WEAR CONTAMINATION FLUID CONDITION

NORMAL NORMAL

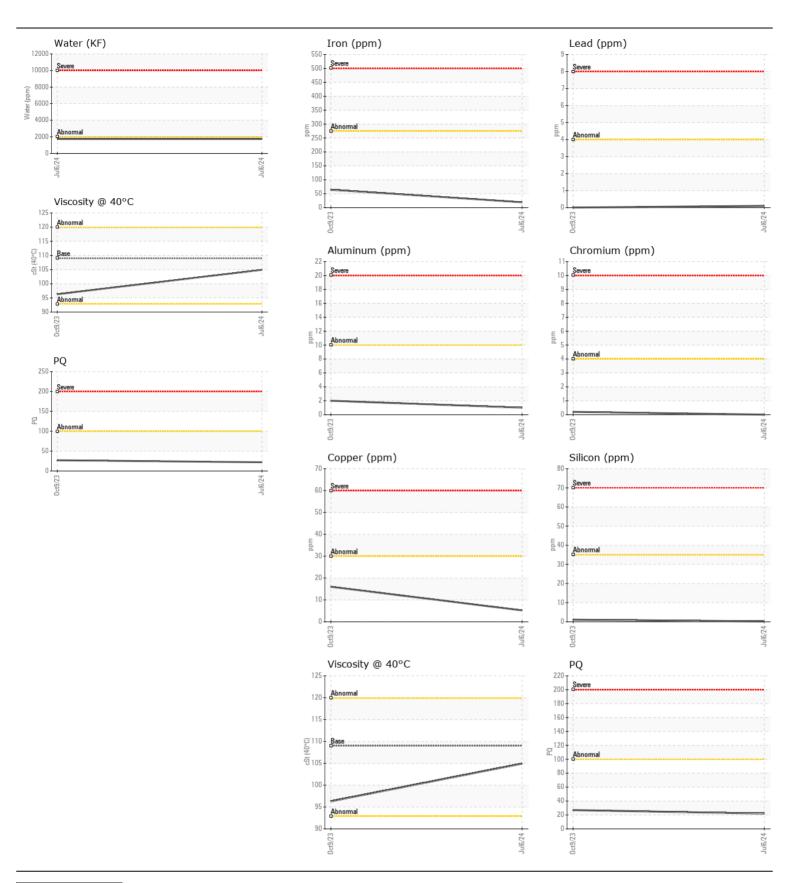
CROSSMAN

VOLVO PENTA 3200000539

Starboard IPS

GEAR OIL SAE 75W90 (--- GAL)

GEAR OIL SAE /5W90 (GAL)							
RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
No corrective action is recommended at this time. Resample at the next service interval to monitor.	Sample Number		Client Info		VPA058545	VPA049838	
	Sample Date		Client Info		06 Jul 2024	09 Oct 2023	
	Machine Age	hrs	Client Info		0	329	
	Oil Age	hrs	Client Info		30	0	
	Filter Age	hrs	Client Info		0	0	
	Oil Changed		Client Info		Not Changd	Not Changd	
	Filter Changed		Client Info		Not Changd	Not Changd	
	Sample Status				NORMAL	NORMAL	
WEAR	PQ		ASTM D8184		22	27	
All component wear rates are normal.	Iron	ppm	ASTM D5185m	>275	19	64	
	Chromium	ppm	ASTM D5185m	>4	0	<1	
	Nickel	ppm	ASTM D5185m	>4	<1	2	
	Titanium	ppm	ASTM D5185m	>3	0	0	
	Silver	ppm	ASTM D5185m		0	<1	
	Aluminum	ppm	ASTM D5185m	>10	1	2	
	Lead	ppm	ASTM D5185m	>4	<1	0	
	Copper	ppm	ASTM D5185m	>30	5	16	
	Tin	ppm	ASTM D5185m	>3	0	0	
	Vanadium	ppm	ASTM D5185m		0	0	
	White Metal	scalar	*Visual	NONE	NONE	NONE	
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
CONTAMINATION Fuel content negligible. There is a trace of moisture present in the oil.	Silicon	ppm	ASTM D5185m	>35	<1	1	
	Potassium	ppm	ASTM D5185m		3	0	
	Water	%	ASTM D6304	>0.2	0.174		
	ppm Water	ppm	ASTM D6304	>2000	1740		
	Silt	scalar	*Visual	NONE	NONE	NONE	
	Debris	scalar	*Visual	NONE	NONE	NONE	
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
	Appearance	scalar	*Visual	NORML	NORML	NORML	
	Odor	scalar	*Visual	NORML	NORML	NORML	
	Emulsified Water	scalar	*Visual	>0.2	0.2%	NEG	
FLUID CONDITION	Sodium	ppm	ASTM D5185m		2	0	
The condition of the oil is acceptable for the time in service.	Boron	ppm	ASTM D5185m	400	331	284	
	Barium	ppm	ASTM D5185m	200	0	0	
	Molybdenum	ppm	ASTM D5185m	12	0	0	
	Manganese	ppm	ASTM D5185m		<1	1	
	Magnesium	ppm	ASTM D5185m	12	7	22	
	Calcium	ppm	ASTM D5185m	150	4	15	
	Phosphorus	ppm	ASTM D5185m	1650	1474	1325	
	Zinc	ppm	ASTM D5185m	125	6	9	
	Sulfur	ppm	ASTM D5185m	22500	28864	21612	
	Visc @ 40°C	cSt	ASTM D445	109	104.9	96.3	







Certificate L2367

Laboratory Sample No. Lab Number

: 06230720 Unique Number : 11114213

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : VPA058545

Received **Tested** Diagnosed

: 08 Jul 2024 Test Package : MOB 1 (Additional Tests: KF, PQ)

: 08 Jul 2024 - Doug Bogart

: 08 Jul 2024

To discuss this sample report, contact Customer Service at 1-800-237-1369.

US 21635 Contact: Ronda Bolinger

rlwb@verizon.net T:

Outstanding Marine

PO Box 274

GALENA, MD

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

F: