



## SPECIFICATION OF RIGS AND SUPPORTING EQUIPMENT

### Rig Vermeer D50x100A

#### DRILLING UNIT

Name of Drilling Unit (Rig):	<b>15-Vermeer D50x100A Navigator</b>
Drilling Unit type:	D50X100A NAVIGATOR
Serial No.	1VRS189ZY1000257
Owner:	<b>PT BINTANGMANDIRI PERKASA DRILL</b>
Rig Manufacturer:	VERMMER Mfg. Co.
Current Rig Location:	Batu Hijau Site, Sumbawa, Indonesia



#### SECTION A: FUEL CONSUMPTION

A1. Drilling unit during normal drilling operations (L/hr)	20
A2. Drilling unit during maximum drilling operations – all compressors operating (L/hr)	80

#### SECTION B: MAJOR DIMENSIONS & TECHNICAL REQUIREMENT

B1. Dimensions of rig while trammng (H x W x L in m's)	2.5 M X 2.4 M X 6.4 M
B2. Dimensions of rig while operating (H x W x L in m's)	2.7 M X 2.4 M X 6.6 M
B3. Minimum rig site required (W x L in m's)	15 M X 25 M
B4. Pull back capacity (Kg)	22,499
B5. Thrust capacity (Kg)	22,499
B6. Depth capacity (M)	600
B7. Spindle torque @ 80 RPM (Nm)	10,000
B8. Maximum spindle speed (RPM)	160
B9. Maximum ground drive speed (KPH)	2.5
B10. Drill rack angle (degree)	16 - 30
B11. Minimum bore diameter (Inch)	3.5
B12. Maximum moving gradient (degree)	20
B13. Current production performance (average)	Open hole 500 M/day

#### SECTION C: TRANSPORTATION EQUIPMENT

C1. <b>Support Truck</b>	<i>Provided by Company</i>
C2. <b>Support Trailer</b>	<i>Provided by Company</i>
C3. <b>Crane/"Hiab"</b>	<i>Provided by Company</i>



**SECTION D: POWER EQUIPMENT**

D1.	<b>Rig Engine</b>	
-	Manufacturer	CUMMINS MFG. CO
-	Type	CUMMINS 6BTA5.9
-	Output (HP)	185
-	Fuel consumption - average operating (L/hr)	20
D2.	<b>Compressor Engine</b>	
-	Manufacturer	CUMMINS INDIA LIMITED
-	Type	CUMMINS KTA 1150 C
-	Output (HP)	600
-	Fuel consumption - average operating (L/hr)	60
D3.	<b>Second Compressor/Booster Engine</b>	
-	Manufacturer	KJ PHILLIPS PTY. LTD.
-	Type	Detroit V063758
-	Output (HP)	220
-	Fuel consumption - average operating (L/hr)	20
D4.	<b>Planned Maintenance System (must be included)</b>	
-	Type	Periodically Maintenance System
-	Time since PMS started on drilling unit	<i>Daily – Weekly – Monthly</i>

**SECTION E: COMPRESSED AIR SYSTEM**

E1.	<b>Primary Air Compressor</b>	
-	Manufacturer	ELGI LIMITED (or similar)
-	Type	Screw Compressor 2 Stage
-	Output pressure	350 PSI
-	Output volume	1,100 CFM
E2.	<b>2nd Compressor/Booster Engine</b>	
-	Manufacturer	KJ PHILLIPS PTY. LTD. (or similar)
-	Type	Piston
-	Output pressure	900 PSI
-	Output volume	1,200 CFM
E3.	<b>Air Delivery Lines</b>	
-	Manufacturer	MANULI ROCK MASTER
-	Size (inches)	2
-	Operating pressure (psi)	2,500
-	Burst pressure (psi)	10,000
-	Length (m)	20

**SECTION F: RIG PUMP**

F1.	<b>Rig Pump</b>	
-	Make and model	Aplex Industries, Ohio / Quiptuplex Plunger Pump (SC 115 L)
-	Delivery and pressure	230GPM @1215PSI
-	No of pistons	5
-	Suction size	5"
-	Discharge hoses	3"
-	Mounted on rig	

**SECTION G: ROTATION EQUIPMENT**

G2.	<b>Mast</b>	
-	Manufacturer and type	VERMEER Mfg. Co.
-	Dimensions	0.8 M X 0.6 M X 6.2 M
-	Gross nominal capacity (thrust and pullback)	17,237/22,499 kg
-	Drill pipe handling capacity	1.8 Ton
-	Drill pipe carousel racking capacity	Yes
-	Automated drill pipe loading	Yes



**SECTION H: ROTARY EQUIPMENT**

H1.	<b>Rotary Head / Spindle</b>	
	- Make and type	VERMEER Mfg. Co
	- Max. torque (ft lbs)	10,000 @ 80 RPM
	- Maximum rpm	160

**SECTION I: DOWN HOLE EQUIPMENT**

I1.	<b>3" Drill pipe (or equivalent)</b>	
	- Manufacturer	VERMEER Mfg. Co.
	- Grade	-
	- OD	3"
	- Weight (kg)	88
	- Standard length (m)	4.6
	- Type of thread	2-7/8" IF
I2.	<b>6 ½" Hammer Assembly for 8" Drill Collar</b>	
	- Manufacturer	ATLAS COPCO
	- Type	COP 64
	- OD	5.6"
	- Weight (kgs)	95
	- Lengths (m)	1,213
I3.	<b>5 ½" Hammer Assembly</b>	
	- Manufacturer	ATLAS COPCO
	- Type	COP 54
	- OD	4.7"
	- Weight (kgs)	57
	- Lengths (m)	1,069

**SECTION J: CEMENTING PUMP AND TANK**

J1.	<b>Pumping unit</b>	
	- Manufacturer	TONE BORING CO.LTD (or similar)
	- Model	NAS 3 B
	- Type	532 B 832
	- Maximum input horsepower	-
	- Liner sizes available	3"
	- Maximum pump rate (lpm)	120
	- Pressure rating (kg/cm <sup>2</sup> )	26
J2.	<b>Mix Tank</b>	
	- Total capacity (ltr)	280
	- Number of compartments	1
	- Agitator	
	- Manufacturer	BMP
	- Horse Power	10.5 HP
J3.	<b>Diesel Engine</b>	
	- Manufacturer	YANMAR
	- Type	YANMAR TF105
	- Output (HP)	10.5 HP
	- Fuel consumption - average operating (L/hr)	1.5
J4.	<b>Cement Mixing and Discharge Manifold and Discharge Lines</b>	<b>N/A</b>