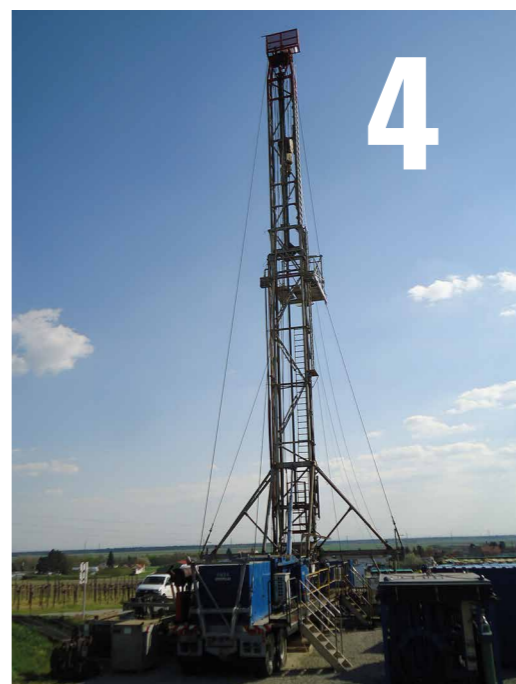
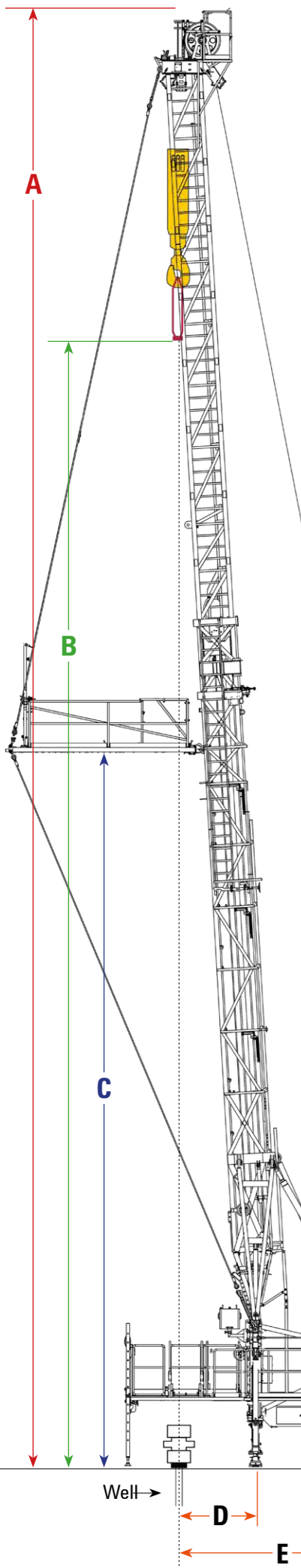




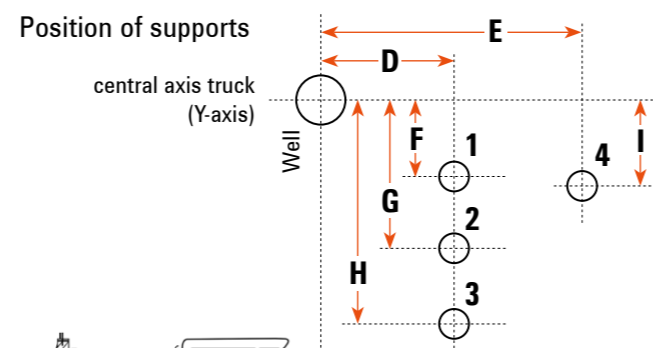
MB WELL SERVICES

Light Workover
Rigs and Services



Rig class	2				3		4				5			
Rig No.	AW13	AW16	AW17	AW18	AW8	AW9	AW12	AW20	AW21	AW24	AW25	AW22	AW23	
Rig type	Cabot 100		IDECO-BIR 108		Cabot 200		IDECO SBS						Wilson	
Normal hook load (tons)	41	38	33/43*	33/43*	44	46	62	43	62	90	90	34	34	
Peak hook load (tons)	55	58	38/54*	38/54*	55	58	62	62	62	90	90	51	51	
Sand line load (tons)	5	5	5	5	5	-	5	5	5	5	5	-	-	
Sand line length (mtr.)	2500	2500	2500	2500	2500	-	2500	2500	2500	2500	2500	-	-	
Motor output (kW)	160	201	201	290	160	160	298	258	258	358	258	235	235	
Weight (tons)	29.0	32.0	30.0	30.0	31.0	32.0	44.0	38.3	38.4	40.0	39.0	23.3	24.0	
A - Mast height (mtr.)	21.95	21.95	23.20	23.20	26.50	26.50	33.30	30.34	30.34	30.34	30.34	21.50	21.50	
B - Clear drive height (mtr.)	17.03	17.03	18.00	18.00	21.62	21.62	28.00	25.41	25.41	25.41	25.41	16.80	16.80	
C - Height monkey board (mtr.)	-	-	-	-	16.76	16.76	15.83	14.96	14.96	14.96	14.96	-	-	
D - Y-distance well-supports 1-3	1.22	1.22	1.83	1.83	1.72	1.72	1.40	1.40	1.40	1.40	1.40	1.40	1.40	
E - Y-distance well-support 4	2.46	2.46	9.40	9.40	3.43	3.43	8.73	7.80	7.80	7.80	7.80	5.64	5.64	
F - X-distance well-support 1	0.75	0.75	0.76	0.76	1.05	1.05	0.92	0.76	0.76	0.76	0.76	0.61	0.61	
G - X-distance well-support 2	1.96	1.96	2.43	2.43	-	-	4.60	4.00	4.00	4.00	4.00	1.90	1.90	
H - X-distance well-support 3	-	-	-	-	-	-	-	-	-	6.00	6.00	-	-	
I - X-distance well-support 4	1.15	1.15	1.10	1.10	1.14	1.14	1.10	1.10	1.10	1.10	1.10	0.60	0.60	

*Hook load without/with added weight



Rig, BOP, Closing unit, Mud pumps, Tanks
Everything from one source.

In addition to the 13 rigs, we have all the equipment necessary for carrying out the job. The equipment is certified and is subject to fixed inspection cycles.

Rig class	Properties
1	single rig, internally braced, sand line
2	single rig, internally braced, sand line, added weight
3	double rig, externally braced, with monkey board
4	double rig, internally braced, sand line
5	single rig, internally braced

Fast and flexible - our attributes for customer service

We used self-propelled rigs only, whose masts do not have to be dismantled for moving to another location. Our trucks are equipped with loading crans for loading and unloading as well as lighter stuff movements on site. The resulting savings in loading and set-up times reduce costs.

Light Workover Services

Decommissioning of pump drive

- Self-reliant decommissioning, securing and dismantling of pump drive above ground after approval by operator

Change-out of pump and sucker rod with length adjustment for pumps with drive-head-system

- Back-off and pull-out of sucker rod
- Change of pump
- Installation of sucker rod incl. length adjustment for handover to operator
- Function test

ESP replacement

- Dismantling of well head flanges and well packers
- Removal of ESP incl. control line
- Configuration and run-in of submersible pump on production tubing with control line
- Positioning and function test of submersible pump

Change-out of production tubing

- Release of production packer
- Pull-out and run-in of production tubing
- Positioning and anchoring of the production tubing

Pressure tests

- Test of production tubing, annulus, well head, BOP
- Fishing and milling jobs according to the operator's specifications
- Fishing of e.g. casings, tubings, sucker rods, lost cables, sand filter, production packer etc.
- Milling of e.g. packer, casings, tubings, cement bridges etc.
- Lead impression bocks

Cementation

- Annular cementation or bottom hole cementation
- Cement-Squeezing to seal the well against formation, gaps, cracks or depleted reservoirs
- Execution of plug or bottom hole cementations
- Plug and abandonment of decommissioned or uneconomic wells

Pumping and acid treatments

- Self-reliant execution of pumping operations like pressure tests, killing wells, cementations, circulation operations, well cleaning, acid treatment, pumping of annular protective fluid, setting of packers, release of setting tool, opening and closing of circulation systems (i.e. sliding doors)

Gravel Packs

- Installation and removal of gravel pack assemblies

Wellhead installation and nipping up works

- Installation and dismantling of flanges
- Configuration, installation and dismantling of well heads

Swabbing

- Swabbing of horizons, lowering of fluid levels

Production tests

- Production tests after perforation or acid treatments

Treatment performances on H2S-wells, operative personnel is instructed in handling with hydrogen sulphides

- Handling of hydrogen sulfide
- Kick and emergency exercises
- Personnel instructed in handling of respiratory protection and gas measuring devices

Change-out of production wells

- First completion, pull-out of old completion, run-in of new completion



Closing unit



Mud pump