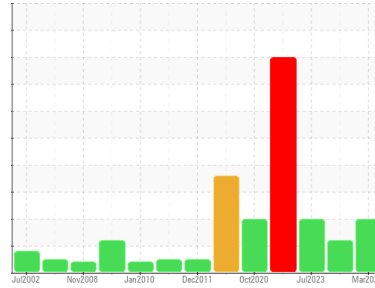




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
P3 Line
Machine Id
P3 Stretcher Head

Component
Hydraulic System
Fluid

PETRO CANADA HYDREX AW 46 (200 GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

Fluid Condition

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0921568	WC0899896	WC
Sample Date	Client Info		27 Mar 2024	07 Feb 2024	09 Jul 2023
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			ABNORMAL	ATTENTION	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.05	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>20	0	<1	5
Chromium	ppm	ASTM D5185(m)	>20	0	0	<1
Nickel	ppm	ASTM D5185(m)	>20	0	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	0	<1	<1
Lead	ppm	ASTM D5185(m)	>20	0	<1	<1
Copper	ppm	ASTM D5185(m)	>20	1	3	5
Tin	ppm	ASTM D5185(m)	>20	0	0	0
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	<1

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	0.0	1	2	<1
Barium	ppm	ASTM D5185(m)	0.0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0.1	0	<1	0
Manganese	ppm	ASTM D5185(m)	0.0	0	0	0
Magnesium	ppm	ASTM D5185(m)	0.3	4	5	3
Calcium	ppm	ASTM D5185(m)	50	63	65	48
Phosphorus	ppm	ASTM D5185(m)	315	335	328	321
Zinc	ppm	ASTM D5185(m)	411	430	417	316
Sulfur	ppm	ASTM D5185(m)	712	750	815	1449
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

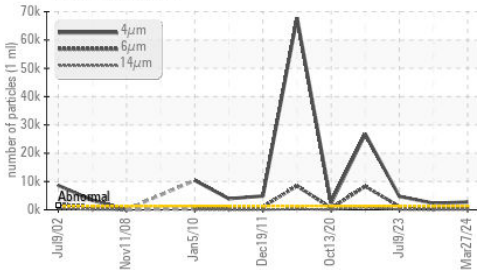
CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>15	0	<1	<1
Sodium	ppm	ASTM D5185(m)		0	0	1
Potassium	ppm	ASTM D5185(m)	>20	0	<1	2

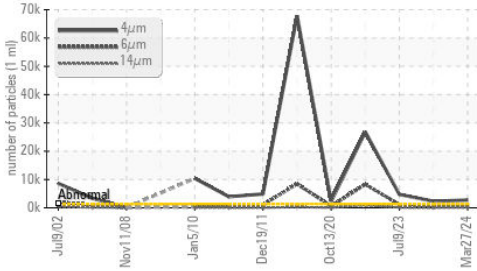
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>1300	▲ 2754	● 2315	▲ 4730
Particles >6µm	ASTM D7647	>320	● 443	● 379	▲ 1133
Particles >14µm	ASTM D7647	>40	● 51	27	▲ 101
Particles >21µm	ASTM D7647	>10	● 20	10	▲ 32
Particles >38µm	ASTM D7647	>3	3	4	1
Particles >71µm	ASTM D7647	>3	1	3	0
Oil Cleanliness	ISO 4406 (c)	>17/15/12	▲ 19/16/13	● 18/16/12	▲ 19/17/14

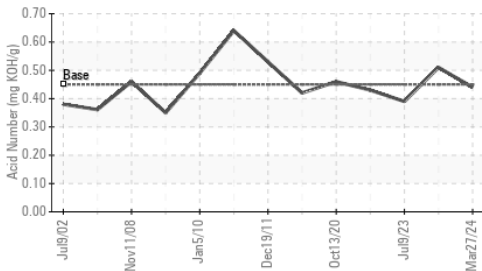
Particle Trend



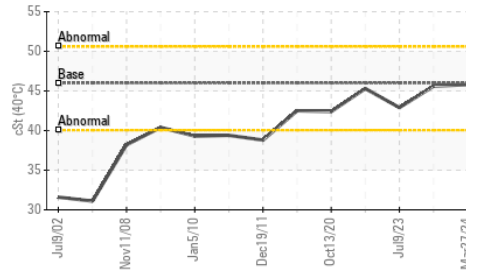
Particle Trend



Acid Number



Viscosity @ 40°C



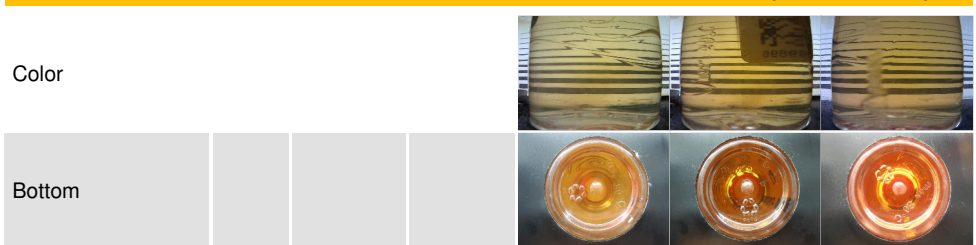
FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN) mg KOH/g	ASTM D974*	0.45	0.44	0.51	0.39
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

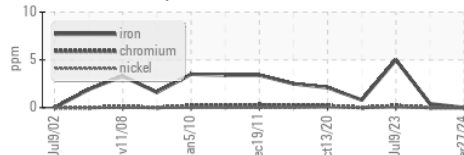
method	limit/base	current	history1	history2		
Visc @ 40°C	cSt	ASTM D7279(m)	46.0	45.8	45.6	42.9

SAMPLE IMAGES

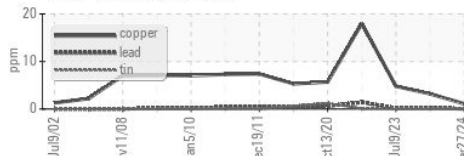


GRAPHS

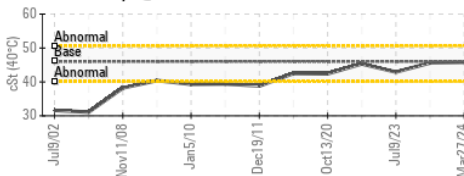
Ferrous Alloys



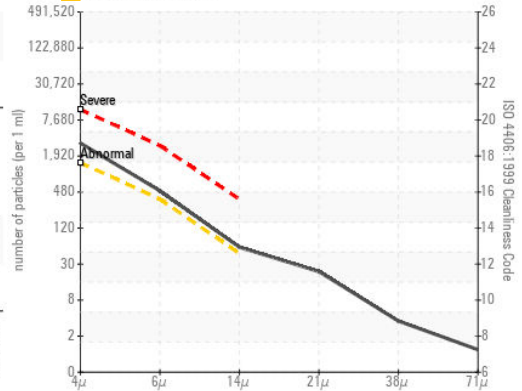
Non-ferrous Metals



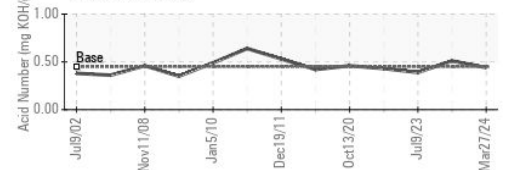
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9

Sample No. : WC0921568

Lab Number : **02625680**

Unique Number : 5750799

Test Package : IND 2

Received : 01 Apr 2024

Tested : 02 Apr 2024

Diagnosed : 02 Apr 2024 - Wes Davis

Hydro Extrusion North

5675 Kennedy Road

Mississauga, ON

CA L4Z 2H9

Contact: Harsh Murria

Harsh.murria@hydro.com

T: (819)462-0479

F: (866)462-6478

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.