates, and the other management level staff they work with and report to.



Reading tasks

“Read” implies that the person reads and understands.

Read signs and short texts

- Safety signs
- Product markers (e.g. GAP25/7)
- Notes and reminders on whiteboard
- Read-outs from digital and analogue dials and gauges on equipment (these may be read on a computer screen, depending on the equipment control system)
- Drop down menu on electronic systems
- Task list

Read graphs and tables

- Payslip
- Production figures

Read forms

- Production record forms
- Machine running record forms
- Maintenance schedules
- Inspection and audit checklists
- Stock take forms
- Shift rosters

- Employee time sheets
- Customer orders

Read and understand technical vocabulary

- Product abbreviations
- Rock types

Read plans

- Quarry plan or map – may include topographical photographs

Read memos, notices and brochures

- Information or announcement memos from management
- Emails and memo requests for information from higher management
- Instructions from management to carry out specific tasks
- Health and safety information – posters and information on notice boards, pamphlets

Read instructions

These may be contained in detailed and complex documents. B grade managers have to be familiar with all procedures relating to work in their quarry.

- Equipment operation notices
- Job procedures
- Health and safety procedures
- ISO or other quality system procedures
- Hazard register
- Manufacturer’s instructions for operating or adjusting equipment
- Emergency procedures
- Company policies
- Material Safety Data Sheets
- Excerpts from or interpretations of legislation such as the Health and Safety in Employment Act, the Resource Management Act

Read employment related documents

- Leave forms
- Job descriptions
- Employment agreement
- Training agreements

Read training materials

- Unit standard training handouts
- Supplier training handouts
- Company training booklets

Reading skills

Interpret graphic symbols.

- Signs
- Colour coding

Recognise the features of a range of texts.

- Signs
- Codes
- Forms
- Procedures
- Manuals

Recognise number formats.

- Product numbers

Understand common and industry vocabulary.

Understand common and industry abbreviations.

Find out the meaning of unfamiliar words or phrases.

Use a reference source.

- Procedure manual
- Manufacturer’s manuals

Follow written instructions (which may include diagrams).

Predict what will be contained in a text.

Use a guide to document contents.

- Index
- Table of contents

Identify the main points from a page of text.

Scan text or table or label to find specific piece of information.

Skim a text for “gist”.

Read text thoroughly.

Make inferences based on what written material does not say.

Understand information in graphic material.

- Tables
- Graphs

Writing tasks

Sign off documents to confirm read (or attended) and understood

- Work procedures
- Training register
- Meeting register

Write short notes

- Task list
- Reminder notes on whiteboard (e.g. problems with machinery, request for staff to hand in time sheets)

Complete forms and questionnaires independently

- Production log
- Machine log
- Weighbridge sales records
- Time sheets
- Leave forms

- Employee details forms
- Wage deduction or authorisation and IRD forms
- Medical history form
- Production record forms
- Stock take form
- Audit checklists and report forms
- Health and safety – hazard notification, incident and accident forms
- ACC reporting forms

Write emails or memos

- Resource request
- Purchase request
- Purchase confirmation
- Providing answers to management questions

Write meeting agenda and record meeting minutes

- Tool box meeting
- Health and safety meeting
- Special issue meeting

Write short reports

- Results of incident or accident investigation
- Follow up actions for incidents or accidents

Document the results of planning

- Site safety plan
- Environmental impact plan
- Quality Assurance plan

Write for training purposes

- Write notes during training sessions
- Write answers to assessment questions

Writing skills

Understand that different writing styles are used for different types of writing.

- Notes
- Forms
- Assignments (training)
- Assessments (training)

Sign name on forms to indicate understanding.

Write simple correct text in appropriate places and in appropriate formats on job sheets and forms.

- Use legible handwriting
- Use recognisable spelling and abbreviations
- Writing should stay on the line

Complete forms using numbers, single words, or short sentences.

- Handwriting must be legible
- Abbreviations can be used
- Spelling must be understandable, but correct spelling is not essential
- Grammar and punctuation must be understandable

Write notes, lists and short sentences.

- Handwriting must be legible
- Abbreviations can be used
- Use recognisable spelling
- Use diagrams and sketches to clarify points
- Write points in a logical order
- Use punctuation
- Attempt to use correct tenses, and correct verb and subject agreement

Write documents following a set format (usually by word processing).

- Follow agreed format conventions (e.g. meeting minutes, memo, report)
- Identify relevant points to record
- Write points in logical order
- Use correct spelling
- Use complete sentences and paragraphs
- Use editing skills

Take notes from material read (training).

Write short answers to assessment questions (training).

- Handwriting must be legible
- Abbreviations can be used
- Spelling must be understandable, but correct spelling is not essential
- Grammar and punctuation must be understandable

Write assignments (training).

- Plan assignment writing (beginning, middle and end)
- Write sentences and paragraphs
- Use diagrams and sketches to help make a point
- Spelling should be correct
- Grammar and punctuation should be mostly correct
- Use editing skills



Speaking and listening tasks

- Discuss work with colleagues
 - report own job progress
 - ask for and offer assistance
- Listen to (and comprehend) work instructions from manager
- Listen to and comprehend verbal explanations and training instructions from manager
- Listen to briefings when information is provided (e.g. production figures, safety reminders, work roster plans)
- Listen to noise made by machinery to identify if it is working as it should
- Listen for noise codes (e.g. 1 toot for start up, 2 toots for moving forward)
- Listen to employees' responses to check if they have comprehended a message
- Listen for underlying messages that suggest there may be an issue with employees or equipment

- Ask questions to clarify and check details during oral instruction
- Provide verbal reports to manager e.g. progress with work, problem with machinery, health and safety incident
- Provide personal history details during interviews (e.g. medical history, work history)
- Describe a sequence of events in detail, especially relating to accidents or incidents
- Explain why something may have happened
- Suggest solutions or improvements
- Provide information during briefings to employees
- Paraphrase written instructions to help employees understand these instructions
- Provide oral instructions for employees

- Provide training sessions for employees
- Coach employees
- Give employees verbal feedback on their work performance and work practices
- Participate in meetings
- Participate in group discussions during training sessions
- Answer oral assessment questions
- Communicate in noisy environment using hand signals and gestures

Notes:

(1) *There is heavy dependence on verbal communication to share information and give instructions in quarries*

(2) *Verbal communication is done face to face, on RT and by telephone*

Speaking and listening skills

(NB Speaking and Listening includes non-verbal communication)

Speak clearly.

Discuss topics which are appropriate in work context.

Use words, pronunciation, and tone appropriate to situation and audience.

Open and close conversations appropriately.

Give information in a sensible order.

Plan and deliver oral instructions in a logical order and to suit the audience.

Understand that communication is a two way process.

Use active listening skills.

- Repeat message back to sender
- Summarise instructions in own words
- Use following techniques e.g. say "aha" or "okay" as you follow what someone is saying



Present and defend a viewpoint.

Use hand signals and gestures to communicate in noisy environment.

Use questioning techniques including using open and closed questions to gain information, check understanding and encourage further discussion.

Summarise to check or clarify details.

Use suitable body language.

Read body language of person speaking, or being spoken to, and respond appropriately.

Understand that there are barriers to communication, especially in a cross-cultural situation.

Numeracy tasks

- Weigh product and read scales
- Count and tally weight of rock produced or moved
- Calculate if there is enough product in stock to fill customer orders
- Assist with production planning
- Monitor down time of equipment (to minimise downtime)
- Record running hours of machines
- Tally and report on machine running hours
- Complete timesheets

- Check employees' completed timesheets
- Calculate how much product can be loaded on to a truck (using knowledge of TARE and gross weight)
- Understand capacity of machinery – e.g. how many tonnes in bucket of loader, how many tonnes per hour a crusher can produce
- Monitor production rates of machinery
- Report production figures (often in table and graph form)

- Estimate how much to fill loader bucket for part orders
- Review pay slip
- Identify aggregate products by shape and size e.g. this is GAP20, that is GAP65, that is GAP40
- Estimate width, gradient, elevation and alignment of roads and benches built in the quarry
- Monitor costs of quarry operation (e.g. minimise fuel bill, maximise production capacity)
- Calculate water pump and pipe capacity

Numeracy skills

Recognise numbers as part of a code.

Use numbers.

- Whole numbers
- Decimals
- Fractions
- Percentages
- Ratios

Do number problems.

- Addition
- Subtraction
- Multiplication
- Division

Understand place value.

Estimate quantities.

- Time
- Weight
- Number
- Volume
- Capacity
- Angle
- Money

Measure accurately.

- Time
- Weight
- Number
- Money

Use 12 or 24hr clock.

Recognise a range of formats for presenting data.

- Graphs
- Bar charts
- Pie charts
- Pictograms

Interpret numerical information represented in different ways.

- Graph
- Table
- Scale
- Dial

Recognise and use geometric concepts.

- Straight
- Square
- Parallel
- Flat
- Level
- Round



Critical thinking tasks

- Judge if you can do the job (skills, knowledge and experience) and ask for assistance if necessary
- Identify the possible health and safety consequences of work activities
- Assess condition of roads, extraction areas, and equipment in quarry
- Arrange for maintenance and repairs to roads, work areas, and equipment
- Plan quarrying activities to minimise potential hazards (e.g. road mending before extraction in a specific area of the quarry)
- Listen for noises machinery makes when it is not working correctly, and act to fix the problem
- Decide if equipment needs to be withdrawn from use until repairs completed
- Plan and take appropriate actions to avoid health and safety incidents
- Create and implement solutions to deal with health and safety hazards
- Be aware of company quality standards and complete work in ways that meets those standards
- Use equipment within its capacity
- Ensure there is enough product in stock to meet customer demands, especially orders

Critical thinking skills

Apply fault finding methodologies.

Apply knowledge of safety requirements and principles to work practice.

Identify when action cannot be taken independently and seek assistance.

Understand the quality management system and the implications of this for your work role.

Recall and follow specified procedures to deal with contingencies.

Use problem solving methodology e.g.

- identify issue
- identify possible solutions
- determine best outcome
- decide on plan of action
- carry out plan.

Apply knowledge of efficient work practices to plan the most effective way to complete work activities with minimum time and wastage.



Information and Communication Technology Tasks

- Monitor plant using automated control system
- Adjust plant using automated control system
- Take readings from electronic displays
- Enter data into plant control system e.g. reason for downtime
- Send and receive emails
- Write documents using word processing software
- Use company production recording systems to record and retrieve production data
- Use spreadsheets to manipulate and present production data
- Use presentation software (e.g. power point) to report production data



Information and Communication Technology Skills

Understand the names of, and basic purpose for, computer hardware devices.

- Keyboard
- Mouse
- Screen
- Printer

Understand how to operate a computer to run a software application.

- Start the computer
- Log-in if needed
- Start appropriate application
- Exit application
- Turn off computer

Understand common computer functions and features.

- Open
- Save
- Close
- Menu
- Toolbar

Enter or update data on a computer.

- Keyboard
- Mouse
- Other input device

Manage computer files.

- Copy or move a file to new location
- Back-up files using appropriate software
- Copy to different media (from hard disk to pen drive, from hard disk to cd rom)
- Delete a file

Notes about the profile

This profile was developed following visits to four different quarrying operations, and reviewing the literacy demands of B grade managers in very different environments. The profile includes all the common elements identified in the quarry operator role, plus the additional responsibilities of different B grade managers.

All B grade managers were "hands on" and would operate quarrying machinery during the course of their daily work. Some B grade managers had more direct staff responsibilities than others. Some B grade managers were very involved in production monitoring and reporting. The role varies widely, depending on the quarry the B grade manager works in, and the managers the B grade reports to.

The profile represents all of the tasks and skills required for B grade roles in different work places. Each employee will have different levels of skill across the six areas.