



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	NORMAL

Area
IRIG [7186878]
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)

RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		HLC0003355	HLC0003391	HLC0003059
Sample Date		Client Info		12 Jun 2024	27 May 2024	27 Apr 2024
Machine Age	hrs	Client Info		4581	4558	4523
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Filtered	Filtered
Filter Changed		Client Info		N/A	Not Changd	Changed
Sample Status				ATTENTION	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	4	2	1
Chromium	ppm	ASTM D5185m	>20	<1	0	0
Nickel	ppm	ASTM D5185m	>20	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		<1	0	0
Aluminum	ppm	ASTM D5185m	>20	3	0	<1
Lead	ppm	ASTM D5185m	>20	<1	0	0
Copper	ppm	ASTM D5185m	>20	4	2	<1
Tin	ppm	ASTM D5185m	>20	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

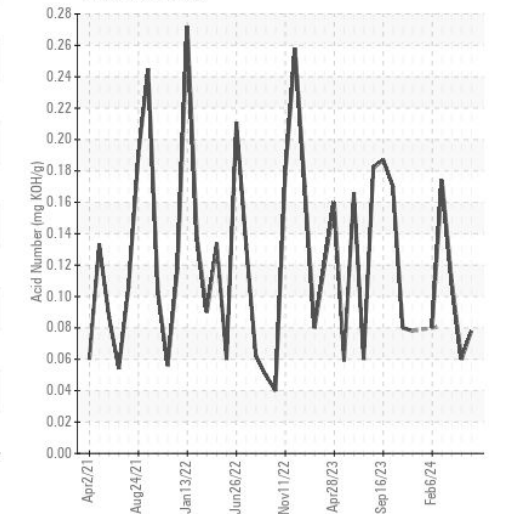
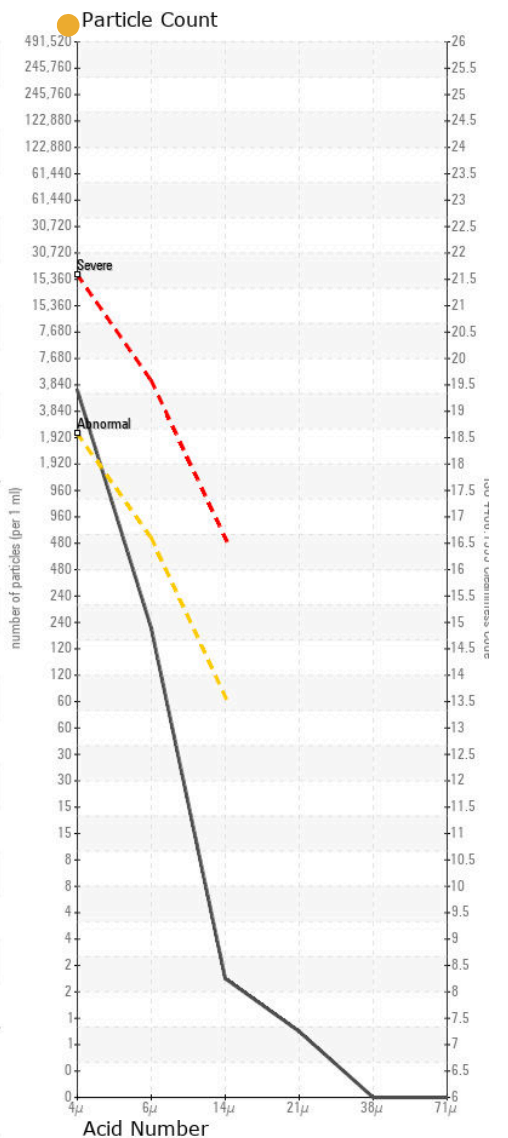
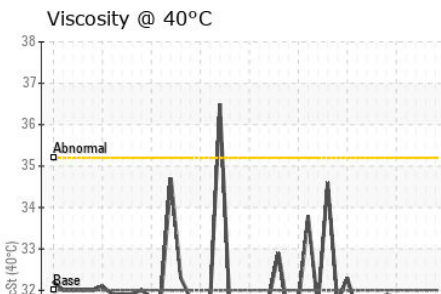
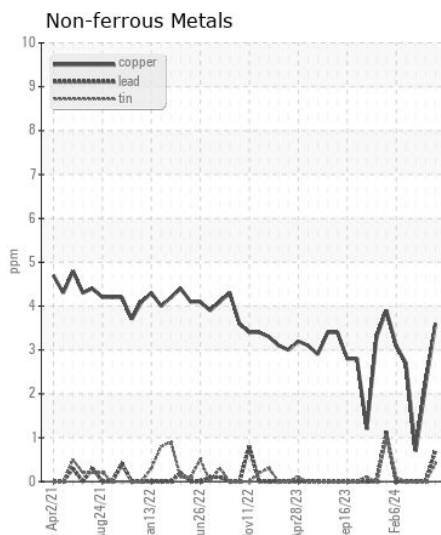
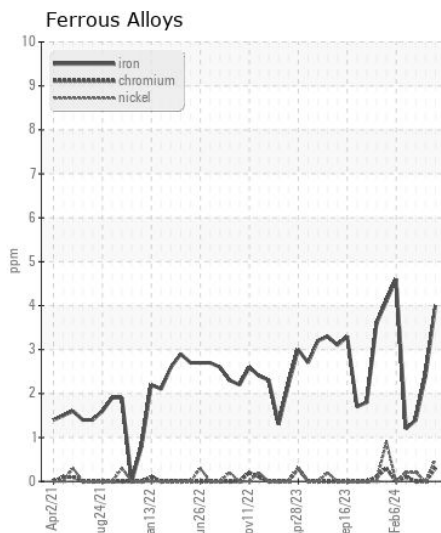
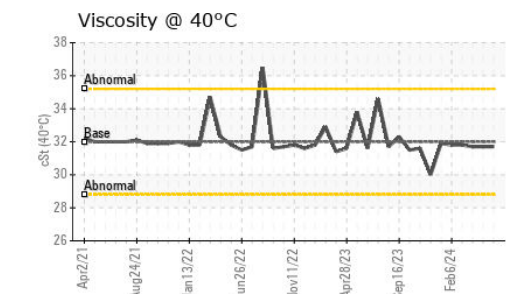
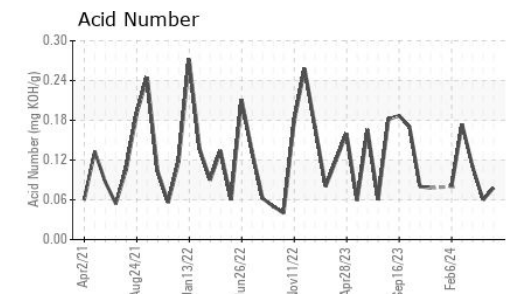
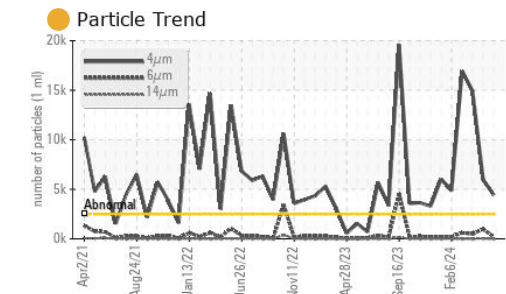
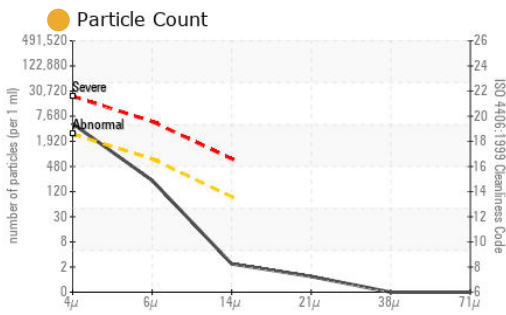
There is a light amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>15	1	<1	<1
Potassium	ppm	ASTM D5185m	>20	3	<1	3
Water		WC Method	>0.05	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>2500	4424	▲ 5987	▲ 14918
Particles >6µm		ASTM D7647	>640	196	● 994	506
Particles >14µm		ASTM D7647	>80	2	41	11
Particles >21µm		ASTM D7647	>20	1	9	5
Particles >38µm		ASTM D7647	>4	0	0	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>18/16/13	19/15/9	▲ 20/17/13	▲ 21/16/11
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

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		2	4	4
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		1	0	0
Molybdenum	ppm	ASTM D5185m		<1	0	0
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m		1	<1	<1
Calcium	ppm	ASTM D5185m	120	90	89	91
Phosphorus	ppm	ASTM D5185m	475	447	407	428
Zinc	ppm	ASTM D5185m		36	31	30
Sulfur	ppm	ASTM D5185m	1275	1296	1571	1468
Acid Number (AN)	mg KOH/g	ASTM D8045		0.078	0.06	0.11
Visc @ 40°C	cSt	ASTM D445	32	31.7	31.7	31.7



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : HLC0003355
Lab Number : 06218753
Unique Number : 11096950
Test Package : IND 2

Received : 24 Jun 2024
Tested : 25 Jun 2024
Diagnosed : 25 Jun 2024 - Wes Davis

HILCORP EXPLORATION ALASKA - MILNE POINT
 1000 MILNE POINT RD
 PRUDOE BAY, AK
 US 99734

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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)