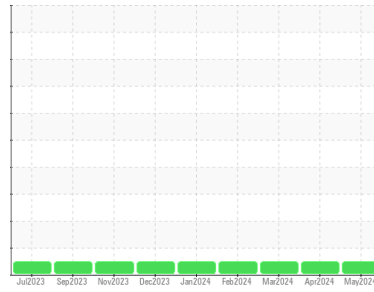




# OIL ANALYSIS REPORT

Area  
**IRIG [7107026]**  
 Machine Id  
**IRIG-LDR-VECH-0002 IRIG-LDR-VECH-0002**  
 Component  
**Diesel Engine**  
 Fluid  
**CHEVRON DELO 400 LE 15W40 (--- GAL)**

### Sample Rating Trend



## DIAGNOSIS

**Recommendation**  
 Resample at the next service interval to monitor.

**Wear**  
 All component wear rates are normal.

**Contamination**  
 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			<b>HLC0003036</b>	HLC0003058	HLC0003027
Sample Date	Client Info			<b>20 May 2024</b>	03 Apr 2024	10 Mar 2024
Machine Age	hrs Client Info			<b>7967</b>	6942	6440
Oil Age	hrs Client Info			<b>500</b>	500	500
Oil Changed	Client Info			<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>3.0		<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method	>0.1		<b>NEG</b>	NEG	NEG
Glycol	WC Method			<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	<b>3</b>	10	10
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>&lt;1</b>	4	4
Lead	ppm	ASTM D5185m	>40	<b>0</b>	2	0
Copper	ppm	ASTM D5185m	>30	<b>0</b>	<1	<1
Tin	ppm	ASTM D5185m	>15	<b>0</b>	1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>83</b>	79	81
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>2</b>	5	5
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>772</b>	805	752
Calcium	ppm	ASTM D5185m		<b>1463</b>	1447	1325
Phosphorus	ppm	ASTM D5185m	1200	<b>766</b>	790	876
Zinc	ppm	ASTM D5185m	1300	<b>885</b>	941	913
Sulfur	ppm	ASTM D5185m	3200	<b>3740</b>	3742	3431

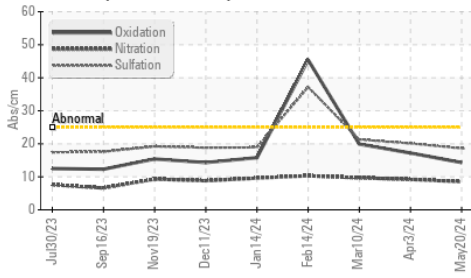
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	<b>4</b>	4	4
Sodium	ppm	ASTM D5185m		<b>1</b>	1	2
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	5	4

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.5</b>	9.2	9.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.6</b>	20.1	21.3

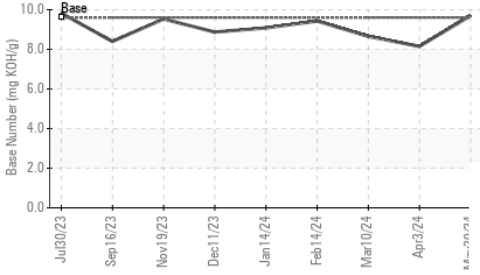
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.3</b>	17.2	19.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	<b>9.70</b>	8.15	8.65

# OIL ANALYSIS REPORT

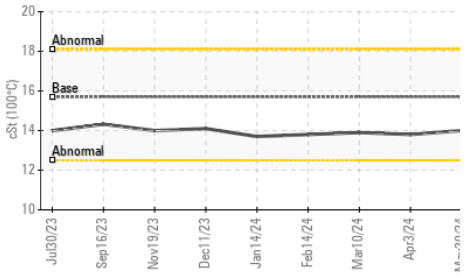
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

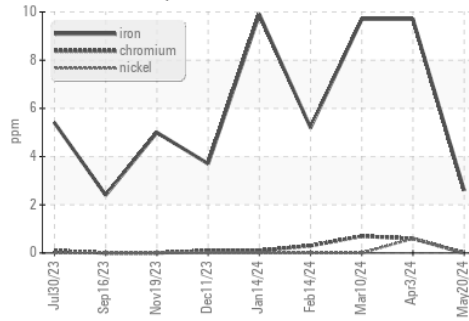


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

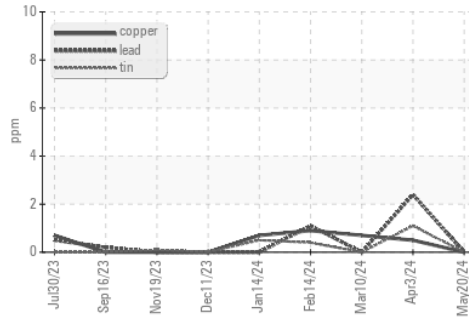
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.7	<b>14.0</b>	13.8	13.9

## GRAPHS

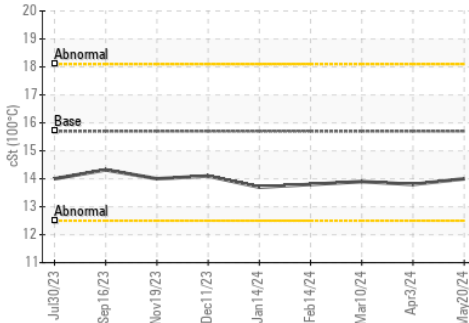
Ferrous Alloys



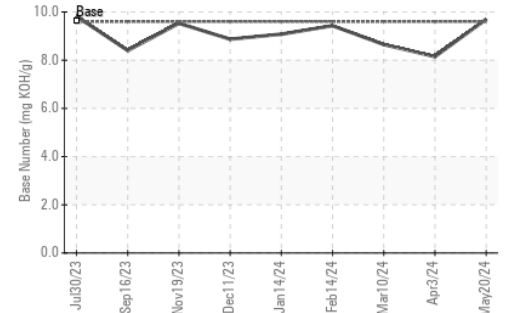
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : HLC0003036  
**Lab Number** : 06202143  
**Unique Number** : 11069604  
**Test Package** : IND 2

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

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)

Contact: Evan Reilly

evan.reilly@hilcorp.com

T: (907)670-3231

F: x: