

## OVERVIEW SHEETS - MILL N° 1

### PROJECT INFORMATION

|                                      |               |
|--------------------------------------|---------------|
| MILL TYPE: 20'-0" x 33'-0" BALL MILL | REVISION N° 0 |
|--------------------------------------|---------------|

### GENERAL MILL INFO

|                                    |                                      |                                   |
|------------------------------------|--------------------------------------|-----------------------------------|
| MILL TYPE: BALL MILL               | WET/DRY: WET                         | DISCHARGE TYPE: TRUNNION-OVERFLOW |
| DIA: 20 ft 0 in (6,096 mm)         | LENGTH: 33 ft 0 in (10,058 mm)       | EGL: 32 ft 6 in (9,906 mm)        |
| QTY: 1                             | NOMINAL SPEED: 75.0 % TCS, 13.04 RPM | VARI-SPEED? YES REVERSIBLE? YES   |
| TROMMEL SCREEN REQ'D? NO           | SCREEN EFF. DIA: N/A mm              | SCREEN EFF. LENGTH: N/A mm        |
| FEED CHUTE TYPE: RUBBER-LINED PIPE | MOUNTING: TRUCK                      | POWERED BASE? NO                  |

### SHELL INFORMATION:

|                       |                         |                                       |
|-----------------------|-------------------------|---------------------------------------|
| N° OF PIECES: 6       | ARC (DEG): 180 °        | FLANGE TYPE: STRAIGHT (ALL)           |
| PLATE WIDTH: 70/50 mm | FLANGE WIDTH: 105/95 mm | FLANGE MATERIAL: A36 Z25 (NORMALIZED) |

### HEAD/TRUNNION INFORMATION

|                       |   |                    |                                  |
|-----------------------|---|--------------------|----------------------------------|
| N° OF PIECES: 2       | ARC (DEG): 180 °                          | HEAD ANGLE: 22.5 ° | TYPE: CONICAL HEADS w/ TRUNNIONS |
| INTEGRAL TRUNNION? NO | HEAD MATERIAL: CAST STEEL or DUCTILE IRON |                    |                                  |

### DRIVE INFORMATION

|   |                              |                             |
|---|------------------------------|-----------------------------|
| DRIVE TYPE: SINGLE PINION                 | GEAR REDUCER REQUIRED? NO    | IF "YES", RATIO: N/A :1     |
| HIGH-SPEED SHAFT COUPLING: ---            | VENDOR: ---                  | REF. N°: ---                |
| LOW-SPEED SHAFT COUPLING: TORQUE-LIMITING | VENDOR: BRUNEL               | REF. N°: JSE3-0145N         |
| GEAR MATERIAL: CAST OR FAB STEEL          | GEAR:PINION RATIO: 15.330 :1 | DESIGN BY FLS? YES          |
| PINION BEARINGS: SKF REF. N° 23292        | TACONITE SEALS? YES          | <b>*Gear Data Attached*</b> |

### MOTOR INFORMATION

|   |                                     |                      |
|---|-------------------------------------|----------------------|
| MOTOR TYPE: LOW-SPEED SYNCHRONOUS             | IN FLS SCOPE? YES                   | STARTER INCLUDED? NO |
| MOTOR POWER (EA): 8,981 HP (6,700 kW)         | RATED SPEED: 200 RPM                | VARI-SPEED? YES      |
| ELECTRICAL SUPPLY: 10,000 VOLTS 3 PHASE 50 HZ | SPEED RANGE (RPM): 140.00 to 220.00 |                      |

**MISC. INFORMATION**

|                                   |                               |                             |                      |                    |    |
|-----------------------------------|-------------------------------|-----------------------------|----------------------|--------------------|----|
| MAIN BEARINGS, TYPE:              | PARTIAL JOURNAL (DUAL-POCKET) |                             | OIL LUBE TYPE:       | HYDROSTATIC        |    |
| MAIN BEARING, DIA:                | 2,530 mm (100 in)             | BEARING, LENGTH:            | 560 mm (22 in)       |                    |    |
| HEAD/SHELL LINER MATERIAL:        | RUBBER                        |                             | SHELL LINER PROFILE: | PLATE & LIFTER     |    |
| LINERS IN FLS SCOPE?              | YES                           | LINER SIMULATIONS REQUIRED? | NO                   | INTEGRAL LIFTERS?  | NO |
| FREIGHT... NORTH AMERICAN SUPPLY: | FCA-Factory/Packer            |                             | OFF-SHORE:           | FCA-Factory/Packer |    |

**MAXIMUM DESIGN LOADING**

|                    |                     |          |                    |          |
|--------------------|---------------------|----------|--------------------|----------|
| STRUCTURAL DESIGN, | TOTAL CHARGE LEVEL: | 40 % VOL | BALL CHARGE LEVEL: | 40 % VOL |
| OPERATING DESIGN,  | TOTAL CHARGE LEVEL: | 35 % VOL | BALL CHARGE LEVEL: | 35 % VOL |

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## SCOPE OF SUPPLY

**ITEM A.1 20'-0" x 33'-0" SINGLE-PINION BALL MILL**

- QTY (1) FABRICATED SHELL (**6x180**) w/ STRAIGHT FLANGES, CROSS-BRACING, & LIFTING LUGS
- QTY (2) CAST HEADS (**2x180**) & LIFTING LUGS
- QTY (2) CAST TRUNNIONS & LIFTING LUGS
- QTY (2) PARTIAL ARC JOURNAL MAIN BEARING ASSEMBLIES w/ FLAT BASE
- QTY (2) MAIN BEARING SOLE PLATES
- QTY (1) HYDROSTATIC MAIN BEARING LUBRICATION SYSTEM w/ LOCAL PANEL
- QTY (1) SMARTGEAR LUBRICATION SYSTEM
- QTY (1) GIRTH GEAR & PINION w/ PILLOWBLOCK BEARING ASSEMBLIES
- QTY (1) FEED CHUTE ASSEMBLY
- QTY (1) FE/DE TRUNNION LINERS
- QTY (1) LOT, FE/DE SEAL PARTS
- QTY (1) LOT, GUARDS (as required)
- QTY (1) LOT, ASSEMBLY HARDWARE (INCL. 5% EXTRA)
- QTY (1) LOT, RUBBER KNOCKOUT PLUGS
- QTY (1) LOT, RUBBER BACKING / BONDING ADHESIVE (installed on site by others)

## **ITEM A.2      DRIVE COMPONENTS**

- QTY (1) TORQUE LIMITING COUPLING
- QTY (1) COUPLING GUARD
- QTY (1) INCHING DRIVE COUPLING
- QTY (1) INCHING DRIVE SOLEPLATE
- QTY (1) INCHING DRIVE GUARD

## **ITEM A.3      6700 KW LSS MAIN MOTOR**

- QTY (1) LOW SPEED SYNCHRONOUS MOTOR (**8 POLES**)
- QTY (1) CONVERTER TRANSFORMER
- QTY (1) FREQUENCY CONVERTER (12 PULSE, WATER COOLED)
- QTY (1) FITMENT OF COUPLING HALF

## **ITEM A.4      BALL MILL LINERS & HARDWARE**

- QTY (1) LOT, RUBBER PLATE & LIFTER SHELL LINERS
- QTY (1) LOT, RUBBER PLATE & LIFTER FE/DE HEAD LINERS
- QTY (1) LOT, FILLER SEGMENTS
- QTY (1) LOT, MOUNTING HARDWARE (INCL. 5% EXTRA)

## **ITEM A.5      BALL MILL TRUNNION MAGNET ASSEMBLY**

- QTY (1) STAINLESS STEEL MAGNET BARREL w/ BI-METALLIC CLEATS
- QTY (1) PERMANENT MAGNETIC SECTOR (PARTIAL ARC)
- QTY (1) STAINLESS STEEL DISCHARGE HOPPER & CHUTE ASSEMBLY
- QTY (1) MILD STEEL SUPPORT STRUCTURE
- QTY (1) WATER SPRAY BAR (FIELD INSTALLED)
- QTY (1) LOT, ASSEMBLY HARDWARE (INCL. 5% EXTRA)

## **TO BE PROVIDED BY OTHERS...**

- *OFF-LOADING OF TRUCKS AND ONSITE STORAGE*
- *STRUCTURAL STEEL & STEEL DESIGN, FOUNDATIONS, BUILDINGS, ETC.*
- *INTERCONNECTING ELECTRICAL WIRING, CONDUIT, LIGHTING, ETC.*
- *INTERCONNECTING OIL, WATER, AIR PIPING*
- *FIRST-FILL LUBRICANTS*
- *ELECTRICAL SWITCHGEAR, DCS/MCC, PLC, MOTOR STARTERS, ETC.*
- *POWER FACTOR CORRECTION AND HARMONIC FILTERS*
- *LINER HANDLERS & LINER BOLT HAMMERS*