



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**402 CRANE BRIDGE GEARBOX NORTH WEST**

Component  
**Gearbox**

Fluid  
**SHELL OMALA S4 GX 220 (24 LTR)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

**WEAR**

All component wear rates are normal.

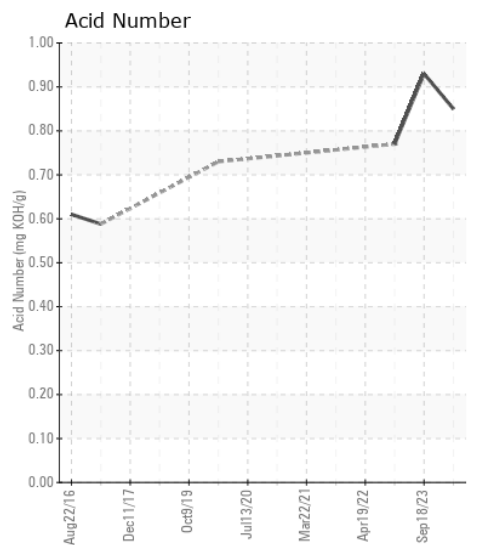
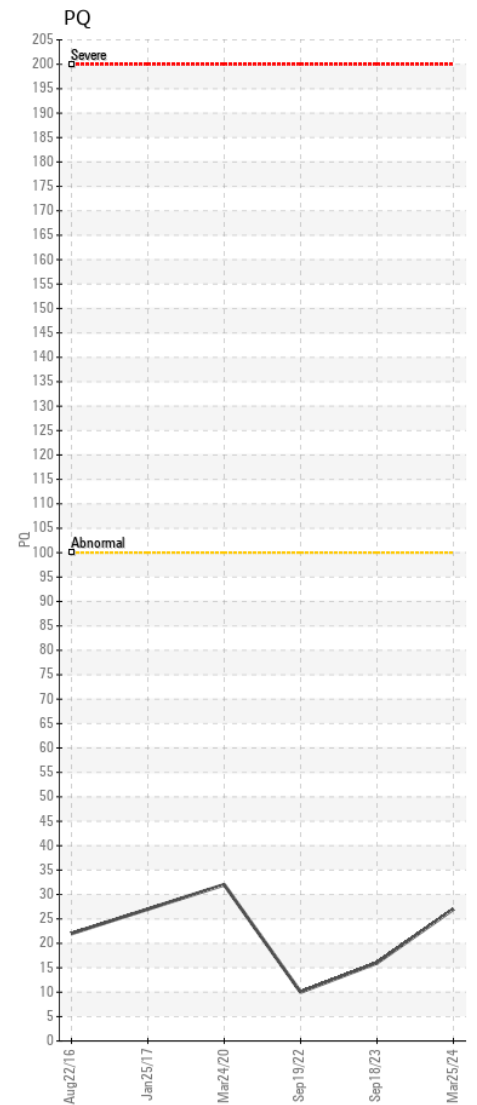
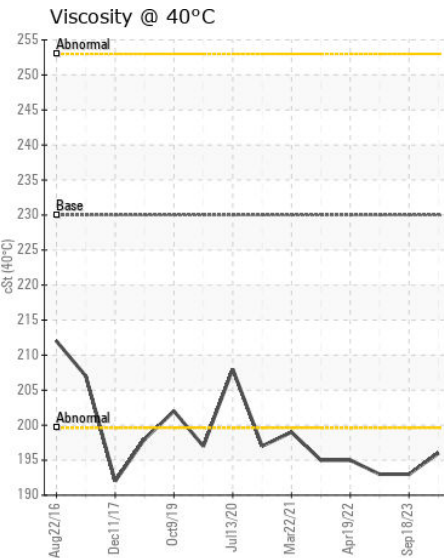
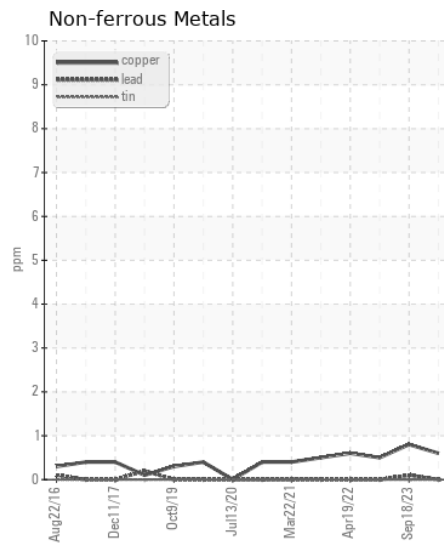
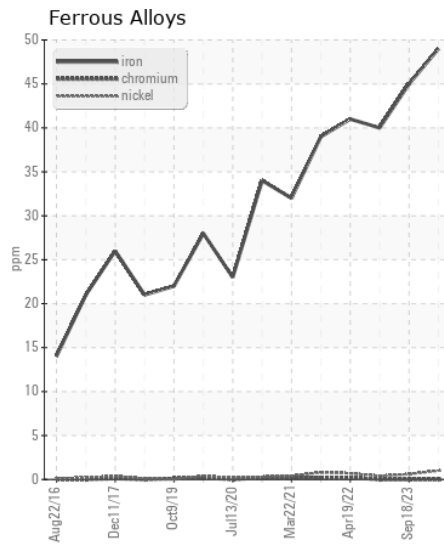
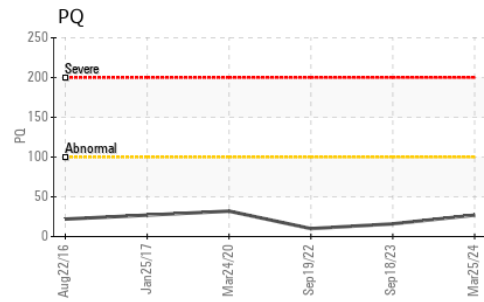
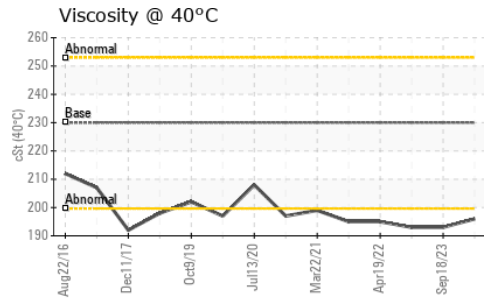
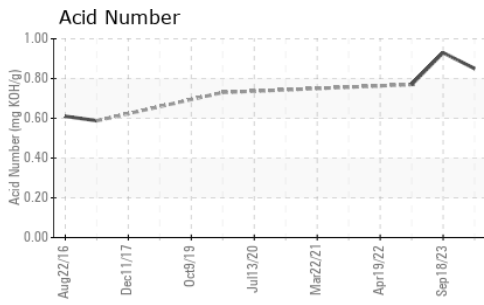
**CONTAMINATION**

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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0716513</b>	WC0811780	WC0665414
Sample Date		Client Info		<b>25 Mar 2024</b>	18 Sep 2023	19 Sep 2022
Machine Age	yrs	Client Info		<b>0</b>	0	0
Oil Age	yrs	Client Info		<b>0</b>	0	0
Filter Age	yrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	N/A	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL
PQ		ASTM D8184*		<b>27</b>	16	10
Iron	ppm	ASTM D5185(m)	>200	<b>49</b>	45	40
Chromium	ppm	ASTM D5185(m)	>15	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>15	<b>1</b>	<1	<1
Titanium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>25	<b>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185(m)	>100	<b>0</b>	<1	0
Copper	ppm	ASTM D5185(m)	>200	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185(m)	>25	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Silicon	ppm	ASTM D5185(m)	>50	<b>16</b>	15	14
Potassium	ppm	ASTM D5185(m)	>20	<b>2</b>	2	2
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>VLITE</b>	LIGHT	NONE
Appearance	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG
Sodium	ppm	ASTM D5185(m)		<b>2</b>	3	2
Boron	ppm	ASTM D5185(m)		<b>18</b>	19	19
Barium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Molybdenum	ppm	ASTM D5185(m)		<b>19</b>	18	25
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Calcium	ppm	ASTM D5185(m)		<b>20</b>	18	24
Phosphorus	ppm	ASTM D5185(m)		<b>377</b>	384	423
Zinc	ppm	ASTM D5185(m)		<b>5</b>	8	5
Sulfur	ppm	ASTM D5185(m)		<b>5336</b>	5406	5584
Acid Number (AN)	mg KOH/g	ASTM D974*		<b>0.85</b>	0.93	0.77
Visc @ 40°C	cSt	ASTM D7279(m)	230	<b>196</b>	193	193



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0716513  
**Lab Number** : 02626729  
**Unique Number** : 5759861  
**Test Package** : IND 2 ( Additional Tests: TAN Man )

**Received** : 04 Apr 2024  
**Tested** : 04 Apr 2024  
**Diagnosed** : 05 Apr 2024 - Kevin Marson

**Vale - Copper Cliff Smelter**  
 COPPER CLIFF SMELTER WAREHOUSE, 155 BALSAM ST.  
 COPPER CLIFF, ON  
 CA P0M 1N0  
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To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.