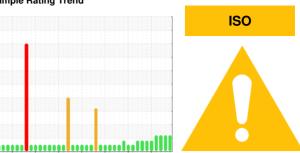


# **OIL ANALYSIS REPORT**

Sample Rating Trend



# **MIX ROOM D [98996501]** KR-GR-003113 - WEST DUMPER (S/N MIX D - 11513072)

Hydraulic System

**AW HYDRAULIC OIL ISO 68 (--- GAL)** 

### **DIAGNOSIS**

### Recommendation

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

There is a high amount of silt (particulates < 14 microns in size) present in the oil.

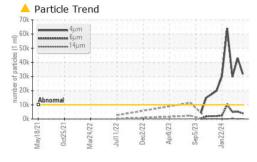
### **Fluid Condition**

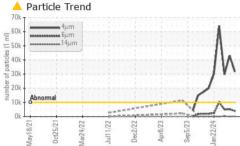
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

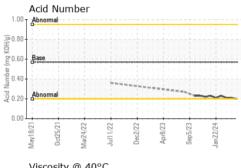
| w2021 Oct021 Mac022 Ju2022 Occ2022 Apr2023 Sep2023 Jun2024   |   |  |  |  |  |   |
|--|---|--|--|--|--|---|
| SAMPLE INFORI  | MATION  | method   | limit/base   | current  | history1   | history2  |
| Sample Number  |   | Client Info  |  | PCA0124749   | PCA0114147   | PCA0119593  |
| Sample Date  |   | Client Info  |  | 24 May 2024  | 24 May 2024  | 16 Apr 2024   |
| Machine Age  | hrs   | Client Info  |  | 0  | 0  | 0   |
| Oil Age  | hrs   | Client Info  |  | 0  | 0  | 0   |
| Oil Changed  |   | Client Info  |  | N/A  | N/A  | Not Changd  |
| Sample Status  |   |  |  | ABNORMAL   | ABNORMAL   | ABNORMAL  |
| CONTAMINAT   | ION   | method   | limit/base   | current  | history1   | history2  |
| Water  |   | WC Method  | >0.05  | NEG  | NEG  | NEG   |
| WEAR METAL   | S   | method   | limit/base   | current  | history1   | history2  |
| Iron   | ppm   | ASTM D5185m  | >20  | <1   | <1   | 0   |
| Chromium   | ppm   | ASTM D5185m  | >20  | <1   | <1   | 0   |
| Nickel   | ppm   | ASTM D5185m  | >20  | 0  | 0  | 0   |
| Titanium   | ppm   | ASTM D5185m  |  | <1   | <1   | <1  |
| Silver   | ppm   | ASTM D5185m  |  | 0  | 0  | 0   |
| Aluminum   | ppm   | ASTM D5185m  | >20  | 2  | 2  | 0   |
| Lead   | ppm   | ASTM D5185m  | >20  | <1   | <1   | 0   |
| Copper   | ppm   | ASTM D5185m  | >20  | <1   | <1   | <1  |
| Tin  | ppm   | ASTM D5185m  | >20  | <1   | <1   | 0   |
| Vanadium   | ppm   | ASTM D5185m  |  | 0  | 0  | <1  |
| Cadmium  | ppm   | ASTM D5185m  |  | 0  | 0  | 0   |
|  |   |  |  |  |  |   |
| ADDITIVES  |   | method   | limit/base   | current  | history1   | history2  |
| ADDITIVES Boron  | ppm   | method<br>ASTM D5185m  | limit/base   | current<br>0   | history1   | history2<br>0   |
|  | ppm<br>ppm  |  |  |  |  |   |
| Boron  |   | ASTM D5185m  | 5  | 0  | 0  | 0   |
| Boron<br>Barium  | ppm   | ASTM D5185m<br>ASTM D5185m   | 5<br>5   | 0<br><1  | 0 <1   | 0   |
| Boron<br>Barium<br>Molybdenum  | ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 5<br>5   | 0<br><1<br><1  | 0<br><1<br><1  | 0<br>0<br>0   |
| Boron<br>Barium<br>Molybdenum<br>Manganese   | ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 5<br>5<br>5  | 0<br><1<br><1<br>0                                     | 0<br><1<br><1<br>0   | 0<br>0<br>0   |
| Boron Barium Molybdenum Manganese Magnesium  | ppm<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 5<br>5<br>5<br>25  | 0<br><1<br><1<br>0<br><1                               | 0<br><1<br><1<br>0<br><1   | 0<br>0<br>0<br>0<br><1  |
| Boron Barium Molybdenum Manganese Magnesium Calcium  | ppm<br>ppm<br>ppm<br>ppm                                    | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 5<br>5<br>5<br>25<br>200   | 0<br><1<br><1<br>0<br><1                               | 0 <1 <1 <0 <1 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0                                   | 0<br>0<br>0<br>0<br><1  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus   | ppm<br>ppm<br>ppm<br>ppm<br>ppm                             | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 5<br>5<br>5<br>25<br>200<br>300  | 0<br><1<br><1<br>0<br><1<br><1<br>388                  | 0 <1 <1 0 <1 0 377   | 0<br>0<br>0<br>0<br><1<br>0<br>349  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 5<br>5<br>5<br>25<br>200<br>300<br>370   | 0 <1 <1 0 <1 <1 <1 388 <1                              | 0 <1 <1 0 <1 0 377 0   | 0<br>0<br>0<br>0<br><1<br>0<br>349  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 5<br>5<br>5<br>25<br>200<br>300<br>370<br>2500   | 0<br><1<br><1<br>0<br><1<br><1<br>388<br><1            | 0 <1 <1 0 <1 0 377 0 401   | 0<br>0<br>0<br>0<br><1<br>0<br><1<br>0<br>349<br>0<br>498   |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm        | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 5<br>5<br>5<br>25<br>200<br>300<br>370<br>2500<br>limit/base   | 0 <1 <1 0 <1 388 <1 393 current                        | 0 <1 <1 0 <1 0 377 0 401 history1  | 0<br>0<br>0<br>0<br><1<br>0<br>349<br>0<br>498  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m  | 5<br>5<br>5<br>25<br>200<br>300<br>370<br>2500<br>limit/base<br>>15  | 0 <1 <1 <1 0 <1 388 <1 393 current                     | 0 <1 <1<br>0 <1<br>0 <1<br>0<br>377<br>0<br>401<br>history1<br>2                       | 0<br>0<br>0<br>0<br><1<br>0<br><1<br>0<br>349<br>0<br>498<br>history2   |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m  | 5<br>5<br>5<br>25<br>200<br>300<br>370<br>2500<br>limit/base<br>>15  | 0  | 0 <1 <1<br>0 <1<br>0 <1<br>0<br>377<br>0<br>401<br>history1<br>2<br>0                  | 0<br>0<br>0<br>0<br><1<br>0<br>349<br>0<br>498<br>history2  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m  | 5<br>5<br>5<br>25<br>200<br>300<br>370<br>2500<br>limit/base<br>>15<br>>20   | 0 <1 <1 0 <1 388 <1 393 current 2 0 1                  | 0 <1 <1 0 <1 0 377 0 401 history1 2 0 1  | 0<br>0<br>0<br>0<br><1<br>0<br>349<br>0<br>498<br>history2<br>1<br>0<br><1  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEANI  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m  | 5<br>5<br>5<br>25<br>200<br>300<br>370<br>2500<br>limit/base<br>>15<br>>20   | 0  | 0 <1 <1<br>0 <1<br>0 <1<br>0<br>377<br>0<br>401<br>history1<br>2<br>0<br>1<br>history1 | 0<br>0<br>0<br>0<br><1<br>0<br>349<br>0<br>498<br>history2<br>1<br>0<br><1  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEANI Particles >4µm   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m  | 5<br>5<br>5<br>25<br>200<br>300<br>370<br>2500<br>limit/base<br>>15<br>>20<br>limit/base<br>>10000                                 | 0 <1 <1 <1 0 <1 388 <1 393 current 2 0 1 current 43060 | 0  | 0<br>0<br>0<br>0<br><1<br>0<br>349<br>0<br>498<br>history2<br>1<br>0<br><1<br>history2  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEANL Particles >4µm Particles >6µm                                  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m  Method ASTM D5185m                      | 5<br>5<br>5<br>25<br>200<br>300<br>370<br>2500<br>limit/base<br>>15<br>>20<br>limit/base<br>>10000<br>>2500                        | 0 <1 <1 <1 0 <1 388 <1 393                             | 0  | 0<br>0<br>0<br>0<br><1<br>0<br>349<br>0<br>498<br>history2<br>1<br>0<br><1<br>history2<br>^ 29724<br>4911                     |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  CONTAMINAN Silicon Sodium Potassium FLUID CLEANL Particles >4µm Particles >6µm Particles >14µm                 | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m  Method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647               | 5<br>5<br>5<br>25<br>200<br>300<br>370<br>2500<br>limit/base<br>>15<br>>20<br>limit/base<br>>10000<br>>2500<br>>640<br>>160<br>>40 | 0 <1 <1 <1 0 <1 388 <1 393                             | 0  | 0<br>0<br>0<br>0<br>0<br><1<br>0<br>349<br>0<br>498<br>history2<br>1<br>0<br><1<br>history2<br>△ 29724<br>△ 4911<br>265       |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  CONTAMINAN Silicon Sodium Potassium FLUID CLEANI Particles >4µm Particles >14µm Particles >21µm                | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m  method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 | 5<br>5<br>5<br>25<br>200<br>300<br>370<br>2500<br>limit/base<br>>15<br>>20<br>limit/base<br>>10000<br>>2500<br>>640<br>>160<br>>40 | 0 <1 <1 <1 0 <1 388 <1 393                             | 0  | 0<br>0<br>0<br>0<br><1<br>0<br>349<br>0<br>498<br>history2<br>1<br>0<br><1<br>history2<br>△ 29724<br>△ 4911<br>265<br>41      |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEANL Particles >4µm Particles >14µm Particles >21µm Particles >38µm | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m  Method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647               | 5<br>5<br>5<br>25<br>200<br>300<br>370<br>2500<br>limit/base<br>>15<br>>20<br>limit/base<br>>10000<br>>2500<br>>640<br>>160<br>>40 | 0 <1 <1 <1 0 <1 388 <1 393                             | 0  | 0<br>0<br>0<br>0<br><1<br>0<br>349<br>0<br>498<br>history2<br>1<br>0<br><1<br>history2<br>▲ 29724<br>▲ 4911<br>265<br>41<br>1 |

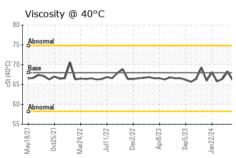


# **OIL ANALYSIS REPORT**







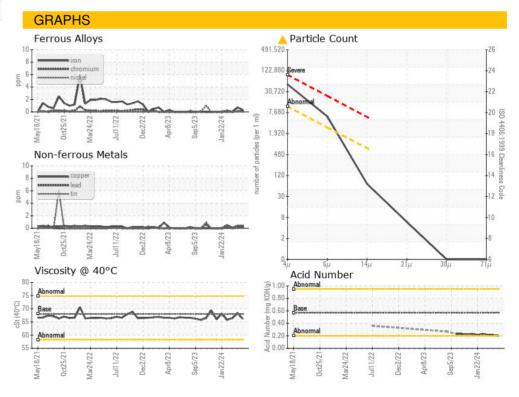


| VISUAL                  |        | method  | limit/base | current | history1 | history2 |
|-------------------------|--------|---------|------------|---------|----------|----------|
| White Metal             | scalar | *Visual | NONE       | NONE    | NONE     | NONE     |
| Yellow Metal            | scalar | *Visual | NONE       | NONE    | NONE     | NONE     |
| Precipitate             | scalar | *Visual | NONE       | NONE    | NONE     | NONE     |
| Silt                    | scalar | *Visual | NONE       | NONE    | NONE     | NONE     |
| Debris                  | scalar | *Visual | NONE       | NONE    | NONE     | LIGHT    |
| Sand/Dirt               | scalar | *Visual | NONE       | NONE    | NONE     | NONE     |
| Appearance              | scalar | *Visual | NORML      | NORML   | NORML    | NORML    |
| Odor                    | scalar | *Visual | NORML      | NORML   | NORML    | NORML    |
| <b>Emulsified Water</b> | scalar | *Visual | >0.05      | NEG     | NEG      | NEG      |
| Free Water              | scalar | *Visual |            | NEG     | NEG      | NEG      |
|                         | DTIEC  | mothod  | limit/baso | ourront | history1 | history? |

| I LOID I HOI L |     | 111011100 | mm bacc | oarront | Thotory I | i ilotoi y |
|----------------|-----|-----------|---------|---------|-----------|------------|
| Visc @ 40°C    | cSt | ASTM D445 | 68      | 66.1    | 68.3      | 66.4       |

| SAMPLE IMAGES | method | limit/base | current | histor |
|---------------|--------|------------|---------|--------|
| Color         |        |            |         |        |

**Bottom** 







Laboratory Sample No.

Lab Number : 06195385 Unique Number : 11057508

: PCA0124749

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 30 May 2024 **Tested** : 31 May 2024

Diagnosed : 31 May 2024 - Angela Borella

2504 INDUSTRIAL DR KIRKSVILLE, MO US 63501

Contact: WALLACE WARD

wallace.ward@kraftheinzcompany.com T: (660)627-1031

Test Package : IND 2 Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

KraftHeinz - Kirksville - Plant 8333 PCA

F: (660)627-5887

history2