

# **OIL ANALYSIS REPORT**

# **ORIN CONTRACTORS** 222

Component **Right Final Drive** 

PETRO CANADA TRAXON 80W90 (--- GAL)

### Recommendation

Resample at the next service interval to monitor.

#### Wear

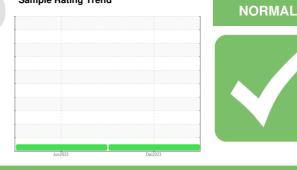
All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

## Fluid Condition

The condition of the oil is acceptable for the time in service.

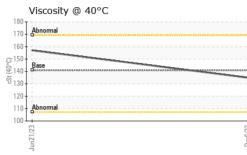


Sample Rating Trend

Sample Number  Client Info  WC0872983  LH0256889     Sample Date  Client Info  0  594     Machine Age  hrs  Client Info  0  0     Oil Age  hrs  Client Info  0  0     Oil Changed  rs  Client Info  0  0     Sample Status  Client Info  0  0      Sample Status  method  Imil/base  current  history1  history2    Water  WC Method  >0.2  NEG  NEG     WEAR METALS  method  imil/base  current  history1  history2    Iron  pp  ASTM DS186m  >500  165  182     Silver  pp  ASTM DS186m  >10  2  3     Silver  pp  ASTM DS186m  >25  1  2     Giead  pm  ASTM DS186m  >50 <th>SAMPLE INFORM</th> <th>IATION</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age  hrs  Client Info  0  594     Oil Age  hrs  Client Info  0  0     Sample Status  Client Info  Changed  Changed     Sample Status  Client Info  Changed  Changed     CONTAMINATION  method  imit/base  current  history1  history2    Water  WC Method  >0.2  NEG  NEG     WEAR METALS  method  imit/base  current  history1  history2    Iron  ppm  ASTM D5185(m)  >500  165  182     Chromium  ppm  ASTM D5185(m)  >10<  <1      Nickel  ppm  ASTM D5185(m)  >10  <1      Silver  ppm  ASTM D5185(m)  >50  <1  <1     Copper  ppm  ASTM D5185(m)  >50  <1  <1     Vanadium <th>Sample Number</th> <th></th> <th>Client Info</th> <th></th> <th>WC0872983</th> <th>LH0256889</th> <th></th>	Sample Number		Client Info		WC0872983	LH0256889	
Oil Age  hrs  Client Info  0  0     Oil Changed  Client Info  Changed  Changed     Sample Status  Image  NORMAL  NORMAL     CONTAMINATION  method  limit/base  current  history1  history2    Water  WC Method  >0.2  NEG  NEG     WEAR METALS  method  limit/base  current  history1  history2    Iron  ppm  ASTM D5185(m)  >500  165  182     Othormium  ppm  ASTM D5185(m)  >10  <1  <1     Nickel  ppm  ASTM D5185(m)  >10  <1  <     Aluminum  ppm  ASTM D5185(m)  >50  0  0     Lead  ppm  ASTM D5185(m)  >50  0  0     Vanadium  ppm  ASTM D5185(m)  >50  0  0     Van	Sample Date		Client Info		06 Dec 2023	21 Jun 2023	
Oil Changed Sample Status  Client Info  Changed NORMAL  Changed NORMAL     CONTAMINATION  method  limit/base  current  history1  history2    Water  WC Method  >0.2  NEG  NEG     WEAR METALS  method  limit/base  current  history1  history2    Iron  ppm  ASTM D5185(m)  >500  165  182     Nickel  ppm  ASTM D5185(m)  >10  <1      Nickel  ppm  ASTM D5185(m)  >10  <1      Silver  ppm  ASTM D5185(m)  >25  1  2     Lead  ppm  ASTM D5185(m)  >50  <1      Vanadium  ppm  ASTM D5185(m)  >50  <1      Lead  ppm  ASTM D5185(m)  >50  0  0     Copper  ppm  ASTM D5185(m)  0  0<	Machine Age	hrs	Client Info		0	594	
Sample Status  Imit base  NORMAL  NORMAL     CONTAMINATION  method  limit/base  current  history1  history2    Water  WC Method  >0.2  NEG  NEG     WEAR METALS  method  limit/base  current  history1  history2    Iron  ppm  ASTM D5185(m)  >500  165  182     Chromium  ppm  ASTM D5185(m)  >10  <1  <1     Nickel  ppm  ASTM D5185(m)  0  0  <1     Silver  ppm  ASTM D5185(m)  >25  1  2     Lead  ppm  ASTM D5185(m)  >50  <1  <1     Tin  ppm  ASTM D5185(m)  >50  <1  <1     Autimony  ppm  ASTM D5185(m)  0  0      Astm D5185(m)  0  0  0    -	Oil Age	hrs	Client Info		0	0	
CONTAMINATION  method  limit/base  current  history1  history2    Water  WC Method  >0.2  NEG  NEG     WEAR METALS  method  limit/base  current  history1  history2    Iron  ppm  ASTM D5185(m)  >500  165  182     Chromium  ppm  ASTM D5185(m)  >10  2  3     Nickel  ppm  ASTM D5185(m)  0  <1      Aluminum  ppm  ASTM D5185(m)  0  0      Lead  ppm  ASTM D5185(m)  >25  1  2     Copper  ppm  ASTM D5185(m)  >50  <1  <1     Antimony  ppm  ASTM D5185(m)  >5  0  0     Astm D5185(m)  ppm  ASTM D5185(m)  0  0      Caddum  ppm  ASTM D5185(m)  0  0<	Oil Changed		Client Info		Changed	Changed	
Water  WC Method  >0.2  NEG  NEG     WEAR METALS  method  limit/base  current  history1  history2    Iron  ppm  ASTM D5185(m)  >500  165  182     Chromium  ppm  ASTM D5185(m)  >10  2  3     Nickel  ppm  ASTM D5185(m)  >10  <1      Silver  ppm  ASTM D5185(m)  0  <1      Aluminum  ppm  ASTM D5185(m)  >25  1  2     Lead  ppm  ASTM D5185(m)  >25  <1  <1     Tin  ppm  ASTM D5185(m)  >0  0      Antimony  ppm  ASTM D5185(m)  >5  0  0     Cadmium  ppm  ASTM D5185(m)  0  0      Boron  ppm  ASTM D5185(m)  0  0	Sample Status				NORMAL	NORMAL	
WEAR METALS  method  limit/base  current  history1  history2    Iron  ppm  ASTM D5185(m)  >500  165  182     Chromium  ppm  ASTM D5185(m)  >10  2  3     Nickel  ppm  ASTM D5185(m)  >10  <1  <     Silver  ppm  ASTM D5185(m)  0  <1      Aluminum  ppm  ASTM D5185(m)  >25  1  2     Lead  ppm  ASTM D5185(m)  >25  <1  <1     Tin  ppm  ASTM D5185(m)  >50  <1  <1     Antimony  ppm  ASTM D5185(m)  >0  0      Antimony  ppm  ASTM D5185(m)  >5  0  0     Cadmium  ppm  ASTM D5185(m)  0  0      Boron  ppm  ASTM D5185(m)  0	CONTAMINATION	١	method	limit/base	current	history1	history2
Iron  ppm  ASTM D5185(m)  >500  165  182     Chromium  ppm  ASTM D5185(m)  >10  2  3     Nickel  ppm  ASTM D5185(m)  >10  <1  <1     Titanium  ppm  ASTM D5185(m)  0  <1      Aluminum  ppm  ASTM D5185(m)  >25  1  2     Lead  ppm  ASTM D5185(m)  >25  <1  <1     Copper  ppm  ASTM D5185(m)  >50  <1  <1     Antimony  ppm  ASTM D5185(m)  >50  0  0     Antimony  ppm  ASTM D5185(m)  0  0      Antimony  ppm  ASTM D5185(m)  0  0      Cadmium  ppm  ASTM D5185(m)  0  0      Barium  ppm  ASTM D5185(m) <th>Water</th> <th></th> <th>WC Method</th> <th>&gt;0.2</th> <th>NEG</th> <th>NEG</th> <th></th>	Water		WC Method	>0.2	NEG	NEG	
Chromium  ppm  ASTM D5185(m)  >10  2  3     Nickel  ppm  ASTM D5185(m)  >10  <1  <1     Titanium  ppm  ASTM D5185(m)  0  <1     Silver  ppm  ASTM D5185(m)  0  0     Aluminum  ppm  ASTM D5185(m)  >25  1  2     Lead  ppm  ASTM D5185(m)  >25  <1  <1     Copper  ppm  ASTM D5185(m)  >50  <1  <1     Antimony  ppm  ASTM D5185(m)  >50  0  0     Antimony  ppm  ASTM D5185(m)  0  0     Cadmium  ppm  ASTM D5185(m)  0  0     Boron  ppm  ASTM D5185(m)  11  14     Magnaese  ppm  ASTM D5185(m)  2  4     Magnesium	WEAR METALS		method	limit/base	current	history1	history2
Nickel  ppm  ASTM D5185(m)  >10  <1  <1  <11  <11    Titanium  ppm  ASTM D5185(m)  0  0  <1	Iron	ppm	ASTM D5185(m)	>500	165	182	
Titanium  ppm  ASTM D5185(m)  0  <1     Silver  ppm  ASTM D5185(m)  0  0     Aluminum  ppm  ASTM D5185(m)  >25  1  2     Lead  ppm  ASTM D5185(m)  >25  <1	Chromium	ppm	ASTM D5185(m)	>10	2	3	
Silver  ppm  ASTM D5185(m)  0  0     Aluminum  ppm  ASTM D5185(m)  >25  1  2     Lead  ppm  ASTM D5185(m)  >25  <1  <1     Copper  ppm  ASTM D5185(m)  >50  <1  <1     Tin  ppm  ASTM D5185(m)  >50  <1  <1     Antimony  ppm  ASTM D5185(m)  >50  0  0     Vanadium  ppm  ASTM D5185(m)  >50  0  0     Vanadium  ppm  ASTM D5185(m)  >50  0  0     Vanadium  ppm  ASTM D5185(m)  0  0   0    Cadmium  ppm  ASTM D5185(m)  243  126  132     Barium  ppm  ASTM D5185(m)  243  126  132     Molybdenum  ppm  ASTM D5185(m)  2	Nickel	ppm	ASTM D5185(m)	>10		<1	
Aluminum  ppm  ASTM D5185(m)  >25  1  2     Lead  ppm  ASTM D5185(m)  >25  <1	Titanium	ppm	ASTM D5185(m)		0	<1	
Lead  ppm  ASTM D5185(m)  >25  <1  <1     Copper  ppm  ASTM D5185(m)  >50  <1	Silver	ppm	ASTM D5185(m)		0	0	
Copper  ppm  ASTM D5185(m)  >50  <1  <1     Tin  ppm  ASTM D5185(m)  >10  0  0     Antimony  ppm  ASTM D5185(m)  >5  0  0     Vanadium  ppm  ASTM D5185(m)  0  0      Beryllium  ppm  ASTM D5185(m)  0  0      Cadmium  ppm  ASTM D5185(m)  0  0      ADDITIVES  method  limit/base  current  history1  history2    Boron  ppm  ASTM D5185(m)  243  126  132     Malybdenum  ppm  ASTM D5185(m)  1  11  24     Manganese  ppm  ASTM D5185(m)  2  4      Magnesium  ppm  ASTM D5185(m)  2  4  8     Calcium  ppm  ASTM D5185(m)  987	Aluminum	ppm	ASTM D5185(m)	>25	1	2	
Tin  ppm  ASTM D5185(m)  >10  0  0     Antimony  ppm  ASTM D5185(m)  >5  0  0     Vanadium  ppm  ASTM D5185(m)  >5  0  0     Beryllium  ppm  ASTM D5185(m)  0  0     Cadmium  ppm  ASTM D5185(m)  0  0     ADDITIVES  method  limit/base  current  history1  history2    Boron  ppm  ASTM D5185(m)  243  126  132     Molybdenum  ppm  ASTM D5185(m)  0  <11	Lead	ppm	ASTM D5185(m)	>25	<1	<1	
AntimonyppmASTM D5185(m) >500VanadiumppmASTM D5185(m)00BerylliumppmASTM D5185(m)00CadmiumppmASTM D5185(m)00ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185(m)243126132BariumppmASTM D5185(m)243126132MolybdenumppmASTM D5185(m)0<1	Copper	ppm	ASTM D5185(m)	>50	<1	<1	
Vanadium  ppm  ASTM D5185(m)  0  0     Beryllium  ppm  ASTM D5185(m)  0  0     Cadmium  ppm  ASTM D5185(m)  0  0     ADDITIVES  method  limit/base  current  history1  history2    Boron  ppm  ASTM D5185(m)  243  126  132     Barium  ppm  ASTM D5185(m)  1  11  24     Molybdenum  ppm  ASTM D5185(m)  0  <1	Tin	ppm	ASTM D5185(m)	>10	0	0	
Beryllium  ppm  ASTM D5185(m)  0  0     Cadmium  ppm  ASTM D5185(m)  0  0     ADDITIVES  method  limit/base  current  history1  history2    Boron  ppm  ASTM D5185(m)  243  126  132     Barium  ppm  ASTM D5185(m)  1  11  24     Molybdenum  ppm  ASTM D5185(m)  0  <1	Antimony	ppm	ASTM D5185(m)	>5	0	0	
CadmiumppmASTM D5185(m)00ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185(m)243126132BariumppmASTM D5185(m)11124MolybdenumppmASTM D5185(m)0<1	Vanadium	ppm	ASTM D5185(m)		0	0	
ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185(m)243126132BariumppmASTM D5185(m)11124MolybdenumppmASTM D5185(m)0<1	Beryllium	ppm	ASTM D5185(m)		0	0	
Boron  ppm  ASTM D5185(m)  243  126  132     Barium  ppm  ASTM D5185(m)  1  11  24     Molybdenum  ppm  ASTM D5185(m)  0  <1	Cadmium	ppm	ASTM D5185(m)		0	0	
Barium  ppm  ASTM D5185(m)  1  11  24     Molybdenum  ppm  ASTM D5185(m)  0  <1     Manganese  ppm  ASTM D5185(m)  0  <1     Magnesium  ppm  ASTM D5185(m)  2  4     Magnesium  ppm  ASTM D5185(m)  2  4  8     Calcium  ppm  ASTM D5185(m)  2  4  8     Phosphorus  ppm  ASTM D5185(m)  6  15  36     Zinc  ppm  ASTM D5185(m)  987  917  1020     Sulfur  ppm  ASTM D5185(m)  1  54  59     Sulfur  ppm  ASTM D5185(m)  21530  18717  22835     Lithium  ppm  ASTM D5185(m)  >75  8  26     Silicon  ppm  ASTM D5185(m)  >75  8  26	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum  ppm  ASTM D5185(m)  0  <1     Manganese  ppm  ASTM D5185(m)  2  4     Magnesium  ppm  ASTM D5185(m)  2  4     Magnesium  ppm  ASTM D5185(m)  2  4  8     Calcium  ppm  ASTM D5185(m)  2  4  8     Calcium  ppm  ASTM D5185(m)  6  15  36     Calcium  ppm  ASTM D5185(m)  987  917  1020     Zinc  ppm  ASTM D5185(m)  1  54  59     Sulfur  ppm  ASTM D5185(m)  21530  18717  22835     Lithium  ppm  ASTM D5185(m)  9  15   15    Silicon  ppm  ASTM D5185(m)  >75  8  26     Sodium  ppm  ASTM D5185(m)  75  8  26 <th>Boron</th> <td>ppm</td> <td>ASTM D5185(m)</td> <td>243</td> <th>126</th> <td>132</td> <td></td>	Boron	ppm	ASTM D5185(m)	243	126	132	
Marganese  ppm  ASTM D5185(m)  2  4     Magnesium  ppm  ASTM D5185(m)  2  4  8     Calcium  ppm  ASTM D5185(m)  6  15  36     Calcium  ppm  ASTM D5185(m)  6  15  36     Phosphorus  ppm  ASTM D5185(m)  987  917  1020     Zinc  ppm  ASTM D5185(m)  1  54  59     Sulfur  ppm  ASTM D5185(m)  21530  18717  22835     Lithium  ppm  ASTM D5185(m)  9  15     Solicon  ppm  ASTM D5185(m)  >75  8  26     Sodium  ppm  ASTM D5185(m)  >75  8  26	Barium	ppm	ASTM D5185(m)	1	11	24	
Magnesium  ppm  ASTM D5185(m)  2  4  8     Calcium  ppm  ASTM D5185(m)  6  15  36     Phosphorus  ppm  ASTM D5185(m)  987  917  1020     Zinc  ppm  ASTM D5185(m)  1  54  59     Sulfur  ppm  ASTM D5185(m)  21530  18717  22835     Lithium  ppm  ASTM D5185(m)  21530  18717  22835     Solificon  ppm  ASTM D5185(m)  2  9  15     Silicon  ppm  ASTM D5185(m)  >75  8  26     Sodium  ppm  ASTM D5185(m)  >75  8  26	Molybdenum	ppm	ASTM D5185(m)		0	<1	
Calcium  ppm  ASTM D5185(m)  6  15  36     Phosphorus  ppm  ASTM D5185(m)  987  917  1020     Zinc  ppm  ASTM D5185(m)  1  54  59     Sulfur  ppm  ASTM D5185(m)  21530  18717  22835     Lithium  ppm  ASTM D5185(m)  21530  18717  22835     CONTAMINANTS  method  limit/base  current  history1  history2    Silicon  ppm  ASTM D5185(m)  >75  8  26     Sodium  ppm  ASTM D5185(m)  7  8	Manganese	ppm	ASTM D5185(m)		2	4	
Phosphorus  ppm  ASTM D5185(m)  987  917  1020     Zinc  ppm  ASTM D5185(m)  1  54  59     Sulfur  ppm  ASTM D5185(m)  21530  18717  22835     Lithium  ppm  ASTM D5185(m)  2  9  15     CONTAMINANTS  method  limit/base  current  history1  history2    Silicon  ppm  ASTM D5185(m)  >75  8  26     Sodium  ppm  ASTM D5185(m)   7  8	Magnesium	ppm	ASTM D5185(m)	2	4	8	
Zinc  ppm  ASTM D5185(m)  1  54  59     Sulfur  ppm  ASTM D5185(m)  21530  18717  22835     Lithium  ppm  ASTM D5185(m)  21530  18717  22835     CONTAMINANTS  method  limit/base  current  history1  history2    Silicon  ppm  ASTM D5185(m)  >75  8  26     Sodium  ppm  ASTM D5185(m)   7  8	Calcium	ppm	ASTM D5185(m)	6	15	36	
Sulfur  ppm  ASTM D5185(m)  21530  18717  22835     Lithium  ppm  ASTM D5185(m)  Q  9  15     CONTAMINANTS  method  limit/base  current  history1  history2    Silicon  ppm  ASTM D5185(m)  >75  8  26     Sodium  ppm  ASTM D5185(m)  >75  8  26	Phosphorus	ppm	ASTM D5185(m)	987	917	1020	
Lithium  ppm  ASTM D5185(m)  9  15     CONTAMINANTS  method  limit/base  current  history1  history2    Silicon  ppm  ASTM D5185(m)  >75  8  26     Sodium  ppm  ASTM D5185(m)  >75  8  26	Zinc	ppm	ASTM D5185(m)	1	54	59	
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m) >75826SodiumppmASTM D5185(m)78	Sulfur	ppm	ASTM D5185(m)	21530	18717	22835	
Silicon  ppm  ASTM D5185(m)  >75  8  26     Sodium  ppm  ASTM D5185(m)  7  8	Lithium	ppm	ASTM D5185(m)		9	15	
Sodium  ppm  ASTM D5185(m)  7  8	CONTAMINANTS		method	limit/base	current	history1	history2
Sodium  ppm  ASTM D5185(m)  7  8	Silicon	ppm	ASTM D5185(m)	>75	8	26	
			. /			8	
	Potassium			>20	4	29	



# **OIL ANALYSIS REPORT**



visual*	NONE NONE NONE NONE NORML NORML >0.2 Imit/base 141.0	NONE NONE VLITE NONE NORML NORML NEG NEG	VLITE NONE VLITE NONE NORML NORML NEG NEG	
rr Visual* vr Visual*	NONE NONE NONE NORML NORML >0.2 limit/base	NONE VLITE NONE NORML NORML NEG NEG	NONE VLITE NONE NORML NORML NEG	   
rr Visual* Visual* Visual* Visual* Visual* Visual* Visual* Visual* Visual* ASTM D7279(m)	NONE NONE NORML NORML >0.2 limit/base	VLITE NONE NORE NORML NORML NEG NEG	VLITE NONE NONE NORML NORML NEG	  
rr Visual* r Visual*	NONE NORML NORML >0.2 limit/base	NONE NORML NORML NEG NEG	NONE NONE NORML NORML NEG	
rr Visual* rr Visual* rr Visual* rr Visual* rr Visual* rr Visual* rr Visual* rr Visual* rr Visual*	NONE NORML NORML >0.2 limit/base	NONE NORML NORML NEG NEG	NONE NORML NORML NEG	
rr Visual* r Visual* v Visual*	NORML >0.2 limit/base	NORML NORML NEG NEG	NORML NORML NEG	
ur Visual* visual* visual* Visual* visual* method ASTM D7279(m)	NORML >0.2 limit/base	NORML NEG NEG	NORML NEG	
ur Visual* ur Visual* method ASTM D7279(m)	>0.2 limit/base	NEG NEG	NEG	
r Visual* method ASTM D7279(m)	limit/base	NEG		
method ASTM D7279(m)			NEG	
ASTM D7279(m)		current		
	141.0		history1	history2
method		135	157	
	limit/base	current	history1	history2
				no image
				no image
	150	Lead (ppm)		
		Severe		
	E 100-	Abnormal		
	0.			
	Dec6/23	un21/23		Dec6/23
	20	Chromium (p	om)	
	ة 10-	Abnormal		
	- 0.			
	sc6/23	21/23		Dec6/23
	D	hun		ă
	200	Silicon (ppm)		
		Severe		
	E 100-	Abnormal		
	Dec6/23	un21/23		Dec6/23
		- Additives		
	1000	calcium	1	
			S	
	c6/23	21/23		Dec6/23
		Unit of the second	Image: Stress of the second	Chromium (ppm)