

GEOSCIENTIFIC RESEARCH & TESTING LABORATORY

Description	Approved Rate (PhP)
1. COAL	
a. sample preparation	350.00
b. proximate analysis	1,100.00
H2O	200.00
Ash	500.00
VM	400.00
c. calorific value	850.00
d. ultimate analysis	
Total sulfur	1,000.00
Carbon, Hydrogen, Nitrogen	
Coal sample	2,300.00
Oil sample	3,200.00
Carbon, Hydrogen	
Coal sample	1,600.00
Oil sample	2,100.00
e. Coal washability test (per medium density)	2,600.00
f. Sieve analysis (per size)	100.00
g. Hardgrove grindability Index (HGI)	850.00
h. Forms of Sulfur (Pyritic, Organic, Sulfate including Total Sulfur	2,500.00
i. Ash Fusibility	
Oxidizing Atmosphere	4,200.00
Reducing Atmosphere	4,400.00
j. Mineral Analysis using XRF	4,400.00
l. Mercury Analysis using NIC-MA 2000	1,600.00
Special discount for students - 50%	
2. GEOLOGICAL	
a. Type of Preparation	
Washed residue	
ditch cuttings	270.00
consolidated rock samples	270.00
Normal thin section	700.00
Impregnated thin section	800.00
Normal polished section	720.00
Impregnated polished section	820.00
Oriented fossil thin section	
Slabbing/plain cutting	200.00
Palynological preparation	450.00
Calcareous nannofossil slide	200.00
b. Type of Analysis	
Micropaleontology (small, large foraminifera) Fossiliferous or Non-fossiliferous	600.00
Palynology	600.00
Petrography	600.00
Rock Identification of hand specimen or ditch cuttings	150.00

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Description	Approved Rate (PhP)
3. PETROLEUM	
a. Petroleum Liquid Analysis	
Separation of petroleum from water and sediment	200.00
Degree API gravity	
Clean Crude Oil	300.00
Oil mixed with water/sediments	
Fractional distillation	950.00
Capillary column gas chromatography of C12+components of whole oil fraction	2,600.00
Ester Composition of Biofuel by GCMS	3,300.00
b. Source Rock analysis	
1. Screening tests	
a. Sample preparation	
preparation of core sidewall and dry cuttings	200.00
preparation of wet cuttings	250.00
b. Total Organic carbon	
first sample	1,100.00
per additional sample in a batch of 20 samples	250.00
c. Pyrolysis by Rock-Eval 5/Oil Show Analyzer	1,000.00
2. Detailed Tests	
Solvent extraction and desulfurization to obtain extractable organic matter (EOM) and solvent extracted sediment	3,000.00
Liquid chromatographic separation of EOM into saturates, aromatic and NSO fractions	2,600.00
Capillary column gas chromatography of C12+components of saturate fraction	2,600.00
Gas Chromatography-Mass Spectrometry of the Saturates Fraction using Benchtop Quadruple GCMS	3,000.00
c. Natural Gas Analysis	
1. Analysis of N2, H2, Ar, O2, C1 by Gas Chromatography	2,300.00
2. Analysis of C1 to C4 by gas chromatography	2,300.00
3. Gas condensates, CO2 and H2S	Refer to Geothermal
4. C13 Analysis by Mass Spectrometry	5,000.00
d. Analysis of Natural Gas-Related Waters	Refer to Geothermal
e. Interpretation of Results	20% of analytical cost

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Description	Approved Rate (PhP)
4. GEOTHERMAL	
a. Geothermal water analysis	
Calcium (Ca)	250.00
Magnesium (Mg)	250.00
Cadmium	250.00
Sodium (Na)	250.00
Lithium (Li)	250.00
Chloride	300.00
pH	150.00
Boron (B)	350.00
Iron (Fe)	250.00
Potassium (K)	250.00
Specific Conductivity	150.00
Total Dissolved Solids	150.00
Alkalinity	300.00
Sulfate (SO4)	400.00
Silica (SiO2)	350.00
Iodide (I)	1,150.00
Bromide (Br) and Iodide (I)	1,400.00
Manganese (Mn)	250.00
Nickel (Ni)	250.00
Lead (Pb)	250.00
Arsenic (As)	600.00
Silver	300.00
Total Suspended Solids	300.00
Zinc (Zn)	250.00
Chromium (Hexavalent)	250.00
Copper	450.00
Chemical Oxygen Demand	500.00
Mercury	750.00
b. Gas condensate analysis	
Sample preparation	200.00
Carbon Dioxide (CO2)	400.00
Hydrogen Sulfide (H2S)	450.00
c. Geochemical Analysis (soil & sediment)	
Sample preparation	150.00
Inclusive of Air drying, crushing, pulverising and sieving	
Copper (Cu)	450.00
Nickel (Ni)	450.00
Iron (Fe)	450.00
Lead (Pb)	450.00
Zinc (Zn)	450.00
Silver (Ag)	500.00
Mercury (Hg)	Refer to Coal
e. Interpretation of Results	20% analytical cost
f. Isotope Analysis	
Deuterium in water	\$60.00
Local; International	
Oxygen - 18 in water	\$60.00
Local; International	
Special discount for students - 50%	

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Description	Approved Rate (PhP)
5. PROCESSED FUELS	
1. Fuel Oil/Emulsified Fuel Oil	
a. Ash, % mass	1,300.00
b. API Gravity at 60°F	300.00
c. Kinematic Viscosity at 50°C, cSt	900.00
d. Sediment by Extraction, % mass	1,500.00
e. Conradson Carbon Residue, % mass	760.00
f. Flash Point, Pensky Martens, °C	500.00
g. Gross Heating Value, kcal/kg	1,100.00
h. Pour Point, °C	850.00
i. Sulfur Content, % mass	2,000.00
j. Elemental Analysis (ICP)	4,000.00
k. Water, %	600.00
l. B S & W, % volume	700.00
2. Gasoline	
a. Distillation Characteristics, °C	1,000.00
b. Existent Gum, mg/100	1,000.00
c. Hydrocarbons	
Oxygenates/Alcohols/Ethers	2,000.00
Aromatics, Total, % volume	
GCMS	4,500.00
Portable (aromatics & benzene)	2,000.00
Benzene, % volume	
GCMS	4,300.00
Portable (benzene & aromatics)	2,000.00
d. Lead Content, g/li	2,000.00
e. Anti-Knock Index	
Confirmatory (engine):	
RON	9,800.00
MON	9,800.00
Indicative (portable):	
RON	600.00
f. Sulfur, % mass	2,000.00
g. Vapor Pressure @37.8°C, kPa	900.00
h. Specific Gravity, 60/60°F	300.00
i. Copper Strip Corrosion, 3 hrs at 50°C	1,400.00
3. Diesel Oil/Gasoil	
a. Calculated Cetane Index (CCI)	1,300.00
b. CCR on 10% Residue, % mass	1,400.00
c. Density at 15°C, kg/li	300.00
d. Flash Point, Pensky Martens, °C	500.00
e. Sulfur, % mass	2,000.00
f. Kinematic Viscosity at 40°C, cSt	900.00
g. Distillation Characteristics, °C	1,000.00
h. B S & W, % volume	700.00
i. Color, ASTM	300.00
j. Cloud Point, °C	850.00
k. Lubricity by HFRR method	3,000.00

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Description	Approved Rate (PhP)
i. Cetane Number Determination	
Engine	13,000.00
Portable	2,000.00
4. Kerosene	
a. Color, Saybolt	400.00
b. Sulfur, % mass	2,000.00
c. Distillation Characteristics, °C	1,000.00
d. Flash Point (Tag-closed), °C	600.00
e. Smoke Point, mm.	450.00
5. Used Oil	
a. Color, ASTM	300.00
b. Insolubles, % mass	
Pentane	1,500.00
Toluene	1,600.00
c. Total Acid Number, mg KOH/g	1,300.00
d. Ash Content, mass %	1,300.00
e. Flash Point (COC), °C	600.00
f. Fire Point (COC), °C	600.00
g. Kinematic Viscosity, at 40°C, cSt	900.00
h. Wear Metals: Al, Cr, Cu, Fe, Pb	4,000.00
6. Jet Fuel (Jet A-1)	
a. Total Acid Number, mg KOH/g	1,300.00
b. Aromatics, Total, by GCMS, %volume	4,500.00
c. Sulfur, mass %	2,000.00
d. Distillation Characteristics, °C	1,000.00
e. Flash Point (Tag), °C	600.00
f. Density at 15oC, kg/m3	300.00
g. Vapor Pressure, 38°C, kPa	900.00
h. Smoke Point, mm.	450.00
i. Thermal Stability	
Filter pressure drop, mm Hg.	3,900.00
Tube deposit less than	
j. Existent Gum, mg/100 ml.	1,000.00
k. Water Reaction: Interface Rating	600.00
l. Electrical Conductivity, pS/m	400.00
7. Lubes/re-refined Oils	
a. Viscosity Index	1,300.00
b. Flash Point (COC), °C	600.00
c. Total Base Number, mg KOH/g	1,300.00
d. Color, ASTM	300.00
e. Ash (Sulfated), % mass	1,300.00
f. Foaming Characteristics, ml Foam	1,400.00
g. Aniline Point, °C	700.00
8. Liquefied Petroleum Gas	
a. Sulfur, mass ppm	2,000.00
b. Vapor Pressure, Gage, at 37.8°C, kPa	800.00

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Description	Approved Rate (PhP)
9. Cutback - Asphalt	
a. Flash Point (Tag Open Cup), oC	400.00
b. Penetration, mm.	500.00
c. Ductility, cm.	1,300.00
d. Water Content, % mass	600.00
10. Esters of Fats & Oils	
a. Flash Point (Pensky Martens)	500.00
b. Kinematic Viscosity @ 100oC	900.00
c., Viscosity Index	1,300.00
d. CCR % mass	760.00
e., Ash (sulfated), % mass	1,300.00
f. Wear Metals	4,000.00
g. Total Base Number, mg KOH/g	1,300.00
h. Free Glycerin	1,000.00
l. Total Glycerin	2,000.00
j. Copper Strip Corrosion, 3 hrs at 50°C	1,400.00