

# Merit Based Selection and Performance Assessment for Mineworkers

L Edmonds-Ward<sup>1</sup> and B Trendell<sup>2</sup>

## ABSTRACT

While objective selection and assessments are an accepted part of employing managers and other staff, they have had only a limited place when selecting mineworkers in Australia. Wambo Mining Corporation has used occupational testing as part of its recruitment process since 1994. For managers and staff in particular, it is considered this has contributed significantly to a 95 % fit of those appointees. In 1997 when Wambo undertook development of a new "on site" subsidiary underground mine called Wollemi Services, they wanted to select the most appropriate people in terms of skill and on the job performance. To achieve this they reviewed and improved their recruitment processes to facilitate selection and transfer of an initial intake of almost 50 staff and mineworkers.

One of the issues for Human Resource Management was to provide an environment where employees could let go of previously held (but not necessarily individually believed) entrenched views about individual performance and assessment. It needed to be emphasised that performance could be objectively and fairly assessed. More importantly, the performance being assessed was the application of skills and that new skills could be learnt and individuals could choose to change behaviour.

A process was agreed between management, employees and their local representatives to select and transfer people on merit from within shift groups. In the first intake, three supervisors and thirty-nine production workers were selected from an existing workforce of over two hundred.

Part of the process to ensure validity and to help people feel comfortable was an objective job analysis for positions. From a computer-based analysis, person specifications were developed and appropriate test batteries identified to facilitate selection. A combination of a self-report occupational personality or work styles questionnaire and several ability tests were used. In addition, each employee and two supervisors completed an assessment of the employee's current work performance.

Candidates were provided with individual feedback about their self-assessments, performance feedback from supervisors and asked to respond to a number of questions about their interest in and potential contribution to the new operation. When selecting employees, assessments of skills and additional competencies were also considered.

The validity of the self-report assessments has since been confirmed in a correlation analysis of the results with supervisor feedback on performance. In addition the results have been analysed to identify development needs for all candidates.

It was essential that the overall process was confidential so that people would be prepared to participate and the vast majority of people took up the competitive challenge. In the four months since the process, there has been a significant breakdown of restrictive practices. As expected, there was a productivity improvement at the new site. In addition, at the existing mine there has been a significant realignment of individual performance with many individuals being dynamic, progressive and showing real responsibility in their work.

---

<sup>1</sup> Human Resource Manager, Wambo Mining Corporation Pty Ltd

<sup>2</sup> Director, Business Improvement Australia Pty Ltd

## INTRODUCTION

When the management of Wambo was restructured it provided an opportunity to review and improve a number of strategies and systems. One strategy selected to improve business performance was through diligently implementing core values. These values were seen as a means of collectively creating the organisation's culture and helping to influence financial, strategic, safety and technological decisions, as well as managerial and leadership styles.

The values were integrity, people involvement, performance and safety. Integrity implied earning trust, treating employees with respect and being consistent and fair. People involvement included valuing skills, knowledge and ideas of employees as well as assisting them to contribute to optimal performance.

A recruitment and selection policy was developed in 1994 that was consistent with these values. The aim was to remove negative discriminators such as the industry norm of white, Anglo-Saxon male mineworkers as well as reliance on perceptions of people during an interview. Instead the policy provided for positive discriminators and fair access to the system.

The gender bias was removed by encouraging males to apply for traditional female roles in administration and support services as well as supporting females to apply for traditional male roles. Access was not dependent on current union membership, nor age or literacy. People known to staff, families of existing employees as well as those employees seeking career change were offered access to the process, but with no guarantee of an interview or position.

Aptitude and personality assessments were included in the recruitment and selection process. Tests were selected that were considered valid for the positions and soon after coal industry applicant norms were developed. Applications and assessment results were used to short list candidates for interviews. In addition, the panel of Wambo managers and employees were provided with specific information about candidate styles that could be validated during the interview.

In this paper, the design of a merit based selection programme and subsequent validation of assessment instruments are described. In addition, perceived benefits in performance are highlighted.

## WOLLEMI SERVICES

When it was decided to develop a new mine, the preferred strategy was to employ for the Wollemi Mine from the existing Homestead Mine. The final numbers would be 187 from an existing workforce of 250 and with an initial intake of 40.

While position descriptions had been developed, the same rigour had not been applied to preparing person specifications. The process needed to be consistent with the values of respect, fairness and integrity, but it was also important that a scientifically based approach was used that could stand up to any legitimate challenge.

The critical steps in the process were:

- Job analysis to identify personal attributes, abilities and relevant assessment methods;
- Appraisal of current performance and assessment of abilities and work style;
- Interview and feedback from appraisal and assessment; and
- Selection based on a matrix of skills and attributes.

## JOB ANALYSIS

The job analysis tool used was the computer based Saville and Holdsworth Work Profiling System (WPS). Two managers/supervisors completed the process for each position. They identified job objectives, selected task categories, rated importance and time spent on tasks and indicated context of tasks. The method by which an attribute profile and listing of relevant assessment methods are produced from a WPS analysis is based on job component validity. The required attributes are linked to task statements on the basis of rigorously scrutinised judgements made by a panel of experienced occupational psychologists.

## PERSON SPECIFICATION

The most important tasks for production were identified as:

- Watching for and noting safety hazards and other dangerous situations;
- Achieving team cooperation;
- Encouraging cooperation from others;
- Conducting operations; and
- Achieving standards.

Similarly for trades they were:

- Ensuring safety
- Undertaking tasks to examine, check and repair machinery;
- Watching and listening for dangerous situations;
- Making decisions; and
- Encouraging and gaining willing cooperation.

From these the most important personal attributes for individuals were described as:

### Production

Forward planning  
Methodical  
Caring (democratic)  
Active  
Socially confident

### Trades

Controlling  
Methodical  
Persuasive  
Socially confident  
Caring (democratic)  
Forward planning

## ASSESSMENT METHODS

Assessment methods were classified and compared for relevance to the tasks (see Table 1.).

**Table 1 - Work Profiling System Candidate Assessment Regime for Most Critical Attributes**

Class	Production Relevance Index	Trades Relevance Index
Personality	324	211
Structured Interview	100	
Creative thought		286
Diagrammatic skills	94	
Manual dexterity	81	61
Mechanical skills	49	51
Verbal skills		44
Numerical skills		32

## APPRAISAL AND ASSESSMENT

In order to rationalise the assessment process, creative thought, diagrammatic skills and manual dexterity were assessed using questionnaires that assess “co-ordinative abilities”. All of the tests used were from the Saville and Holdsworth test batteries and were:

- Work Styles Questionnaire;
- Understanding Written Instructions;
- Working with Numbers;
- Matching Shapes;
- Mechanical Comprehension; and
- Visual Checking.

Appraisal of current performance was made using a questionnaire that was answered by the applicant, a direct supervisor and a shift supervisor. The questions addressed the person’s willingness to work safely, work effectively, work in a team,

work with leaders, learn, apply skills and change. Each question consisted of five behavioural anchors that described specific behaviour or action for each score such as, “waits to be told to do a task” and “carries out all tasks that need to be done”.

At the time only one candidate refused to complete the test battery. Many others did however want to discuss or debate the validity of the tests. In particular there were negative perceptions of testing at other mines associated with the belief that the tests were the sole criteria for selection. Most comments were anecdotal.

## **INTERVIEW AND FEEDBACK**

During interviews each candidate was given feedback showing a comparison of their own and supervisors ratings of current performance as well as a summary of their abilities (normed against their own stream and shift) and work style.

A few candidates became defensive about negative performance assessments and some had difficulty accepting below average ability results. Where possible, links between personality and abilities were explained to them. An example was to explain the significance of deliberate rather than rapid decision making for a person with low abilities.

As this was the first time that mineworkers had received structured feedback about perceptions of their individual performance, it was not unexpected that some people wanted to challenge the ability of supervisors to make fair judgements. It was emphasised to them that the appraisals showed both positive and negative responses and were often consistent between supervisors.

Overall, people seemed to welcome the opportunity to know where they stood, what their match was with the requirements for the new operation and being able to have managers listen to their personal views about what was required for successful performance.

## **SELECTION**

A matrix was made up based on consensus among the selection panel. The items in the matrix included skills as a miner driver and with other machinery, interview, attendance, performance appraisal, abilities, work style, first aid and other skills. Applicants were then ranked overall. Final selection included additional criteria such as having a minimum of one competent miner driver capable of coaching others. In addition it was important to take into consideration the impact on the continuing short term operation of the Homestead mine.

## **ONGOING DEVELOPMENT**

Following selection each shift participated in an intensive two-week induction programme that included skills training as well as communication and team development awareness. Several months after commencing, each team participated in an experiential team development activity.

Future activities will include ongoing team and individual performance feedback.

## **VALIDATION**

The general validity of the assessment instruments has been based on past studies conducted by Saville and Holdsworth for a range of industries. The major barriers to any validation study are the number of job incumbents and suitable appraisal of on the job performance, but in this case a detailed appraisal of willingness to perform was available for over one hundred candidates.

The objective of validation was to determine if the scales of the self report work styles questionnaire or abilities were correlated with appraisal of current performance by supervisors.

Several scales were significantly correlated with overall performance appraisal (Table 2.). The results were generally consistent for the two supervisors within each stream . As the performance appraisal focused on “willingness” rather than skill, it was more likely that personality scales would be correlated rather than abilities. The ability tests that were correlated for trades, matching shapes and visual checking, are measures of co-ordination and flexibility.

The results show that several personality scales were valid indicators of willingness to perform.

**Table 2 -Correlation between overall performance appraisal, personality and abilities (Correlation co-efficient significance \*\* probability = .01 \* probability = .05)**

	<b>Production Section Supervisor</b>	<b>Production Shift Supervisor</b>	<b>Trades Section Supervisor</b>	<b>Trades Shift Supervisor</b>
<b>Personality Scales</b>	Controlling *	Low Gregarious *	Controlling **	Controlling **
	Low Gregarious *		Caring *	Caring *
	Low Traditional *		Emotional Control **	Emotional Control **
	Achieving *		Low Competitive *	Low Competitive **
			Low Decisive **	Low Decisive *
<b>Abilities</b>		Matching Shapes **	Matching Shapes *	
		Visual Checking *		

## CONCLUSION

The level of productivity at Wollemi was expected to be high as a result of work practices agreed in the Certified Agreement, selection, induction and enthusiasm associated with a new enterprise. The results to date have exceeded those expectations.

While improvements were also expected at Homestead through the Certified Agreement, there was some uncertainty about the impact of the appraisal and assessment process at an individual level for mineworkers not selected for the first intake. In the four months since the process, there has been a significant breakdown of restrictive practices. In addition, there has been a significant realignment of individual performance with many individuals being dynamic, progressive and showing real responsibility in their work.

The results from the validation study provide direct support for the validity of the self-report Work Styles Questionnaire as part of a selection battery. In circumstances where there is insufficient work history, less experienced employees can be compared with those with more experience. In internal situations, there is less resistance to self-assessment than for supervisor appraisals.

The fairness and objectivity of the overall process is reflected in an observation by one of the selected mineworkers during induction. The comment was “why did we waste all that time and money when I was right in picking eight of the thirteen because I knew they were good performers and liked by the supervisors”. He did not answer the response, “does that mean that five people were selected on merit whom you thought had no chance because they were not liked by the supervisors?”