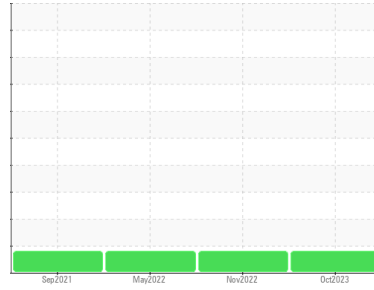




OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id

U-10 (S/N 192-517)

Component

Hydraulic System

Fluid

CHEVRON RANDO HD 46 (40 GAL)

DIAGNOSIS

▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

▲ Wear

The copper level is abnormal. All other component wear rates are normal.

Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service. Color is L3.0.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0792218	WC0753768	WC0625141
Sample Date	Client Info		21 Oct 2023	01 Nov 2022	05 May 2022
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	Not Changd
Sample Status			ABNORMAL	MARGINAL	MARGINAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >20	0	0	<1
Chromium	ppm	ASTM D5185m >20	0	0	0
Nickel	ppm	ASTM D5185m >20	0	0	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >20	0	0	<1
Lead	ppm	ASTM D5185m >20	1	2	<1
Copper	ppm	ASTM D5185m >20	▲ 27	▲ 24	▲ 23
Tin	ppm	ASTM D5185m >20	0	0	<1
Antimony	ppm	ASTM D5185m	---	---	---
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	0	0
Barium	ppm	ASTM D5185m	1	0	0
Molybdenum	ppm	ASTM D5185m	0	<1	0
Manganese	ppm	ASTM D5185m	0	0	0
Magnesium	ppm	ASTM D5185m	0	1	0
Calcium	ppm	ASTM D5185m	23	21	24
Phosphorus	ppm	ASTM D5185m	152	151	133
Zinc	ppm	ASTM D5185m	172	178	179
Sulfur	ppm	ASTM D5185m	794	837	716

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >15	1	1	0
Sodium	ppm	ASTM D5185m	2	3	<1
Potassium	ppm	ASTM D5185m >20	<1	<1	1
Water	%	ASTM D6304 >0.05	0.002	---	---
ppm Water	ppm	ASTM D6304 >500	15.1	---	---

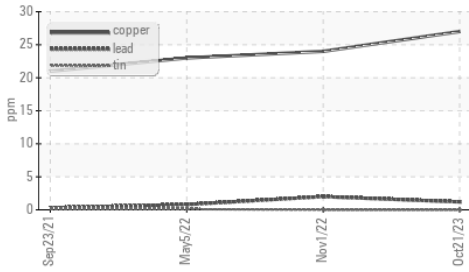
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	0	---	0
Nitration	Abs/cm	*ASTM D7624	1.5	---	1.7
Sulfation	Abs/.1mm	*ASTM D7415	11.0	---	11.6

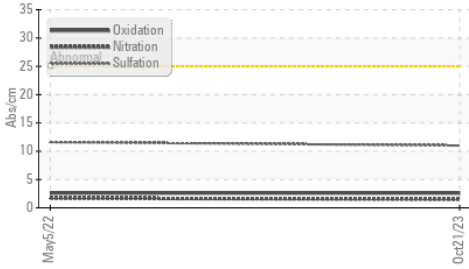


OIL ANALYSIS REPORT

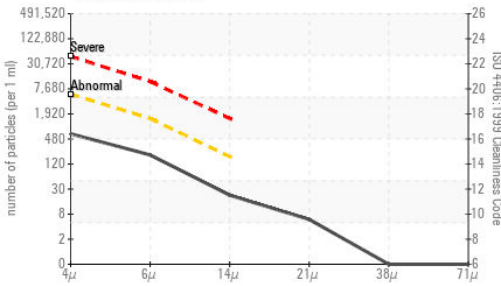
Non-ferrous Metals



FT-IR (Direct Trend)



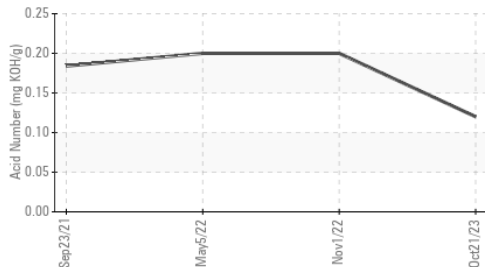
Particle Count



Water (KF)



Acid Number



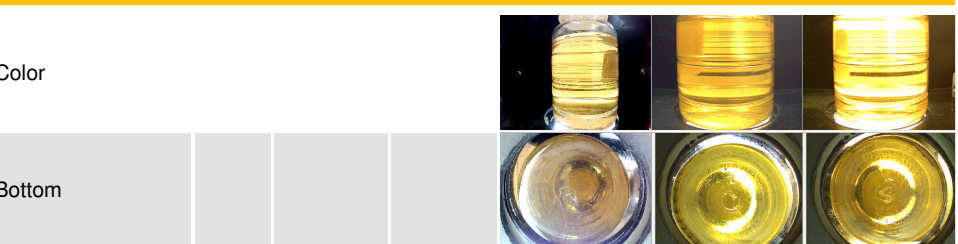
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	562	430	865
Particles >6µm	ASTM D7647	>1300	175	114	229
Particles >14µm	ASTM D7647	>160	19	15	33
Particles >21µm	ASTM D7647	>40	5	5	7
Particles >38µm	ASTM D7647	>10	0	0	1
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	16/15/11	16/14/11	17/15/12

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414		2.6	---	2.6
Acid Number (AN)	mg KOH/g ASTM D8045		0.12	0.20	0.20

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	NONE	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	>0.05	NEG	NEG	NEG
Free Water	scalar *Visual		NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt ASTM D445	43.7	44.4	44.2	44.1
ASTM Color	scalar *ASTM D1500		L3.0	---	L1.5

SAMPLE IMAGES



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0792218 **Received** : 13 Nov 2023
Lab Number : **06006316** **Tested** : 15 Nov 2023
Unique Number : 10740078 **Diagnosed** : 30 May 2024 - Doug Bogart
Test Package : PLANT (Additional Tests: Color-ASTM, FT-IR)

CHUGACH ELECTRIC - SULLIVAN PLANT
 8900 STARVIEW DRIVE
 ANCHORAGE, AK
 US 99504
 Contact: JON RIVERA
 Jon_Rivera@chugachelectric.com
 T: (907)762-7804
 F:

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)