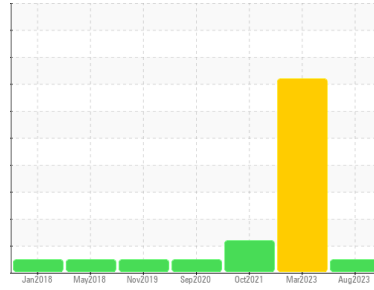


Area  
**Aft Machinery Space [450164930]**  
Machine Id  
**Thruster Aft Center - Lower Gearbox (S/N Sample Tag CL-06001-S6)**  
Component  
**Gearbox**  
Fluid  
**CASTROL ALPHA SP150 (5000 LTR)**



**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	PC	PC	PC
Sample Date	Client Info	<b>01 Aug 2023</b>	31 Mar 2023	21 Oct 2021
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>	SEVERE	MARGINAL

**WEAR METALS** method limit/base current history1 history2

Element	ppm	ASTM D5185(m)	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>150	<1	25	3
Chromium	ppm	ASTM D5185(m)	>10	0	0	0
Nickel	ppm	ASTM D5185(m)	>10	0	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	<1
Aluminum	ppm	ASTM D5185(m)	>5	<1	<1	<1
Lead	ppm	ASTM D5185(m)	>65	0	0	0
Copper	ppm	ASTM D5185(m)	>80	<1	<1	<1
Tin	ppm	ASTM D5185(m)	>8	0	0	<1
Antimony	ppm	ASTM D5185(m)	>5	0	<1	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

**ADDITIVES** method limit/base current history1 history2

Element	ppm	ASTM D5185(m)	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<b>4</b>	<1	2
Barium	ppm	ASTM D5185(m)	4	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Manganese	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	4	<b>&lt;1</b>	5	0
Calcium	ppm	ASTM D5185(m)	4	<b>2</b>	6	7
Phosphorus	ppm	ASTM D5185(m)	330	<b>339</b>	284	328
Zinc	ppm	ASTM D5185(m)	4	<b>5</b>	12	10
Sulfur	ppm	ASTM D5185(m)		<b>7860</b>	9053	10851
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

**CONTAMINANTS** method limit/base current history1 history2

Element	ppm	ASTM D5185(m)	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	<b>2</b>	▲ 30	2
Sodium	ppm	ASTM D5185(m)		<b>0</b>	8	<1
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1

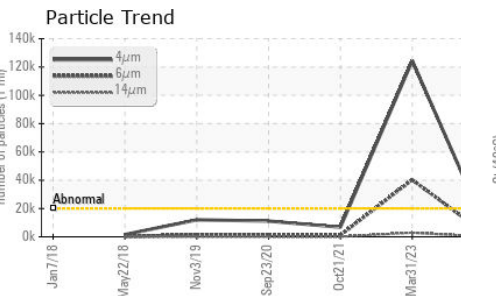
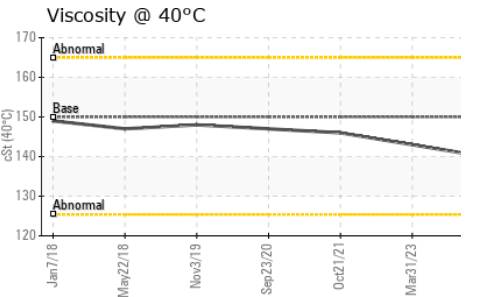
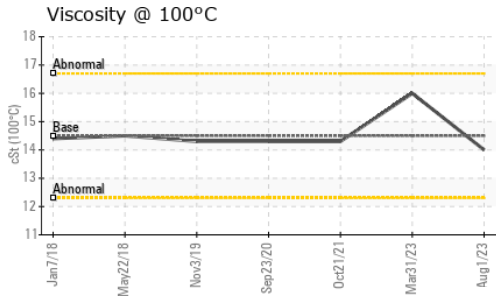
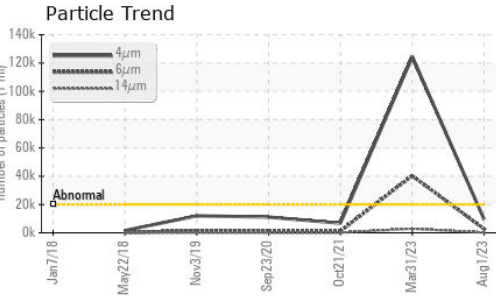
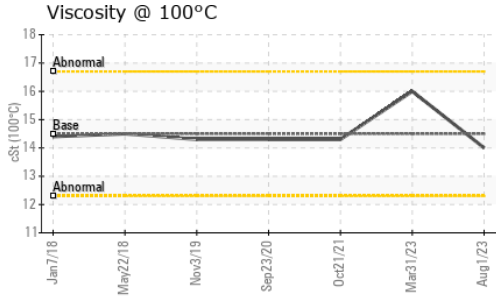
**FLUID CLEANLINESS** method limit/base current history1 history2

Particles	ASTM D7647	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	<b>9564</b>	▲ 124404	6774
Particles >6µm	ASTM D7647	>5000	<b>2730</b>	■ 40304	1088
Particles >14µm	ASTM D7647	>640	<b>188</b>	▲ 2898	72
Particles >21µm	ASTM D7647	>160	<b>53</b>	▲ 691	19
Particles >38µm	ASTM D7647	>40	<b>3</b>	7	1
Particles >71µm	ASTM D7647	>10	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>21/19/16	<b>20/19/15</b>	■ 24/23/19	20/17/13

**FLUID DEGRADATION** method limit/base current history1 history2

Acid Number (AN)	mg KOH/g	ASTM D974*	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	<b>0.55</b>	0.84	▲ 1.32

# OIL ANALYSIS REPORT

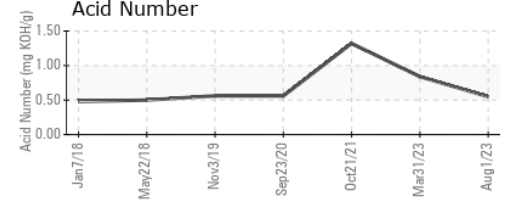
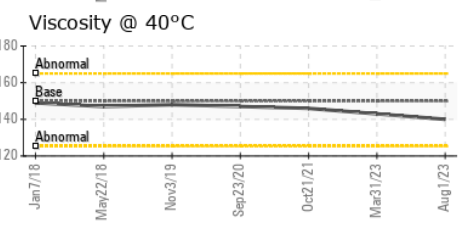
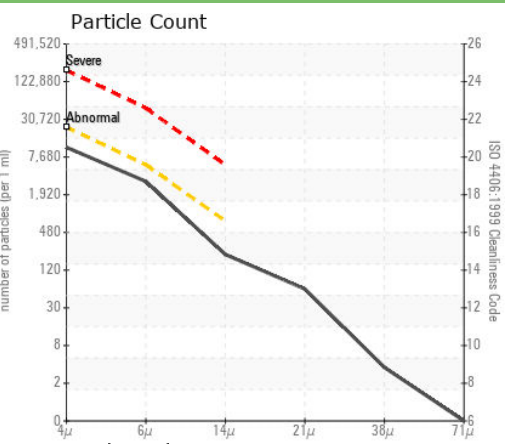
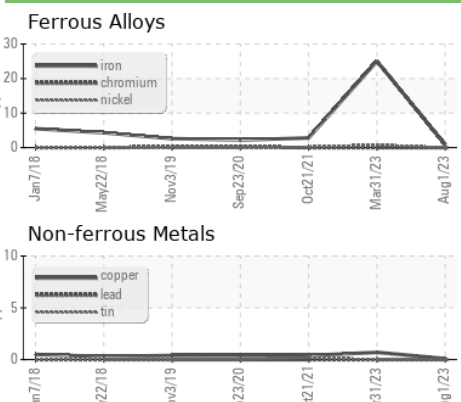


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	VLITE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	.2%
Free Water	scalar	Visual*		NEG	▲ 5%

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	150.0	140	143
Visc @ 100°C	cSt	ASTM D7279(m)	14.5	14.0	16.0
Viscosity Index (VI)	Scale	ASTM D2270*	95	96	117

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

## GRAPHS



**Laboratory Sample No.** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Lab Number** : PC  
**Unique Number** : 02573837  
**Test Package** : 5618888  
**Received** : 02 Aug 2023  
**Diagnosed** : 03 Aug 2023  
**Diagnostician** : Kevin Marson

**Suncor - Terra Nova Projects**  
 Scotia Centre, 235 Water Street  
 St. John's, NL  
 CA A1C 1B6  
 Contact: Josh Hynes  
 joshhynes@suncor.com  
 T: (709)778-3575  
 F: (709)724-2835

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.