

# **OIL ANALYSIS REPORT**

Sample Rating Trend



#### Machine Id

# KERI LYNN (S/N E7602E/001)

Component Natural Gas Engine Fluid

{not provided} (--- 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

Metal levels are typical for a new component breaking in.

## Contamination

There is no indication of any contamination in the oil.

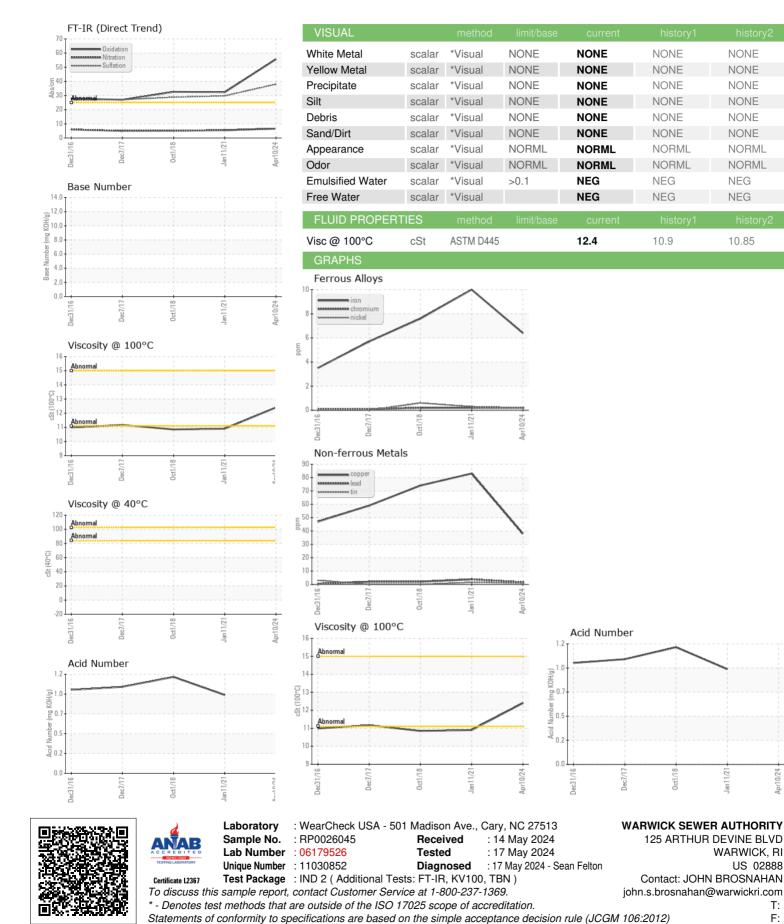
#### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sample NumberClient InfoPP0026045RP0014802RP203732Sample DateClient Info10 Apr 202411 Jan 202101 Oct 2018Machine AgehrsClient Info189163157Oil AgehrsClient Info0000Oil ChangedClient InfoN/AN/AN/ASample StatusClient InfoN/AN/AN/AWEAR METALSmethodimit/basecurrenthistory1history2IronppmASTM D5185m>506108ChromiumppmASTM D5185m>4<1<1<1NickelppmASTM D5185m>2<1<1<1SilverppmASTM D5185m>3222AluminumppmASTM D5185m>3242CopperppmASTM D5185m>30242CopperppmASTM D5185m>3388374TinppmASTM D5185m<1000ADDITIVESmethodimit/basecurrenthistory1history2BoronppmASTM D5185m<10<11MagneseppmASTM D5185m<10<11MagneseppmASTM D5185m<1<1<11MagneseppmASTM D5185m<1<1<11MagnesiumppmASTM D5185m	SAMPLE INFORM	1ATION	method	limit/base	current	history1	history2
Machine Age         hrs         Client Info         189         163         157           Oil Age         hrs         Client Info         0         0         0           Oil Changed         Client Info         N/A         N/A         N/A           Sample Status         Image         Client Info         N/A         N/A         N/A           Sample Status         Image         Client Info         N/A         N/A         N/A           VEAR METALS         method         Imit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >4         <1         <1         <1           Nickel         ppm         ASTM D5185m         >2         <1         <1         <1           Silver         ppm         ASTM D5185m         >3         2         2         2           Aluminum         ppm         ASTM D5185m         >30         2         4         2           Copper         ppm         ASTM D5185m         >3         83         74         1           Cadminum         ppm         ASTM D5185m         <1         2         0         0           Vanadium         ppm	Sample Number		Client Info		RP0026045	RP0014802	RP203732
Machine Age         hrs         Client Info         189         163         157           Oil Age         hrs         Client Info         0         0         0           Oil Changed         Client Info         N/A         N/A         N/A           Sample Status         Image         Client Info         N/A         N/A         N/A           Sample Status         Image         Client Info         N/A         N/A         N/A           VEAR METALS         method         Imit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >4         <1         <1         <1           Nickel         ppm         ASTM D5185m         >2         <1         <1         <1           Silver         ppm         ASTM D5185m         >3         2         2         2           Aluminum         ppm         ASTM D5185m         >30         2         4         2           Copper         ppm         ASTM D5185m         >3         83         74         1           Cadminum         ppm         ASTM D5185m         <1         2         0         0           Vanadium         ppm	Sample Date		Client Info		10 Apr 2024	11 Jan 2021	01 Oct 2018
Oil Changed Sample StatusClient InfoN/AN/AN/AN/ASample StatusNoRMALNORMALNORMALNORMALNORMALWEAR METALSmethodlimit/basecurrenthistory1history2IronppmASTM D5185m>506108ChromiumppmASTM D5185m>4<1<1<1NickelppmASTM D5185m>2<1<1<1SilverppmASTM D5185m>3222AluminumppmASTM D5185m>3222AluminumppmASTM D5185m>30242CopperppmASTM D5185m>30242CopperppmASTM D5185m>353883374TinppmASTM D5185m<-1000VanadiumppmASTM D5185m<-1000VanadiumppmASTM D5185m<-1000ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m53437BariumppmASTM D5185m1521411MagnesseppmASTM D5185m1521411MagnesiumppmASTM D5185m268815571428PhosphorusppmASTM D5185m332395365ContradiumppmA	Machine Age	hrs	Client Info		189	163	157
Sample StatusnormationNORMALNORMALNORMALNORMALWEAR METALSmethodlimit/basecurrenthistory1history2IronppmASTM D5185m>506108ChromiumppmASTM D5185m>4<1<1<1NickelppmASTM D5185m>2<1<1<1TitaniumppmASTM D5185m<1<1<1<1SilverppmASTM D5185m>3222AluminumppmASTM D5185m>30242LeadppmASTM D5185m>30242CopperppmASTM D5185m>333883374TinppmASTM D5185m>4120AntimonyppmASTM D5185m<4100VanadiumppmASTM D5185m<1000CadmiumppmASTM D5185m<1000ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m5343737BariumppmASTM D5185m1521411MagnesiumppmASTM D5185m1521411MagnesiumppmASTM D5185m328516513QuartineppmASTM D5185m328516513GalciumppmASTM D5185m </th <th>Oil Age</th> <th>hrs</th> <th>Client Info</th> <th></th> <th>0</th> <th>0</th> <th>0</th>	Oil Age	hrs	Client Info		0	0	0
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m<>50         6         10         8           Chromium         ppm         ASTM D5185m<>4         <1         <1         <1           Nickel         ppm         ASTM D5185m<>2         <1         <1         <1           Titanium         ppm         ASTM D5185m<>2         <1         <1         <1           Silver         ppm         ASTM D5185m<>3         2         2         2         2           Aluminum         ppm         ASTM D5185m<>3         2         4         2         2           Lead         ppm         ASTM D5185m<>30         2         4         2         0           Antimony         ppm         ASTM D5185m<>30         2         4         2         0           Antimony         ppm         ASTM D5185m         38         83         74           Tin         ppm         ASTM D5185m          0         0           Cadmium         ppm         ASTM D5185m         <1         0         0           Boron         ppm         ASTM D5185m	Oil Changed		Client Info		N/A	N/A	N/A
Iron         ppm         ASTM D5185m         >50         6         10         8           Chromium         ppm         ASTM D5185m         >4         <1         <1         <1           Nickel         ppm         ASTM D5185m         >2         <1         <1         <1           Titanium         ppm         ASTM D5185m         >2         <1         <1         <1           Silver         ppm         ASTM D5185m         >3         2         2         2           Aluminum         ppm         ASTM D5185m         >3         2         4         2           Copper         ppm         ASTM D5185m         >30         2         4         2           Copper         ppm         ASTM D5185m         >35         38         83         74           Tin         ppm         ASTM D5185m         >4         1         2         0           Antimony         ppm         ASTM D5185m         <4         1         0         0           Vanadium         ppm         ASTM D5185m         <1         0         0         0           Cadmium         ppm         ASTM D5185m         <1         0         <1 <t< th=""><th>Sample Status</th><th></th><th></th><th></th><th>NORMAL</th><th>NORMAL</th><th>NORMAL</th></t<>	Sample Status				NORMAL	NORMAL	NORMAL
Chromium         ppm         ASTM D5185m         >4         <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel         ppm         ASTM D5185m         >2         <1	Iron	ppm	ASTM D5185m	>50	6	10	8
Titanium         ppm         ASTM D5185m         <1	Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Silver         ppm         ASTM D5185m         >3         2         2         2           Aluminum         ppm         ASTM D5185m         >9         3         5         1           Lead         ppm         ASTM D5185m         >30         2         4         2           Copper         ppm         ASTM D5185m         >35         38         83         74           Tin         ppm         ASTM D5185m         >4         1         2         0           Antimony         ppm         ASTM D5185m         >4         1         2         0           Vanadium         ppm         ASTM D5185m         >4         1         0         0           Vanadium         ppm         ASTM D5185m         <4	Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Aluminum         pm         ASTM D5185m         >9         3         5         1           Lead         ppm         ASTM D5185m         >30         2         4         2           Copper         ppm         ASTM D5185m         >35         38         83         74           Tin         ppm         ASTM D5185m         >4         1         2         0           Antimony         ppm         ASTM D5185m         >4         1         2         0           Vanadium         ppm         ASTM D5185m         <4         1         0         0           Vanadium         ppm         ASTM D5185m         <1         0         0         0           Cadmium         ppm         ASTM D5185m         <1         0         0         0           Cadmium         ppm         ASTM D5185m         <1         0         0         0           Boron         ppm         ASTM D5185m         5         34         37           Barium         ppm         ASTM D5185m         152         14         11           Manganese         ppm         ASTM D5185m         919         9         8           Calcium <td< th=""><th>Titanium</th><th>ppm</th><th>ASTM D5185m</th><th></th><th>&lt;1</th><th>&lt;1</th><th>&lt;1</th></td<>	Titanium	ppm	ASTM D5185m		<1	<1	<1
Lead         ppm         ASTM D5185m         >30         2         4         2           Copper         ppm         ASTM D5185m         >35         38         83         74           Tin         ppm         ASTM D5185m         >4         1         2         0           Antimony         ppm         ASTM D5185m         >4         1         2         0           Antimony         ppm         ASTM D5185m          0         0         0           Vanadium         ppm         ASTM D5185m         <	Silver	ppm	ASTM D5185m	>3	2	2	2
Copper         ppm         ASTM D5185m         >35         38         83         74           Tin         ppm         ASTM D5185m         >4         1         2         0           Antimony         ppm         ASTM D5185m          0         0         0           Vanadium         ppm         ASTM D5185m          0         0         0           Cadmium         ppm         ASTM D5185m         <1         0         0         0           Cadmium         ppm         ASTM D5185m         <1         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         5         34         37           Barium         ppm         ASTM D5185m         152         14         11           Malganese         ppm         ASTM D5185m         152         14         11           Magnesium         ppm         ASTM D5185m         919         9         8           Calcium         ppm         ASTM D5185m         328         516         513           Zinc         ppm	Aluminum	ppm	ASTM D5185m	>9	3	5	1
Copper         ppm         ASTM D5185m         >35         38         83         74           Tin         ppm         ASTM D5185m         >4         1         2         0           Antimony         ppm         ASTM D5185m          0         0         0           Vanadium         ppm         ASTM D5185m         <1         0         0         0           Cadmium         ppm         ASTM D5185m         <1         0         0         0           Cadmium         ppm         ASTM D5185m         <1         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         5         34         37           Barium         ppm         ASTM D5185m         152         14         11           Malganese         ppm         ASTM D5185m         152         14         11           Magnesium         ppm         ASTM D5185m         2688         1557         1428           Phosphorus         ppm         ASTM D5185m         328         516         513           Zinc         ppm	Lead		ASTM D5185m	>30	2	4	2
Tin         ppm         ASTM D5185m         >4         1         2         0           Antimony         ppm         ASTM D5185m          0         0         0           Vanadium         ppm         ASTM D5185m         <1	Copper		ASTM D5185m	>35	38	83	74
Antimony         ppm         ASTM D5185m          0         0           Vanadium         ppm         ASTM D5185m         <1         0         0           Cadmium         ppm         ASTM D5185m         <1         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         5         34         37           Barium         ppm         ASTM D5185m         <1         0         <1           Molybdenum         ppm         ASTM D5185m         <1         0         <1           Magnese         ppm         ASTM D5185m         <1         0         <1           Magnesium         ppm         ASTM D5185m         <1         <1         <1           Magnesium         ppm         ASTM D5185m         919         9         8           Calcium         ppm         ASTM D5185m         2688         1557         1428           Phosphorus         ppm         ASTM D5185m         332         395         365           CONTAMINANTS         method         limit/base         current         history1         history2			ASTM D5185m	>4	1	2	0
Vanadium         ppm         ASTM D5185m         <1	Antimony		ASTM D5185m			0	0
Cadmium         ppm         ASTM D5185m         <1			ASTM D5185m		<1	0	0
Boron         ppm         ASTM D5185m         5         34         37           Barium         ppm         ASTM D5185m         <1	Cadmium		ASTM D5185m			0	0
Barium         ppm         ASTM D5185m         <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         152         14         11           Manganese         ppm         ASTM D5185m         <1	Boron	ppm	ASTM D5185m		5	34	37
Manganese         ppm         ASTM D5185m         <1	Barium	ppm	ASTM D5185m		<1	0	<1
Magnesium         ppm         ASTM D5185m         919         9         8           Calcium         ppm         ASTM D5185m         2688         1557         1428           Phosphorus         ppm         ASTM D5185m         328         516         513           Zinc         ppm         ASTM D5185m         332         395         365           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >+100         12         8         7	Molybdenum	ppm	ASTM D5185m		152	14	11
Calcium         ppm         ASTM D5185m         2688         1557         1428           Phosphorus         ppm         ASTM D5185m         328         516         513           Zinc         ppm         ASTM D5185m         332         395         365           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >+100         12         8         7	Manganese	ppm	ASTM D5185m		<1	<1	<1
Phosphorus         ppm         ASTM D5185m         328         516         513           Zinc         ppm         ASTM D5185m         332         395         365           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >+100         12         8         7	Magnesium	ppm	ASTM D5185m		919	9	8
Zinc         ppm         ASTM D5185m         332         395         365           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >+100         12         8         7	Calcium	ppm	ASTM D5185m		2688	1557	1428
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>+1001287	Phosphorus	ppm	ASTM D5185m		328	516	513
Silicon         ppm         ASTM D5185m         >+100         12         8         7	Zinc	ppm	ASTM D5185m		332	395	365
	CONTAMINANTS		method	limit/base	current	history1	history2
Sodium ppm ASTM D5185m <1 4 1	Silicon	ppm	ASTM D5185m	>+100	12	8	7
	Sodium	ppm	ASTM D5185m		<1	4	1
Potassium ppm ASTM D5185m >20 2 <1 0	Potassium	ppm	ASTM D5185m	>20	2	<1	0
Water         %         ASTM D6304         >0.1         NEG         NEG	Water	%	ASTM D6304	>0.1	NEG	NEG	NEG
INFRA-RED method limit/base current history1 history2	INFRA-RED		method	limit/base	current	history1	history2
Soot % *ASTM D7844 0.1 0.1 0	Soot %	%	*ASTM D7844		0.1	0.1	0
Nitration         Abs/cm         *ASTM D7624         >20         6.6         5.5         5.1		Abs/cm	*ASTM D7624	>20	6.6	5.5	5.1
Sulfation         Abs/.1mm         *ASTM D7415         >30         38.0         29.7         28.8	Nitration			. 20	38.0	29.7	28.8
FLUID DEGRADATION method limit/base current history1 history2		Abs/.1mm	*ASTM D7415	>30	00.0	20.1	20.0
Oxidation Abs/.1mm *ASTM D7414 >25 55.6 32.4 32.6	Sulfation					-	
Acid Number (AN) mg KOH/g ASTM D8045 0.947 1.166	Sulfation FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Base Number (BN)         mg KOH/g         ASTM D2896         12.60	Sulfation FLUID DEGRADA Oxidation	TION Abs/.1mm	method *ASTM D7414	limit/base	current 55.6	history1 32.4	history2 32.6



# **OIL ANALYSIS REPORT**



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WARWICK, RI

US 02888

T:

F:

Jan 11/21

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

NEG

NEG

10.85

Report Id: WARWARRI [WUSCAR] 06179526 (Generated: 05/17/2024 10:11:12) Rev: 1