

**HYDRAULIC SYSTEM**

EQUIP NUM: S522

SERIAL NUMBER: GTL04606

E459-55133-1024

SAMPLE SHIP TIME (days) : 5

RAGLE INC

RECEIVED DATE: 13-May-25

CAT 279D



NORMAL WEAR METAL READINGS. SAMPLE CONTAINS A MODERATE AMOUNT OF FINE NONMAGNETIC DEBRIS. TOO MUCH DEBRIS TO RUN PARTICLE COUNT. OTHER READINGS APPEAR TO BE NORMAL. INSPECT OIL FILTER(S) FOR ANY EVIDENCE OF LARGER VISIBLE DEBRIS TRAPPED IN THE FILTER ELEMENT(S). SUGGEST INSTALLING HIGH EFFICIENCY FILTERS. CK SAMPLING PROCEDURE. CONTINUE NORMALLY SCHEDULED SAMPLING.

Interp By: William Bebb

Interpreted On: 14-May-25

**SAMPLE INFORMATION**

	08-May-25	08-Apr-19
Sampled Date	08-May-25	08-Apr-19
Sample Id	E459-55133-1024	E130-49120-2007
Lab Date	13-May-25	30-Apr-19
Meter [Hr]	4965	190
Comp Meter [Hr]		190
Meter On Fluid	0	190
Fluid Brand	UNKNOWN	
Fluid Weight	UNKNOWN	
Fluid Type		
Fluid Change	N	N
Filter Change	N	Y
Kidney Loop	0	U

**ELEMENTAL ANALYSIS**

	08-May-25	08-Apr-19
<b>ELEMENTAL ANALYSIS (PPM) ASTM D5185 (OIL) / ASTM D6130 (COOLANT)</b>		
Cu Copper	7	7
Fe Iron	32	7
Cr Chromium	0	0
Al Aluminum	3	1
Pb Lead	1	2
Sn Tin	0	0
Si Silicon	7	1
Na Sodium	4	0
K Potassium	7	0
Mo Molybdenum	1	1
Ni Nickel	0	0
Ag Silver	0	0
Ti Titanium	0	
V Vanadium	0	
Ca Calcium	267	91
P Phosphorus	345	225
Zn Zinc	426	298
Mg Magnesium	17	3
B Boron	7	1

**PREVIOUS SAMPLE**

WEAR PATTERN APPEARS TO BE NORMAL ON A FIRST SAMPLE BASIS BUT THE SAMPLE SHOWS A MODERATE AMOUNT OF FINE DEBRIS THAT PREVENTS PARTICLE COUNT FROM BEING TESTED. CK TO SEE IF SAMPLE WAS TAKEN HOT. SYSTEM MUST BE HOT TO INSURE ACCURATE SAMPLE RESULTS. RESAMPLE AT FULL OPERATING TEMPERATURE TO VERIFY DATA.

For additional sample history, go to:

[S.O.S WEB](#)
**CONDITION-CONTAMINATION-FORMULATION**

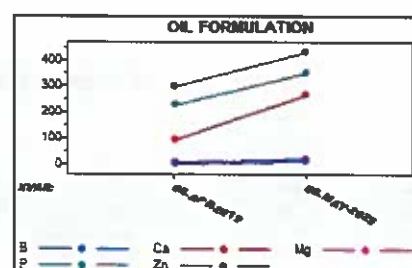
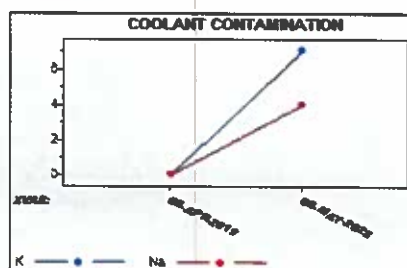
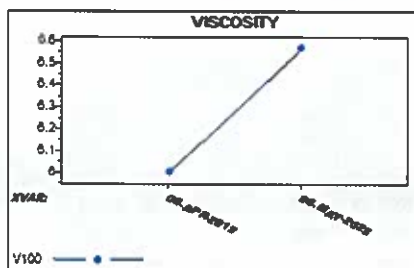
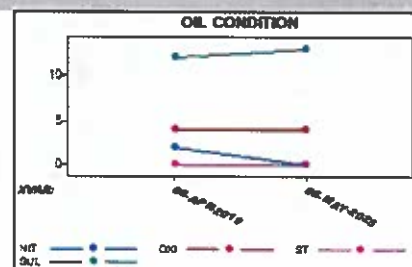
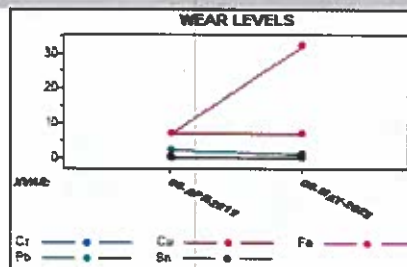
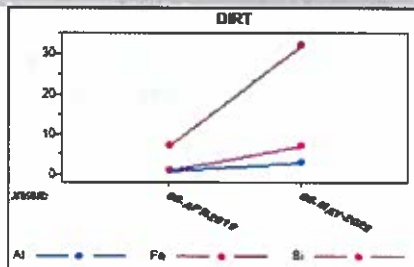
		08-May-25	08-Apr-19
VISCOSITY (CENTISTOKES) ASTM D445			
V100	Viscosity at 100 C	6.56	6.0
INFRARED (UFM) ASTM E2412			
ST	Soot	0	0
OXI	Oxidation	4	4
SUL	Sulfate By-Product	13	12
	Sulfur Products	13	12
NIT	Nitration	0	2

<b>WATER</b>		
W Water	N	N

<b>ANTIFREEZE</b>		
A Antifreeze	N	N

**CLEANLINESS**

	08-May-25	08-Apr-19
<b>PARTICLE COUNT - ISO 11171:1999 reported per ISO 4406</b>		
ISO ISO Code Rating	VP	



### Report Comment

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PHONE: 1-866-2WARREN

Web: warrencat.com Email: FluidsLab@WarrenCAT.com

## FINAL DRIVE REAR

## RIGHT

E459-55133-1172

SAMPLE SHIP TIME (days) : 5

RAGLE INC

RECEIVED DATE: 13-May-25

EQUIP NUM: S522

CAT 279D

NORMAL WEAR METAL READINGS  
AT THE NORMAL INTERVAL.

NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE. CONTINUE SAMPLING

SERIAL NUMBER: GTL04806

Interp By: Bailee Ford

Interpreted On: 14-May-25

## SAMPLE INFORMATION

## PREVIOUS SAMPLE

Sampled Date 08-May-25  
Sample Id E459-55133-1172  
Lab Date 13-May-25  
Meter [Hr] 2584  
Meter On Fluid 0  
Fluid Brand CAT  
Fluid Weight 30  
Fluid Type  
Fluid Change U  
Filter Change U  
Total Fluid Added 0

For additional sample history, go to:

[S.O.S WEB](#)

## CONDITION-CONTAMINATION-FORMULATION

08-May-25

## VISCOSITY (CENTISTOKES) ASTM D445

V100 Viscosity at 100 C 21.5

## INFRARED (UFM) ASTM E2412

ST Soot 0  
OXI Oxidation 66  
SUL Sulfate By-Product 68  
NIT Nitration 0

## WATER

W Water N

## ELEMENTAL ANALYSIS

08-May-25

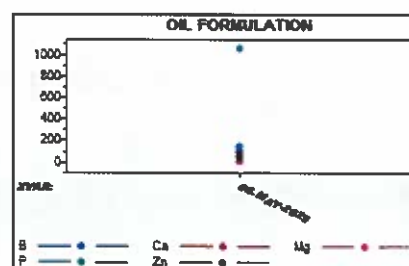
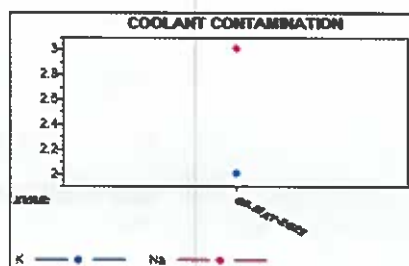
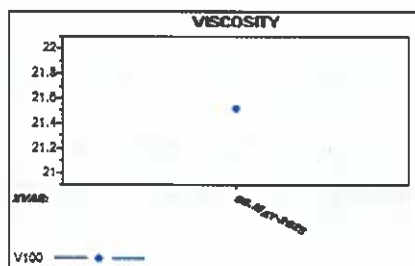
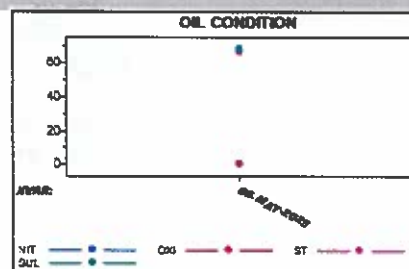
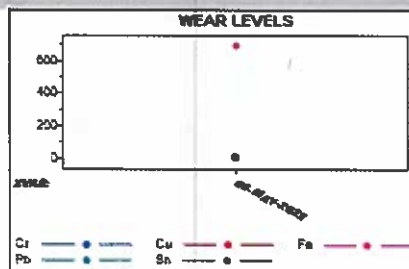
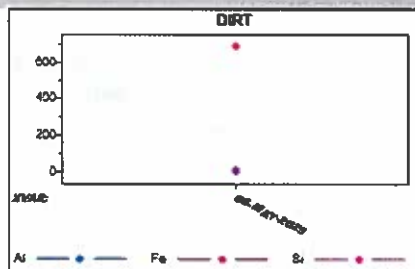
## ELEMENTAL ANALYSIS (PPM) ASTM D5185 (OIL) / ASTM D5130 (COOLANT)

Cu Copper 2  
Fe Iron 682  
Cr Chromium 7  
Al Aluminum 2  
Pb Lead 0  
Sn Tin 0  
Si Silicon 8  
Na Sodium 3  
K Potassium 2  
Mo Molybdenum 0  
Ni Nickel 0  
Ag Silver 0  
Ti Titanium 0  
V Vanadium 0  
Ca Calcium 85  
P Phosphorus 1038  
Zn Zinc 30  
Mg Magnesium 1  
B Boron 129

## CLEANLINESS

FINAL DRIVE REAR RIGHT  
SERIAL NUMBER: GTL04806  
EQUIP NUM: 8522  
CAT 279D

E458-55133-1172



### Report Comment

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USA

**ENGINE**

EQUIP NUM: S522

SERIAL NUMBER: GTL04806

**E459-55133-1128**

SAMPLE SHIP TIME (days) : 5

**RAGLE INC**

RECEIVED DATE: 13-May-25

**CAT 279D**

 NORMAL WEAR METAL READINGS.  
AT THE NORMAL INTERVAL.

NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE. CONTINUE SAMPLING

Interpret By: Balle Ford

Interpreted On: 14-May-25

**SAMPLE INFORMATION**

Sampled Date	08-May-25	08-Apr-19
Sample Id	E459-55133-1128	E130-49120-1035
Lab Date	13-May-25	30-Apr-19
Meter [Hr]	4965	190
Comp Meter [Hr]		190
Meter On Fluid	0	190
Fluid Brand	OTHER	
Fluid Weight	15W-40	
Fluid Type	VAL ALL	
Fluid Change	Y	Y
Filter Change	Y	Y
Kidney Loop	0	U

**PREVIOUS SAMPLE**

FIRST SAMPLE/NO TREND ESTABLISHED. DATA APPEARS TO SHOW NORMAL BREAK-IN WEAR. RESAMPLE IN 250 HRS TO ESTABLISH A TREND.

 For additional sample history, go to: [S.O.S WEB](#)
**CONDITION-CONTAMINATION-FORMULATION**

		08-May-25	08-Apr-19
<b>VISCOSITY (CENTISTOKES) ASTM D445</b>			
V100	Viscosity at 100 C	13.2	10.7

**INFRARED (UFM) ASTM E2412**

ST	Soot	7	1
OXI	Oxidation	23	20
SUL	Sulfate By-Product	26	22
	Sulfur Products	26	22
NIT	Nitration	1	7

**ELEMENTAL ANALYSIS**

08-May-25 08-Apr-19

**ELEMENTAL ANALYSIS (PPM) ASTM D5185 (OIL) / ASTM D8190 (COOLANT)**

Cu	Copper	1	13
Fe	Iron	12	15
Cr	Chromium	0	1
Al	Aluminum	2	2
Pb	Lead	0	0
Sn	Tin	0	0
Si	Silicon	9	17
Na	Sodium	4	6
K	Potassium	2	1
Mo	Molybdenum	83	38
Ni	Nickel	0	0
Ag	Silver	0	0
Ti	Titanium	0	
V	Vanadium	1	
Ca	Calcium	1322	1978
P	Phosphorus	931	923
Zn	Zinc	1109	1095
Mg	Magnesium	396	465
B	Boron	303	43

**WATER**

W	Water	N	N
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**ANTIFREEZE**

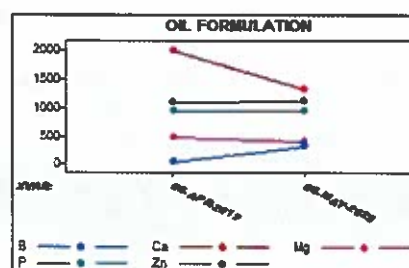
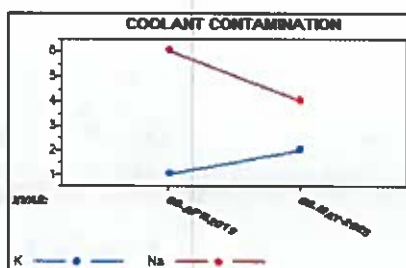
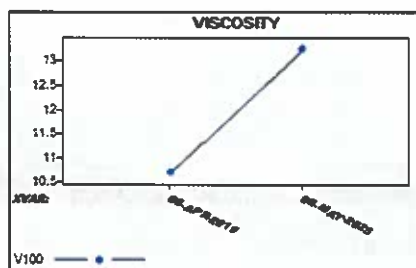
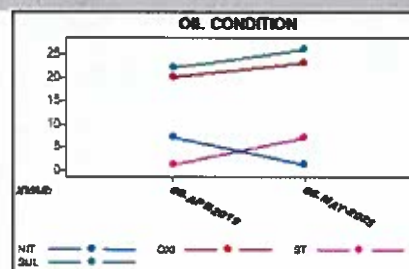
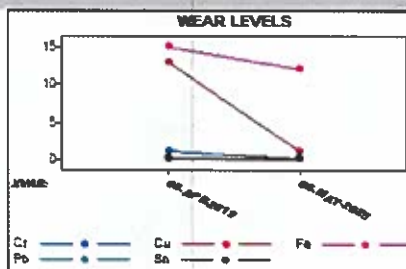
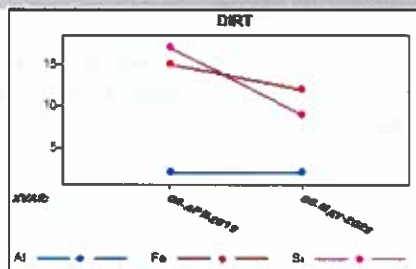
A	Antifreeze	N	N
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**FUEL**

F	Fuel	N	N
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ENGINE  
SERIAL NUMBER: GTL04806  
EQUIP NUM: 8622  
CAT 279D

E489-65133-1128



## Report Comment

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