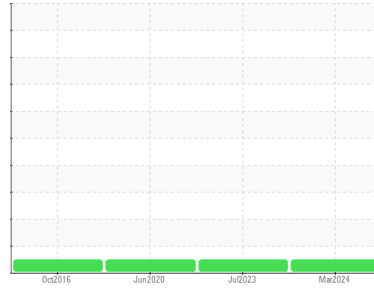


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

Fwd Machinery Space [450696544]

Machine Id

ThrusterFwdFore - Lower Gearbox (S/N Sample Tag CL-06005 - S6)

Component

Lower Gearbox

Fluid

CASTROL ALPHA SP150 (5000 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MAR 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid.

Wear

Component wear rates appear to be normal (unconfirmed).

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			PC0081675	PC	PC
Sample Date	Client Info			31 Mar 2024	27 Jul 2023	07 Jun 2020
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed	Client Info			N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.2	NEG	NEG	NEG

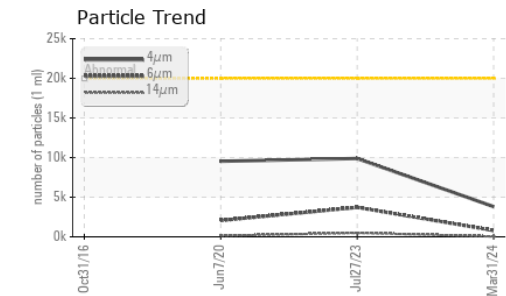
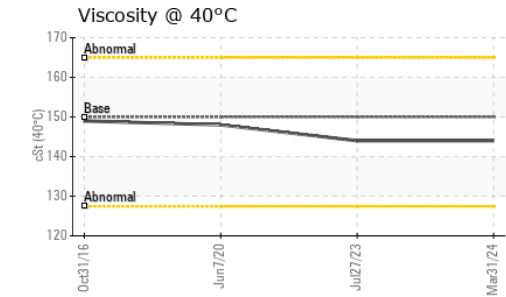
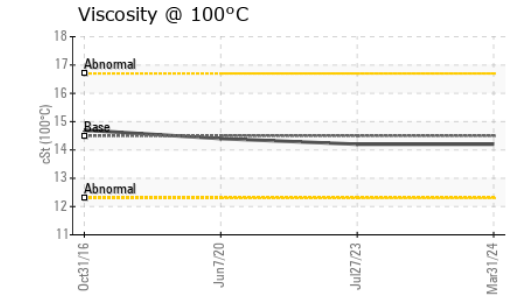
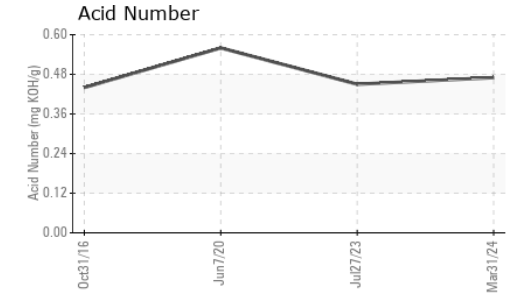
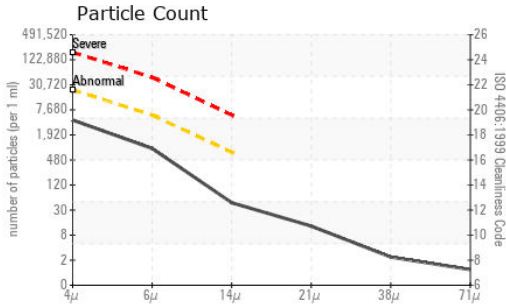
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>150	0	<1	2
Chromium	ppm	ASTM D5185(m)	>10	0	0	0
Nickel	ppm	ASTM D5185(m)	>10	0	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	<1	<1
Aluminum	ppm	ASTM D5185(m)	>5	0	0	<1
Lead	ppm	ASTM D5185(m)	>65	0	0	0
Copper	ppm	ASTM D5185(m)	>80	0	<1	<1
Tin	ppm	ASTM D5185(m)	>8	0	0	0
Antimony	ppm	ASTM D5185(m)	>5	0	0	<1
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
Boron	ppm	ASTM D5185(m)		15	15	2
Barium	ppm	ASTM D5185(m)	4	0	0	<1
Molybdenum	ppm	ASTM D5185(m)		0	0	<1
Manganese	ppm	ASTM D5185(m)		0	0	<1
Magnesium	ppm	ASTM D5185(m)	4	0	<1	<1
Calcium	ppm	ASTM D5185(m)	4	<1	<1	4
Phosphorus	ppm	ASTM D5185(m)	330	163	172	306
Zinc	ppm	ASTM D5185(m)	4	5	4	10
Sulfur	ppm	ASTM D5185(m)		7888	8273	11495
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	2	2	3
Sodium	ppm	ASTM D5185(m)		0	<1	1
Potassium	ppm	ASTM D5185(m)	>20	0	0	<1

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	3811	9884	9533
Particles >6µm		ASTM D7647	>5000	797	3719	2062
Particles >14µm		ASTM D7647	>640	40	496	133
Particles >21µm		ASTM D7647	>160	11	154	43
Particles >38µm		ASTM D7647	>40	2	8	2
Particles >71µm		ASTM D7647	>10	1	2	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	19/17/12	20/19/16	20/18/14

OIL ANALYSIS REPORT

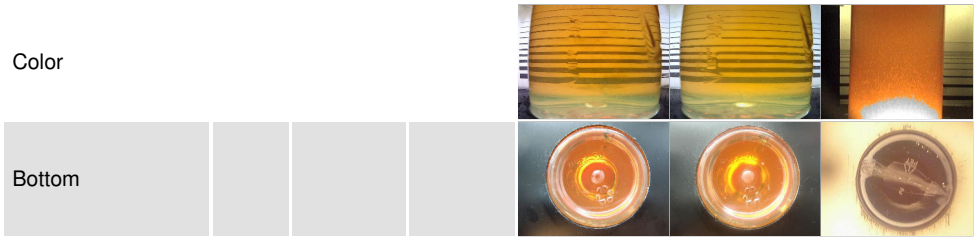


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		0.47	0.45	0.56

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	VLITE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	.2%
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	150.0	144	144	148
Visc @ 100°C	cSt	ASTM D7279(m)	14.5	14.2	14.2	14.4
Viscosity Index (VI)	Scale	ASTM D2270*	95	95	95	94

SAMPLE IMAGES



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0081675 **Received** : 26 Apr 2024
Lab Number : **02631766** **Tested** : 29 Apr 2024
Unique Number : 5772919 **Diagnosed** : 29 Apr 2024 - Kevin Marson
Test Package : MAR 2 (Additional Tests: KV100, TAN Man, VI)

Suncor - Terra Nova Projects
 Scotia Centre, 235 Water Street
 St. John's, NL
 CA A1C 1B6
 Contact: Josh Hynes
 joshynes@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.