

## WEAR NORMAL CONTAMINATION NORMAL FLUID CONDITION NORMAL

History1

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History2

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## Machine Id

24F2503 R&O-005

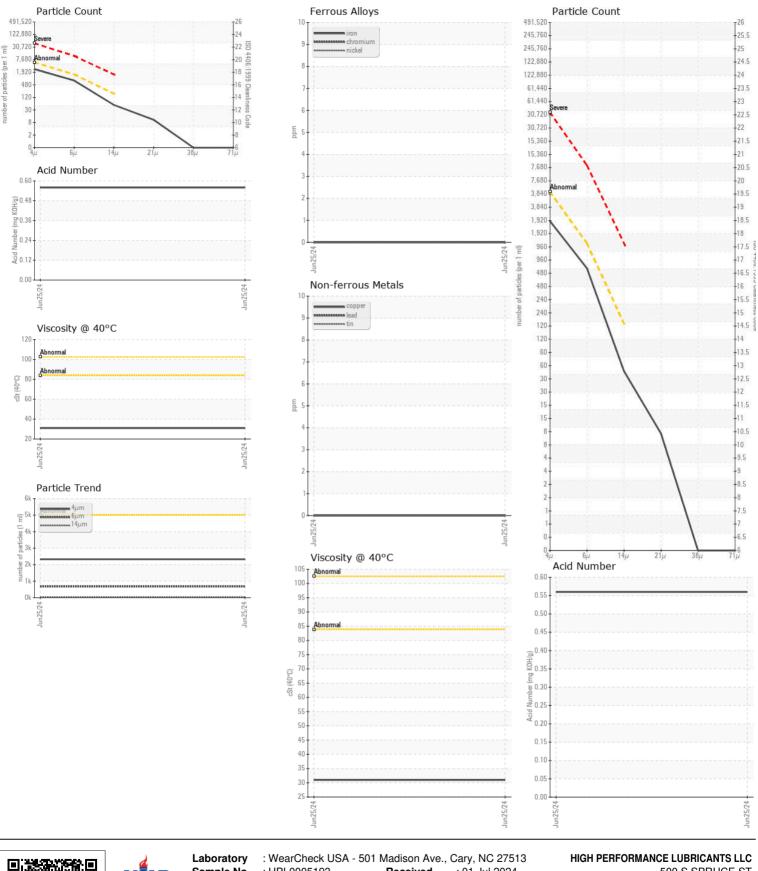
## New (Unused) Oil

{not provided} (--- GAL)

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current
	Sample Number		Client Info		HPL0005193
This is a baseline read-out on the submitted sample.	Sample Date		Client Info		25 Jun 2024
	Machine Age	hrs	Client Info		0
	Oil Age	hrs	Client Info		0
	Filter Age	hrs	Client Info		0
	Oil Changed		Client Info		Not Changd
	Filter Changed		Client Info		N/A
	Sample Status				NORMAL
WEAR	Iron	ppm	ASTM D5185m		0
WEAN	Chromium	ppm	ASTM D5185m		0
	Nickel	ppm	ASTM D5185m		0
	Titanium	ppm	ASTM D5185m		0
	Silver	ppm	ASTM D5185m		0
	Aluminum	ppm	ASTM D5185m		0
	Lead	ppm	ASTM D5185m		0
	Copper	ppm	ASTM D5185m		0
	Tin	ppm	ASTM D5185m		0
	Vanadium	ppm	ASTM D5185m		0
	White Metal	scalar	*Visual	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE
CONTAMINATION	Silicon	ppm	ASTM D5185m		<1
CONTAMINATION	Potassium	ppm	ASTM D5185m	>20	0
	Water	ppiii	WC Method	20	NEG
	Particles >4µm		ASTM D7647	>5000	2327
	Particles >6µm		ASTM D7647		676
	Particles >14µm		ASTM D7647		46
	Particles >21µm		ASTM D7647		9
	Particles >38µm		ASTM D7647		0
	Particles >71µm		ASTM D7647		0
	Oil Cleanliness		ISO 4406 (c)		18/17/13
	Silt	scalar	*Visual	NONE	NONE
	Debris	scalar	*Visual	NONE	NONE

FLUID CONDITION

Water		WC Method		NEG	 
Particles >4µm		ASTM D7647	>5000	2327	 
Particles >6µm		ASTM D7647	>1300	676	 
Particles >14µm		ASTM D7647	>160	46	 
Particles >21µm		ASTM D7647	>40	9	 
Particles >38µm		ASTM D7647	>10	0	 
Particles >71µm		ASTM D7647	>3	0	 
Oil Cleanliness		ISO 4406 (c)	>19/17/14	18/17/13	 
Silt	scalar	*Visual	NONE	NONE	 
Debris	scalar	*Visual	NONE	NONE	 
Sand/Dirt	scalar	*Visual	NONE	NONE	 
Appearance	scalar	*Visual	NORML	NORML	 
Odor	scalar	*Visual	NORML	NORML	 
Emulsified Water	scalar	*Visual		NEG	 
Sodium	ppm	ASTM D5185m		<1	 
Boron	ppm	ASTM D5185m		0	 
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m		0 0	
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m		0 0 0	 
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 0 0 0	 
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 0 0 0 0	 
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 0 0 0 <1	   
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 0 0 0 <1 187	      
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 0 0 0 <1 187 0	      
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 0 0 0 <1 187 0 17649	     
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Acid Number (AN)	ppm ppm ppm ppm ppm ppm ppm ppm mg KOH/g	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 0 0 <1 187 0 17649 0.56	     
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Acid Number (AN) Visc @ 40°C	ppm ppm ppm ppm ppm ppm ppm ppm mg KOH/g cSt	ASTM D5185m ASTM D8045 ASTM D445		0 0 0 <1 187 0 17649 0.56 30.99	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Acid Number (AN) Visc @ 40°C Visc @ 100°C	ppm ppm ppm ppm ppm ppm ppm ppm mg KOH/g	ASTM D5185m ASTM D8045 ASTM D445		0 0 0 0 <1 187 0 17649 0.56 30.99 6.05	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Acid Number (AN) Visc @ 40°C	ppm ppm ppm ppm ppm ppm ppm ppm mg KOH/g cSt	ASTM D5185m ASTM D8045 ASTM D445		0 0 0 <1 187 0 17649 0.56 30.99	



Sample No. Received 500 S SPRUCE ST : HPL0005193 : 01 Jul 2024 Ē Lab Number : 06225694 MANTENO, IL Tested : 03 Jul 2024 : 03 Jul 2024 - Jonathan Hester US 60950 Unique Number : 11103891 Diagnosed Test Package : MOB 2 (Additional Tests: FT-IR, KV100, PrtCount, VI) Contact: DAVID WARD Certificate L2367 sampledata@hplubricants.com 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. T: (815)468-3535 F: x: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Submitted By: DAVID WARD Page 2 of 2