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## PMC Spring Walk Debunks the "all work no play" Myth

Palabora Mining Company is leading champion workplace culture. The mining giant, and its teams welcomed Spring season with a blooming Spring walk hosted on site on 30 August 2024.

The SHEQ SPRING WALK now dubbed the PMC SPRING WALK is an annual popular "must do" event at PMC. The walk, showcases:

- Teamwork amongst divisions and,
- Effective collaboration with suppliers and contractors.

All of this is executed with a pinch of brotherly rivalry. Each team subtly measures up the other's level of creative design and vibrancy in costumes, colours, hair, songs and placards advocating SAFETY messages.

This year delivered the largest participation yet - signifying our growth and unity. More than 1200 participants took part in the walk. The 3kms Spring Fun walk enjoyed 18-contractor supplied waterpoints. Each waterpoint exhibiting the supplier's products and offerings as well as fully loaded to serve participants with hydrants, goodies and small tokens of appreciation to take away.

Depending on your luck, some people hit the jackpot at the prize giving ceremony and won worthy prizes!!! Our suppliers came readily armed with notable giveaways!!! Prizes ranged from stationery

packs, supplier product discount vouchers, game drives as well as couples' sleepover at luxury retreats.

Despite the jovial mood, music, dancing, cold drinks and flame grilled boerewors rolls, our emergency service team were responsibly on site - just in case the excitement took over some people.

A huge congratulations to PMC for prioritizing employee mental health and work life balance. Our PMC Spring Walk, although fun, is purposeful. It allows strategic engagement between management and employees outside the tension of duty, to reflect, reconcile and "walk off" issues.



**A special mention goes to the UG Mining Team and Management. Your loud chants and grand entrances - year on year - speaks volumes of your commitment and care for the safety of your teams. We saw you!!**

### 2024 Spring Walk Waterpoints: A huge thank you to the event sponsors!!

- AQS Liquid Solutions
- Bearings International
  - Bilnor Projects
  - Cajori Hotel
  - Coastal Hire
  - Fraser Alexander
  - Heqlen Mica
  - Jack's Paints
- Josmeck Trading (Pty) Ltd
- Khongo Investments (Pty) Ltd
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  - Mopane Plant
- Octopi Smart Solutions
  - PGN Plant Hire
- Qualito Craft Distillery
- Seagle Telecom (Pty) Ltd
  - Sefapane Lodge
- Tharama Trading Enterprise
  - THG Tyre Specs
- Thuthukani Paper (Pty) Ltd
  - Viscoreg Enterprises
    - Voltex
    - VKY
    - Waitech

**SEE SOMETHING! SAY SOMETHING AND SAVE SOMEONE!**



## EDITOR'S NOTE

September month brings in Spring season. The celebration of persons living with disability as well as Literacy Awareness. PMC supports all these aspects through our Spring Walk, AET, UNISA collaborations, and inclusivity of persons with disability through recruitment.

*Happy Heritage Month*

## PMC-UNISA OPEN WEEK: A RESOUNDING SUCCESS FOR EMPLOYEES AND COMMUNITY MEMBERS

The recent PMC-UNISA Open Week marked a significant achievement in its mission to enhance educational access and support lifelong learning. The event, held from the 09th to 12th of September 2024, served as a pivotal platform for assisting PMC employees, contractors and local community members with a range of academic-related processes, including Recognition of Prior Learning (RPL), online applications, and general queries for the 2025 academic year.

Understanding the importance of accessibility, the business has demonstrated its value of Caring and extended its support beyond the Palabora Mining Company premises and organized additional sessions at an external venue - Edu center, that is easily accessible to the local community.

### The Open Week was designed with a dual focus:

- To streamline academic processes for current and prospective students
- As well as to foster educational growth within the community.

Recognition of Prior Learning (RPL) is an essential process that allows individuals to gain formal recognition for skills and knowledge acquired outside traditional educational settings. It also permits one to gain credits within formal certificate, diploma and degree qualifications based on the level and extent of knowledge/experience. In order to apply for RPL, one must be 23 years of age or older with at least three years in current role, or relevant working experience. Prior learning should have been acquired in one or more of the following ways: workplace learning, informal study for recreational/personal interest purposes, company/industry based training, working with experts, or life experience.

A total number of 29 employees applied for RPL, reiterating the "Grow Your Timber" initiative which emphasizes the importance of nurturing talent from within as well as recognizing that our employees are our most valuable assets.

With an increasing shift towards digital platforms, many prospective students find the online application process daunting. The UNISA team provided step-by-step instructions, troubleshooting assistance, and personalized advice to ensure that all applications were submitted accurately and timeously.

The success of the open week was evident in the high level of participation from employees, contractors and community members. During the event, UNISA's team has shown dedication by working beyond the call of duty and provided invaluable assistance to 160 individuals. In addition, Professor Mulenga had a session with employees who have enrolled for postgraduate studies with the institution and identified areas for improvement and potential opportunities for further research and collaboration.

For Palabora Mining Company, the event was a testament to its commitment to the development of its workforce and the local community. By hosting UNISA on-site, the business underscored its dedication to not only fostering professional growth within its ranks but also supporting broader educational goals.

We are excited about the future prospects of this collaboration and look forward to further strengthening our ties with UNISA, enhancing educational opportunities, and contributing to the development of both our workforce and the local community.



**FULL-TIME HEALTH AND SAFETY REP NOMINEE**



### Ben Monyela *Mining Maintenance*

**1. Briefly tell us about yourself:**

My name is Ben Monyela. I work at Underground Mining Maintenance as an Instrument Coordinator, where I am appointed as the Sectional Safety Rep. I am also the Chief Safety Rep for Lift 1 & 2 and currently the acting Full-Time Health and Safety Rep.

**2. Why are you passionate about the Health and Safety of employees?**

I am passionate about the Health and Safety of employees because safety is more than a job. It is a means to ensuring that every employee returns home safely to their respective families.

**3. How long have you been a Senior Health and Safety Representative?**

I have been a Senior Health and Safety Rep for 2 years.

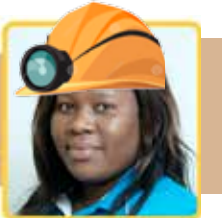
**4. Why should you be voted as a Full-Time Health and Safety Representative?**

I possess sound communication skills and I am dedicated to continuous learning in the Safety field. I have vast experience acting as a Full-Time Health and Safety Rep and my dedication will contribute towards building a strong safety culture within operations.

**5. What contribution/improvement and innovation will you bring to the business?**

I will coach and train the Safety Reps to execute their duties effectively in order to promote a culture of Health and Safety in the workplace. I will also attain consent from supervisors to visit and inspect their work areas and thereafter submit a safety report to the sectional leaders. I will undertake in benchmarking to learn best practises from other mines especially when handling electricals. Lastly, I will introduce the tool talk programme to caution employees to observe potential hazards and risks when performing tasks.

### Anikie Mametja *Vermiculite Business*



**1. Briefly tell us about yourself:**

My name is Anikie Mametja and I am a Senior Health and Safety Representative for the Vermiculite Business.

**2. Why are you passionate about the Health and Safety of employees?**

I am an enthusiastic self-starter with experience in a variety of roles in the Safety field. I have a strong passion for Health and Safety and I always encourage my team members to work safely.

**3. How long have you been a Senior Health and Safety Representative?**

I have been a Senior Health and Safety Representative for 3 years.

**4. Why should you be voted as a Full-Time Health and Safety Representative?**

I believe that the well-being of all employees and the success of our company relies on our ability to understand, implement, and ensure compliance to safety. The responsibility of a Full-Time Health and Safety Rep is to identify hazards and implement control measures to mitigate incidents. I commit to assist in promoting a positive work-culture and environment where safety is not an afterthought but a fundamental part of daily operations.

**5. What contribution/improvement and innovation will you bring to the business?**

I will ensure that all risks and hazards are identified and dealt with timeously. To date, I have implemented a weekly Health and Safety observation report where I do inspections, report my findings and conduct follow-ups to ensure that the identified deviations are closed appropriately.

### Morapedi Mocumi *Smelter and Refinery Maintenance*



**1. Briefly tell us about yourself:**

My name is Morapedi Mocumi and I am a Boilermaker at Refinery Tankhouse Mechanical.

**2. Why are you passionate about the Health and Safety of employees?**

I am passionate about people's well-being. The role of a Full-Time Health and Safety Rep involves supporting the health and well-being of employees to ensure that they return home safely. One aspect of safety that I find fulfilling is coaching and guiding people to remain safe.

**3. How long have you been a Senior Health and Safety Representative?**

I have been a Senior Health and Safety Representative for 3 years.

**4. Why should you be voted as a Full-Time Health and Safety Representative?**

I am committed to being a Safety champion and advice employees on matters of Health and Safety in line with the Mine Health and Safety Act.

**5. What contribution/improvement and innovation will you bring to the business?**

I will ensure that Safety Reps are empowered for their roles. Furthermore, I will engage with the business to create training opportunities to optimize their job efficiency.

## Making sensible engineering decisions based on adequate, credible data/information and engineering simulations to avoid unnecessary business interruptions

René Pierré Coetzee

Peter Drucker, a management consultant who received 25 honorary doctorates during his career and was described as the founder of Modern Management, wisely coined the phrase “*You can’t manage what you don’t measure*”. A phrase which could not have been more relevant in a world where the 4<sup>th</sup> industrial revolution is unraveling before our eyes as large amounts of data are being made available for advanced analytics and decision-making. Making educated technical decisions, timeously in a mine like PMC where change is the only constant, has become imperative for us to survive and thrive in an ever-increasing competitive industry.

I am a big supporter of having as much credible data available as possible for us to adequately analyze problems, diagnose the root causes and to put sustainable engineering solutions in place.

It is therefore no coincidence that we have deliberately embarked on a journey at Engineering Services that is aligned with the industry’s digitization trend by implementing a platform that enables large amounts of data to be received, stored, displayed (in real-time), trended (historically) and made easily accessible for further analysis. The Canary Data Historian and Axiom dashboards (Figure 1) enable PMC personnel to visualize plant performance and plant health thereby assisting with troubleshooting, control optimization and predictive maintenance. A pump cavitation problem, resulting from a troublesome control strategy was recently identified and corrected by using the Axiom dashboards.



Figure 1: Return water pumping system displaying plant performance in real-time

The Canary data historian and Axiom dashboards have also enabled us to digitize our potable and raw water billing process. By converting old, mechanical water flow meters, that are scattered across the mine and had to be manually read monthly to electronic water flow meters, sectional water consumption can be monitored real-time, thereby ensuring the effective management thereof. The first 20 electromagnetic flow meters (Figure 2) have already been installed with another 20 to follow in the next 6 months.



Figure 2: Newly electromagnetic flow meters installed on raw and potable water pipelines

Similarly, the 11kV, Power Monitoring System is also being upgraded and expanded on with new Power Monitoring Expert (PME) software and 30 additional (on top of the existing 57), state-of-the-art power meters (Figure 3) that not only enables one to view and trend standard electrical parameters such as voltage, amperage, power factor and power but also critical power quality parameters with up-and-down stream fault indicating capabilities. Improved electrical billing and sub-billing further allows for sectional electrical consumption and cost to be effectively managed.

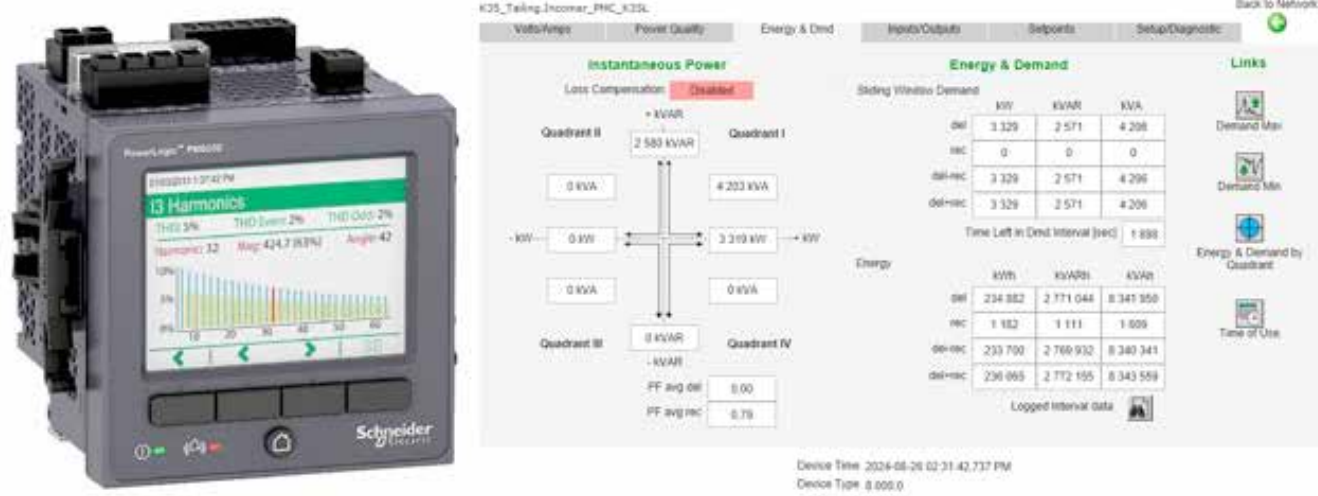


Figure 3: New PM8000 power meter and PME display screenshot

Although the engineering simulation industry is more than 50 years old and is mostly used during engineering designs, Engineering Services is making a concerted effort to use engineering simulations for any technical changes that would alter the plant structurally, mechanically, electrically or from a process perspective. Examples of where such engineering simulations have proven helpful are where the effect of changes to pumping systems have been assessed through a pumping system simulation tool that was developed in-house. The pumping system simulation tool (Figure 4) enables us to make timeous, educated calls on changes to pumping systems to determine which change/scenario is feasible and best suited. This endeavor also assisted to build competence within our business by developing personnel into subject matter experts that can advise on pumping system challenges.

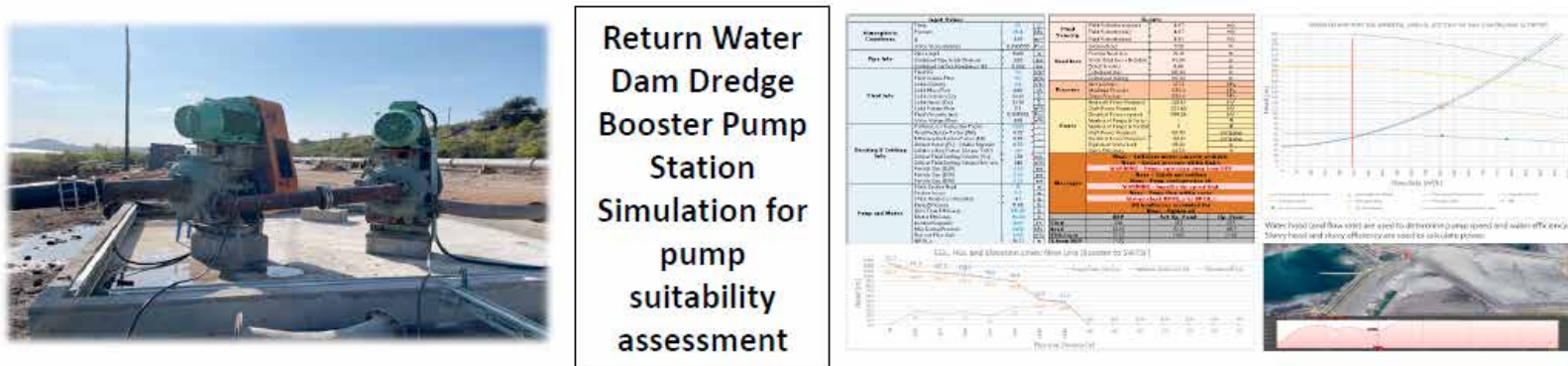


Figure 4: Pumping Simulation results confirming pump suitability

Engineering simulations can also be used to improve the safety of our mining operations. Such an example is where all conveyors that transitioned to the fire retardant (Type F) conveyor belts were simulated to ensure suitability of the belt as well as the changes required to the existing conveyor to accommodate the new belts. Over the past 18 months, close to 15 conveyor systems were analyzed and simulated with the Sidewinder Conveyor Design software (Figure 5).

Material		Motors		Take-up		40 207	
Tonnage (t/h)	2 000	Nameplate (kW)	3 x 630	Requirements (N)	Sag	TR	
%CEMA Area	44 %	Demand (kW)	1540 / 1890	Steady State	35 009	2 829	
Edge Dist (mm)	238	Percent Nameplate	81.5 %	Dynamic	21 569	2 860	
Met. Mass (kg/m)	158.7	Lift / Drag (kW)	1082 / 458	<b>Idlers</b>		6306	6205
<b>Belt</b>		<b>General</b>		Min L10 Life	79 178	115 262	
Type	Steel	Temperature (°C)	10.0	Max Shaft Def.	2.4 / 5.7	6.23	
Width (mm)	1200	Length / Height (m)	1 395 / 199	Diameter (mm)	127	127	
Speed (m/s)	3.50	Material Lift (m)	198.6	Speed (rpm)	526	526	
Rating (N/mm)	ST-3500	Belt Line Mass (kg)	489 502	Avg Set Drag (N)	22.9	13.9	
Covers (mm)	16.0 x 6.0	Din Factor f / Cs	0.0263 / 1.080	Avg Spacing (m)	1.50	3.00	
Mass (kg/m)	52.8	Curves / Flap	Ok / Check	Req'd Pulley Diam	---	1250	1000
<b>Tensions</b>		<b>Dynamics</b>		Time	Mtr/Brk	TR (%)	
Running	Max (kN) 534.6 SF 7.86 Splice SF --- Min (kN) 39.3 Sag (%) 0.88	Running	---	---	81.5 %	M1 - 91	
Starting	589.4 7.13 --- 38.5 0.87	Starting	20.0	94.9 %	M1 - 84		
O-Stop	259.7 16.17 --- 31.5 1.23	O-Stop	4.0	---	---		
E-Stop	259.7 16.17 --- 31.5 1.23	E-Stop	4.0	---	---		

Figure 5: Sidewinder simulation extract confirming adequate safety factors

Although proper data analysis and engineering simulations might seem to be tedious and time intensive it plays a vital role in the due diligence process for new engineering designs as well as any technical changes required on existing plant equipment/processes. Properly assessing changes from a technical perspective can in fact save a lot of time and money and can also highlight further improvement areas.

At Engineering Services, I am fortunate to be part of a team that places such emphasis on making sensible engineering decisions based on adequate, credible data/information and engineering simulations to ultimately avoid unnecessary business interruptions.