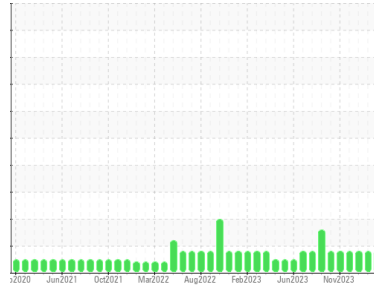




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
IRIG [6730516]
 Machine Id
IRIG-PIP-HPU-2001 IRIG-PIP-HPU-2001 HPU PIPE SHED MODULE
 Component
Hydraulic System
 Fluid
MOBIL DTE 10 EXCEL 32 (140 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	HLC0003055	HLC0003035	HLC0003067
Sample Date	Client Info	09 Mar 2024	06 Feb 2024	10 Jan 2024
Machine Age	hrs	4434	4349	4342
Oil Age	hrs	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	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185m	>20	1	5	4
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>20	<1	0	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	1	2
Lead	ppm	ASTM D5185m	>20	0	0	1
Copper	ppm	ASTM D5185m	>20	3	3	4
Tin	ppm	ASTM D5185m	>20	0	<1	1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	<1

ADDITIVES

method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	1	1
Molybdenum	ppm	ASTM D5185m		0	0	1
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m		<1	0	<1
Calcium	ppm	ASTM D5185m	120	92	79	90
Phosphorus	ppm	ASTM D5185m	475	456	414	462
Zinc	ppm	ASTM D5185m		33	21	28
Sulfur	ppm	ASTM D5185m	1275	1650	1186	1469

CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>15	<1	4	<1
Sodium	ppm	ASTM D5185m		4	6	0
Potassium	ppm	ASTM D5185m	>20	2	2	2

FLUID CLEANLINESS

method	limit/base	current	history1	history2	
Particles >4µm	ASTM D7647	>2500	▲ 16941	● 4868	▲ 6034
Particles >6µm	ASTM D7647	>640	600	204	206
Particles >14µm	ASTM D7647	>80	11	11	10
Particles >21µm	ASTM D7647	>20	4	3	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	▲ 21/16/11	● 19/15/11	▲ 20/15/10

FLUID DEGRADATION

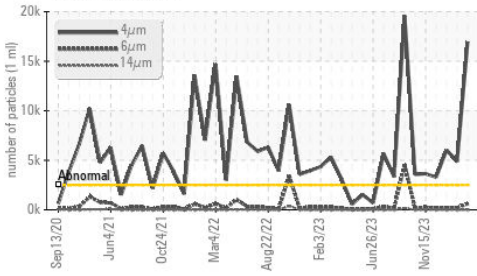
method	limit/base	current	history1	history2		
Acid Number (AN)	mg KOH/g	ASTM D8045		0.174	0.08	---



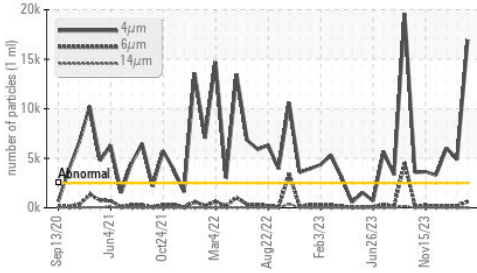
Hilcorp Alaska, LLC

OIL ANALYSIS REPORT

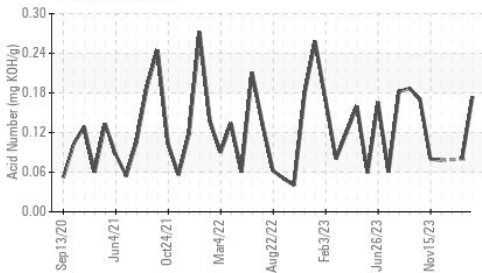
▲ Particle Trend



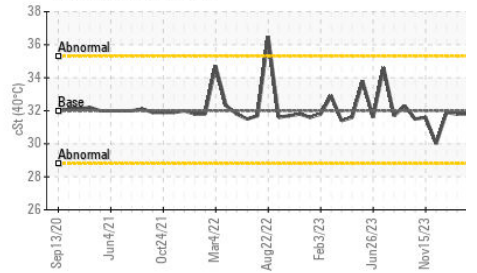
▲ Particle Trend



Acid Number



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 32	31.8	31.8	31.9

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color

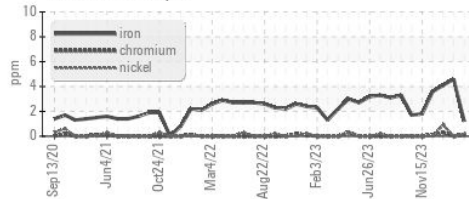


Bottom

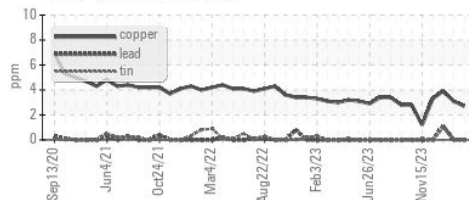


GRAPHS

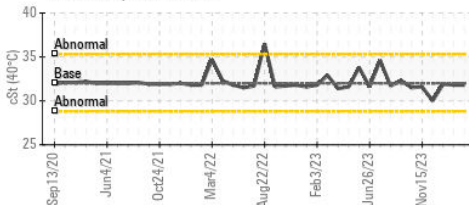
Ferrous Alloys



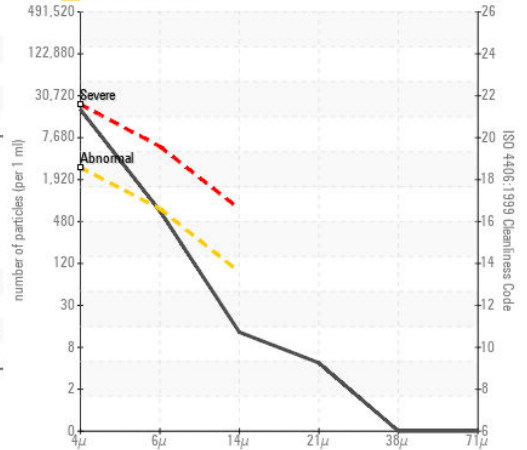
Non-ferrous Metals



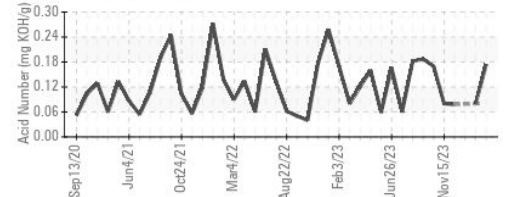
Viscosity @ 40°C



▲ Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : HLC0003055
 Lab Number : 06121562
 Unique Number : 10930395
 Test Package : IND 2

HILCORP EXPLORATION ALASKA - MILNE POINT
 1000 MILNE POINT RD
 PRUDOE BAY, AK
 US 99734
 Contact: Evan Reilly
 evan.reilly@hilcorp.com
 T: (907)670-3231
 F: x:

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)