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| Equipment | Capabilities |
| IRMS: Thermo Delta V Advantage (EA, TC/EA) | C and N content and isotopes;O isotopes |
| ICP-OES: Perkin Elmer Optima 8300 | Elemental concentration in aqueous samples. Solid samples need digestion.(70+ major and trace elements) |
| Portable XRF:ThermoNiton XL3t Ultra | Elemental concentration in solid samples(nondestructive, 43 elements from Mg-U) |
| Rock-Eval 6(Vinci Technologies) | Petroleum source rock characterization(kerogen parameters, S1, S2, S3, HI, OI, TOC, etc..) |
| XRD:DIANO 2100E | Identificationof crystalline compounds  |
| IC:Dionex ICS-2000 | Anion analyses in aqueous samples(fluoride, chloride, bromide, nitrite, nitrate, sulfate and phosphate) |
| GEOMETRICS GEODE 24 Channel Seismograph with Betsy Seisgun | Seismic recording, may be utilized for refraction, reflection, Rayleigh wave or other studies. |
| OhmMapper Resistivity Meter | Electrical properties of rock and soil |
| Proton Precession MagnetometersGeometrics G-856 and Geometrics G-861 | Magnetic surveys |
| SM-20 Susceptibility Meter(GF Instruments CO) | Magnetic susceptibility(small, shirt-pocket size) |
| Geonics EM-38 MKII-RT Ground Conductivity Meter | Real time conductivity /magnetic susceptibility logging |
| Handheld Gamma-ray Spectrometer | Radiation search and identification |
| Worden Gravimeter | Gravity meter |
| AGICO JR-6 Spinner Magnetometer | Remanent magnetization or rocks |
| AGICO KLY-3S Kappabridge | Magnetic susceptibility/anisotropy |
| DTech-2000 Alternating Field Demagnetizer | Computer-controlled demagnetizing system(Peak AF intensities up to 0.2T with built-in PARM and ARM) |
| ASC TD48SC Thermal Demagnetizer | Single-chamber thermal specimen demagnetizer |
| Sapphire Instruments SI-2B Magnetic Susceptibility and Anisotropy Meter | Alternating field demagnetization of samples |
| Impulse MagnetizersASC IM-10, IM-10-30 | Suited for IRM and anisotropy of IRM acquisition studies |
| Bartington MS-2 Magnetic Susceptibility System (with MS2B sample sensor; MS2C Core Logging Sensors, 80 and 125mm) | Anisotropy of magnetic susceptibility;Volume susceptibility of sediment/peat/soil cores in non-magnetic containers |
| SonTek Acoustic Doppler Velocimeter  | Flow fields |
| Half-phi Sieves | Particle sizing |
| Ogeechee 48” Corer | Obtain core samples in firm or sandy bottoms |
| Temperature/Electrical Resistivity Probes |  |
| Dredge |  |
| Water Quality Meters (YSI 6920, YSI 6600, YSI 6820/650) | pH, conductivity, DO |
| Hydrolab MS5 | Water level / salinity monitoring |
| Cryo-Fridge Incubator |  |
| SRI 8610C Gas Chromatograph | Analyze volatile organic substance and gases including herbicides and pesticides |
| Rock preparation equipment:(rock saw, crusher, polisher) | Rock sample cutting, crushing, polishing, thin section |
| Mettler ToledoTitrator DL-15 | Acid and base content of a sample |
| Hach DR2800 Portable Spectrophotometer | Water analysis, up to 240 analytical methods & chemistries(e.g. nitrate, various phosphorus species, phosphonate, phenols, Pb …) |
| Vertical Flow Biological Safety Cabinet(SterilGARD III Class 2)  | Clean and safe hood for biological sample preparations |
| Class 100 Hepafiltered clean bench | Clean hood for sample preparations(trace metal analyses) |
| Market Forge SterilmaticSterilizer | Autoclave, max temperature of 250F (121 C) |
| Labconco Freeze Dry SystemFreezone 4.5 | Freeze dry samples (e.g. water, plant, soil, fish) |
| Muffle Furnace | Heating; combustion |
| Temperature-controlled Water Bath | For heating temperature-sensitive samples |
| De-ionized Water System(with UV lamp) | Produce DI water (18.2MΩ) |
| Centrifuges(1.5mL, 2.0mL 15mL, 50mL tubes) | Separate solid from liquid |
| Shakers | Mixing solution sample |
| Ovens | heating |
| Ball Mill | Pulverize solid samples (e.g. rock, plant, soil) |
| UV-VIS Photospectrometer(dual cell bentchtop)  | Tracking chemical reactions, detection and quantification of various chemical species. |
| UV-VIS Photospectrometer(single cell portable) | Tracking chemical reactions, detection and quantification of various chemical species. |
| AccumetAutotitrator | Titrations and pH control during experimentation |