



Date:

No:

Attachment:

Apafeed petrochemical trading LLC

Iraq Heavy Crude Oil Assays

Properties	Unit	T-1A	T-2	T-4	Test Method
Density @15°C	kg/L	0.9097	0.9153	0.9135	ASTM D 5002
Sp. Gr. @ 15.6/15.6°C		0.9102	0.9158	0.914	Conversion
API Gr. @15.6°C	°API	23.96	23.01	23.31	Calculated
Sulfur Content	%Wt	3.34	3.34	3.25	ASTM D 4294
Carbon Residue, Micro	%Wt	7.65	8.31	8.74	ASTM D 4530
Bottom Sediment & Water	%Vol	0.1	1.35	0.6	ASTM D 4007
Salt as NaCl	mg/L	5.04	15	6.3	ASTM D 3230
Ash Content @550°C	%Wt	0.013	0.049	0.012	ASTM D 482
Total Nitrogen	ppm	0.14		0.13	ASTM D 5762-01
Copper	ppm	<1	<1	<1	IP 501 (Mod.)
Iron	ppm	1	1	<1	IP 501 (Mod.)
Nickel	ppm	12	13	12	IP 501 (Mod.)
Vanadium	ppm	36	37	36	IP 501 (Mod.)
Lead	ppm	<1	<1	<1	IP 501 (Mod.)
Chromium	ppm	<1	<1	<1	IP 501 (Mod.)
Zinc	ppm	<1	1	<1	IP 501 (Mod.)
Calcium	ppm	5	63	1	IP 501 (Mod.)
Magnesium	ppm	1	<1	<1	IP 501 (Mod.)
Sodium	ppm	1	5	<1	IP 501 (Mod.)
Total Acid Number	mgKOH/g	0.302	0.026	0.748	ASTM D 664
Vapor Pressure (DVPE)	kPa	11.2	20.7	6.6	ASTM D 5191
Pour Point (max/Upper)	°C	-39	-24	< -42	ASTM D 5853
Pour Point (min/Upper)	°C	< -42		< -42	ASTM D 5853
Flash Point	°C	< -5	< -5	< -5	ASTM D 93 (Mod.)
Asphaltenes	%Wt	5.2	4.82	5.5	ASTM D 3279
Wax Content	%Wt		0.5	0.7 max	UOP 46
Kinematic Viscosity @26.7°C	cSt	31.03	40.11	31.97	ASTM D 445
Kinematic Viscosity @37.8°C	cSt	19.32	25.09	19.55	ASTM D 446

