

# MD COWAN - SUPER SINGLE® MD525 (M)

## MD COWAN SPECIFICATIONS

<b>DERRICK AND SUBSTRUCTURE</b>				
<b>DERRICK/MAST</b>				YES – API 4G Monogrammed
Make/type:				INTERNATIONAL DERRICK SERVICE (IDS)
With no set back:				
Height:				72'
Dimensions of base:				8'1" WIDE X 6' DEEP
Dimensions of crown:				8'1" X 6' DEEP
Gross nominal capacity:				825,000 GNC
Static hook load:				500,000 SHL
Minimum number of lines:				8
Ladders with safety cages and rests:				YES
Platform for crown sheave access:				YES
Light system explosion proof:				YES
MAKE-UP/BREAK-OUT TOOL				1-BLOHM & VOSS Make-up/Break-out wrench WITH UP TO 65,000 FT-LBS. M/U torque; 85,000 FT-LBS B/O torque
<b>SUBSTRUCTURE</b>				YES
Make/type:				IDS
Slip Bowl height (above Ground level):				14' 8"
Length:				48'
Width:				12'
Slip Bowl beam capacity (total):				250 TON
Clear height below Slip Bowl beams (to Ground level):				10'6"
<b>Hydraulic Pipe Arm</b>				1- IDS HYDRAULIC PIPE ARM FOR HANDLING 3-1/2" TO 5" RANGE II or III DRILL PIPE, 6-1/4" TO 8-1/4" DRILL COLLARS & RANGE III CASING W/HYDRAULIC ARM FOR HANDLING PIPE FROM PIPE RACK TO GRABBERS

### SUPERSINGLE® MD525

### MD COWAN SPECIFICATIONS

<b>DRAWWORKS AND ASSOCIATED EQUIPMENT</b>				
<b>Drawworks</b>				
Make/type:				RIG TECH RT-400B
Engine make/type:				CAT C-15 W/ALISON 6-SPD. TRAN.
Rated input power:				540 HP
Drum size (diameter x length):				21" X 25-1/8"
Drum type (grooved/smooth):				GROOVED (Lebus)
For drill line size:				1 1/4"
Brake type (disk/drum):				DRUM
Brake size:				42" x 10"
Maximum Hook load - 8 lines:				435,000 LBS
Crown block safety device:				YES

Drum type (grooved/smooth):	GROOVED (Lebus)
For drill line size:	1 1/4"
	DRUM
	42" x 10"
	435,000 LBS
Crown block safety devices:	YES
Make/type: Forum device	RT-400 CROWN PROTECTOR
Auxiliary brake:	EATON WCB 424
Independent fresh water cooling system for draw works and air brake:	EATON-AIRFLEX MODEL # RT-BWCS-101 400,000# BRAKING
<b>Wire line Unit</b>	YES
Make/model:	OIL WORKS OWI-1000
Wire length (nominal):	12,000'
Wire size:	.092 IN
Max working load:	835 LBS
Safe working load:	800 LBS
Depth counter:	YES
Pull Indicator	NO
<b>DERRICK HOISTING EQUIPMENT</b>	
<b>Crown Block</b>	
Make/type:	IDS
Rated Capacity:	500,000 SHL
No. of sheaves:	8--7 vertical/1horizontal
Sheave diameter:	6-36" 1-30" 1-24"
Sheave grooved for line size:	1 1/4"
<b>Traveling Block</b>	
Make/type:	COWAN INTEGRATED 4-SHEAVE SPLIT BLOCK
Rated Capacity:	250 TON
No. of sheaves:	4

EXHIBIT A

Page 2 of 11

SUPERSINGLE® MD525	MD COWAN SPECIFICATIONS
sheave diameter:	36"
Sheave grooved for line size:	1 1/4"
<b>Drilling Line</b>	YES
Diameter:	1-1/4"
Construction:	BETHLEHEM STEEL AMERICAN RRL/IWRC/EIPS DOMESTIC or equivalent
Length (original):	2,500'
Drilling line reel:	YES
Drum cover:	NO
Drilling line drum power driven:	Optional
Roller guides:	NO
<b>Dead Line Anchor</b>	
Make/type:	HERCULES HA-119T
Weight sensor:	60,000#
<b>SLIP BOWL SYSTEM - NON-ROTATING</b>	
Make/type:	N/A
Gate/Bowl Opening:	N/A
Hook Load:	N/A
Operating Air Pressure:	N/A
Operating Hydraulic Pressure:	N/A

Gate/Bowl Opening:	N/A
Hook Load:	N/A
Operating Air Pressure:	N/A
Operating Hydraulic Pressure:	N/A
Tubular Goods Range	N/A
<b>Top Drive/Power Swivel</b>	
Make:	VENTURETECH
Model:	XK-250
Type (electric/hydraulic):	HYDRAULIC - SUNSTRAND HYDRAULIC PUMP POWERED BY CATERPILLAR C-18 DIESEL ENGINE & HYDRAULIC SYSTEM
Rated capacity:	250T
Working pressure:	5,000 PSI
Maximum continuous torque @ 120 rpm: (Power curve available upon request)	22,000 FT-LBS
Maximum continuous rotary speed:	160 RPM
Cooling system type:	N/A
Upper inside BOP:	2 3/4" INSIDE
Floating Cushion sub (Upper Torque Sub):	4 1/2" I.F.
100 RPM Dynamic load rating:	140 Tons

EXHIBIT A

Page 3 of 11

## SUPERSINGLE® MD525

## MD COWAN SPECIFICATIONS

Working pressure:	5,000 PSI
Output power:	24,000 ft-lbs
<b>POWER SUPPLY SYSTEMS</b>	
<b>RIG POWER PLANT</b>	GENERATOR HOUSE: 10' WIDE BY 51' LONG W/ SQUARE D MCC
<b>Diesel Engine/Generator Sets</b>	
Quantity:	2
Make/type:	CATERPILLAR / C-15
Maximum continuous power:	540 HP
At rotation speed of:	CONSTANT 1200RPM
Equipped with spark arrestors:	YES
Mufflers installed:	YES
<b>AC - Generator</b>	
Quantity:	2
Make/type:	CATERPILLAR/455 KW
At rotation speed of:	CONSTANT 1200RPM
Output volts:	60 Hz 480 VOLTS
<b>Air Compressors - Medium Pressure (rig air):</b>	
Quantity:	CURTIS – 1 each
Make:	
Model:	RS30F
Rated Capacity:	102 CFM
Working pressure:	175 PSI
Prime mover (electric/diesel):	ELECTRIC
Continuous power:	30 HP
<b>AIR RECEIVERS</b>	OILWORKS – 1 each
Volume (total):	600 ft <sup>2</sup>
Maximum Pressure	175 PSI
Location:	Lube Skid
<b>FUEL TANK</b>	

Prime mover (electric/diesel):	ELECTRIC
	30 HP
	OILWORKS – 1 each
Volume (total):	600 ft2
Maximum Pressure	175 PSI
Location:	Lube Skid
<b>FUEL TANK</b>	
Standard Cylindrical Tank/ Optional Rectangular Cylindrical 8' diameter	MDC FABRICATED 265 BBL.

EXHIBIT A

Page 4 of 11

SUPERSINGLE® MD525

MD COWAN SPECIFICATIONS

<b>WELL CONTROL</b>	
<b>LOW PRESSURE BLOWOUT PREVENTERS</b>	
All appropriate components H <sub>2</sub> S rated	No
<b>RAM TYPE PREVENTERS</b>	
Quantity:	1
Make/model:	Horn or Other Type LWS
Type (single / double / triple):	DOUBLE
Size:	11 IN
Working pressure:	5,000 PSI
Ram locks:	YES
Type (manual/hydraulic):	MANUAL
Side outlets:	4
Size:	4"
WP:	5,000 PSI
Bottom connection:	11" x 5M
Top connection:	11" x 5M
<b>AVAILABLE RAMS (INSTALLED)</b>	
Quantity / type / size:	1/BLIND
Quantity / type / size:	1/PIPE/4 1/2"
<b>ANNULAR PREVENTER</b>	
Quantity:	1
Make/type:	Horn or Other HA
Size:	11" x 5M
Working pressure:	5,000 psi
Bottom connection:	5,000 psi
Top connection:	5,000 psi
<b>KILL LINE VALVES</b>	
Quantity:	1
Make/type:	
Size:	2-1/16 IN
Working pressure:	5,000 PSI
Hydraulic / manual / non-return:	MANUAL
Quantity:	1
Make/type:	
Size:	2-1/16 IN
Working pressure:	5,000 PSI
Hydraulic / manual / non-return:	NON-RETURN

EXHIBIT A

Page 5 of 11



<b>Accumulator Unit</b>	
Make/model:	Burnsco "Bison"
Location:	LOWER DOGHOUSE SKID
Fluid reservoir capacity:	160 US GALLONS
Total accumulator capacity (with out prior recharge):	160 US GALLONS
System working pressure:	3,000 PSI
Total useful accumulator volume equals all preventer opening and closing volumes:	160/YES
Plus percent additional volume:	
<b>Accumulator Hydraulic Pumps</b>	
Electric Driven:	
Quantity:	1
Make/model:	TRIPLEX
Each driven by motor of power:	20HP
At operating pressure:	3,000 PSI
Air Driven:	
Quantity:	2
Make/model:	
Flow rate of each pump:	
At operating pressure:	3,000 PSI
<b>Primary Control Panel</b>	
Control panel make/model:	Townsend/Burnsco
Location:	DOG HOUSE SKID
Panel controls for the following functions:	
Annular BOP:	YES
Ram BOP's:	YES
Choke line valve:	YES
System pressure regulator:	YES
Pressure regulator for annular:	YES
Flow meter:	
Quantity of pressure gauges:	3
<b>CHOKE MANIFOLD</b>	
Nominal size:	2" & 4"
Minimum ID:	
Maximum WP:	5,000 PSI

EXHIBIT A

Page 6 of 11

## SUPERSINGLE® MD525

## MD COWAN SPECIFICATIONS

Quantity of fixed chokes:	2
Make/model:	MC FEE MN-60
Size (ID):	3/4" ORIFICE 1 1/2" OD
Quantity of adjustable chokes:	2
Make/model:	AOP INDUSTRIES
Size (ID):	2-1/16 IN
Power choke remote control panel:	NO
Make/model:	N/A
Size (ID):	N/A
<b>CHOKE LINE (BOP to MANIFOLD)</b>	<b>YES</b>
Quantity:	1
Make/type:	Midwest Hose
ID:	3"
Working pressure:	5,000 PSI
H2S Service:	NO

SUPERSINGLE® MD525

MD COWAN SPECIFICATIONS

Capacity:				450
Drive motor hp:				50
Is feed pump dedicated to mud hopper(s):				YES
<b>DESANDER</b>				YES – US Oilworks
Cone No. & size				2 - 10"
DESILTER				10 - 4" cone
<b>WATER TANK</b>				MDC FABRICATED
Rectangular V-crimp 8' Wide				400 bbl.
<b>Centrifugal Pumps</b>				2
Type/Size:				ODESSA PUMP 2" X 3" CENTR equivalent
Drive Motor HP:				20 HP MOTORS
<b>BRAKE COOLING/LUBESTER SKID</b>				
Additional skid containing a brake cooling unit and lubrication bulk handling equipment.				MDC Fabricated Skid
Brake cooling unit				Rig Tech RTBSS-101
Bulk Handling Lubester				5 EA BULK LUBE TOTES; 350
Tote				EA; STAINLESS STEEL TAN
Make:				INCLUDED FOR ENGINE O
Model:				HYDRAULIC OIL, GEAR OIL, EM
				COOLANT, AND WASTE O
Hose Reel				(4 total) 50 ft; ½" hose
Make:				Lincoln
Model:				94300 series "A"
Pump for Oil Totes				
Make:				
Model:				
Pump for Coolant				
Make:				
Model:				

SUPERSINGLE® MD525

MD COWAN SPECIFICATIONS

Working pressure:		5,000
Snubbing lines:		YES
<b>LOW PRESSURE MUD SYSTEMS</b>		2-12"W X 5"H X 40' L W/10' PORTABLE END FOR PUMPS V-CRIMPING DESIGNED TO ELIMINATE STRIP HAZARDS ON WALL SURFACE
<b>MUD TANKS (CURVED BOTTOMS)</b>		YES
Quantity:		2
Total capacity (usable):		~700 bbls
Usable capacity No. 1:		~350
Type (active / reserve):		ACTIVE
Height:		5
Mixer:		YES
High Pressure Mud guns:		YES
Usable capacity No. 2:		~350
Type (active / reserve):		ACTIVE
Height:		5
Mixer:		YES
High Pressure Mud guns:		YES
<b>SHALE SHAKER</b>		
Quantity:		1
Make/model:		VORTEX FLUID SYSTEMS
Type:		ORBITAL 3000 DUAL SHAFT
Nominal flow rate (total):		1000
<b>MUD AGITATORS</b>		YES
Quantity:		3
Make/model:		Bario Max 2000 or equivalent
Driven by motor of power:		10 HP
Located in tanks:		YES
Impeller Blades, Type		YES
<b>MUD HOPPER</b>		YES
Quantity:		1
Make/model:		Oilworks mixing hopper
Feed pump make/model:		5" X 6" MISSION MAGNETIC
Type/size:		11" IMPELLER

Fluid end type:				WEATHERFORD (interchangeable w/Emsco F-1000)
M				5,000 PSI
T	8 of 11			5,000 PSI
Pun.				CUSTOMER TO FURNISH
Supercharging pump type:				YES

EXHIBIT A Page 7 of 11

  

SUPERSINGLE® MD525			MD COWAN SPECIFICATIONS
Driven by motor of power:			PINION SHAFT
Discharge/suction line ID:			3 1/2" X ID
Mud pump pulsation dampener type:			AS SUPPLIED BY WEATHERFORD
Reset relief valve:			3"
<b>Torque Converters</b>			
Quantity:			2
Make/type:			U.S. Oilworks / C300-80
<b>TRANSFER PUMPS / MIXING PUMPS</b>			YES
Mixing Pumps			
Quantity:			2
Make/model:			5" X 6" W/50 H.P. ELECTRIC MOTORS-MISSION MAGNUM
Output capacity:			11" IMPELLER 80 TO 110 GALLONS PER MINUTE
Drive motor type:			ELECTRIC 50HP
Power output:			N/A
<b>CHARGING PUMPS</b>			YES
Quantity:			2
Make/model:			5" X 6" W/50 H.P. ELECTRIC MOTORS- MISSION MAGNUM
Output capacity:			11" IMPELLER-80 TO 110 GALLONS PER MINUTE
<b>STANDPIPE MANIFOLD</b>			YES
Quantity of standpipes:			1 (MUD)
Standpipe/ID:			4"/ 3" ID
Kill line outlet:			YES
fill-up like outlet:			YES
Bleed-off line outlet:			YES
Outlet for MWD sensor			YES
<b>ROTARY HOSES</b>			YES
Quantity			2
Make/type:			Midwest Hose
ID x Length:			4" ID X 44' L.
Working pressure:			5,000
Snubbing lines:			YES
Quantity:			2
Make/type:			Midwest Hose
ID x Length:			4" x LENGTH DEPENDS ON PUMP RIG UP



SUPERSINGLE® MD525

MD COWAN SPECIFICATIONS

Quantity of fixed chokes:			2
Make/model:			MCFEE MN-60
Size (ID):			3/4" ORIFICE 1 1/2" OD
Quantity of adjustable chokes:			2
Make/model:			AOP INDUSTRIES
Size (ID):			2-1/16 IN
Power choke remote control panel:			NO
Make/model:			N/A
Size (ID):			N/A
<b>CHOKE LINE (BOP to MANIFOLD)</b>			<b>YES</b>
Quantity:			1
Make/type:			Midwest Hose
ID:			3"
Working pressure:			5,000 PSI
H2S Service:			NO
<b>FLEXIBLE BOP CONTROL HOSES</b>			<b>YES</b>
Quantity:			10
Make/type:			SYNFLEX TYPE "B"
ID:			1"
Working pressure:			5,000 PSI
Fire resistant:			YES
<b>Traveling Stand for BOP's</b>			<b>YES</b>
<b>MUD SYSTEM</b>			
<b>MUD PUMPS</b>			<b>YES</b>
Quantity:			2
Make:			WEATHERFORD OR BOM
Model:			MP10
Horsepower:			1,000
Type (triplex / duplex):			TRIPLEX
Mud pumps drive motors / engines:			CATERPILLAR 3508 ©
Motor type:			Variable Speed - Diesel
Continuous power rating per engine:			1200 RPM FOR 3508
Fluid end type:			WEATHERFORD (Interchang w/Emsco F-1000)
Maximum working pressure:			5,000 PSI
Test pressure:			5,000 PSI
Pump stroke counter type:			CUSTOMER TO FURNISH
Supercharging pump type:			YES

<b>BOP CONTROL SYSTEM</b>			
<b>Accumulator Unit</b>			
Make/model:			Burnsco "Bison"
Location:			LOWER DOGHOUSE SKID
Fluid reservoir capacity:			160 US GALLONS
Total accumulator capacity (with out prior recharge):			160 US GALLONS
System working pressure:			3,000 PSI
Total useful accumulator volume equals all preventer opening and closing volumes:			160/YES
Plus percent additional volume:			
<b>Accumulator Hydraulic Pumps</b>			
Electric Driven:			
Quantity:			1
Make/model:			TRIPLEX
Each driven by motor of power:			20HP
At operating pressure:			3,000 PSI
Air Driven:			
Quantity:			2
Make/model:			
Flow rate of each pump:			
At operating pressure:			3,000 PSI
<b>Primary Control Panel</b>			
Control panel make/model:			Townsend/Burnsco
Location:			DOG HOUSE SKID
Panel controls for the following functions:			
Annular BOP:			YES
Ram BOP's:			YES
Choke line valve:			YES
System pressure regulator:			YES
Pressure regulator for annular:			YES
Flow meter:			
Quantity of pressure gauges:			3
<b>CHOKE MANIFOLD</b>			
Nominal size:			2" & 4"
Minimum ID:			
Maximum WP:			5,000 PSI

SUPERSINGLE® MD525

MD COWAN SPECIFICATIONS

**WELL CONTROL****LOW PRESSURE BLOWOUT PREVENTERS**All appropriate components H<sub>2</sub>S rated

No

**RAM TYPE PREVENTERS**

YES

Quantity:

1

Make/model:

Horn or Other Type LWS

Type (single / double / triple):

DOUBLE

Size:

11 IN

Working pressure:

5,000 PSI

Ram locks:

YES

Type (manual/hydraulic):

MANUAL

Side outlets:

4

Size:

4"

WP:

5,000 PSI

Bottom connection:

11" x 5M

Top connection:

11" x 5M

**AVAILABLE RAMS (INSTALLED)**

Quantity / type / size:

1/BLIND

Quantity / type / size:

1/PIPE/4 1/2"

**ANNULAR PREVENTER**

Yes

Quantity:

1

Make/type:

Horn or Other HA

Size:

11" x 5M

Working pressure:

5,000 psi

Bottom connection:

5,000 psi

Top connection:

5,000 psi

**KILL LINE VALVES**

YES

Quantity:

1

Make/type:

Size:

2-1/16 IN

Working pressure:

5,000 PSI

Hydraulic / manual / non-return:

MANUAL

Quantity:

1

Make/type:

Size:

2-1/16 IN

Working pressure:

5,000 PSI

Hydraulic / manual / non-return:

NON-RETURN

Working pressure:	5,000 PSI
Output power:	24,000 ft-lbs
<b>POWER SUPPLY SYSTEMS</b>	
<b>RIG POWER PLANT</b>	
GENERATOR HOUSE: 10' W BY 51' LONG W/ SQUARE F	
<b>Diesel Engine/Generator Sets</b>	
Quantity:	2
Make/type:	CATERPILLAR / C-15
Maximum continuous power:	540 HP
At rotation speed of:	CONSTANT 1200RPM
Equipped with spark arrestors:	YES
Mufflers installed:	YES
<b>AC - Generator</b>	
Quantity:	2
Make/type:	CATERPILLAR/455 KW
At rotation speed of:	CONSTANT 1200RPM
Output volts:	60 Hz 480 VOLTS
<b>Air Compressors - Medium Pressure (rig air):</b>	
Quantity:	CURTIS - 1 each
Make:	
Model:	RS30F
Rated Capacity:	102 CFM
Working pressure:	175 PSI
Prime mover (electric/diesel):	ELECTRIC
Continuous power:	30 HP
<b>AIR RECEIVERS</b>	
OILWORKS - 1 each	
Volume (total):	600 ft2
Maximum Pressure	175 PSI
Location:	Lube Skid
<b>FUEL TANK</b>	
Standard Cylindrical Tank/ Optional Rectangular Cylindrical 8' diameter	MDC FABRICATED 265 BBL.



SUPERSINGLE® MD525

MD COWAN SPECIFICATIONS

sheave diameter:		36"
Sheave grooved for line size:		1 1/4"
<b>Drilling Line</b>		YES
Diameter:		1-1/4"
Construction:		BETHLEHEM STEEL AMERICAN RRL/IWRC/EIPS DOMESTIC equivalent
Length (original):		2,500'
Drilling line reel:		YES
Drum cover:		NO
Drilling line drum power driven:		Optional
Roller guides:		NO
<b>Dead Line Anchor</b>		
Make/type:		HERCULES HA-119T
Weight sensor:		60,000#
<b>SLIP BOWL SYSTEM - NON-ROTATING</b>		
Make/type:		N/A
Gate/Bowl Opening:		N/A
Hook Load:		N/A
Operating Air Pressure:		N/A
Operating Hydraulic Pressure:		N/A
Tubular Goods Range		N/A
<b>Top Drive/Power Swivel</b>		
Make:		VENTURETECH
Model:		XK-250
Type (electric/hydraulic):		HYDRAULIC - SUNSTRAN HYDRAULIC PUMP POWERED CATERPILLAR C-18 DIESEL ENGINE & HYDRAULIC SYSTEM
Rated capacity:		250T
Working pressure:		5,000 PSI
Maximum continuous torque @ 120 rpm: (Power curve available upon request)		22,000 FT-LBS
Maximum continuous rotary speed:		160 RPM
Cooling system type:		N/A
Upper inside BOP:		2 3/4" INSIDE
Floating Cushion sub (Upper Torque Sub):		4 1/2" I.F.
100 RPM Dynamic load rating:		140 Tons

## SUPERSINGLE® MD525

## MD COWAN SPECIFICATIONS

sheave diameter:	36"
Sheave grooved for line size:	1 1/4"
<b>Drilling Line</b>	YES
Diameter:	1-1/4"
Construction:	BETHLEHEM STEEL AMERICAN RRL/IWRC/EIPS DOMESTIC or equivalent
Length (original):	2,500'
Drilling line reel:	YES
Drum cover:	NO
Drilling line drum power driven:	Optional
Roller guides:	NO
<b>Dead Line Anchor</b>	
Make/type:	HERCULES HA-119T
Weight sensor:	60,000#
<b>SLIP BOWL SYSTEM - NON-ROTATING</b>	
Make/type:	N/A
Gate/Bowl Opening:	N/A
Hook Load:	N/A
Operating Air Pressure:	N/A
Operating Hydraulic Pressure:	N/A
Tubular Goods Range	N/A
<b>Top Drive/Power Swivel</b>	
Make:	VENTURETECH
Model:	XK-250
Type (electric/hydraulic):	HYDRAULIC - SUNSTRAND HYDRAULIC PUMP POWERED BY CATERPILLAR C-18 DIESEL ENGINE & HYDRAULIC SYSTEM
Rated capacity:	250T
Working pressure:	5,000 PSI
Maximum continuous torque @ 120 rpm: (Power curve available upon request)	22,000 FT-LBS
Maximum continuous rotary speed:	160 RPM
Cooling system type:	N/A
Upper inside BOP:	2 3/4" INSIDE
Floating Cushion sub (Upper Torque Sub):	4 1/2" I.F.
100 RPM Dynamic load rating:	140 Tons

EXHIBIT A

Page 3 of 11

## SUPERSINGLE® MD525

## MD COWAN SPECIFICATIONS

Working pressure:	5,000 PSI
Output power:	24,000 ft-lbs
<b>POWER SUPPLY SYSTEMS</b>	
<b>RIG POWER PLANT</b>	GENERATOR HOUSE: 10' WIDE BY 51' LONG W/ SQUARE D MCC
<b>Diesel Engine/Generator Sets</b>	
Quantity:	2
Make/type:	CATERPILLAR / C 15