



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
IRIG [5916854]
Machine Id
IRIG-RF-DW-2301 IRIG-RF-DW-2301 DRAW WORKS GEAR BOX
Component
Gear Drive
Fluid
CHEVRON MEROPA 150 (40 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		HLC0002744	HLC0002715	HLC0002444
Sample Date		Client Info		27 Jul 2023	29 May 2023	12 Apr 2023
Machine Age	mths	Client Info		0	0	0
Oil Age	mths	Client Info		0	0	0
Filter Age	mths	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>150	6	5	4
Chromium	ppm	ASTM D5185m	>10	0	0	0
Nickel	ppm	ASTM D5185m	>10	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	0	0	0
Lead	ppm	ASTM D5185m	>100	0	0	0
Copper	ppm	ASTM D5185m	>50	<1	<1	0
Tin	ppm	ASTM D5185m	>10	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

CONTAMINATION

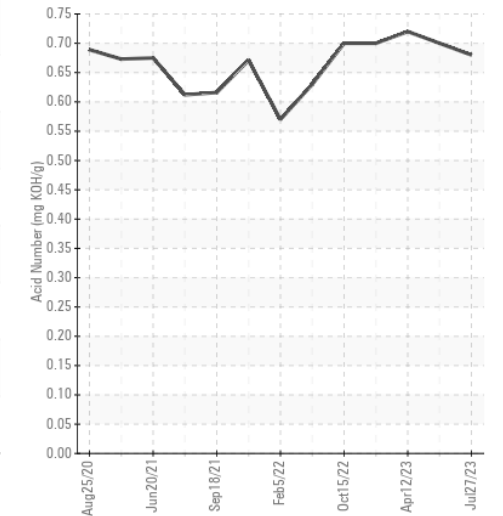
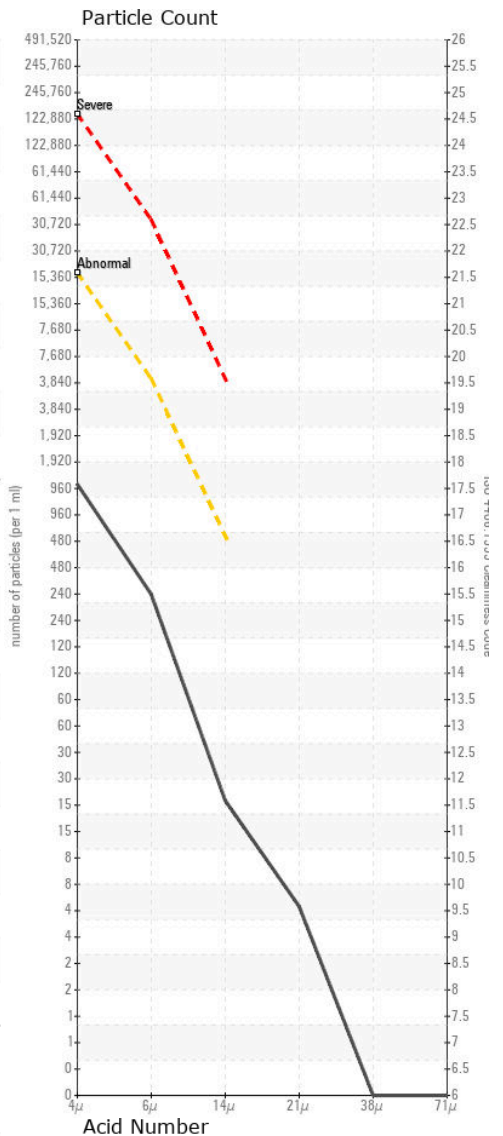
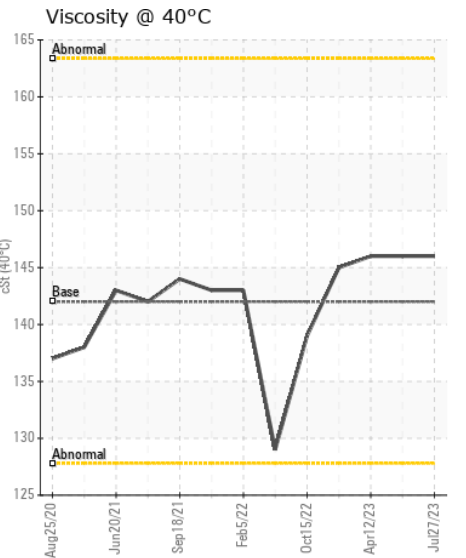
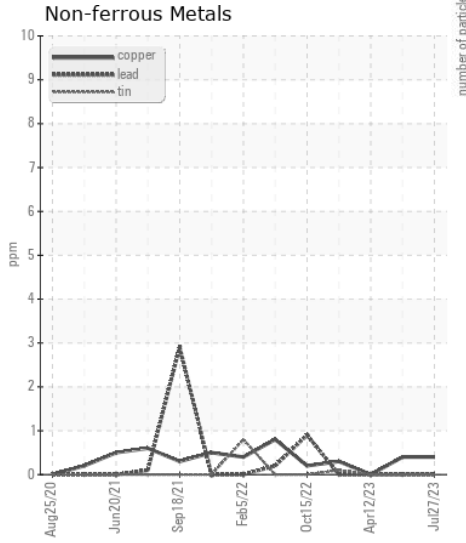
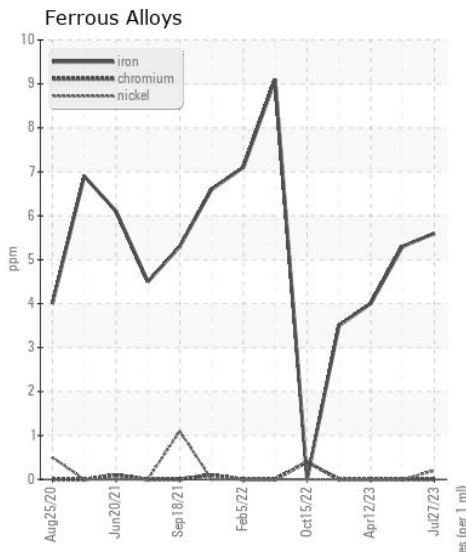
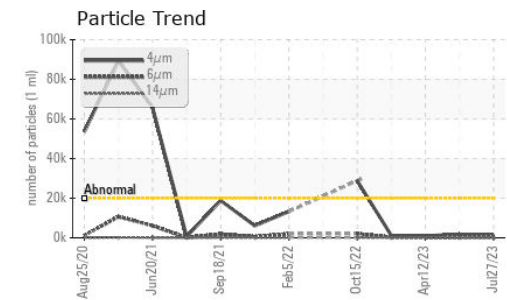
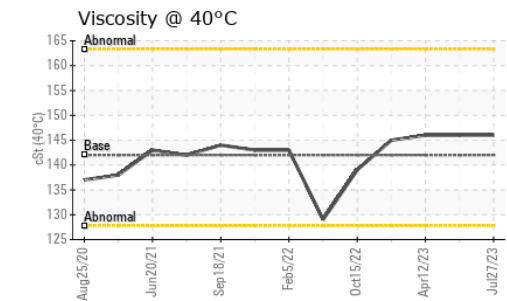
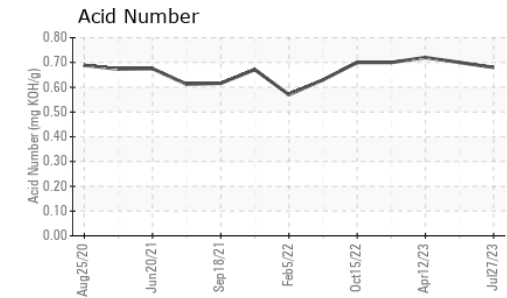
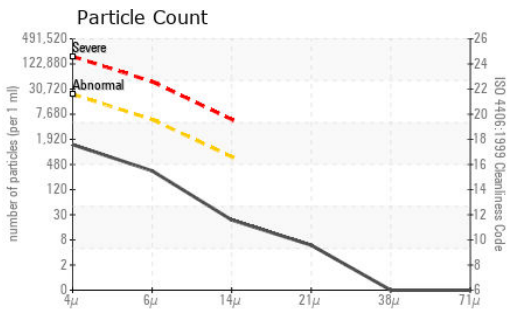
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185m	>50	2	3	2
Potassium	ppm	ASTM D5185m	>20	<1	0	<1
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	1258	1792	998
Particles >6µm		ASTM D7647	>5000	297	260	211
Particles >14µm		ASTM D7647	>640	20	12	11
Particles >21µm		ASTM D7647	>160	5	3	3
Particles >38µm		ASTM D7647	>40	0	0	0
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	17/15/11	18/15/11	17/15/11
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	>0.1	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		0	1	<1
Boron	ppm	ASTM D5185m		16	22	22
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m		0	<1	0
Calcium	ppm	ASTM D5185m		14	19	18
Phosphorus	ppm	ASTM D5185m		271	289	269
Zinc	ppm	ASTM D5185m		0	0	<1
Sulfur	ppm	ASTM D5185m		6232	7119	5477
Acid Number (AN)	mg KOH/g	ASTM D8045		0.68	0.70	0.72
Visc @ 40°C	cSt	ASTM D445	142	146	146	146



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : HLC0002744 **Received** : 03 Aug 2023
Lab Number : 05915327 **Diagnosed** : 04 Aug 2023
Unique Number : 10587241 **Diagnostician** : Wes Davis
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)