

Mining Truck

T 282 B

Job Report

Liebherr T 282 B
Trucks Moving Tons at
Arizona Copper Mine



LIEBHERR

Situation

ASARCO's Ray Copper mine is located in southern Arizona about 60 miles east of Phoenix in the Sonoran Desert region. Seasonal temperatures range from an average of 52 degrees in the winter to 86 degrees in the summer. Although this is a desert region, it is also one of the wettest deserts in North America with a wide range of rainfall – from 3 to 16 inches per year.

Open pit copper mining by ASARCO, at this location, began in 1948 and the area being mined has consistently been expanded. ASARCO, an acronym for American Smelting & Refining Company has a long history of mining in the United States, Mexico, Australia and South America. In Arizona alone, the combined production from the Mission, Silver Bell and Ray mines are 350-400 million pounds of copper per year. The company is currently a subsidiary of Grupo Mexico with headquarters in Tucson, Arizona.

An expansive open pit, truck and shovel operation, the Ray Mine is a part of ASARCO's Ray Operation. This includes the 250,000 ton per day open-pit mine with a 30,000 ton per day concentrator and a 80 million pound/year solvent extraction-electro winning operation with the associated maintenance and administrative support infrastructure. The Ray Operation covers over 9,000 acres and employs 730 people. The existing haul roads are approximately 6 miles in length with longer hauls expected in the future as mine development continues.



Assignment Report

Due to the age, reliability, and inherent maintenance issues with smaller payload capacities of haul trucks on site, a decision was made to begin updating the haulage equipment to larger capacity trucks to help meet future projected production figures. A criteria guideline was established to aid in the selection of industry proven, fuel efficient, diesel electric haul trucks that would require the least amount of preventative maintenance requirements, and yet carry the largest payload. Trucks to be purchased would be required to move the greatest amount of material for the lowest cost per ton. Any truck equipment selected must be able to cycle in accordance with the equipment already on site.

Trucks purchased should be equipped with the highest horsepower engines available and the latest tested technologies to provide optimum equipment lifetime. Highly responsive Customer Support network must be in place for after sales parts accessibility, any service issues that may arise, and OEM provided operator training.





Solution

A projected plan was initiated to replace the older, smaller capacity haul trucks at the Ray Mine beginning in 2007 with the purchase of nine (9) diesel electric, AC drive T 282 B haul trucks. The Liebherr T 282 B is powered by the MTU DD 20V4000 - 3650 hp engine and has inherent low maintenance requirements due to the utilization of the proven AC drive system which has less moving parts than a mechanical drive system. Over the expected lifetime of haulage equipment this represents a savings worthy of consideration. To provide customer support, Liebherr has a 20,000 sq ft Liebherr parts warehouse and service facility located in the southwest, specifically equipped to handle the requirements of current and future parts warehousing including the incorporation of limited rebuild services. The warehouse also serves as the headquarters for area service personnel.

Performance

Manufactured to take the challenges of various open pit mining operations, the T 282 B with its 400 ton payload capacity still weighs less than any other unit within the Ultra Class truck category allowing a better ratio of payload to empty vehicle weight. The AC drive system has continuous high acceleration and retard performance and together with the T 282 B's high horsepower diesel engine, provides the mine operator with the benefits of fuel efficiency and higher productivity. Consistent high availability records for the Liebherr truck fleet at ASARCO's Ray Mine substantiates the fact that the Liebherr diesel electric, AC drive trucks are the best option for this mining operation.

Technical Data

T 282 B

Engine	MTU/DD 20V4000
Engine Output per SAE J 1995	3650 hp / 2722 kW
Drive System	Siemens-Liebherr
Gear Ratio	43.7:1
Payload Capacity	400 ton / 363 t
Maximum Operating Weight	652 ton / 592 t
Tires	56/80 R63



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Wide product range

The Liebherr Group is one of the largest construction equipment manufacturers in the world. Liebherr's high-value products and services enjoy a high reputation in many other fields, too. The wide range includes domestic appliances, aerospace and transportation systems, machine tools and maritime cranes.

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Every product line provides a complete range of models in many different versions. With both its technical excellence and acknowledged quality, Liebherr products offer a maximum of customer benefits in practical application.

State-of-the-art technology

To provide consistent, top quality products, Liebherr attaches great importance to each product area, its components and core technologies. Important modules and components are developed and manufactured in-house, for instance the entire drive and control technology for construction equipment.

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Hans Liebherr founded the Liebherr family company in 1949. Since that time, the enterprise has steadily grown to a Group of 100 companies with over 30,000 employees located on all continents. The corporate headquarters of the Group is Liebherr-International AG in Bulle, Switzerland. The Liebherr family is the sole owner of the company.

www.liebherr.us



Printed in Germany by Typodruck BK-RP LFR/SP 10492807-2-09.08 Illustrations and data may differ from standard equipment. Subject to change without notice.

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