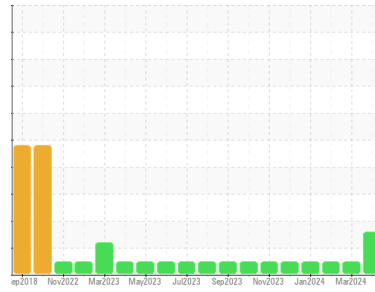




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
GENERAL DYNAMICS OTS
 Machine Id
Q022 LMG
 Component
Hydraulic System
 Fluid
PETRO CANADA HYDREX AW 46 (90 GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal. No abnormal wear or visible metal detected.

Contamination

There is a high amount of particulates present 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	SBP0004052	SBP0004053	SBP0004045
Sample Date	Client Info	10 Apr 2024	15 Mar 2024	22 Feb 2024
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	Not Changed	Filtered	Not Changed
Sample Status		ABNORMAL	NORMAL	NORMAL

WEAR METALS

method	limit/base	current	history1	history2	
PQ	ASTM D8184	15	15	15	
Iron	ppm	ASTM D5185m >40	<1	0	1
Chromium	ppm	ASTM D5185m >4	0	<1	0
Nickel	ppm	ASTM D5185m >20	0	0	<1
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >4	0	0	0
Lead	ppm	ASTM D5185m >10	0	0	<1
Copper	ppm	ASTM D5185m >60	2	1	1
Tin	ppm	ASTM D5185m >4	<1	0	0
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	0	0	0
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 0	0	0	<1
Manganese	ppm	ASTM D5185m 0	0	<1	0
Magnesium	ppm	ASTM D5185m 0	2	6	4
Calcium	ppm	ASTM D5185m 50	108	125	128
Phosphorus	ppm	ASTM D5185m 330	390	483	462
Zinc	ppm	ASTM D5185m 430	507	683	615
Sulfur	ppm	ASTM D5185m 760	3719	4910	4034

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >20	<1	<1	<1
Sodium	ppm	ASTM D5185m	2	1	2
Potassium	ppm	ASTM D5185m >20	0	0	<1
Water	%	ASTM D6304 >0.05	0.005	0.001	0.006
ppm Water	ppm	ASTM D6304 >500	53	11	61

FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >5000	▲ 12420	357	578
Particles >6µm	ASTM D7647 >1300	▲ 2974	81	214
Particles >14µm	ASTM D7647 >160	▲ 173	8	29
Particles >21µm	ASTM D7647 >40	34	2	8
Particles >38µm	ASTM D7647 >10	2	0	0
Particles >71µm	ASTM D7647 >3	0	0	0
Oil Cleanliness	ISO 4406 (c) >19/17/14	▲ 21/19/15	16/14/10	16/15/12

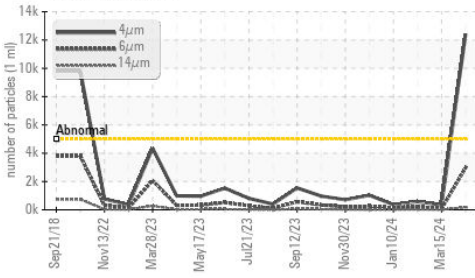
FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045 0.70	0.67	0.34	0.695

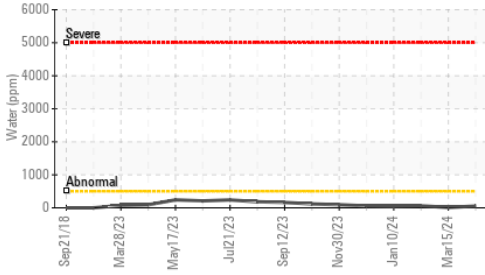


OIL ANALYSIS REPORT

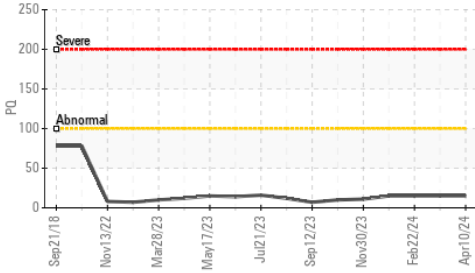
▲ Particle Trend



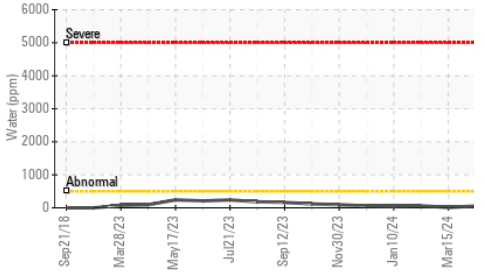
Water (KF)



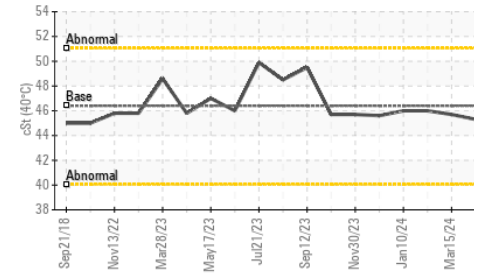
PQ



Water (KF)



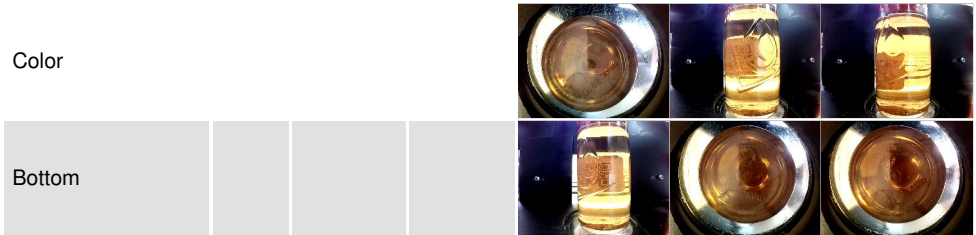
Viscosity @ 40°C



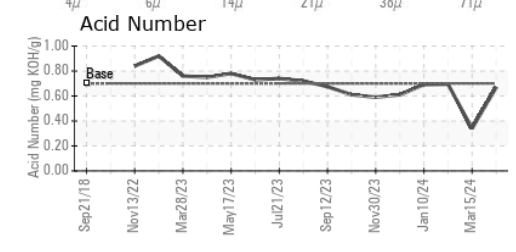
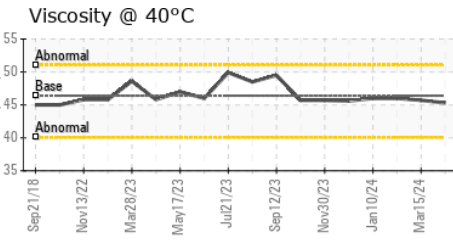
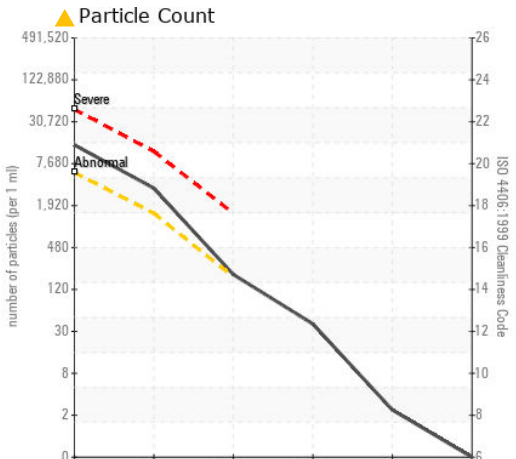
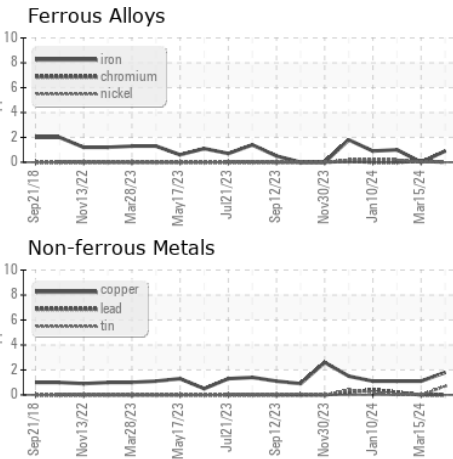
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D445	46.4	45.3	45.7	46.0

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : SBP0004052 **Received** : 16 Apr 2024
Lab Number : **06150319** **Tested** : 17 Apr 2024
Unique Number : 10980397 **Diagnosed** : 18 Apr 2024 - Don Baldrige
Test Package : PLANT

General Dynamics OTS - 701957
 4300 Industrial Ave
 Lincoln, NE
 US 68504
 Contact: MIKE BROWN
 MICHAEL.BROWN@GD-OTS.COM
 T: (402)416-9013
 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)