

# **OIL ANALYSIS REPORT**

Sample Rating Trend





### DIAGNOSIS

# Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

# Wear

All component wear rates are normal.

# Contamination

There is no indication of any contamination in the oil.

### **Fluid Condition**

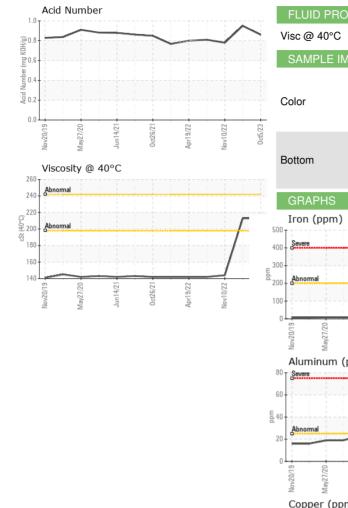
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

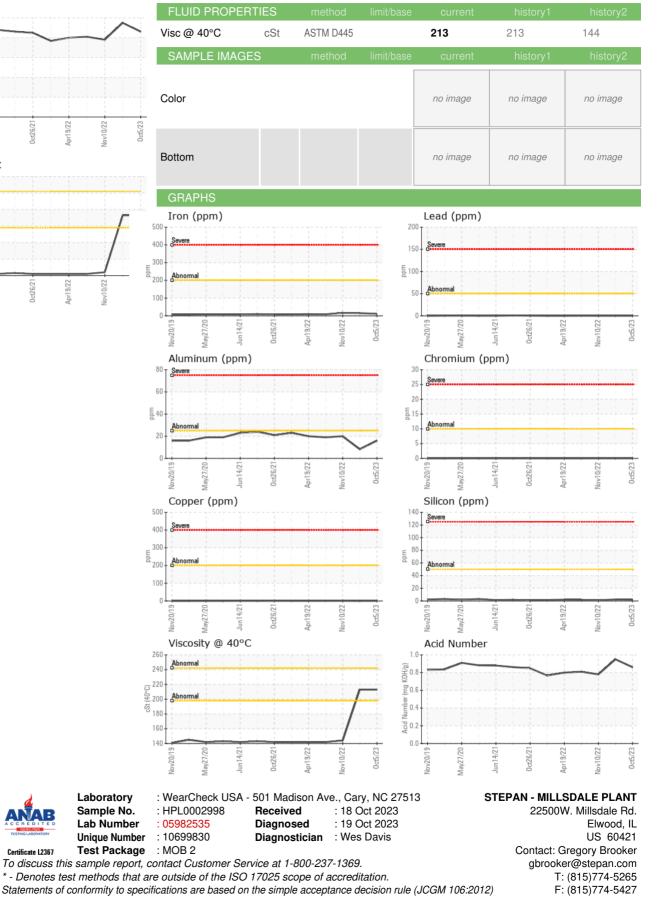
SAMPLE INFORMATIONSample NumberSample DatehrsMachine AgehrsOil AgehrsOil Changedsample StatusSample StatusromWEAR METALSppmIronppmChromiumppmNickelppmSilverppmAluminumppmLeadppmCopperppmTinppmCadmiumppmBoronppmBariumppmMagnesiumppmCalciumppmSilverppmSiliconppmSiliconppmSiliconppmSodiumppmSodiumppmSuffurppmSuffurppmSuffurppmSuffurppmSuffurscalarYellow MetalscalarYellow Metalscalar	Client Info Client Info Client Info Client Info Client Info Method ASTM D5185m ASTM D5185m	limit/base limit/base >200 >10 >10 >10	Current HPL0002998 05 Oct 2023 0 0 Not Changd NORMAL Current 11	history1 HPL0003579 02 Jun 2023 0 0 Not Changd NORMAL history1	history2 HPL0001535 10 Nov 2022 0 0 Not Changd NORMAL
Sample DateInsMachine AgehrsOil AgehrsOil Changedsample StatusWEAR METALSPpmIronppmChromiumppmNickelppmTitaniumppmSilverppmAluminumppmLeadppmCopperppmTinppmCadmiumppmBoronppmBariumppmMaganeseppmCalciumppmZincppmSilfurppmSilfurppmCONTAMINANTSppmSiliconppmSodiumppmPotassiumppmFLUID DEGRADATIONppmKithe MetalscalarYellow MetalscalarPrecipitatescalar	Client Info Client Info Client Info Client Info Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>200 >10	05 Oct 2023 0 0 Not Changd NORMAL current	02 Jun 2023 0 0 Not Changd NORMAL	10 Nov 2022 0 0 Not Changd NORMAL
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WEAR METALSIronppmChromiumppmNickelppmTitaniumppmSilverppmAluminumppmLeadppmCopperppmTinppmCadmiumppmCadmiumppmBoronppmBariumppmMalganeseppmCalciumppmCalciumppmSulfurppmSulfurppmSulfurppmSodiumppmFLUID DEGRADATIONppmAcid Number (AN)mg KOH/gVISUALscalarYellow Metalscalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>200 >10	current	-	
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ChromiumppmNickelppmNickelppmSilverppmSilverppmAluminumppmLeadppmCopperppmTinppmCadmiumppmCadmiumppmBoronppmBariumppmMalganeseppmCalciumppmCalciumppmCalciumppmSulfurppmSulfurppmSulfurppmSodiumppmPotassiumppmFLUID DEGRADATIONppmAcid Number (AN)mg KOH/gVISUALscalarYellow MetalscalarPrecipitatescalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>10	11		history2
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TitaniumppmSilverppmSilverppmAluminumppmLeadppmCopperppmTinppmVanadiumppmCadmiumppmADDITIVESppmBoronppmMalybdenumppmMagnesiumppmCalciumppmCalciumppmSulfurppmSulfurppmSodiumppmPotassiumppmFLUID DEGRADATIONmg KOH/gVISUALvisualarYellow MetalscalarPrecipitatescalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>10	0	0	0
Silver ppm Aluminum ppm Lead ppm Copper ppm Tin ppm Vanadium ppm Cadmium ppm Cadmium ppm Cadmium ppm ADDITIVES Boron ppm Barium ppm Molybdenum ppm Manganese ppm Manganese ppm Calcium ppm Calcium ppm Calcium ppm Calcium ppm Sulfur ppm Sulfur ppm Sulfur ppm Sulfur ppm FLUID DEGRADATION Acid Number (AN) mg KOH/g VISUAL scalar Yellow Metal scalar Yellow Metal scalar	ASTM D5185m ASTM D5185m ASTM D5185m		0	0	0
AluminumppmAluminumppmLeadppmCopperppmTinppmVanadiumppmCadmiumppmCadmiumppmADDITIVESBoronppmMalganeseppmMagnesiumppmCalciumppmCalciumppmSulfurppmSulfurppmSulfurppmSodiumppmPotassiumppmFLUID DEGRADATIONmg KOH/gVISUALviscalarYellow MetalscalarPrecipitatescalar	ASTM D5185m ASTM D5185m		5	4	6
LeadppmCopperppmCopperppmTinppmVanadiumppmCadmiumppmCadmiumppmADDITIVESppmBoronppmMalganeseppmMagnesiumppmCalciumppmCalciumppmCalciumppmSulfurppmSulfurppmSoliiconppmSodiumppmPotassiumppmFLUID DEGRADATIONmg KOH/gVISUALviscalarYellow MetalscalarPrecipitatescalar	ASTM D5185m		0	0	0
Copper ppm Tin ppm Vanadium ppm Cadmium ppm Cadmium ppm ADDITIVES Boron ppm Barium ppm Malganese ppm Magnesium ppm Calcium ppm Calcium ppm Calcium ppm Calcium ppm Calcium ppm Sulfur ppm Sulfur ppm Sulfur ppm Fhosphorus ppm Sulfur ppm Fhosphorus ppm CONTAMINANTS Silicon ppm Sodium ppm FLUID DEGRADATION Acid Number (AN) mg KOH/g VISUAL scalar Yellow Metal scalar Precipitate scalar		>25	16	8	20
Tin ppm Vanadium ppm Cadmium ppm ADDITIVES Boron ppm Barium ppm Molybdenum ppm Manganese ppm Magnesium ppm Calcium ppm Calcium ppm Calcium ppm Calcium ppm Sulfur ppm Sulfur ppm Sulfur ppm Sulfur ppm FLUID DEGRADATION Acid Number (AN) mg KOH/g VISUAL scalar Yellow Metal scalar Precipitate scalar	ASTM D5185m	>50	0	0	0
VanadiumppmVanadiumppmCadmiumppmADDITIVESBoronppmBariumppmManganeseppmManganeseppmMagnesiumppmCalciumppmPhosphorusppmZincppmSulfurppmSulfurppmSodiumppmPotassiumppmFLUID DEGRADATIONAcid Number (AN)mg KOH/gVISUALvisuarYellow MetalscalarPrecipitatescalar			0	0	<1
CadmiumppmADDITIVESBoronppmBariumppmMolybdenumppmManganeseppmMagnesiumppmCalciumppmPhosphorusppmZincppmSulfurppmSulfurppmSodiumppmPotassiumppmFLUID DEGRADATIONscalarVISUALscalarYellow MetalscalarPrecipitatescalar	ASTM D5185m	>10	0	0	0
ADDITIVESBoronppmBariumppmMolybdenumppmManganeseppmMagnesiumppmCalciumppmCalciumppmCalciumppmSulfurppmSulfurppmSodiumppmPotassiumppmFLUID DEGRADATIONmg KOH/gVISUALvisualWhite MetalscalarYellow MetalscalarPrecipitatescalar	ASTM D5185m		0	0	0
Boron ppm Barium ppm Molybdenum ppm Manganese ppm Magnesium ppm Calcium ppm Calcium ppm Calcium ppm Calcium ppm Contamination ppm Sulfur ppm Solium ppm Sodium ppm Potassium ppm FLUID DEGRADATION Acid Number (AN) mg KOH/g VISUAL scalar Yellow Metal scalar Precipitate scalar	ASTM D5185m		0	0	0
Barium ppm Molybdenum ppm Manganese ppm Magnesium ppm Calcium ppm Calcium ppm Zinc ppm Zinc ppm Zinc ppm Sulfur ppm CONTAMINANTS Silicon ppm Sodium ppm Potassium ppm FLUID DEGRADATION Acid Number (AN) mg KOH/g VISUAL scalar Yellow Metal scalar Precipitate scalar	method	limit/base	current	history1	history2
Molybdenum ppm Manganese ppm Magnesium ppm Calcium ppm Phosphorus ppm Zinc ppm Sulfur ppm CONTAMINANTS Silicon ppm Sodium ppm Potassium ppm FLUID DEGRADATION Acid Number (AN) mg KOH/g VISUAL scalar Yellow Metal scalar Precipitate scalar	ASTM D5185m		0	0	2
ManganeseppmMagnesiumppmCalciumppmPhosphorusppmZincppmSulfurppmCONTAMINANTSSiliconppmSodiumppmPotassiumppmFLUID DEGRADATIONAcid Number (AN)mg KOH/gVISUALVISUALWhite MetalscalarYellow MetalscalarPrecipitatescalar	ASTM D5185m		1	0	0
MagnesiumppmCalciumppmCalciumppmPhosphorusppmZincppmSulfurppmCONTAMINANTSSiliconppmSodiumppmPotassiumppmFLUID DEGRADATIONAcid Number (AN)mg KOH/gVISUALvisual scalarYellow MetalscalarPrecipitatescalar	ASTM D5185m		0	0	0
CalciumppmPhosphorusppmPhosphorusppmZincppmSulfurppmCONTAMINANTSSiliconppmSodiumppmPotassiumppmFLUID DEGRADATIONAcid Number (AN)mg KOH/gVISUALVISUALWhite MetalscalarYellow MetalscalarPrecipitatescalar	ASTM D5185m		0	0	<1
Phosphorus ppm Zinc ppm Sulfur ppm CONTAMINANTS Silicon ppm Sodium ppm Potassium ppm FLUID DEGRADATION Acid Number (AN) mg KOH/g VISUAL scalar Yellow Metal scalar Precipitate scalar	ASTM D5185m		4	5	1
Zinc ppm Sulfur ppm CONTAMINANTS Silicon ppm Sodium ppm Potassium ppm FLUID DEGRADATION Acid Number (AN) mg KOH/g VISUAL mg KOH/g VISUAL scalar Yellow Metal scalar Precipitate scalar	ASTM D5185m		56	50	147
Sulfur ppm CONTAMINANTS Silicon ppm Sodium ppm Potassium ppm FLUID DEGRADATION Acid Number (AN) mg KOH/g VISUAL scalar Yellow Metal scalar Precipitate scalar	ASTM D5185m		344	377	438
CONTAMINANTSSiliconppmSodiumppmPotassiumppmFLUID DEGRADATIONAcid Number (AN)mg KOH/gVISUALVISUALWhite MetalscalarYellow MetalscalarPrecipitatescalar	ASTM D5185m		124	121	550
Silicon ppm Sodium ppm Potassium ppm FLUID DEGRADATION Acid Number (AN) mg KOH/g VISUAL mg KOH/g VISUAL scalar Yellow Metal scalar Precipitate scalar	ASTM D5185m		2610	3192	11192
Sodium     ppm       Potassium     ppm       FLUID DEGRADATION       Acid Number (AN)     mg KOH/g       VISUAL       White Metal     scalar       Yellow Metal     scalar       Precipitate     scalar	method	limit/base	current	history1	history2
Potassium ppm FLUID DEGRADATION Acid Number (AN) mg KOH/g VISUAL White Metal scalar Yellow Metal scalar Precipitate scalar	ASTM D5185m	>50	2	2	1
FLUID DEGRADATION       Acid Number (AN)     mg KOH/g       VISUAL       White Metal     scalar       Yellow Metal     scalar       Precipitate     scalar	ASTM D5185m		<1	2	10
Acid Number (AN) mg KOH/g VISUAL White Metal scalar Yellow Metal scalar Precipitate scalar	ASTM D5185m	>20	0	<1	0
VISUAL White Metal scalar Yellow Metal scalar Precipitate scalar	method	limit/base	current	history1	history2
White MetalscalarYellow MetalscalarPrecipitatescalar	ASTM D8045		0.86	0.95	0.78
Yellow MetalscalarPrecipitatescalar	method	limit/base	current	history1	history2
Precipitate scalar	*Visual	NONE	NONE	NONE	NONE
•	*Visual	NONE	NONE	NONE	NONE
Silt scalar	*Visual	NONE	NONE	NONE	NONE
	*Visual	NONE	NONE	NONE	NONE
Debris scalar		NONE	NONE	LIGHT	NONE
Sand/Dirt scalar	*Visual	NONE	NONE	NONE	NONE
Appearance scalar		NORML	NORML	NORML	NORML
Odor scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water scalar	*Visual *Visual	>0.2	NEG	NEG	NEG
Free Water scalar	*Visual *Visual *Visual		NEG	NEG	NEG

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# **OIL ANALYSIS REPORT**





Certificate L2367

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