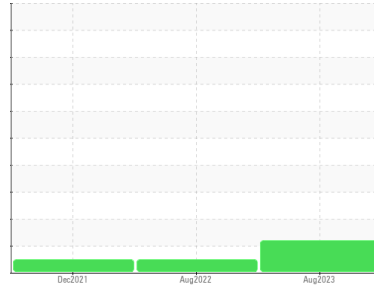




OIL ANALYSIS REPORT

Sample Rating Trend



VISUAL METAL



Machine Id
650-5 (S/N 160-182)

Component
Hydraulic System

Fluid
PETRO CANADA HYDREX AW 46 (--- GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. We were unable to perform a particle count due to metal particles present in this sample.

Wear

Moderate concentration of visible metal present. All component wear rates are normal.

Contamination

No other contaminants were detected in the oil.

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	KFS0001662	KFS0000466	KFS0000399
Sample Date	Client Info	28 Aug 2023	17 Aug 2022	15 Dec 2021
Machine Age	hrs	0	0	0
Oil Age	hrs	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		ABNORMAL	NORMAL	NORMAL

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >20	8	7	6
Chromium	ppm	ASTM D5185m >20	<1	<1	<1
Nickel	ppm	ASTM D5185m >20	0	<1	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m	0	<1	0
Aluminum	ppm	ASTM D5185m >20	<1	0	<1
Lead	ppm	ASTM D5185m >20	0	0	0
Copper	ppm	ASTM D5185m >20	2	2	2
Tin	ppm	ASTM D5185m >20	2	<1	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	0	<1	0
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 0	0	<1	<1
Manganese	ppm	ASTM D5185m 0	0	<1	0
Magnesium	ppm	ASTM D5185m 0	0	<1	0
Calcium	ppm	ASTM D5185m 50	94	110	136
Phosphorus	ppm	ASTM D5185m 330	413	469	492
Zinc	ppm	ASTM D5185m 430	561	635	739
Sulfur	ppm	ASTM D5185m 760	4685	4830	5235

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >15	<1	1	<1
Sodium	ppm	ASTM D5185m	<1	<1	0
Potassium	ppm	ASTM D5185m >20	0	0	1
Water	%	ASTM D6304 >0.05	NEG	NEG	NEG

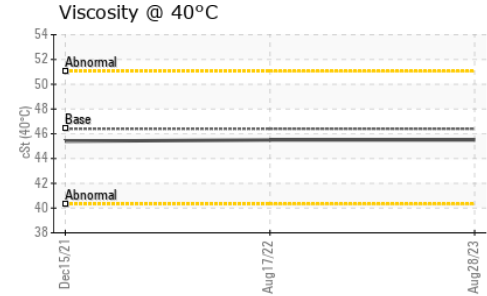
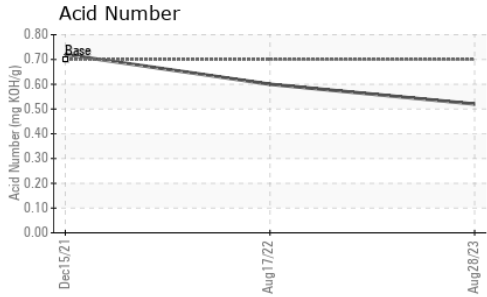
FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >5000	---	359	530
Particles >6µm	ASTM D7647 >1300	---	85	169
Particles >14µm	ASTM D7647 >160	---	11	26
Particles >21µm	ASTM D7647 >40	---	3	6
Particles >38µm	ASTM D7647 >10	---	0	1
Particles >71µm	ASTM D7647 >3	---	0	0
Oil Cleanliness	ISO 4406 (c) >19/17/14	---	16/14/11	16/15/12

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045 0.70	0.52	0.60	0.72

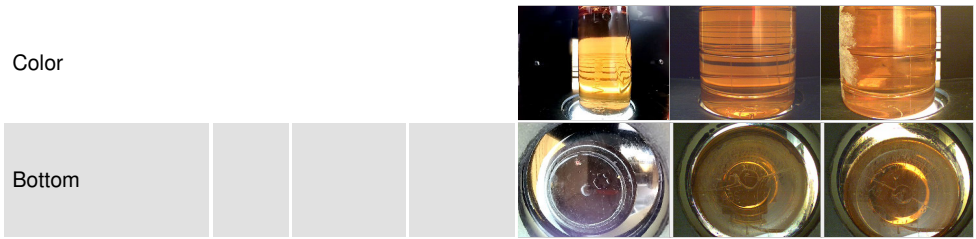
OIL ANALYSIS REPORT



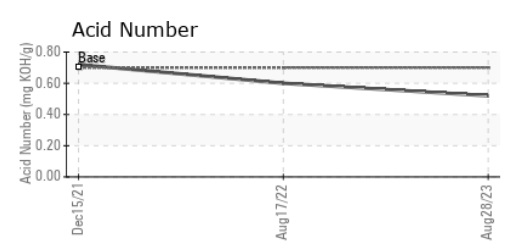
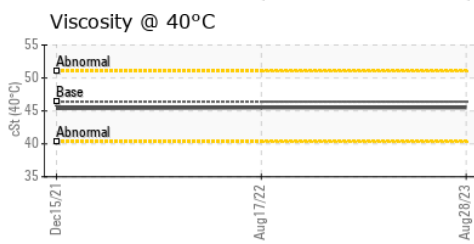
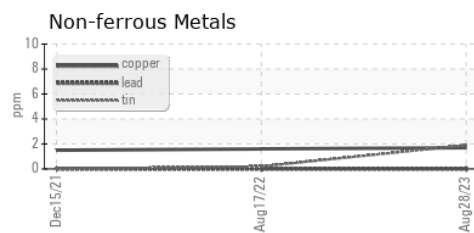
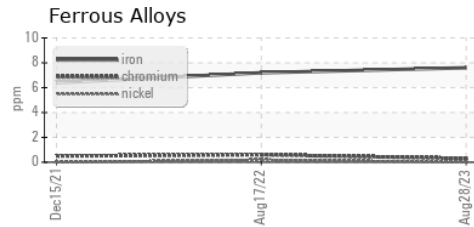
VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	▲ MODER	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	46.4	45.5	45.4

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KFS0001662 **Received** : 30 Aug 2023
Lab Number : 05938834 **Tested** : 31 Aug 2023
Unique Number : 10629446 **Diagnosed** : 31 Aug 2023 - Don Baldrige
Test Package : PLANT

MARELLI
 181 BENNETT DR
 PULASKI, TN
 US 38478
 Contact: Service Manager

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)