GENROBOTICS®

CASE STUDY :

ROBOTIC PIT CLEANING

Mechanical Removal of Highly Viscous Petroleum Sludge

CLIENT :
Indian Oil Corporation Ltd.
Panipat Refinery

LOCATION :
Panipat, Haryana, India

PROJECT BACKGROUND

IOCL required a robotic solution to clean OWS and SWS pits filled with highly viscous sludge, a byproduct of petroleum refining. Traditional suction failed due to the thickness and weight of the material.

DEPLOYMENT DETAILS

- 130 problematic manholes cleaned.
- No preventive cleaning had been done; all were critical obstructions.
- Bandicoot's mechanical arms broke and removed sludge directly.

CHALLENGES ADDRESSED

- Petroleum sludge too thick for suction to extract.
- Safety concerns for human entry.
- Waste hardened over time due to lack of cleaning.

TECHNOLOGY IMPACT

- Bandicoot's mechanical scooping arms proved critical.
- Succeeded where high-powered suction failed.
- Remote operation ensured safety during high-toxicity exposure.

OUTCOME

- Restored flow in 130+ critical manholes.
- Proved that robotic arms outperform suction in sludge-heavy environments.
- Positioning Bandicoot as a go-to for high-viscosity waste pits.