

# **OIL ANALYSIS REPORT**

### Sample Rating Trend

# **NORMAL**

# MILACRON EXT 2 (S/N E10TPAA150012)

Component

Gearbox

**CASTROL CIP (95 GAL)** 

### 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.

Sample Number			un2013 Jan	015 Jul2016 Jan201	8 Jul2019 Feb2021 Jul20	122 Dec202	
Sample Date	MPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age         hrs         Client Info         65886         63989         62718           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           Iron         ppm         ASTM D5185m         200         3         4         3           Chromium         ppm         ASTM D5185m         >15         0         0         0           Nickel         ppm         ASTM D5185m         >15         0         0         0           Silver         ppm         ASTM D5185m         >25         0         0         0           Silver         ppm         ASTM D5185m         >25         0         0         0           Aluminum         ppm         ASTM D5185m         >20         0         0         0           Copper         ppm         ASTM D5185m         >20         0         0         0           Vanadium         ppm         ASTM D5185m         0 <td>ple Number</td> <td></td> <td>Client Info</td> <td></td> <th>RP0028977</th> <td>RP0028997</td> <td>RP0020830</td>	ple Number		Client Info		RP0028977	RP0028997	RP0020830
Oil Age         hrs         Client Info         N/A         N/A         N/A         N/A           Oil Changed         Client Info         N/A         N/A         N/A         N/A         N/A           Sample Status         method         limit/base         current         history1         history1           WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         >200         3         4         3           Chromium         ppm         ASTM D5185m         >15         0         0         0           Nickel         ppm         ASTM D5185m         >15         0         0         0           Silver         ppm         ASTM D5185m         >0         0         0         0           Aluminum         ppm         ASTM D5185m         >20         0         0         0           Lead         ppm         ASTM D5185m         >10         0         0         0           Copper         ppm         ASTM D5185m         >20         0         1         2         2         2           Tin         ppm         ASTM D5185m         0	ple Date		Client Info		21 Dec 2023	28 Jun 2023	17 Jan 2023
Oil Changed Sample Status         Client Info         N/A         N/A <t< td=""><td>hine Age</td><td>hrs</td><td>Client Info</td><td></td><th>65886</th><td>63989</td><td>62718</td></t<>	hine Age	hrs	Client Info		65886	63989	62718
NORMAL   NORMAL   NORMAL   NORMAL	ige	hrs	Client Info		0	0	0
WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         >200         3         4         3           Chromium         ppm         ASTM D5185m         >15         0         0         0           Nickel         ppm         ASTM D5185m         0         0         0         0           Silver         ppm         ASTM D5185m         >25         0         0         0         0           Aluminum         ppm         ASTM D5185m         >25         0         0         0         0           Lead         ppm         ASTM D5185m         >100         0         0         0         0           Copper         ppm         ASTM D5185m         >200         1         2         2         2         1           Tin         ppm         ASTM D5185m         >20         0 <td>Changed</td> <td></td> <td>Client Info</td> <td></td> <th>N/A</th> <td>N/A</td> <td>N/A</td>	Changed		Client Info		N/A	N/A	N/A
Iron	ple Status				NORMAL	NORMAL	NORMAL
Chromium         ppm         ASTM D5185m         >15         0         0         0           Nickel         ppm         ASTM D5185m         >15         0         0         0           Titanium         ppm         ASTM D5185m         0         0         0           Silver         ppm         ASTM D5185m         0         0         0           Aluminum         ppm         ASTM D5185m         >25         0         0         0           Lead         ppm         ASTM D5185m         >100         0         0         0           Copper         ppm         ASTM D5185m         >200         1         2         2           Tin         ppm         ASTM D5185m         >20         0         0         <1           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           Boron         ppm         ASTM D5185m         0         <1         0         0           Barium         ppm         ASTM D5185m         0         <1         0         0           Magnesium <th>EAR METALS</th> <th></th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	EAR METALS		method	limit/base	current	history1	history2
Nickel		ppm	ASTM D5185m	>200	3	4	3
Titanium         ppm         ASTM D5185m         0         0         0           Silver         ppm         ASTM D5185m         0         0         0           Aluminum         ppm         ASTM D5185m         >25         0         0         0           Lead         ppm         ASTM D5185m         >100         0         0         0           Copper         ppm         ASTM D5185m         >200         1         2         2           Tin         ppm         ASTM D5185m         >25         0         0         <1	mium	ppm	ASTM D5185m	>15	0	0	0
Silver         ppm         ASTM D5185m         0         0         0           Aluminum         ppm         ASTM D5185m         >25         0         0         0           Lead         ppm         ASTM D5185m         >100         0         0         0           Copper         ppm         ASTM D5185m         >200         1         2         2         2           Tin         ppm         ASTM D5185m         0         0         0         <1         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history1         history1           Boron         ppm         ASTM D5185m         0         <1         0         0         0           Barium         ppm         ASTM D5185m         0         <1         0         0         1         0           Magnesium         ppm         ASTM D5185m         0         <1         0         <1         0 </td <td>el</td> <td>ppm</td> <td>ASTM D5185m</td> <td>&gt;15</td> <th>0</th> <td>0</td> <td>0</td>	el	ppm	ASTM D5185m	>15	0	0	0
Aluminum         ppm         ASTM D5185m         >25         0         0         0           Lead         ppm         ASTM D5185m         >100         0         0         0           Copper         ppm         ASTM D5185m         >200         1         2         2           Tin         ppm         ASTM D5185m         0         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history1         history1           Boron         ppm         ASTM D5185m         0         0         0         0           Barium         ppm         ASTM D5185m         0         <1	nium	ppm	ASTM D5185m		0	0	0
Lead         ppm         ASTM D5185m         >100         0         0         0           Copper         ppm         ASTM D5185m         >200         1         2         2           Tin         ppm         ASTM D5185m         >25         0         0         <1           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history1           Boron         ppm         ASTM D5185m         0         0         0           Barium         ppm         ASTM D5185m         0         <1         0           Molybdenum         ppm         ASTM D5185m         22         27         25           Manganese         ppm         ASTM D5185m         0         <1         0           Magnesium         ppm         ASTM D5185m         0         <1         0           Calcium         ppm         ASTM D5185m         329         401         349           Zinc         ppm         ASTM D5185m         27	er	ppm	ASTM D5185m		0	0	0
Copper         ppm         ASTM D5185m         >200         1         2         2           Tin         ppm         ASTM D5185m         >25         0         0         <1	ninum	ppm	ASTM D5185m	>25	0	0	0
Tin         ppm         ASTM D5185m         >25         0         0         <1           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history1           Boron         ppm         ASTM D5185m         0         0         0         0           Barium         ppm         ASTM D5185m         0         <1         0         0           Molybdenum         ppm         ASTM D5185m         22         27         25           Manganese         ppm         ASTM D5185m         0         <1         0           Magnesium         ppm         ASTM D5185m         0         <1         0           Calcium         ppm         ASTM D5185m         329         401         349           Zinc         ppm         ASTM D5185m         27         47         25           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         AST	i	ppm	ASTM D5185m	>100	0	0	0
Vanadium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history1           Boron         ppm         ASTM D5185m         0         0         0           Barium         ppm         ASTM D5185m         0         <1	per	ppm	ASTM D5185m	>200	1	2	2
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history1           Boron         ppm         ASTM D5185m         0         0         0           Barium         ppm         ASTM D5185m         0         <1		ppm	ASTM D5185m	>25	0	0	<1
ADDITIVES	adium	ppm	ASTM D5185m		0	0	0
Boron         ppm         ASTM D5185m         0         0         0           Barium         ppm         ASTM D5185m         0         <1         0           Molybdenum         ppm         ASTM D5185m         22         27         25           Manganese         ppm         ASTM D5185m         0         <1         0           Magnesium         ppm         ASTM D5185m         0         <1         0           Calcium         ppm         ASTM D5185m         0         32         0           Phosphorus         ppm         ASTM D5185m         329         401         349           Zinc         ppm         ASTM D5185m         27         47         25           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >50         0         <1         <1           Sodium         ppm         ASTM D5185m         >20         0         <1         <1           Potassium         ppm         ASTM D5185m         >20         0         <1         0           Water         %         ASTM D6304         >0.2	mium	ppm	ASTM D5185m		0	0	0
Barium         ppm         ASTM D5185m         0         <1	DITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         22         27         25           Manganese         ppm         ASTM D5185m         0         <1         0           Magnesium         ppm         ASTM D5185m         0         <1         0           Calcium         ppm         ASTM D5185m         0         32         0           Phosphorus         ppm         ASTM D5185m         329         401         349           Zinc         ppm         ASTM D5185m         27         47         25           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >50         0         <1         <1           Sodium         ppm         ASTM D5185m         >50         0         <1         <1           Potassium         ppm         ASTM D5185m         >20         0         <1         1           Water         %         ASTM D6304         >0.2         0.010         0.004         0.005           ppm Water         ppm         ASTM D6304         >2000         109         46.6         52.5           FLUID DEGRADATION <td>n</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>0</th> <td>0</td> <td>0</td>	n	ppm	ASTM D5185m		0	0	0
Manganese         ppm         ASTM D5185m         0         <1         0           Magnesium         ppm         ASTM D5185m         0         <1         0           Calcium         ppm         ASTM D5185m         0         32         0           Phosphorus         ppm         ASTM D5185m         329         401         349           Zinc         ppm         ASTM D5185m         27         47         25           CONTAMINANTS         method         limit/base         current         history1         history1         history1           Silicon         ppm         ASTM D5185m         >50         0         <1	um	ppm	ASTM D5185m		0	<1	0
Magnesium         ppm         ASTM D5185m         0         <1         0           Calcium         ppm         ASTM D5185m         0         32         0           Phosphorus         ppm         ASTM D5185m         329         401         349           Zinc         ppm         ASTM D5185m         27         47         25           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >50         0         <1	bdenum	ppm	ASTM D5185m		22	27	25
Calcium         ppm         ASTM D5185m         0         32         0           Phosphorus         ppm         ASTM D5185m         329         401         349           Zinc         ppm         ASTM D5185m         27         47         25           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >50         0         <1	ganese	ppm	ASTM D5185m		0	<1	0
Phosphorus         ppm         ASTM D5185m         329         401         349           Zinc         ppm         ASTM D5185m         27         47         25           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >50         0         <1	nesium	ppm	ASTM D5185m		0	<1	0
Zinc         ppm         ASTM D5185m         27         47         25           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >50         0         <1	ium	ppm	ASTM D5185m		0	32	0
CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >50         0         <1	sphorus	ppm	ASTM D5185m		329	401	349
Silicon         ppm         ASTM D5185m         >50         0         <1         <1           Sodium         ppm         ASTM D5185m         0         <1         1           Potassium         ppm         ASTM D5185m         >20         0         <1         0           Water         %         ASTM D6304         >0.2         0.010         0.004         0.005           ppm Water         ppm         ASTM D6304         >2000         109         46.6         52.5           FLUID DEGRADATION         method         limit/base         current         history1         history           Acid Number (AN)         mg KOH/g         ASTM D8045         0.72         0.75         0.70		ppm	ASTM D5185m		27	47	25
Sodium         ppm         ASTM D5185m         0         <1         1           Potassium         ppm         ASTM D5185m         >20         0         <1	NTAMINANTS		method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         0         <1         0           Water         %         ASTM D6304         >0.2         0.010         0.004         0.005           ppm Water         ppm         ASTM D6304         >2000         109         46.6         52.5           FLUID DEGRADATION         method         limit/base         current         history1         history1           Acid Number (AN)         mg KOH/g         ASTM D8045         0.72         0.75         0.70	on	ppm	ASTM D5185m	>50	0	<1	<1
Water         %         ASTM D6304         >0.2         0.010         0.004         0.005           ppm Water         ppm         ASTM D6304         >2000         109         46.6         52.5           FLUID DEGRADATION         method         limit/base         current         history1         history1           Acid Number (AN)         mg KOH/g         ASTM D8045         0.72         0.75         0.70	um	ppm	ASTM D5185m		0	<1	1
ppm Water         ppm         ASTM D6304         >2000         109         46.6         52.5           FLUID DEGRADATION         method         limit/base         current         history1         history1           Acid Number (AN)         mg KOH/g         ASTM D8045         0.72         0.75         0.70	ssium	ppm	ASTM D5185m	>20	0	<1	0
FLUID DEGRADATION method limit/base current history1 history  Acid Number (AN) mg K0H/g ASTM D8045 0.72 0.75 0.70	er	%	ASTM D6304	>0.2	0.010	0.004	0.005
Acid Number (AN)         mg KOH/g         ASTM D8045         0.72         0.75         0.70	Water	ppm	ASTM D6304	>2000	109	46.6	52.5
	UID DEGRADA	TION	method	limit/base	current	history1	history2
VISUAL method limit/base current history1 history	Number (AN)	mg KOH/g	ASTM D8045		0.72	0.75	0.70
	SUAL		method	limit/base	current	history1	history2
White Metal scalar *Visual NONE NONE NONE NONE	e Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal scalar *Visual NONE NONE NONE NONE	w Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate scalar *Visual NONE NONE NONE NONE	ipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt scalar *Visual NONE NONE NONE NONE		scalar	*Visual	NONE	NONE	NONE	NONE
Debris scalar *Visual NONE NONE NONE NONE	ris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt scalar *Visual NONE NONE NONE NONE	d/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance scalar *Visual NORML NORML NORML NORML NORM	arance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor scalar *Visual NORML NORML NORML NORML	r	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water scalar *Visual >0.2 <b>NEG</b> NEG NEG	Isified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

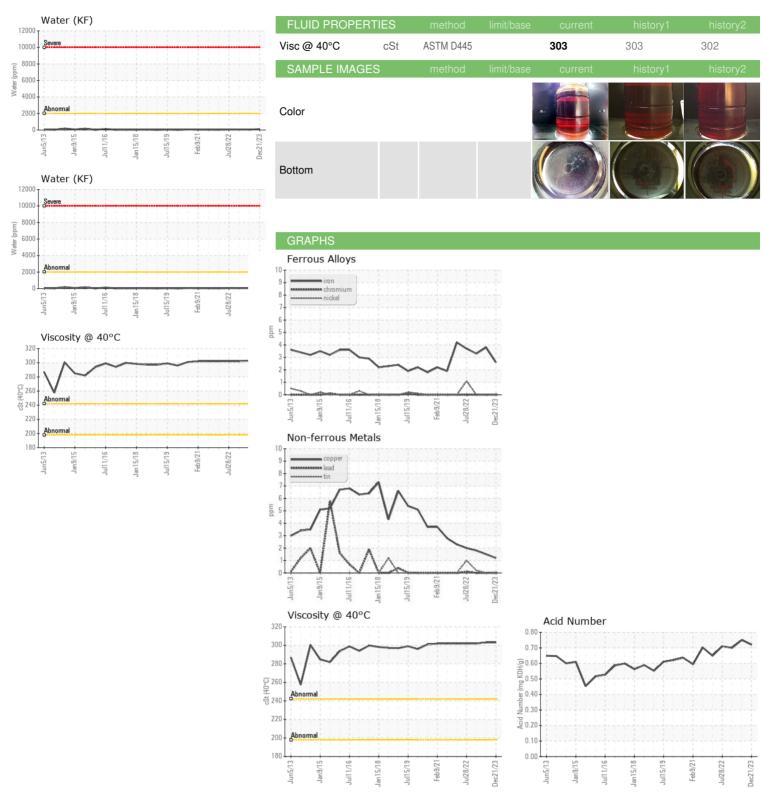
MICHAGL WINN - KNEWESMA

**NEG** 

scalar \*Visual



## **OIL ANALYSIS REPORT**







Laboratory Sample No. Lab Number Unique Number

: RP0028977 : 06055949 : 10821898

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Recieved : 09 Jan 2024 Diagnosed : 10 Jan 2024

Diagnostician : Wes Davis

Test Package : PLANT ( Additional Tests: KF ) 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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