

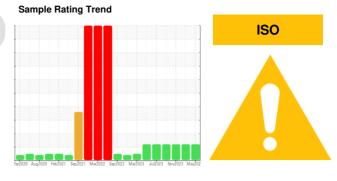
OIL ANALYSIS REPORT

GRIND ROOM [98996224]

KR-GR-002491 - INCLINE AUGER 8A (S/N GRIND A - 11513018)

Gearbox

PETRO CANADA 220 (17 QTS)



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. 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.

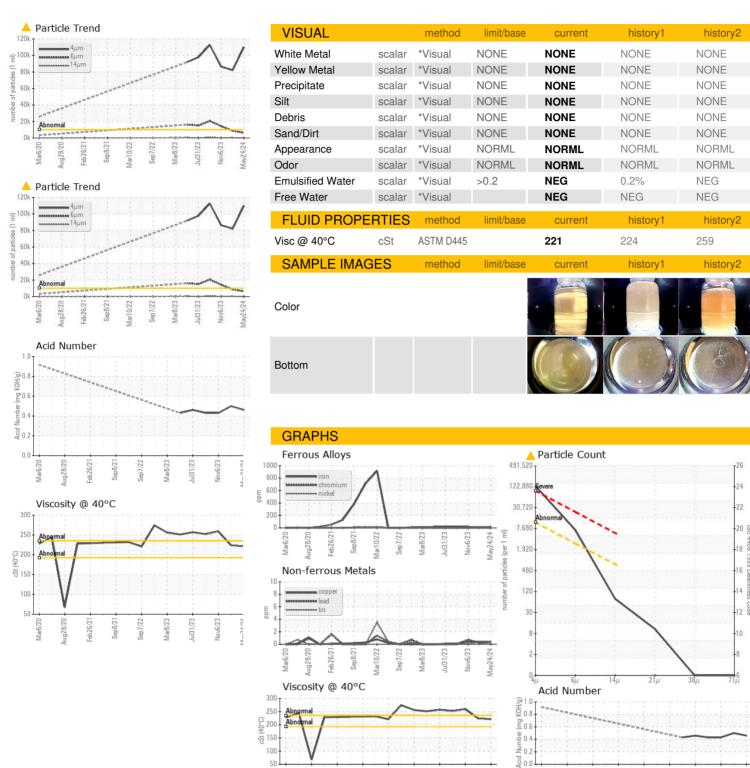
Fluid Condition

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

| Sample Number Sample Date Machine Age hrs Oil Age Oil Changed Sample Status CONTAMINATION Water WEAR METALS Iron pp Chromium pp Nickel pp Titanium pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Vanadium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp Zinc pp | Client Info Client Info Client Info Client Info Client Info WC Metho MC Metho METHOD MASTM D51850 | limit/base lim | PCA0122297 24 May 2024 0 0 N/A ABNORMAL | PCA0116076 11 Mar 2024 0 0 N/A ABNORMAL history1 NEG history1 7 <1 0 <1 0 3 <1 <1 <1 <1 <1 <1 history1 <1 history1 7 | PCA0110820 06 Nov 2023 0 0 N/A ABNORMAL history2 NEG history2 16 0 <1 <1 0 0 <1 <1 0 history2 |
|--|---|--|--|--|--|
| Machine Age hrs Oil Age Oil Changed Sample Status CONTAMINATION Water WEAR METALS Iron pp Chromium pp Nickel pp Titanium pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Vanadium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Calcium pp Phosphorus pp | Client Info WC Metho WC Metho MASTM D51850 | limit/base d >0.2 limit/base m >200 m >15 m >15 m >10 m >25 m >100 m >25 m >200 m >25 m >100 m >25 m | 0 0 N/A ABNORMAL current NEG current 16 <1 0 <1 0 2 <1 <1 <1 <1 <1 0 0 0 | 0 0 N/A ABNORMAL history1 NEG history1 7 <1 0 <1 0 <1 0 <1 0 <1 0 <1 | 0 0 N/A ABNORMAL history2 NEG history2 16 0 <1 <1 <1 0 0 <1 <1 0 |
| Oil Age Oil Changed Sample Status CONTAMINATION Water WEAR METALS Iron pp Chromium pp Nickel pp Titanium pp Aluminum pp Vanadium pp Vanadium pp Vanadium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Calcium pp Calcium pp | Client Info Client Info Client Info Client Info Client Info WC Metho MC Metho METHOD MASTM D51850 | limit/base lim | 0 N/A ABNORMAL current NEG current 16 <1 0 <1 0 2 <1 <1 <1 <1 <1 0 0 0 | 0 N/A ABNORMAL history1 NEG history1 7 <1 0 <1 0 3 <1 <1 <1 <1 <1 <1 <1 <1 | 0 N/A ABNORMAL history2 NEG history2 16 0 <1 <1 0 <1 <1 0 0 <1 <1 0 0 <1 <1 0 0 0 <1 <1 0 0 0 |
| Oil Changed Sample Status CONTAMINATION Water WEAR METALS Iron pp Chromium pp Nickel pp Titanium pp Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Calcium pp Phosphorus pp | Client Info WC Method WC Method M ASTM D51856 | limit/base d >0.2 limit/base m >200 m >15 m >15 m >15 m >25 m >100 m >250 m >25 m >100 m >25 m | N/A ABNORMAL current NEG current 16 <1 0 <1 0 2 <1 <1 <1 <1 <1 <1 <0 0 0 | N/A ABNORMAL history1 NEG history1 7 <1 0 <1 0 3 <1 <1 <1 <1 <1 <1 <1 <1 <1 | N/A ABNORMAL history2 NEG history2 16 0 <1 <1 0 <1 <1 0 0 <1 <1 0 0 0 <1 <1 0 0 0 0 |
| Oil Changed Sample Status CONTAMINATION Water WEAR METALS Iron pp Chromium pp Nickel pp Titanium pp Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Calcium pp Phosphorus pp | M method | limit/base d >0.2 | ABNORMAL current NEG current 16 <1 0 <1 0 2 <1 <1 <1 <1 <1 <1 <1 0 0 0 | ABNORMAL history1 NEG history1 7 <1 0 <1 0 3 <1 <1 <1 <1 <1 <1 <1 | ABNORMAL history2 NEG history2 16 0 <1 <1 0 <1 <1 0 0 <1 <1 0 0 0 <1 <1 |
| Sample Status CONTAMINATION Water WEAR METALS Iron pp Chromium pp Nickel pp Titanium pp Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp Zinc pp | WC Method method method m ASTM D5185i | limit/base | current NEG current 16 <1 0 <1 0 2 <1 <1 <1 <1 <1 <1 <0 0 | history1 NEG history1 7 <1 0 <1 0 3 <1 <1 <1 <1 <1 <1 <1 | history2 NEG history2 16 0 <1 <1 0 0 <1 <1 0 0 0 <1 0 0 0 0 0 |
| Water WEAR METALS Iron pp Chromium pp Nickel pp Titanium pp Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Calcium pp | WC Method method method m ASTM D5185i | limit/base | NEG current 16 <1 0 <1 0 2 <1 <1 <1 <1 <1 0 0 0 | NEG history1 7 <1 0 <1 0 3 <1 <1 <1 <1 <1 <1 <1 <1 | NEG history2 16 0 <1 <1 0 0 <1 <1 0 0 0 <1 <1 0 0 0 0 0 |
| WEAR METALS Iron pp Chromium pp Nickel pp Titanium pp Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Cadmium pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp | method om ASTM D51856 | limit/base m >200 m >15 m >15 m >15 m >25 m >100 m >25 m >200 m >25 m >100 m >25 m >25 m | current 16 <1 0 <1 0 2 <1 <1 <1 <1 <1 0 0 | NEG history1 7 <1 0 <1 0 3 <1 <1 <1 <1 <1 <1 <1 <1 | history2 16 0 <1 <1 0 <1 <1 0 0 <1 <1 0 0 <1 0 0 0 0 |
| Iron pp Chromium pp Nickel pp Titanium pp Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Cadmium pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp | ASTM D51850 | m >200 m >15 m >15 m >15 m = 15 m = 25 m >100 m >200 m >25 m = 100 m >25 m = 100 | 16 <1 0 <1 0 <2 <1 <1 <1 <1 <1 <0 0 | 7 | 16 0 <1 <1 0 0 <1 <1 0 0 |
| Chromium pp Nickel pp Titanium pp Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp | ASTM D51850 | m >15 m >15 m = 15 m = 100 m >25 m >100 m >200 m >25 m = 1imit/base | <1 0 <1 0 2 <1 <1 <1 <1 0 | <1 0 <1 0 3 <1 <1 <1 <1 <1 | 0 <1 <1 0 0 <1 <1 0 0 <1 <1 0 0 0 0 0 0 |
| Chromium pp Nickel pp Nickel pp Titanium pp Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Calcium pp | ASTM D51850 | m >15 m | 0 <1 0 2 <1 <1 <1 <1 0 0 0 | 0 <1 0 3 <1 <1 <1 <1 <1 <1 <1 | <1 <1 0 0 0 <1 <1 0 0 0 0 0 0 0 0 0 0 0 |
| Nickel pp Titanium pp Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Calcium pp | ASTM D51850 MASTM D51850 | m >15 m | 0 <1 0 2 <1 <1 <1 <1 0 0 0 | 0 <1 0 3 <1 <1 <1 <1 <1 <1 <1 | <1 <1 0 0 0 <1 <1 0 0 0 0 0 0 0 0 0 0 0 |
| Titanium pp Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp | ASTM D51850 MASTM D51850 | m >25 m >100 m >200 m >25 m 1imit/base | <1 0 2 <1 <1 <1 0 | <1 0 3 <1 <1 <1 <1 <1 | <1 0 0 <1 <1 <1 0 |
| Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp | ASTM D51850 M ASTM D51850 | m >25 m >25 m >100 m >200 m >25 m m | 0 2 <1 <1 <1 0 | 0 3 <1 <1 <1 <1 <1 | 0 0 <1 <1 0 0 |
| Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp | ASTM D51856 Method ASTM D51856 ASTM D51856 | m >25 m >100 m >200 m >25 m | 2 <1 <1 <1 <0 0 | 3 <1 <1 <1 <1 <1 <1 <1 <1 <1 | 0 <1 <1 0 0 0 0 0 |
| Lead pp Copper pp Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp | ASTM D51856 ASTM D51856 ASTM D51856 ASTM D51856 ASTM D51856 ASTM D51856 Method ASTM D51856 | m >100 m >200 m >25 m | <1 <1 <1 0 0 | <1 <1 <1 <1 <1 | <1 <1 0 0 |
| Copper pp Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp Zinc pp | ASTM D51856 ASTM D51856 ASTM D51856 ASTM D51856 Method ASTM D51856 | m >200 m >25 m n | <1 <1 0 0 | <1 <1 <1 <1 | <1 0 0 0 |
| Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp | ASTM D51856 ASTM D51856 ASTM D51856 method MASTM D51856 | m >25 m limit/base | <1 0 0 | <1 <1 <1 | 0 0 0 |
| Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp Zinc pp | ASTM D51856 ASTM D51856 method am ASTM D51856 | m limit/base | 0 0 | <1 <1 | 0 |
| Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp | method ASTM D5185 method ASTM D5185 | m limit/base | 0 | <1 | 0 |
| ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp Zinc pp | method om ASTM D5185 | limit/base | - | | |
| Boron pp Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp Zinc pp | m ASTM D5185 | | current | history1 | history2 |
| Barium pp Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp Zinc pp | | m | | | |
| Molybdenum pp Manganese pp Magnesium pp Calcium pp Phosphorus pp Zinc pp | | | 0 | 0 | 0 |
| Manganese pp Magnesium pp Calcium pp Phosphorus pp Zinc pp | m ASTM D5185 | m | <1 | <1 | 0 |
| Magnesium pp Calcium pp Phosphorus pp Zinc pp | m ASTM D5185 | m | <1 | 0 | 0 |
| Calcium pp Phosphorus pp Zinc pp | om ASTM D5185 | m | <1 | <1 | 1 |
| Phosphorus pp Zinc pp | m ASTM D5185 | m | <1 | <1 | 0 |
| Zinc pp | om ASTM D5185 | m | 2 | 4 | 18 |
| | m ASTM D5185 | m | 405 | 447 | 401 |
| Sulfur pp | m ASTM D5185 | m | 2 | 3 | 0 |
| ou pp | om ASTM D5185 | m | 1437 | 1509 | 2556 |
| CONTAMINANTS | method | limit/base | current | history1 | history2 |
| Silicon pp | m ASTM D5185 | m >50 | 3 | 3 | 2 |
| Sodium pp | om ASTM D5185 | m | <1 | 0 | 2 |
| Potassium pp | m ASTM D5185 | m >20 | 1 | 1 | <1 |
| FLUID CLEANLINI | ESS method | limit/base | current | history1 | history2 |
| Particles >4µm | ASTM D764 | 7 >10000 | <u> </u> | ▲ 81930 | <u>▲</u> 86437 |
| Particles >6µm | ASTM D764 | 7 >2500 | <u></u> 6149 | ▲ 8811 | <u> </u> |
| Particles >14µm | ASTM D764 | 7 >640 | 66 | 367 | 276 |
| Particles >21µm | ASTM D764 | 7 >160 | 9 | 69 | 54 |
| Particles >38µm | ASTM D764 | 7 >40 | 0 | 0 | 2 |
| Particles >71µm | ASTM D764 | 7 >10 | 0 | 0 | 0 |
| Oil Cleanliness | ISO 4406 (d | >20/18/16 | <u>4</u> 24/20/13 | <u>4</u> 24/20/16 | <u>4</u> 24/21/15 |
| FLUID DEGRADAT | , | | | | |



OIL ANALYSIS REPORT







Certificate 12367

Laboratory

Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0122297

50

Lab Number : 06195368 Unique Number : 11057491

Tested Diagnosed Test Package : IND 2 (Additional Tests: PrtCount)

Received : 30 May 2024 : 31 May 2024

: 31 May 2024 - Angela Borella

May24/24

KraftHeinz - Kirksville - Plant 8333 PCA 2504 INDUSTRIAL DR KIRKSVILLE, MO US 63501

Contact: WALLACE WARD wallace.ward@kraftheinzcompany.com

Submitted By: Wilberto Pacheco Garcia

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) F: (660)627-5887

T: (660)627-1031