



H177-54270-0619 No Action Required

C147 ASE02482 - CAT 14H

Engine Group :-

Customer : GUTIERREZ CANALES ENGINEERING PC

SOS SERVICES

Interpretation

Interpreted by: Larry Byington; 09/26/2024

SILICON IS ELEVATED AND POSSIBLY DUE TO REPAIR / SEALER / GREASE / ADDITIVE. ALL OTHER RESULTS APPEAR TO BE NORMAL. NO ACTION REQUIRED.

For additional sample history go to vl.cat.com

Sample Information

Action Required Monitor No Action No Comment

Sample Date	09/20/2024	10/13/2023	02/13/2023	08/08/2022
Sample ID	H177-54270-0619	H160-53291-0146	E480-53046-4040	E480-52228-2007
Lab Date	09/26/2024	10/18/2023	02/15/2023	08/18/2022
Submitted Date	09/26/2024	08/31/2024	08/31/2024	08/31/2024
Service Meter	17,491.0 h	17,173.0 h	17,030.0 h	16,476.0 h
Comp. Meter	-	17,173.0 h	-	-
Meter on Fluid	461.0 h	17,173.0 h	554.0 h	356.0 h
Fluid Brand	-	-	CHEVRON	CHEVRON
Fluid Type	-	-	-	-
Fluid Grade	-	-	10W-30	10W-30
Fluid Change	Yes	No	Yes	Yes
Filter Change	Yes	No	Yes	Yes

Elemental Analysis by ICP

Sample Date	09/20/2024	10/13/2023	02/13/2023	08/08/2022
Aluminum (PPM)	2	0	2	2
Barium (PPM)	0	0	0	0
Boron (PPM)	69	101	68	227
Calcium (PPM)	1,903	1,566	1,331	1,313
Chromium (PPM)	1	0	1	1
Copper (PPM)	4	5	8	9
Iron (PPM)	19	13	28	35
Lead (PPM)	3	1	1	3
Magnesium (PPM)	498	795	635	660
Manganese (PPM)	0	0	0	0
Molybdenum (PPM)	43	2	2	0
Nickel (PPM)	0	0	0	0

Notice: This analysis is intended only as an aid in predicting mechanical wear. It does not replace or negate the need for usual maintenance. No guarantee, express or implied, is made against failure, deterioration, or damage of the equipment or its components.



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Elemental Analysis by ICP

Sample Date	09/20/2024	10/13/2023	02/13/2023	08/08/2022
Phosphorus (PPM)	968	695	732	700
Potassium (PPM)	2	4	1	0
Silicon (PPM)	18	7	3	5
Silver (PPM)	0	0	0	0
Sodium (PPM)	9	10	4	1
Tin (PPM)	1	4	2	2
Titanium (PPM)	0	0	0	0
Vanadium (PPM)	0	0	0	0
Zinc (PPM)	1,138	920	755	738
Cadmium (PPM)	-	-	0	0

Infrared

Sample Date	09/20/2024	10/13/2023	02/13/2023	08/08/2022
Oxidation	17	12	16	12
Sulfur Products	21	18	22	18
Nitration	6	7	10	8
Soot	14	6	11	9
Antiwear	16	16	18	15

Viscosity at 100 °C

Sample Date	09/20/2024	10/13/2023	02/13/2023	08/08/2022
Viscosity at 100 C (CST)	12.60	12.00	11.2	10.2

Fuel

Sample Date	09/20/2024	10/13/2023	02/13/2023	08/08/2022
Fuel	N	N	N	N

Water

Sample Date	09/20/2024	10/13/2023	02/13/2023	08/08/2022
Water	N	N	N	N

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Antifreeze

Sample Date	09/20/2024	10/13/2023	02/13/2023	08/08/2022
Antifreeze	N	N	N	N

Total Base Number

Sample Date	09/20/2024	10/13/2023	02/13/2023	08/08/2022
Total Base Number	-	-	7.3	8.0

EMPIRE SOUTHWEST
1725 S Country Club Dr Mesa
85210-6003 USA

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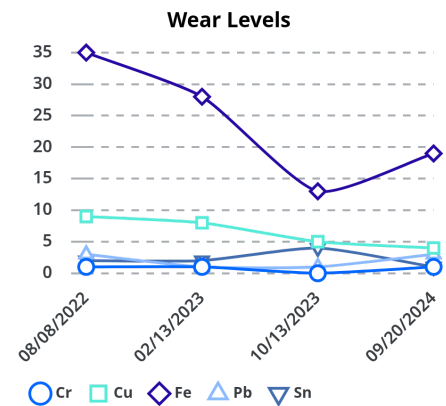
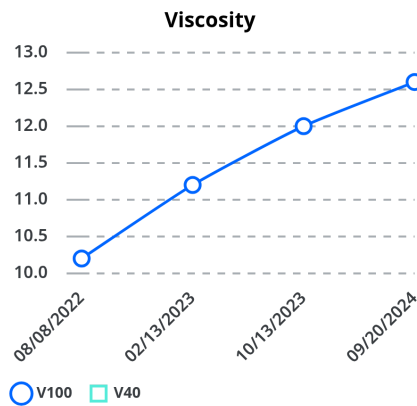
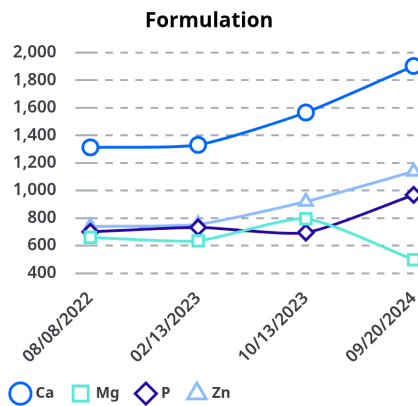
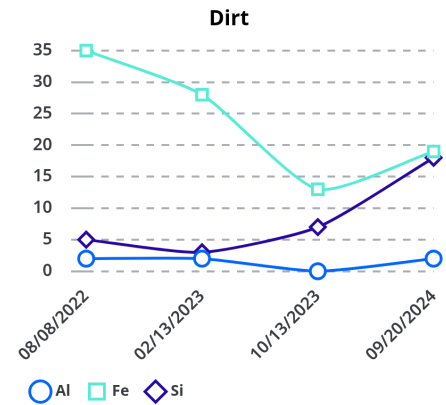
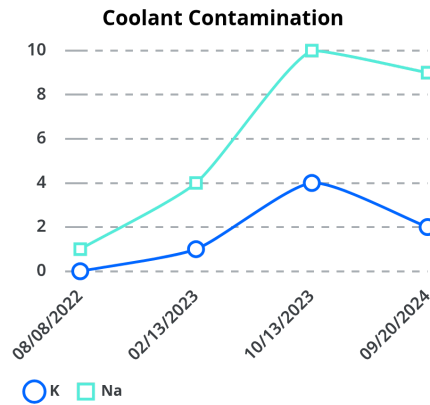
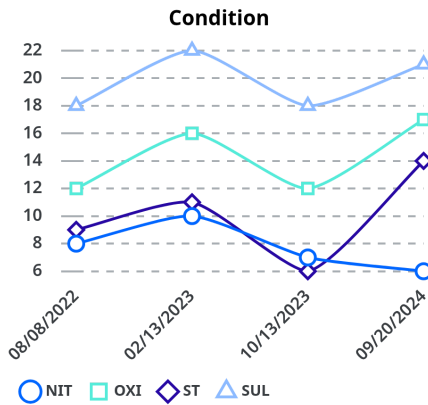
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