

## **OIL ANALYSIS REPORT**

### Area HAPL **HAPL PINCH ROLL 3** Component

**Top Gearbox** GEAR OIL ISO 220 (--- QTS)

#### DIAGNOSIS

#### Recommendation

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

#### Wear

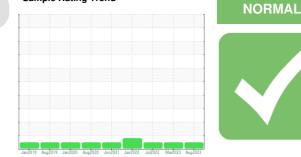
All component wear rates are normal.

#### Contamination

The water content is negligible. There is no indication of any contamination in the oil.

#### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



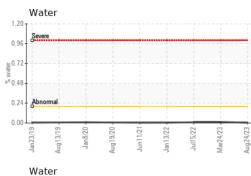
Sample Rating Trend

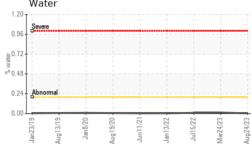


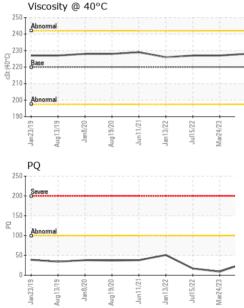
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		RP0038498	RP0031235	RP0028865
Sample Date		Client Info		24 Aug 2023	24 Mar 2023	15 Jul 2022
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		32	9	17
Iron	ppm	ASTM D5185m	>200	71	6	3
Chromium	ppm	ASTM D5185m	>15	<1	0	0
Nickel	ppm	ASTM D5185m	>15	<1	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	1
Aluminum	ppm	ASTM D5185m	>25	0	0	<1
Lead	ppm		>100	<1	0	0
Copper	ppm	ASTM D5185m	>200	<1	0	0
Tin	ppm	ASTM D5185m	>25	<1	0	<1
Antimony	ppm	ASTM D5185m	>5			
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	50	2	10	10
Barium	ppm	ASTM D5185m	15	1	0	0
Molybdenum	ppm	ASTM D5185m	15	<1	0	5
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	50	1	1	0
Calcium	ppm	ASTM D5185m	50	7	12	21
Phosphorus	ppm	ASTM D5185m	350	263	135	102
Zinc	ppm	ASTM D5185m	100	24	5	2
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	2	10	7
Sodium	ppm	ASTM D5185m		0	0	0
Potassium	ppm	ASTM D5185m	>20	2	<1	0
Water	%	ASTM D6304	>0.2	0.003	0.013	0.009
ppm Water	ppm	ASTM D6304	>2000	30.2	133.7	94.1
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.85	0.46	0.32	0.31



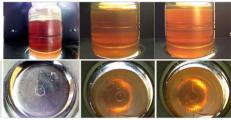
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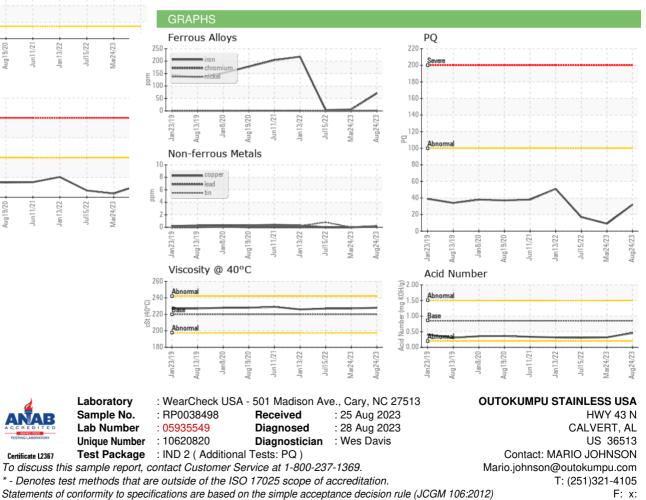




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	220	228	227	227
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						



Bottom





Submitted By: DALE ROBINSON