



OIL ANALYSIS REPORT

| | |
|-----------------|----------|
| WEAR | NORMAL |
| CONTAMINATION | ABNORMAL |
| FLUID CONDITION | NORMAL |

Area
IRIG [7008210]

Machine Id
IRIG-BLR-HPU-0901 IRIG-BLR-HPU-0901 HPU-GENERATOR MODULE

Component
Pump

Fluid
MOBIL DTE 10 EXCEL 32 (140 GAL)

RECOMMENDATION

No corrective action is recommended at this time. The filtration at the time of sampling has been noted. Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | HLC0003065 | HLC0002813 | HLC0002806 |
| Sample Date | | Client Info | | 27 Apr 2024 | 20 Oct 2023 | 19 Sep 2023 |
| Machine Age | hrs | Client Info | | 889 | 797 | 786 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Filtered | N/A | N/A |
| Filter Changed | | Client Info | | Not Chngd | N/A | N/A |
| Sample Status | | | | ABNORMAL | NORMAL | ABNORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|-------------|------|------|
| Iron | ppm | ASTM D5185m | >90 | 0 | 0 | 1 |
| Chromium | ppm | ASTM D5185m | >5 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >5 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >7 | 0 | 0 | 0 |
| Lead | ppm | ASTM D5185m | >12 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >30 | 6 | 8 | 8 |
| Tin | ppm | ASTM D5185m | >9 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

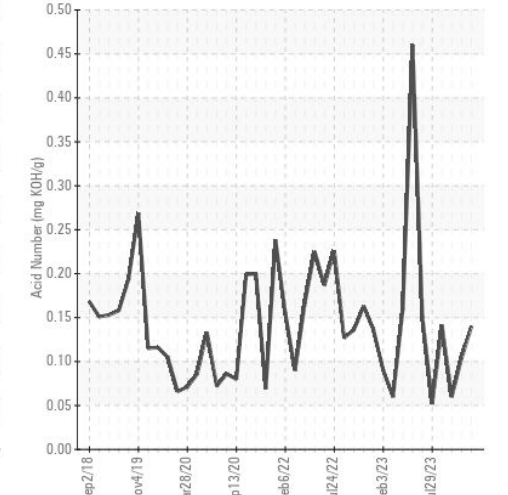
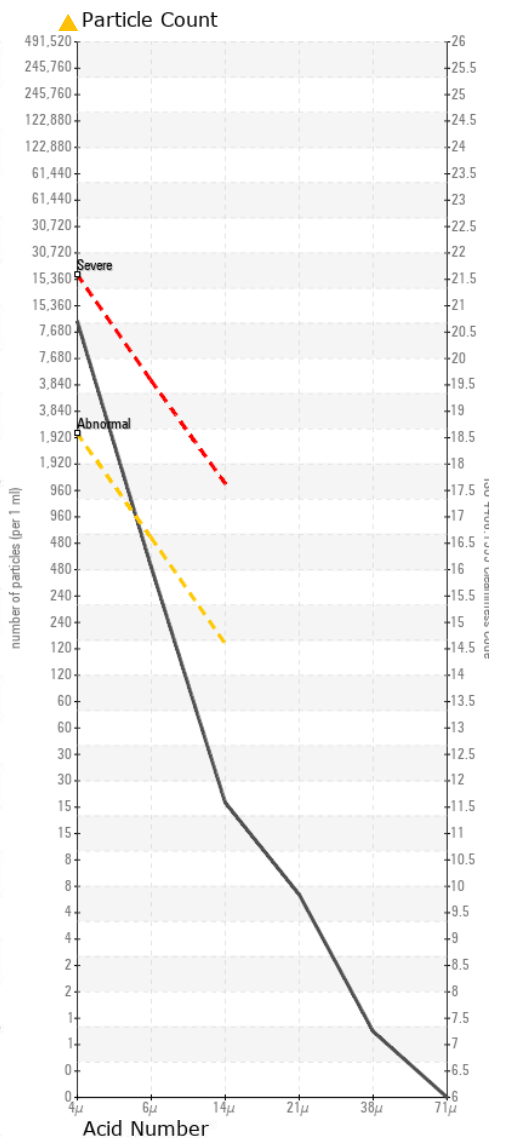
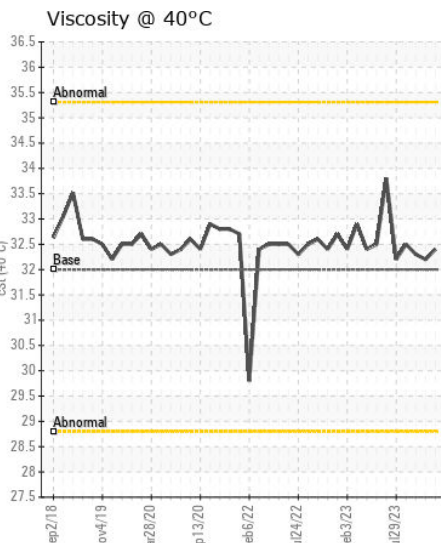
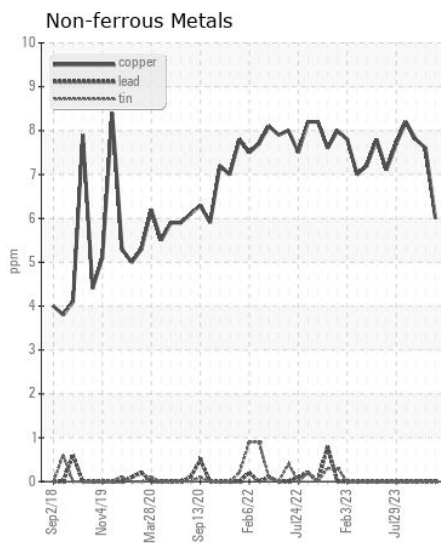
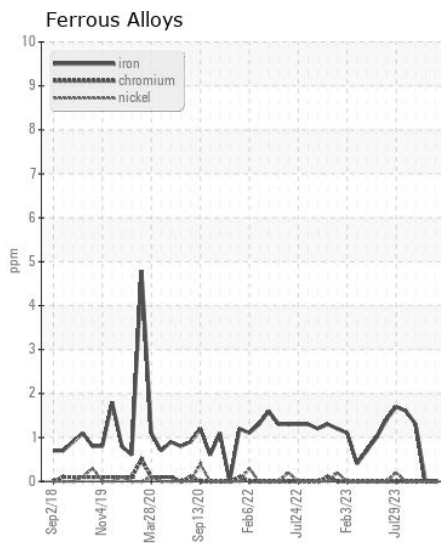
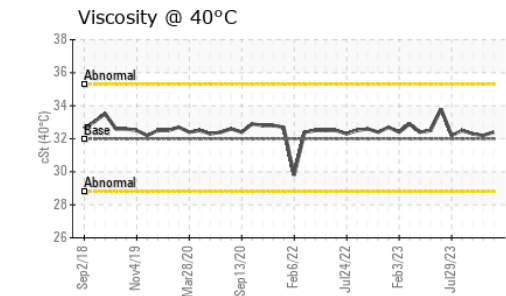
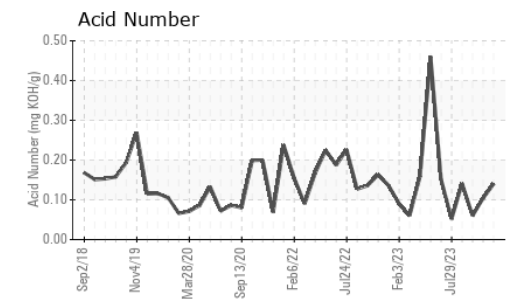
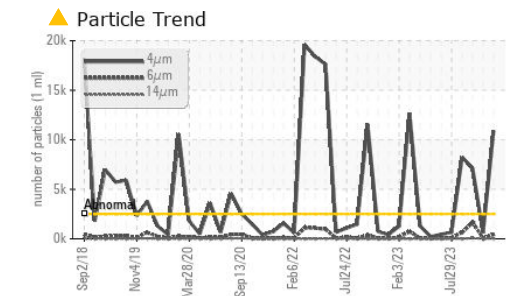
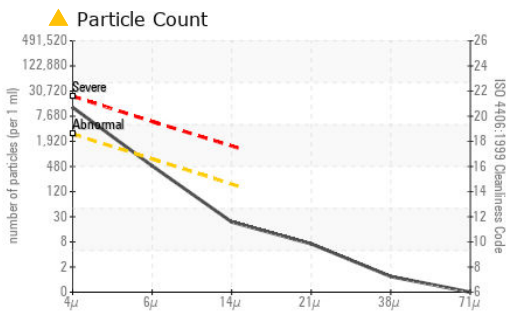
There is a high amount of silt (particulates < 14 microns in size) present in the oil.

| | | | | | | |
|------------------|--------|--------------|-----------|-------------------|----------|------------|
| Silicon | ppm | ASTM D5185m | >60 | <1 | <1 | <1 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 2 | 2 |
| Water | | WC Method | >.1 | NEG | NEG | NEG |
| Particles >4µm | | ASTM D7647 | >2500 | ▲ 10883 | 627 | ▲ 7105 |
| Particles >6µm | | ASTM D7647 | >640 | 436 | 50 | ▲ 1653 |
| Particles >14µm | | ASTM D7647 | >160 | 20 | 5 | 70 |
| Particles >21µm | | ASTM D7647 | >40 | 6 | 2 | 13 |
| Particles >38µm | | ASTM D7647 | >10 | 1 | 0 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >18/16/14 | ▲ 21/16/11 | 16/13/10 | ▲ 20/18/13 |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >.1 | NEG | NEG | NEG |

FLUID CONDITION

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

| | | | | | | |
|------------------|----------|-------------|------|-------------|-------|------|
| Sodium | ppm | ASTM D5185m | | 3 | 4 | 2 |
| Boron | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Calcium | ppm | ASTM D5185m | 120 | 102 | 97 | 102 |
| Phosphorus | ppm | ASTM D5185m | 475 | 436 | 421 | 447 |
| Zinc | ppm | ASTM D5185m | | 60 | 62 | 56 |
| Sulfur | ppm | ASTM D5185m | 1275 | 1617 | 1361 | 1485 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | 0.14 | 0.104 | 0.06 |
| Visc @ 40°C | cSt | ASTM D445 | 32 | 32.4 | 32.2 | 32.3 |



Certificate L2367

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

Sample No. : HLC0003065

Lab Number : 06176080

Unique Number : 11022133

Test Package : IND 2 (Additional Tests: PrtCount)

Received : 10 May 2024

Tested : 14 May 2024

Diagnosed : 14 May 2024 - Don Baldrige

HILCORP EXPLORATION ALASKA - MILNE POINT

1000 MILNE POINT RD

PRUDOE BAY, AK

US 99734

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F: x:

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)