DISCOVERY Energy Services

COMPLETIONS AND WORKOVER RIG RIG DISCOVERY 2 SPECIFICATIONS BROCHURE

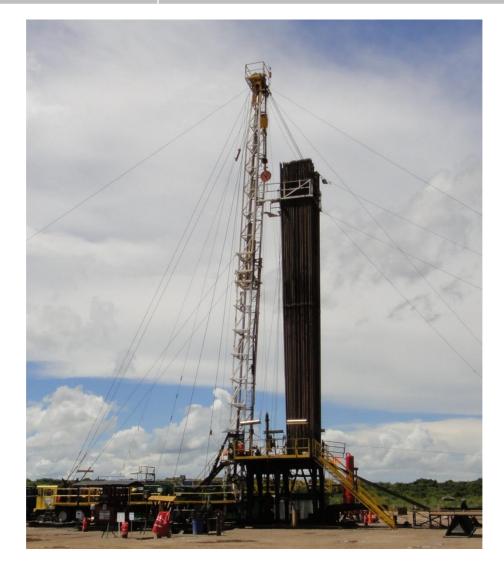






HIGHLIGHTS

| Name: | Discovery 2 |
|-------------------|--------------------------------|
| Brand | Wilson |
| Power: | 550 HP |
| Year: | 1982 (Repotenciado en el 2009) |
| Double Drum: | Drawworks and Sandline Drums |
| Туре: | Self-propelled Land Rig |
| Static Hook Load: | 250.000 Libras |
| Service: | 15.000 FT TUBING 3-1/2" |



CARRIER

CARRIER

)

| Specifications | Data |
|----------------|---------------------------|
| Manufacturer | Wilson |
| Model | Wilson 5-Axle carrier |
| Brakes | Air brakes in all wheels |
| Steering | Hydraulic powered |
| Front axles | 2 |
| Rear axles | 3 |
| Headlights | Stop and taillights |
| Reflectors | Air horn |
| Cab | One man, washer and wiper |
| Mirrors | Two rear view mirrors |

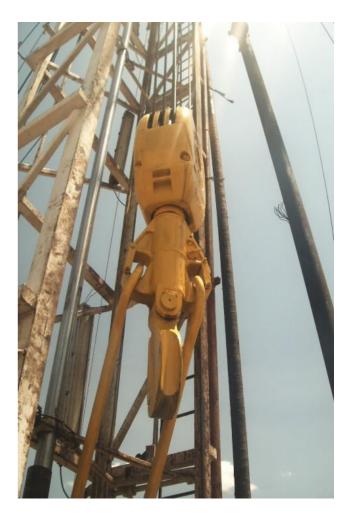


MAST AND SUBSTRUCTURE

MAST

| Specifications | Data |
|--------------------|--------------------|
| Manufacturer | Wilson |
| Model | 250-96 |
| Туре | Telescoping double |
| Clear Height | 96 ft |
| Static Hook Load | 250.000 Lbs |
| Drilling line size | 1" |





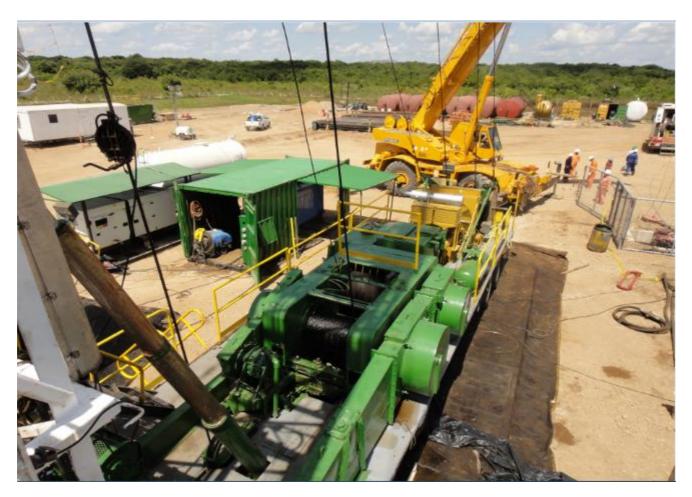
MAST SUBSTRUCTURE

| Specifications | Data |
|----------------|----------------------------|
| Manufacturer | Prodimetales |
| Year | 2010 |
| Туре | Telescoping (Low boy) |
| Height | 10 - 14ft |
| Capacity | 250.000 Lbs |
| Weight | 12.000 Kg |
| Rotary Table: | Sentry 17-1/2" and 250 Ton |

HOISTING EQUIPMENT

DRAWWORKS

| Specifications | Data |
|--------------------|-----------------------|
| Manufacturer | Wilson |
| Year | 1982 |
| Model | WIL-42B D/D |
| Size | 42 X 12" |
| Single line pull | 42.000 Lbs |
| Shaft Diameter | 6-1/2" |
| Horse power rating | 550 HP |
| Drum Capacity | 3260 ft, 1" Wire rope |



AUXILIARY BRAKE

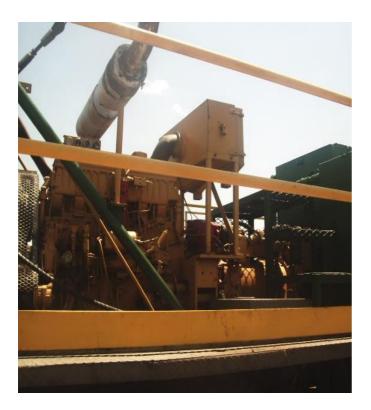
| Specifications | Data |
|----------------|-----------------|
| Manufacturer | Parmac |
| Reference | 122 Water brake |

SANDLINE DRUM

| Specifications | Data |
|----------------|-----------------------------|
| Manufacturer | Wilson |
| Model | 42B |
| Size | 42 X 8" |
| Drum Capacity | 13.000 ft of 9/16«Wire Rope |

TRANSMISSION

| Specifications | Data | |
|----------------|---------------------------|--|
| Manufacturer | Allison | |
| Model | CLT 5860 DB | |
| Туре | Automatic | |
| Power shift | From cab and rear control | |



ENGINE

| Specifications | Data |
|----------------|--------------------------|
| Manufacturer | Caterpillar |
| Model | 3406 |
| Rating | 540 HP @ 2100 rpm |
| Exhaust | With spark arrestor |
| Air compressor | Driven from engine |
| | High water temp, low oil |
| Emergency stop | pressure and overspeed |
| | emergency shutdown |

HYDRAULIC SYSTEM

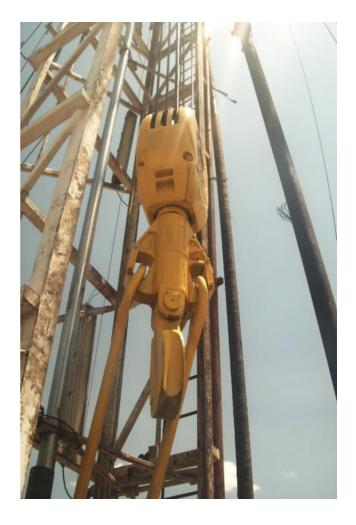
| Specifications | Data |
|------------------|----------------------------|
| Hydraulic pump | C.MODEL 37X-45 GPM |
| Oil Tank | 195 Gal |
| Max. Pressure | 2500 PSI @ 2100 rpm |
| System rating | |
| pressure | 3000 PSI |
| Raising Cylinder | Three stages (hydraulic) |
| Jackscrews | 4 hydraulic leveling jacks |

HANDLING WINCH

| Specifications | Data |
|-----------------|-----------------------|
| Туре | Hydraulic powered |
| Capacity | 8.000 Lbs |
| Rated line pull | 100 fpm and 2.000 PSI |
| Line | 325 ft of 1/2" |
| Fail-safe brake | Included |

TRAVELING BLOCK

| Specifications | Data |
|----------------|-----------------|
| Manufacturer | Ideco |
| Туре | Hook block |
| Reference | 125 |
| Load capacity | 125 TON |
| Sheaves | 4 sheaves of 1" |
| Link elevators | 125 TON, 6 ft |



ROTARY SYSTEM

ROTARY TABLE

| Specifications | Data |
|----------------|----------------|
| Manufacturer | Sentry |
| Load capacity | 250 Ton |
| Year: | 2010 |
| Reference | SI-RT-175 X 44 |
| Load capacity | 150 TON |
| Size | 17-1/2" |
| Max. Working | |
| torque | 10.132 ft.Lbs |
| Max speed | 300 rpm |



KELLY SYSTEM

| Specifications | Data |
|---------------------|----------------------|
| Kelly type | Square 3-1/2" X 40ft |
| Bottom conexión | 3-1/2 IF pin |
| Top conexión | 6-5/8 Reg LH box |
| Kelly drive bushing | Square drive 17-1/2" |
| Kelly master | |
| Bushing | Included |
| Load capacity | 150 TON |
| Size | 17-1/2" |
| Max. Working | |
| torque | 10.132 ft.Lbs |
| Max speed | 300 rpm |



CIRCULATING SYSTEM

MUD PUMP

| Specifications | Data |
|--------------------|-----------------------|
| Manufacturer | Gardner Denver |
| Reference | PJ08 |
| Liners | 4" |
| Stroke lenght | 8" |
| Engine | Detroit 8V 71 |
| Horse power rating | 400 HP |
| Transmission | Automatic Allison 750 |







CIRCULATING SYSTEM

MUD TANKS

| Specifications | Data |
|----------------------|-------------------------------|
| Qty | 2 |
| Capacity | 250 BBL (TOTAL: 500 BBL) |
| Agitators | 3 |
| Cetrifuge | 4X4 (Electric engine of 40HP) |
| Туре | Fast move (Low boy) |
| Fixed poor boy | Included |
| Electric instalation | Explosion proof (6 lamps) |
| Mud mixing | |
| Hopper | Included |

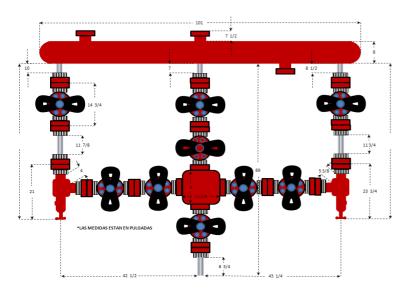




WELL CONTROL SYSTEM*

ANULAR BOP

| Specifications | Data |
|-----------------|-------------|
| Manufacturer | Hydril |
| Size | 7-1/16 X 5M |
| Top conexión | Studded |
| Bottom conexión | Flanged |
| Max. Working | |
| pressure | 5000 PSI |



CHOKE MANIFOLD

| Specifications | Data |
|----------------|-------------------------------|
| Reference | 2-1/16 X 5M |
| | 9 gate flanged valve 2-1/16 X |
| Valves | 5M |
| Conexiones | 2" Fig. 1502 |
| Chokes | 2 graduable chokes |



RAM BOP

| Specifications | Data |
|-----------------|--------------------------|
| Manufacturer | Hydril |
| Size | 7-1/16 X 5M |
| Top conexión | Studded |
| Bottom conexión | Flanged |
| Max. Working | |
| pressure | 5000 PSI |
| Rams | Blind Rams and Pipe rams |
| Pipe rams | 3-1/2 and 2-7/8 |



*all well control equipment is as per API RP 53

ACCUMULATOR UNIT

| Specifications | Data |
|--------------------|-----------------|
| Bottles | 4 of 15 Gal |
| Working pressure | 3000 PSI |
| Pre-charge | |
| pressure | 1000 PSI |
| Hydraulic pump | Triplex |
| Pneumatic pump | Included |
| Four way rotary | |
| valve | 3 |
| Pressure regulator | 2 |
| Electric system | Explosion proof |



POOR BOY

| Specifications | Data |
|----------------|-------------------|
| Size | 24" |
| Туре | Fixed at mud tank |
| Liquid outlet | 6" |
| Gas outlet | 3" |





POWER SYSTEM

GENERATORS

| Specifications | Data |
|----------------|----------------------------|
| Manufacturer | General power |
| Qty | 2 |
| Capacity | 131 KVA |
| Cabin | Isolated cabin |
| Model | GP131S |
| Conexions | Explosion proof (Appleton) |







TOOLS

MANUAL TOOLS

| Specifications | Data |
|----------------|----------------------------------|
| Pipe wrenches | 2 of each size (24, 36, 48 y 60) |
| Chain wrenches | 24 and 36" |

HYDRAULIC TONG

| Specifications | Data |
|----------------|---------------------|
| Manufacturer | Foster |
| Tubing sizes | 2-3/8, 2-7/8, 3-1/2 |
| Reference | 58-93R |
| Туре | Hydraulic powered |



MANUAL TONGS

| Specifications | Data | | | |
|----------------|-----------------------------|--|--|--|
| Manufacturer | BJ | | | |
| Туре | С | | | |
| | 3-1/2 to 5-1/2" and 7 to 8- | | | |
| Range | 1/2" | | | |
| Torque rating | Up to 35.000 Lbs | | | |





ELEVATORS

| Specifications | Data |
|---------------------|--------------------------------|
| Tubing elvators | 90° for 2-3/8, 2-7/8 and 3-1/2 |
| Drill pipe elevator | 18° for 3-1/2 |
| Torque rating | Up to 35.000 Lbs |
| Туре | Latch |



SLIPS

| Specifications | Data |
|--------------------|-------------------------------|
| | Cavins for 100 tons (2-3/8 to |
| Pneumatic slips | 3-1/2) |
| | Varco - BJ (2-7/8 to 3-1/2) |
| Rotary slips | 150 tons |
| Drill Collar slips | 4-3/4 Drill Collar slips |
| Safety clamp | 4-3/4 Drill Collars |





CAMPING



| Specifications | Data |
|----------------|-------------------------|
| Units | 3 |
| Beds | 2 or 4 for every room |
| Bathroom | 1 for each room |
| Year | 2010 |
| Skidd | Yes |
| Refrigerator | For Coman and assistant |
| Red fox unit | 60 people capacity |
| Dining room | included |







WEIGHT INDICATOR

| Specifications | Data |
|----------------|---------------|
| Manufacturer | Martin Decker |
| Туре | Clipper |
| Lines | 8 lines of 1" |
| Range | 0-280.000 Lbs |

JOINT TORQUE

| Specifications | Data |
|----------------|-----------------|
| Manufacturer | Martin Decker |
| Range | 0-10.000 ft.Lbs |
| Туре | Pressure Cell |

ROTARY TORQUE

| Specifications | Data |
|----------------|-------|
| Manufacturer | Forum |
| Range | 0-500 |

STROKE COUNTER

| Specifications | Data |
|----------------|----------|
| Model | 5700 |
| Totalizer | Included |
| Mud pumps | 2 |

MISCELLANEOUS

DISCOVERY ENERGY SERVICES S.A.

DISCOVERY

BOTTOM HOLE ASSEMBLY OF SWABBING



RIG: DISCOVERY 3 550HP

| WELL HEAD | | | | | | | | | |
|---|-----|----------------------------------|----------------------|-------------|--------|-------|-----|--------|-------|
| 1 | | DEC | | BRAND | SEDIAL | 0.0 | OTV | | CUM |
| | | DESCRIPTION | | BRAND | SERIAL | OD | QTY | LENGTH | CUM. |
| | l F | 1 Sandline 6X7 Bright | | MADE IN USA | NA | 9/16 | 1 | 14000 | 0 |
| | ⊢⊢ | | assembly, 3/4 SR Box | GUIBERSON | 20511 | 1-3/4 | 1 | 1,17 | 1,17 |
| | l F | 3 Sinker bars 1-1/2 X | | AFTER MKT | NA | 1-3/4 | 2 | 20,00 | 21,17 |
| | l F | | Sub | GUIBERSON | 33911 | 1 1/2 | - | 20,00 | 21,17 |
| | l F | 4 Knuckle joint 5 tubing swab | Upper mandrel | GUIBERSON | 33912 | 2,36 | 1 | 2,17 | 23,34 |
| | l F | 6 mandrels | Lower mandrel | GUIBERSON | 33913 | | | ŕ | |
| 2 | | | | | | | | | |
| | l F | COMMENTS | | | | | | | |
| | | Swab cups | | GUIBERSON | 53692 | 2,94 | 2 | | |
| | Ŀ | | | | | | | | |
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| 3 | | | | | | | | | |
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| | F | | | | | | | | |
| | | | | | | | | | |
| Fish neck grooves Fish neck grooves Swivel Rope Socket Assembly | | | | | | | | | |

MISCELLANEOUS

SWABBING EQUIPMENT

| Specifications | Data |
|--------------------|-------------------------------|
| Oil saver | Guiberson HD |
| Swivel rope socket | Guiberson for 9/16 |
| Sinker bars | 2 of 10ft |
| Swab mandresl | Knuckle joint type (2) |
| Hydraulic pump | Including a hose of 50ft |
| Dephtometer | Cavins |
| Lubricator | 4" |
| Swabbing tree | 4" with 3 gate valves (4"X5M) |

SAFETY EQUIPMENT

| Specifications | Data | | | |
|---------------------|---------------------------|--|--|--|
| Fall Protection | Full body harnesses, Body | | | |
| | belts, Lanyards , SRL'S. | | | |
| Low speed descender | Included | | | |
| Climbing assist | Included | | | |
| system | | | | |
| Gas detector | Portable | | | |
| Breathalyzer | Portable | | | |





