

WEAR SEVERE CONTAMINATION NORMAL FLUID CONDITION NORMAL

Machine Id **56E-5E** Component **Gearbox** Fluid HP GEAR LIFE ISO 150 (--- GAL) RECOMMENDATION

We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

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High concentration of visible metal present. Gear wear is indicated.

CONTAMINATION

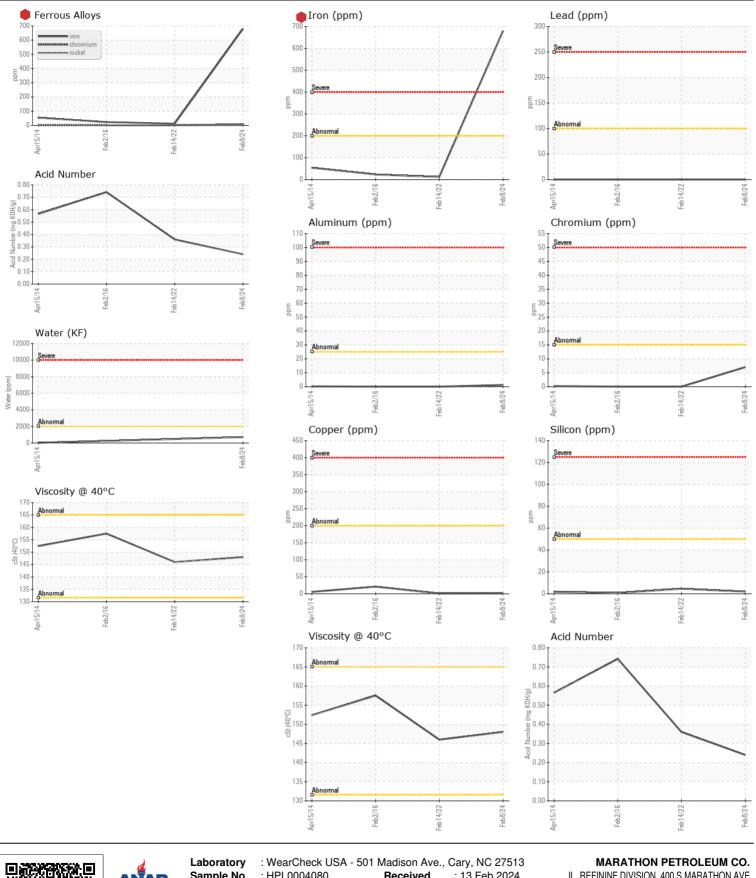
There is no indication of any contamination in the oil.

FLUID CONDITION

The AN level is acceptable for this fluid.

TestUOMMethodLimit/AbnCurrentHistory1HistorySample NumberClient InfoImit/AbnHPL0004080HPL007707HPL002Sample DateClient Info008 Feb 202414 Feb 202202 Feb 2Machine AgehrsClient InfoImit/Abn000Oil AgehrsClient InfoImit/Abn0000Filter AgehrsClient InfoImit/AbnN/AN/AN/AFilter ChangedClient InfoImit/AbnN/AN/AN/AN/AFilter ChangedClient InfoImit/AbnN/AN/AN/AFilter ChangedClient InfoImit/AbnN/AN/AN/AFilter ChangedClient InfoImit/AbnN/AN/AN/AFilter ChangedClient InfoImit/AbnN/AN/AN/AFilter ChangedClient InfoImit/AbnN/AN/AN/AFilter ChangedASTM D5185m200Imit/AbnN/AN/AIronppmASTM D5185m>15000NickelppmASTM D5185m>15000SilverppmASTM D5185m>25100AluminumppmASTM D5185m>100000LeadppmASTM D5185m>2001<121	2016
Sample DateClient Info08 Feb 202414 Feb 202202 Feb 2024Machine AgehrsClient Info000Oil AgehrsClient Info000Filter AgehrsClient Info000Oil ChangedClient InfoN/AN/AN/AN/AFilter ChangedClient InfoN/AN/AN/AN/AFilter ChangedClient InfoMN/AN/AN/ASample StatusSEVERENORMALNORMALNORMALIronppmASTM D5185m<>10000NickelppmASTM D5185m<>15700SilverppmASTM D5185m<>25100AluminumppmASTM D5185m<>25100AluminumppmASTM D5185m<>10000AluminumppmASTM D5185m<>10000AluminumppmASTM D5185m<>10000AluminumppmASTM D5185m<>10000AluminumppmASTM D5185m<>10000AluminumppmASTM D5185m<>10000AluminumppmASTM D5185m<>100000AluminumppmASTM D5185m<>100000AluminumppmASTM D5185m<>100000AluminumppmASTM D5185m<>100000<	2016
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Filter Age hrs Client Info 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Filter Changed Client Info N/A N/A N/A N/A Filter Changed Client Info N/A N/A N/A N/A Sample Status SEVERE NORMAL NORMAL NORMAL Iron ppm ASTM D5185m<>200 679 12 23 Chromium ppm ASTM D5185m<>15 7 0 0 Nickel ppm ASTM D5185m<>15 0 0 0 Titanium ppm ASTM D5185m 23 0 0 0 Silver ppm ASTM D5185m 25 1 0 0 0 Aluminum ppm ASTM D5185m >20 0 0 0 0	AL
Oil ChangedClient InfoN/AN/AN/AFilter ChangedClient InfoN/AN/AN/ASample StatusClient InfoN/AN/AN/AIronppmASTM D5185m>2006791223ChromiumppmASTM D5185m>15700NickelppmASTM D5185m>15000TitaniumppmASTM D5185m>15000SilverppmASTM D5185m>25100AluminumppmASTM D5185m>25100ASTM D5185m>1000000	AL
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Sample Status SEVERE NORMAL NORMAL Iron ppm ASTM D5185m >200 679 12 23 Chromium ppm ASTM D5185m >15 7 0 0 Nickel ppm ASTM D5185m >15 0 0 0 Titanium ppm ASTM D5185m >15 0 0 0 Silver ppm ASTM D5185m >25 1 0 0 Aluminum ppm ASTM D5185m >25 1 0 0	AL
Iron ppm ASTM D5185m >200 679 12 23 Chromium ppm ASTM D5185m >15 7 0 0 Nickel ppm ASTM D5185m >15 0 0 0 Titanium ppm ASTM D5185m >15 0 0 0 Silver ppm ASTM D5185m 20 <1	AL
Chromium ppm ASTM D5185m >15 7 0 0 Nickel ppm ASTM D5185m >15 0 0 0 Titanium ppm ASTM D5185m <15	
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Nickel ppm ASTM D5185m >15 0 0 0 Titanium ppm ASTM D5185m <	
Titanium ppm ASTM D5185m <1	
Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >25 1 0 0 Lead ppm ASTM D5185m >100 0 0 0	
Aluminum ppm ASTM D5185m >25 1 0 0 Lead ppm ASTM D5185m >100 0 0 0	
Lead ppm ASTM D5185m >100 0 0	
Copper ppm ASTM D5185m >200 1 <1 21	
Tin ppm ASTM D5185m >25 0 0 3	
Vanadium ppm ASTM D5185m 0 0 0	
White Metal scalar *Visual NONE NONE NONE NONE	١E
Yellow Metal scalar *Visual NONE A HEAVY NONE NOI	١E
Silicon ppm ASTM D5185m >50 2 5 <1	
Potassium ppm ASTM D5185m >20 1 0 <1	
Water % ASTM D6304 >0.2 0.071	
ppm Water ppm ASTM D6304 >2000 710	
Silt scalar *Visual NONE NONE NONE NONE	١E
Debris scalar *Visual NONE NONE LIGHT LIG	HT
Sand/Dirt scalar *Visual NONE NONE NONE NO	١E
Appearance scalar *Visual NORML NORML NORML NOR	RML
Odor scalar *Visual NORML NORML NORML NOR	RML
Emulsified Water scalar *Visual >0.2 0.2% NEG NEG	à
Sodium ppm ASTM D5185m 0 <1	
Boron ppm ASTM D5185m O <1	
Barium ppm ASTM D5185m O O O Mathematica ASTM D5185m O	
Molybdenum ppm ASTM D5185m 0 3 0 Moreconnect ASTM D5185m 0 3 0	
Manganese ppm ASTM D5185m 2 0 0 Manganese ppm ASTM D5185m 2 0 0	
Magnesium ppm ASTM D5185m 3 0 0 Optimize none ACTM D5185m 0 0 11	
Calcium ppm ASTM D5185m 6 0 11 Describury: none ASTM D5185m 6 0 11	
Phosphorus ppm ASTM D5185m 142 56 201 Zias ADTM D5185m 0 0 0 0 0	
Zinc ppm ASTM D5185m 0 <1 0	0.0
Sulfur ppm ASTM D5185m 20975 16228 209	
Acid Number (AN) mg KOH/g ASTM D8045 0.24 0.36 0.74	
Visc @ 40°C cSt ASTM D445 146 157	.5

Contact/Location: M.S. MANHART - MARROB



: HPL0004080 : 13 Feb 2024 IL. REFININF DIVISION, 400 S MARATHON AVE Sample No. Received Lab Number : 06087570 : 14 Feb 2024 ROBINSON, IL Tested Unique Number : 10875015 : 14 Feb 2024 - Don Baldridge US 62454 Diagnosed Test Package : MOB 2 (Additional Tests: KF) Contact: M.S. MANHART Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. mmanhart@marathonpetroleum.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (618)544-2121 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: x: