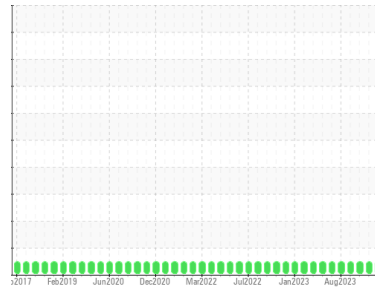




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**E 0101A E 0101A**

Component  
**Diesel Engine**

Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

### 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>HLC0002216</b>	HLC0002267	HLC0001475
Sample Date	Client Info			<b>02 Jan 2024</b>	04 Nov 2023	03 Oct 2023
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed	Client Info			<b>N/A</b>	N/A	N/A
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	>0.2		<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	>200	<b>4</b>	3	6
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	0	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>2</b>	<1	0
Lead	ppm	ASTM D5185m	>30	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185m	>30	<b>&lt;1</b>	<1	1
Tin	ppm	ASTM D5185m	>15	<b>2</b>	<1	2
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	<b>169</b>	169	161
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>117</b>	115	120
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m	450	<b>1085</b>	1098	1027
Calcium	ppm	ASTM D5185m	3000	<b>393</b>	388	395
Phosphorus	ppm	ASTM D5185m	1150	<b>978</b>	946	908
Zinc	ppm	ASTM D5185m	1350	<b>1095</b>	1132	1081
Sulfur	ppm	ASTM D5185m	4250	<b>3696</b>	3870	4149

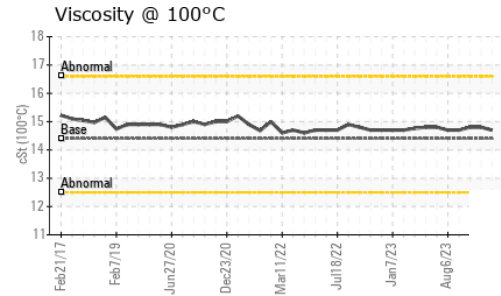
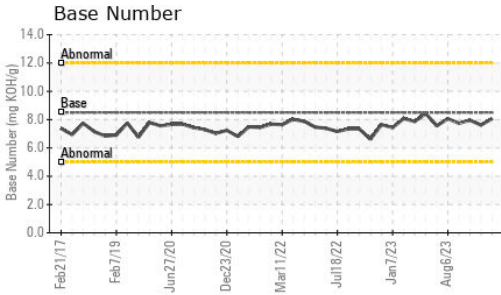
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	<b>6</b>	4	5
Sodium	ppm	ASTM D5185m	>158	<b>&lt;1</b>	2	0
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>4.6</b>	4.5	4.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>13.5</b>	13.4	13.3

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>8.7</b>	8.7	8.5
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>8.07</b>	7.61	7.96



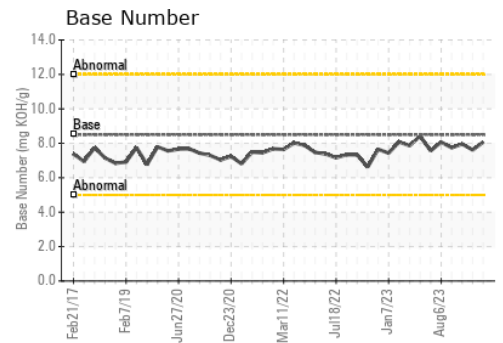
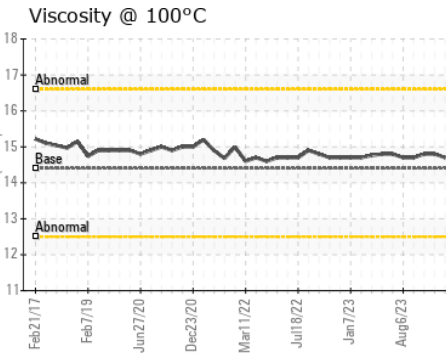
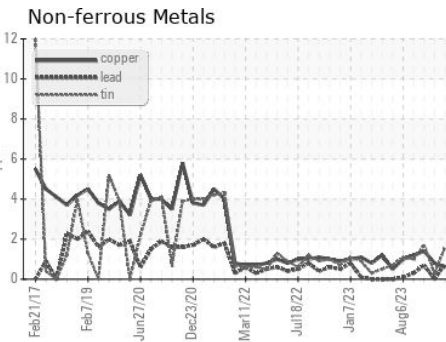
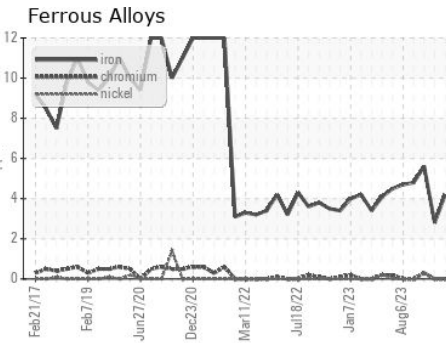
# OIL ANALYSIS REPORT



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	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	<b>14.7</b>	14.8

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : HLC0002216 **Received** : 12 Jan 2024  
**Lab Number** : 06060395 **Diagnosed** : 16 Jan 2024  
**Unique Number** : 10831777 **Diagnostician** : Wes Davis  
**Test Package** : IND 2

**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  
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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)