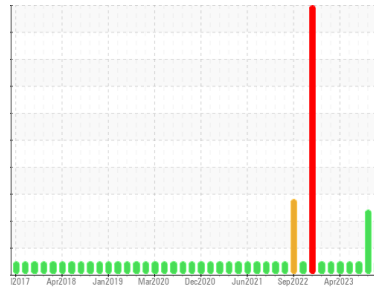




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
CRANE - T LANGE
Machine Id
T LANGE MAIN ENGINE
Component
Main Engine
Fluid
CHEVRON DELO 400 LE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC0892614	WC0785584	WC0785579
Sample Date	Client Info	24 Jan 2024	26 Oct 2023	26 Sep 2023
Machine Age	hrs	35127	500	33512
Oil Age	hrs	421	500	500
Oil Changed	Client Info	Not Chngd	Changed	Changed
Sample Status		NORMAL	SEVERE	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.1	NEG	NEG	NEG
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >75	1	7	13
Chromium	ppm ASTM D5185m >8	0	0	<1
Nickel	ppm ASTM D5185m >2	<1	0	0
Titanium	ppm ASTM D5185m >3	<1	<1	<1
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >15	4	4	2
Lead	ppm ASTM D5185m >18	2	5	7
Copper	ppm ASTM D5185m >80	<1	4	12
Tin	ppm ASTM D5185m >14	<1	2	4
Vanadium	ppm ASTM D5185m	<1	0	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m	376	233	134
Barium	ppm ASTM D5185m	0	0	3
Molybdenum	ppm ASTM D5185m	117	100	86
Manganese	ppm ASTM D5185m	<1	<1	<1
Magnesium	ppm ASTM D5185m	650	580	851
Calcium	ppm ASTM D5185m	1455	1322	1365
Phosphorus	ppm ASTM D5185m 1200	681	651	997
Zinc	ppm ASTM D5185m 1300	830	765	1233
Sulfur	ppm ASTM D5185m 3200	2458	2201	3183

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >20	5	9	18
Sodium	ppm ASTM D5185m >75	1	24	3
Potassium	ppm ASTM D5185m >20	2	0	0
Fuel	% ASTM D3524 >4.0	1.2	18.9	<1.0

INFRA-RED

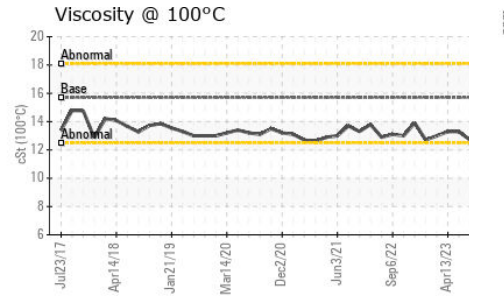
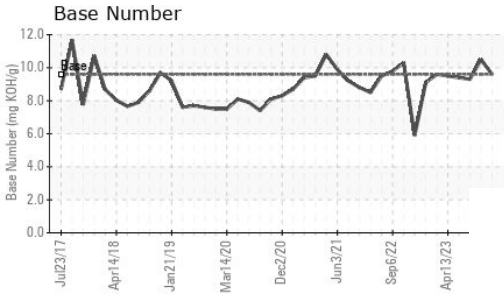
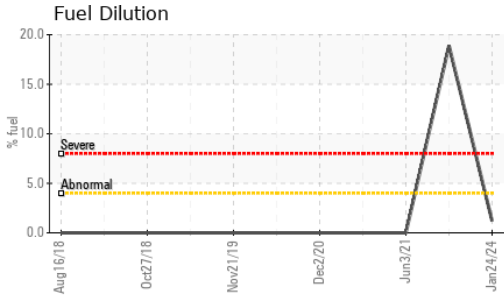
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844	0.1	0.3	0.6
Nitration	Abs/cm *ASTM D7624 >20	5.6	7.1	7.2
Sulfation	Abs/.1mm *ASTM D7415 >30	22.4	20.0	21.1

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	15.9	14.1	15.6
Base Number (BN)	mg KOH/g ASTM D2896 9.6	9.6	10.5	9.3



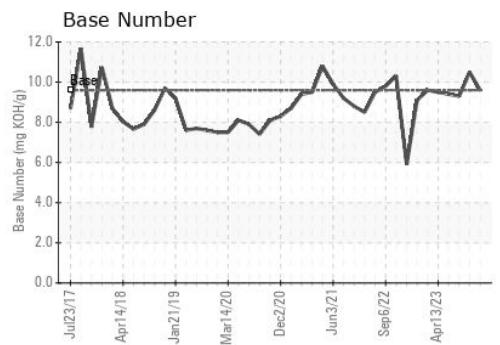
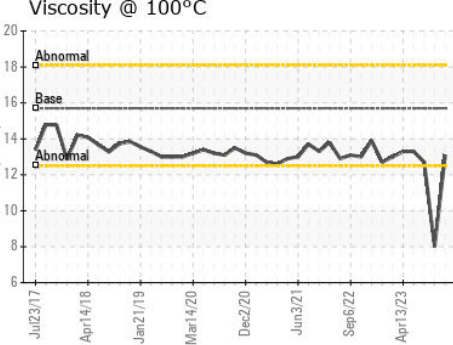
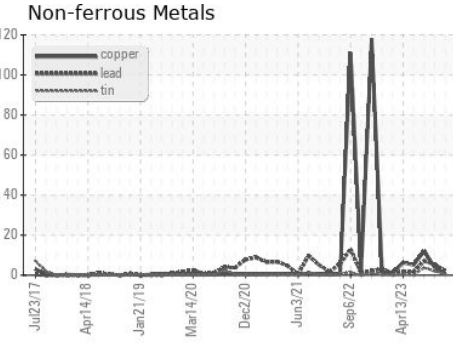
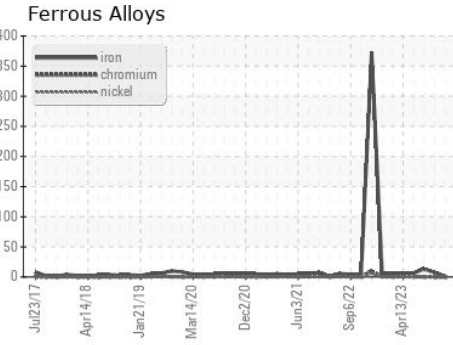
OIL ANALYSIS REPORT



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	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.7	13.1	▲ 8	12.7

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0892614 **Received** : 30 Jan 2024
Lab Number : 06074474 **Diagnosed** : 02 Feb 2024
Unique Number : 10856565 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: PercentFuel)

ASSOCIATED TERMINALS - CRANE
 CONVENT, LA
 US 70723
 Contact: GREG JOSEY
 gjosey@associatedterminals.com
 T:
 F: (225)562-3515

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)