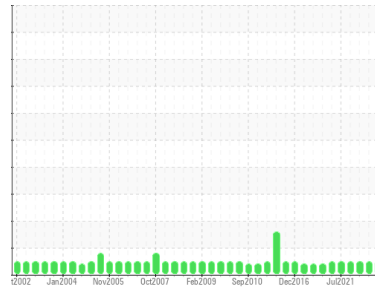




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**#2 Boiler Feed Pump Variable Speed Drive (S/N 43200-P -2)**  
 Component  
**Speed Reducer**  
 Fluid  
**ESSO NUTO H ISO 46 (650 LTR)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

### Fluid Condition

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

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0831836</b>	WC0774125	WC0714813
Sample Date	Client Info		<b>10 Jul 2023</b>	24 Jan 2023	06 Sep 2022
Machine Age	hrs	Client Info	<b>0</b>	0	0
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.1	<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >150	<b>4</b>	4	5
Chromium	ppm	ASTM D5185(m) >10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m) >10	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185(m)	<b>1</b>	2	2
Silver	ppm	ASTM D5185(m)	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185(m) >25	<b>0</b>	<1	<1
Lead	ppm	ASTM D5185(m) >100	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185(m) >50	<b>4</b>	4	4
Tin	ppm	ASTM D5185(m) >10	<b>&lt;1</b>	1	1
Antimony	ppm	ASTM D5185(m) >5	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 0	<b>&lt;1</b>	<1	<1
Barium	ppm	ASTM D5185(m) 0	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m) 0	<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m) 5	<b>2</b>	1	1
Calcium	ppm	ASTM D5185(m) 50	<b>146</b>	154	167
Phosphorus	ppm	ASTM D5185(m) 330	<b>352</b>	376	393
Zinc	ppm	ASTM D5185(m) 410	<b>466</b>	446	469
Sulfur	ppm	ASTM D5185(m) 2700	<b>2413</b>	2488	2644
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1

## CONTAMINANTS

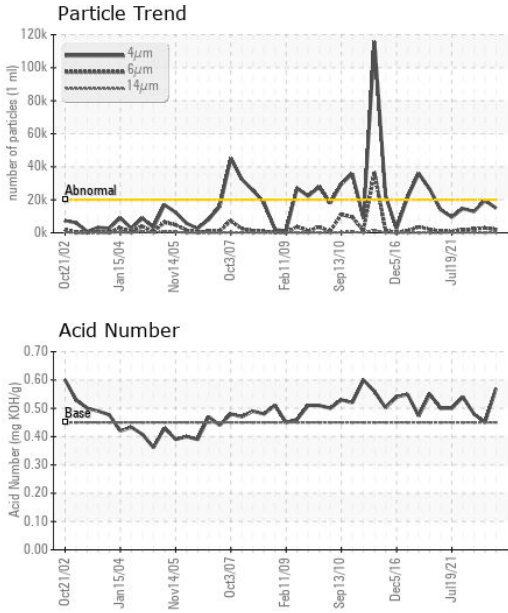
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >50	<b>1</b>	1	1
Sodium	ppm	ASTM D5185(m)	<b>17</b>	19	23
Potassium	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	0	<1

## FLUID CLEANLINESS

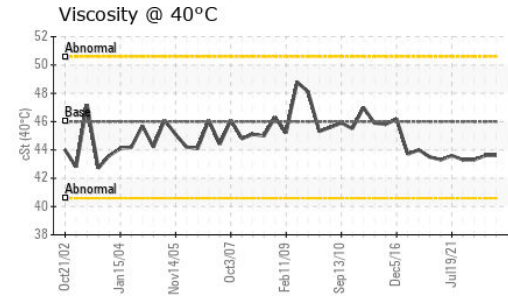
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	<b>14945</b>	19616	12888
Particles >6µm	ASTM D7647	>5000	<b>1977</b>	2890	2167
Particles >14µm	ASTM D7647	>640	<b>78</b>	125	155
Particles >21µm	ASTM D7647	>160	<b>20</b>	34	41
Particles >38µm	ASTM D7647	>40	<b>2</b>	2	1
Particles >71µm	ASTM D7647	>10	<b>1</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>21/19/16	<b>21/18/13</b>	21/19/14	21/18/14



# OIL ANALYSIS REPORT



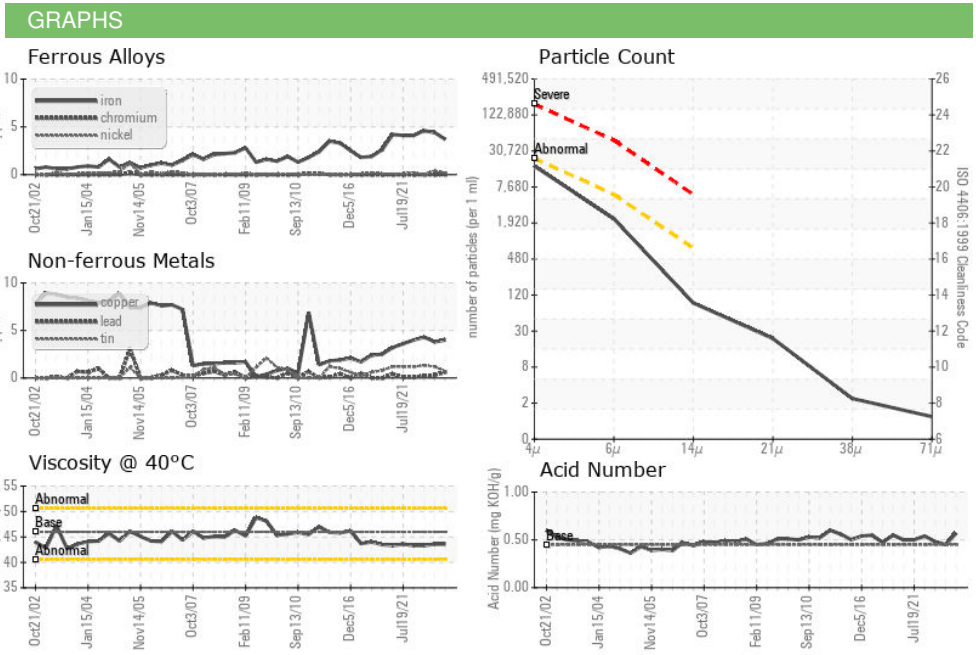
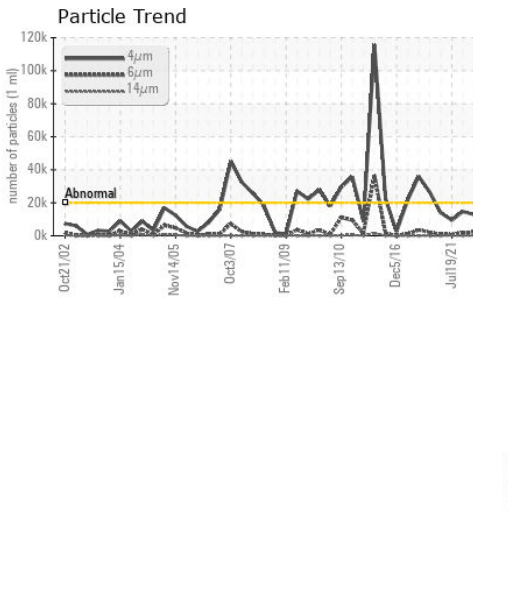
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.45	<b>0.57</b>	0.45	0.48
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	<b>NEG</b>	NEG	NEG
Free Water	scalar	Visual*		<b>NEG</b>	NEG	NEG



FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	46	<b>43.6</b>	43.6	43.3

**SAMPLE IMAGES**

method	limit/base	current	history1	history2
Color				
Bottom				



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0831836 **Received** : 19 Dec 2023  
**Lab Number** : **02604143** **Diagnosed** : 20 Dec 2023  
**Unique Number** : 5697228 **Diagnostician** : Wes Davis  
**Test Package** : IND 2 ( Additional Tests: TAN Man )

**Ontario Power Generation**  
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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.