# **ENGINE PERFORMANCE REPORT**

### <u>APL ANTWERP</u>

Engine : Main Engine

Performance Date : Jul 3rd 2023

# Evaluation Report

#### **Evaluation Report - Main Report**

Parameter	Alerts	Comments / Recommendation
Pscav	Low	1. Check the turbocharger casings assembly. 2. Clean the turbocharger filter. 3. Chemical cleaning required for Air coolers. 4. Check the compressor axial clearance because during overhauling the bearing assembly are not correct.
Tscav	Normal	
Pmax	Very High	1. Exhaust valve opening too late.i.e incorrect exhaust valve timing/Check the Exhaust valve opening timing. 2. Overload of the engine/Check the load of the engine.
Pcomp	Very Low	1. Piston rings (leaking)/Replace the Piston Rings. 2. Piston crown (Burnt)/Check the piston crown by means of the template. 3. Cylinder liner (Worn)/Check the liner by means of the measuring tool. 4. Leaking Exhaust Valve/ Replace or overhaul the valve. 5. Exhaust valve (Timing) may be wrong/Check the valve Timing. 6. Piston rod and stuffing box (leaking)/ Overhaul the stuffing box.
Exhaust Temperature	Very Low	1. Falling scavenge air temperature./Check the sea water system thermostat valve is functioning correctly. 2. Air/gas/steam in fuel system./Check the suction side of the supply pump for air leakage, Check the fuel oil supply pump and circulating pump pressures, Check the function of the de-aerating valve,Check the fuel oil preheater for steam leakage.
Exhaust Gas Temperature T/C Inlet	Normal	
Exhaust Gas Temperature T/C Outlet	Normal	
SFOC	Normal	
TC Inlet-TC Outlet	Very Low	

### Evaluation Report - Unit wise Report

Parameter Alerts Comments / Recommendation

No records found

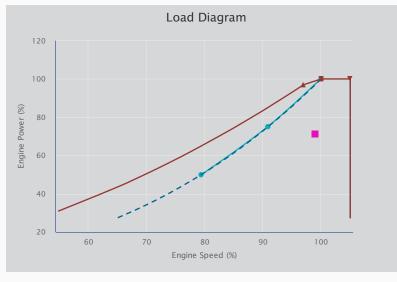
## Performance Chart

Torque Rich Index

Group
All Group Selected

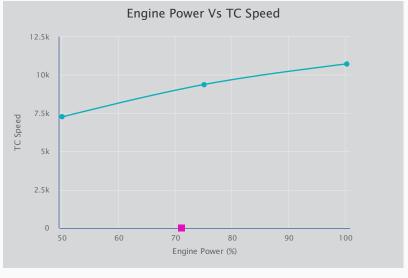
Chart
All Chart Selected

Load Diagram



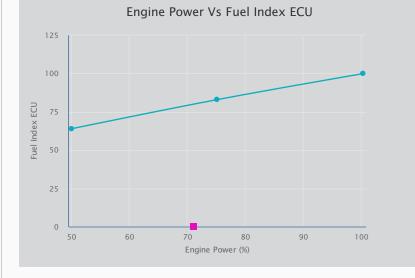
Performance Date	Engine		
Feriorillarice Date	Speed	Speed (%)	Power (%)
Shop Trial			
15-Oct-2012	77	79.38	49.98
15-Oct-2012	88.1	90.82	75.09
15-Oct-2012	97	100	100.27
Performance Value			
03-Jul-2023	96	98.97	71.09

Engine Power Vs TC Speed



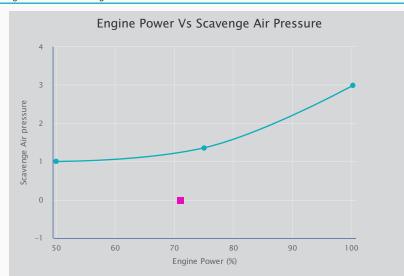
Performance Date	Engine Bower (9/ )	TC Speed	
Feriorillance Date	Engine Power (%)	Measured	ISO Corrected
Shop Trial			
15-Oct-2012	49.98	7200	7258.78
15-Oct-2012	75.09	9350	9382.43
15-Oct-2012	100.27	10833.33	10724.03
Performance Value			
03-Jul-2023	71.09	0	0

Engine Power Vs Fuel Index ECU



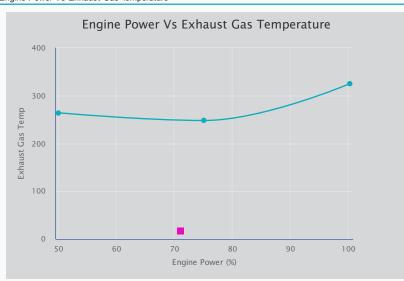
Performance Date En	Engine Power (%)	Fuel	Index ECU
renormance Date	Eligilie Fowei (%)	Measured	ISO Corrected
Shop Trial			
15-Oct-2012	49.98	64	0
15-Oct-2012	75.09	83	0
15-Oct-2012	100.27	100	0
Performance Value			
03-Jul-2023	71.09	0	0

Engine Power Vs Scavenge Air Pressure



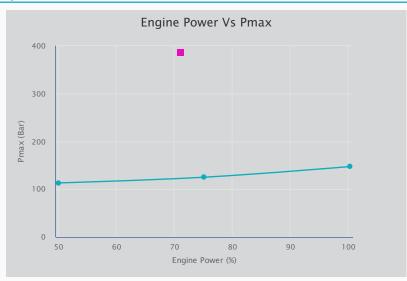
Daufaumanaa Data	Engine Dower (9/ )	Scavenge Air pressure	
Performance Date	Engine Power (%)	Measured	ISO Corrected
Shop Trial			
15-Oct-2012	49.98	1.04	1
15-Oct-2012	75.09	2.1	1.36
15-Oct-2012	100.27	3.1	2.99
Performance Value			
03-Jul-2023	71.09	0	-0.02

Engine Power Vs Exhaust Gas Temperature



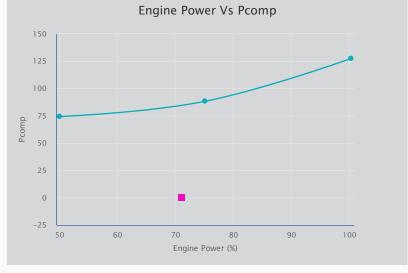
Performance Date	Engine Power (%)	Exhau	st Gas Temp
renomiance Date	Eligille Fower (%)	Measured	ISO Corrected
Shop Trial			
15-Oct-2012	49.98	272.18	263.85
15-Oct-2012	75.09	289.73	247.74
15-Oct-2012	100.27	338.91	324.95
Performance Value			
03-Jul-2023	71.09	0	16.83

Engine Power Vs Pmax



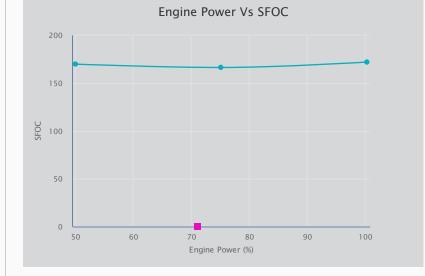
Performance Date	Engine Bower (9/ )	Pmax (Bar)	
renormance Date	Engine Power (%)	Measured	ISO Corrected
Shop Trial			
15-Oct-2012	49.98	114.18	113.11
15-Oct-2012	75.09	137.27	125.03
15-Oct-2012	100.27	148.73	147.32
Performance Value			
03-Jul-2023	71.09	400	386.09

Engine Power Vs Pcomp



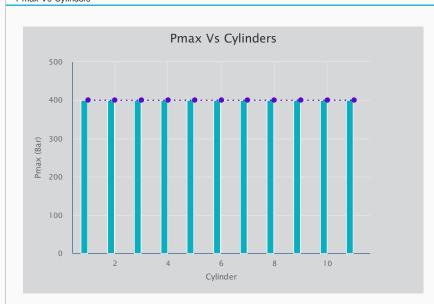
Performance Date	Engine Power (%)	Pcomp	
renormance Date	Eligille Fower (%)	Measured	ISO Corrected
Shop Trial			
15-Oct-2012	49.98	75.36	74.16
15-Oct-2012	75.09	105.91	88.18
15-Oct-2012	100.27	129.64	127.28
Performance Value			
03-Jul-2023	71.09	0	-0.04

Engine Power Vs SFOC



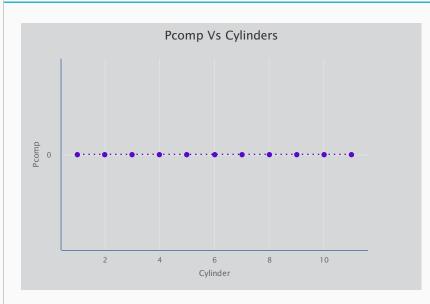
Performance Date	erformance Date Engine Power (%)	SFOC	
renormance Date	Eligilie Fowei (%)	Measured	ISO Corrected
Shop Trial			
15-Oct-2012	49.98	169.9	0
15-Oct-2012	75.09	166.4	0
15-Oct-2012	100.27	172.1	0
Performance Value			
03-Jul-2023	71.09	0	0

Pmax Vs Cylinders



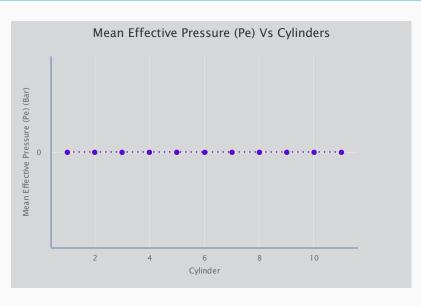
Cylinder		Pmax (Bar)	
Cyllildei	Measured	Average	Deviation
Performance Date - 03-Ju	I-2023		
1	400	400	0
2	400	400	0
3	400	400	0
4	400	400	0
5	400	400	0
6	400	400	0
7	400	400	0
8	400	400	0

Pcomp Vs Cylinders



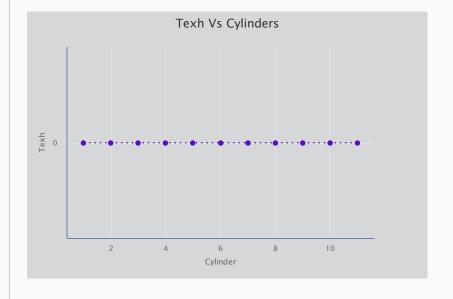
Cylinder		Pcomp	
Cylliluei	Measured	Average	Deviation
Performance Date - 03-Ju	ıl-2023		
1		0	0
2		0	0
3		0	0
4		0	0
5		0	0
6		0	0
7		0	0
8		0	0

Mean Effective Pressure (Pe) Vs Cylinders



Cylinder	Mea	n Effective Pressure (Pe)	(Bar)
Cylinder	Measured	Average	Deviation
erformance Date - 03-	Jul-2023		
1		0	0
2		0	0
3		0	0
4		0	0
5		0	0
6		0	0
7		0	0
8		0	0

Texh Vs Cylinders



Out the	Texh							
Cylinder	Measured	Average	Deviation	_^				
Performance Date - 03-Ju	ıl-2023							
1		0	0					
2		0	0					
3		0	0					
4		0	0					
5		0	0					
6		0	0					
7		0	0					
8		0	0	_				

Performance Data
General Parameters
Xpssell Name
APLAntweip
Fig. ine
Maker
Madu <del>x</del>
Model Type
Performance Date
Hours From
Hours To
Duration (Hrs)
Voyage Parameters
Loaded Ballast
Total Cargo on Board
Voyage Number
Voyage From
Voyage To
Trim
M
Draft Fore
Draft Aft
Draft Midship
Weather
Wind Direct
Wind Force
Wave Height
State of Sea
Log Knots
Slip %
Sea Margin
Speed by O.G
Speed by Pitch

Displacement														
Engine Room Temperature														
_														
Sea Water Temperature														
Peremetric Press et Engine														
Barometric Press at Engine														
Engine Parameters - General Par	ameters													
Total Running Hour														
					UOM			REF		ISO		MEA	S	
PScav							1.30			-0.02				
TScav														
Mean Effective Pressure				Bar										
Econmiser Pressure Drop														
Engine Parameters - Engine Pow	er & Engine Spe	ed												
	UOM	1	By WAM		ВуТ	CRpm		By Fuel Index		ByPs	cav		Ву МЕР	
Effective Power	KW													
နွေ့မ <u>ြှင့</u> ောMethod														
BA.WEDorg														
Engine Rpm														
Load %														
Auto Tunning														
Running Mode														
Governor Mode														
VIT + FQS														
Engine Parameters - Fuel injection	on Parameters													
	UOM	REF	ISO	AVG	Cyl 1	Cyl 2	Cyl 3	Cyl 4	Cyl 5	Cyl 6	Cyl 7	Cyl 8	Cyl 9	
Load Indicator														
Fuel Index ECU (%)														
Pump Mark / Fuel index														
Pump Mark / Fuel index Deviation					0	0	0	0	0	0	0	0	0	
VIT Index														
Fuel Offset High load														
Fuel Offset Low load														
<														>
Engine Parameters - Engine Limi														
	UOM	REF	ISO	AVG	Cyl 1	Cyl 2	Cyl 3	Cyl 4	Cyl 5	Cyl 6	Cyl 7	Cyl 8	Cyl 9	C
Pmax	Bar													
Pmax Deviation	Bar				0	0	0	0	0	0	0	0	0	
Pcomp														
Pcomp Deviation					0	0	0	0	0	0	0	0	0	
Indicated Pressure														
Indicated Pressure Deviation														
Indicated Power														
Exhaust Tomporature														

Exhaust Temperature Deviation			0	0 0	0	0 0	0	0 0
VIT Index								
Fw Inlet Temperature								
Fw Outlet Temperature								
P.C.O Outlet Temperature								
Stuffing Box Drain								
Mean Effective Pressure (Pe)								
Cyl.Oil Feed Amount (Unit wise)								
Fuel Offset High load								
Fuel Offset Low load								
Pmax Offset								
PComp / PScav Offset								
Exh. v/v open Offset								
Engine Parameters - Turbo Charger Parameters								
<b>3</b>		UOM	REF	ISO	AVG	TC 1	TC 2	TC 3
TC Serial Number								
Turbo Charger Cutoff								
Turbo Charger Rpm								
Exhaust Gas Temperature T/C Inlet								
Exhaust Gas Temperature T/C Outlet								
Air Temperature - T/C Suction Temperature								
Pressure Drop Across T/C								
LO Pressure T/C Inlet								
LO Temperature T/C Inlet								
Engine Parameters - Air Cooler Parameters								
	LIOM	DEE	ISO W	VC 0C1	AC 2	AC 3	AC 4	AC E
AC Serial Number	UOM	REF	ISO A	VG AC 1	AC 2	AC 3	AC 4	AC 5
		REF					AC 4	AC 5
CW Temperature Air Cooler Inlet								AC 5
CW Temperature Air Cooler Inlet  CW Temperature Air Cooler Outlet								AC 5
CW Temperature Air Cooler Inlet  CW Temperature Air Cooler Outlet  Pressure Drop Across Air Cooler								AC 5
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CW Temperature Air Cooler Inlet  CW Temperature Air Cooler Outlet  Pressure Drop Across Air Cooler  Air Temperature Air Cooler Inlet  Air Temperature Air Cooler Outlet  Gine Parameters - Fo Parameters  FO Received At  FO Grade								AC 5
CW Temperature Air Cooler Inlet  CW Temperature Air Cooler Outlet  Pressure Drop Across Air Cooler  Air Temperature Air Cooler Inlet  Air Temperature Air Cooler Outlet  Gine Parameters - Fo Parameters  FO Received At  FO Grade								AC 5
CW Temperature Air Cooler Inlet  CW Temperature Air Cooler Outlet  Pressure Drop Across Air Cooler  Air Temperature Air Cooler Inlet  Air Temperature Air Cooler Outlet  gine Parameters - Fo Parameters  CO Received At  CO Grade  CO LCV								AC 5
CW Temperature Air Cooler Inlet  CW Temperature Air Cooler Outlet  Pressure Drop Across Air Cooler  Air Temperature Air Cooler Inlet  Air Temperature Air Cooler Outlet  Ingine Parameters - Fo Parameters  FO Received At  FO Grade  FO LCV  FO Density @15 Deg C								AC 5
CW Temperature Air Cooler Inlet  CW Temperature Air Cooler Outlet  Pressure Drop Across Air Cooler  Air Temperature Air Cooler Inlet  Air Temperature Air Cooler Outlet  Ingine Parameters - Fo Parameters  FO Received At  FO Grade  FO LCV  FO Density @15 Deg C								AC 5
CW Temperature Air Cooler Inlet  CW Temperature Air Cooler Outlet  Pressure Drop Across Air Cooler  Air Temperature Air Cooler Inlet  Air Temperature Air Cooler Outlet  Ingine Parameters - Fo Parameters  FO Received At  FO Grade  FO LCV  FO Density @15 Deg C								AC 5
CW Temperature Air Cooler Inlet  CW Temperature Air Cooler Outlet  Pressure Drop Across Air Cooler  Air Temperature Air Cooler Inlet  Air Temperature Air Cooler Outlet  Ingine Parameters - Fo Parameters  FO Received At  FO Grade  FO LCV  FO Density @15 Deg C								AC 5
CW Temperature Air Cooler Inlet  CW Temperature Air Cooler Outlet  Pressure Drop Across Air Cooler  Air Temperature Air Cooler Inlet  Air Temperature Air Cooler Outlet  Ingine Parameters - Fo Parameters  FO Received At  FO Grade  FO LCV  FO Density @15 Deg C  FO Vis @50deg C								AC 5
CW Temperature Air Cooler Inlet  CW Temperature Air Cooler Outlet  Pressure Drop Across Air Cooler  Air Temperature Air Cooler Inlet  Air Temperature Air Cooler Outlet  Ingine Parameters - Fo Parameters  FO Received At  FO Grade  FO LCV  FO Density @15 Deg C								AC 5
CW Temperature Air Cooler Inlet  CW Temperature Air Cooler Outlet  Pressure Drop Across Air Cooler  Air Temperature Air Cooler Inlet  Air Temperature Air Cooler Outlet  Ingine Parameters - Fo Parameters  FO Received At  FO Grade  FO LCV  FO Density @15 Deg C								AC 5

FO Consumption						
SFOC remark						
	UOM	REF	1	ISO		MEAS
SFOC						
FO Temperature						
FO Pressure						
ngine Parameters - Cylinder Lo Parameters						
ignic i diamotoro ogninati zo i diamotoro						
Cyl.Oil Feed Amount						
Cyl.Oil maker/Type						
Cyl.Lo Density @15 Deg C						
Out oil Consumetion						
Cyl oil Consumption						
Cyl. Lo feed rate setting						
Cyl. Lo Sulphur						
ACC Foster						
ACC Factor						
Mep% (Fuel Index)						
rxxx (Total Inj - /min )						
Specify Cly. Lo Consumption						
			UOM	REF	ISO	MEAS
Specify Cylinder Lo Consumption			UOM	REF	ISO	MEAS
			UOM	REF	ISO	MEAS
Specify Cylinder Lo Consumption  Engine Parameters -System Lo Parameters			UOM	REF	ISO	MEAS
Specify Cylinder Lo Consumption			UOM	REF	ISO	MEAS
Specify Cylinder Lo Consumption  Engine Parameters -System Lo Parameters			UOM	REF	ISO	MEAS
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Specify Cylinder Lo Consumption  Engine Parameters -System Lo Parameters  LO Pressure Engine Inlet  LO Temperature Engine Inlet  Camshaft LO Pressure  LO Temperature Camshaft Inlet  LO Temperature Camshaft O			UOM	REF	ISO	MEAS

Variable Turbine Area, Actua
%
Exhaust Bybass Value
(open/close/nothing)
Mitsubishi VTI
(open/close/nothing)
Aux.Blower
Valve Opening
<u>%</u>
Variable Valve
(open/close/nothing)
(eps. total mig/
Engine Parameters - Emission Details
Carbon Dioxide Emission (To
Sulphur Oxide Emission
Authorization
Performance Updated Date
Updated By (User)
Updated By (Rank)
Comments
Comments
File Bucket
THE DULKEL

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