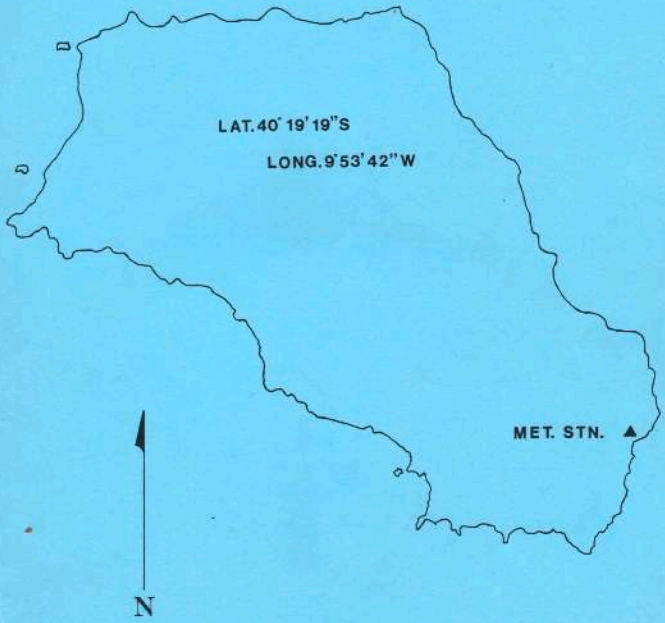
GOUGH ISLAND

DEPT. PUBLIC WORKS



17 OCT - 13 NOV 1992

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GOUGH ISLAND

OCTOBER 1992 EXPEDITION

LEADERS REPORT

The S.A.AGULHAS arrived at Gough Island on the 22nd October 1992 and all island based personel, P.W.D. and L.A. members was flown to the base at 09:00 am G.M.T. All cargo were discharged and the S.A.AGULHAS left for TRISTAN DU CUHNA on the same day. The base was inspected and found to be in a good condition.

Due to changes that had to be made to the diesel-line, it was decided that the transfer of the Polar Diesel from the S.A.AGULHAS to the Island would only take place at the end of the take-over.

The S.A.AGULHAS arrived again at Gough Island on the morning of the 8th November 1992 and the ship was loaded the same day. The next morning the diesel was transferred from the ship to the island in very good weather conditions. The total amount of fuel pumped was 87 000 litres. All personel were transferred to the ship at 19:00 hour and the S.A. AGULHAS departed for Cape Town.

Our time on the island was reduced by two (2) days due to the early departure of the S.A.AGULHAS (9th instead of 11th) for Cape Town, but we still managed to complete all specified work plus a fair amount of additional work.

*	=	(a) Work not set out in Departmental Work Schedules. (b) Work not reported to this office during the year. (c) Unforeseen tasks. (d) Work that became necessary during take over.

BUILDING REPORT

All building work as set out in the work schedule was completed and several additional tasks were performed.

A. SLEEPING QUARTERS

This section of the base is in a good condition and only minor repairs had to be performed to ensure good maintenance.

B. RADIO ROOM

This room is in a very good condition and needed no attention.

C. MET OFFICE

* This office is in a good condition. Two (2) additional work surfaces were installed for the computer keyboards.

* In an attempt by D.A. personel to remove a radio mast, a hole was knocked into the roof and had to be repaired.

D. DARK ROOM

The dark room is in a good condition. All seams were sealed as a slight leak was reported.

E. CAMPING EQUIPMENT STORE

The store is in a good condition.

F. BASE LABORATORY

The laboratory is in a good condition. The door between the lab and the balloon hut had to be planed down on the sides as it did not open and close properly.

G. BALLOON HUT

* The hut is in a fair condition. The roof were repaired as it started to leak during the year and a new canopy had to be fitted over the door that blew off last year. This door were repaired last year and is still in the same condition. The door will deffenitly have to be replaced with a new door next take-over.

The floor infront of the side door had to be replaced due to the fact that it was badly rusted and prevented the door from opening properly.

BETWEEN GAMES AREA & TV ROOM

HAND - RAILINGS WERE ERECTED AT VERIOUS STAIRS BECAUSE PEOPLE FELL FROM THE STAIRS DURING THE YEAR

MAIN ENTRANCE TO COUCH HOUSE

THE SCAFFOLDING UNDER THE BUILDING WERE DERUSTED AND PAINTED WITH NSA

BADLY RUSTED PIPES AND CLAMPS WERE REPLACED

OLD EMERGENCY POWER HOUSE

A PART OF THE EMBANKMENT WAS REMOVED AND A GUTTER WAS INSTALLED TO PREVENT WATER FROM ENTERING THE BUILDING

* A new staircase leading to the crane controle point was build and a safety railing was erected between the building and the stairs.

U. OLD OIL STORE [NEW EMERGENCY POWER HOUSE]

This building is now being used as the new emergency power house. The building have a dampness problem and therefore all seams and joints between the concrete panels will have to be thoroughly sealed next year and the inside should also be painted.

* A new door was installed in order to move the genset into the building.

V. HUTS

* Both the Hermanus hut and the Geomagnetic hut was dismantled and brought back to Cape Town. The old supply cable feeding the Geomagnetic hut must be removed next year.

W. HELIPAD

This platform is in a very poor condition and serious thought should be given to the idea of replacing it as it will have to be practically rebuild in order to repair it.

X. STANDBY RADIO HUT

The hut is in a good condition.
* The cat walks that was not used for the new crane controle point was used to replace old cat walks around the base. These old cat walks in turn was used to build a wider cat walk leading to the radio hut to enable personel to use the trollies to transport heavy radio equipment to the hut.

Y. GENERAL

[a] All rubble and old building material were removed from the island.

[b] It is recomended that a retaining wall be build around the incinerator to prevent hot coles from being blown into the vegetation and thus starting a fire.

MECHANICAL REPORT

A. CRANE

The crane is in a good condition and a new controle point was build. Rust was removed but due to bad weather and a lack of time the crane was not painted, the diesel mechanic however undertook to paint the crane.

The old slewmotor was brought back for repairs/replacement.

B. SAND FILTER

The sand was replaced and two new in-line filters in front of the sand filter were installed. The sand filter was also painted with NS4.

C. BULK FUEL TANKS

A by-pass line (65mm dia.) was installed from the lower diesel tank and pumphouse to the top of the cliff where it was joint onto the existing fuelline leading to the bulk fuel tanks. The flow - rate is now ± 20 000 l/hour due to the installation of this new line.

The valves at each of of the bulk fuel tanks wil have to be replaced because they no longer seal properly. The fuel pumps were serviced and they are in a good condition.

The tanks were thoroughly chipped and painted with NS4 after which the complete tanks were painted white.

D. REFRIGERATION

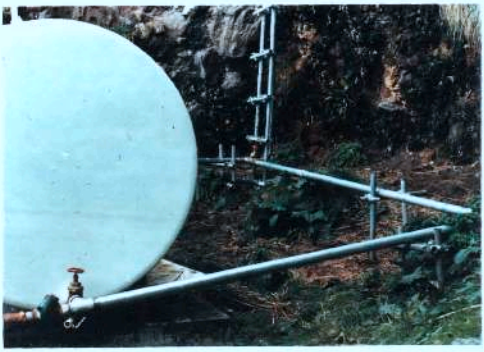
The coldroom and deepfreeze units were serviced and the only defect found was a faulty timer which were replaced. The units is in a good condition.

E. COUGH HOUSE

[1] KITCHEN : The existing extraction fan units above the stoves were replaced with a stainless steel canopy with build-in extraction fans.

[2] ICE-MAKER : The ice-maker was repaired and serviced but this unit is no longer in a good condition and should be replaced.

A NEW BY-PASS DIESEL LINE WAS INSTALLED FROM THE LOWER DIESEL TANK AND PUMPHOUSE TO THE TOP OF THE CLIFF WHERE IT WAS JOINT TO THE EXISTING LINE



F. NEW EMERGENCY POWER HOUSE [OLD OIL STORE]

The genset in the existing emergency power house was removed and installed in the old oil store. Two louvers complete with weather-cowls were also removed and installed in the old oil store. It is however recomended that two extract fans with weather cowls also be installed as the building becomes very warm when the engine is running.

A new exhaust was fitted and a new stainless steel day-tank was installed. The ballvalve could not be used in this tank and a * manual valve was install on the supply fuel line where it enters the tank.

G. MAIN POWER HOUSE

It is recomended that the exhausts on both sets be replaced. It will not be necessary to supply new asbestos rope because there is a good supply in the store, it will however be necessary to supply new Laso tape and new cilensers.

H. GENERAL

It is recomended that a removeble structure be built to use at the point where the diesel is being pumped to prevent the pipe between the ship and the island from being damaged on the rocks. See the attached sketch for an example.

ELECTRICAL REPORT

A. GOUGH HOUSE

The electrical installation throughout the base is in a good condition.

The bulkhead fittings in the ablution block was replaced with new fluorecsent fittings.

The existing two lightfittings between the base and the balloon hut was replaced with a single fitting and the switching was changed to two-way switching.

B. OUTER BUILDINGS

All defective lamps ect. were replaced and the cable fault on the lights between the base and the helipad were repaired.

The verious floodlights around the base should be replaced next year as they are beyond economical repair.

C. EMERGENCY POWER HOUSE

The generatorset, controle panel and main distribution board were removed. The electrical controle board for the crane could not be moved to the foodstore as planed because no provision was made for the necessary materials and will now have to be done next year.

Attached is a drawing of the existing installation and the cable sizes. The following cable will be needed to move the crane controle panel :-

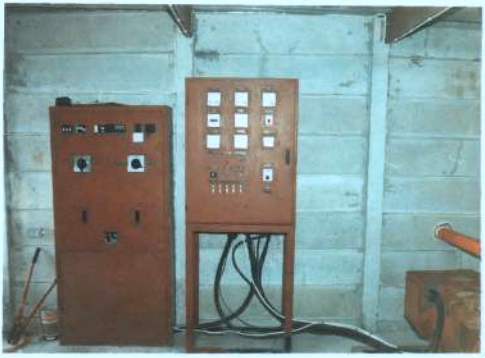
(a) 10 mm² * 12 core Neoprene Cable. [60m]
(b) 4 mm² * 4 core P.V.C.A. Cable. [30m]
(c) 16 mm² * 4 core P.V.C.A. Cable. [50m]

This hut is now in a good condition and it is not necessary to dismantle it.

D. NEW EMERGENCY POWER HOUSE [OLD OIL STORE]

The generatorset, controle panel and main distribution board which were removed from the existing emergency power house was installed in this store.

The electrical cable-layout between the base, the main power house and this store were changed. A new change-over system were implemented and the distribution boards were rewired accordingly.



NEW EMERGENCY POWER HOUSE

[OLD OIL STORE]

Although the controle panel and the distribution board were painted with NS4 it is recomended that both be replaced in the near future.

Attached is a drawing of the new cable-layout and change-over system.

E. MAIN POWER HOUSE

The two generating sets is in a good and clean condition. The top part of the distribution board are supplied from the distribution board in the new emergency power house by means of a 6 mm^2 * 3 core P.V.C.A.cable. The condition of this cable is not that good anymore and it is recomended that it be replaced next year.

F. FIRE ALARM SYSTEM

The alarm system is in a good working condition.

G. NEW CRANE CONTROLE POINT [Archway]

* A floodlight and a spotlight were installed at the new controle point to supply light on and around the mooring position.

A part of the controle cable was lost when the archway collapsed. The rest of the cable was tested and found to be stil in a good condition. The cable was joint in two places and a new "male" plug unit was installed after which the crane functioned 100% .

H. GENERAL

* All cables between the base and the old emergency power house were tightend and restraped needly.

THE CONTROLE PANEL AND DISTRIBUTION BOARD WERE PAINTED WITH NS4 BUT WILL HAVE TO BE REPLACED

NEW CRANE CONTROLE POINT

CONCLUSION

I wish to express my sincere thanks to the PWD team members, the Air Force, the D.A. team members and Capt.Leath and his ships company for there services renderd to have made this take over a success.

A special thankyou to Mr.van der Merwe the co-ordinator for his assistance and the interest he showed in the work on the island. Mr.van der Merwe was without a dout the best co-ordinator I have had the pleasure to work with and wish to congratulate D.A. with there appointment of Mr.van der Merwe as the co-ordinator.

Prepared and Signed : .....
J.P.Kriel EWI[E]

BUILDING STOCK LIST

50 mm	Gate valves	4	
40 mm	Gate valve	2	
	Shower roses	0	*
	Pan connect	0	*
110 mm	Collars P.V.C.	8	
22 mm	Stop cocks	2	
15 mm	Stop cocks	2	
15 mm	Jumpers [Tap]	20	
22mm	Jumpers	20	
40 mm	Screw in connector for black pipe	30	
15 mm	Straight couplings [Copper]	0	*
15 mm	Elbows [Conex]	0	*
15 mm	Wall plate elbows	12	
110 mm	P.V.C. Pipe U.G.	15	
15 mm	Cones for conex fittings	0	*
22 mm	Cones for conex fittings	0	*
150 L	H.W.C.	1	
"P" Trap Pan		0	*
Thread seal tape		0	*
P Traps		9	
40 mm	C/C Bends P.V.C.	8	
50 mm	P/Bends P.V.C.	2	
40 mm	C/E Bends P.V.C.	6	
22 mm	Gate valve	4	
15 mm	Gate Valve	3	
½"	Non Return Valve	2	
1½"	M.P. Ball valve	2	
1¼"	M.P. Ball valve	2	
2"	M.P. Ball valve	2	
15 mm	Brass B.B. Taps	2	
15 mm	Chrome pillar taps	2	
22 mm	Chrome pillar taps	2	

22 * 22 * 15 mm T pieses [Copper]	10	
22 * 15 * 22 mm T pieces [Copper]	3	
25 * 22 * 25 mm T pieces [Copper]	3	
22 mm T pieces [Copper]	3	
25 mm T pieces [Copper]	10	
25 mm C/C Bends	14	
15 mm C/C Bends	10	
1" C/C Bends	6	
15 mm Straight couplings	6	
22 mm Straight couplings	15	
25 mm Straight couplings	12	
22 mm Male couplings	6	
Vacuum breakers	4	
Complete cistern	5	
Syphons P80	0	*
Bottle trap chrome	1	
95° * 110 mm * 50 mm PVC junctions	5	
110 mm Plain bends	7	
110 mm * 92.5° PVC junctions plain	2	
Pan connectors	8	
110 mm C/E Bends	0	*
110 mm C/E Junctions	1	
110 mm P.V.C. Pipes [4m Lengths]	4	
50 mm P.V.C. Pipes [4m Lenghts]	0	*
32 mm Basin gratings	1	
40 mm Basin grating	0	*
Reducing couplings 1" - 3/4"	18	
22 mm Ball O stop	4	
15 mm Ball O stop	2	
22 mm - 15 mm Reducing sets	2	
22 mm C/I couplings	12	
Flush pipe rubbers	15	
Feenix valve	0	*
Automatic syphons for urinals	0	*
40 mm C/E Junctions	0	*

Swivel C/P taps cold [Hospital type]	0	*
Swivel C/P taps hot [Hospital type]	0	*
110 mm * 135° Plain bends	0	*
110 mm * 95° C/E Bends	0	*
110 mm * 95° C/E Junctions	0	*
50 mm P.V.C. Pipe	0	*

MECHANICAL STOCK LIST

Exaust silencers	1	
Duetz head gasket set	3	
Sets of piston rings	13	
Sets of piston spacer plates	10	
Push rod tubes	12	
Can lifters	12	
Crankshaft bolts	30	
Cheese head screws	13	
Box assorted o-rings	1	
Intake mainfold gaskets	9	
Pilot bushes	4	
526072 A Bearings	4	
Banger bolts	30	
Injector mounting bolts	4	
Rocker arm adjusting nuts	0	*
Altenators	3	
Starter motors	0	*
Temp gauges	3	
Voltmeter	0	*
Diesel water traps	2	*
Sets of injector pipes	2	
Injector nozzels	34	
Sump gasket sets	3	
Crankshaft bearing sets	5	
Camshaft bushes	6	
Assorted gasket sets	1	
Mechanical seal	1	
Oil seal	7	

Exhaust gasket	8	
Intake valves	6	
Exhaust valves	8	
Box assorted bearings	1	
Pistons	12	
Piston sleeves	6	
Easy - flu flux power	1	
Liquid soldering flux	1	
Welding rods	200	
Brazing rods	40	
Copper tack rods	30	
Silver solder rods	6	
Assorted types of pop rivets	1300	
Hacksaw blades	200	
Roofing screws	0	*
Belt dressing spray	3	
Penetrating oil spray	2	
1" Heavy duty clamps	20	
1" - 2" Heavy duty clamps	0	*
Assorted steel nipples	70	
Assorted pipe unions	10	
Scaffold clamps [No nuts]	100	
Assorted collection of nails	300	
Silicon tubes	0	*
Assorted diesel & air & oil filters	60	
Del Tec truck batteries	0	*
Drill Bits 1.5 to 13.5	5 of each should be ordered.	
Fire hosereels	0	*

ELECTRICAL STOCK LIST

Samite single c/b 5 Amp	5
≈ ≈ ≈ 10 Amp	8
≈ ≈ ≈ 20 Amp	5
Samite double pole E/L 60 Amp	2
Samite three phase E/L 60 Amp	1
Fuchs c/b 20 Amp	1
Fuchs c/b E/L	2
Heinemann c/b E/L	1
Telemecanique contractor	3
Klockner Moeller contactor	4
Sunvic rm thermostat	3
15 Amp industrial plugs	12
Isolator 3 phase 60 Amp	3
Isolator box	1
Daylight switch	2
Watertight switch	1
Dimmer switch double	1
Urn element	1
Kettle element	0 *
Flashlight bulbs 2.5 Volt	18
Flashlight bulbs 3.6 Volt	7
Fuses esta 1, 15, 20, 25, 75 Amp	28
Bottle fuses 10 Amp	19
Plug tops	3
HWC element 3kW	5
Welsch fittings	2
Wonda boxes 100 mm * 50 mm	2

Wonda boxes 100 mm * 100 mm	6	
Circuit breaker clips	27	
Leo spray :-		
104	6	
105	7	
119	5	
109	4	
129	1	
106	3	
108	0	*
Engineer's blue	1	
Telon 66	5	
Cutting fluid	8	
Pratley clear	1	
Pratley putty	5	
Bostik clear	2	
Wire markers	60	
Ambac mag pick up	1	
Voltmeter	3	
Ampmeters	7	
Elecrtonic timer	9	
Controle unit ambac	5	
Relays 24 Volt coil	9	
Relay 12 Volt coil	1	
Relay 220 Volt coil	1	
Change over switch	4	
Cable joints	0	*
Tubes 300 Watt 284 mm clear 220 Volt	0	*
Tubes 500 Watt	2	
Helogen 1000 Watt	14	
Helogen 1500	14	
B.C. Lamps 100 Watt	80	
B.C. Lamps 60 Watt	40	

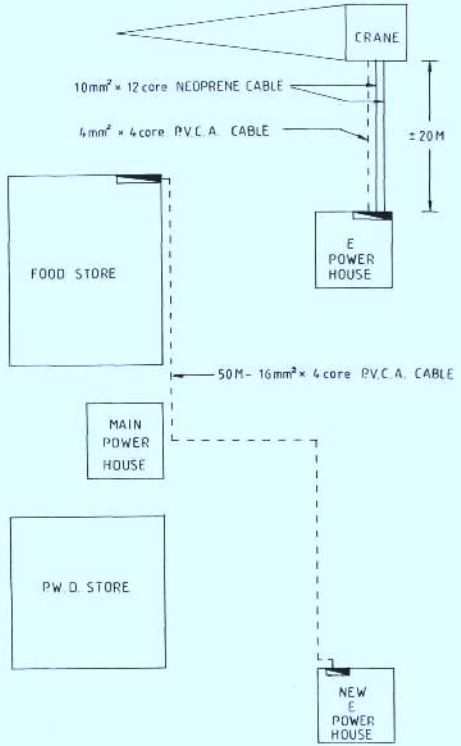
25 mm Brass ends sprague	10	
25 mm Brass male bushes	0	*
20 mm, 25 mm, 32 mm & 40 mm Galv. saddles	92	
15 Amp flush plugs	18	
15 Amp Double flush plugs	2	
Single lever switches	9	
Double lever switches	1	
Ferrels :-		
1.5 mm	0	*
2.5 mm	0	*
4 mm	0	*
6 mm	0	*
10 mm	0	*
16 mm	0	*
35 mm	0	*
50 mm	0	*
70 mm	0	*
95 mm	0	*
120 mm	6	
Lugs :- 1.5 mm	0	*
2.5 mm	0	*
4 mm	0	*
6 mm	0	*
10 mm	0	*
16 mm	0	*
35 mm	0	*
50 mm	0	*
70 mm	0	*
95 mm	0	*
120 mm	5	
Cable ties assorted	150	
Cradles	150	
Self adhesive tie carriers	50	*
Thermostat TF 1603	4	
Thermostat 51 TH	2	
Thermostat 70 TH	1	
Thermostat 8562	1	
Vulcan switch T150	1	
Simmer switch 90ER	1	

5 Heat switch	1	
Pull switch	0	*
90° 20 mm P.V.C. bends	28	
Plug tops 5 Amp	8	
Insulation tape :-		
Red	2	
White	2	
Blue	7	
Green	4	
Black	1	
Yellow	2	
Fluorescent lamp 15 Watt	5	
Fluorescent Lamp DC 12 Volt	0	*
Thorn 2D Lamps	17	
R-25 Phoenix 100 Watt Spots	26	
1.8 m Double Slimline ballast	6	
1.5 m Ballast	18	
Capacitors 10 UF	10	
400 Watt M.V. Lamps	12	
400 Watt Son-T Lamps	9	
40 Watt ES Golf ball lamps	28	
Cable clips 10 mm	200	
Strip connectors 15 Amp	18 strips	
Strip connectors 10 Amp	12 strips	
Batteries 1.5 Volt	49	
A.C. magnetic starter	1	
B10 fitting	4	
Pratley hose proof boxes	9	
P.V.C. compression glands	32	
E.S. Brass batten holders	4	
Porcelin B.C. holders	10	

Pratley cable glands :-

No.0	21
No.1	4
No.2	16
No.3	6
No.4	10

Fluorescent starters	48
Klockner Moeller 110 Volt coils	4
Klockner Moeller Z2-60 overloads	4
Samite triple pole 100A circuit breaker	2
Samite triple pole 60 Amp circuit breaker	1
Samite double pole 60 Amp circuit breaker	1
Freq. meter	1
20 mm Sprague	6 m
1.5 mm² P.V.C. wire	50 m
2.5 mm² P.V.C. wire	150 m
4 mm² P.V.C. wire	20 m
6 mm² P.V.C. wire	100 m
10 mm² P.V.C. wire	20 m
4" Solid stove plate	1
6" Solid stove plate	1



DEPARTMENT OF PUBLIC WORKS

consultant/departmental

DEPARTMENTAL

discipline

ELECTRICAL

service

GOUGH ISLAND

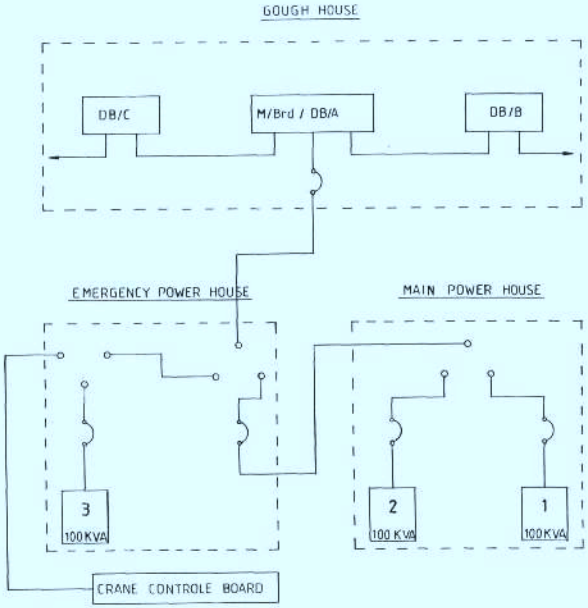
CRANE SUPPLY & CONTROLE

CABLE LAYOUT

ref. no. 6508/7920/1

drawn J.P.Kriel

date 1992/12/15



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GOUGH ISLAND

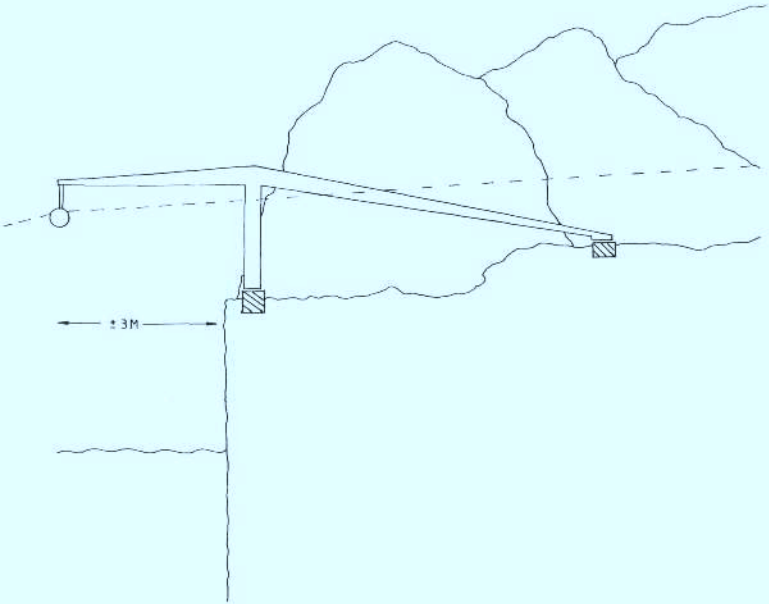
SCHEMATIC DIAGRAM OF THE

NEW CHANGE OVER SYSTEM

ref. no. 6508/7920/1

drawn J.P.Kriel

date 1992/12/15



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GOUGH ISLAND

STRUCTURE TO PREVENT DIESEL PIPE FROM BEING DAMAGED

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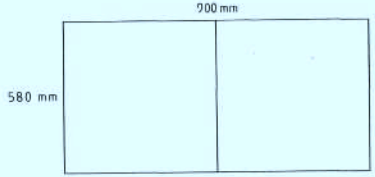
drawn J.P.Kriel

date 1992/12/15



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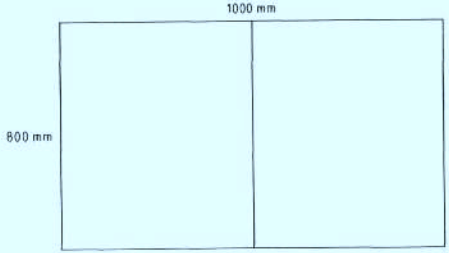

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DEPARTMENT OF PUBLIC WORKS

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DEPARTMENTAL

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GOUGH ISLAND

SIZES OF WINDOWS

ref. no. 6508/7920/1

drawn J.P.Kriel

date 1992/12/15