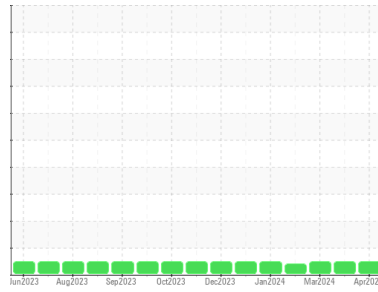




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
ASRI-RIG-DSL-ENG0002 ASRI-RIG-DSL-ENG0002
 Component
Diesel Engine
 Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (--- GAL)

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			HLC0002970	HLC0002969	HLC0002974
Sample Date	Client Info			16 Apr 2024	29 Mar 2024	13 Mar 2024
Machine Age	hrs Client Info			20327	19904	19553
Oil Age	hrs Client Info			423	351	350
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	35	28	65
Chromium	ppm	ASTM D5185m	>20	<1	2	3
Nickel	ppm	ASTM D5185m	>4	0	1	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	3	4
Lead	ppm	ASTM D5185m	>40	18	25	27
Copper	ppm	ASTM D5185m	>330	4	9	12
Tin	ppm	ASTM D5185m	>15	2	3	3
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	151	30	80	65
Barium	ppm	ASTM D5185m	0.4	0	1	0
Molybdenum	ppm	ASTM D5185m	250	1	2	<1
Manganese	ppm	ASTM D5185m		<1	1	2
Magnesium	ppm	ASTM D5185m	0	451	750	801
Calcium	ppm	ASTM D5185m	2046	1913	1384	1400
Phosphorus	ppm	ASTM D5185m	1043	825	758	808
Zinc	ppm	ASTM D5185m	943	950	871	885
Sulfur	ppm	ASTM D5185m	5012	3509	3313	3560

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	5	6	6
Sodium	ppm	ASTM D5185m		5	3	6
Potassium	ppm	ASTM D5185m	>20	1	5	5

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	1.2	0.6	0.6
Nitration	Abs/cm	*ASTM D7624	>20	9.3	9.5	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.1	21.5	21.2

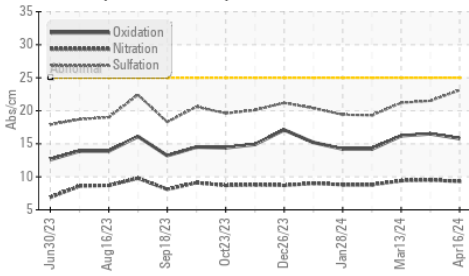
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.8	16.5	16.2
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	6.44	7.64	8.74



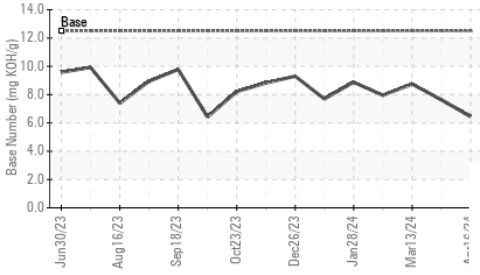
Hilcorp Alaska, LLC

OIL ANALYSIS REPORT

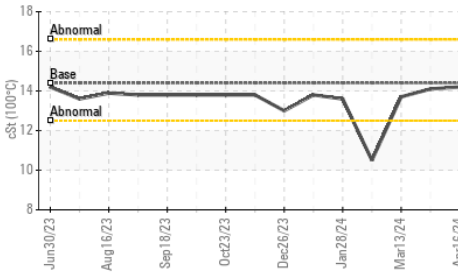
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

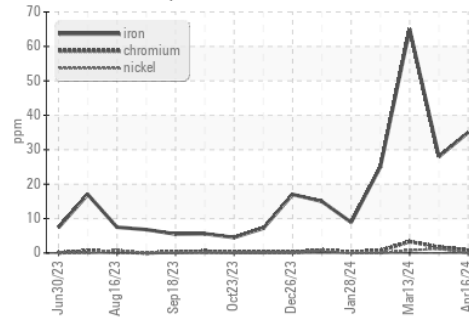


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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

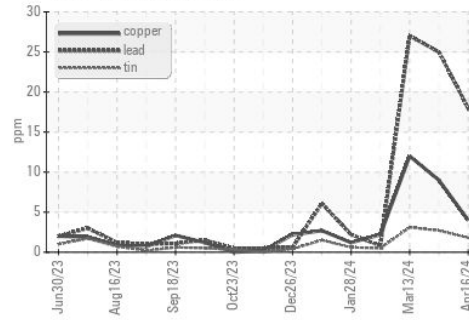
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	14.2	14.1

GRAPHS

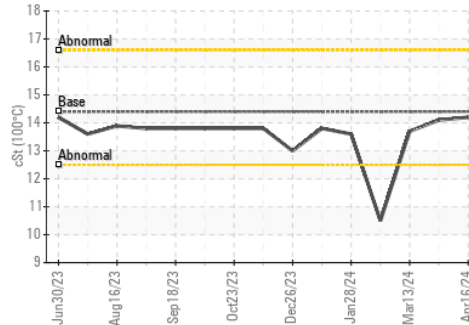
Ferrous Alloys



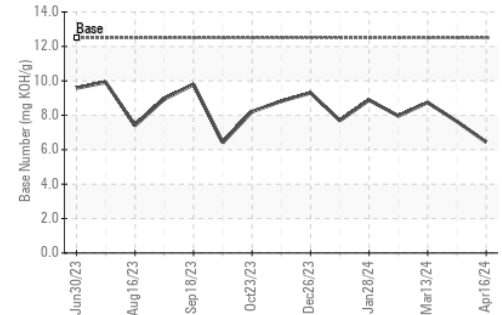
Non-ferrous Metals



Viscosity @ 100°C



Base Number



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)

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : HLC0002970
Lab Number : 06157101
Unique Number : 10992524
Test Package : IND 2

Received : 22 Apr 2024
Tested : 24 Apr 2024
Diagnosed : 25 Apr 2024 - Jonathan Hester

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