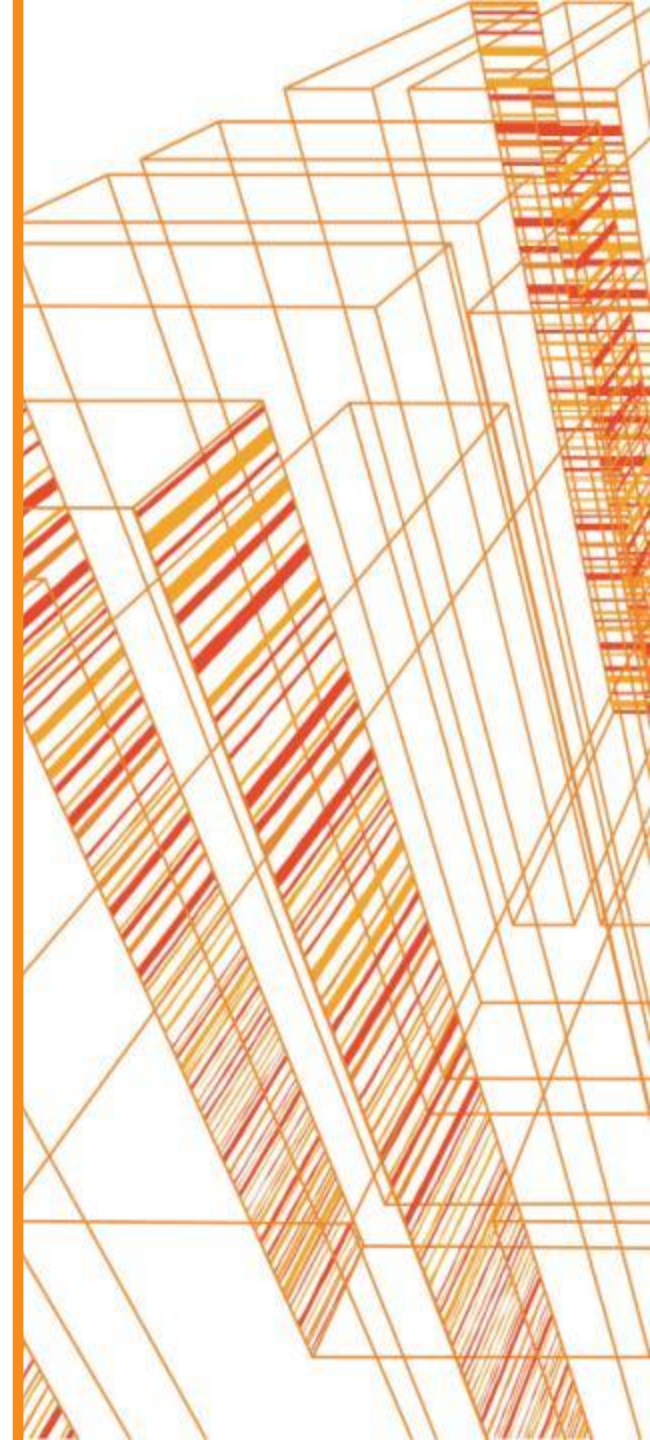


Functional Description of 80 Ton Raw Materials Side Discharge Gear Driven Wagon Tippler

**Highveld Steel
EMALAHLENI (WITBANK), SOUTH
AFRICA**

JUNE 2016





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Introduction

- Operational Description
- 80 Ton Tippler Drive specifications
- G.A. Drawing
- Photographs



Operational Description

Manufacturer

- ❑ Mitchell Engineering Limited Bedford Square London w.c.y.

Situated

- ❑ Highveld Steel Witbank Mpumalanga

Operational Description

The tippler operation starts by receiving raw material rail wagons being shunted from the railway siding, then shunting the wagon into position with the aid of its own side arm charger (The Mule) . The tippler then rotates with the loaded wagon until it reaches counterweight arms which then secures the loaded wagon into position. The tippler then rotates further until all the material is offloaded into a concrete hopper. The tippler then rotates back to its starting position with the empty wagon. Approximate offloading cycle is 5 minutes.

Raw materials which were offloaded into the hopper get spread over the length of the concrete hopper onto a conveyor belt by means of a motorised cable system plough.



80 Ton Tippler Drive Specifications

1 Rotating Mechanism Main Drive

- ❑ Electric Motor – 525 V – 738 rpm – 90 kW – Siemens.
- ❑ Gearbox – Serial No 54007 – Type SHDR – Size 450/630 – Ration 45-1 Crofts.

2 Side Arm Charger Bogie (The Mule) Main Drive

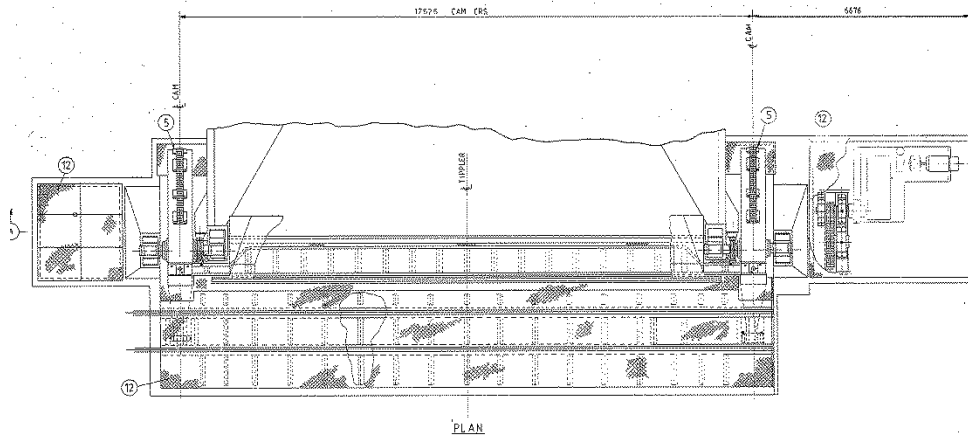
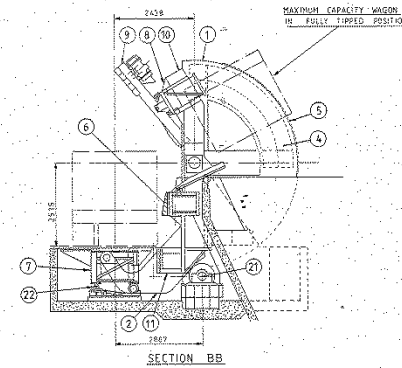
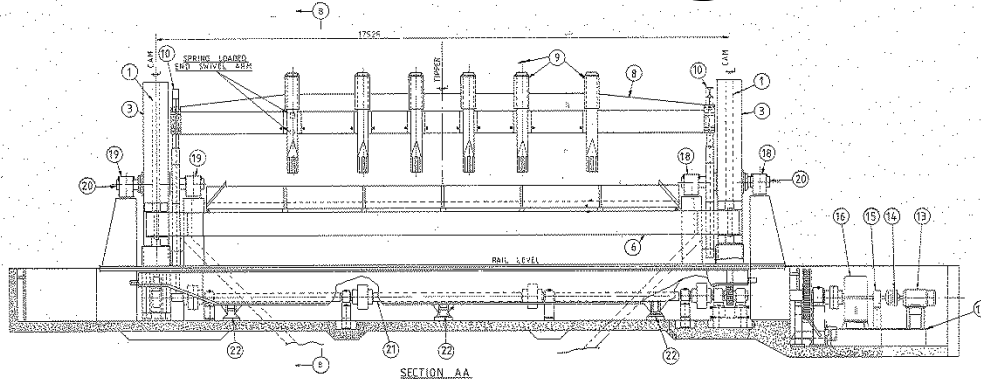
- ❑ Electric Motor – 525 V – 1475 RPM – 55 kW – Siemens.
- ❑ Gearbox – Hydraulic – Make Staffa.

3 Plough Main Drive

- ❑ Electric Motor – 525 V – 1440 rpm – 5.5 kW – Wen.
- ❑ Gearbox – Serial No 9803503 – Type 101 - 2 – Size 450/630 – Ratio 25-1 Crofts.



Drawing G.A. Layout



22	ROCKING TABLE LANDING PAD	3
21	MAIN DRIVE SHAFTS	3
20	PIVOT SHAFTS	2
19	L.H. PIVOT SUPPORT STOOLS	2
18	R.H. PIVOT SUPPORT STOOLS	2
17	DRIVE UNIT BASE PLATE	1
16	GEARBOX	1
15	DRUM BRAKE	1
14	FLUID COUPLING	1
13	MOTOR	1
12	PIT COVERS	1SET
11	SUST. BEAM BALANCE WEIGHT BOX	1
10	SUSTAINING BEAM SIDE ARMS	2
9	CROSS ARMS	6
8	SUSTAINING BEAM	1
7	ROCKING PLATFORM	1
6	CHOCK BEAM	1
5	CAM GEAR RACK SEGMENTS	2SETS
4	CAM BALANCE WEIGHTS	2SETS
3	CAM SIDE COVER PLATES	2SETS
2	ROCKING TABLE SUPPORT ARM	2
1, 2	CAM	2
	ITEM DESCRIPTION	REQD

NOTE: THE DRAWING IS TO BE USED FOR THE PURPOSE OF QUOTING AND ORDERING. IT IS NOT TO BE USED FOR CONSTRUCTION WITHOUT THE APPROVAL OF THE DESIGNER. ANY CHANGES TO BE MADE MUST BE APPROVED BY THE DESIGNER IN WRITING.

DRG. NO. **H60M15**

HIGHVELD STEEL & VANADIUM CORP. LTD.
PLANT AREA - IRON PLANT N^o 1

DHE DOBBY HEAVY ENGINEERING BOKSBURG WORKS

DHE-MITCHELL - SIDE DISCHARGE GEAR DRIVEN WAGON TIPPLER GENERAL ARRANGEMENT (1/1)

DRG. NO. 81-HS-01

CONTRACT NO. 545003

DATE: 1/1/11

BY: V.H. (Signature)

CHECKED: V.H. (Signature)

APPROVED: V.H. (Signature)

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MACHINING SYMBOLS		WELDING SYMBOLS	
	Common #/C		WELD AT SITE
	Smooth #/C		WELD ALL ROUND
	Grid		



Photographs





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