

## National Certificate: Mineral Processing NQF Level 2

**Introduction:** Mineral processing plants are mostly located near rural areas. Many previously disadvantaged individuals from the rural areas are employed to work in these plants. This qualification will help improve their employability, e.g. in smaller mineral processing plants that cannot afford to do their own training as well as benefit the learner through the fundamental knowledge and life skills included in the qualification.

People credited with this qualification are able to:

- Communicate and solve problems effectively in the workplace and a variety of other contexts.
- Demonstrate knowledge of occupational health and safety in the workplace.
- Conduct basic materials handling and transport operations.
- Conduct basic process control operations.
- Perform minor maintenance on mechanical equipment.
- Separate materials by means of filtration, screening or cycloning.

**SAQA Qualification ID: 59305**

<b>Target group:</b> Existing employees at lower levels identified for promotion.	<b>Certification:</b> The qualification is composed of Fundamental, Core and Elective learning components: <ul style="list-style-type: none"> <li>▪ Fundamental: 36 credits (compulsory)</li> <li>▪ Core: 53 credits (compulsory)</li> <li>▪ Elective: A minimum of 40 elective credits is required for this qualification.</li> </ul> <p><b>If competent a competence certificate will be issued by MQA</b></p>	<b>Duration:</b> 26 Weeks
<b>Entry Level Requirements:</b> <ul style="list-style-type: none"> <li>▪ Minimum Literacy and Numeracy ABET 4 or NQF 1 or RPL, Grade 9</li> </ul>		

### QUALIFICATION OUTLINE

	Unit standard ID	UNIT STANDARD TITLE	Credits	Duration:
Core	<a href="#">252318</a>	Demonstrate knowledge of the various activities related to the processing of minerals	14	26 Weeks
Core	<a href="#">115101</a>	Address workplace hazards and risks	4	
Core	<a href="#">116520</a>	Apply safety, health and environmental principles and procedures in a workplace	2	
Core	<a href="#">252284</a>	Classify material in a metallurgical plant	6	
Core	<a href="#">252330</a>	Control feed rate by means of a feeder	2	
Core	<a href="#">243650</a>	Handle waste material in a metallurgical plant	4	
Core	<a href="#">12483</a>	Perform basic first aid	4	
Core	<a href="#">252315</a>	Perform size separation in a metallurgical plant	6	
Core	<a href="#">252282</a>	Thicken slurry in a metallurgical plant	4	
Core	<a href="#">252295</a>	Transfer fluids by means of a pump	3	
Core	<a href="#">252324</a>	Transfer material by means of a belt conveyor	4	
Fundamental	<a href="#">119463</a>	Access and use information from texts	5	
Fundamental	<a href="#">9009</a>	Apply basic knowledge of statistics and probability to influence the use of data and procedures in order to investigate life related problems	3	
Fundamental	<a href="#">7480</a>	Demonstrate understanding of rational and irrational numbers and number systems	3	
Fundamental	<a href="#">9008</a>	Identify, describe, compare, classify, explore shape and motion in 2-and 3-dimensional shapes in different contexts	3	

Fundamental	<a href="#">119454</a>	Maintain and adapt oral/signed communication	5
Fundamental	<a href="#">119460</a>	Use language and communication in occupational learning programmes	5
Fundamental	<a href="#">7469</a>	Use mathematics to investigate and monitor the financial aspects of personal and community life	2
Fundamental	<a href="#">9007</a>	Work with a range of patterns and functions and solve problems	5
Fundamental	<a href="#">119456</a>	Write/present for a defined context	5
Elective	<a href="#">14656</a>	Demonstrate an understanding of sexuality and sexually transmitted infections including HIV/AIDS	5
Elective	<a href="#">252325</a>	Hand sort material	2
Elective	<a href="#">252313</a>	Centrifuge a slurry in a metallurgical plant	6
Elective	<a href="#">252351</a>	Classify material by means of a winnower	5
Elective	<a href="#">254434</a>	Control a blending and reclaiming process in a beneficiation plant	4
Elective	<a href="#">252306</a>	Control feed distribution by means of a mobile system	2
Elective	<a href="#">252329</a>	Control the pH level in a metallurgical process	4
Elective	<a href="#">252304</a>	Control the water reticulation in a metallurgical process	4
Elective	<a href="#">254401</a>	Control water quality in a cooling system	6
Elective	<a href="#">252347</a>	Convey material by means a bucket elevator	4
Elective	<a href="#">254405</a>	De-sliming material by means of a screen	2
Elective	<a href="#">252340</a>	De-water material by means of a de-watering screen	2
Elective	<a href="#">252354</a>	De-water material by means of a vibrating screen	2
Elective	<a href="#">252285</a>	Deposit tailings onto a tailings dam	7
Elective	<a href="#">252293</a>	Deposit waste rock onto a waste dump by means of a belt conveyor system	3
Elective	<a href="#">252350</a>	Determine relative density by means of a density scale	3
Elective	<a href="#">253595</a>	Direct the operation of an overhead crane	3
Elective	<a href="#">252326</a>	Dispatch base metals	4
Elective	<a href="#">252336</a>	Dispatch bullion	4
Elective	<a href="#">252333</a>	Dispatch metallurgical process by-products	4
Elective	<a href="#">252283</a>	Filter liquids from solids in a metallurgical plant	7
Elective	<a href="#">252314</a>	Filter material in a metallurgical plant	7
Elective	<a href="#">252349</a>	Generate compressed air	3
Elective	<a href="#">252320</a>	Generate steam by means of an electric boiler	2
Elective	<a href="#">252334</a>	Granulate a precious metal	2
Elective	<a href="#">252335</a>	Handle acids safely in a metallurgical plant	6
Elective	<a href="#">252310</a>	Handle bulk oxygen safely in a metallurgical plant	4
Elective	<a href="#">252321</a>	Handle cyanide solids safely in a metallurgical plant	4
Elective	<a href="#">252302</a>	Handle inorganic reagents safely in a metallurgical plant	6
Elective	<a href="#">252337</a>	Handle liquid cyanide safely in a metallurgical plant	4
Elective	<a href="#">252286</a>	Handle organic reagents safely in a metallurgical plant	6
Elective	<a href="#">252353</a>	Load carbon from a storage facility into a road tanker	6
Elective	<a href="#">252352</a>	Load sulphuric acid from a bulk storage facility into a tanker	4
Elective	<a href="#">252328</a>	Load uranium slurry from a bulk storage facility into a tanker	4

Elective	<a href="#">252309</a>	Maintain steel ball load in a mill by means of a suspended magnetic loading system	3
Elective	<a href="#">254400</a>	Make up a heavy medium suspension in a metallurgical plant	6
Elective	<a href="#">252327</a>	Make up inorganic reagents in a metallurgical plant	6
Elective	<a href="#">252312</a>	Make up organic reagents in a metallurgical plant	6
Elective	<a href="#">252287</a>	Make-up an ammonia solution in a metallurgical plant	4
Elective	<a href="#">252344</a>	Neutralize solution for final processing	3
Elective	<a href="#">252322</a>	Off-load acid from a tanker into a storage facility	6
Elective	<a href="#">252316</a>	Off-load an alkali into a storage facility	6
Elective	<a href="#">252311</a>	Off-load carbon from a tanker into a storage facility	6
Elective	<a href="#">252319</a>	Off-load cyanide from a tanker into a bulk storage facility	7
Elective	<a href="#">252289</a>	Off-load liquefied gas into a storage facility	6
Elective	<a href="#">252356</a>	Off-load ore from a rail truck into a storage facility	2
Elective	<a href="#">252317</a>	Off-load organic reagents into a storage facility	6
Elective	<a href="#">252355</a>	Off-load pulp from a tanker into a storage facility	2
Elective	<a href="#">254414</a>	Perform dense medium separation in a metallurgical plant	7
Elective	<a href="#">252341</a>	Perform gravity concentration in a metallurgical plant	6
Elective	<a href="#">252338</a>	Perform minor mechanical maintenance on metallurgical process equipment	6
Elective	<a href="#">252299</a>	Produce backfill from waste slurry	6
Elective	<a href="#">252308</a>	Produce briquettes from fine material	5
Elective	<a href="#">254416</a>	Reclaim material by means of a bridge-type reclaimer	4
Elective	<a href="#">254402</a>	Reclaim material from a tailings dam by means of high pressure monitoring	3
Elective	<a href="#">254406</a>	Recover diamonds by means of hand sorting	6
Elective	<a href="#">252346</a>	Recover gold from solution by means of chemical precipitation	4
Elective	<a href="#">252343</a>	Recover metal by means of centrifugal concentration	3
Elective	<a href="#">252342</a>	Regenerate organic solvent	4
Elective	<a href="#">252348</a>	Regenerate resin	4
Elective	<a href="#">252331</a>	Remove airborne dust by means of a bag filter	3
Elective	<a href="#">252280</a>	Remove airborne pollutants by means of a scrubber	3
Elective	<a href="#">252305</a>	Remove ferromagnetic material from a belt conveyor by means of an over-belt magnet	2
Elective	<a href="#">252357</a>	Remove impurities from carbon by means of acid treatment	6
Elective	<a href="#">252323</a>	Replace medium in a fluidised bed roaster	3
Elective	<a href="#">252332</a>	Slake lime	4
Elective	<a href="#">252298</a>	Strip base metals from titanium blanks in an electro-winning process	4
Elective	<a href="#">9635</a>	Take a representative sample of solid material in a metallurgical process	4
Elective	<a href="#">256596</a>	Take representative samples of slurries and liquids in a metallurgical process	4
Elective	<a href="#">252345</a>	Transport material by means a screw conveyor	4
Elective	<a href="#">252339</a>	Wash material by means of a rotary scrubber	2
Elective	<a href="#">253339</a>	Crush material in a metallurgical plant	9

Elective	<a href="#">256664</a>	Leach metal bearing material in a metallurgical plant	6	
Elective	<a href="#">256674</a>	Recover uranium from solution by means of chemical precipitation	7	
Elective	<a href="#">252301</a>	Separate material by means of a dry high intensity magnetic separator	3	
Elective	<a href="#">252307</a>	Separate material by means of an electrostatic separator	3	
			<b>Duration</b>	26 Weeks