

RIG #7

1. Double – 2800 m
2. 20 loads to move
3. Fuel consumption – 1700 - 2500 L/day
4. 1 – 3406E National 370 Drawworks
5. 1 – 855 Cummins Generator
6. EMSCO F-1000 Triplex Pump
7. 1 – Scania Generator
8. 160” clear height under sub

RIG #7 EQUIPMENT LIST

Item	Description
DEPTH RATING	- 2800 metres
DRAWWORKS	- National 370 Lebus grooved for 1 1/8" line. National B2 Catheads, Hydraulic Hoist, Electric wireline with 10,000 ft .092 wire, Single Engine in-line compound with 22" Parmac Hydromatic brake.
ENGINE	- CAT3406E with 550 HP and an Allison 6610 5 speed transmission
TRANSMISSION	- Allison 6610 forward c/w reverse
RATED PULLING CAPACITY	- 8 lines - Low 255,000# - High 118,000#
MUD PUMPS	- One EMSCO F-1000 Triplex powered by a 3412E CAT 1005 HP.
SUBSTRUCTURE	- Edmonton Fabrication Ltd. One piece 16' h x 13'6" w x 47' l
MAST	- Derrick Manufacture 97' Double Cantilever, 12' base - GNC 330,000#
ROTARY	- National 17 1/2" table with split master bushings
TRAVELLING BLOCKS	- Hi Quality Block/Hook 150 ton 8 lines 4 x 30" sheaves
SWIVEL	- TSM 150 Ton with Foster Kelly Spinner
FUEL TANK	- 28m ³ or 28,000 litre capacity 6,160 gallons
WATER TANK DOG HOUSE COMBO	- 84m ³ or 530 bbl capacity
GENERATOR	- Cummins NTA 855G with 300 kw generator - Scania DS1140 with 150 kw generator

Item	Description
MUD TANK	<ul style="list-style-type: none"> - One tank 77m³ capacity 56.9m³ working capacity - 12' w x 50' l x 6'6" h with mixing room, all internal plumbing, side mix hopper c/w trip tank - 2 – 5 x 6 centrifugal pumps powered by 2 – 60 HP electric motors subsurface mud guns - 1 – 2" x 3" centrifugal hole fill pump - DFTS linear motion shale shaker - One Poorboy degasser 4" inlet 8" outlet - One Thermasurge steam heater in mixing room - 77m³ capacity three compartment - One 6" x 5" Hole Fill Pump c/w 50 HP Electric Motor - One Sand Trap 3.9m³ capacity - One Trip Tank 2.8m³ capacity - One Pill Tank 5.1m³ capacity - One Shaker/Degasser Tank 24.1m³ capacity - One Settling Tank 23.1m³ of capacity - One Suction Tank 18.5m³ capacity - Two Agitators 5 HP in suction tank
BLOWOUT EQUIPMENT	<ul style="list-style-type: none"> - One 11" 3,000# Shaffer Annular – Nace Trim - Two – 9" 3,000# Guiberson Single Gate Rams - One 4 ½" Drill Pipe – Nace Trim - One Blind – Nace Trim <p>HCR</p> <ul style="list-style-type: none"> - Schaffer 3" – 3,000# with Hydraulic Actuator – Nace - BARTON 3" – 3,000# Manual Valve – Nace Trim <p>KILLLINE</p> <ul style="list-style-type: none"> - Two BARTON 2" – 3,000# Ball Valves with 2" – 3,000# Check Valve – Nace Trim
ACCUMULATOR	<ul style="list-style-type: none"> - Koomey Type 80 Five Station, 80 gallon closing unit with triplex charging pump with air driven hydraulic pump back up c/w 8-11 gallon accumulator bottles, 2 nitrogen back-up bottles. Remote controlled from doghouse with manual backup.
CHOKE MANIFOLD	<ul style="list-style-type: none"> - 2" – 3,000# Wing Lines c/w 2 – 2" Willis Chokes - 3" – 3,000# Relief Line – Nace Trim
DRILL STRING	<ul style="list-style-type: none"> - 266 joints of 114mm (4 ½") OD Grade E24.7 kg/m (16.60 lbs/ft) Range 2 with 155.5 mm (6 ⅞") OD Tool joints with 4 ½ XH Thread - 8 joints Hevi-wate Drill Pipe 114 mm (4 ½" OD x 6 ¼" OD Tool joints with 4 ½ XH Thread)
DRILL COLLARS	<ul style="list-style-type: none"> - 18 – 6 ¼" (158.75 mm) 2 ¼" ID (57.15 mm) 4 ½ XH connections - 2 – 203 mm (8") OD x 2 ½" (63.50 mm) ID 6 ⅝ H90 connections. - One 4 ½" Reg. Box to 4 ½" XH Box Bit Sub - One 6 ⅝" Reg. Box to 6 ⅝" H90 Box Bit Sub - One 4 ½" XH Box to 6 ⅝" H90 Pin Bell Sub - One 4 ½" Reg. Box to 4 ½" Reg. Pin Junk Sub - One 4 ¼" Square Kelly with Varco 4 Roller Bushings Model 4KRVS - One Upper Kelly Cock - One Stabbing Valve - One Inside BOP - 10 – 4 ½" XH Pickup Subs - One dog collar – Baash – Ross

Item	Description
BOILER	<ul style="list-style-type: none"> - Volcano 125 HP Deisel Fired c/w self contained building, with parts room Water Storage: 19.875m³ – 125 bbls Fuel Storage: 9,110 litres – 2,000 gallons
MISCELLANEOUS	<ul style="list-style-type: none"> - One PASON penless drilling recorder - One Totco 8 degree, single shot survey - PASON Automatic Driller - 2 – 2” x 3” Jacuzzi water pumps - 2 – 1” x 1 ¼” Monarch fuel transfer pumps - 1 Cat Model 310 Wash Gun - 1 Quincey Model 350LVD Drawworks driven air compressor - 1 Quincey Model 390 sub mounted electrically driven by 20 HP motor - 5 Scott air packs - 2 first aid kits - 1 stretcher - 1 escape buggy - 14 fire extinguishers - Complete Katch KAN system - Finns P700 Pipe Spinner

Performance Data Sheet F-1000 Pump (6 3/4 x 10)

SPM	HP	Liner size (in) & working Pressure (psi)						
		6 3/4	6 1/2	6	5 1/2	5 1/8	4 3/4	4 3/8
		2343	2643	3014	3457	4000	4700	4900
Flow Rate (GPM)								
150	1072	570.34	505.18	443.98	386.86	333.58	284.24	238.74
140*	1000	532.35	471.54	414.43	361.01	311.28	265.25	222.91
130	929	494.23	437.91	384.88	335.29	288.99	246.26	206.95
120	857	456.24	404.14	355.21	309.44	266.83	227.40	190.99
110	786	418.25	370.51	325.66	283.72	244.54	208.40	175.16
100	714	380.27	336.74	295.98	257.86	222.38	189.41	159.20
1		3.80	3.37	2.96	2.58	2.22	1.89	1.59

Notes

- 1) Based on 100% volumetric efficiency and 90% mechanical efficiency.
- 2) * Recommended speed and input horsepower for continuous services.

CITATION 800 HP TRIPLEX MUD PUMP

SPECIFICATIONS	
Maximum Input Horsepower	800 HP
Maximum spm	135 spm
Gear Ratio	4.32:1
Stroke	9 inches
Linear Size Range	4 ½ - 6 ½ inches
Maximum Pressure with Minimum Size Piston	4425/4 ½” psi
Maximum Volume with Maximum Piston Size	504/6 ½ gpm
Weight	32,700 lbs (14.8 m.t.)

PERFORMANCE DATA

Linear Size in. mm.		Strokes per Minute										Max. Discharge Pressure 800 hp pump psi kg/cm ²	
		60 gal/min lit/min 320hp (238kW)		80 gal/min lit/min 426hp (318kW)		110 gal/min lit/min 587hp (437kW)		120 gal/min lit/min 640hp (477kW)		130 gal/min lit/min 693hp (517kW)			
6½	165	233	882	310	1173	427	1616	466	1764	504	1908	2121	149
6¼	159	774		1032		1419		1548		1677		2280	
6	152	198	750	264	999	364	1378	397	1503	430	1628	2488	175
5½	140	167	632	222	840	305	1155	333	1261	361	1367	2960	208
5	127	138	521	184	697	252	954	275	1041	298	1128	3588	252
4½	114	112	424	149	564	204	772	223	844	242	916	4425	311