

Bentec Rig (Bentec Euro rig)



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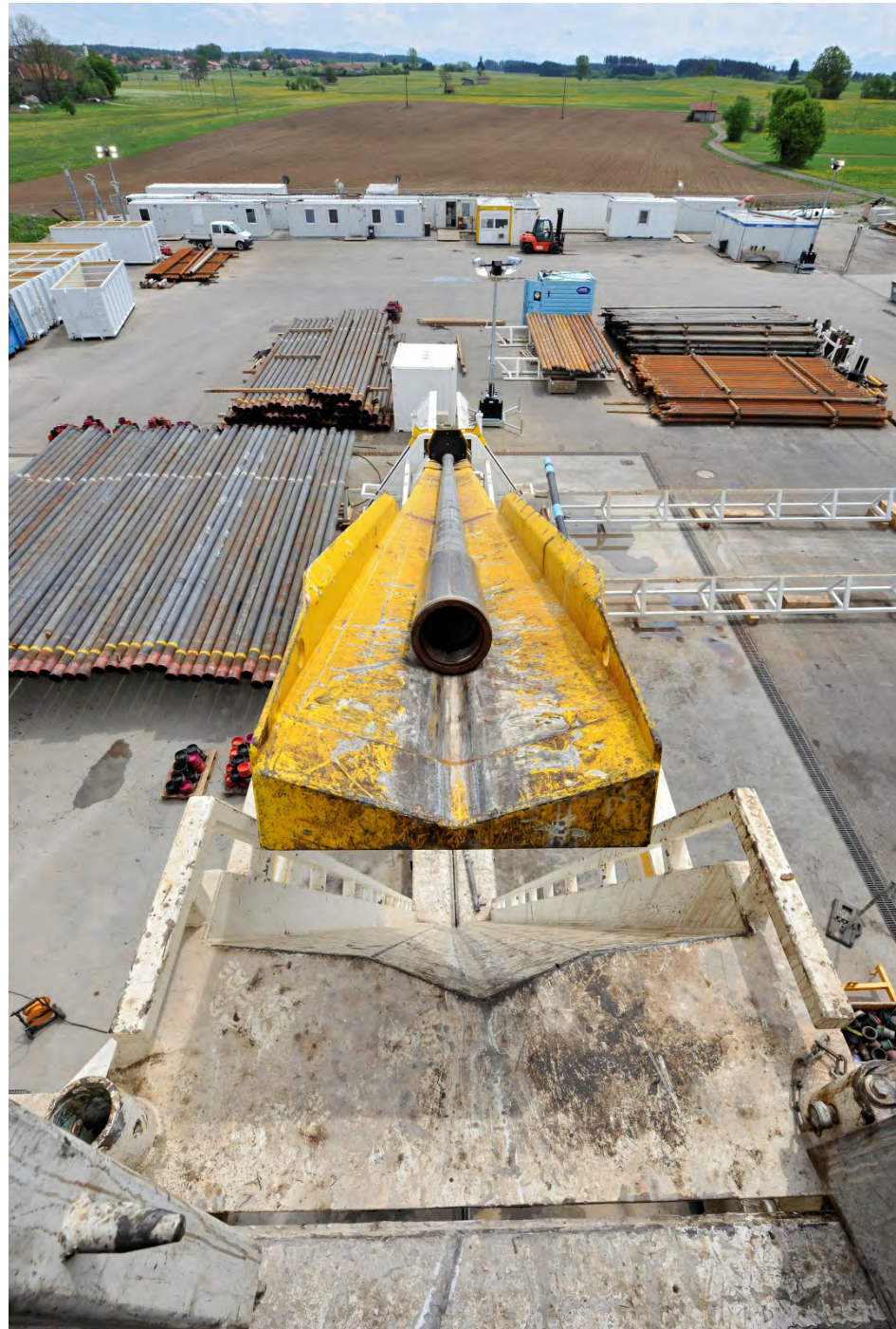
Bentec Rig



Bentec Rig — Mechanized catwalk system



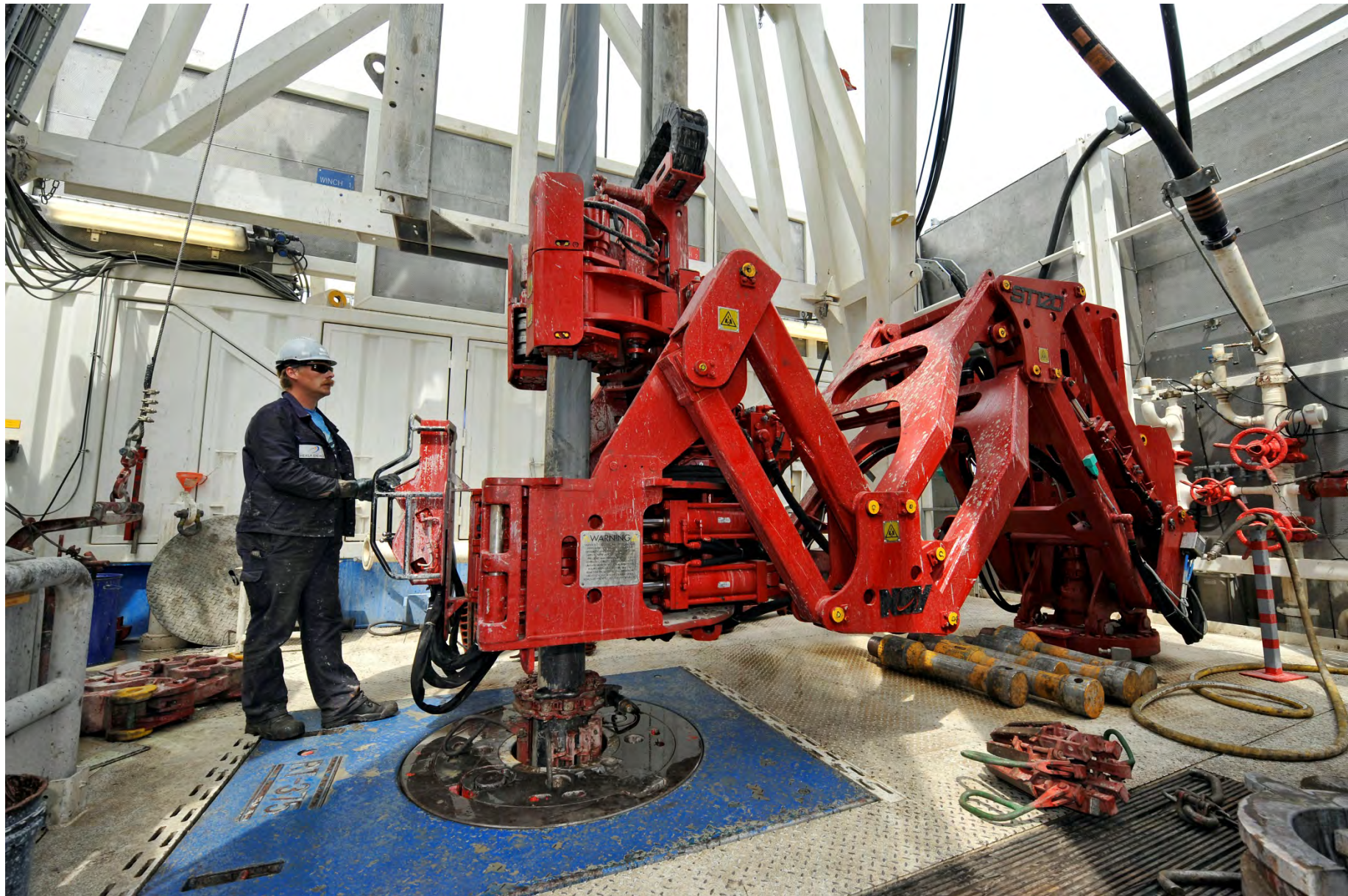
Bentec Rig



Bentec Rig — HANDS OFF — Iron roughneck



ICELAND DRILLING



Bentec Rig — Cyber controls



Bentec Rig



ICELAND DRILLING

Rig equipment

Mast and substructure

Bentec

Drawwork

Bentec

Topdrive

MH

Mudpumps

Wirth, 3 X 1600 hp

Powerpack

Powerpack VFD

Catepillar engines silenced

Grid unit for direct power from grid

Hands off rig

Mechanized catwalk system

Mechanized derrickman system

Iron roughneck ST120

Automatic slips PS21

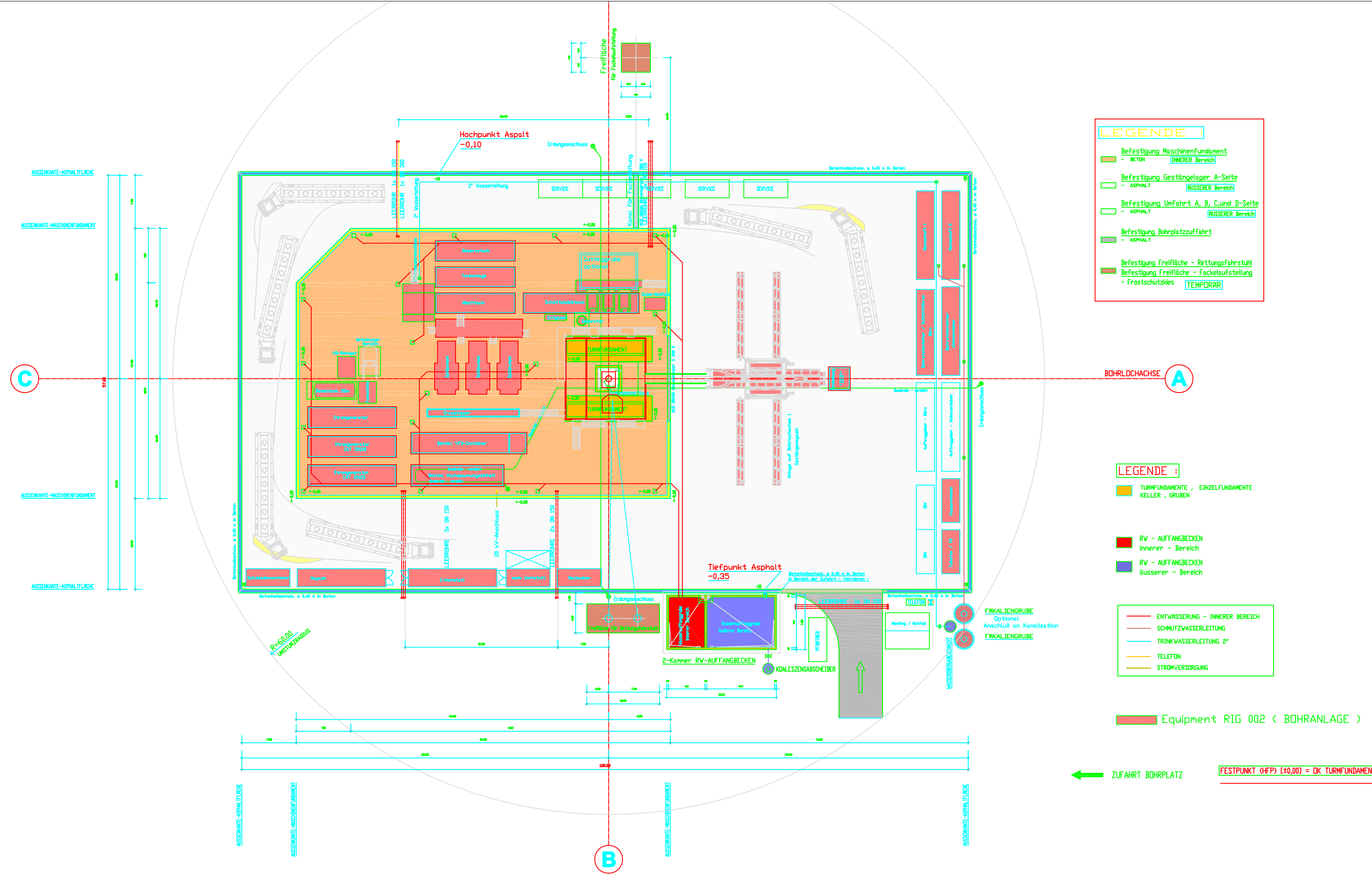
Mudtanks

Bentec

Skidding system

Bentec





LEGENDE 1

- Befestigung Maschinenfundament - BETON (INNERER Bereich)
- Befestigung Gestügelager A-Seite - ASPHALT (ÄUSSERER Bereich)
- Befestigung Umfahrt A, B, C und D-Seite - ASPHALT (ÄUSSERER Bereich)
- Befestigung Bohrplatzzuffahrt - ASPHALT
- Befestigung Freifläche - Rettungsfahrstuhl - Frostschutzkies (TEMPORÄR)
- Befestigung Freifläche - Fackelaufstellung - Frostschutzkies (TEMPORÄR)

LEGENDE 2

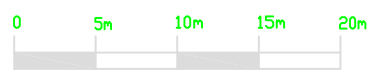
- TURMFUNDAMENTE, EINZELFUNDAMENTE, KELLER, GRUBEN
- RW - AUFFANGBECKEN (Innerer - Bereich)
- RW - AUFFANGBECKEN (Äusserer - Bereich)
- ENTWASSERUNG - INNERER BEREICH (Optional)
- SCHMUTZWASSERLEITUNG
- TRINKWASSERLEITUNG 2"
- TELEFON
- STROMVERSORGUNG

Equipment RIG 002 (BOHRANLAGE)

ZUFAHRT BOHRPLATZ

FESTPUNKT (HFP) [±0,00] = DK TURMFUNDAMENT

ALLE MAßE SIND CA. MAßE UND BRTL. AUF RICHTIGKEIT ZU KONTROLLIEREN !



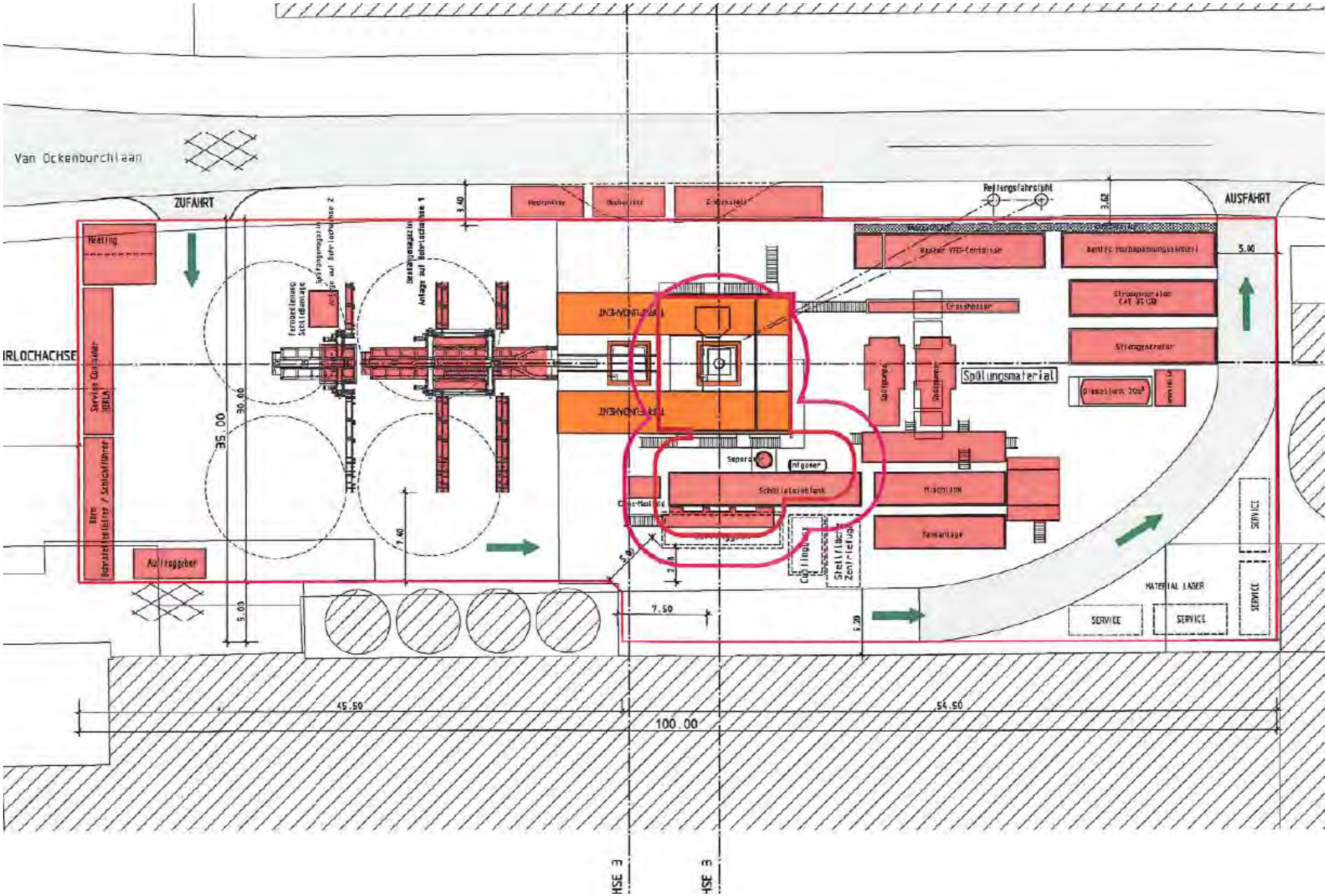
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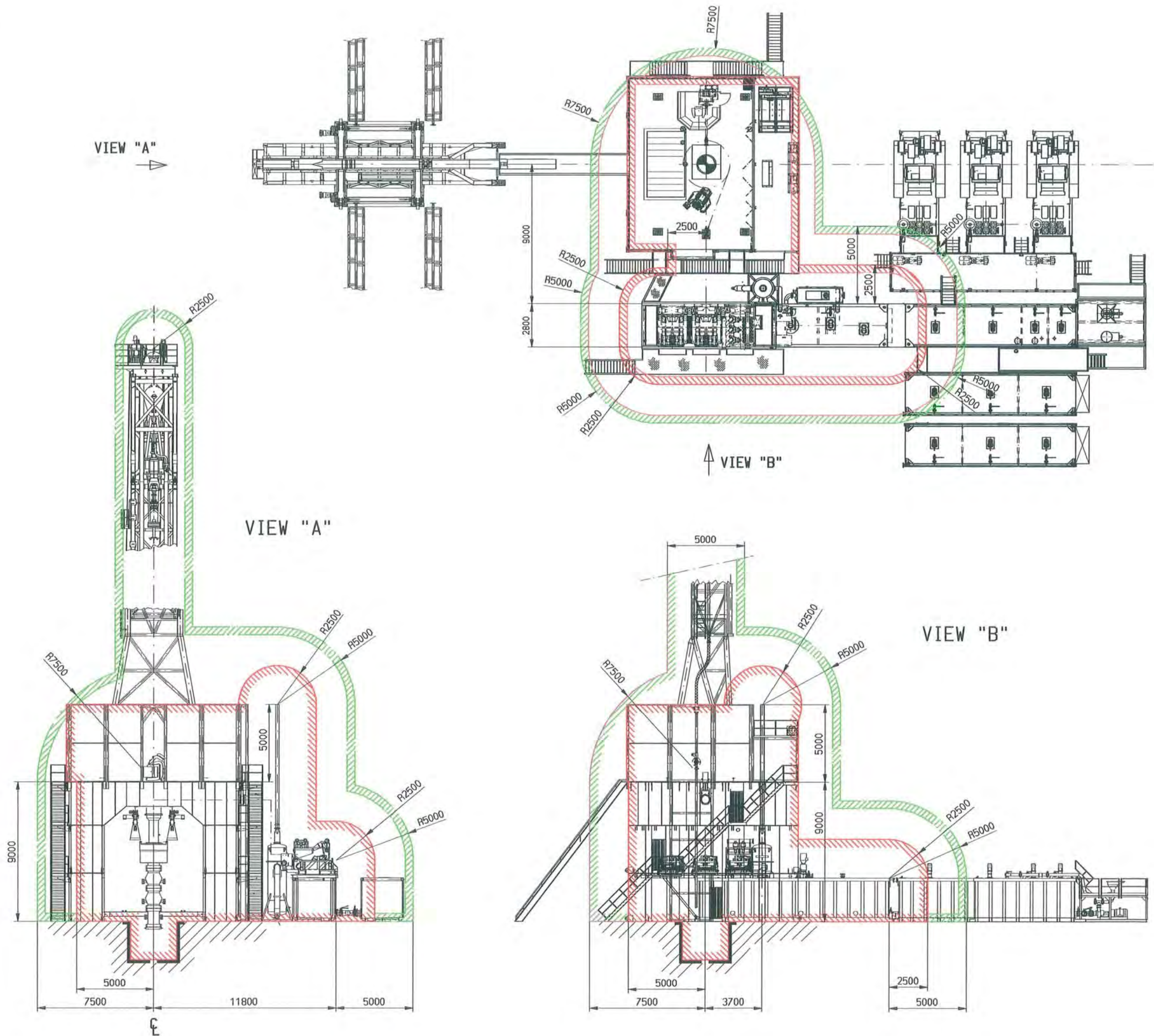
	Drawn	Date	Name	Equipment layout
	Designed			
	Check			
	Approved			
				Bentec Euro Rig 350
				Rev. 0
Nr.	Text	Date	Name	Draw.nr. -

Bentec Rig – footprint 2 wells as example

Less One mudtank

Less one MP





WEG-CLASSIFICATION
(German Mining Authority)

- ZONE 2
- ZONE 1



2008	Datum	NAME	E						
Gez.	26.02.	Walkers	D						
Gepr.			C						
CHD			B						
			A	REVISION	18.06.08	RV			
				Änderung / REVISION	Datum	Gez.	Gepr.	CHD	ASB
CLIENT									
DRYDRILL									

Rechnung / DESCRIPTION	HAZARDOUS AREA CLASSIFICATION	Zeichnungs Nr. / DWG NO	1-98.09-1035799	Blatt/REV	A
Scale	1:125	Project	EURO RIG 1	Ersetzt für	
				Ersetzt durch	
				REPLACED BY	

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Mechanical Equipment
Technical Information Table

Land Drilling Rig "Bentec 350 AC" (Euro Rig No.1) Rev.00, 05.08.2008

No.	Section	Description	Pcs.	Type	SerialNo.	Manufacture/ Supplier	Technical Information
1	2001	Draw Work	1	E-1500-AC	0023	Bentec	Rated Power: 1100 kW (1500 HP) Drill line size: 1-3/8" Gears: 2, high - low Max. line pull / low gear: 389 kN (40 mt) Max. line speed / high gear: 18 m/sec (59 ft/ sec) Max. hook load with 8 lines: 284 mt (626.000 lbs) Max. hook load with 10 lines: 352 mt (776.000 lbs) Weight: 45 mt (98.000 lbs) Dimensions in mm L x W x H 7900 x 2985 x 3050
2	2001	Rotary Table	1	RDF-375-850-VAR-220-36,5	0012	Bentec	Input Power: 850 kW Table Size: 37-1/2" Max. Speed: 220 RPM Max. Torque: 36500 kNm
3	2003	Traveling Block	1	TB-400-5-50-1 3/8	0023	Bentec	Capacity: 400sht (363 metric tons) Number of sheaves: 5 Sheave Size: 50 inch Drilling Line diameter: 1 3/8"
4	2004-A	Drill Line Unit	1	DLR-1 3/8-2300-EO	0019	Bentec	Drum Capacity: 2300m Drilling Line Diameter: 1 3/8" Gearmotor: 5,5 KW- 400/690V 50Hz, 1440 RPM Gearbox: i=86,52
5	2005	Hydraulic Power Unit	1	NHY-630-102-210-37/690-24V DC ATEX	481672	Niehues	Input Power: 2 x 37kW Max. Working Pressure: 210 bar Max. Flowrate: 190ltr./min with integrated Oilcooler
6	2006	Top Drive	1	PDT 500- BJ 36	4050047	MH	Hoisting Capacity: 500t Power: 800 HP Output Torque (continous): 40,600 Nm Output Torque (Intermittant and stall): 60,900 Nm Maximum Speed: 216 RPM incl. Pipe Handler Package



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7	2008	Rig Floor Winches	2	MCP 309 H	2080236-1 2080236-2	EMCÉ	Working Load Limit: 5100 kg Diameter Wire Rope: 16mm Line Speed: 0-20min Input Power: 22 kW
8	2009	Hydraulic Cathead	1	HC-31,5	0027	Bentec	Max Pullforce: 31500lbf (140.000N) Line Speed: 0,5 ft./sec. (0,15m/sec) Wire Rope diameter: 7/8" (22mm) Hydraulik Work Pressure: 2030 psi (140 bar) Hydraulic flow: 26.4 gpm (100l/min)
9	2010	Derrickman Air Hoist	1	Profi 1 TI	P301361	JD Neuhaus	Lifting Capacity: 1,0 t Rated hoisting Speed: 5,5 m/min Nom. Pressure: 6 bar Chain: 7 x 21 DAT N
10	2011	Deadline Anchor	1	DA-100-W-1 3/8	0025	Bentec	Line Pull: 100000lbs Drilling Line Diameter: 1 3/8"
11	2012	Erection Winches	2	100BAX1L2D 100BAX1R2D	15-6-0000L 15-6-0000R	DP Winches	at 2800psi (193bar), 25 GPM (95ltr./min): Line Pull: 100000 lbs (50t) Line Speed: 8 fpm (2,4 m/min)
12	2015	BOP Air Hoist	2	EH-25	8300356 8300355	JD Neuhaus	Hoist Capacity: 25t Air Pressure: 6 bar Lifting speed at full load: 1,1m/min Lowering speed at full load: 1,9 m/min Travelling speed at full load: 12m/min Air consumption Trolley: 2,6 m³/min Air consumption Hoist: 5,5m³/min Lift: 5,0m
13	2016	Mechanized Derrickman System (MDS)	1	MDS 6-5/8"-3470	11	Bentec	Pipe handler for handling and storing pipe at monkey board level. Gripper wagon is powered by 2.2 kW motor. Small HPU with 4 kW pump motor. This MDS is not designed for pipe lifting.
14	2017	Tong lifting System	1	TLP-12-P	11	Bentec	2 pneumatic cylinders : d=200, H=2000 Working Range: 2m



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No.	Section	Description	Pcs.	Type	Serialno.	Manufacture/ Supplier	Technical Information
15	2018	Mechanized Catwalk System (MCS)	1	MCS-3,5-30	10	Bentec	Transports drill pipe from ground level to the rig floor and back. The catwalk and both conveyors are electrical driven through chains and sprockets. Three electric motors are fitted and two pairs of air cylinders. Handling capacity dia pipe is 2-7/8" to 20" L= 21 m, W= 8.4 m, H = 5.5 m. Total weight is 47 T:
16	3001A	Emergency Generator	1	C15 ACERT	CAT000ESTS00113	Zeppelin	Gen Set Rating: 455kVA Engine Speed: 1500 RPM No. of cylinders: 6R Displacement: 15,2 ltr.
17	3003	Air Compressed Unit	1	0045 Compressors: GA 45-150 E2 Air drier: KEN-MT1150	No.1: API 594805 No.2: API 594714 Dryer: 08/52863	Friede Kompressoren	Air Compressor: - Motor Power: 45KW - Motor Speed: 1965 RPM - Air Flow Rate: 5,99m ³ /min @ 10bar Air Dryer: - Regeneration: Heatless - Fluid Group: 2 - Max. Working Pressure: 16 bar - Min. Working Pressure: 4 bar Oil Water Separator: - Flow rate: 25m ³ /min - Fill Volume Canister: 250 ltr.
18	4001E	Emergency Shower	1	EXP-AH-5g/10G	-	Hughes	With Shower Foot Panel Body Spray Nozzle Heatable
19	4003	Mud Agitators	22	SR 4640 491 JO5H	0830028, 0830029, 0830030, 0830031, 0830032, 0830033, 0830034, 0830035, 0830037, 0830038, 0830039, 0830040, 0830041, 0830042, 0830043, 0830044, 0830046, 0830047, 0830048, 0830049	Flygt	Power Rating:2,5 kW Submersed units powered by 2.5 kW motor.Speed is 710 rpm





**Mechanical Equipment
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Land Drilling Rig "Bentec 350 AC" (Euro Rig No.1) Rev.00, 05.08.2008

No.	Section	Description	Pcs.	Type	Serialno.	Manufacturer/ Supplier	Technical Information
20	4004	Mix Pump	2	LCPU-8x6-13-90-1500-50	0049 0050	Bentec	Pump Size: 8 x 6 x 14 Impellersize: 13" Input Power: 90 KW Speed: 1500 RPM ATB Motor Serial no.: 483666001 483281001 Mission Pump Serial no.: M89002 M89001
21	4004	Desilter Pump	1	LCPU-8x6-12-1/2-75-1500-50	0048	Bentec	Size: 8 x 6 x 14 Impellersize: 13" Input Power: 75 KW Speed: 1500 RPM ATB Motor Serial no.:483279001 Mission Pump Serial no.:M89000
22	4004	Desander Pump	1	LCPU-8x6-12,5-75-1500-50	0047	Bentec	Pump Size: 8 x 6 x 14 Impellersize: 12 1/2" Input Power: 75 KW Speed: 1500 RPM ATB Motor Serial no.: 483662001 Mission Pump Serial no.: 483662001
23	4004	Trip Tank Pump	1	LCPU-3x2-12,5-18,51500-50	0054	Bentec	Pump Size: 3 x 2 x 13 Impellersize: 12 1/2" Input Power: 18,5 KW Speed: 1500 RPM ATB Motor Serial no.: 48327700 Mission Pump Serial no.: 48327700





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No.	Section	Description	Pcs.	Type	Serialno.	Manufacture/ Supplier	Technical Information
24	4005	Chargepumpe	3	LCPU-6x5-13-30-1000-50	0051 0053	0052 Bentec	Pump Size: 6 x 5 x 14 Impellersize: 13" Input Power: 30 KW Speed: 1000 RPM ATB Motor Serial no.: 483278003 483278002 483270001 Mission Pump Serial no.: M89003 M89005 M89004
25	4008	Shale Shaker	3	3 x PT Mongoose Shaker 1 x PT Mongoose Mudcleaner	MPB0125 MPB0126 MPB0127	MI Swaco	Basic Fluid Capacity 2,2l/min Main Motor Power: 2,0 HP Additional Motor Power: 0,6 HP
26	4012	Mud Drilling Degasser	1	DMD 1 - 250 H	12	Bentec	Max. Suctionlift: 3m @2,4kg/dm ³ Fluid density Pressure Range: -200 to -3800 mm hg -0,26 to -0,5 bar @ 760 Torr Spec. Weight Mud Fluid: Max. 2,4 kg/dm ³
27	5003	Fuel Station	1	Dieselmax	-	FMT Swiss	Voltage: 230V 60L/min Hose length: approx. 14m
28	9001	Mud Pump	3	TKP 1600	85 86 87	Wirth	Input Horse Power Rating: 1600HP Pump Speed: 120 Stroke length: 12" Maximum Piston Size: 7 - 1/2" Fluid end working pressure rating: 5000psi Gaer ratio of transmission is 1 : 3.951





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No.	Section	Description	Pcs.	Type	Serialno.	Manufacture/ Supplier	Technical Information
29	17015	Rig Skidding Cylinder	2	Z-9391	2-003-01-3590	Schwindt	Hydraulic pressure from main HPU through separate control panel and hoses with QD couplings.: Operating pressure is 140 bar. Stroke 750mm



**Mechanical Equipment
(Main-) Certificates Register**

Land Drilling Rig "Bentec 350 AC" (Euro Rig 1) Rev.00, 05.08.2008

No.	Section	Description	Pcs.	Type	Serialno.	Supplier	Operating EX-Zone (acc. WEG)	Certificate of Conformity	ATEX Directive Group	Remarks
1	2001	Draw Works	1	DW-E-1500-AC-13/8	0023	Bentec	Zone1	Draft incl. ATEX	EX II 3G c T3X	
2	2002	Rotary Table	1	RDF-375-850-VAR-220-36,5	0012	Bentec	Zone1	Draft incl. ATEX	EX II 3G c T3X	
3	2003	Traveling Block	1	TB-400-5-50-1 3/8	0023	Bentec	Zone1	Draft incl. ATEX	EX II 3G c T3X	
4	2004	Drill Line Unit	1	DLR-1 3/8-2300-EO	0019	Bentec	Zone1	Draft incl. ATEX	EX II 2G c T4	
5	2005	Hydraulic Power Unit	1	HA-ER1	469017	Niehues	Zone1	• Certificate of Conformity incl. ATEX	EX II 2G c T4X	
6	2006	Top Drive	1	PTD-500-AC-1M-800HP	4050047	Maritime Hydraulics	Zone1	• Certificate of Conformity incl. ATEX	Ex 2G c,k T3	
7	2008	Rig Floor Winches	2	MC-309 Eexd	2.080236-1 2.080236-2	EMCÉ	Zone1	• Certificate of Conformity • ATEX Certificate	EX II 2G IIB T3	
8	2009	Hydraulic Cathead	1	HC-31,5	0027	Bentec	Zone1	Draft incl. ATEX	EX II 2G c T4	
9	2010	Derrick Man Air Hoist	1	Profi 1 TI	P301361	JD Neuhaus	Zone2	• Certificate of Conformity incl. ATEX	EX II 2GD IIA T4X/ EX II 3 GD IIB T4X	
10	2011	Deadline Anchor	1	DA-100-W-1 3/8	0025	Bentec	Zone1	Draft incl. ATEX	EX II 2G c T6	
11	2012	Erection Winches	2	100BAX1L2D 100BAX1R2D	15-6-0000L 15-6-0000R	DP Winches	EX-free Zone	• Certificate of Conformity	N/A	No use during the drilling operating

