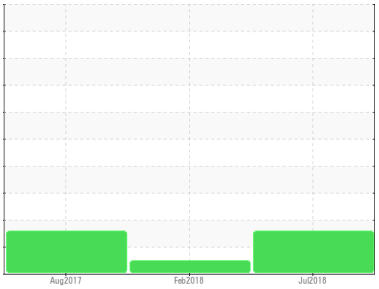
OIL ANALYSIS REPORT

Sample Rating Trend



WATER

Area
63
Machine Id
[63] A63 SPQ 1 Fire Pump
Component
Diesel Engine
Fluid
HIGH PERFORMANCE LUBRICANTS HDMO 5W30 (8 GAL)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is a trace of moisture present 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		**HPL005989**	HPL005705	HPL006838
Sample Date		Client Info		**26 Jul 2018**	01 Feb 2018	29 Aug 2017
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**13**	6	12
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**MARGINAL**	NORMAL	MARGINAL

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**11**	8	26
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	1
Nickel	ppm	ASTM D5185m	>2	**<1**	<1	<1
Titanium	ppm	ASTM D5185m	>2	**<1**	0	2
Silver	ppm	ASTM D5185m	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>20	**3**	2	9
Lead	ppm	ASTM D5185m	>40	**5**	3	7
Copper	ppm	ASTM D5185m	>330	**98**	43	192
Tin	ppm	ASTM D5185m	>15	**0**	<1	2
Antimony	ppm	ASTM D5185m		**1**	0	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	<1	<1

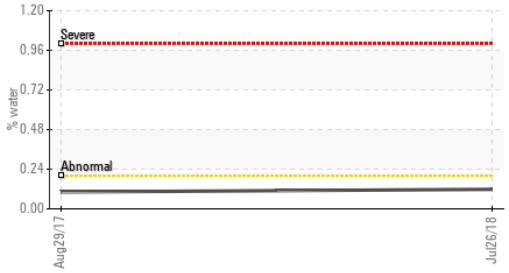
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	200	**158**	140	145
Barium	ppm	ASTM D5185m		**<1**	<1	<1
Molybdenum	ppm	ASTM D5185m	85	**73**	77	68
Manganese	ppm	ASTM D5185m		**1**	2	8
Magnesium	ppm	ASTM D5185m	525	**477**	501	383
Calcium	ppm	ASTM D5185m	4300	**3810**	3980	3235
Phosphorus	ppm	ASTM D5185m	1000	**811**	750	753
Zinc	ppm	ASTM D5185m	1100	**856**	788	827
Sulfur	ppm	ASTM D5185m	20200	**15977**	15937	8026

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**5**	4	10
Sodium	ppm	ASTM D5185m		**4**	2	16
Potassium	ppm	ASTM D5185m	>20	**0**	1	3
Water	%	ASTM D6304	>0.2	▲ **0.118**	---	▲ 0.102
ppm Water	ppm	ASTM D6304	>2000	▲ **1180**	---	▲ 1020

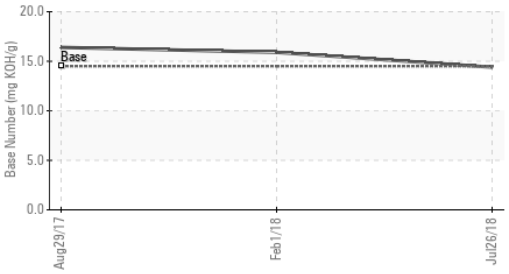
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.1**	0	0
Nitration	Abs/cm	*ASTM D7624	>20	**6.3**	5.	6.
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.6**	22.	23.

OIL ANALYSIS REPORT

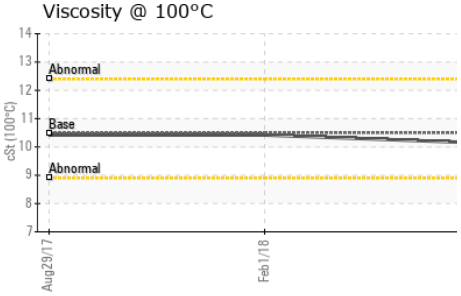
Water



Base Number



Viscosity @ 100°C



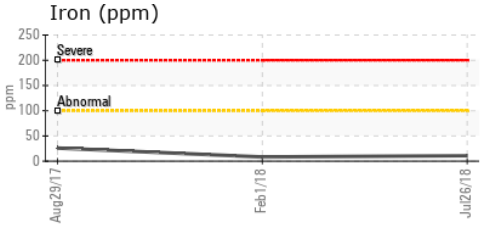
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**15.4**	15.	15.
Base Number (BN)	mg KOH/g	ASTM D2896	14.5	**14.4**	15.9	16.4

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

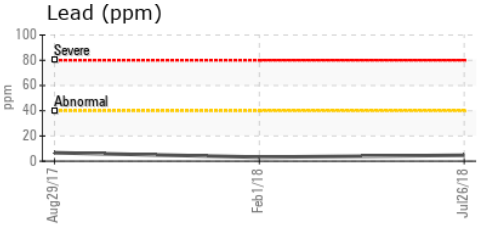
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	10.5	**10.14**	10.42	10.42

GRAPHS

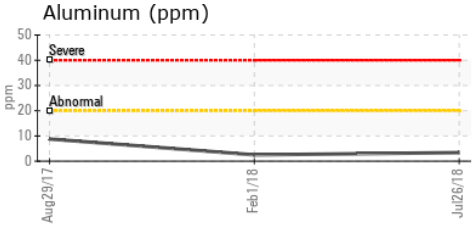
Iron (ppm)



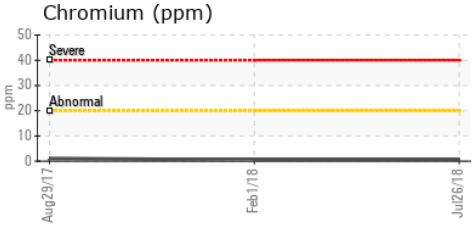
Lead (ppm)



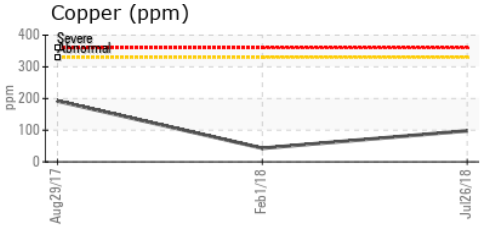
Aluminum (ppm)



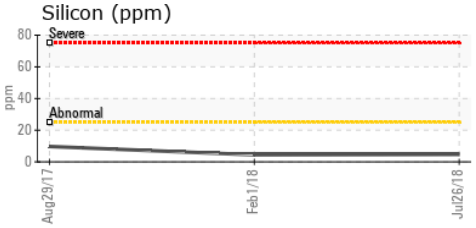
Chromium (ppm)



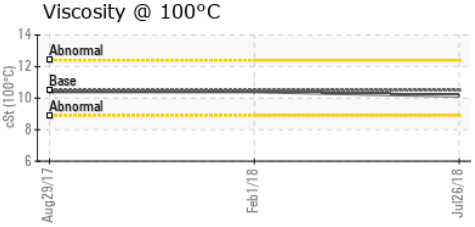
Copper (ppm)



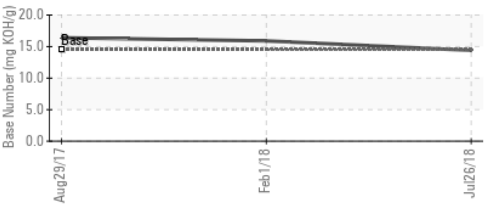
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : HPL005989 **Received** : 26 Sep 2018
Lab Number : 04559302 **Diagnosed** : 27 Sep 2018
Unique Number : 8343160 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: KF)

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)

KENSING
2525 S KENSINGTON RD
KANKAKEE, IL
US 60901
Contact: TIM HUBERT
timothy.hubert@kensingsolutions.com
T: (815)939-8918
F: x: