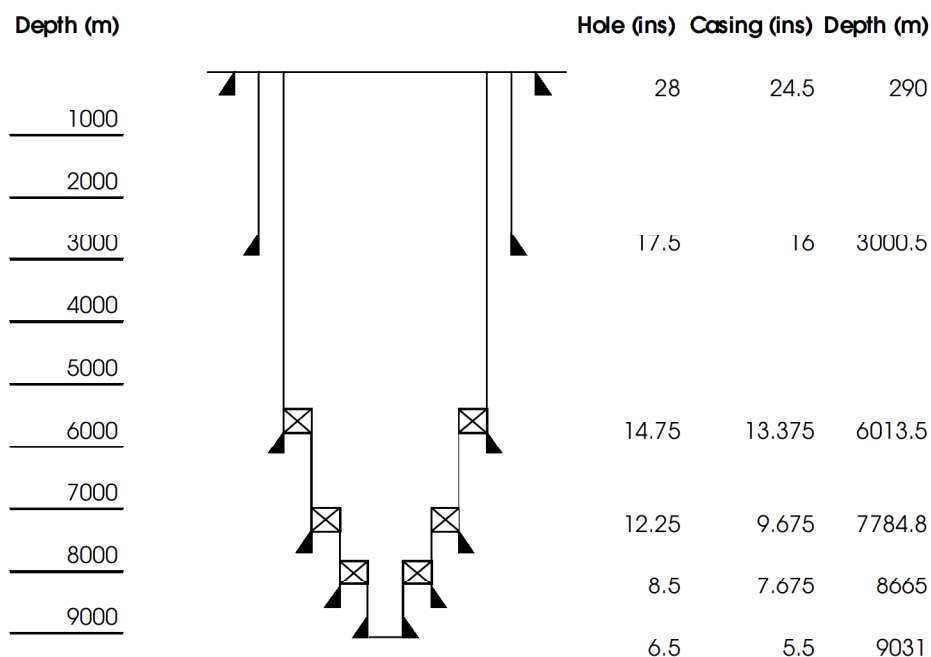


## END OF WELL SCHEMATIC, KTB-HB



**Figure 2-1.** End of well schematic, KTB-HB.

The main technological achievement for the Deutag during the drilling of this well was the building and management of the world's largest land drilling rig, UTB-1 GH 3000 EG (shown in Figure 2-2). The rig, with a total weight of 2500 tonnes, a depth rating of 12000 m and a maximum installed capacity of 12900 HP, was purpose-built for the project. The rig also incorporated novel environmental features, such as low sound emission fully electric drive, and on-site conditioning of drilling waste.

The drilling operations were managed by Deutag on a day-to-day basis on behalf of the customer, GeoForschungsZentrum (GFZ), providing manning of the rig and wellsite drilling engineering. Some specifications of the rig are given below:

### Derrick

Manufacturer	Noell
Base	11.5 m x 11.5 m
Clear height	63 m
Number of lines	10–16
Maximum hookload	8500 kN
Nominal gross capacity	10550 kN
Racking capacity	12000 m 5" drillpipe, plus collars

### Substructure

Manufacturer	Deilmann
Rig floor	13 m x 13 m
Height	11.75 m
Clear height	9.5 m
Load capacity	12000 kN



**Figure 2-2.** Deep drilling rig UTB-1 GH 300 EG.

#### **Drawworks**

Manufacturer	Wirth
Maximum power input	2200 kW
Maximum line pull	750 kN
Maximum line speed	20 m/s
Drill line diameter	1.75"
Feed-off control	0–30 m/h

#### **Mud pumps**

Manufacturer	Wirth
Number of units	2
Maximum power input	1240 kW
Manufacturer	Continental Emsco
Number of units	1
Maximum power input	620 kW

#### **Drive system**

Manufacturer	AEG
Mains	2 x 20 kV / 7000 kVA
Number motors	9 x DC
Manufacturer	Siemens
Maximum power output	740 kW each

#### **Pipe handling**

##### *Pipe handler*

Manufacturer	Varco
Height	53 m
Maximum capacity	150 kN
Maximum drill pipe stand	40 m
Dual elevator system	Varco
Pipe conveyor	Deilmann
Pipe boom	Deilmann

**Blowout preventers**

Manufacturer	Shaffer
Number of units	4 x ram, 1 x annular
Opening	18.75"
Rating	700 bar

**Mud tank system**

Manufacturer	ITAG
Active tank volume	150 m <sup>3</sup>
Reserve tank volume	300 m <sup>3</sup>