IND II

Hilcorp Alaska, LLC

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	NORMAL

Area
IRIG [7008212]
Machine Id
IRIG-CWU-HPU-2101 IRIG-CWU-HPU-2101 HPU CATWALK
Component
Hydraulic System
Fluid
MOBIL DTE 10 EXCEL 32 (120 GAL)

RECOMMENDATION

Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.

WEAR

All component wear rates are normal.

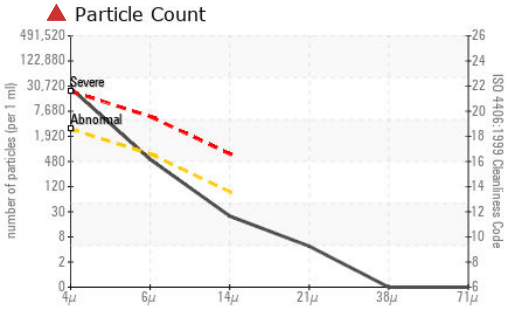
CONTAMINATION

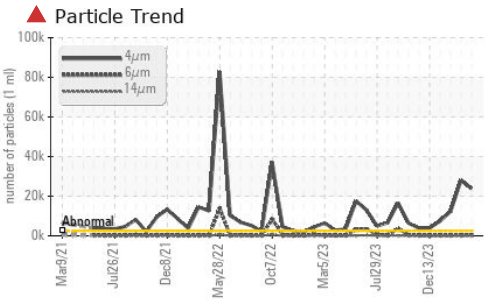
There is a high amount of silt (particulates < 14 microns in size) present in the oil. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code.

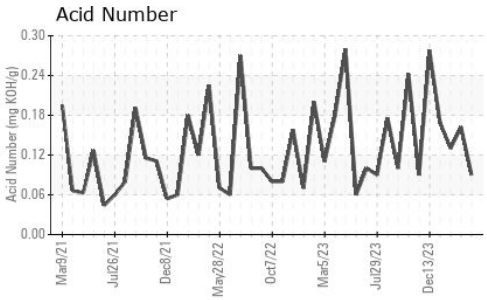
FLUID CONDITION

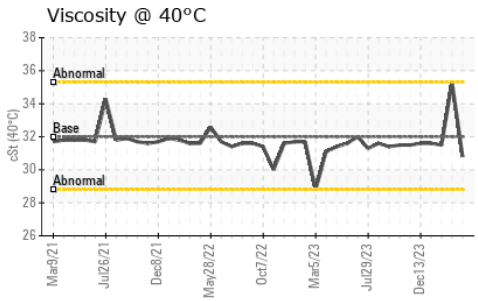
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

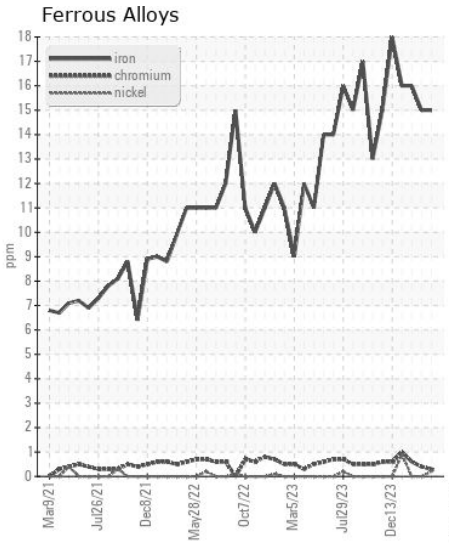
Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		HLC0003070	HLC0003071	HLC0003076
Sample Date		Client Info		27 Apr 2024	09 Mar 2024	06 Feb 2024
Machine Age	hrs	Client Info		8941	8757	8638
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Filtered	N/A	N/A
Filter Changed		Client Info		Not Changd	N/A	N/A
Sample Status				SEVERE	SEVERE	ABNORMAL
Iron	ppm	ASTM D5185m	>20	15	15	16
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>20	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	<1	<1
Lead	ppm	ASTM D5185m	>20	<1	0	0
Copper	ppm	ASTM D5185m	>20	0	1	2
Tin	ppm	ASTM D5185m	>20	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>15	2	2	2
Potassium	ppm	ASTM D5185m	>20	11	10	8
Water		WC Method	>0.05	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>2500	▲ 23833	▲ 28093	▲ 12288
Particles >6µm		ASTM D7647	>640	473	296	218
Particles >14µm		ASTM D7647	>80	21	3	6
Particles >21µm		ASTM D7647	>20	4	1	2
Particles >38µm		ASTM D7647	>4	0	0	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>18/16/13	▲ 22/16/12	▲ 22/15/9	▲ 21/15/10
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
Sodium	ppm	ASTM D5185m		16	16	17
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	<1
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		1	0	0
Calcium	ppm	ASTM D5185m	120	98	98	86
Phosphorus	ppm	ASTM D5185m	475	449	460	418
Zinc	ppm	ASTM D5185m		51	56	41
Sulfur	ppm	ASTM D5185m	1275	1417	1611	1152
Acid Number (AN)	mg KOH/g	ASTM D8045		0.09	0.162	0.13
Visc @ 40°C	cSt	ASTM D445	32	30.8	35.3	31.5

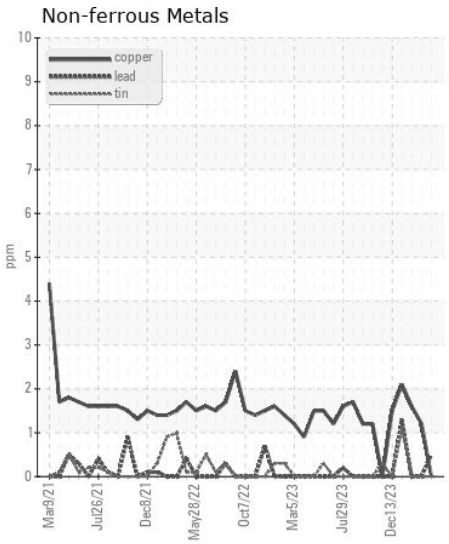


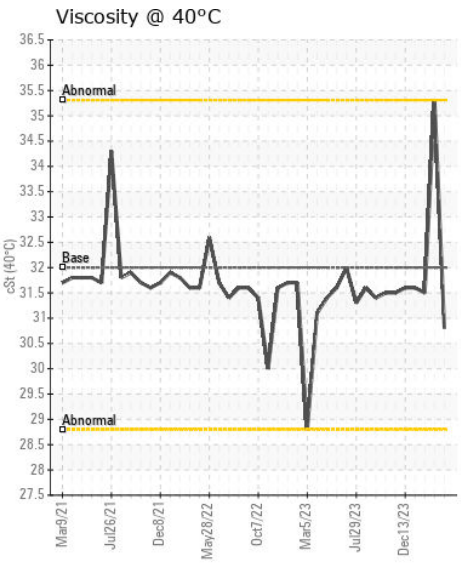


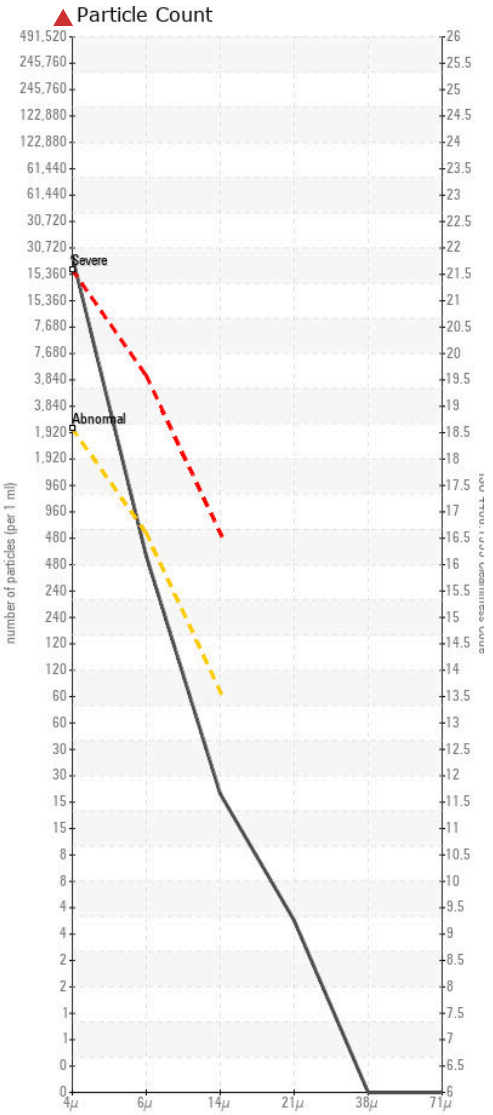


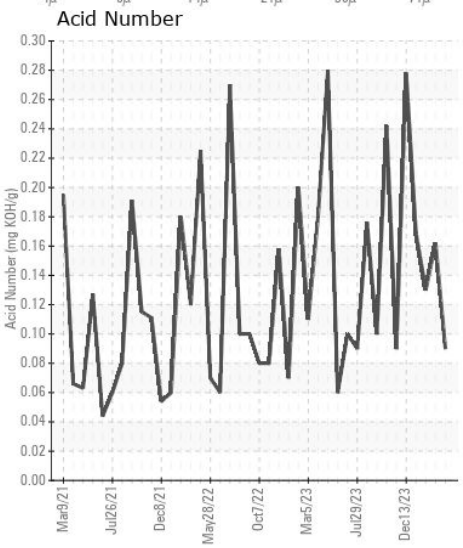












Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : HLC0003070
Lab Number : 06176085
Unique Number : 11022138
Test Package : IND 2

Received : 10 May 2024
Tested : 14 May 2024
Diagnosed : 14 May 2024 - Wes Davis

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)

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