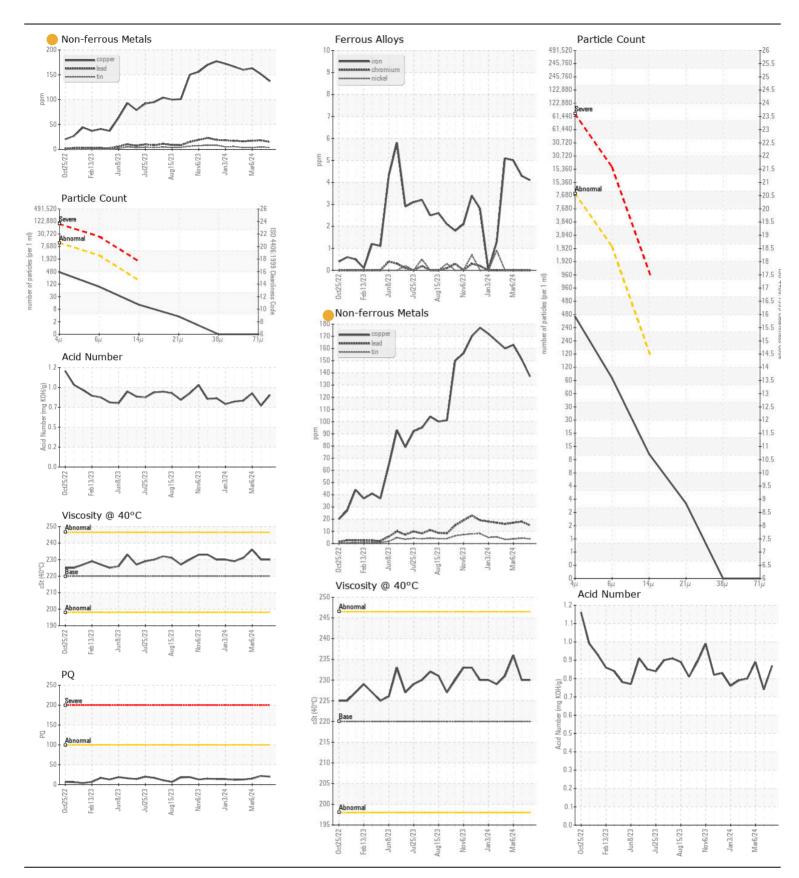
WEAR CONTAMINATION **FLUID CONDITION** **ATTENTION NORMAL NORMAL**

Paper Side

PM 1 MAIN BOWSER

Bearing Lube

SHELL PM S2 M 220 (3500 GAL)							
RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
	Sample Number		Client Info		PE0001492	PE0003614	PE0001594
No corrective action is recommended at this time. Resample at the next service interval to monitor.	Sample Date		Client Info		16 Apr 2024	26 Mar 2024	06 Mar 2024
	Machine Age	hrs	Client Info		0	0	0
	Oil Age	hrs	Client Info		0	0	0
	Filter Age	hrs	Client Info		0	0	0
	Oil Changed		Client Info		N/A	N/A	N/A
	Filter Changed		Client Info		N/A	N/A	N/A
	Sample Status				ATTENTION	ATTENTION	ABNORMAL
WEAR	PQ		ASTM D8184		20	22	15
	Iron	ppm	ASTM D5185m	>120	4	4	5
The copper level is abnormal. All other component wear rates are normal.	Chromium	ppm	ASTM D5185m	>5	0	0	0
	Nickel	ppm	ASTM D5185m	>20	0	0	0
	Titanium	ppm	ASTM D5185m		<1	0	0
	Silver	ppm	ASTM D5185m		0	0	0
	Aluminum	ppm	ASTM D5185m	>4	0	0	0
	Lead	ppm	ASTM D5185m	>30	15	18	16
	Copper	ppm	ASTM D5185m	>17	137	<u> </u>	160
	Tin	ppm	ASTM D5185m	>10	4	4	3
	Vanadium	ppm	ASTM D5185m		<1	0	0
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
CONTAMINATION	Silicon	ppm	ASTM D5185m	>25	3	1	1
	Potassium	ppm	ASTM D5185m	>20	0	<1	0
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.	Water		WC Method	>0.2	NEG	NEG	NEG
	Particles >4µm		ASTM D7647	>10000	400	4099	
	Particles >6µm		ASTM D7647	>2500	80	629	
	Particles >14μm		ASTM D7647	>160	11	30	
	Particles >21μm		ASTM D7647	>40	3	3	
	Particles >38μm		ASTM D7647	>10	0	0	
	Particles >71μm		ASTM D7647		0	0	
	Oil Cleanliness		ISO 4406 (c)	>20/18/14	16/13/11	19/16/12	
	Silt	scalar	*Visual	NONE	NONE	NONE	▲ MODER
	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
	Appearance	scalar	*Visual	NORML	NORML	NORML	MILKY
	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	0.2%
FLUID CONDITION	Sodium	ppm	ASTM D5185m		<1	<1	2
	Boron	ppm	ASTM D5185m		0	0	0
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.	Barium	ppm	ASTM D5185m		0	0	0
	Molybdenum	ppm	ASTM D5185m		0	0	0
	Manganese	ppm	ASTM D5185m		0	0	0
	Magnesium	ppm	ASTM D5185m		<1	<1	0
	Calcium	ppm	ASTM D5185m		55	54	40
	Phosphorus	ppm	ASTM D5185m		661	735	623
	Zinc	ppm	ASTM D5185m		898	911	733
	Sulfur	ppm	ASTM D5185m		6491	6770	5467
	Acid Number (AN)	mg KOH/g	ASTM D8045		0.87	0.74	0.89
	Visc @ 40°C	cSt	ASTM D445	220	230	230	236





Certificate L2367

Laboratory Sample No. Lab Number

: PE0001492 : 06155777 Unique Number : 10991200

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

: 22 Apr 2024 **Tested** Diagnosed

: 23 Apr 2024 : 24 Apr 2024 - Don Baldridge

Test Package: PLANT (Additional Tests: ICP, KV40, PQ, PrtCount, SCREEN) To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - 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)

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