



JUNE / 2021

# TALLERES INDUSTRIALES, S.A.

24/7 SHIP REPAIRS AND MARINE SOLUTIONS

MAGAZINE 9th Edition



## MAIN FEATURES

### UNDERWATER SOLUTIONS

Underwater maintenance and repair services at the Panama Canal

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### RECONSTRUCTION OF AN ENGINE ROOM - FINAL PHASE

Major electrical repairs on a main engine after a fire

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### REPAIRS ON LIEBHERR MINING HYDRAULIC EXCAVATOR ARM

Supporting the Mining Industry

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## LOAD TEST



Talleres Industriales considers safety its highest priority. Cargo handling equipment is overly critical machinery for ship-owners and seafarers. Talleres counts with well-trained engineers that have vast experience to inspect, test, and certify all lifting appliances onboard vessels. TISA handles all kind of deck cranes, derricks, mobile cranes, shore-based cranes, lifting tackles, grab buckets, slings, shackles, hooks, chain pully blocks, and all types of lifting equipment, complying with all relevant rules and requirements of the IACS Classification Society.

In Talleres, we are well equipped with load test bags to perform testing up to 150 tons on cranes. We also have custom made bags to perform testing of gangways, platforms, and lifeboats. We are ready to assist 24/7, at either side of the Panama Canal; at anchorage or lay-by berth.



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@talleres\_industriales



talleresindustriales -shiprepairs



# EDITORIAL



## SAFETY IS NON-NEGOTIABLE!

Safety is crucial for all our operations, and we are committed to having a safe and accident-free workplace environment. As one of our Core Values, safe behavior is non-negotiable in all our projects, in our workshops, and on-board vessels.

We are always looking after the health and wellbeing of all our employees. By having that safety-oriented culture, last month we obtained our ISO 45001 certification.

ISO 45001 is the world's international standard for occupational health and safety, issued to protect employees and visitors from work-related accidents and diseases. The ISO 45001 certification was developed to mitigate all factors that can cause permanent harm to employees and businesses.

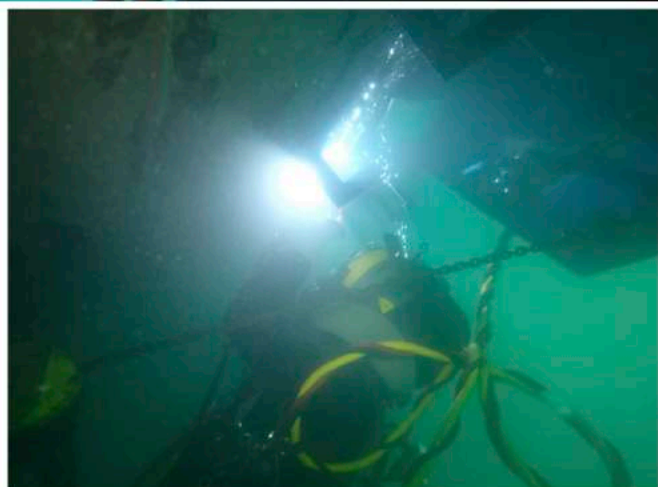
This certification paves the way towards fewer workplace injuries and illnesses, through a proactive approach of hazard identification and risk assessment, which in turn leads to improved organizational health and safety. With the ISO 45001 certification, Talleres Industriales demonstrates that we have taken every vital step to protect the workers by eliminating ineffective practices, which at the same time help the employees to deliver more, within the stipulated time, and with the support of the effective systems in place.

## UNDERWATER SOLUTIONS

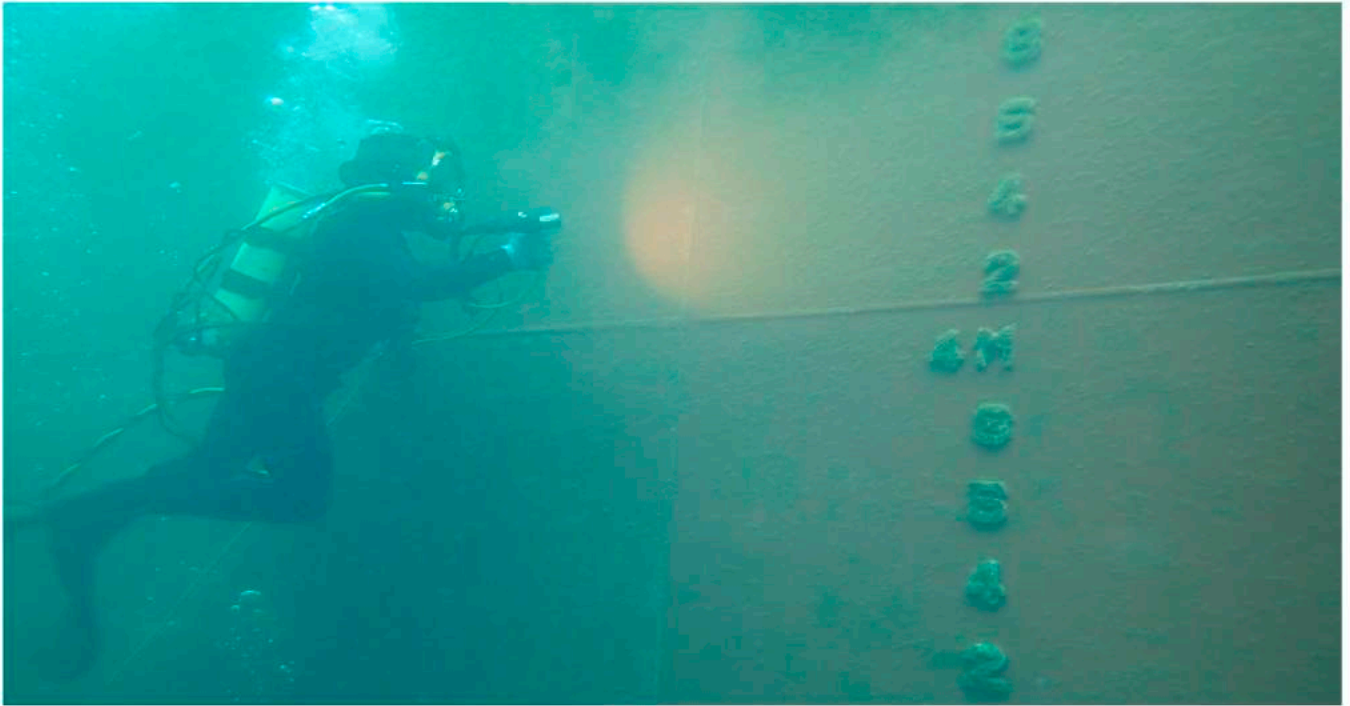


Talleres Industriales S.A., the leading commercial diving company in Panama, marks a half century of performing ships repairs and maintenance services below and above the waterline, on both ends of the Panama Canal, and in Central America, offering the highest standards of quality and safety.

Talleres' Diving Division complies with the international diving safety global standards, after the implementation of a Diving Safety Management System, and works also with the standards established in our own diving operation safety manual and certified by ISO 45001.







Talleres Industriales' Diving Division uses the latest underwater hull cleaning technologies, offering our customers the HullWiper ECO Friendly ROV, which employs waterjets instead of brushes to diversify our range of services, provide our customers with a green solution for the sea, and a reduction of the carbon footprint.

Our commitment is to keep ships moving, while meeting the highest standards of quality, safety, punctuality, and applicable requirements (to even exceed our clients' expectations). This is achieved through highly qualified personnel and constant improvements implemented on a daily basis, maximizing the benefits for our clients, our employees and our community.

#### **Our diving station specializes in:**

- Underwater hull cleaning and propeller polishing – Eco Friendly ROVs
- Underwater Repairs and Engineering – shell plating, propeller, scrub-ber pipes, habitats
- Underwater CCTV / Photography – Class Approved
- Underwater Blanking / Sealing
- Salvage jobs

HULL CLEANING IN PANAMA

SMALL SIZE  
**BIG IMPACT**



**Biofouling has met its match**

A hull cleaning solution that leaves your vessel's bottom  
free from invasive marine species.





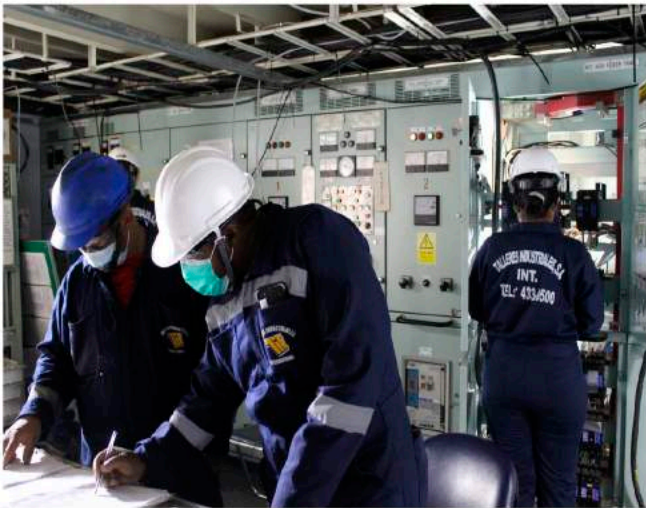
# RECONSTRUCTION OF AN ENGINE ROOM



For the Engine Room reconstruction, the most challenging job was the electrical one. We were responsible all-around, from analyzing all electrical diagrams and locating marine class approved cables, to testing the system after all the connections were made.

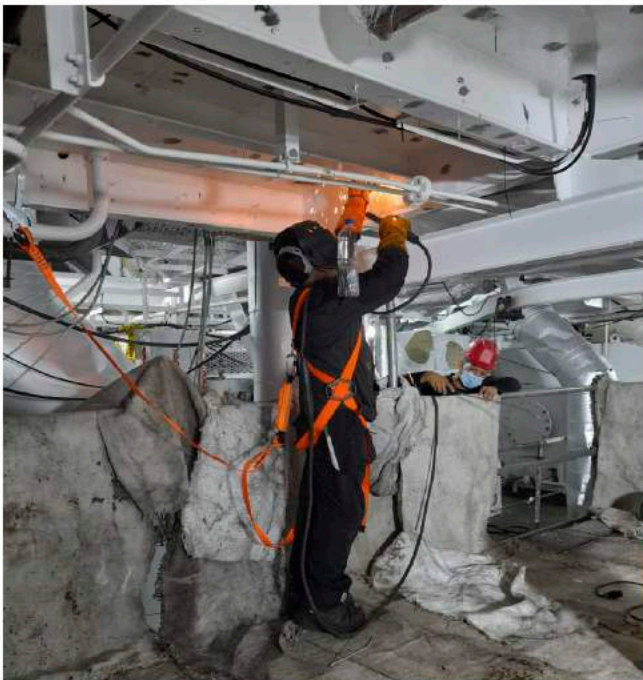
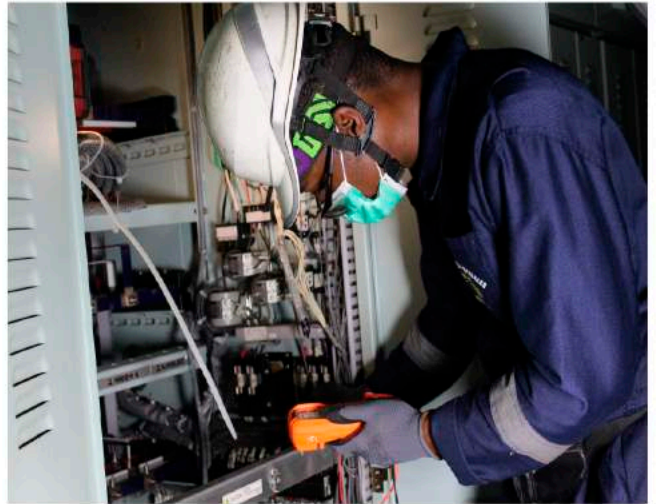






Talleres Industriales (TISA) has a wide range of electrical professionals, from Electrical Engineers to general electricians, which work together to meet our clients' expectations and even surpass them. On this special occasion, TISA had to route more than 12km of cables of various diameters to replace all those that were affected by the fire. While one team was laying out the cables, another team was ensuring that all other systems were working properly.

System by system, we went connecting electrical panels and ensuring that they worked properly.





The range of work included the replacement of cables in the engine room and cable trays and control consoles in the accommodations. Some of these had to be replaced completely, others were placed in brand new junction boxes, and still other power cables were spliced following approved procedures. Besides cable laying, we also installed brand new electrical panels, modified circuits; supplied and installed new sensors, and tested numerous alarms.

While different jobs took place on the ship, everything was always powered up using our shore generators in order to keep all crew members in a comfortable environment.



# WHO IS WHO IN OUR TEAM



**Abdiel Vanegas**  
Project Manager  
Maintenance Supervisor  
Expertise: Marine Electrical Repairs & Troubleshooting,  
Generator Installations Expert, Mechanical Jobs



**Edward Baules**  
Maintenance Manager  
Expertise: Maintenance protocols, Mechanical, Process  
design, Elevator systems

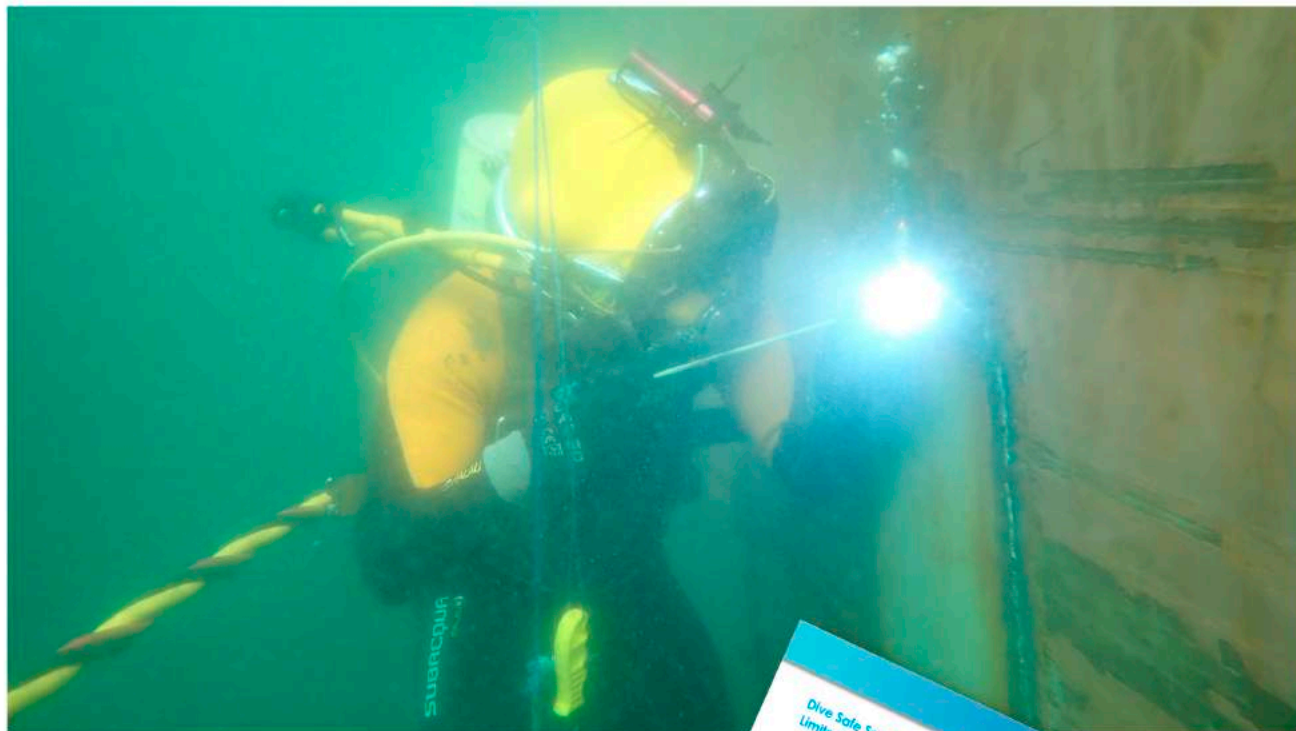


**Maurice Cohen**  
Project Manager  
Pollution & STS Service technician  
Expertise: Pollution, Tank Cleaning, Bunkering, Fendering,  
Afloat repairs



**Irving Abadia**  
Project Supervisor  
Steel & Mechanical Service technician  
Expertise: Structural Repairs, Machining, Mechanical  
Repairs, Design & 3D Modeling

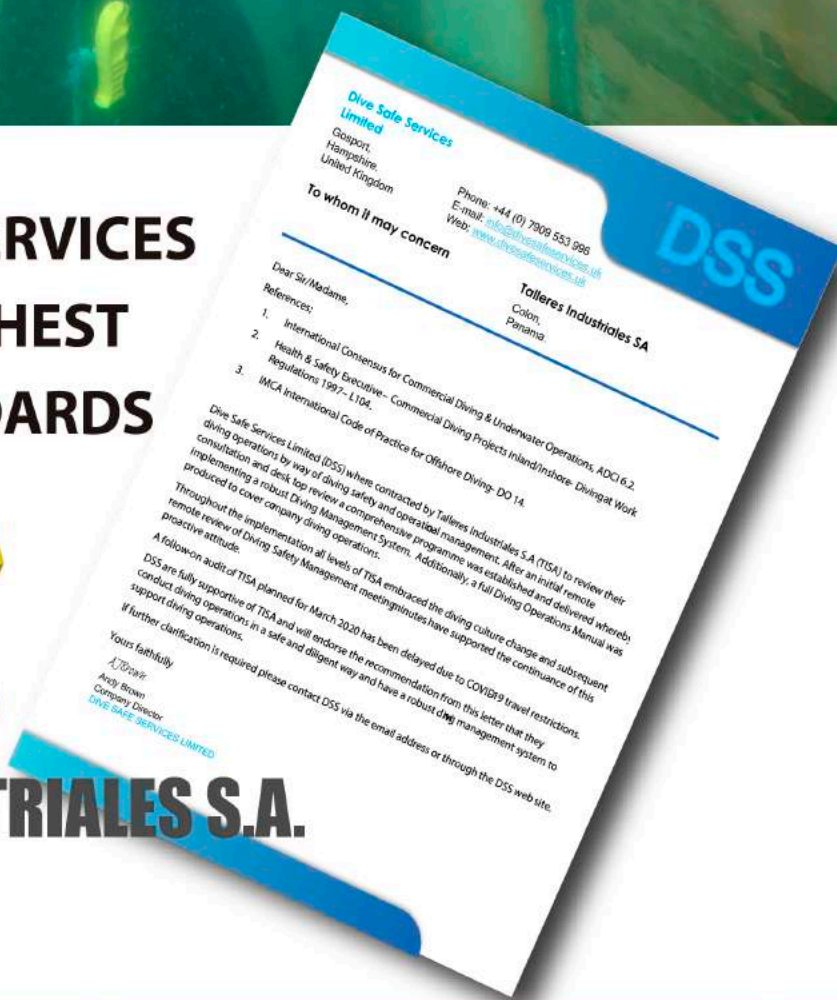




# UNDERWATER SERVICES WITH THE HIGHEST SAFETY STANDARDS



## TALLERES INDUSTRIALES S.A.





TALLERES INDUSTRIALES S.A.  
OIL POLLUTION CONTROL DIVISION

# POLLUTION CONTROL DIVISION ALL OVER THE PANAMA CANAL



## READY 24/7, 365

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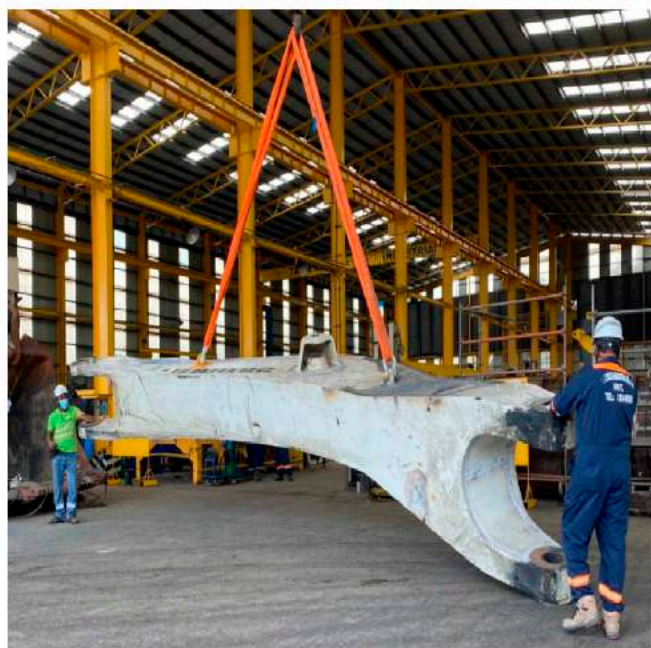
PRESENCE OF TALLERES INDUSTRIALES S.A.  
IN PANAMA - BALBOA



TALLERES INDUSTRIALES S.A.  
OIL POLLUTION CONTROL DIVISION



## REPAIRS ON LIEBHERR MINING HYDRAULIC EXCAVATOR ARM



Talleres Industriales was recently trusted by OEM Liebherr to perform permanent repairs to one of their Liebherr R 9100B mining excavator arm. OEM's mine's main contractor brought this equipment to our workshop for a quality, cost-efficient solution.

Operating weight with backhoe attachment  
**108.50 tons**

Operating weight with face shovel attachment  
**112.50 tons**

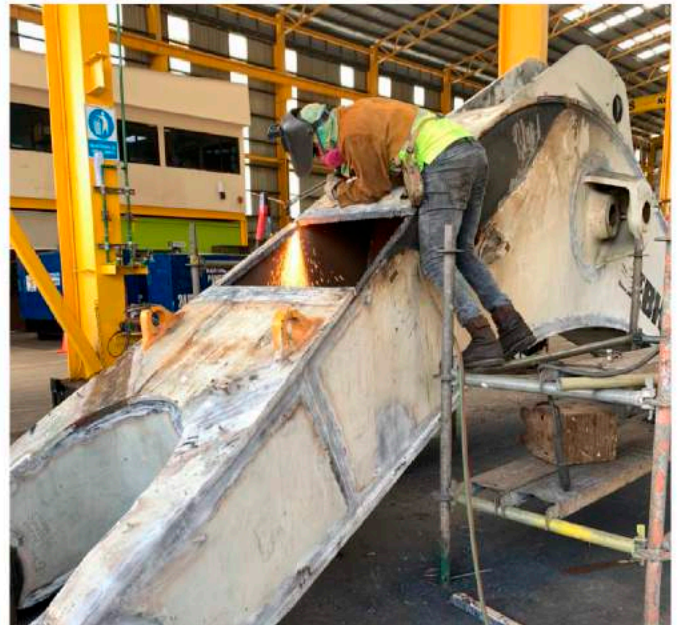
Engine rating at 1800 rpm **565 kW**

Bucket & Shovel capacity at **1.8 t/m<sup>3</sup> 7.00 m<sup>3</sup>**





The Liebherr R 9100B has proven to be a reliable and productive partner to the mining industry over the years and functions as the optimal tool for loading 50 ton to 100 ton in off-highway trucks. The structural repairs consisted in repairing cracks and fatigued areas, as well as installing reinforcement kits, which included internal brackets and external doubler plates.



Magnetic particle test of all suspected welds and fractures was done by the level 2 NDT inspector at the initial stage and upon completion. After localizing all cracks, these were gauged, beveled, and preheated via different approved pro-cesses, before the specialized welding was done.





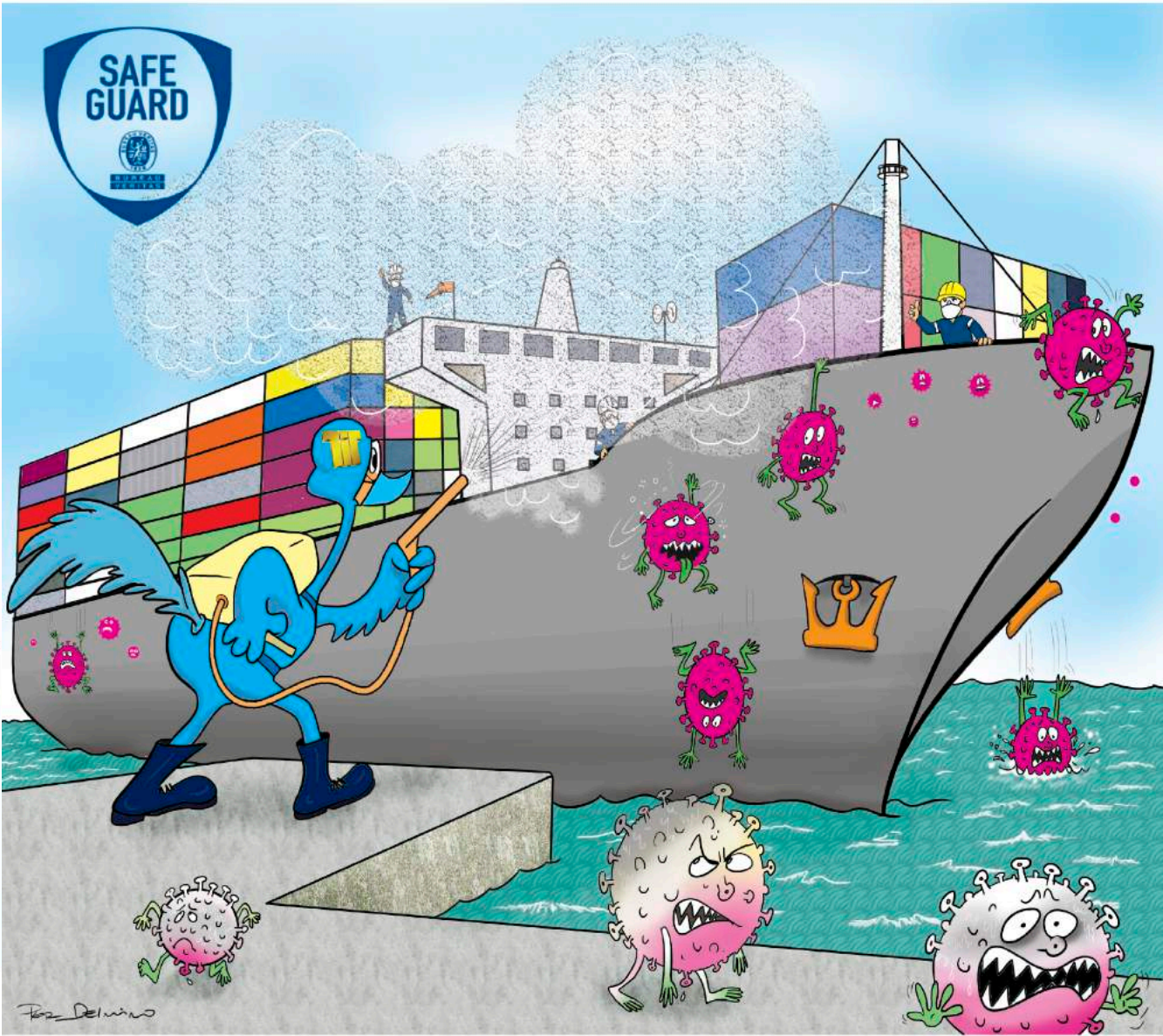
Furthermore, with our in-situ machining equipment and on three worn positions, some repairs were conducted. Started by building up by welding and then rectified to final (standard) measurements. Surface preparation and painting was made to the excavator arm as per OEM specifications and guidelines.

We feel proud to keep assisting the mining industry in Panama. Our mission is to provide immediate solutions and to reduce the economic impact for our customers, while promoting employment and ethical values, coupled with social and environmental responsibility. We are ready to assist you 24/7, 365 days each year.





# OUR CULTURE – 24/7 CORONA VIRUS DISINFECTION DIVISION



## BV SAFEGUARD COVID COMPLIANCE



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