

# **OIL ANALYSIS REPORT**

## Sample Rating Trend

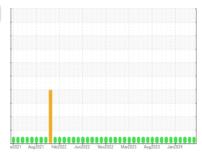
# **NORMAL**



# SPM74 SPM 74 GEAR LUBRICATION SYSTEM MAIN TANK (S/N 16-4100-1030)

**Gear Lube System** 

GEAR OIL ISO 220 (--- QTS)





#### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

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

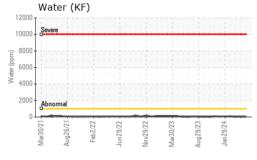
### **Fluid Condition**

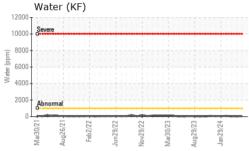
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

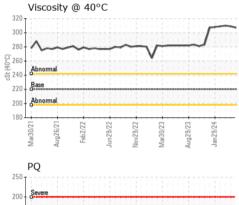
Client Info	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age   hrs   Client Info   0   0   0   0   0   0   0   0   0	Sample Number		Client Info		RP0044019	RP0039290	RP0042735
Oil Age	Sample Date		Client Info		03 Jun 2024	08 May 2024	26 Mar 2024
Oil Changed   Client Info   N/A   N/A   N/A   N/A   N/A   N/A   NORMAL	Machine Age	hrs	Client Info		0	0	0
NORMAL   NORMAL   NORMAL   NORMAL	Oil Age	hrs	Client Info		0	0	0
WEAR METALS         method         limit/base         current         history1         history2           PQ         ASTM D8184         10         15         14           Iron         ppm         ASTM D5185m         >150         0         0         1           Chromium         ppm         ASTM D5185m         >10         0         0         0         0           Nickel         ppm         ASTM D5185m         10         0	Oil Changed		Client Info		N/A	N/A	N/A
PQ	Sample Status				NORMAL	NORMAL	NORMAL
Irron	WEAR METALS		method	limit/base	current	history1	history2
Chromium         ppm         ASTM D5185m         >10         0         0         0           Nickel         ppm         ASTM D5185m         >10         0         0         0           Titanium         ppm         ASTM D5185m         0         0         0         0           Silver         ppm         ASTM D5185m         0         0         0         0           Aluminum         ppm         ASTM D5185m         0         0         0         0           Aluminum         ppm         ASTM D5185m         >25         0         0         1           Lead         ppm         ASTM D5185m         >10         0         <1         0           Copper         ppm         ASTM D5185m         >50         0         0         0         0           Tin         ppm         ASTM D5185m         0         0         <1         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0         0           Cadmium         ppm         ASTM D5185m         50         0         <1         0         0           Barium         ppm         ASTM D5185m	PQ		ASTM D8184		10	15	14
Nickel	Iron	ppm	ASTM D5185m	>150	0	0	1
Titanium	Chromium	ppm	ASTM D5185m	>10	0	0	0
Silver	Nickel	ppm	ASTM D5185m	>10	0	0	0
Aluminum         ppm         ASTM D5185m         >25         0         0         1           Lead         ppm         ASTM D5185m         >100         0         <1	Titanium	ppm	ASTM D5185m		0	0	0
Lead	Silver	ppm	ASTM D5185m		0	0	0
Copper         ppm         ASTM D5185m         >50         0         0         0           Tin         ppm         ASTM D5185m         >10         0         <1	Aluminum	ppm	ASTM D5185m	>25	0	0	1
Tin         ppm         ASTM D5185m         >10         0         <1         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         50         0         <1         0           Barium         ppm         ASTM D5185m         15         0         0         0         0           Molybdenum         ppm         ASTM D5185m         15         0         0         0         0           Manganese         ppm         ASTM D5185m         50         0         0         <1         0           Magnesium         ppm         ASTM D5185m         50         0         2         7           Phosphorus         ppm         ASTM D5185m         50         0         2         7           Phosphorus         ppm         ASTM D5185m         350         379         402         364           Zinc         ppm         ASTM D5185m	Lead	ppm	ASTM D5185m	>100	0	<1	0
Tin         ppm         ASTM D5185m         >10         0         <1         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         50         0         <1         0           Barium         ppm         ASTM D5185m         15         0         0         0         0           Molybdenum         ppm         ASTM D5185m         15         0         0         0         0           Manganese         ppm         ASTM D5185m         50         0         0         <1         0           Magnesium         ppm         ASTM D5185m         50         0         2         7           Phosphorus         ppm         ASTM D5185m         50         0         2         7           Phosphorus         ppm         ASTM D5185m         350         379         402         364           Zinc         ppm         ASTM D5185m	Copper	ppm	ASTM D5185m	>50	0	0	0
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         50         0         <1		ppm	ASTM D5185m	>10	0	<1	0
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         50         0         <1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron         ppm         ASTM D5185m         50         0         <1         0           Barium         ppm         ASTM D5185m         15         0         0         0           Molybdenum         ppm         ASTM D5185m         15         0         0         0           Manganese         ppm         ASTM D5185m         50         0         0         <1         0           Magnesium         ppm         ASTM D5185m         50         0         0         <1         0         0           Calcium         ppm         ASTM D5185m         50         0         2         7         0           Phosphorus         ppm         ASTM D5185m         350         379         402         364           Zinc         ppm         ASTM D5185m         100         5         10         14           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         8         8         8           Sodium         ppm         ASTM D5185m         >20         <1         <1         <1         2           Potassium	Cadmium	ppm	ASTM D5185m		0	0	0
Barium         ppm         ASTM D5185m         15         0         0         0           Molybdenum         ppm         ASTM D5185m         15         0         0         0           Manganese         ppm         ASTM D5185m         <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         15         0         0         0           Manganese         ppm         ASTM D5185m         15         0         0         0           Magnesium         ppm         ASTM D5185m         50         0         0         2         7           Calcium         ppm         ASTM D5185m         50         0         2         7           Phosphorus         ppm         ASTM D5185m         350         379         402         364           Zinc         ppm         ASTM D5185m         100         5         10         14           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         8         8         8           Sodium         ppm         ASTM D5185m         >20         4         1         2         1           Potassium         ppm         ASTM D6304         >0.1         0.004         0.002         0.003           ppm Water         ppm         ASTM D6304         >1000         48         19         32           FLUID DEGRADATION         method <t< td=""><td>Boron</td><td>ppm</td><td>ASTM D5185m</td><td>50</td><td>0</td><td>&lt;1</td><td>0</td></t<>	Boron	ppm	ASTM D5185m	50	0	<1	0
Manganese         ppm         ASTM D5185m         <1         0         0           Magnesium         ppm         ASTM D5185m         50         0         0         <1           Calcium         ppm         ASTM D5185m         50         0         2         7           Phosphorus         ppm         ASTM D5185m         350         379         402         364           Zinc         ppm         ASTM D5185m         100         5         10         14           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         8         8         8           Sodium         ppm         ASTM D5185m         >50         8         8         8           Sodium         ppm         ASTM D5185m         >20         <1         <1         <1         2           Potassium         ppm         ASTM D6304         >0.1         0.004         0.002         0.003           ppm Water         ppm         ASTM D6304         >1000         48         19         32           FLUID DEGRADATION         method         limit/base         current	Barium	ppm	ASTM D5185m	15	0	0	0
Magnesium         ppm         ASTM D5185m         50         0         0         <1           Calcium         ppm         ASTM D5185m         50         0         2         7           Phosphorus         ppm         ASTM D5185m         350         379         402         364           Zinc         ppm         ASTM D5185m         100         5         10         14           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         8         8         8           Sodium         ppm         ASTM D5185m         <1	Molybdenum	ppm	ASTM D5185m	15	0	0	0
Calcium         ppm         ASTM D5185m         50         0         2         7           Phosphorus         ppm         ASTM D5185m         350         379         402         364           Zinc         ppm         ASTM D5185m         100         5         10         14           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         8         8         8           Sodium         ppm         ASTM D5185m         >50         8         8         8           Sodium         ppm         ASTM D5185m         >20         <1	Manganese	ppm	ASTM D5185m		<1	0	0
Phosphorus         ppm         ASTM D5185m         350         379         402         364           Zinc         ppm         ASTM D5185m         100         5         10         14           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         8         8         8           Sodium         ppm         ASTM D5185m         >50         4         -1         2           Potassium         ppm         ASTM D5185m         >20         <1	Magnesium	ppm	ASTM D5185m	50	0	0	<1
Zinc         ppm         ASTM D5185m         100         5         10         14           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         8         8         8           Sodium         ppm         ASTM D5185m         <1	Calcium	ppm	ASTM D5185m	50	0	2	7
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         8         8         8           Sodium         ppm         ASTM D5185m         <1	Phosphorus	ppm	ASTM D5185m	350	379	402	364
Silicon         ppm         ASTM D5185m         >50         8         8         8           Sodium         ppm         ASTM D5185m         <1         <1         2           Potassium         ppm         ASTM D5185m         >20         <1         2         <1           Water         %         ASTM D6304         >0.1         0.004         0.002         0.003           ppm Water         ppm         ASTM D6304         >1000         48         19         32           FLUID DEGRADATION         method         limit/base         current         history1         history2	Zinc	ppm	ASTM D5185m	100	5	10	14
Sodium         ppm         ASTM D5185m         <1         <1         2           Potassium         ppm         ASTM D5185m         >20         <1	CONTAMINANTS	;	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         <1         2         <1           Water         %         ASTM D6304         >0.1         0.004         0.002         0.003           ppm Water         ppm         ASTM D6304         >1000         48         19         32           FLUID DEGRADATION         method         limit/base         current         history1         history2	Silicon	ppm	ASTM D5185m	>50	8	8	8
Water         %         ASTM D6304         >0.1         0.004         0.002         0.003           ppm Water         ppm         ASTM D6304         >1000         48         19         32           FLUID DEGRADATION         method         limit/base         current         history1         history2	Sodium	ppm	ASTM D5185m		<1	<1	2
Water         %         ASTM D6304         >0.1         0.004         0.002         0.003           ppm Water         ppm         ASTM D6304         >1000         48         19         32           FLUID DEGRADATION         method         limit/base         current         history1         history2	Potassium	ppm	ASTM D5185m	>20	<1	2	<1
FLUID DEGRADATION method limit/base current history1 history2	Water		ASTM D6304	>0.1	0.004	0.002	0.003
	ppm Water	ppm	ASTM D6304	>1000	48	19	32
Acid Number (AN) mg KOH/g ASTM D8045 0.85 0.53 0.50 0.55	FLUID DEGRADA	NOITA	method	limit/base	current	history1	history2

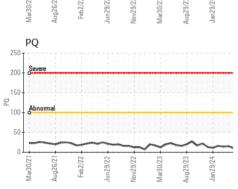


## **OIL ANALYSIS REPORT**









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
<b>Emulsified Water</b>	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	TIES	method	limit/hasa	current	history1	history2

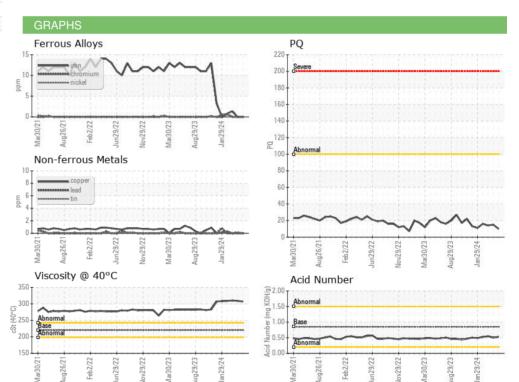
FLUID PROPERT	IES	method			history1	history2
Visc @ 40°C	cSt	ASTM D445	220	307	309	310

SAMPLE IMAGES method limit/base ci
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Color











Certificate 12367

Laboratory Sample No.

Lab Number : 06199303 Unique Number : 11061426

: RP0044019

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

: 04 Jun 2024 : 05 Jun 2024 Diagnosed

: 06 Jun 2024 - Don Baldridge

Test Package : IND 2 ( Additional Tests: PQ ) 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.

US 36513 Contact: MARIO JOHNSON Mario.johnson@outokumpu.com T: (251)321-4105

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

**OUTOKUMPU STAINLESS USA** 

F: x:

HWY 43 N

CALVERT, AL