

**LABORATORY REPORT NO. FCA/1581/23**  
**CRUDE OIL - DETAILED ASSAY ALL CUTS OVERVIEW**

**Prime Pride Cargo Composite Sample**

Tests	Methods		Whole Crude	Light Ends	Fractions					
Initial BP		°C		C4	C5	175	300	300	500	500+
Final BP		°C		-	175	300	+	500		
Yield	ASTM D 2892 & D5236	% Wt.		3.68	42.20	21.95	32.17	27.85	4.32	
		% Vol.		5.02	44.57	20.96	29.45	25.78	3.67	
Position on Crude	ASTM D 2892 & D5236	% Wt.		0 - 3.68	3.68 - 45.88	45.88 - 67.83	67.83 - 100	67.83 - 95.68	95.68 - 100	
		% Vol.		0 - 5.02	5.02 - 49.59	49.59 - 70.55	70.55 - 100	70.55 - 96.33	96.33 - 100	
Density @ 15°C	ASTM D5002/D4052	kg/L	0.7945	0.5775	0.7522	0.8324	0.8678	0.8587	0.9365	
Specific Gravity @ 60/60°F	Conversion		0.7949		0.7524	0.8328	0.8683	0.8592	0.9370	
API Gravity @ 60°F	Calculated	°API	46.5		56.6	38.4	31.5	33.2	19.5	
Composition (Upto C5)	GC	% Wt.		See Page 8						
Aromatics										
Mono		% Vol.				22.0				
Di		% Vol.				20.6				
Tri		% Vol.				<1				
Poly		% Vol.				20.6				
Asphaltene	IP 143	% Wt.	<0.50				<0.50		1.5	
Basic Nitrogen	UOP 269	ppm wt				16		120		
Benzene	ASTM D6730	% Wt.			3.43					
Carbon Residue- Micro	ASTM D4530/D189	% Wt.	0.27				1.00		9.6	
Organic Chloride	ASTM D4929B	ppm wt	<1		<1					
Composition - Light HC	IP 601		See Page 13							
Paraffins	ASTM D6730	Vol%			53.019					
Naphthene		Vol%			22.616					
Aromatics		Vol%			23.391					
Flash Point (PMCC)	ASTM D93/D 170	°C	< 5			71.5				
Freezing Point	ASTM D2386	°C				-24				
Hydrogen Sulphide (Liquid Phase)	UOP163	ppm wt	<0.40		<1					
Kinematic Viscosity @ 40°C	ASTM D445	cSt	1.361			1.684				
Kinematic Viscosity @ 50°C		cSt	#							
Kinematic Viscosity @ 70°C		cSt	#				6.89	5.4	181.4	
Kinematic Viscosity @ 100°C		cSt					3.77	3.174	32.12	
Kinematic Viscosity @ 135°C		cSt							11.95	
Mercaptan Sulphur	UOP163	ppm wt	1		<3					
Metals										
Copper	ICPOES	ppm wt	<1				<1	<1		
Iron	ICPOES	ppm wt	1				1	<1		
Nickel	ICPOES	ppm wt	<1				<1	<1		
Vanadium	ICPOES	ppm wt	<1				1	<1		
Motor Octane Number	ASTM D2700	Rating			63					
Penetration	ASTM D5	0.1 mm							98	
Pour Point-upper	ASTM D5853A	°C								
Pour Point	ASTM D97	°C	<1		<-42	-27	+45	+45	+60	
Cloud Point	ASTM D2500	°C				-23				
Aniline Point	ASTM D611	°C				56.00				
Cetane Index	ASTM D976	Rating				43.7				
Refractive Index @20°C	ASTM D1218	-				1.47				
Reid Vapour Pressure @37.8°C	ASTM D5191/D323	psi	10.6		4.24					
Research Octane Number	ASTM D2699	Rating			64					
Salt Content	ASTM D3230	lb/1000bbls	0.5							
Smoke Point	ASTM D1322	mm				14				
Total Acid Number	ASTM D664	mg KOH/g	0.05							
Total Nitrogen	ASTM D4629/D5782/D3228	ppm wt	122			25		248		
Total Sulphur	ASTM D4294/D5453	% Wt	0.0287		0.0002	0.0137	0.0771	0.0679	0.131	
Water Content	ASTM D4006	% Vol	0.05							
Wax Appearance Temperature	DSC	°C	24							
Wax Disappearance Temperature	DSC	°C	33							
Wax Content	UOP 46*	% Wt	11.2				34.00	36.00		
Distillation	ASTM D86 / D1160	°C			See Below	See Below	See Below			
Initial Boiling Point		°C			46.0	190.4	298.0			
5% recovered		°C			70.0	202.9	331.0			
10% recovered		°C			76.2	207.0	341.0			
20% recovered		°C			84.7	212.1	348.0			
30% recovered		°C			93.1	218.6	368.0			
40% recovered		°C			101.4	225.7	385.0			
50% recovered		°C			109.4	233.8	398.0			
60% recovered		°C			117.6	242.1	418.0			
70% recovered		°C			126.8	250.3	439.0			
80% recovered		°C			136.8	258.3	455.0			
90% recovered		°C			148.8	267.7	469.0			
95% recovered		°C			156.9	274.3	486.0			
Final Boiling Point		°C			166.1	283.9	496.0			
Recovery		Vol%			99.1	98.1				
Residue		Vol%			0.6	1.2				
Loss		Vol%			0.3	0.7				

Note : (#) Not possible due to the nature of sample (\* )Withdrawn method