Integral Consulting Inc.
1205 West Bay Drive NW
Olympia, WA 98502

telephone: 360.705.3534
facsimile: 360.705.3669
grevelas@integral-corp.com

Eugene C. Revelas

Senior Managing Scientist/Engineer

PROFESSIONAL PROFILE

Mr. Gene Revelas, senior managing scientist at Integral, is a leading scientist on contaminated sediment and dredged material management issues. He is one of the few North American scientists with extensive experience in the use of sediment-profile image technology for characterizing dredged material disposal sites and benthic habitats and has applied this technology at freshwater, estuarine, and marine sites throughout the United States, Canada, and in Europe. His broad background managing complex contaminated sediment sites, combined with a sharp focus on both benthic habitat and physical environment issues, guides his sound, science-based evaluation and decision making. Mr. Revelas is also conversant in the regulatory aspects of contaminated sediment, having once served as the manager of the Contaminated Sediments Section of the Washington State Department of Natural Resources. He is leading the CERCLA remedial investigation for a large sediment cleanup site in a hydrodynamically complex, urban/industrialized river system.

CREDENTIALS AND PROFESSIONAL HONORS

M.S., Marine Environmental Sciences, State University of New York, Stony Brook, 1984
B.S., Geology and Geophysics, Yale University, 1981

CONTINUING EDUCATION AND TRAINING

Hazardous Waste Operations and Emergency Response 40-hour Certification

PROFESSIONAL AFFILIATIONS

Western Dredging Association
Society of Toxicology and Chemistry

RELEVANT EXPERIENCE

Portland Harbor CERCLA RI/FS, Portland, Oregon—Currently serve as remedial investigation technical lead for large contaminated sediment site RI/FS. Responsibilites include overseeing all remedial investigation sampling activities, laboratory data analyses, and technical reproting. Also served as task lead for assessing physical site conditions (i.e., hydrodynamics and sediment stability and sediment contamination nature and extent).

As the remedial investigation data lead, responsible for coordinating the multi-media (hydrographic, sediments, water, tissues) sample collection activities of the RI/FS consultant team for this complex, 9-mile tidal riverine site; this includes oversight of all sampling activities and laboratory data analyses. Designed an iterative approach to understanding sediment transport dynamics at the site using a combination of existing information, empirical data, and numerical modeling and is directing the remedial investigation reporting. Additional roles include budget preparation and tracking; planning and development of technical scopes of work; progress reporting, oversight and QA review of project deliverables; and preparation of technical products.

West Bay and East Bay Sediment Characterizations, Olympia, Washington—Provided sediment expertise and strategic advice in the development a contaminated sediment dredging and disposal plan for the West Bay berth at the Port of Olympia. Primary role was to develop a dredged material/sediment testing and environmental monitoring plan to accompany the engineering and remediation plans for deepening the Port's shipping berths (the West Dock), which were developed by Integral engineers.

Slip 4 (Duwamish River) Sediment Quality Evaluation, Seattle, Washington—Serve as project manager for a multi-year task order contract investigating sediment quality in Slip 4 and potential upland sources of the contamination. Compiled existing Slip 4 data and upland source tracing related to client properties and historical operations along this stretch of the Duwamish River. Provide technical and strategic support on the Lower Duwamish River CERCLA cleanup under this contract.

Former Oil Gasification Plant Site Assessment, Astoria, Oregon—Managed the sediment and resource evaluation portion of a site assessment in Youngs Bay, Oregon. The project consisted of an environmental evaluation of an intertidal coal tar deposit under Oregon Department of Environmental Quality oversight. The assessment included physical mapping of the deposit, evaluation of chemical pathways and potential ecological (including threatened and endangered species) and human health impacts, and evaluation of the potential environmental impacts associated with various remedial alternatives.

U.S. Army Corps of Engineers, Marine Sediment Sampling, Chemical and Biological Analyses in Western Washington—From 1995 to 2002, managed task order projects, including numerous dredged material characterizations under the Dredged Material Management Program for sites in Puget Sound, Grays Harbor, and Willapa Bay. Prepared a Programmatic Environmental Impact Statement for the inter-agency Puget Sound Confined Disposal Study on multi-user disposal sites; conducted a site sediment quality assessment for habitat restoration in the Duwamish River; conducted multi-year crab population studies at the mouth of Grays Harbor; led an extensive laboratory bioaccumulation study in the East Waterway; monitored water quality during contaminated sediment dredging in the East Waterway; and assessed paralytic shellfish poisoning issues associated with dredging/disposal in Bellingham Bay.

Portland Harbor Environmental Consulting Contract, Oregon—Managed this task order contract with the environmental division of the Port of Portland from 2000 to 2002. Tasks

were focused on contaminated sediment issues in Portland Harbor (e.g., historic data compilation, source evaluation, work plan development) in anticipation of a CERCLA listing of the site.

Hylebos Waterway Pre-remedial Design, Tacoma, Washington—Major involvement in the comprehensive sediment characterization portion of the Hylebos Waterway pre-remedial design program from 1994 to 1997. Responsibilities included coordination and oversight of coring activities and core sample analyses; data analyses, including Puget Sound Dredged Disposal Analysis (PSDDA) and natural recovery assessments; and technical reporting. Also directed a sediment profile survey of entire waterway and synthesized this information with traditional chemical and biological data sets.

Salmon Net Pen Benthic Standards for Puget Sound, Washington—Under contract to the Washington State Department of Ecology from 1994 to 1996, developed standards for evaluating the benthic impacts of salmon aquaculture in Puget Sound. Work included analysis and synthesis of several years of net pen monitoring data and development of effects criteria that were incorporated into an industry-wide net pen regulatory framework.

Contaminated Sediments Section, Washington Department of Natural Resources (DNR), Washington—While employed at DNR in 1993, managed the Contaminated Sediments section at DNR's Division of Aquatic Lands. This section's responsibility is the environmental review/assessment of projects/programs affecting state-owned aquatic lands. Major tasks included technical review of RI/FS and remedial design documents for federal and state Superfund sites, participation on interagency technical panels evaluating proposed sediment remediation activities, and the refinement and development of sediment quality assessment techniques.

Puget Sound Dredged Disposal Analysis (PSDDA), Washington—Managed the PSDDA program for DNR from 1991 to 1994. PSDDA is a federal/state interagency program for managing dredged material and disposal in the Puget Sound region. Responsibilities included sediment sampling plan and data report review, technical direction of biological and chemical monitoring studies at the open-water dredged material disposal sites, and evaluation procedures technical review. As a consultant prior to joining DNR, directed PSDDA disposal site physical, chemical, and biological monitoring (1990 to 1991) and participated in PSDDA disposal site baseline (1988 to 1989) and zones of siting feasibility studies (1985).

U.S. Navy Homeport Project, Everett, Washington—From 1987 through 1989, acted as assistant program manager for the environmental monitoring/dredged material testing program associated with construction of the Everett Naval Base. Coordinated collection and analysis of baseline environmental data at a deep-water disposal site and directed the Element I dredged material sediment characterization.

Alcatraz Disposal Site Study, San Francisco, California—In 1986 and 1987, served as chief field scientist for a multi-year study designed to assess the behavior of dredged material disposed at the Alcatraz site as a function of dredging and disposal techniques. Field

techniques included current measurements, bathymetric and acoustic subbottom profiling, side scan sonar, sediment-profile photography, and deep sediment coring. Participated in data analysis and co-authored project technical reports.

San Francisco Bay Sediment Quality Investigation, California—Conducted a San Francisco Bay sediment quality survey and analyses for the National Oceanic and Atmospheric Administration in 1986. Led field, data management, and report preparation efforts. Program involved conductivity-temperature-depth profiling, sediment profile imaging, and sediment analyses throughout the estuary.

Sediment-Profile Image (SPI) Surveys—Since 1984, technical lead on numerous sediment-profile surveys of coastal, estuarine, and riverine areas throughout the U.S., Canada, and Europe. These surveys delineated areas of benthic disturbance and potential degradation. The SPI results are used to monitor conditions at aquatic disposal sites such as the PSDDA sites, evaluate remedial efforts (in-place capping and confined aquatic disposal sites), map coastal enrichment gradients and benthic habitat quality, and to optimize follow-on conventional sediment sampling programs.

PUBLICATIONS

Dasler, J.L., E.C. Revelas, and J.C. Creech. 2003. Sediment transport mapping in a complex riverine environment using multibeam bathymetry. In: Proc. of the 2003 U.S. Hydrographic Conference. Biloxi, MS.

Browning, D.G., and E.C. Revelas. 1996. Development and application of the physical disturbance index (PDI) for sediment profile images. In: PERS, Pacific Northwest Chapter Proc., Olympia, WA.

Revelas, E.C., D.R. Kendall, E.E. Nelson, D.C. Rhoads, and J.D. Germano. 1991. Post-disposal mapping of dredged material in Port Gardner and Elliott Bay. In: Proc. of Puget Sound Research '91. Puget Sound Water Quality Authority, Olympia, WA. pp. 267–280.

Revelas, E.C., J.D. Germano, and D.C. Rhoads. 1987. REMOTS: Reconnaissance of benthic environments. In: Proc. of the Coastal Zone '87 Meeting, May 26–29, 1987. ASCE, Seattle, WA. pp. 2069–2083.

Revelas, E.C., D.C. Rhoads, and J.D. Germano. 1987. San Francisco Bay Sediment Quality Surveys and Analyses. NOAA Technical Memorandum NOS OMA 35, Rockville, MD.

Rhoads, D.C., E.C. Revelas, and J.D. Germano. 1986. Development of a UV fluorescence imaging system for *in-situ* detection of petroleum in marine sediments. In: Offshore Technology Proc., Houston, TX. pp. 441–445.

Rhoads, D.C., R.A. Lutz, R.M. Cerrato, and E.C. Revelas. 1982. Growth and predation activity at deep-sea hydrothermal vents along the Galapagos rift. *J. Mar. Res*. 40:503-516.

Rhoads, D.C., R.A. Lutz, E.C. Revelas, and R.M. Cerrato. 1981. Growth and predation activity at deep-sea hydrothermal vents along the Galapagos rift. *Science* 214:911-913.

PRESENTATIONS/POSTERS

Revelas, E.C., H. Hu, R. Walton, and J. Hamrick. 2009. Sediment transport assessment in a large, tidal river (Portland Harbor, Oregon). Fifth International Conference on Remediation of Contaminated Sediments, February 2–5, 2009, Jacksonville, FL.

Hu, H.H., R. Walton, E.C. Revelas, and J. M. Hamrick. 2007. Two-dimensional hydrodynamic and sediment transport modeling of the Lower Willamette River, OR. Environmental & Water Resources Engineering Conference (ASCE), May 15–19, 2007, Tampa, FL.

Revelas, E.C. 2006. Portland Harbor Superfund site technical update. Environmental Cleanup Conference, March 13, 2006, Environmental Law Education Center, Portland, OR

Revelas, E.C., and D.G. Browning. 2005. The use of sediment-profile imaging for contaminated sediment assessment: Pacific Northwest harbor and river examples. SETAC North America 26th Annual Meeting, November 13–17, 2005, Baltimore, MD.

Revelas E.C., S.M. Fitzgerald, and J.L. Dasler. 2005. Assessing sediment stability in a riverine environment for the Portland Harbor RI/FS. In: Proceedings of the Third International Conference of Remediation of Contaminated Sediments. January 24–27, 2005, New Orleans, LA.

Revelas, E.C. 2004. Physical conceptual site model development in a dynamic river environment: A sediment RI/FS first step. Fourth SETAC World Congress, November 14–18, 2004, Portland, OR.

Revelas, E.C. 2004. Defining the nature and extent of contamination in Portland Harbor, Western Dredging Association (Pacific Chapter) Conference, October 27–29, 2004, Portland, OR.

Browning, D., D.R. Kendall, and E.C. Revelas. 1993. Delineation and biogenic reworking of a dredged material deposit placed at a deep water disposal site. In: Proc. Pacific Northwest Chapter SETAC. Seattle, WA.

Browning, D., E.C. Revelas, R.C. Hollar, and A. Risko. 1996. Confined disposal and capping of dredged sediments in the Long Beach borrow area. In: Proc. WEDA Pacific Chapter, Honolulu, HI.