Intertek

Oil, Chemical & Agri

Laboratory Testing Capability

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Service HotLine

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LABORATORY CAPABILITY (2009)

NO.	TEST ITEMS	METHOD	PRODUCT
1	Asphaltenes	IP143	Asphalt and Bitumen
2	Ductility @ 25 deg C	ASTM D113	Asphalt and Bitumen
3	Dynamic Viscosity @ 60 or 135 deg C,300mmhg	ASTM D2171	Asphalt and Bitumen
4	Flash Point by COC	ASTM D92	Asphalt and Bitumen
5	Loss on Heating	ASTM D6	Asphalt and Bitumen
6	Penetration @ 25 deg C	ASTM D5	Asphalt and Bitumen
7	SG @ 25/25 deg C	ASTM D70	Asphalt and Bitumen
8	Softening Point	ASTM D36	Asphalt and Bitumen
9	Solubility in trichloroethylene	ASTM D2042	Asphalt and Bitumen
10	Thin-film Oven Test 3.2mm @163 deg C for 5 hours	ASTM D2872	Asphalt and Bitumen
11	Viscosity @60 or 135 deg C	ASTM D2170	Asphalt and Bitumen
12	Wax Content	UOP46 / DIN12606	Asphalt and Bitumen
13	Calcium and Magnesiun,combined(ppm)	EN14538	Biodiesel B100 - D6751
14	Cetane Number	ASTM D613	Biodiesel B100 - D6751
15	Cetane Number by IQT	ASTM D6890	Biodiesel B100 - D6751
16	Cloud Point(dec C)	ASTM D2500	Biodiesel B100 - D6751
17	Copper strip corrosion@100 dec C for 3 hrs	ASTM D130	Biodiesel B100 - D6751
18	Distillation Temperature, Atmospheric equivalent temperature, 90% recovered	ASTM D1160	Biodiesel B100 - D6751
19	Flash Point,PMCC(°C)	ASTM D93	Biodiesel B100 - D6751
20	Free Glycerine(%m/m), Total Glycerine(%m/m)	ASTM D6584	Biodiesel B100 - D6751
21	Kinematic Viscosity @ 40C (mm2/sec)	ASTM D445	Biodiesel B100 - D6751
22	Methanol content(vol.%)	EN14110	Biodiesel B100 - D6751
23	Miro Carbon Residue (wt.%)	ASTM D4530	Biodiesel B100 - D6751
24	Oxidation Stability(hours)	EN14112	Biodiesel B100 - D6751
25	Phosphorus Content(mass.%)	ASTM D4951	Biodiesel B100 - D6751
26	Sodium and Potassium,combined(ppm)	EN14538	Biodiesel B100 - D6751
27	Sulfated Ash(wt.%)	ASTM D874	Biodiesel B100 - D6751
28	Sulfur(mg/kg)	ASTM D5453	Biodiesel B100 - D6751
29	Total Acid Number(mgKOH/g)	ASTM D664	Biodiesel B100 - D6751
30	Water and Sediment(vol.%)	ASTM D2709	Biodiesel B100 - D6751

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LABORATORY CAPABILITY (2009)

NO.	TEST ITEMS	METHOD	PRODUCT
31	Cold Soak Test	Annex A1	Biodiesel B100 - D6751
32	Acid Value(mgKOH/g)	EN14104	Biodiesel B100 - EN14214
33	Alkaline Metal(Na+K)(mg/kg)	EN14108/9	Biodiesel B100 - EN14214
34	Ca + Mg(mg/kg)	pr EN14538	Biodiesel B100 - EN14214
35	Carbon Residue 10% distillation(mass.%)	ASTM D1160/EN10370	Biodiesel B100 - EN14214
36	Cetane Number	EN5165	Biodiesel B100 - EN14214
37	Copper Strip Corrosion (3hrs @ 50 dec C)	EN2160	Biodiesel B100 - EN14214
38	Density @ 15 deg C (kg/m3)	EN ISO 12185	Biodiesel B100 - EN14214
39	Ester Content(wt.%)	EN14103	Biodiesel B100 - EN14214
40	Flash Point,PMCC(°C)	EN ISO 3679	Biodiesel B100 - EN14214
41	Iodine Value	EN14111	Biodiesel B100 - EN14214
42	Kinematic Viscosity @ 40C (mm2/sec)	EN ISO 3104	Biodiesel B100 - EN14214
43	Linolenic Acid Methyl Esther(%m/m)	EN14103	Biodiesel B100 - EN14214
44	Methanol content(%m/m)	EN14110	Biodiesel B100 - EN14214
45	Monoglyceride content(%m/m), Diglyceride content(%m/m), Triglyceride content(%m/m), Free Glycerol(%m/m), Total Glycerol(%m/m)	EN14105	Biodiesel B100 - EN14214
46	Oxidation Stability 110 dec C	EN14112	Biodiesel B100 - EN14214
47	Phosphorus Content(mass.%)	EN14107	Biodiesel B100 - EN14214
48	Polyunsaturated(>=4 double bond) methyl ester	GC	Biodiesel B100 - EN14214
49	Sulfated Ash(mass.%)	ISO3987	Biodiesel B100 - EN14214
50	Sulfur(mg/kg)	EN ISO 20846	Biodiesel B100 - EN14214
51	Total Contamination(mg/kg)	EN12662	Biodiesel B100 - EN14214
52	Water content(mg/kg)	EN ISO 12937	Biodiesel B100 - EN14214
53	Cetane Number by IQT	ASTM D6890	Biodiesel B100 - Optional
54	CFPP	EN116	Biodiesel B100 - Optional
55	Colour(5 1/4" Lovibond Cell)	AOCS CC13e-92	Biodiesel B100 - Optional
56	Fatty Acid Methyl Ester Composition - C12,C14,C16,C18-0,C18-1,C18-2,C18-3,C20,C22,C24	GC	Biodiesel B100 - Optional
57	Free Fatty Acid	AOCS Ca5a	Biodiesel B100 - Optional
58	Peroxide Value(meq/kg)	ACN No 001 013 123	Biodiesel B100 - Optional

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NO.	TEST ITEMS	METHOD	PRODUCT	
59	Saponification Number	AOCS TI 1a-64	Biodiesel B100 - Optional	Biodiesel B-100
60	Soap	AOCS Cc17-79(mod)	Biodiesel B100 - Optional	
61	Sterolglycosides	GC	Biodiesel B100 - Optional	
62	Unsaponifiables(%)	AOAC Ca6a-40	Biodiesel B100 - Optional	
63	Cloud Point	ASTM D2500	Condensate	Condensate
64	Cloud Point	ASTM D5773 / IP446	Condensate	
65	Components Analysis,Normal boiling pt, Average molecular wt., Density	High Pressure GC*	Condensate	
66	Detailed Hydrocarbon Analysis	ASTM D6623/DHA	Condensate	
67	Freezing Point	ASTM D2386	Condensate	
68	Freezing Point	ASTM D5972 / IP435	Condensate	
69	Glycols (MEG,DEG, TEG)	GC	Condensate	
70	Infra Red Scanning	FTIR Spectroscopy	Condensate	
71	Methanol Content	GC	Condensate	
72	Pour Point	ASTM D5949	Condensate	
73	Pour Point	ASTM D97	Condensate	
74	Simulated Distillation	ASTM D2887(MOD)	Condensate	
75	Simulated Distillation	HTSIMDIS	Condensate	
76	Sulphur	ASTM D5453	Condensate	
77	Water Content	ASTM D1744	Condensate	
78	Water Content	ASTM D4377	Condensate	
79	Ash content	Furnace/USP30	Crude Glycerine	Crude Glycerine
80	Ester content	GC	Crude Glycerine	
81	Glycerine content	BS5711	Crude Glycerine	
82	Methanol content	HS-GC	Crude Glycerine	
83	MONG	Calculation	Crude Glycerine	
84	Water Content	Karl Fisher	Crude Glycerine	
85	oxygen ciontent(ppm)	oxygen Analyzer	Gas	Gas
86	MercuryContent (ppb)	JLPGA-S-07	Gas	
87	molecular weight-calculation	ISO6975	Gas	
88	Specific Gravity-calculation	ISO6975	Gas	
89	Gross Heating Values-calculation	ISO6975	Gas	
90	Wobbe Index-calculation	ISO6975	Gas	

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	NO.	TEST ITEMS	METHOD	PRODUCT
Gas	91	Refinery Gas Analysis by GC	UOP539/RGA	Gas
	92	Hydrocarbons	ASTM D6730	Gas
Industrial Carbon Dioxide	93	Hydrogen sulfide,Carbonyl sulfide, sulfur dioxide(ppm-mole)	SCD	Industrial Carbon Dioxide
	94	Oily Residue(%)	Gravimetric	Industrial Carbon Dioxide
	95	Total Hydrocarbon	DHA	Industrial Carbon Dioxide
	96	Water(ppm-mole)	MCM	Industrial Carbon Dioxide
LPG	97	Ammonia as NH3	MDA Analyzer	LPG
	98	Arsenic as Arsene	MDA Analyzer	LPG
	99	Carbon monoxide, Carbon dioxide	GC	LPG
	100	Carbonyl	ASTM D4423	LPG
	101	Chlorides as Cl	ASTM D5808	LPG
	102	Composition - Propane+Propylene, Butane+Butylene, Pentane, Others, Dienes Content as 1,3-Butadiene (ASTM D2163) SG@60/60 deg F, Vapour Pressure, Gauge@ 37.8 deg C, Octan Number (Motor) - ASTM D2598	ASTM D2163 / ASTM D2598 *	LPG
	103	Copper Corr(1hr @37.8deg C)	ASTM D1838	LPG
	104	DMF	GCFID	LPG
	105	Entrained Water	Visual	LPG
	106	Hydrogen Sulphide	Colour Detector Tube / ASTM D2420	LPG
	107	Methanol and ACN(ppm)	LOWOX	LPG
	108	Odorant (Ethyl Mercaptan) - Ethyl	Colour Detector Tube/ASTM D5305	LPG
	109	Odorant (Ethyl Mercaptan) - Methyl	Colour Detector Tube/ASTM D5305	LPG
	110	Oily Residue	IP427	LPG
	111	Oily Residue	JLPGA-S-05	LPG
	112	O-Number	ASTM D2158	LPG
	113	Peroxide	ASTM E299	LPG
	114	Phosphine and Arsine(PH3 and AsH3)	MDA Analyzer	LPG
	115	Residue on Evaporation @ 37.8 deg C	ASTM D2158 / ASTM D1837	LPG
	116	Sulphur compound	ASTM D5504	LPG
	117	TBC	ASTM D1157	LPG

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NO.	TEST ITEMS	METHOD	PRODUCT	
118	Total organic Nitrogen	ASTM D4629	LPG	LPG
119	Total Sulfur	ASTM D6667	LPG	
120	Chloride, Fluoride, Iodide, Bromide	combustion IC	LPG	
121	water content	Micro-view Moisture(MCM)	LPG	
122	Air Release	ASTM D3427/ IP313	Lube	Lube
123	Ash	ASTM D482	Lube	
124	Ash, Sulphated	ASTM D874	Lube	
125	ASTM Colour Scale	ASTM D1500	Lube	
126	Boiling Point of Engine Coolant	ASTM D1120	Lube	
127	Chloride (Organic/ Inorganic)	UOP 779 (Modified)	Lube	
128	Copper Corrosion @ 2hrs	ASTM D130	Lube	
129	Demulsibility	ASTM D1401	Lube	
130	Density @ 15^{o}C/ Specific Gravity/ API Gravity	ASTM D4052 / ASTM D1298	Lube	
131	Elements Analysis (ICP) - 1st	ASTM D5185	Lube	
132	Elements Analysis (ICP) - Sub	ASTM D5185	Lube	
133	Ferrography	Analytical (Sent to 3rd Party)	Lube	
134	Flash Point		Lube	
135	Flash Point - COC	ASTM D92	Lube	
136	Flash Point - Seta	D3828 / IP303	Lube	
137	Flash Point- PMCC	ASTM D93	Lube	
138	Foaming	ASTM D892	Lube	
139	Foaming - Sequence	ASTM D892	Lube	
140	FTIR	IR Spectrophotometer	Lube	
141	Fuel Dilution	ASTM D3524	Lube	
142	Insolubles - Heptane	ASTM D893	Lube	
143	Insolubles - Pentane	ASTM D893	Lube	
144	Insolubles - Toluene	ASTM D893	Lube	
145	Insolubles/ Dispersancy	ASTM D893 (mod) / Video Photometer/ IP316/93(99)	Lube	
146	Millipore	ASTM D4055(Modified)	Lube	

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	NO.	TEST ITEMS	METHOD	PRODUCT
Lube	147	Naptha + Sample Insolubles Test (Precipitation Number)	ASTM D2273	Lube
	148	Nature of Water (Cl^-)		Lube
	149	Noack Volatility(wt.%)	ASTM D5800	Lube
	150	Particle Counting	Light Obscuration Method	Lube
	151	Pour Point	ASTM D97	Lube
	152	RBOT	ASTM D2272	Lube
	153	Rust Prevention	ASTM D665	Lube
	154	Simulated Distillation	ASTM D2887 (Mod)	Lube
	155	Sulphur	ASTM D4294 / IP336	Lube
	156	Total Acid Number	ASTM D664 / IP 177	Lube
	157	Total Base Number	ASTM D2896 / IP 276	Lube
	158	Viscosity Index - calculated	ASTM D2270	Lube
	159	Viscostiy @ 100^oC	ASTM D445	Lube
	160	Viscostiy @ 40^oC	ASTM D445	Lube
	161	Water content	ASTM 6304	Lube
	162	Water by Coulometric	ASTM D1533	Lube
	163	Water by Distillation	ASTM D95	Lube
	164	Water by Karl Fischer	ASTM 1744	Lube
	165	Water by Vaporiser	ASTM 6304	Lube
	166	Water Content (Crackle)	Crackle Test	Lube
	167	Wear Index	Wear Index	Lube
Orimulsion	168	Apparent Viscosity@ 30°C, 100s-1	Co-axial Cylinder Viscometer	Orimulsion
	169	Apparent Viscosity@ 30°C, 20s-1	Co-axial Cylinder Viscometer	Orimulsion
	170	Ash(wt.%)	ASTM D482	Orimulsion
	171	Carbon Content(wt.%), Hydrogen Content(wt.%)	ASTM D5291	Orimulsion
	172	Density @ 15 deg C (g/cm3)	ASTM D4052	Orimulsion
	173	Droplets>150um(%w/w)	Sieve Test	Orimulsion
	174	Flash Point(°C)	ASTM D92	Orimulsion
	175	Gross Carolific Value(MJ/kg)	ASTM D240	Orimulsion

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NO.	TEST ITEMS	METHOD	PRODUCT
176	Mean Droplet Size(um)	Laser Diffraction Technique/	Orimulsion
177	Median Droplet Size(um)	Malvern Particle sizer	Orimulsion
178	Net Specific Energy(MJ/kg)	ASTM D240	Orimulsion
179	Nitrogen(wt.%)	ASTM D4629	Orimulsion
180	pH	pH Meter	Orimulsion
181	Pour Point(°C)	ASTM D97	Orimulsion
182	Sulfur(wt.%)	ASTM D5453	Orimulsion
183	Vanadium, Sodium, Nickel, Magnesium(wt.ppm)	ICPES/AAS	Orimulsion
184	Water Content(wt.%)	ASTM D4006	Orimulsion
185	Acetaldehyde of VAM	ASTM D2191	Petrochemical
186	Acetone Content In Methanol	ASTM D1612	Petrochemical
187	Acid Acceptance	ASTM D2942 / D2106	Petrochemical
188	Acid Acceptance	ASTM D2989	Petrochemical
189	Acid Number / Acid Value	ASTM D664	Petrochemical
190	Acid Wash Colour:	ASTM D848	Petrochemical
191	Acidity	ASTM D1045 / D847	Petrochemical
192	Acidity	ASTM D974 / D1613 / D2989	Petrochemical
193	Acidity in Vam	ASTM D2086	Petrochemical
194	Acidity of Hydrocarbon Liquids or Distillation Residues	ASTM D1093	Petrochemical
195	Active Oxygen	UV Spectrophotometer	Petrochemical
196	Aldehyde in SM	ASTM D2119	Petrochemical
197	Alkalinity	ASTM D1614	Petrochemical
198	AnilIne Point	ASTM D611	Petrochemical
199	Aniline Point (Mixed)	ASTM D611	Petrochemical
200	Appearance	Visual	Petrochemical
201	Aromatic	ASTM D1319	Petrochemical
202	Aromatic	UOP495	Petrochemical
203	Aromatics in Hydrocarbons	UOP744	Petrochemical
204	Aromatics in Hydrocarbons	UOP744	Petrochemical
205	Ash	ASTM D482	Petrochemical

LABORATORY CAPABILITY (2009)

NO.	TEST ITEMS	METHOD	PRODUCT
206	Ash, Sulfated	ASTM D874	Petrochemical
207	Benzene Content	G.C.	Petrochemical
208	Bromine Index	ASTM D2710 / D5776 / D1492	Petrochemical
209	Bromine Number	ASTM D1159 / IP129	Petrochemical
210	Carbonate as NaCO3	ASTM E291	Petrochemical
211	Carbonized Substance: (Methanol)	ASTM E346	Petrochemical
212	Carbonized Substance: (White Mineral Oil)	ASTM D565	Petrochemical
213	Carbonyl content	ASTM E411	Petrochemical
214	Carbonyl Number	UOP624	Petrochemical
215	Chloride in Caustic Soda-Potentiometric titration	ASTM E291	Petrochemical
216	Chloride Content	ASTM D4929	Petrochemical
217	Chloride Content	ASTM D5194	Petrochemical
218	Chloride Content	ASTM D5808 /UOP779	Petrochemical
219	Chloride Content	Coulometric titration	Petrochemical
220	Chloride Content	Potentiometric titration	Petrochemical
221	Chloride Content	Turbidity	Petrochemical
222	Cloud Point	ASTM D2500	Petrochemical
223	Conductivity in Ethanol	ASTM D1125	Petrochemical
224	Colour:	ASTM D1209 / ASTM D2108	Petrochemical
225	Colour:	ASTM D156	Petrochemical
226	Copper Corrosion	ASTM D130 / ASTM D849	Petrochemical
227	Crystallising Point	ASTM D852 / ASTM D1493	Petrochemical
228	Crystallising Point	ASTM E302	Petrochemical
229	Density @ 25 deg. C	ASTM D4052	Petrochemical
230	Distillation Range	ASTM D86 / ASTM D850 / ASTM D1078	Petrochemical
231	Elements in Caustic Soda(ppm)-1st	I.C.P.E.S	Petrochemical
232	Elements in Caustic Soda(ppm)-sub	I.C.P.E.S.	Petrochemical
233	Filtration Test (IPA)	Filtration	Petrochemical

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LABORATORY CAPABILITY (2009)

NO.	TEST ITEMS	METHOD	PRODUCT
234	Flash Point - deg. C - COC	ASTM D92	Petrochemical
235	Flash Point - deg. C - PMCC	ASTM D93	Petrochemical
236	Flash Point - deg. C - Tag close cup	ASTM D56	Petrochemical
237	Free Halogen / Free Chloride / Free Chlorine	Qualitative/ASTM D4755	Petrochemical
238	Heavy Metal as Pb	I.C.P.E.S.	Petrochemical
239	Heavy Metals(ppm)	USP 30/EP	Petrochemical
240	Hydrocarbon Test	ASTM D1722	Petrochemical
241	Hydroxyl Number	ASTM D1957 /AOCS cd13-60/PH.EUR Method 2.5.3	Petrochemical
242	Hydroxyl Number	ASTM D4274	Petrochemical
243	Infra Red Scanning	FTIR Spectroscopy	Petrochemical
244	Inhibitor Content (as Hydroquinone)	ASTM D2193	Petrochemical
245	Inhibitor Content (as TPC)	ASTM D4590	Petrochemical
246	Inhibitor Content (as MEHQ)	ASTM D3125	Petrochemical
247	Inhibitor Content(TBC) in Light Hydrocarbon	ASTM D1157	Petrochemical
248	Inorganic Chloride	Turbidity	Petrochemical
249	Iodine Value	AOCS Cd 1d-92	Petrochemical
250	Iron Content	ASTM E202 / ASTM E394 / ASTM E291	Petrochemical
251	Lead Content in Solvent	ICPES	Petrochemical
252	Maleic Acid	ASTM D2930	Petrochemical
253	MercuryContent (ppb)	Mercury Analyser	Petrochemical
254	Nitrogen Content (ppm)	ASTM D4629(mod) / ASTM D6069	Petrochemical
255	Non Aromatic Content	G.C. / ASTM D2360	Petrochemical
256	Non Volatile Matter	ASTM D1353 / ASTM D2109	Petrochemical
257	Odour, Residual	ASTM D1296	Petrochemical
258	Peroxide in Organic Solvent	ASTM E299	Petrochemical
259	Peroxide in Styrene	ASTM D2340	Petrochemical
260	pH Value (Halogenated Solvents)	ASTM D2110	Petrochemical
261	PIONA	PIONA Reformulyser	Petrochemical

NO.	TEST ITEMS	METHOD	PRODUCT
262	Polymer Content:	ASTM D2121	Petrochemical
263	Potassium Permanganate Time Test	ASTM D1363	Petrochemical
264	Pour Point - deg.C	ASTM D97	Petrochemical
265	Purity of Glacial Acetic Acid (Conversion from Solidifying Point)	ASTM E302 (Obsolete)/ ASTM D1493	Petrochemical
266	Purity Test of Solvents	ASTM D3054 / GC	Petrochemical
267	Purity Test of Solvents - Impurity of Individual Component	ASTM D3054 / GC	Petrochemical
268	Refractive Index	ASTM D1218	Petrochemical
269	Residue on Ignition	ASTM D1353 / ASTM D2109	Petrochemical
270	SM purity by GC	ASTM D5135	Petrochemical
271	Sodium Hydroxide in Caustic Soda	ASTM E291	Petrochemical
272	Solidifying Point (CrystallisingPoint)	ASTM D852 / D1493 / E302-95(Obsolete)	Petrochemical
273	Solubility in Water	-	Petrochemical
274	Specific Gravity:	ASTM D1298	Petrochemical
275	Specific Gravity:	ASTM D2111 / ASTM D891 / ASTM D3505	Petrochemical
276	Specific Gravity:	ASTM D4052	Petrochemical
277	Sulphates	Turbidity	Petrochemical
278	Sulphates in Caustic Soda	ASTM E291 / Gravimetric	Petrochemical
279	Sulphur Compounds	ASTM D853	Petrochemical
280	Sulphur Content	ASTM D3120 / ASTM D3961	Petrochemical
281	Sulphuric Acid Wash Colour/Acid Wash Colour	ASTM D848	Petrochemical
282	Suspended Matter	Visual	Petrochemical
283	Thiophene in Benzene	ASTM D1685	Petrochemical
284	Toluene purity by GC	ASTM D6526/GC	Petrochemical
285	U.V Transmittance/ UV Absorbance	UV Spectroscopy	Petrochemical
286	Unsaturation (of Polyols)	ASTM D4671	Petrochemical
287	Viscosity Index, Calculated	ASTM D2270	Petrochemical
288	Viscosity Kinematic	ASTM D445	Petrochemical

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LABORATORY CAPABILITY (2009)

NO.	TEST ITEMS	METHOD	PRODUCT
289	Water by Karl Fischer Method - (Coulometric)	ASTM D1533 / ASTM D3401	Petrochemical
290	Water by Karl Fischer Method - (Coulometric)	ASTM D6304	Petrochemical
291	Water by Karl Fischer Method - (Coulometric)	ASTM D6304(Vapourizer)	Petrochemical
292	Water by Karl Fischer Method - (Volumetric)	ASTM D3401	Petrochemical
293	Water by Karl Fischer Method - (Volumetric)	ASTM E203 / ASTM D1364	Petrochemical
294	Water Miscibility Test	ASTM D1722	Petrochemical
295	Water Plate Test (Crackle Test)	-	Petrochemical
1	A.P.I Gravity	ASTM D1298	Petroleum
2	A.P.I Gravity	ASTM D287	Petroleum
3	Acid Number and Naphthenic Acids by Potentiometric Titration	UOP565	Petroleum
4	Acidity in Jet Fuel	ASTM D3242	Petroleum
5	Acidity of Distillation Residue	ASTM D1093	Petroleum
6	Acidity,Inorganic	ASTM D974	Petroleum
7	Acidity,Strong Acid Number	ASTM D974	Petroleum
8	Acidity,Total	ASTM D974	Petroleum
9	Aniline Gravity Product	ASTM D611	Petroleum
10	Aniline Gravity Product- calculated	ASTM D611 / ASTM D1298	Petroleum
11	Aniline Point	ASTM D611A	Petroleum
12	Aniline Point	ASTM D611B	Petroleum
13	Aniline Point, Mixed	ASTM D611A	Petroleum
14	Antiknock Characteristics	ASTM D2699 / ASTM D2700	Petroleum
15	Antiknock Characteristics-calculated	ASTM D2699 / ASTM D2700	Petroleum
16	Appearance	ASTM D4176(Prod.1)	Petroleum
17	Appearance	Visual	Petroleum
18	Appearance/Haze Rating	ASTM D4176(Prod.2)	Petroleum
19	Aromatic and/or Olefin Content	ASTM D1319	Petroleum
20	Aromatic Content (UV)	UOP 495	Petroleum

Petrochemical

Petroleum

NO.	TEST ITEMS	METHOD	PRODUCT
21	Aromatics Hydrocarbon types-Mono, Di and Polycyclic	IP391 / EN12916 / ASTM D6591	Petroleum
22	Aromatics in gasoline	ASTM D5580 / PIONA	Petroleum
23	Aromatics types in aviation fuel	ASTM D6379 / IP436	Petroleum
24	Arsenic Test	ASTM E819 / AA Hydride / UOP946	Petroleum
25	Ash	ASTM D482 / ISO6245	Petroleum
26	Ash,Sulphated	ASTM D874	Petroleum
27	Asphaltenes	ASTMD3279	Petroleum
28	Asphaltenes	IP143 / ASTM D6560	Petroleum
29	Asphaltenes	UOP614	Petroleum
30	Bacteria test	IP385	Petroleum
31	Basic Nitrogen	UOP269	Petroleum
32	Basic Nitrogen	UOP313	Petroleum
33	Benzene Content / or Toluene alone	PIONA Reformulyser / GC	Petroleum
34	BMCI ((Bureau of Mines Correlation Index)	Calculated	Petroleum
35	Bromine Index	ASTM D2710	Petroleum
36	Bromine Index	ASTMD1492	Petroleum
37	Bromine Number	IP129 / ASTM D1159 / UOP304	Petroleum
38	Bromine Number with distillation cut	ASTM D1160 / ASTM D1159	Petroleum
39	Burning Test / Bloom on Chimney	IP10 / ASTM D187	Petroleum
40	C/H Ratio	Calculated	Petroleum
41	Calorific Value	ASTM D4868	Petroleum
42	Calorific Value	Calculated	Petroleum
43	Calorific Value (Gross)	ASTM D240 / ASTM D4809	Petroleum
44	Carbon	UOP703	Petroleum
45	Carbon Distribution by n-d-M	ASTM D3238	Petroleum

LABORATORY CAPABILITY (2009)

NO.	TEST ITEMS	METHOD	PRODUCT
46	Carbon Residue, Conradson	ASTM D189	Petroleum
47	Carbon Residue, Micro (MCRT)	ASTM D4530	Petroleum
48	Carbon Residue, Ramsbottom	ASTM D524	Petroleum
49	Carbon Type Analysis(%)	ASTM D2140	Petroleum
50	Carbonyl Number	UOP624	Petroleum
51	CCAI (Calculated Carbon Aromaticity Index)	Calculated	Petroleum
52	Cetane Index	ASTM D4737	Petroleum
53	Cetane Index	ASTM D976	Petroleum
54	Cetane Index-calculated	ASTM D976 / ASTM D4737 / ISO4264	Petroleum
55	Cetane No	ASTM D613	Petroleum
56	Cetane Number by IQT	ASTM D6890	Petroleum
57	Char Value/Bloom on Chimney	IP10	Petroleum
58	Chloride, Inorganic	ASTM D878	Petroleum
59	Chloride, Inorganic	UOP779	Petroleum
60	Chloride, Organic	UOP779 / IP510 / EN14077	Petroleum
61	Chlorine by Mircocoulometry	ASTM D4929	Petroleum
62	Chlorine Content	ASTM D5194 / UOP588	Petroleum
63	Chlorine Content	ASTM D5808	Petroleum
64	Chlorine Content	UOP395	Petroleum
65	CHN	ASTM D5291	Petroleum
66	Cloud Point	ASTM D2500	Petroleum
67	Cloud Point : (Phase Tech)	ASTM D5773 / IP446	Petroleum
68	Cold Filter Plugging Point (CFPP)	IP 309 / EN116 / D6371	Petroleum
69	Colour (Stability)	ASTM D1500(MOD)	Petroleum
70	Colour: - ASTM	ASTM D1500	Petroleum
71	Colour: - Lovibond	IP17	Petroleum
72	Colour: - Saybolt	ASTM D156	Petroleum

LABORATORY CAPABILITY (2009)

NO.	TEST ITEMS	METHOD	PRODUCT
73	Compatibility Test / Stability Test	ASTM D4740	Petroleum
74	Conductivity in Carbon Black	Carbot test	Petroleum
75	Congealing Point	ASTM D938	Petroleum
76	Conradson Carbon Residue on 10% Bottom	ASTM D86 / ASTM D189	Petroleum
77	Copper Corrosion: - @ 50 deg. C for 3 hours	ASTM D130	Petroleum
78	Copper Corrosion: - @ 100 deg. C for 2 hours	ASTM D130	Petroleum
79	Density @ 15 deg. C	ASTM D4052 / ISO12185	Petroleum
80	Density Apparent @ 15 deg. C	ASTM D1298	Petroleum
81	Detail carbon analysis up to C14	ASTM D6730	Petroleum
82	Detail carbon analysis up to C9	ASTM D5134	Petroleum
83	Determination of light HC in crude oil by GC method	IP344	Petroleum
84	Diene Value	UOP326	Petroleum
85	Diesel Index	IP21	Petroleum
86	Diesel Index-calculated	IP21	Petroleum
87	Distillation @ 300 deg C	Australian Method	Petroleum
88	Distillation Crude Oil Atmospheric	ASTM D2892	Petroleum
89	Distillation Crude Oil Vacuum	ASTM D5236	Petroleum
90	Distillation Range Under Reduced Pressure	ASTM D1160	Petroleum
91	Distillation Range	ASTM D86	Petroleum
92	Distillation Simulated	ASTM D2887(MOD)	Petroleum
93	Distillation Simulated	ASTM D5307	Petroleum
94	Distillation Simulated	HTSD / ASTM D6352 MOD	Petroleum
95	Doctor Test	ASTM D235 / IP 30	Petroleum
96	Doctor Test	ASTM D4952	Petroleum
97	Electrical Conductivity	ASTM D2624	Petroleum
98	Emulsibility / Water Separability	ASTM D1401	Petroleum
99	Equilibrium Boiling Point	ASTM D1120	Petroleum
100	Existent Gum	ASTM D381	Petroleum

LABORATORY CAPABILITY (2009)

NO.	TEST ITEMS	METHOD	PRODUCT
101	FAME in middle distillate	EN14078	Petroleum
102	Filter Blocking Tendency	IP387 / ASTM D2068	Petroleum
103	Filtration Test, Shell Hot Modified - Existent	SMS 2696	Petroleum
104	Filtration Test, Shell Hot Modified - Potential	SMS 2696	Petroleum
105	Fire Point	ASTM D92	Petroleum
106	Flash Point - Abel	IP170	Petroleum
107	Flash Point - COC	ASTM D92	Petroleum
108	Flash Point - PMCC	ASTM D93 / ISO2719	Petroleum
109	Flash Point - TCC	ASTM D56	Petroleum
110	Foam Test	ASTM D892	Petroleum
111	Foam Test-each sequence	ASTM D892	Petroleum
112	Freezing Point	ASTM D2386	Petroleum
113	Freezing Point(phase tech)	ASTM D5972 / IP435	Petroleum
114	Freezing Point, Auto	ASTM D7153 / IP529	Petroleum
115	FSII	ASTM D5006	Petroleum
116	Fuel Dilution	ASTM D3524	Petroleum
117	FVI (Flexible Vapour Index)	Calculated	Petroleum
118	Gasoline Diluent	ASTM D322	Petroleum
119	GCMS Scan mode without quantification	GCMS	Petroleum
120	GCMS Sim Mode quantification	GCMS	Petroleum
121	Glycerine content / Total Glycerides (wt.%)	ASTM D6584	Petroleum
122	Halogenated solvent in Fuel Oil (First comp)	HS-GCFID	Petroleum
123	Halogenated solvent in Fuel Oil (sub comp)	HS-GCFID	Petroleum
124	Heat of Combustion, Net	ASTM D3338	Petroleum
125	Heat of Combustion, Net	ASTM D4529	Petroleum
126	Heat of Combustion, Net	ASTM D4529	Petroleum
127	High Pressure Liquid Analyser	GC	Petroleum
128	Hydrogen Content	ASTM D3343	Petroleum

LABORATORY CAPABILITY (2009)

NO.	TEST ITEMS	METHOD	PRODUCT
129	Hydrogen Content	ASTM D4808 / ASTM D3701	Petroleum
130	Hydrogen Content	ASTM D5291	Petroleum
131	Hydrogen Content	Calculated	Petroleum
132	Hydrogen Sulphide (H2S)	ASTM D5705	Petroleum
133	Hydrogen Sulphide (H2S)	UOP163	Petroleum
134	Hydrogen Sulphide (H2S) in Fuel Oil	IP399	Petroleum
135	Hydrogen Sulphide (H2S)(method B)	IP103	Petroleum
136	Induction Period / Oxygen Stability	ASTM D525	Petroleum
137	Insolubles - Heptane	ASTM D893	Petroleum
138	Insolubles - Pentane	ASTM D893	Petroleum
139	Insolubles - Toluene	ASTM D893	Petroleum
140	Iodine Value in Animal Fat	AOCS Cd 1d-92	Petroleum
141	Iron content(ppm)	AAS(org)	Petroleum
142	K Factor(Characterization Factor)	UOP 375	Petroleum
143	Kerosene	JIS K2536	Petroleum
144	Lead Content	ASTM D3237	Petroleum
145	Lead Content	IP362	Petroleum
146	Lead Content (g/l)	ASTM D3341	Petroleum
147	Lead Content (ppb)	IP224	Petroleum
148	Lubricity	CEC F-06-A-96 / ASTM D6079 / IP450	Petroleum
149	Manganese	ASTM D3831/ AAS(org)	Petroleum
150	Membrane Filtration For Crude Oil	ASTM D4807	Petroleum
151	Mercaptan Sulphur	ASTM D3227 / IP342	Petroleum
152	Mercaptan Sulphur	UOP163	Petroleum
153	Mercury (ppb)	Lumex Analyzer	Petroleum
154	Mercury (ppb)	Mercury Analyser	Petroleum
155	Mercury (ppb)	Mercury Analyser for gas sample / JLPGA-S-07	Petroleum
156	Mercury (ppb)	UOP938	Petroleum

LABORATORY CAPABILITY (2009)

NO.	TEST ITEMS	METHOD	PRODUCT
157	Mercury extraction from glass/teflon - <1000ml	BrCl extraction	Petroleum
158	Mercury extraction from glass/teflon - <50ml	BrCl extraction	Petroleum
159	Mercury Speciation (ppb)	Preparation + UOP938	Petroleum
160	Metallic Elements Analysis (Direct Run) : 1st	I.C.P.E.S. / ASTM D5185	Petroleum
161	Metallic Elements Analysis (Direct Run) : Sub	I.C.P.E.S. / ASTM D5185	Petroleum
162	Metallic Elements Analysis (Direct Run): Na, Pb, Ca & V - 1st	ASTM D3605	Petroleum
163	Metallic Elements Analysis (Direct Run): Na, Pb, Ca & V - Sub	ASTM D3605	Petroleum
164	Metallic Elements Analysis by AAS: Al, Ba, Ca, Cu, Fe, Zn, Mg, Ni, Na, Strontium, V, etc - 1st	A.A.S. / IP288	Petroleum
165	Metallic Elements Analysis by AAS: Al, Ba, Ca, Cu, Fe, Zn, Mg, Ni, Na, Strontium, V, etc - Sub	A.A.S. / IP288	Petroleum
166	Metallic Elements Analysis by ICPES: Al, Ba, Ca, Cu, Fe, Zn, Mg, Ni, Na, Strontium, V, etc - 1st	IP377(MOD) / IP501 / ASTM D5184	Petroleum
167	Metallic Elements Analysis by ICPES: Al, Ba, Ca, Cu, Fe, Zn, Mg, Ni, Na, Strontium, V, etc - Sub	IP377(MOD) / IP501 / ASTM D5184	Petroleum
168	Metallic Elements Analysis in Natural Gas-1st	I.C.P.E.S.	Petroleum
169	Metallic Elements Analysis in Natural Gas-sub	I.C.P.E.S.	Petroleum
170	Metallic Elements Analysis: Ba,B,Ca,Cu,Mg, P,Zn - 1st	ASTM D4951	Petroleum
171	Metallic Elements Analysis: Ba,B,Ca,Cu,Mg, P,Zn - sub	ASTM D4951	Petroleum
172	Metallic Elements Analysis: Ni, V, Fe - 1st	ASTM D5708 method A	Petroleum
173	Metallic Elements Analysis: Ni, V, Fe - Sub	ASTM D5708 method A	Petroleum
174	Metallic Elements by ICP MS: Aqueous Matrix	I.C.P.M.S.	Petroleum

LABORATORY CAPABILITY (2009)

NO.	TEST ITEMS	METHOD	PRODUCT
175	Metallic Elements by ICP MS: Aqueous Matrix	I.C.P.M.S.	Petroleum
176	Metallic Elements by ICP MS: Organic Matrix	I.C.P.M.S.	Petroleum
177	Metallic Elements by ICP MS: Organic Matrix	I.C.P.M.S.	Petroleum
178	Methanol in condensate	ASTM D4864 MOD	Petroleum
179	Micro Carbon Residue as received	ASTM D4530 / ISO10370	Petroleum
180	Micro Carbon Residue on 10% bottom	ASTMD86 & ASTM D4530	Petroleum
181	Microbiological test	Microbmonitor method	Petroleum
182	Molecular wt by freezing point depression	Freezing point depression	Petroleum
183	Motor Octane Number	ASTM D2700	Petroleum
184	MTBE / Total Oxygenates	PIONA / ASTM D4815 / LOWOX	Petroleum
185	MTBE alone	ASTM D4815	Petroleum
186	MTBE Purity/Impurity	ASTM D5441	Petroleum
187	Nace Corrosion Test	TM0172-2001 / ASTM D665	Petroleum
188	Naphthalein in Fuel Oil	HS-GCFID	Petroleum
189	Naphthalene Content	ASTM D1840	Petroleum
190	Natural Gas (extended)	GPA2286	Petroleum
191	Nitrogen Content	ASTM D3228	Petroleum
192	Nitrogen content	ASTM D5291	Petroleum
193	Nitrogen content	ASTM D5762	Petroleum
194	Nitrogen Content(ppm)	ASTM D4629(MOD)	Petroleum
195	Nitrogen Content(ppm)	ASTM D6069	Petroleum
196	Noack Volatility(wt.%)	ASTM D5800	Petroleum
197	Odour	-	Petroleum
198	Olefin and/or Aromatic Content	ASTM D1319	Petroleum
199	Organic Chloride @ less 300 dec Cin fuel oil	ASTM D4929 (Method B)	Petroleum
200	Organic Chloride @ less 300 dec Cin fuel oil	PBM 26S-01	Petroleum

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LABORATORY CAPABILITY (2009)

NO.	TEST ITEMS	METHOD	PRODUCT
201	Oxidation Stability (Accelerated Method)	ASTM D2274	Petroleum
202	Oxidation Stability (Induction Period)	ASTM D525	Petroleum
203	Oxidation stability of natural fats and oils	Rancimat / ISO6886 / AOCScd 12b-92 / DIN EN 14112	Petroleum
204	Oxygenates (ppm)	GC/LOWOX	Petroleum
205	Oxygenates (ppm)	ASTM D5599	Petroleum
206	P Value	-	Petroleum
207	Particle Counting	Light Obscuration Method	Petroleum
208	Particle Counting in jet fuel	IP564	Petroleum
209	Particulate Contaminants	ASTM D2276 / ASTM D5452	Petroleum
210	Particulate Contaminants + Filtration Time	ASTM D2276 / ASTM D5452	Petroleum
211	Particulate Contamination in middle distillate	ASTM D6217-98	Petroleum
212	Peptization Value	Shell Method	Petroleum
213	Percipitation Number of Lubricating Oils	ASTM D91	Petroleum
214	Peroxide Number:	ASTM D3703	Petroleum
215	Peroxide Value (18 hrs)	ASTM D3703(MOD)	Petroleum
216	Peroxide Value (72 hrs)	ASTM D3703(MOD)	Petroleum
217	PH value of fuel oil	PH meter	Petroleum
218	Phosphorus (in Gasoline)	ASTM D3231	Petroleum
219	PIONA	ASTM D6293 / ASTM D6839	Petroleum
220	PIONA	PIONA Reformulyser	Petroleum
221	PNA	ASTM D5443	Petroleum
222	PNA	PIONA Reformulyser	Petroleum
223	Polycyclic aromatics	IP346	Petroleum
224	PONA/PINA	ASTM D6293 / ASTM D6839	Petroleum
225	PONA/PINA	PIONA Reformulyser	Petroleum
226	Potential Gum	ASTM D873	Petroleum

LABORATORY CAPABILITY (2009)

NO.	TEST ITEMS	METHOD	PRODUCT
227	Pour Point (deg. C)	ASTM D97 / ISO3016	Petroleum
228	Pour Point (deg. C) (Phase Tech)	ASTM D5949	Petroleum
229	Pour Point (deg. C) in crude oil	ASTM D5853	Petroleum
230	Pour Point (deg. C)(Auto)	ASTM D5950	Petroleum
231	PPE/PE/PS in Fuel oil (1st)	Extraction & FTIR	Petroleum
232	PPE/PE/PS in Fuel oil (Seb)	Extraction &FTIR	Petroleum
233	Refinery Gas Analysis by GC	UOP539 / RGA	Petroleum
234	Refractive Index	ASTM D1218	Petroleum
235	Refractive Index	ASTM D1747	Petroleum
236	Research Octane Number	ASTM D2699	Petroleum
237	Research Octane Number @ 100 deg. C (FEON)	ASTM D2699	Petroleum
238	Research Octane Number + Leading	ASTM D2699	Petroleum
239	Rust Preventing Characteristics	ASTM D665	Petroleum
240	S.A.R.A.	ASTM D2007	Petroleum
241	Salinity Test	Qualitative / IP77MOD	Petroleum
242	Salt Content	ASTM D3230 / IP265	Petroleum
243	Salt Content	ASTM D6470	Petroleum
244	Salt Content	IP77	Petroleum
245	Saponification Number	ASTM D94	Petroleum
246	Sediment by Extraction	ASTM D473	Petroleum
247	Silver Corrosion	ASTM D130 (MOD)	Petroleum
248	Silver Corrosion	IP 227	Petroleum
249	Sludge content (Millipore Solid)	ASTM D4807	Petroleum
250	Sludge, Existent	Gravimetric / SMS 2708	Petroleum
251	Sludge, Potential - existent	Gravimetric / SMS 2708/2709	Petroleum
252	Smoke Point	ASTM D1322 / IP57	Petroleum
253	Sodium (ppm)	IP288	Petroleum
254	Solid Content (By Centrifuge)	-	Petroleum

LABORATORY CAPABILITY (2009)

NO.	TEST ITEMS	METHOD	PRODUCT
255	Specific Gravity @ 60/60 deg. F	ASTM D1298	Petroleum
256	Storage Stability	Def Stan 05-50 Part 40	Petroleum
257	Sulfur Speciation - Gas	ASTM D5504 / GC-SCD	Petroleum
258	Sulfur Speciation - Liquid	ASTM D5623 / GC-SCD	Petroleum
259	Sulphur	IP 336 / ASTM D4294 / ISO8754	Petroleum
260	Sulphur Content (UV)	ASTM D5453	Petroleum
261	Sulphur Content by Microcoumetry	ASTM D3120	Petroleum
262	Sulphur Content by Microcoumetry	ASTM D3961	Petroleum
263	Sulphur by Monochromatic WDXRF	ASTM D7039	Petroleum
264	Suspended Sediment	ASTM D5452	Petroleum
265	Thermal Stability (JFTOT)	ASTM D3241	Petroleum
266	Toluene Equivlent Test, Modified	BP 230/75	Petroleum
267	Total Acid Number	ASTM D664 / IP177	Petroleum
268	Total Base Number	ASTM D2896 / IP276	Petroleum
269	Total Base Number	ASTM D4739	Petroleum
270	Total Halogen	IP510	Petroleum
271	Total Insolubles (Oxidation Stability)	ASTM D2274	Petroleum
272	Total Sediment: - Accelerated	IP390B	Petroleum
273	Total Sediment: - Existent	IP375	Petroleum
274	Total Sediment: - Potential	IP390A	Petroleum
275	Total Solids	IP316	Petroleum
276	Trace Sediment	ASTM D2273	Petroleum
277	UV Absorbance of Petroleum product	ASTM D2008	Petroleum
278	UV Absorbance,DMSO Extraction @260-350nm	ASTM D2269	Petroleum
279	Vapour Liquid Ratio	Calculated	Petroleum
280	Vapour Lock Index	Calculated	Petroleum
281	Vapour Pressure, Dry	ASTM D5191	Petroleum
282	Vapour Pressure, Reid (RVP)	ASTM D323	Petroleum

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LABORATORY CAPABILITY (2009)

	NO.	TEST ITEMS	METHOD	PRODUCT
Petroleum	283	Viscosity Index	ASTM D2270	Petroleum
	284	Viscosity Index-calculated	ASTM D2270	Petroleum
	285	Viscosity Kinematic at - 20 deg. C	ASTM D445	Petroleum
	286	Viscosity Kinematic at Normal Temperature	ASTM D445 / ISO3104	Petroleum
	287	Viscosity Saybolt Universal	ASTM D2161 / Conversion	Petroleum
	288	Water in crude by coulometric karl fisher titration	ASTM D4928	Petroleum
	289	Water & Sediment (BS & W)	ASTM D1796	Petroleum
	290	Water & Sediment (BS & W)	ASTM D2709	Petroleum
	291	Water & Sediment (BS & W)	ASTM D4007	Petroleum
	292	Water & Sediment (BS & W)	ASTM D96	Petroleum
	293	Water by Distillation	ASTM D95	Petroleum
	294	Water by Karl Fischer	ASTM D1744	Petroleum
	295	Water by Karl Fischer	ASTM E1064	Petroleum
	296	Water Cloud Point	Visual	Petroleum
	297	Water in crude by Distillation	ASTM D4006	Petroleum
	298	Water in crude by potentiometric Karl Fischer titration	ASTM D4377 / IP356	Petroleum
	299	Water Plate Test (Crackle)	-	Petroleum
	300	Water Reaction	ASTM D1094	Petroleum
	301	Water Separation Index Modified (MSEP)	ASTM D3948	Petroleum
	302	Water Tolerance	ASTMD6422	Petroleum
	303	Wax Content	DIN12606	Petroleum
	304	Wax Content	UOP 46	Petroleum
	305	Whole Oil GC	GC	Petroleum
	306	Xylene Equivalent Test, Modified	BP 230/75	Petroleum
Refined Glycerine	307	Acidity and Alkalinity mL of 0.1M NaOH	USP30/USP31/BP/EP	Refined Glycerine
	308	Aldehyde	USP30/USP31/BP/EP	Refined Glycerine
	309	Appearance	USP30/USP31/BP/EP	Refined Glycerine
	310	Arsenic(ppm)	ICPES/USP30/USP31/BP/EP	Refined Glycerine
	311	Chloride(ppm)	USP30/USP31/BP/EP	Refined Glycerine
	312	Chlorinated compounds(ppm)	USP30/USP31/BP/EP	Refined Glycerine

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LABORATORY CAPABILITY (2009)

NO.	TEST ITEMS	METHOD	PRODUCT	
313	Color(APHA)/ Color(Ferric chloride)	ASTM D1209 / USP30/USP31/BP/EP	Refined Glycerine	Refined Glycerine
314	DEG & related compound	USP30/USP31/BP/EP / GC	Refined Glycerine	
315	Ester mL of 0.1N NaOH	USP30/USP31/BP/EP	Refined Glycerine	
316	Fatty acid and esters(0.5N NaOH)	USP30/USP31/BP/EP	Refined Glycerine	
317	Glycerol content	USP30/USP31/BP/EP/GC	Refined Glycerine	
318	Glycerol content	USP30/USP31/BP/EP	Refined Glycerine	
319	Halogenated compound	USP30/USP31/BP/EP	Refined Glycerine	
320	Heavy Metals(ppm)	USP30/USP31/BP/EP/ICPES	Refined Glycerine	
321	Identification	USP30/USP31/BP/EP	Refined Glycerine	
322	Ignition residue(%)	USP30/USP31/BP/EP	Refined Glycerine	
323	Individual impurities	USP30/USP31/BP/EP / GC	Refined Glycerine	
324	Moisture(%)	Karl Fisher /USP30/USP31/BP/EP	Refined Glycerine	
325	Odor	USP30/USP31/BP/EP	Refined Glycerine	
326	Organic Volatile	USP30/USP31/BP/EP	Refined Glycerine	
327	Refractive Index @ 20 dec C	ASTM D1218 / USP30/USP31/BP/EP	Refined Glycerine	
328	SG @ 20/20 DegC	ASTM D4052 / USP30/USP31/BP/EP	Refined Glycerine	
329	Sulphate(ppm)	USP30/USP31/BP/EP	Refined Glycerine	
330	Sulphated Ash	USP30/USP31/BP/EP	Refined Glycerine	
331	Total impurities	USP30/USP31/BP/EP/ GC	Refined Glycerine	
332	Cr 6+	USEPA 3060A & 7196A / UV-VIS	RoHS & WEEE	RoHS & WEEE
333	Elements(Cd, Cr, Pb, Hg) in plastic	USEPA 3052 / ICPES	RoHS & WEEE	
334	PBB/PBDE	USEPA 3546 / GCMS	RoHS & WEEE	
335	PVC in plastic materia	FTIR	RoHS & WEEE	
336	% NaoH	calculation	Sodium Methoxide	Sodium Methoxide
337	Appearance	Visual	Sodium Methoxide	
338	Methanol	calculation	Sodium Methoxide	

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LABORATORY CAPABILITY (2009)

	NO.	TEST ITEMS	METHOD	PRODUCT
Sodium Methoxide	339	NaOCH3	calculation	Sodium Methoxide
	340	Total Alkalinity, carbonates	Titration	Sodium Methoxide
	341	Water content	Karl Fisher	Sodium Methoxide
Transformer Oil	342	Appearance	IEC 60296 / ASTM D1524	Transformer Oil
	343	Breakdown Voltage(kV)	IEC 60156	Transformer Oil
	344	Colour ASTM	ASTM D1500	Transformer Oil
	345	Density @ 15 deg C (kg/L)	ASTM D4052	Transformer Oil
	346	Flash Point,PMCC (°C)	ASTM D93 / ISO2719	Transformer Oil
	347	Neutralization Value(mgKOH/g)	ASTM D974 / IEC 60296	Transformer Oil
	348	Resistivity @ 40 deg C (Gohmm)	IEC 60247	Transformer Oil
	349	Resistivity @ 90 deg C (Gohmm)	IEC 60247	Transformer Oil
	350	Tan Delta@ 40 deg C	IEC 60247	Transformer Oil
	351	Tan Delta@ 90 deg C	IEC 60247	Transformer Oil
	352	Viscosity@ 40 deg C (mm2/s)	ASTM D445 / ISO3104	Transformer Oil
	353	water content(ppm)	IEC 60814 / ASTM D1533	Transformer Oil

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LABORATORY CAPABILITY (2009)
Water & Environment

NO.	TEST ITEMS	METHOD	PRODUCT
1	Ammonia	Draeger Tube	Environment
2	Carbon Monoxide	Draeger Tube	Environment
3	Ethylene Glycol	Draeger Tube	Environment
4	Hydrochloric Acid	Draeger Tube	Environment
5	Lead	Niosh 7300 / I.C.P.E.S.	Environment
6	Methanol	Solid Sorbent Tube/GC	Environment
7	Nitric Acid	Draeger Tube	Environment
8	Respirable Particulate	Niosh 0600	Environment
9	Sulfuric Acid	Draeger Tube	Environment
10	Total Particulate	Niosh 0500	Environment
11	Triethylamine	Draeger Tube	Environment
12	Volatile Organic Carbon	Draeger Tube	Environment
13	Volatile Organic Solvent	3M Badge / G.C.	Environment
14	Volatile Organic Solvent	Solid Sorbent Tube/GC	Environment
15	Acidity	APHA 2310B	Water
16	Alkalinity (Bicarbonates & Carbonates)	APHA 2320 B	Water
17	Ammonia	APHA 4500-NH3 D	Water
18	Anionic Detergents	APHA 5540 C	Water
19	Biochemical Oxygen Demand	APHA 5210 B	Water
20	Bromide	APHA 4500-Br-B	Water
21	Chemical Oxygen Demand	APHA 5220 B	Water
22	Chemical Oxygen Demand	APHA 5220 D (Hach)	Water
23	Chlorides	APHA 4500-Cl- D	Water
24	Chlorine	APHA 4500-Cl-G	Water
25	Chromium (Hexavalent)	APHA 3500-CR D	Water
26	Colour	APHA 2120 B	Water
27	Conductivity	APHA 2510B	Water
28	Cynide	APHA 4500 CN^{--} E	Water

Environment

Water

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LABORATORY CAPABILITY (2009)
Water & Environment

NO.	TEST ITEMS	METHOD	PRODUCT
29	Dissolved Carbon Dioxide	APHA 4500-CO2˙D	Water
30	Dissolved Oxygen	APHA 4500-O-G	Water
31	F,Cl,Br, I, SO_3, SO_4, PO_4 (1st anion)	Ion Chromatograph	Water
32	Sub anion	Ion Chromatograph	Water
33	Fluoride	APHA 4500F- C	Water
34	Free Carbon Dioxide	APHA 4500-CO2˙C	Water
35	Hardness (Total)	APHA 2340 B	Water
36	Iodide	APHA 4500-I-C	Water
37	Nitrate	APHA 4500-NO3- B	Water
38	Nitrite	APHA 4500-NO2- B	Water
39	Oil & Grease(total)	APHA 5520 C (mod)	Water
40	Oil & Grease(Hydrocarbon)	APHA 5520 B,F	Water
41	Oil & Grease(Non Hydrocarbon)	APHA 5520 B,F / calculation	Water
42	MTBE, oxygenated in water(ppm)	GCFID	Water
43	pH	APHA 4500-H+ B	Water
44	Phenols	APHA 5530 D	Water
45	PAH(mg/L)	GCMS	Water
46	Sulphate	APHA 4500-SO42- C	Water
47	Sulphate	APHA 4500-SO42-E	Water
48	Sulphide	APHA 4500-S2-D	Water
49	Sulphite	APHA 4500-SO32- B	Water
50	Total Dissolved Solids	APHA 2540 C	Water
51	Total Soids	APHA 2540 B	Water
52	Total Suspended Solids	APHA 2540 D	Water
53	Trace Elements(ppb)-1st	ICPMS	Water
54	Trace Elements(ppb)-sub	ICPMS	Water
55	Trace Elements(ppm) - 1st	I.C.P.E.S - CBL8	Water
56	Trace Elements(ppm) - Sub	I.C.P.E.S - CBL8	Water
57	Turbidity	APHA 2130B	Water

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LABORATORY CAPABILITY (2009)
Water & Environment

NO.	TEST ITEMS	METHOD	PRODUCT
58	VOC (ug/L) (Qualitative)	EPA 8260	Water
59	VOC (ug/L) (Quantitative, per component)	EPA 8260	Water
60	TOC(mg/L)	APHA 5310B-2005	Water

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LABORATORY CAPABILITY (2009)
Others

	NO.	TEST ITEMS	METHOD	PRODUCT
GOR	1	Average molecular weight	Freezing point depression	GOR
	2	Composition of crude	Whole oil GC analysis	GOR
	3	Composition of gas	GPA 2286	GOR
	4	Density	D4052	GOR
	5	Ratio of gas and oil	Zero PSI Flash	GOR
PVT	6	Compositional analyses - Compositional analysis of reservoir fluid or separator oil to C36+		PVT
	7	Compositional analyses - Compositional analysis of separator gas to C13+		PVT
	8	Physical recombination of separator products to producing GOR		PVT
	9	Preparation of synthetic separator gas to measured composition		PVT
	10	Quality control measures - Liquid bubblepoint determination at sampling temperature in sample cylinder		PVT
	11	Quality control measures - Separator gas opening pressure determination at separator temperature		PVT
Special Onsite Services	12	Equipment Rental	per day	Special Onsite Services
	13	Offshore	per man-day	Special Onsite Services
	14	Onsite Gas Sampling	per hour	Special Onsite Services

Intertek Universal Laboratory (Universal Terminal)

LABORATORY CAPABILITY (2009)

NO.	TEST ITEMS	METHOD	PRODUCT
1	API Gravity	ASTM D1298	Petroleum
2	API Gravity	ASTM D287	Petroleum
3	Acidity of Distillation Residue	ASTM D1093	Petroleum
4	Acidity, Strong Acid Number	ASTM D974	Petroleum
5	Acidity, Total	ASTM D974	Petroleum
6	Appearance	Visual	Petroleum
7	Appearance	ASTM D4176 (Procedure 1)	Petroleum
8	Appearance / Haze Rating	ASTM D4176 (Procedure 2)	Petroleum
9	Ash	ASTM D482 / IP4 / ISO 6245	Petroleum
10	Ash, Sulphated	ASTM D874	Petroleum
11	Asphaltenenes	ASTM D6560 / IP143	Petroleum
12	BMCI (Bureau of Mines Correlation Index)	Calculated	Petroleum
13	Bromine Index	ASTM D2710	Petroleum
14	Bromine Number	ASTM D1159 / IP129	Petroleum
15	Bromine Number with distillation cut	ASTM D1159 / ASTM D1160	Petroleum
16	Calorific Value	Calculated	Petroleum
17	Calorific Value	ASTM D4868	Petroleum
18	Calorific Value	ISO 8217 Annex A	Petroleum
19	Carbon Residue, Micro (MCRT)	ASTM D4530 / IP398 / ISO 10370	Petroleum
20	CCAI (Calculated Carbon Aromaticity Index)	ISO 8217 Annex B	Petroleum
21	Cetane Index - Calculated	ASTM D976	Petroleum
22	Cetane Index - Calculated	ASTM D4737	Petroleum
23	Cloud Point - Above Ambient	ASTM D2500	Petroleum
24	Cloud Point - Below Ambient	ASTM D2500	Petroleum
25	Cloud Point	ASTM D5773 / IP446	Petroleum
26	Cold Filter Plugging Point	IP309	Petroleum
27	Color ASTM	ASTM D1500	Petroleum
28	Color ASTM - Diluted	ASTM D1500	Petroleum

Intertek Universal Laboratory (Universal Terminal)

LABORATORY CAPABILITY (2009)

NO.	TEST ITEMS	METHOD	PRODUCT
29	Compatibility Test / Cleanliness Test	ASTM D4740	Petroleum
30	Copper Corrosion - 50 deg C for 3 Hrs	ASTM D130	Petroleum
31	Copper Corrosion - 100 deg C for 2 Hrs	ASTM D130	Petroleum
32	Density @ 15 deg C	ASTM D4052 / IP365 / ISO 12185	Petroleum
33	Density Apparent @ 15 deg C	ASTM D1298 / IP160 / ISO 3675	Petroleum
34	Distillation @ 330 deg C	Australian Method	Petroleum
35	Distillation Range Under Reduced Pressure	ASTM D1160	Petroleum
36	Distillation Range Under Reduced Pressure + Dewatering	ASTM D1160	Petroleum
37	Distillation Range - IBP & FBP	ASTM D86 / IP123	Petroleum
38	Distillation Range - Full Range	ASTM D86 / IP123	Petroleum
39	Flash Point - PMCC	ASTM D93 / IP34 / ISO2719	Petroleum
40	Hydrogen Sulphide	ASTM D5705	Petroleum
41	Insolubles - Heptane	ASTM D893	Petroleum
42	Insolubles - Pentane	ASTM D893	Petroleum
43	Insolubles - Toluene	ASTM D893	Petroleum
44	Metallic Elements Analysis by ICPES - Al, Ca, Cu, Fe, Zn, Mg, Ni, Na, V, Si	ASTM D5184 / IP 501 / IP 377	Petroleum
45	Micro Carbon Residue on 10% Bottoms	ASTM D86 / ASTM D4530	Petroleum
46	Nitrogen Content	ASTM D5762	Petroleum
47	Nitrogen Content	ASTM D4629 (MOD)	Petroleum
48	Nitrogen Content	ASTM D6069	Petroleum
49	n-Heptane Insolubles	ASTM D3279	Petroleum
50	Particulate Contaminants	ASTM D2276 / ASTM D5452	Petroleum
51	Particulate Contaminants + Filtration Time	ASTM D2276 / ASTM D5452	Petroleum
52	Particulate Contaminants in Middle Distillate	ASTM D6217	Petroleum
53	Polymer in Fuel Oil (PP/PE/PS)	Extraction / FTIR	Petroleum

Intertek Universal Laboratory (Universal Terminal)

LABORATORY CAPABILITY (2009)

NO.	TEST ITEMS	METHOD	PRODUCT
54	Pour Point	ASTM D97 / IP15 / ISO 3016	Petroleum
55	Pour Point	ASTM 5853	Petroleum
56	P Value	-	Petroleum
57	Saybolt Furol Viscosity (SFS) / Saybolt Universal Viscosity (SUS)	ASTM D2161	Petroleum
58	Sediment by Extraction	ASTM D473 / IP53 / ISO 3735	Petroleum
59	Specific Gravity @ 60/60 deg F	ASTM D1298	Petroleum
60	Sulphur	ASTM D4294 / IP336 / ISO 8754	Petroleum
61	Sulphur Content (UV)	ASTM D5453	Petroleum
62	Toluene Equivalent Test	BP 230/75	Petroleum
63	Total Acid Number	ASTM D664 / IP177	Petroleum
64	Total Base Number	ASTM D4739	Petroleum
65	Total Sediment - Accelerated	IP 390B / ASTM D4870 / ISO 10307-2	Petroleum
66	Total Sediment - Existent	IP 375 / ASTM D4870 / ISO 10307-1	Petroleum
67	Total Sediment - Potential	IP 390A / ASTM D4870 / ISO 10307-2	Petroleum
68	Viscosity Index - Calculated	ASTM D2270	Petroleum
69	Viscosity Kinematic	ASTM D445 / IP71 / ISO 3104	Petroleum
70	Viscosity Dynamic / Viscosity Kinematic (calculated)	ASTM D7042	Petroleum
71	Water & Sediment (BS & W)	ASTM D1796	Petroleum
72	Water & Sediment (BS & W)	ASTM D2709	Petroleum
73	Water & Sediment (BS & W)	ASTM D4007	Petroleum
74	Water by Distillation	ASTM D95 / IP74 / ISO 3733	Petroleum
75	Water by Distillation	ASTM D4006	Petroleum
76	Water by Karl Fischer	IP356	Petroleum
77	Water by Karl Fischer	ASTM D4377	Petroleum
78	Wax Content	UOP 46	Petroleum
79	Xylene Equivalent Test, Modified	BP 230/75	Petroleum

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