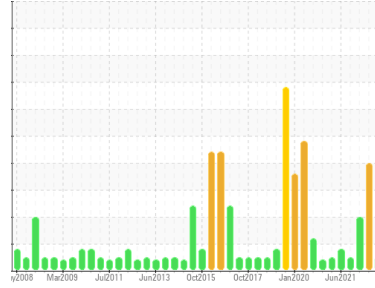


Area  
**1460**  
Machine Id  
**1460-5673-4004 - COPPER LAROX #4 HYDRAULIC POWER PACK**  
Component  
**Hydraulic System**  
Fluid  
**PETRO CANADA HYDREX AW 46 (400 LTR)**



**DIAGNOSIS**

**Recommendation**  
Resample at the next service interval to monitor.

**Wear**  
All component wear rates are normal.

**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	<b>PC0070106</b>	PC0040347	PC0040265
Sample Date	Client Info	<b>11 Sep 2023</b>	08 Feb 2023	08 Sep 2022
Machine Age	mths	Client Info	<b>0</b>	0
Oil Age	mths	Client Info	<b>0</b>	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>NORMAL</b>	SEVERE	SEVERE

**WEAR METALS**

method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >40	<b>1</b>	1
Chromium	ppm	ASTM D5185(m) >4	<b>0</b>	0
Nickel	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	2
Titanium	ppm	ASTM D5185(m)	<b>0</b>	0
Silver	ppm	ASTM D5185(m)	<b>&lt;1</b>	0
Aluminum	ppm	ASTM D5185(m) >4	<b>0</b>	0
Lead	ppm	ASTM D5185(m) >10	<b>0</b>	0
Copper	ppm	ASTM D5185(m) >60	<b>1</b>	3
Tin	ppm	ASTM D5185(m) >4	<b>0</b>	0
Antimony	ppm	ASTM D5185(m)	<b>0</b>	0
Vanadium	ppm	ASTM D5185(m)	<b>0</b>	0
Beryllium	ppm	ASTM D5185(m)	<b>0</b>	0
Cadmium	ppm	ASTM D5185(m)	<b>0</b>	0

**ADDITIVES**

method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 0	<b>&lt;1</b>	<1
Barium	ppm	ASTM D5185(m) 0	<b>&lt;1</b>	0
Molybdenum	ppm	ASTM D5185(m) 0	<b>0</b>	0
Manganese	ppm	ASTM D5185(m) 0	<b>0</b>	0
Magnesium	ppm	ASTM D5185(m) 0	<b>0</b>	0
Calcium	ppm	ASTM D5185(m) 50	<b>33</b>	45
Phosphorus	ppm	ASTM D5185(m) 330	<b>322</b>	364
Zinc	ppm	ASTM D5185(m) 430	<b>420</b>	414
Sulfur	ppm	ASTM D5185(m) 760	<b>720</b>	789
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1

**CONTAMINANTS**

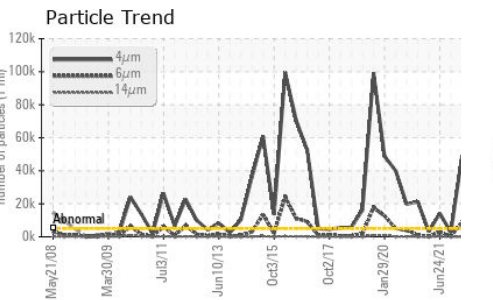
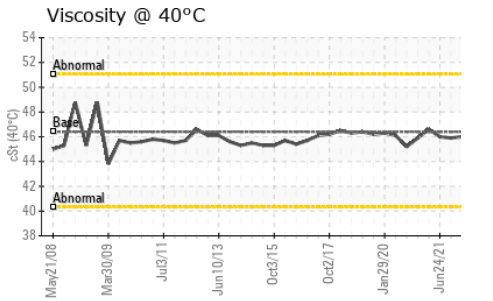
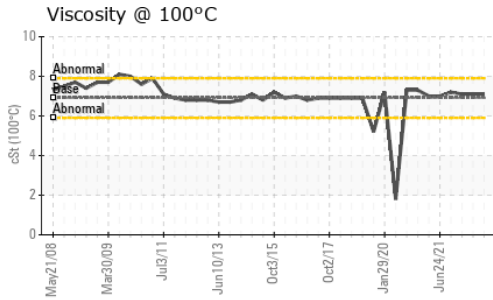
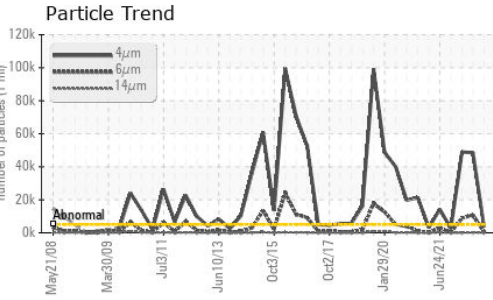
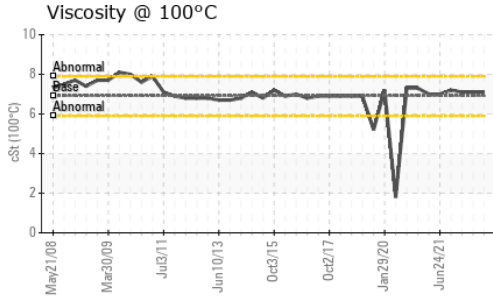
method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	0
Sodium	ppm	ASTM D5185(m)	<b>&lt;1</b>	0
Potassium	ppm	ASTM D5185(m) >20	<b>0</b>	<1

**FLUID CLEANLINESS**

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >5000	<b>3590</b>	48511	48954
Particles >6µm	ASTM D7647 >1300	<b>490</b>	10715	8753
Particles >14µm	ASTM D7647 >160	<b>13</b>	218	83
Particles >21µm	ASTM D7647 >40	<b>4</b>	23	12
Particles >38µm	ASTM D7647 >10	<b>1</b>	0	1
Particles >71µm	ASTM D7647 >3	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c) >19/17/14	<b>19/16/11</b>	23/21/15	23/20/14

**FLUID DEGRADATION**

method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D974* 0.70	<b>0.77</b>	0.40	0.48



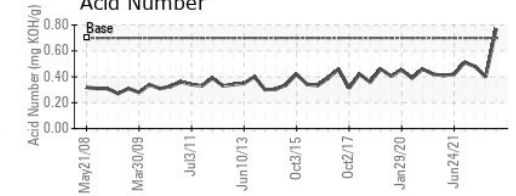
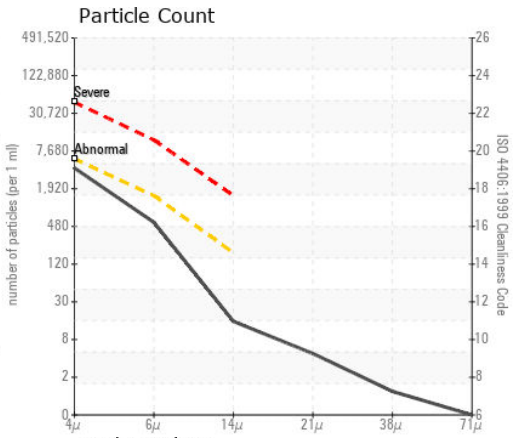
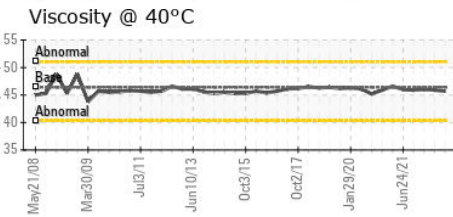
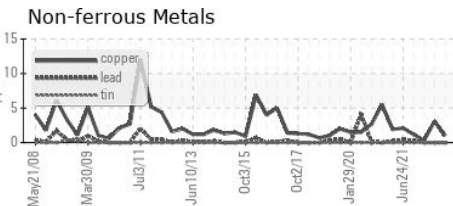
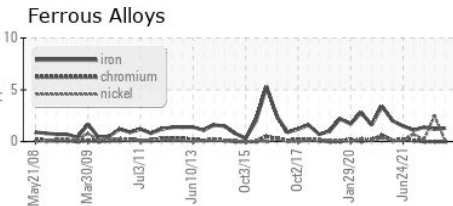
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	VLITE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	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)	46.4	45.7	45.9
Visc @ 100°C	cSt	ASTM D7279(m)	6.92	7.1	7.1
Viscosity Index (VI)	Scale	ASTM D2270*	104	114	113

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------



## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0070106  
**Lab Number** : 02590271  
**Unique Number** : 5659337  
**Test Package** : IND 2 ( Additional Tests: KV100, TAN Man, VI )

**Vale - Voisey's Bay**  
 Voisey's Bay Mine Site, P.O. Box 7001, Str. C Happy Valley  
 Goose Bay, NL  
 CA A0P 1C0  
 Contact: Robert Feltham  
 robert.feltham@vale.com

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.

T:  
F: x: