

Petroleum Laboratories, Inc.

Price Schedule

February 1, 2003

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WATER & WASTEWATER ANALYSES

➤ Acidity – titration	9.00
➤ Alkalinity – titration	9.00
➤ Amine Residue	85.00
➤ B.O.D. (5 Day) / CBOD	27.00
➤ Bromide – electrode	57.00
➤ Chloride – colorimetric	14.00
➤ Chloride – titration	7.00
➤ Chlorine – colorimetric	9.00
➤ C.O.D. – dichromate reflux	38.00
➤ Color – platinum-cobalt	9.00
➤ Conductivity – meter	8.00
➤ Cyanide – distillation	57.00
➤ Fluoride – selective ion electrode	27.00
➤ Hardness – titration	9.00
➤ Inhibitor – colorimetric	35.00
➤ Iodide – colorimetric	23.00
➤ Metals	
Aluminum – AA, ICAP	15.00
Ammonia	17.00
Antimony – AA Hydride Generator	35.00
Antimony – ICAP	15.00
Arsenic – AA hydride Generator	35.00
Arsenic – ICAP	15.00
Barium – AA, ICAP	15.00
Beryllium – AA, ICAP	15.00
Boron – ICAP	15.00
Cadmium – AA, ICAP	15.00
Calcium – AA, ICAP	15.00
Chromium – AA, ICAP	15.00
Chromium, Hexavalent – colorimetric	9.00
Cobalt – AA, ICAP	15.00
Copper – AA, ICAP	15.00
Iron – AA, ICAP	15.00
Iron – colorimetric	6.00
Lead – AA, ICAP	15.00
Lithium – AA, ICAP	15.00
Magnesium – AA, ICAP	15.00
Manganese – AA, ICAP	15.00
Mercury – AA Flameless	35.00
Mercury – Cold Vapor	35.00
Mercury – ICAP	15.00
Molybdenum – AA, ICAP	15.00
Nickel – AA, ICAP	15.00
Potassium – AA, ICAP	15.00
Phosphate	17.00
Rubidium – AA, ICAP	15.00
Selenium – AA Hydride Generator	35.00

	Selenium – ICAP	15.00
	Silica – colorimetric	15.00
	Silver – AA, ICAP	15.00
	Sodium – AA, ICAP	15.00
	Strontium – AA, ICAP	15.00
	Thallium – AA, ICAP	15.00
	Tin – AA, ICAP	15.00
	Titanium – ICAP	15.00
	Uranium – ICAP	15.00
	Vanadium – AA, ICAP	15.00
	Zinc – AA, ICAP	15.00
	Metals by Graphite Furnace	35.00
	Sample Preparation on solid substances	23.00
➤	Nitrogen	
	Ammonia Nitrogen – distillation	45.00
	Ammonia Nitrogen – no distillation	9.00
	Kjeldahl Nitrogen – distillation, digestion	68.00
	Nitrate Nitrogen – colorimetric	17.00
	Nitrite Nitrogen – colorimetric	17.00
➤	Oil and Grease	
	Gravimetric (EPA 413.1)	28.00
	Infrared	26.00
	Soluble Oil	36.00
	Soxhlet	58.00
	Hexane (EPA Method 1664) (GR)	38.00
	(GRS)	43.00
	(GR/GRS)	70.00
➤	Oxygen – dissolved	15.00
➤	pH – meter	7.00
➤	Phenol – colorimetric	15.00
➤	Phenol – distillation	93.00
➤	Phosphorus – ICAP	17.00
➤	Resistivity	8.00
➤	Solids	
	dissolved – gravimetric	19.00
	dissolved, volatile – gravimetric	19.00
	settleable – Imhoff Cone	19.00
	suspended – glass fiber filtration	19.00
	suspended, volatile – glass fiber filtration	19.00
	total – gravimetric	19.00
➤	Specific Conductance – meter	9.00
➤	Specific Gravity – pycnometer	9.00
➤	Sulfate – turbidimetric	17.00
➤	Sulfide	57.00
➤	Sulfite – titration	17.00
➤	Surfactants (MBAS) – colorimetric	28.00
➤	Total Organic Carbon	24.00
➤	Total Toxic Organics (TTO)	148.00
➤	Turbidity – meter	9.00

COMPREHENSIVE WATER ANALYSIS

- Oilfield Brine 96.00
Cations – Sodium (calc.), Calcium Magnesium, Barium, Iron (dissolved and precipitated).
Anions – Chloride, Sulfate, Carbonate, Bicarbonate
Other Properties – pH, Specific Gravity, Resistivity, Total Dissolved Solids (calc.), Mineral Analysis Pattern, Stiff & Davis Stability Index (calc.) for scaling or corrosion tendencies. calcium sulfate solubility, barium sulfate solubility, and total equivalent sodium chloride will be calculated upon request.

- Fresh Water 96.00
Cations – Silica, Manganese, Iron, Calcium, Magnesium, Sodium
Anions – Chloride, Bicarbonate, Carbonate, Sulfate, Fluoride, Nitrate.
Other Properties – Total Hardness, “P” Alkalinity, “MO Alkalinity, pH, Turbidity, Color, Langelier Saturation Index or Ryzner Stability Index.

HAZARDOUS WASTE CHARACTERIZATION

- Ignitability 28.00
- Corrosivity 7.00
- Reactivity 73.00
- Toxicity Characteristic Leaching Procedure (TCLP) See [Miscellaneous](#)

GLYCOL ANALYSES

- Water (Karl Fisher Method) 12.00
- Hydrocarbon 7.00
- Chloride (also as NaCl) 7.00
- Suspended Solids 12.00
- pH 7.00
- Iron 7.00
- MEA, DEA, or TEA Requirements 8.00
- Foaming Tendencies 12.00
- Reserve Alkalinity 12.00

BACTERIOLOGICAL ANALYSES

➤ Acid Producing Bacteria	9.00
➤ Aerobic Bacteria	23.00
➤ Anaerobic Sulfate Reducers – 1 st Dilution	9.00
each addition dilution	4.00
➤ Fecal Coliform – MFP	23.00
➤ Fecal Coliform – MPN	35.00
➤ Total Bacteria – MFP	23.00
➤ Total Coliform – MFP	23.00

SPECIAL STUDIES

➤ Carbon Dioxide (pH Titration)	17.00
➤ Cold Spot – per chamber	68.00
➤ Compatibility of 2 Brines	164.00 & up
➤ Corrosion Inhibitor/partition test – per chamber	141.00
➤ Hydrocarbon (volume %)	14.00
➤ Millipore Filter Analysis	35.00
➤ Odor	7.00
➤ Particle Size Distribution – Microscopic	141.00
Sieve	57.00
➤ Paint Chip Analysis	38.00
➤ PCB's	54.00
➤ Reserve Pit Water Analysis - pH, Total Suspended Solids, Chloride, COD, Chromium, Zinc, Oil & Grease	129.00
➤ Scale Analysis – Qualitative	68.00 & up
Quantitative	96.00 & up
➤ Soap Evaluation Test	57.00
➤ TCLP Metals (see metals + 35 sample prep)	
➤ Total Metals (see metals + 23 sample prep)	

HYDROCARBON ANALYSES

➤ Total Acid & Total Base No.'s – ASTM D974	23.00
➤ Algae (organic matter)	57.00
➤ API Gravity – ASTM D287	9.00
➤ Ash Content – ASTM D482	28.00
➤ Ash, Sulfated Residue – ASTM D874	35.00
➤ Asphaltenes	57.00
➤ Bottom Sediment & Water – ASTM D96	14.00
➤ Bromine No. – ASTM D1159	35.00
➤ Carbon Residue – ASTM D189	40.00
➤ Cetane Index – ASTM D849 (includes Distillation & API Gravity)	51.00

➤ Cloud Point – ASTM D2500	28.00
➤ Color, Saybolt – ASTM D156	14.00
➤ Corexit Dispersibility	17.00
➤ Corrosion, Copper Strip – ASTM D849	23.00
➤ Distillation – ASTM D86	28.00
➤ Fire Point (includes Flash Point) – ASTM D92	28.00
➤ Flash Point –	
Closed Cup – ASTM D56 (Fisher Tag)	28.00
Closed Cup – ASTM D93 (Pensky Martin)	28.00
Open Cup – ASTM D92	28.00
➤ Melting Point	35.00
➤ Metals (see lube oil analysis section)	
➤ *Methanol %	403.00
➤ Paraffin Content – low temp. extraction	57.00
➤ Pour Point – ASTM D97	35.00
➤ Reid Vapor Pressure	40.00
➤ Residue	28.00
➤ Salt Content – ASTM D878	40.00
➤ Sulfur – ASTM D2622	51.00
➤ Total Acid & Total Base Numbers	13.00 each
➤ Viscosity – ASTM D445	28.00
➤ Wax Deposition Test	272.00

*Subcontracted

STATEWIDE ORDER 29-B

➤ Drying & Grinding (Add to all parameters)	23.00
➤ pH	12.00
➤ Moisture	12.00
➤ Total Metals (Add Digestion)	178.00
➤ Oil and Grease (TPH)	36.00
➤ EC	9.00
➤ ESP	45.00
➤ SAR	40.00
➤ CEC	35.00
➤ Paste & Extraction	12.00
➤ Digestion for Total Metals	23.00
➤ Chloride (plus Paste & Extraction)	12.00
➤ LA 29-B Metals	178.00
➤ LA 29-B Salts	135.00
➤ LA 29-B Full	313.00

CORROSION COUPONS

➤ Cleaned, weighed, MPY Calculated	7.00
➤ Mild steel rod type coupons – up to 3"	4.00
➤ Mild steel rod type coupons – over 3"	5.00

➤ Mild steel flat type coupons – up to 3"	4.50
➤ Mild steel flat type coupons – over 3"	6.00
➤ Scale Coupons – Flat Type – most sizes	6.00
➤ Scale Coupons – Rod Type – most sizes	6.25
➤ Disk Coupons	10.00
➤ Coupon Accessories:	
1/2" coupon holder – rod type	13.00
3/4" coupon holder – rod type	15.00
3/4" coupon holder – flat type	19.00
1" coupon holder – rod type	21.00
1" coupon holder – flat type	25.00
2" coupon holder – rod type	29.00
2" coupon holder – flat type	36.00
2" coupon holder – multi chuck	41.00
Extensions (other than standard)	5.00
Plastic Sleeve or Envelope	0.05
➤ Prices of all coupons include:	
Surface preparation, serial no., weighed and	
Packed in VCI envelopes	
➤ Special metals and coupons upon request	

GAS ANALYSIS

➤ Gas Analysis thru C6+	41.00
Includes – Mol. %, GPM, Specific Gravity, BTU (dry and wet) at pressure base 15.025. Calculated at other pressure bases upon request	
➤ Flash Gas Analysis	85.00
Includes API Gravity and BS&W	
➤ Hydrogen Sulfide	17.00
➤ Sulfide Dioxide	17.00

LUBE OIL ANALYSES

20 Element Spectrographic Analysis (ICAP)	15.00
Physical Properties Analysis	12.00
Glycol (Coolant) Test	12.00
Particle Count Analysis (ISO 11171)	45.00
(Includes ISO and NAS Cleanliness Codes)	

* Volume Price Breakdown (Basic Analysis Only)

Samples per Month	Price per Sample
1 – 9	22.00
10 – 39	18.00
40 – 79	15.00
80 – 99	13.00
100 - +	12.00

MISCELLANEOUS

➤ *Asbestos	57.00
➤ *B. T. E. X. (In Soil)	108.00
(In Water)	108.00
(In Glycol w/TPH)	136.00
➤ *Base/Neutral & Acid Extractables	595.00
➤ *Carbon Distribution	335.00
➤ *Fingerprint Analysis	1,172.00
➤ *PCB's (In Soil)	227.00
(In Water)	159.00
(In Oil)	103.00
➤ *Pesticides & Herbicides	340.00
➤ Qualitative GC Scan with FID Detector	54.00
➤ *Radium 226 and 228 (Liquid Sample)	185.00
➤ *Radium 226 and 228 (Soil Sample)	151.00
➤ *Radium 226 and 228 (EPA Protocol)	285.00
➤ *Radium 226 and 228 (Alpha or Beta)	58.00
➤ *Radium 226 and 228 (Alpha or Beta 2 #'s)	84.00
➤ *Radium 226 and 228 (Gross Gamma)	84.00
➤ *TCLP Extraction	141.00
➤ *TCLP (full test)	1,247.00
(without pesticides & herbicides)	964.00
➤ *TCLP Benzene	227.00
➤ TOC (On Soil)	45.00
➤ *TOX (Total Organic Halogens)	141.00
➤ *Total Petroleum Hydrocarbons (EPA 8015)	100.00
➤ *Volatile Organic Compounds	227.00

*Subcontracted

FIELD SERVICES

➤ Field Time – Hourly Rates		
Technician:	Weekdays – 8 am to 5 pm	45.00
	Weekends and Overtime	68.00
Chemist:	Weekdays – 8 am to 5 pm	57.00
	Weekends and Overtime	85.00
➤ Weekend Callout for Lab Analysis		100.00 per hour
➤ Direct Expenses:		
Mileage – per mile		0.50
Meals, Lodging, etc.		At Cost

LAB SUPPLIES

➤ Beakers

50	mL Glass Beaker	5.00
150	mL Glass Beaker	6.00
250	mL Glass Beaker	6.00
400	mL Glass Beaker	7.00
600	mL Glass Beaker	8.00
1,000	mL Glass Beaker	16.00
1,000	mL Plastic Beaker	16.00

➤ Graduated Cylinders

10	mL Glass	22.00
25	mL Glass	29.00
25	mL Glass Red-Stripe	31.00
50	mL Glass	30.00
100	mL Glass	39.00
1,000	mL Glass	89.00
25	mL Plastic	17.00
100	mL Plastic	20.00
500	mL Plastic	33.00
1,000	mL Plastic	41.00

➤ Separatory Funnels

125	mL Glass Funnel	147.00
250	mL Glass Funnel	174.00
500	mL Glass Funnel	146.00
1,000	mL Glass Funnel	202.00
2,000	mL Glass Funnel	291.00
500	mL Plastic Funnel	94.00

➤ Chemicals

4	oz. dilute Hydrochloric Acid	7.00
8	oz. dilute Hydrochloric Acid	6.00
32	oz. dilute Hydrochloric Acid	13.00
Gallon	dilute Hydrochloric Acid	55.00
Gallon	Muratic Acid	7.00
32	oz. Concentrated Hydrochloric Acid	25.00
Gallon	TF Solvent / Freon	472.00
Gallon	Hexane	174.00
Quart	Vertrel	106.00
Gallon	Vertrel	425.00
Gallon	AK 225	351.00
5 Gallon	AK 225 (pail)	1,593.00

➤ Bottles		
	6 oz. Sani-Glass Bottles (48/case)	58.00
	32 oz. Glass Quart Bottles (each)	2.20
	32 oz. Glass Quart Bottles (12/case)	28.00
	4 oz. Plastic (narrow mouth)	0.90
	4 oz. Plastic (wide mouth)	0.90
	8 oz. Plastic (narrow mouth)	0.95
	32 oz. Plastic (narrow mouth)	1.40
	32 oz. Plastic (wide mouth)	1.40

➤ Miscellaneous

	Empty 4 pack box	5.00
	4 pack box filled with Glass Quart Bottles	14.00
	Filter Paper (100 ct.) - Fisherbrand	11.00
	- Whatman	23.00
	- Silicone Treated	106.00
	Kim Wipes	6.00
	pH Test Strips (100 per pack)	21.00
	Disposable Gloves	15.00
	Silica Gel (quart)	30.00
	Silica Gel (4 oz.)	7.50
	500 mL Squeeze Bottle	7.00
	500 mL Squeeze Bottle (red) for ACID	15.00
	pH Buffer (quart)	20.00
	Pocket Pal pH Meter	104.00
	Pocket Thermometer	19.00
	Quantab Chloride Test Strips (50/pk)	Call for Price

TEST KITS

➤ HACH Chlorine Test Kit	75.00
Powder Pillows for Test Kit (100/pk)	25.00
Viewing Tube for Test Kit (2/pk)	7.00
➤ Chloride Test Kit	43.00
➤ Chloride Test Kit (5,000 – 100,000 ppm)	126.00
➤ Dissolved Oxygen Test Kit	88.00

ANALYZERS & SUPPLIES

➤ MIRAN I FF (FOXBORO)	
Quartz Cuvette	125.00
Calibration (Generic Oil)	64.00 / 80.00
Calibration (Crude from Customer)	100.00 / 125.00
Power Cord	21.00
Calibration Standards	25.00 each

➤ INFRARED ANALYZER	
Calibration (Hexane)	195.00
Calibration (AK 225)	108.00
➤ TURNER TD 360 Oil & Grease Analyzer	
Calibration	480.00
➤ FCI PETROSENSE Oil & Grease Analyzer	
Calibration	375.00
➤ REPAIRS	
Hourly Rates	57.00 / 69.00
➤ LABORATORY GLASSWARE PACKAGE (start-up kit for new Infrared Analyzers - - each item may be purchased separately)	
500 mL Separatory Funnel w/ stopcock & top	146.00
Ring (for separatory funnel)	43.00
Ring Stand	63.00
50 mL Beaker (4)	22.00
250 mL Beaker	6.00
50 mL Graduated Cylinder	22.00
Red Stripe Graduated Cylinder	31.00
Short Stem Funnel	18.00
Fisher Brand Filter Paper	11.00
15% Hydrochloric Acid (1 quart)	13.00
TF Solvent / Freon (1 gallon)	472.00
Transfer Pipette (plastic droppers) (2)	N/C
TOTAL	825.00
➤ OTHER SUPPLIES	
Spray Bottle	16.00
MSR Filter Assembly w/Carbon Filter	118.00
Carbon Replacement Filters	41.00
Gallon Fiber Cleaning Solution	16.00
Sample Tubes	0.45
Maintenance Kit – MSR Pump	20.00

NOTES

Sample containers, bottles, and tags are provided at no charge if returned to Petroleum Laboratories, Inc.

Quality Assurance records are kept at our laboratories and are available for inspection by our customers.

For those who have NPDES permits, we will prepare quarterly DMR reports for a minimal fee.

Terms: Net 30 days.

Prices subject to change without notice.

Samples shipped to us "collect" will be accepted. Such transportation charges will be added to our laboratory charges with a receipt attached to our original copy of the invoice.

Chemical solutions and supplies by quotation.

Additional charges may be charged for:

- Disposal Cost
- Excessive H₂S
- Sample Preparation
- Shipping

Minimum invoice charge \$10.00

Quantity discounts available

Where applicable, analysis are determined as outlined in current editions of Standard Methods, EPA, API, ASTM, USDA, or NACE.