



NAKAMBALA PRODUCT ALIGNMENT AND REFINERY PROJECT

ZAMBIA 2016



FORGES TARDIEU

ENGINEERING

PROJECT OVERVIEW



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CLIENT	ZAMBIA SUGAR PLC
EPCM	BOSCH PROJECT
SITE	NAKAMBALA, MAZABUKA, ZAMBIA
PROJECT SCOPE	<ul style="list-style-type: none">-RAW HOUSE UPGRADE <i>640 to 700TCH</i>- BOILER UPGRADE <i>MCR 160 to 185TPH</i>- NEW REFINERY <i>90,000 t/year</i>- CONDITIONING SILO <i>200 t</i>- PACKING STATION
PROCESS	RAW SUGAR REFINE SUGAR
INDUSTRIAL OPERATION	2016
PROJECT VALUES	USD 90,000,000
FORGES TARDIEU CONTRACT VALUES	USD 17,400,000

FORGES TARDIEU SCOPE



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REFINERY EQUIPMENT DESIGN & SUPPLY:

- Batch Pans
- Strike Receivers
- Melters
- Dryer Station



STEEL & PIPING SUPPLY:

- Raw House Upgrade
- Boiler Upgrade
- Refinery Building



STEEL, PIPING & MECHANICAL INSTALLATION:

- Raw House Upgrade
- Bagasse Handling
- Boiler Upgrade
- Refinery
- Conditioning Silo

Pan Capacity
42m³ x 2

Massecuite Flow Rate
24t/h

Material
3Cr12



REFINERY EQUIPMENT DESIGN & SUPPLY

BATCH PANS



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REFINERY EQUIPMENT DESIGN & SUPPLY

STRIKE RECEIVERS



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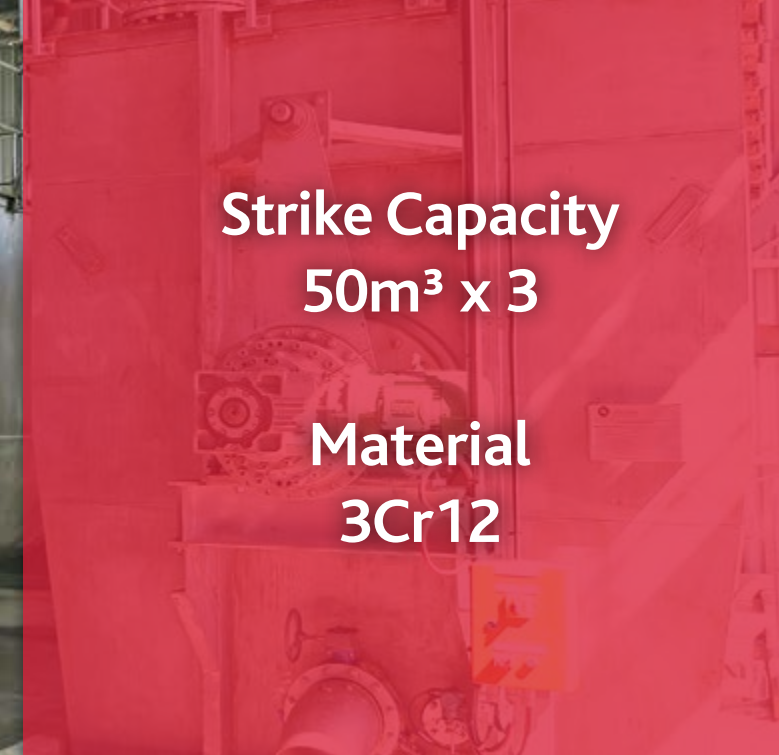
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INNOVATIVE ENGINEERING

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R3 STRIKE RECEIVER- 50 m³

EQUIPMENT NO: 44-20-420-CX1

PROJECT NO :	63451	FABRICATION YEAR: 2015
MAIN CONSTRUCTION CODE:	BS 2594	
OPERATING PRESSURE	ATMOSPHERIC	

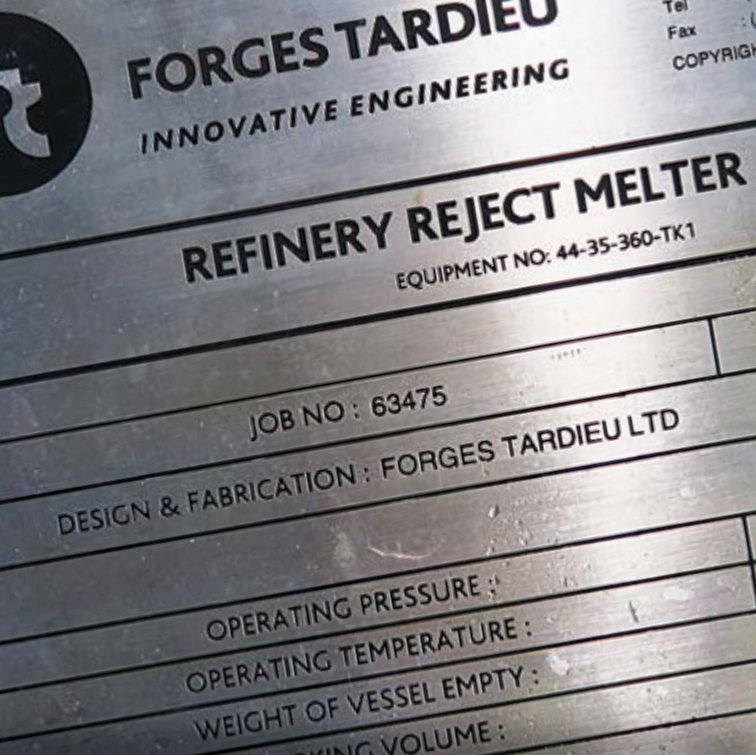


Strike Capacity
50m³ x 3

Material
3Cr12



CONSTRUCTION CODE:
OPERATING PRESSURE
OPERATING TEMPERATURE
HYDROSTATIC TEST PRESSURE
WEIGHT OF VESSEL EMPTY
OPERATING VOLUME
ELECTRIC MOTOR



REFINERY EQUIPMENT DESIGN & SUPPLY

MELTERS

Refined Sugar Flow Rate
7.5 – 11.5 t/h

Material
3Cr12



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REFINERY EQUIPMENT DESIGN & SUPPLY

DRYER STATION



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Rotary Louvre Type

Refined Sugar Output
25t/h





Steel Structures

1225 t

Piping

13 km



STEEL & PIPING SUPPLY

RAW HOUSE UPGRADE

BOILER UPGRADE

REFINERY BUILDING



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STEEL, PIPING & MECHANICAL INSTALLATION

RAW HOUSE UPGRADE



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Press Water Clarifier
Rotary Screens x 2
Juice Heaters Building
Juice Heaters x 4
Reject Condensate
Vessels
Juice Heater
Condensate Receiver
Mill Intercarriers
Refurbishment
Mud Tank
Mud Mixer
Filtrate Receiving &
Seal Tanks
Juice Splitter Box

Mud Filters x 2
& Accessories

Juice Clarifier

85m³ Continuous
Vacuum Pan

Condenser

V3 & V4 Condensate
Flash Vessel

Lime Prep Tank

'A' Vacuum Seed Receiver

'A' Molasses
Conditioning Tank

'B' Molasses
Conditioning Tank

HSL 2 CVP 'A' Seal Tank



**STEEL,
PIPING &
MECHANICAL
INSTALLATION**

RAW HOUSE UPGRADE



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**STEEL,
PIPING &
MECHANICAL
INSTALLATION**

BAGASSE HANDLING

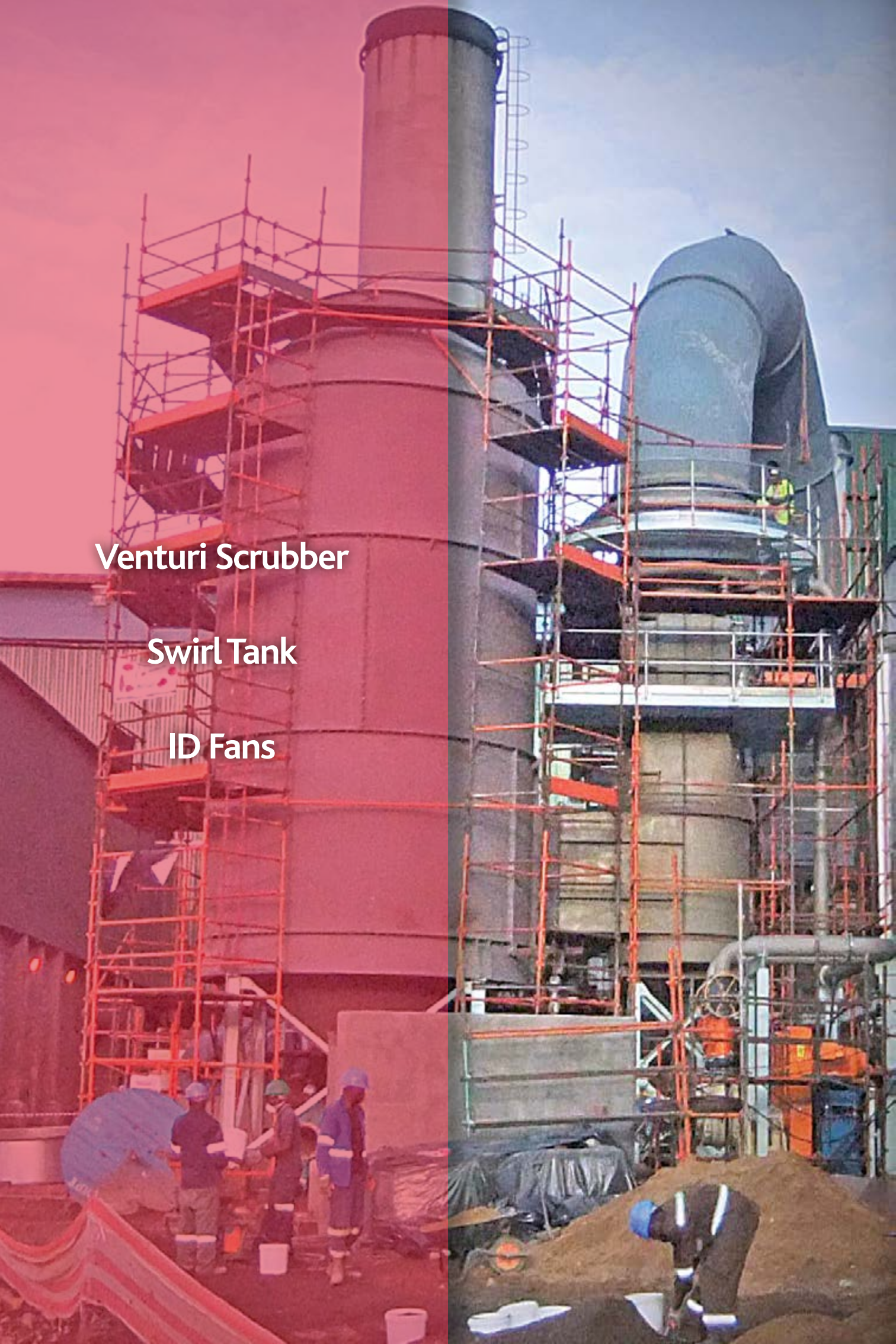


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Belt Conveyors x 3
Slat Conveyors.





Venturi Scrubber

Swirl Tank

ID Fans



STEEL, PIPING & MECHANICAL INSTALLATION

BOILER UPGRADE



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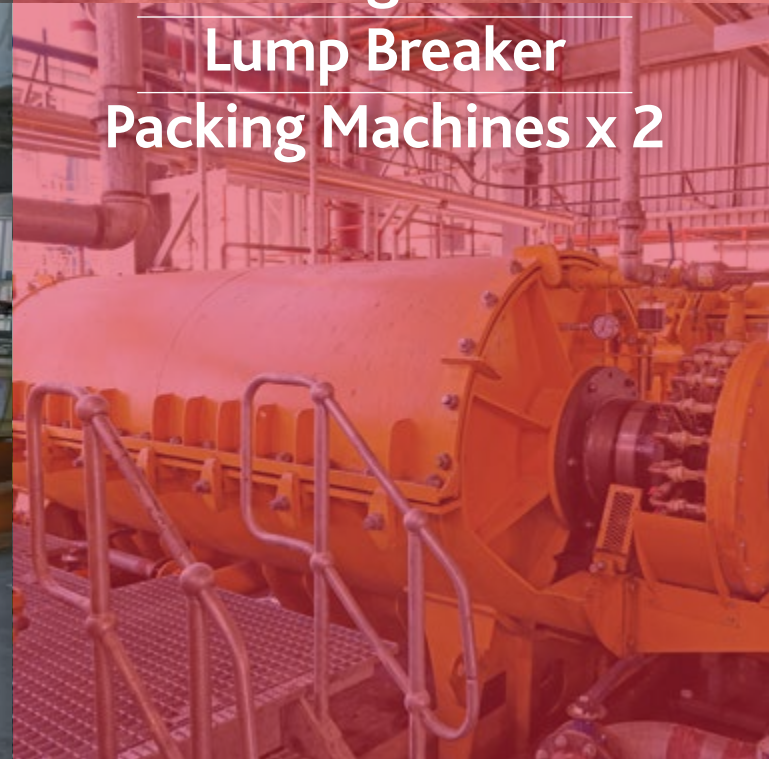
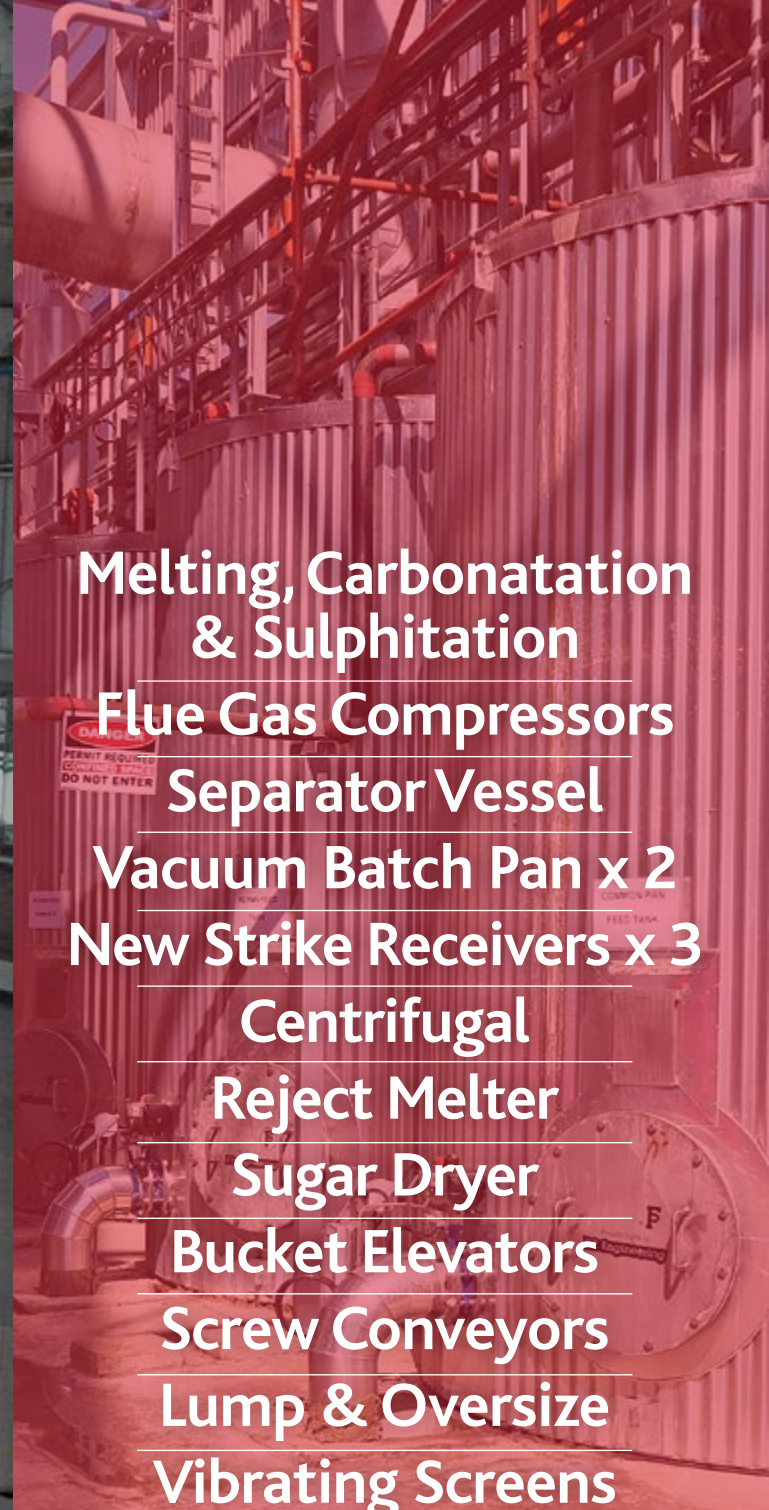
STEEL, PIPING & MECHANICAL INSTALLATION

REFINERY



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- Melting, Carbonatation & Sulphitation
- Flue Gas Compressors
- Separator Vessel
- Vacuum Batch Pan x 2
- New Strike Receivers x 3
- Centrifugal Reject Melter
- Sugar Dryer
- Bucket Elevators
- Screw Conveyors
- Lump & Oversize Vibrating Screens
- Lump Breaker
- Packing Machines x 2



STEEL, PIPING & MECHANICAL INSTALLATION

CONDITIONING SILO



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MOBILISATION

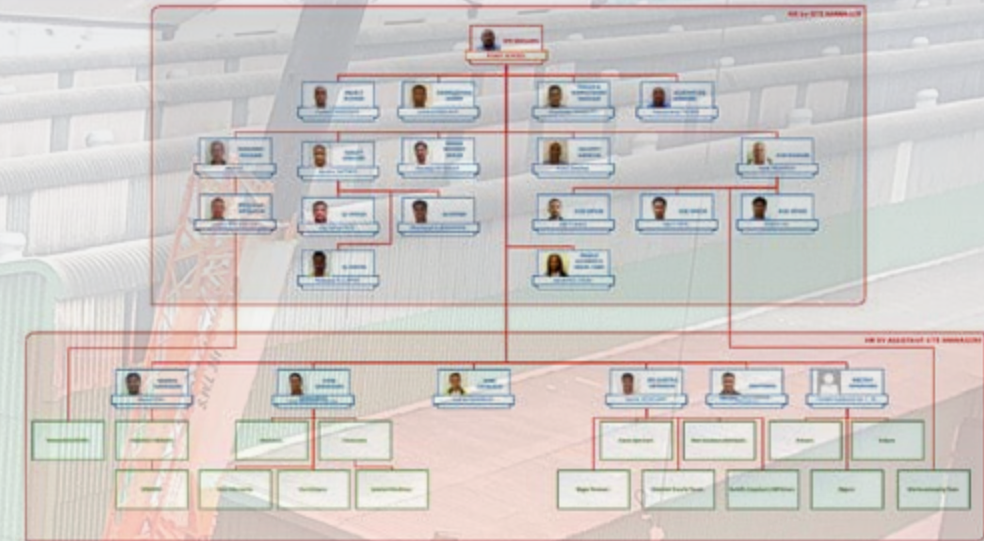


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PLANT & MACHINERY Imported from Mauritius

SITE TEAM MANAGEMENT STRUCTURE



MANPOWER
335 Expatriate Skills Labour
250 Local Labour
50 Management Staff

SITE AMENITIES
Site Camp
Site Office & Stores
Laydown & Site Buffer Area

WELFARE FACILITIES
Birthday Celebration
Culture & Nature Trip
Festivals
Celebrating Achievements
Sports Competition
Cricket, Volley Ball & Football

MOBILISATION

MANPOWER :
335 Expatriate Skills Labour
250 Local Labour
50 Management Staff



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MOBILISATION

SITE AMNITIES :

Laydown & Site Buffer Area

Site Camp

Site Office & Stores



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ENGINEERING



MOBILISATION

WELFARE FACILITIES :

Birthday Celebration

Culture & Nature Trip

Festivals

Celebrating Achievements

Sports Competition

Cricket, Volley Ball & Football



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TOOLBOX TALKS
PPE
MEDICAL FACILITY
EFFECTIVE H&S
MANAGEMENT

CERTIFICATE OF
ACHIEVEMENT:

1.1 MILLION
MAN HOURS

PERFORMANCE
APPRAISAL FROM
CLIENT :

“Very Good
leaning to
excellent”

HEALTH,
SAFETY &
PERFORMANCE
ACCOMPLISHMENTS



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