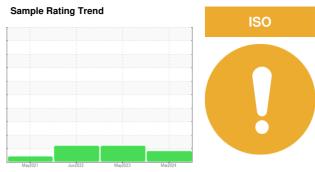


# **OIL ANALYSIS REPORT**

# VIAM/Main Floor [VIAM^Main Floor] EXT 1 DIE CUTTER

**Hydraulic System** 

PETRO CANADA TURBOFLO R&O 150 (--- GAL)



#### Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

### Wear

All component wear rates are normal.

#### Contamination

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

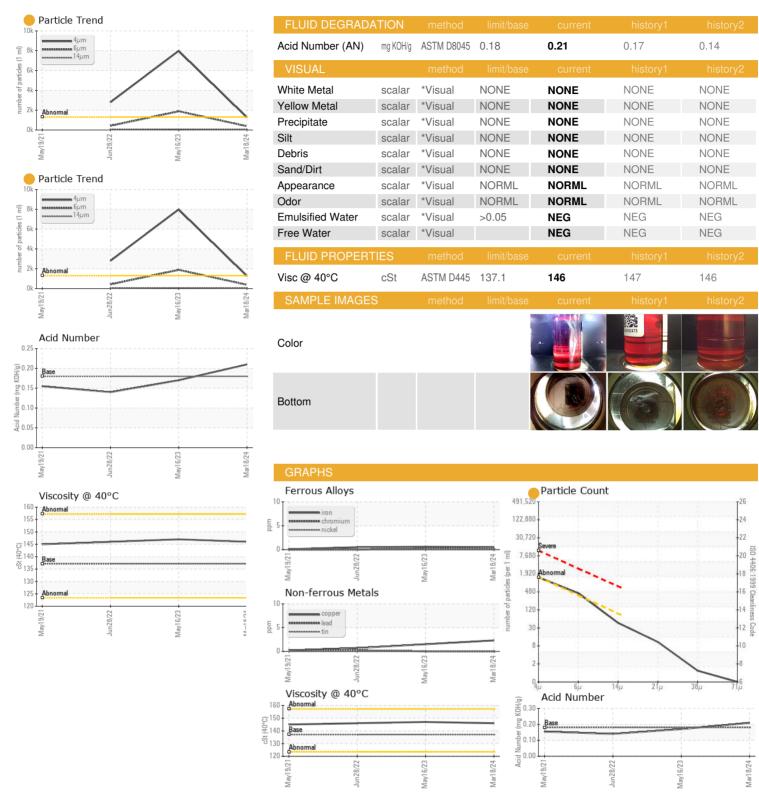
#### **Fluid Condition**

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

Sample Date         Client Info         18 Mar 2024         16 May 2023         28 Jun 2022           Machine Age         hrs         Client Info         0         0         0           Oil Age         hrs         Client Info         0         0         0           Oil Changed         Client Info         N/A         N/A         N/A	GAL)		May202	21 Jun2022	May2023 N	lar2024	
Sample Date         Client Info         18 Mar 2024         16 May 2023         28 Jun 2022           Machine Age         hrs         Client Info         0         0         0         0           Oil Age         hrs         Client Info         0         0         0         0           Oil Changed         Client Info         N/A         N/A         N/A         N/A           Sample Status         ATTENTION         ABNORMAL         ABNORMAL         ABNORMAL           CONTAMINATION         method         Imit base         current         history1         history2           Water         WC Method         >0.05         NEG         NEG         NEG           WEAR METALS         method         Imit base         current         history1         history2           Iron         ppm         ASTM D5185m         >20         <1	SAMPLE INFORM	NOITAN	method	limit/base	current	history1	history2
Machine Age   hrs   Client Info   0   0   0   0   0   0   0   0   0	Sample Number		Client Info		KFS0005141	KFS0002475	KFS0000696
Oil Age         hrs         Client Info         N/A         N/A         N/A         N/A           Sample Status         Client Info         N/A         N/A         N/A         N/A         N/A           CONTAMINATION         method         limit/base         current         history1         history2           Water         WC Method         >0.05         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >20         <1         <1         <1           Chromium         ppm         ASTM D5185m         >20         <1         <1         <1           Nickel         ppm         ASTM D5185m         >20         0         <1         0           Aluminum         ppm         ASTM D5185m         >20         0         <1         0           Lead         ppm         ASTM D5185m         >20         0         <1         0           Copper         ppm         ASTM D5185m         >20         0         0         <1           Antimony         ppm         ASTM D5185m         0         0 <th></th> <th></th> <th>Client Info</th> <th></th> <th>18 Mar 2024</th> <th>16 May 2023</th> <th>28 Jun 2022</th>			Client Info		18 Mar 2024	16 May 2023	28 Jun 2022
Oil Changed Sample Status         Client Info         N/A         N/A         N/A         ANA         ABNORMAL         ABNORMAL	Machine Age	hrs	Client Info		0	0	0
Sample Status         ATTENTION         ABNORMAL         ABNORMAL	Oil Age	hrs	Client Info		0	0	0
CONTAMINATION         method         limit/base         current         history1         history2           Water         WC Method         >0.05         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >20         -1         -1         -1         0           Chromium         ppm         ASTM D5185m         >20         -1         -1         0           Nickel         ppm         ASTM D5185m         >20         0         0         0           Alluminum         ppm         ASTM D5185m         0         -1         0           Alluminum         ppm         ASTM D5185m         -20         0         -1         0           Lead         ppm         ASTM D5185m         >20         0         -1         0           Lead         ppm         ASTM D5185m         >20         0         0         -1           Copper         ppm         ASTM D5185m         >20         0         0         0           Vandadium         ppm         ASTM D5185m         0         0         0	Oil Changed		Client Info		N/A	N/A	N/A
Water         WC Method         >0.05         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >20         <1	Sample Status				ATTENTION	ABNORMAL	ABNORMAL
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >20         <1         <1         <1           Chromium         ppm         ASTM D5185m         >20         <1         <1         0           Nickel         ppm         ASTM D5185m         >20         0         0         0           Silver         ppm         ASTM D5185m         0         <1         0           Silver         ppm         ASTM D5185m         >20         0         <1         0           Aluminum         ppm         ASTM D5185m         >20         0         <1         0           Lead         ppm         ASTM D5185m         >20         0         <1         0           Copper         ppm         ASTM D5185m         >20         0         0         <1           Vanadium         ppm         ASTM D5185m         >20         0         0         0           ADDITIVES         method         Imit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0         0         1	CONTAMINATION	N .	method	limit/base	current	history1	history2
Iron	Water		WC Method	>0.05	NEG	NEG	NEG
Chromium         ppm         ASTM D5185m         >20         <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>20	<1	<1	<1
Titanium	Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Silver	Nickel	ppm	ASTM D5185m	>20	0	0	0
Aluminum         ppm         ASTM D5185m         >20         0         <1         0           Lead         ppm         ASTM D5185m         >20         0         0         <1	Titanium	ppm	ASTM D5185m		0	<1	0
Lead         ppm         ASTM D5185m         >20         0         0         <1           Copper         ppm         ASTM D5185m         >20         2         2         <1           Tin         ppm         ASTM D5185m         >20         0         0         0           Antimony         ppm         ASTM D5185m         0         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0         1         1           Barium         ppm         ASTM D5185m         0         0         1         0           Manganesium         ppm         ASTM D5185m         <1         <1         0         0           Calcium         ppm         ASTM D5185m         0         <1         1         0         0           Zinc         ppm         ASTM D5185m         0         15         0	Silver	ppm	ASTM D5185m		0	0	0
Copper         ppm         ASTM D5185m         >20         2         2         <1           Tin         ppm         ASTM D5185m         >20         0         0         0           Antimony         ppm         ASTM D5185m         ——         ——         ——           Vanadium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0         1           Barium         ppm         ASTM D5185m         0         0         1           Molybdenum         ppm         ASTM D5185m         <1	Aluminum	ppm	ASTM D5185m	>20	0	<1	0
Tin ppm ASTM D5185m >20 0 0 0 0 0  Antimony ppm ASTM D5185m	Lead	ppm	ASTM D5185m	>20	0	0	<1
Antimony         ppm         ASTM D5185m	Copper	ppm	ASTM D5185m	>20	2	2	<1
Vanadium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0         1           Barium         ppm         ASTM D5185m         0         0         1           Molybdenum         ppm         ASTM D5185m         <1         <1         0           Manganese         ppm         ASTM D5185m         <1         <1         0           Magnesium         ppm         ASTM D5185m         0         <1         0           Calcium         ppm         ASTM D5185m         0         <1         1         0           Phosphorus         ppm         ASTM D5185m         0         15         0         11         1           Sulfur         ppm         ASTM D5185m         0         15         0         11         20           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm	Tin	ppm	ASTM D5185m	>20	0	0	0
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0         1           Barium         ppm         ASTM D5185m         0         0         1           Molybdenum         ppm         ASTM D5185m         <1         <1         0           Manganese         ppm         ASTM D5185m         0         0         <1         0           Magnesium         ppm         ASTM D5185m         0         <1         0         0           Calcium         ppm         ASTM D5185m         0         <1         0         0           Phosphorus         ppm         ASTM D5185m         0         15         0         11           Sulfur         ppm         ASTM D5185m         0         15         0         11           Sulfur         ppm         ASTM D5185m         11         2         <1           CONTAMINANTS         method         limit/base         current         history1         history2           Sodium         ppm         AS	Antimony	ppm	ASTM D5185m				
ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0         1           Barium         ppm         ASTM D5185m         0         0         1           Molybdenum         ppm         ASTM D5185m         <1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron   ppm   ASTM D5185m   0   0   1	Cadmium	ppm	ASTM D5185m		0	0	0
Barium         ppm         ASTM D5185m         0         0         1           Molybdenum         ppm         ASTM D5185m         <1         <1         0           Manganese         ppm         ASTM D5185m         <1         <1         0           Magnesium         ppm         ASTM D5185m         0         0         <1           Calcium         ppm         ASTM D5185m         0         <1         0         0           Phosphorus         ppm         ASTM D5185m         0         15         0         11           Sulfur         ppm         ASTM D5185m         0         15         0         11           Sulfur         ppm         ASTM D5185m         1113         1060         1322           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >1         2         0           Potassium         ppm         ASTM D5185m         >20         0         0         <1           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >6µm <t< th=""><th>ADDITIVES</th><th></th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></t<>	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         <1	Boron	ppm	ASTM D5185m		0	0	1
Manganese         ppm         ASTM D5185m         <1	Barium	ppm	ASTM D5185m		0	0	1
Magnesium         ppm         ASTM D5185m         0         0         <1           Calcium         ppm         ASTM D5185m         0         <1         0         0           Phosphorus         ppm         ASTM D5185m         4         17         18         20           Zinc         ppm         ASTM D5185m         0         15         0         11           Sulfur         ppm         ASTM D5185m         0         15         0         11           Sulfur         ppm         ASTM D5185m         11         0         1322           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >15         2         2         <1           Sodium         ppm         ASTM D5185m         >15         2         2         <1           Potassium         ppm         ASTM D5185m         >20         0         0         <1           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >320         379         1884         423	Molybdenum	ppm	ASTM D5185m		<1	<1	0
Calcium         ppm         ASTM D5185m         0         <1         0         0           Phosphorus         ppm         ASTM D5185m         4         17         18         20           Zinc         ppm         ASTM D5185m         0         15         0         11           Sulfur         ppm         ASTM D5185m         11113         1060         1322           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >15         2         2         <1	Manganese	ppm	ASTM D5185m		<1	<1	0
Phosphorus         ppm         ASTM D5185m         4         17         18         20           Zinc         ppm         ASTM D5185m         0         15         0         11           Sulfur         ppm         ASTM D5185m         1113         1060         1322           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >15         2         2         <1           Sodium         ppm         ASTM D5185m         >15         2         2         <1           Potassium         ppm         ASTM D5185m         >20         0         0         <1           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         >1300         1272         ↑ 7981         ♠ 2798           Particles >6μm         ASTM D7647         >320         379         ♠ 1884         ♠ 423           Particles >21μm         ASTM D7647         >20         9         9         8           Particles >38μm         ASTM D7647         >4         1         0         2	Magnesium	ppm	ASTM D5185m		0	0	<1
Zinc         ppm         ASTM D5185m         0         15         0         11           Sulfur         ppm         ASTM D5185m         11113         1060         1322           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >15         2         2         <1           Sodium         ppm         ASTM D5185m         >1         2         0           Potassium         ppm         ASTM D5185m         >20         0         0         <1           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         >1300         1272         Δ 7981         Δ 2798           Particles >6μm         ASTM D7647         >320         379         Δ 1884         423           Particles >14μm         ASTM D7647         >80         39         75         31           Particles >21μm         ASTM D7647         >4         1         0         2           Particles >71μm         ASTM D7647         >3         0         0         0	Calcium	ppm	ASTM D5185m	0	<1	0	0
Sulfur         ppm         ASTM D5185m         1113         1060         1322           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >15         2         2         <1           Sodium         ppm         ASTM D5185m         >20         0         0         <1           Potassium         ppm         ASTM D5185m         >20         0         0         <1           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >1300         1272         △ 7981         △ 2798           Particles >6µm         ASTM D7647         >320         379         △ 1884         ✓ 423           Particles >14µm         ASTM D7647         >80         39         75         31           Particles >21µm         ASTM D7647         >20         9         9         8           Particles >38µm         ASTM D7647         >4         1         0         2           Particles >71µm         ASTM D7647         >3         0         0         0	Phosphorus	ppm	ASTM D5185m	4	17	18	20
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >15         2         2         <1           Sodium         ppm         ASTM D5185m         1         2         0           Potassium         ppm         ASTM D5185m         >20         0         0         <1           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         >1300         1272         Δ 7981         Δ 2798           Particles >6μm         ASTM D7647         >320         379         Δ 1884         423           Particles >14μm         ASTM D7647         >80         39         75         31           Particles >21μm         ASTM D7647         >20         9         9         8           Particles >38μm         ASTM D7647         >4         1         0         2           Particles >71μm         ASTM D7647         >3         0         0         0	Zinc	ppm	ASTM D5185m	0	15	0	11
Silicon         ppm         ASTM D5185m         >15         2         2         <1	Sulfur	ppm	ASTM D5185m		1113	1060	1322
Sodium         ppm         ASTM D5185m         1         2         0           Potassium         ppm         ASTM D5185m         >20         0         0         <1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         0         0         <1	Silicon	ppm	ASTM D5185m	>15	2		<1
FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         >1300         1272         Δ 7981         Δ 2798           Particles >6μm         ASTM D7647         >320         379         Δ 1884         423           Particles >14μm         ASTM D7647         >80         39         75         31           Particles >21μm         ASTM D7647         >20         9         9         8           Particles >38μm         ASTM D7647         >4         1         0         2           Particles >71μm         ASTM D7647         >3         0         0         0	Sodium	ppm	ASTM D5185m		1	2	0
Particles >4μm       ASTM D7647       >1300       1272       7981       2798         Particles >6μm       ASTM D7647       >320       379       1884       423         Particles >14μm       ASTM D7647       >80       39       75       31         Particles >21μm       ASTM D7647       >20       9       9       8         Particles >38μm       ASTM D7647       >4       1       0       2         Particles >71μm       ASTM D7647       >3       0       0       0	Potassium	ppm	ASTM D5185m	>20	0	0	<1
Particles >6μm       ASTM D7647       >320       379       ▲ 1884       423         Particles >14μm       ASTM D7647       >80       39       75       31         Particles >21μm       ASTM D7647       >20       9       9       8         Particles >38μm       ASTM D7647       >4       1       0       2         Particles >71μm       ASTM D7647       >3       0       0       0	FLUID CLEANLIN	ESS	method	limit/base	current		
Particles >14μm       ASTM D7647       >80       39       75       31         Particles >21μm       ASTM D7647       >20       9       9       8         Particles >38μm       ASTM D7647       >4       1       0       2         Particles >71μm       ASTM D7647       >3       0       0       0			ASTM D7647				<b>△</b> 2798
Particles >21μm       ASTM D7647       >20       9       9       8         Particles >38μm       ASTM D7647       >4       1       0       2         Particles >71μm       ASTM D7647       >3       0       0       0			ASTM D7647	>320	<b>379</b>		
Particles >38μm       ASTM D7647       >4       1       0       2         Particles >71μm       ASTM D7647       >3       0       0       0	·			>80			
Particles >71μm ASTM D7647 >3 <b>0</b> 0	·		ASTM D7647	>20	9	9	
						0	2
Oil Cleanliness ISO 4406 (c) >17/15/13 • 17/16/12 • 20/18/13 • 19/16/12			ASTM D7647		0		
	Oil Cleanliness		ISO 4406 (c)	>17/15/13	<b>17/16/12</b>	<u>^</u> 20/18/13	<u>19/16/12</u>



## OIL ANALYSIS REPORT







Certificate L2367

Laboratory Sample No. Lab Number

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

: KFS0005141 : 06124857 Unique Number: 10939008

Test Package : IND 2

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Received

Diagnosed

**Tested** 

: 21 Mar 2024

: 22 Mar 2024

: 22 Mar 2024 - Wes Davis

\* - 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)

VIAM/VICAM Manufacturing - Tennessee

87 Parktower Road Manchester, TN

US 37355 Contact: Eric Thompson

ethompson@viammfg.com

T: (931)461-2300