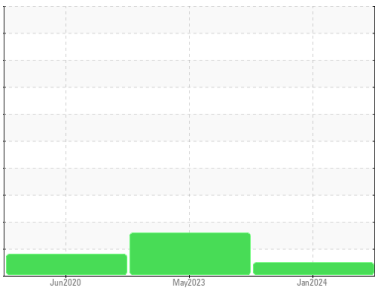
OIL DIAGNOSTICS

OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
HYUNDAI E-49 - 0000071
Component
Hydraulic System
Fluid
PETRO CANADA HYDREX MV 32 (127 GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All 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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0110082**	WC0661507	WCDB5026
Sample Date		Client Info		**19 Jan 2024**	21 May 2023	11 Jun 2020
Machine Age	hrs	Client Info		**5512**	4893	2946
Oil Age	hrs	Client Info		**619**	1100	2327
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**NORMAL**	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**19**	▲ 22	7
Chromium	ppm	ASTM D5185m	>10	**<1**	0	<1
Nickel	ppm	ASTM D5185m	>10	**<1**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**0**	0	<1
Aluminum	ppm	ASTM D5185m	>10	**1**	0	1
Lead	ppm	ASTM D5185m	>10	**3**	0	<1
Copper	ppm	ASTM D5185m	>75	**13**	18	35
Tin	ppm	ASTM D5185m	>10	**1**	0	<1
Antimony	ppm	ASTM D5185m		**---**	---	0
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	2
Barium	ppm	ASTM D5185m		**0**	0	<1
Molybdenum	ppm	ASTM D5185m		**2**	2	5
Manganese	ppm	ASTM D5185m		**2**	0	<1
Magnesium	ppm	ASTM D5185m		**11**	18	41
Calcium	ppm	ASTM D5185m		**90**	123	220
Phosphorus	ppm	ASTM D5185m		**357**	380	436
Zinc	ppm	ASTM D5185m		**462**	442	578
Sulfur	ppm	ASTM D5185m		**909**	1200	982

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**4**	2	4
Sodium	ppm	ASTM D5185m		**4**	3	<1
Potassium	ppm	ASTM D5185m	>20	**4**	0	<1

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	**1658**	▲ 10595	▲ 161669
Particles >6µm		ASTM D7647	>1300	**81**	325	▲ 90649
Particles >14µm		ASTM D7647	>160	**9**	36	134
Particles >21µm		ASTM D7647	>40	**4**	5	6
Particles >38µm		ASTM D7647	>10	**0**	0	0
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	**18/14/10**	▲ 21/16/12	▲ 25/24/14

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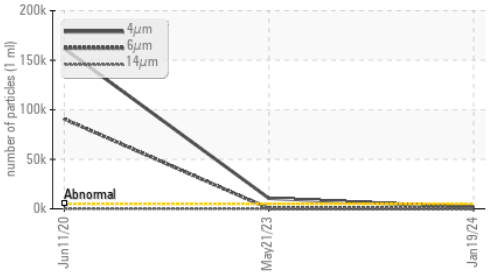
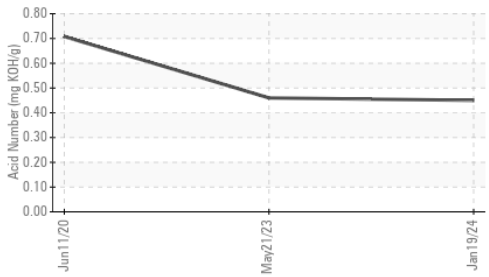
OIL DIAGNOSTICS

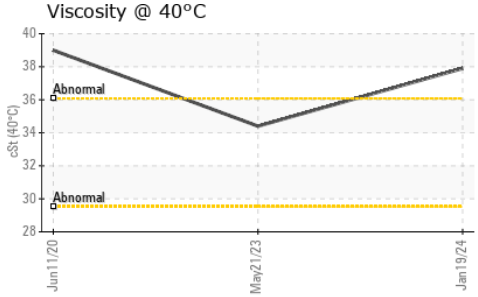
Particle Trend



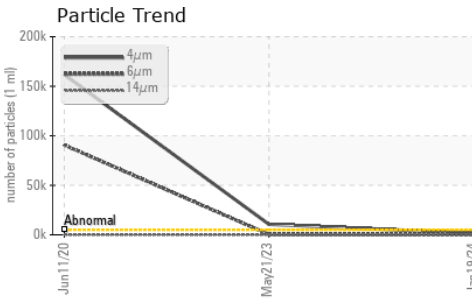
Acid Number



Viscosity @ 40°C



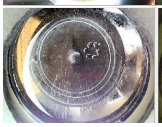
Particle Trend



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.45**	0.46	0.708

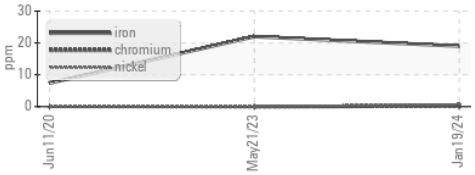
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		**37.9**	34.4	39.0

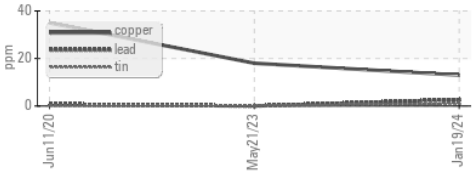
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

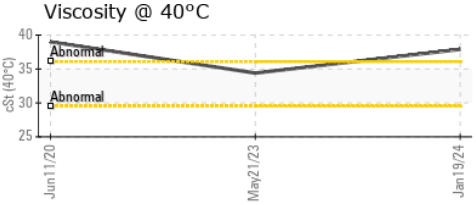
Ferrous Alloys



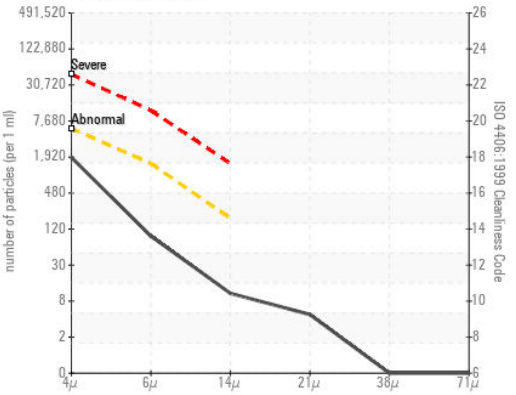
Non-ferrous Metals



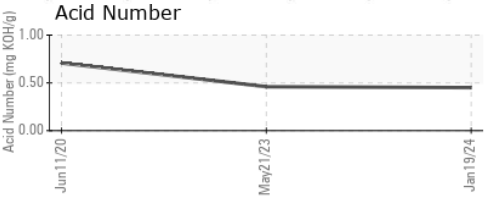
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0110082
Lab Number : 06079073
Unique Number : 10861164
Test Package : MOB 2

Received : 02 Feb 2024
Tested : 05 Feb 2024
Diagnosed : 06 Feb 2024 - Jonathan Hester

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)

LORUSSO BRISTOL STONE CORP
611 PLEASANT ST
WEYMOUTH, MA
US 02189
Contact: PAUL MOGAN
lbstone611@comcast.net
T: (781)331-5379
F: (781)337-8274