



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
IRIG [6179950]
 Machine Id
IRIG-BLR-HPU-0901 IRIG-BLR-HPU-0901 HPU-GENERATOR MODULE
 Component
Pump
 Fluid
MOBIL DTE 10 EXCEL 32 (140 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		HLC0002813	HLC0002806	HLC0002825
Sample Date		Client Info		20 Oct 2023	19 Sep 2023	08 Sep 2023
Machine Age	hrs	Client Info		797	786	786
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	Filtered
Filter Changed		Client Info		N/A	N/A	Not Changd
Sample Status				NORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	0	1	2
Chromium	ppm	ASTM D5185m	>5	0	0	0
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m	>3	0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>7	0	0	<1
Lead	ppm	ASTM D5185m	>12	0	0	0
Copper	ppm	ASTM D5185m	>30	8	8	8
Tin	ppm	ASTM D5185m	>9	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

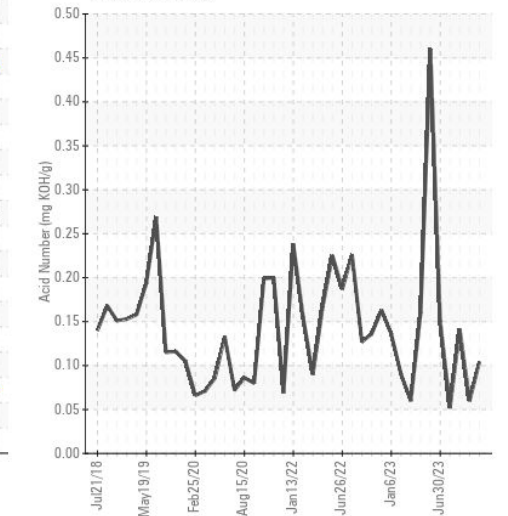
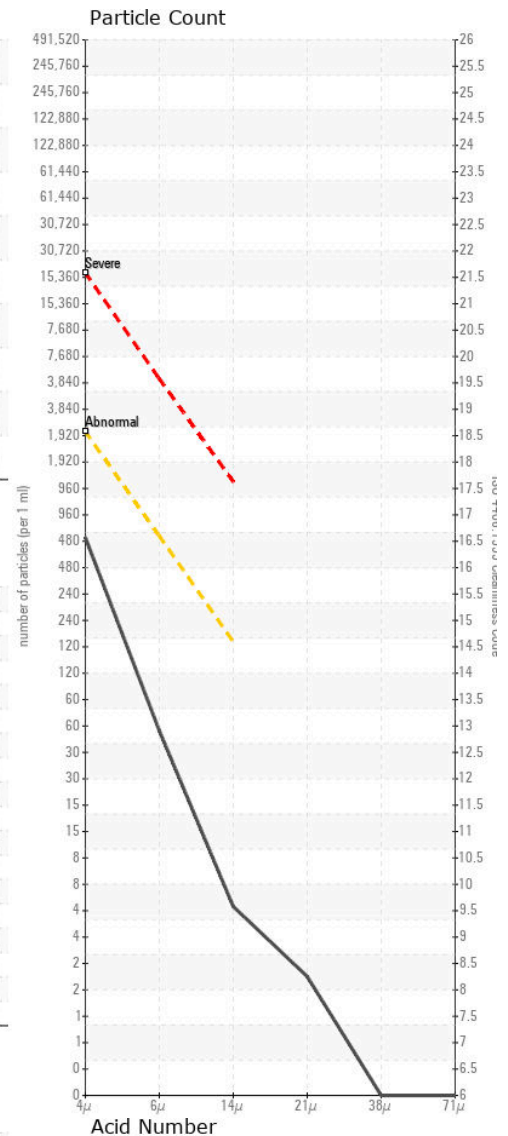
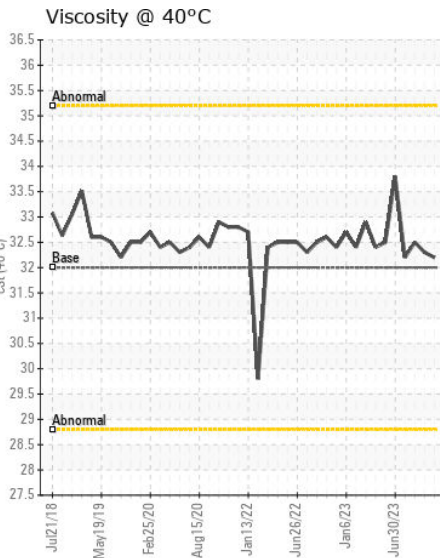
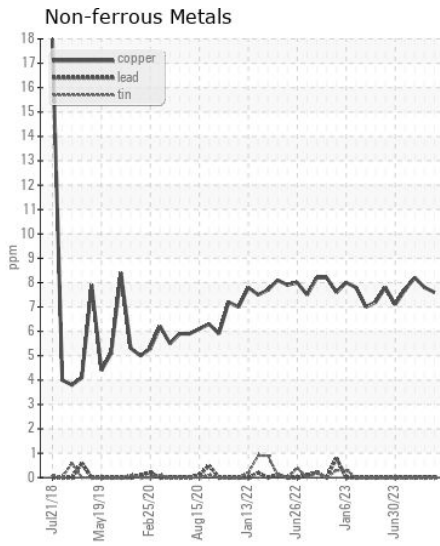
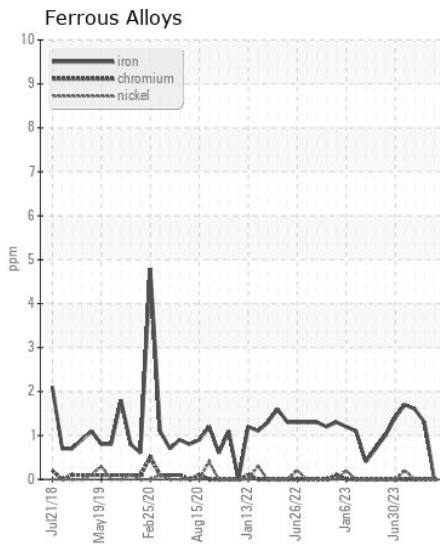
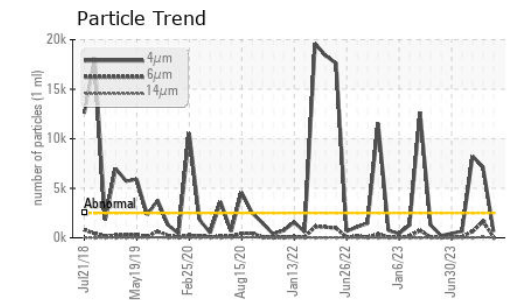
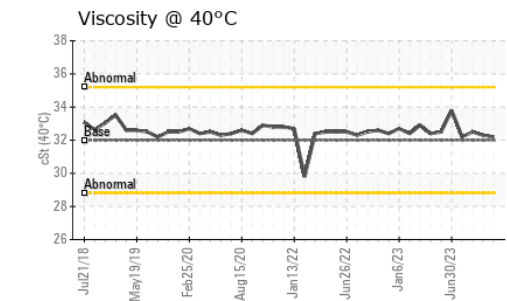
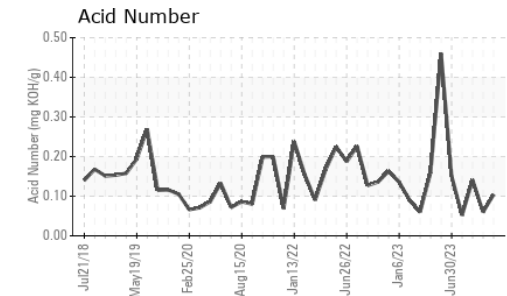
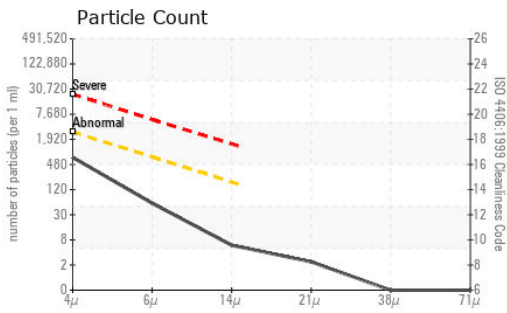
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>60	<1	<1	<1
Potassium	ppm	ASTM D5185m	>20	2	2	<1
Water		WC Method	>.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>2500	627	▲ 7105	▲ 8236
Particles >6µm		ASTM D7647	>640	50	▲ 1653	▲ 644
Particles >14µm		ASTM D7647	>160	5	70	11
Particles >21µm		ASTM D7647	>40	2	13	2
Particles >38µm		ASTM D7647	>10	0	0	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>18/16/14	16/13/10	▲ 20/18/13	▲ 20/17/11
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	>.1	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		4	2	3
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		0	0	0
Calcium	ppm	ASTM D5185m	120	97	102	113
Phosphorus	ppm	ASTM D5185m	475	421	447	467
Zinc	ppm	ASTM D5185m		62	56	33
Sulfur	ppm	ASTM D5185m	1275	1361	1485	1798
Acid Number (AN)	mg KOH/g	ASTM D8045		0.104	0.06	0.141
Visc @ 40°C	cSt	ASTM D445	32	32.2	32.3	32.5



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : HLC0002813 **Received** : 30 Oct 2023
Lab Number : 05993620 **Diagnosed** : 01 Nov 2023
Unique Number : 10716282 **Diagnostician** : Don Baldrige
Test Package : IND 2 (Additional Tests: PrtCount)

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)