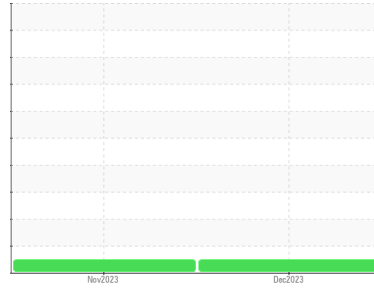




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
ASRI-SKD-GNED-0001 ASRI-SKD-GNED-0001

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 15W40 (9 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. 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		HLC0003151	HLC0002281	---
Sample Date	Client Info		21 Dec 2023	17 Nov 2023	---
Machine Age	hrs	Client Info	3779	2983	---
Oil Age	hrs	Client Info	350	150	---
Oil Changed	Client Info		Changed	N/A	---
Sample Status			NORMAL	NORMAL	---

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	---
Water	WC Method	>0.2	NEG	NEG	---
Glycol	WC Method		NEG	NEG	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	18	8	---
Chromium	ppm	ASTM D5185m >20	<1	0	---
Nickel	ppm	ASTM D5185m >4	0	0	---
Titanium	ppm	ASTM D5185m	<1	0	---
Silver	ppm	ASTM D5185m >3	0	0	---
Aluminum	ppm	ASTM D5185m >20	2	1	---
Lead	ppm	ASTM D5185m >40	<1	0	---
Copper	ppm	ASTM D5185m >330	2	<1	---
Tin	ppm	ASTM D5185m >15	<1	<1	---
Vanadium	ppm	ASTM D5185m	0	0	---
Cadmium	ppm	ASTM D5185m	0	0	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 250	65	79	---
Barium	ppm	ASTM D5185m 10	1	0	---
Molybdenum	ppm	ASTM D5185m 100	13	26	---
Manganese	ppm	ASTM D5185m	<1	<1	---
Magnesium	ppm	ASTM D5185m 450	752	640	---
Calcium	ppm	ASTM D5185m 3000	1384	1498	---
Phosphorus	ppm	ASTM D5185m 1150	793	873	---
Zinc	ppm	ASTM D5185m 1350	982	1029	---
Sulfur	ppm	ASTM D5185m 4250	2985	3005	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	13	4	---
Sodium	ppm	ASTM D5185m >158	0	0	---
Potassium	ppm	ASTM D5185m >20	3	0	---

INFRA-RED

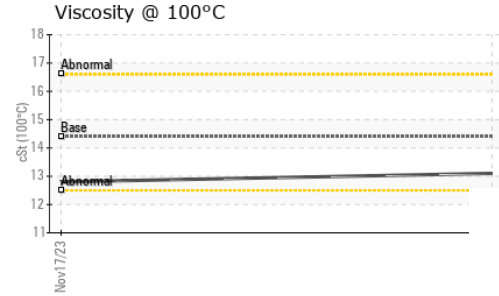
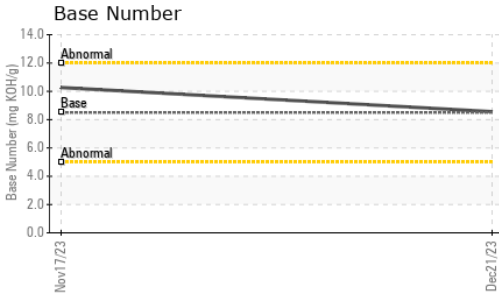
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.5	0.2	---
Nitration	Abs/cm	*ASTM D7624 >20	8.7	6.8	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	21.3	20.5	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	17.2	16.4	---
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	8.56	10.27	---



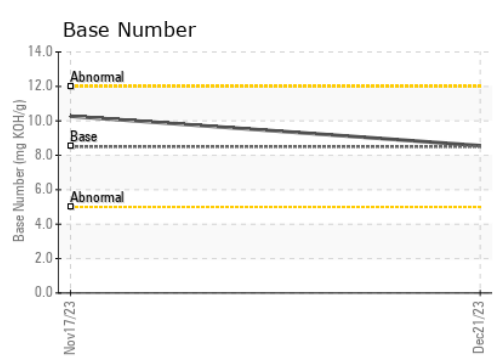
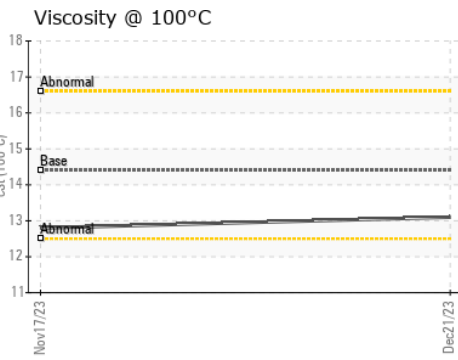
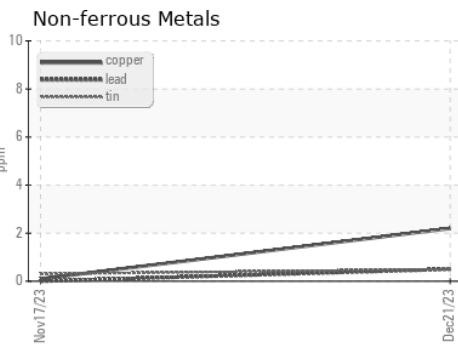
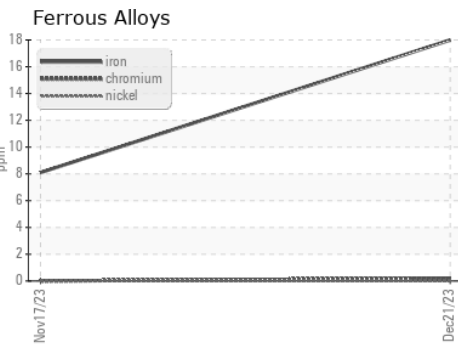
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	14.4	13.1	12.8	---

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : HLC0003151 **Recieved** : 18 Jan 2024
Lab Number : **06065131** **Diagnosed** : 19 Jan 2024
Unique Number : 10836513 **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
 F: x:

Certificate L2367
 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)