



CERTIFICATE OF ANALYSIS N° NOR-20225

VESSEL : Sea Cougar
LOCATION : PBF - Chalmette, LA
PRODUCT : ULSD

MOVEMENT : Load
REF. NO. : HV51113

Volumetric Composite		After Load	Sample N° :	55 ⁽²⁾	20-MAR-2024 Sampled at 22:48
			<i>Minimum</i>	<i>Maximum</i>	<i>Remarks</i>
ASTM D4052	API Gravity @ 60°F	40.0 °API	32.0		Pass
ASTM D4052	Density @ 15°C	824.8 Kg/m3	820.0	845.0	Pass
ASTM D4176 (1A)	Appearance	Clear & Bright		Clear & Bright	Pass
ASTM D6045	ASTM Color	L1.0		2.5	Pass
ASTM D93(A)	Flash Point	149 °F	140.0		Pass
ASTM D93(A)	Flash Point	65.0 °C	60.0		Pass
ASTM D5773	Cloud Point	-18.6 °C	Report	Report	
ASTM D97	Pour Point	<-24 °C		0	Pass
ASTM D445	Viscosity @ 40 °C	2.124 cSt	2.0	4.1	Pass
ASTM D86	Distillation of Petroleum Products (Recovered)				
	10%	198.0 °C	Report	Report	
	50%	245.1 °C		288	Pass
	90%	310.4 °C	282.0	338.0	Pass
	Final Boiling Point (End Point)	344.0 °C		Report	
	Residue	0.9 Vol. %		2.0	Pass
	Loss	0.0 Vol. %		2.0	Pass
ASTM D4737 (A)	Cetane Index	51.0	46		Pass
ASTM D613	Cetane Number	51.7	46		Pass
ASTM D1319	Hydrocarbon Types by FIA	(Dye Lot# <975 or >980)			
	Aromatics	14.0 Vol. %		35.0	Pass
ASTM D2622	Sulfur	3.1 ppm wt.		15	Pass
ASTM D5705 mod	Hydrogen Sulfide in Vapor @ 70°F	<5 ppm vol.			
ASTM D482	Ash	<0.001 Mass %		0.010	Pass
ASTM D4530	Carbon Residue, Micro Carbon on 10% Bott.	<0.10 Mass %		0.30	Pass
ASTM D2709	Sediment & Water	<0.010 Vol. %		0.02	Pass
ASTM D130	Copper Corrosion @ 122 °F / 50°C (3 hrs)	1a		3a	Pass
ASTM D664 (A)	Total Acid Number	<0.100 mg KOH/g		0.5	Pass
⁽⁸⁾ ASTM D7359	Chlorine Content	<0.50 mg/kg			
ASTM D2624	Electrical Conductivity	260 pS/m	25		Pass
EN 12916	Aromatic Hydrocarbons by HPLC				
	Polycyclic Aromatic Hydrocarbons	1.7 Mass %		8.0	Pass
ASTM D6079	Lubricity by HFRR				
	Wear Scar Diameter @ 60° C	460 microns		460.0	Pass
ASTM D2274	Oxidation Stability @95 °C Total Insolubles	<0.1 mg/100mL		25	Pass
EN 12662	Total Contaminants	<12.0 mg/kg		24	Pass
ASTM D7111	Metals in Distillates by ICP				
	Silicon	<0.10 mg/kg(ppm)			



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EN 16576	Metals by ICP-OES (Scope: FE, MN)				
	Manganese	<1.0 mg/L			

⁽²⁾ Samples taken as per Standard Practice for Manual Sampling of Petroleum and Petroleum Products (ASTM D4057 / API MPMS Chapter 8.1) via a Closed System Sampler. Customer is advised that, due to its limitations, the samples may not fully represent the entire cargo.

All testing is performed on premises by Camin Cargo Control and in accordance to the latest referenced test method unless specifically stated otherwise.

⁽⁸⁾ The test method was performed by an external laboratory. Camin Cargo Control does not assume any responsibility for the results, its accuracy or claims to conformity with methodologies, certifications, and accreditations.

The results apply to the samples as received and specifically to the items listed on this certificate.

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The statement of conformity (i.e. Pass/Fail) within this document does not consider measurement uncertainty and applies the decision rules of Pass if the values are equal or are within limits and Fail if outside of limits. Limits are defined by the product’s recognized specification or as determined by written client contract and/or individual job request.

Jeremy Stroud / Laboratory Shift Leader