

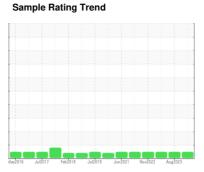
OIL ANALYSIS REPORT

K5 CONSTRUCTION CORPORATION - HODGKINS IL

4631

Diesel Engine

LEAHY WOLF PREMIUM 15W40 (10 GAL)





DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

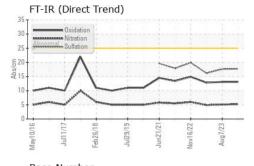
Fluid Condition

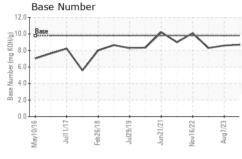
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

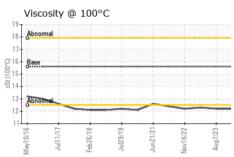
Sample Date	CANADI E INICADI						
Sample Date	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 10440 10440 10157 Dil Age hrs Client Info 10440 283 254 Dil Changed Client Info Changed Changed	Sample Number		Client Info		PCA0122006		LW0007014
Dil Age	Sample Date		Client Info		19 Apr 2024	07 Aug 2023	18 Apr 2023
Contained Client Info Changed NORMAL NORMAL NORMAL	Machine Age	hrs	Client Info		10440	10440	10157
NORMAL NORMAL NORMAL CONTAMINATION method mill/base current history1 history2 history2	Oil Age	hrs	Client Info		10440	283	254
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0	Oil Changed		Client Info		Changed	Changed	Changed
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Water Glycol WC Method WC Method >0.2 NEG NEG NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 8 7 5 Chromium ppm ASTM D5185m >20 <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 8 7 5 Chromium ppm ASTM D5185m >20 <1	Water		WC Method	>0.2	NEG	NEG	NEG
Chromium	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	8	7	5
Titanium	Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Silver	Nickel	ppm	ASTM D5185m	>2	0	0	0
Aluminum	Titanium	ppm	ASTM D5185m	>2	2	<1	0
Lead	Silver	ppm	ASTM D5185m	>2	0	0	0
Copper ppm ASTM D5185m >330 0 <1 0 Tin ppm ASTM D5185m >15 0 <1	Aluminum	ppm	ASTM D5185m	>25	1	1	<1
Tin	Lead	ppm	ASTM D5185m	>40	0	<1	0
Vanadium ppm ASTM D5185m 0 <1 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 4 6 3 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 60 59 60 Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 1028 1000 937 Calcium ppm ASTM D5185m 1239 1207 1116 Phosphorus ppm ASTM D5185m 1345 1312 1290 Sulfur ppm ASTM D5185m 3852 3802 3456 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 0 <	Copper	ppm	ASTM D5185m	>330	0	<1	0
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 4 6 3 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 60 59 60 Manganese ppm ASTM D5185m 0 <1	Tin	ppm	ASTM D5185m	>15	0	<1	0
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 4 6 3 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 60 59 60 Manganese ppm ASTM D5185m 0 -1 -1 Magnesium ppm ASTM D5185m 1028 1000 937 Calcium ppm ASTM D5185m 1239 1207 1116 Phosphorus ppm ASTM D5185m 1142 1049 1035 Zinc ppm ASTM D5185m 1345 1312 1290 Sulfur ppm ASTM D5185m 3852 3802 3456 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 22 3 3 Sodium ppm ASTM D5185m 1 -1	Vanadium	ppm	ASTM D5185m		0	<1	0
Boron	Cadmium	ppm	ASTM D5185m		0	0	0
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 59 60 Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 1028 1000 937 Calcium ppm ASTM D5185m 1239 1207 1116 Phosphorus ppm ASTM D5185m 1142 1049 1035 Zinc ppm ASTM D5185m 1345 1312 1290 Sulfur ppm ASTM D5185m 3852 3802 3456 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 3 3 Sodium ppm ASTM D5185m >20 0 <1 1 Potassium ppm ASTM D5185m >20 0 <1 0 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 <td>Boron</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>4</th> <td>6</td> <td>3</td>	Boron	ppm	ASTM D5185m		4	6	3
Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 1028 1000 937 Calcium ppm ASTM D5185m 1239 1207 1116 Phosphorus ppm ASTM D5185m 1142 1049 1035 Zinc ppm ASTM D5185m 1345 1312 1290 Sulfur ppm ASTM D5185m 3852 3802 3456 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 3 3 Sodium ppm ASTM D5185m >20 0 <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 1028 1000 937 Calcium ppm ASTM D5185m 1239 1207 1116 Phosphorus ppm ASTM D5185m 1142 1049 1035 Zinc ppm ASTM D5185m 1345 1312 1290 Sulfur ppm ASTM D5185m 3852 3802 3456 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 3 3 Sodium ppm ASTM D5185m >20 0 <1	Molybdenum	ppm	ASTM D5185m		60	59	60
Calcium ppm ASTM D5185m 1239 1207 1116 Phosphorus ppm ASTM D5185m 1142 1049 1035 Zinc ppm ASTM D5185m 1345 1312 1290 Sulfur ppm ASTM D5185m 3852 3802 3456 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 3 3 Sodium ppm ASTM D5185m >20 0 <1	Manganese	ppm	ASTM D5185m		0	<1	<1
Phosphorus ppm ASTM D5185m 1142 1049 1035 Zinc ppm ASTM D5185m 1345 1312 1290 Sulfur ppm ASTM D5185m 3852 3802 3456 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 3 3 Sodium ppm ASTM D5185m >20 0 <1	Magnesium	ppm	ASTM D5185m		1028	1000	937
Tinc ppm ASTM D5185m 1345 1312 1290	Calcium	ppm	ASTM D5185m		1239	1207	1116
Sulfur ppm ASTM D5185m 3852 3802 3456 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 3 3 Sodium ppm ASTM D5185m >20 0 <1 1 Potassium ppm ASTM D5185m >20 0 <1 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.3 0.2 Nitration Abs/cm *ASTM D7624 >20 5.2 5.1 4.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.7 17.6 16.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.1 13.1 12.8	Phosphorus	ppm	ASTM D5185m		1142	1049	1035
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 3 3 Sodium ppm ASTM D5185m 1 <1	Zinc	ppm	ASTM D5185m		1345	1312	1290
Silicon ppm ASTM D5185m >25 2 3 3 Sodium ppm ASTM D5185m 1 <1 2 2 2 3 0 3 0 2 3 0 3 0 2 5 1	Sulfur	ppm	ASTM D5185m		3852	3802	3456
Sodium ppm ASTM D5185m 1 <1 1 Potassium ppm ASTM D5185m >20 0 <1	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 <1 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.3 0.2 Nitration Abs/cm *ASTM D7624 >20 5.2 5.1 4.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.7 17.6 16.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.1 13.1 12.8	Silicon	ppm	ASTM D5185m	>25	2	3	3
INFRA-RED	Sodium	ppm	ASTM D5185m		1	<1	1
Soot % % *ASTM D7844 >3 0.3 0.3 0.2 Nitration Abs/cm *ASTM D7624 >20 5.2 5.1 4.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.7 17.6 16.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.1 13.1 12.8	Potassium	ppm	ASTM D5185m	>20	0	<1	0
Nitration Abs/cm *ASTM D7624 >20 5.2 5.1 4.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.7 17.6 16.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.1 13.1 12.8	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 17.7 17.6 16.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.1 13.1 12.8	Soot %	%	*ASTM D7844	>3	0.3	0.3	0.2
Sulfation Abs/.1mm *ASTM D7415 >30 17.7 17.6 16.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.1 13.1 12.8	Nitration	Abs/cm	*ASTM D7624	>20	5.2	5.1	4.9
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30			16.2
	FLUID DEGRA	OATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	13.1	13.1	12.8
	Base Number (BN)	mg KOH/g			8.7	8.6	



OIL ANALYSIS REPORT





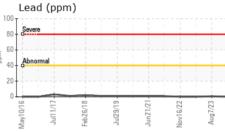


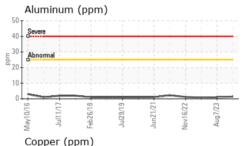
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

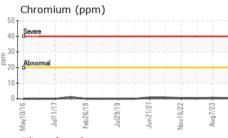
FLUID FROFI	LULIES	method			HISTOLAL	1115101 y 2
Visc @ 100°C	cSt	ASTM D445	15.6	12.2	12.2	12.3

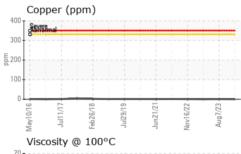
Iron (ppm)					
)T :					
Severe			1 1	1 1	1
Abnormal					
- Abnormal			-		
)+					
	=				
May10/16 Jul11/17	Feb26/18	Jul29/19	Jun21/2	Nov16/22	Aug7/23
May	æ	13	틧	Nov	Au
Aluminum	(maga))			
т:					
Severe			<u> </u>	<u> </u>	
Severe					
Abnormal					

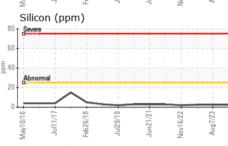
GRAPHS

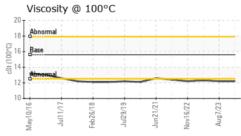


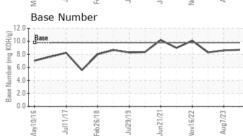
















Laboratory Sample No.

Lab Number : 06160068 Unique Number : 10995491

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0122006

Received **Tested** Diagnosed

: 25 Apr 2024 : 25 Apr 2024 : 25 Apr 2024 - Wes Davis

K5 CONSTRUCTION CORPORATION 6301 S EAST AVENUE HODGKINS, IL US 60525

Contact: Dave Gorski

daveg@k-five.net

T: (630)257-5600

Test Package : MOB 1 (Additional Tests: TBN) Certificate 12367 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)

F: