



Eros is a California Certified Hydrogeologist with 18 years specializing in well design and construction oversight; aquifer/high-resolution basin characterization; and 3-D conceptual/numerical groundwater-flow modeling in basin-fill, karst, and fractured-bedrock settings. He has collaborated with federal, state, municipal, and defense/aerospace clients in Southern California and nationally (e.g., LADWP, EMWD, MWA, WRD, NASA/DoD, Navy, Air Force).

Building on this breadth of client work, he leads SGMA implementation (GSP programs) in high-priority basins, translating policy into engineered projects with measurable outcomes (e.g., recharge programs delivering 12,000+ AFY; municipal wells producing up to ~2,500 gpm, basin-wide conceptual models). He has managed/overseen 58+ well and groundwater projects in California and across the U.S. His experience and projects span MAR/recharge basins; well siting/design; and construction management for all types of wells, groundwater and well assessments, groundwater management, and contaminant hydrogeology.

His technical focus includes the design and installation of production, extraction, and ASR wells; multi-level/nested monitoring wells; and select horizontal wells. He integrates lithology, geophysics (caliper/resistivity, NMR, FDEM/AEM), aquifer testing (step/constant-rate; Cooper-Jacob/Theis), modeling (MODFLOW/GMS, RockWorks), and water-quality datasets to evaluate groundwater resources and delineate the vertical and lateral distribution of contaminants (PFAS and other COCs). He has also worked extensively with local, state, and federal agencies to align technical work with permitting and policy.

PROJECT ROLE

CLASSIFICATION

Hydrogeologist

EDUCATION

BS, Geology, University of South Alabama, 2009

REGISTRATIONS/CERTIFICATIONS

Professional Geologist, CA #9351;
Certified Hydrogeologist, CA #1061

Qualified Stormwater Pollution Prevention Plan Developer and Practitioner (QSD/QSP), #27447

Certified Groundwater Professional (CGWP), #4016962

40-Hour OSHA HAZWOPER

30-Hour OSHA Construction

40-Hour EM 385-1-1

CPR/AED/First Aid

YEARS OF EXPERIENCE

- 18 years total

RELEVANT PROJECT EXPERIENCE

GROUNDWATER SUPPLY & WELL PROJECTS

City of Camarillo, North Pleasant Valley Desalter Facility Standby Well – Camarillo, CA | Eros supported the City of Camarillo in the design, permitting, and construction of a critical standby extraction well for the North Pleasant Valley (NPV) Desalter Facility, which provides a treatment capacity of approximately 4,500 acre-feet per year. The project was developed to enhance operational reliability and maintain potable supply continuity within the Pleasant Valley Groundwater Basin.

He optimized well design parameters, including casing materials, screen intervals, and aquifer zone selection, to address variable water quality conditions characterized by elevated concentrations of chloride, sulfate, and manganese. Eros coordinated with the Fox Canyon Groundwater Management Agency (FCGMA) to ensure full compliance with the Groundwater Sustainability Plan (GSP) and basin allocation framework.

He also ensured compatibility between well design and the NPV treatment system, integrating hydraulic and geochemical considerations to support long-term performance. The project provided the City with a robust, high-quality supply source capable of meeting operational and regulatory requirements for decades to come.

Golden State Water Company, Municipal Well Design, Construction, Inspection, and Testing of Bella Vista Well No. 2 and Destruction of Bella Vista Well No. 1 – Morongo Valley, CA | Eros supported Golden State Water Company (GSWC) in implementing their Capital Improvements Program (CIP), providing hydrogeologic and engineering oversight for the design, construction, and testing of multiple municipal supply wells, including Bella Vista Well No. 2 and the destruction of Bella Vista Well No. 1. These projects were delivered under both conventional design–bid–build and design–build models, achieving production capacities that exceeded design flow expectations while maintaining cost efficiency and regulatory compliance.

Located in or adjacent to the Mojave Desert region of southern California, the projects required comprehensive hydrogeologic assessment and adaptive design to address uncertainties in local subsurface conditions. Eros developed and executed a detailed completion plan emphasizing operational readiness and economic optimization through bundled components and integrated design strategies.

He led isolated zone testing programs to verify groundwater yield and quality prior to final screen design, allowing GSWC to assess site feasibility early in the drilling phase and avoid unnecessary costs. The verification testing confirmed high aquifer productivity and favorable water quality, leading to the successful completion of both wells, each exceeding GSWC’s expectations for performance and reliability. The destruction of Bella Vista Well No. 1 was performed using the shot perforation method, ensuring complete breach of the well casing and effective isolation of the borehole prior to grouting, in accordance with California Department of Water Resources well destruction standards.

Golden State Water Company, Municipal Well Design, Construction, Inspection, and Testing of Yeager Well No. 4 – Morongo Valley, CA | Eros supported Golden State Water Company (GSWC) with implementation of their Capital Improvements Program (CIP) projects starting in 2022, including multiple production wells, and continued to support GSWC with completion of well projects. Several CIP projects required drilling, construction, testing, and equipping of groundwater production wells, along with associated facilities. We supported GSWC through conventional design-bid-build and design-build delivery models, and exceeded design flow expectations for all wells installed.

Delivered well projects at separate locations in or adjacent to the Mojave Desert in southern California. Based on limited design criteria, a comprehensive completion plan was developed with the objective of delivering ready-to-operate facilities. Components were bundled to achieve cost savings and economic efficiencies, ultimately resulting in lower overall costs for each project. An important factor was uncertainty associated with hydrogeologic conditions at multiple proposed well locations, as groundwater conditions at those sites were not fully defined.

To address this, we recommended verifying local conditions before significant resources were committed. We designed and oversaw verification of site hydrogeology through isolated zone testing (quantity and quality) during early drilling phases. Groundwater yield verification through zone testing gave GSWC the flexibility to abandon sites if necessary and avoid substantial costs. Zone testing indicated a high probability of success, and each well proved highly productive, exceeding GSWC’s needs.

Isolated zone testing also confirmed vertical productivity and water quality before final screen design. Both wells greatly exceeded expectations for production rates and water quality.

City of Adelanto, Design Services for Drilling a New Municipal Groundwater Production Well – Adelanto, CA | Eros provided comprehensive hydrogeologic and engineering services for the City of Adelanto’s new municipal groundwater production well. His responsibilities encompassed well siting analysis, aquifer testing, conceptual hydrogeologic modeling, and development of construction cost estimates.

He prepared and coordinated well siting studies, wellfield testing programs, and conceptual model evaluations to guide design and optimize production potential. Eros also led permitting coordination, prepared bidding documents and technical specifications, and provided construction management and oversight throughout drilling, development, and performance testing. The project established a technically sound and cost-effective framework for expanding the City’s potable groundwater supply.

City of Manteca, Well 30 Water Supply Project – Manteca, CA | Eros provided advanced hydrogeologic and engineering services to the City of Manteca for the Well 30 Water Supply Project, which included the development of a



Eros Bilyeu, PG, CHG, CGWP, QSD (continued)

new potable production well, a 4-inch diameter transmission pipeline extending approximately 6,500 feet, and associated facilities.

His professional scope encompassed a comprehensive regulatory offset assessment, detailed well siting and hydrostratigraphic evaluation, and the design of both the production well and transmission pipeline alignment. Eros prepared complete bidding documents, technical plans, specifications, and cost estimates; coordinated permitting with multiple regulatory agencies; and provided bid-phase advisory services.

He also led full construction management, inspection, and aquifer performance testing to ensure compliance with state and local standards. The project integrated regulatory compliance, aquifer characterization, and infrastructure design to ensure a reliable, sustainable groundwater supply and long-term operational efficiency for the City of Manteca.

City of Lakewood, Well 22 Comprehensive Site Assessment, Permitting, Design, and Construction – Lakewood, CA |

Eros provided comprehensive hydrogeologic and engineering services for the City of Lakewood's Well 22 project, encompassing site characterization, regulatory permitting, and full project design and implementation. He prepared the Preliminary Design Report (PDR) and Drinking Water Source Assessment and Protection (DWSAP) study, integrating hydrostratigraphic, geochemical, and regulatory data to inform well design and siting.

Eros developed detailed technical plans and specifications, provided bid-phase advisory support, and supervised construction, inspection, and aquifer performance testing to verify compliance with California Division of Drinking Water (DDW) and local standards. He also prepared final reporting and documentation to support project certification.

The project successfully delivered a high-capacity potable supply well designed for long-term reliability, optimized efficiency, and consistent water quality performance within the City's groundwater production system.

Golden State Water Company, Church Well 25 – Rancho Cordova, CA | Eros provided comprehensive hydrogeologic support for the design and construction of Golden State Water Company's Church Well 25. His scope included well siting analyses, review of subsurface data, and preparation of the Preliminary Design Report (PDR) to guide engineering and regulatory approvals.

He developed detailed technical plans and specifications, provided bid-phase advisory services, and oversaw construction management, inspection, and performance testing to ensure adherence to design intent and state standards. Eros coordinated permitting, prepared Drinking Water Source Assessment and Protection (DWSAP) documentation, and authored the Well Construction Summary report.

His responsibilities included QA/QC of all technical deliverables and the formulation of responses to client comments, ensuring regulatory compliance, design integrity, and long-term operational reliability of the new production well.

Long Beach Utilities Department, Commission 20 Well Rehabilitation – Long Beach, CA | Eros provided hydrogeologic services for the rehabilitation of Commission Well 20 for the Long Beach Utilities Department. His work included permanent pump removal, mechanical rehabilitation via brushing and bailing, and comprehensive downhole video inspection to assess casing and screen conditions.

He directed staged redevelopment using swabbing and airlift techniques, followed by pump development, focused-intake testing, and dual-swab pumping to enhance well efficiency and restore production capacity. Eros also oversaw spinner flow surveys and conducted an analytical evaluation of the wellfield's radius-of-influence to assess hydraulic connectivity and optimize operational performance. The rehabilitation efforts successfully extended the well's service life and improved yield consistency under long-term operating conditions.

Eastern Municipal Water District, Well Design, Construction, Inspection, and Testing Well 37 – Hemet, CA | Eros provided project management and advanced hydrogeologic services for Eastern Municipal Water District (EMWD) within the San Jacinto Groundwater Basin, supporting the District's long-term groundwater supply and sustainability objectives. His responsibilities nearly spanned the full well lifecycle, from conceptual design through testing, integrating hydrogeologic data, regulatory requirements, and engineering design principles.

He provided field support for the geophysical logging, pilot-hole drilling, and multi-zone aquifer testing programs to optimize well design and maximize production efficiency. Eros also oversaw the design and installation of supplemental monitoring wells to expand EMWD's basin monitoring network, providing essential data on aquifer performance, recharge influence, and subsurface connectivity between managed recharge facilities and planned developments. In



Eros Bilyeu, PG, CHG, CGWP, QSD (continued)

addition, he conducted a geothermal feasibility assessment along the Claremont Fault and San Jacinto River corridor, incorporating fault structure and aquifer thermodynamics into a basin-scale conceptual framework for future renewable energy and water resource planning.

Phillips 66, Los Angeles Refinery Wilmington Plant Well No. 8 – Los Angeles, CA | Eros managed the siting, and design and construction of a high-capacity, 2,500 gpm industrial supply well at the Phillips 66 Los Angeles Refinery in Wilmington, California. The well was designed to provide non-potable water for process operations and fire protection systems, supporting the refinery's critical infrastructure resilience and operational efficiency.

His professional scope encompassed a comprehensive siting investigation, development of detailed technical plans and specifications, bid-phase advisory, and construction inspection with full documentation of field activities. Eros also conducted advanced hydrogeologic analyses addressing boundary condition representation and leaky aquifer dynamics to ensure sustained hydraulic performance and long-term reliability. The project successfully delivered a robust and efficient well system aligned with industrial performance and regulatory requirements.

Panorama Vista Preserve & McCune Law Group, Hydrogeological, SGMA, Beneficial Use, Groundwater and Aquifer Exemption, Expert Witness, and Litigation Support – Kern County, CA | Eros provided technical and expert witness support in litigation concerning groundwater rights, aquifer exemptions, and Sustainable Groundwater Management Act (SGMA) compliance for the Panorama Vista Preserve along the Kern River. His work focused on evaluating groundwater extraction and injection activities by nearby oil-field operators to determine potential impacts on beneficial use and groundwater-dependent ecosystems (GDEs).

He assessed produced-water extraction and injection volumes, groundwater elevation trends, base of freshwater conditions, and aquifer exemption boundaries using CalGEM datasets and regional Groundwater Sustainability Plans (GSPs). Eros analyzed groundwater–surface water interactions and regulatory frameworks to determine implications for SGMA-defined beneficial uses and ecological water rights.

He developed expert opinions, prepared technical exhibits, and supported legal teams through deposition and testimony preparation. His recommendations included strategies for reallocation of treated water to meet ecological, regulatory, and public-benefit objectives within the broader SGMA compliance framework.

City of Corcoran, Municipal Supply Well Modification – Corcoran, CA | Eros conducted a detailed hydrogeologic evaluation of a municipal supply well impacted by regional land subsidence in the City of Corcoran. His work included analysis of historical pumping data, assessment of well performance decline, and feasibility evaluation of structural rehabilitation and modification alternatives.

He prepared modification plans integrating subsidence mechanics, casing deformation analyses, and long-term structural stability considerations. Eros also provided on-site construction oversight to ensure adherence to design intent and regulatory standards. The project enhanced well integrity, extended operational life, and restored production reliability for the City's municipal water supply system.

Golden State Water Company, Capital Improvement Program (CIP) Well Assessments – Northern and Southern, CA | Eros provided Certified Hydrogeologist and Professional Geologist expertise to Golden State Water Company (GSWC) as part of its Capital Improvement Program (CIP). He conducted comprehensive condition assessments of municipal production wells across multiple service areas to evaluate performance, remaining useful life, and structural integrity. His work included identification of candidate locations for new production wells with optimal yield and water quality potential, supported by hydrogeologic data synthesis and regulatory review. Eros developed strategic recommendations to guide long-term capital planning, optimize system capacity, and sustain reliable potable water supply for GSWC's service regions.

Sacramento Suburban Water District, Wells 83 and 84 Aquifer Storage and Recovery Wells (ASR) – Citrus Heights, CA | Eros was responsible for QA/QC oversight throughout the development of technical specifications, design phases, and construction management for two Aquifer Storage and Recovery (ASR) wells executed under a Progressive-Design-Build framework. Professional contributions encompassed detailed review and validation of contractor submittals, continuous coordination through data evaluation and field implementation, and resolution of drilling complications. Localized stratified contaminant zones and severe lost-circulation conditions were mitigated through the application of 250-foot-deep conductor casings in each borehole, representing an innovative adaptation to site hydrostratigraphy.



Eros Bilyeu, PG, CHG, CGWP, QSD (continued)

The wells ultimately achieved target storage and production capacities without the need for post-construction treatment, demonstrating both design efficacy and long-term operational viability.

City of Santa Monica, Olympic Well Field Injection & Groundwater Monitoring Program – Santa Monica, CA | Eros provided hydrogeologic expertise to the City of Santa Monica's Olympic Well Field Restoration Program, with emphasis on regulatory compliance and aquifer sustainability. Responsibilities encompassed preparation of technical specifications, coordination of certified laboratory analyses, and design of baseline sampling protocols to satisfy regulatory monitoring requirements for groundwater injection. Collaboration with multiple consultants, the City, and agencies under a multidisciplinary team framework facilitating integrated evaluations of aquifer conditions, regulatory pathways, and treatment system performance.

Key contributions included: Designed and implemented a rigorous baseline sampling program to characterize groundwater quality prior to initiation of injection operations; Coordinated with accredited laboratories for comprehensive analysis of Title 22 constituents, trace metals, organic compounds, and radiological parameters; Interpreted and validated analytical datasets to demonstrate compliance with Division of Drinking Water (DDW) and Regional Water Quality Control Board (RWQCB) permit conditions; Provided technical QA/QC oversight and ensured defensibility of submittals to regulatory agencies; Integrated findings into the City's broader Olympic Well Field Rehabilitation and Restoration Program to support long-term potable supply resiliency.

This work enhanced Santa Monica's capacity to restore and safeguard municipal groundwater resources while reducing dependence on imported Metropolitan Water District (MWD) supplies, advancing regional sustainability and drought-resilience objectives.

Los Angeles Department of Water and Power, Hydrogeological Assessments, Water Supply Well Design, Construction Management, Inspection, and Testing – Santa Clarita, CA | Eros executed comprehensive hydrogeologic and water resource assessments and directed the design and installation of high-capacity municipal supply wells to support localized water production for LADWP power generation and operational facilities throughout Southern California. His professional contributions encompassed detailed site characterization, assessment of hydrostratigraphic conditions, and development of well design criteria tailored to complex alluvial and bedrock interfaces.

He prepared technical design documents, coordinated regulatory permitting, and provided construction management and inspection oversight to ensure conformance with project specifications and LADWP standards. Eros also supervised aquifer testing, well development, and performance verification to confirm yield, efficiency, and water quality objectives. His leadership ensured operational reliability, regulatory compliance, and long-term integration of the new wells into LADWP's regional water supply infrastructure.

Los Angeles Department of Water and Power (LADWP), Owners Agent & Hydrogeological Services, San Fernando Valley, CA | Eros provided professional hydrogeologic consulting services in support of the Los Angeles Department of Water and Power's (LADWP) San Fernando Groundwater Basin Remediation Project—one of the largest groundwater restoration programs in California. His responsibilities encompassed program initiation and strategic planning, detailed design of nested monitoring and high-capacity production wells, and coordination of regulatory permitting and procurement frameworks.

He evaluated alternative project delivery mechanisms and provided technical oversight throughout construction, commissioning, and system integration phases. Eros played a key role in translating complex hydrostratigraphic and contaminant plume conditions into actionable design parameters, ensuring alignment between regulatory requirements, engineering design, and long-term groundwater remediation objectives.

His contributions included structuring project closeout documentation and guiding the operational assimilation of new groundwater production and treatment infrastructure. The project's integrated approach set a precedent for large-scale basin restoration and sustainable water supply resilience within the Los Angeles region.

Water Replenishment District of Southern California (WRD), Los Angeles Forebay Perchlorate Cleanup Project – Vernon, CA | Eros supported the Water Replenishment District of Southern California (WRD) in one of the most technically complex perchlorate investigations in the state, conducted in collaboration with multiple regulatory agencies through the Los Angeles Forebay Groundwater Task Force. The project addressed elevated perchlorate concentrations within the Forebay aquifer system—among the highest detected statewide—occurring in deep, coarse-



Eros Bilyeu, PG, CHG, CGWP, QSD (continued)

grained hydrostratigraphic zones hydraulically connected to the Central and West Coast Basins (CBWCB). This connectivity posed an imminent risk of plume migration into critical regional supply aquifers, with two municipal production wells already impacted downgradient of the City of Vernon.

Eros led the hydrogeologic design and oversight of an expanded triple-nested monitoring well network to refine the three-dimensional characterization of plume extent and transport pathways. He also contributed to the design and field oversight of remedy progress and extraction wells, supporting WRD's long-term containment strategy. His work included development and calibration of conceptual and numerical groundwater flow and solute transport models, integrating data from nested wells and aquifer testing to guide remedial strategy, prioritize monitoring, and inform long-term basin management under Proposition 1 funding.

Santa Clarita Valley Water Agency, Third-Party Expert/Witness, National Contingency Plan Preparation, Engineering Evaluation/Cost Analysis, and Community Involvement Plan – Santa Clarita, CA | Eros served as a third-party technical expert and witness for the Santa Clarita Valley Water Agency (SCV Water), providing strategic hydrogeologic and regulatory support under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). He led preparation of an Engineering Evaluation/Cost Analysis (EE/CA) and supporting documentation to strengthen SCV Water's cost recovery case against potentially responsible parties under the National Contingency Plan (NCP).

The non-time-critical removal action (NTCRA) addressed human health and environmental risks associated with perchlorate and volatile organic compounds (VOCs) detected in the Alluvial Aquifer and Saugus Formation—conditions deemed to pose an imminent and substantial endangerment to the drinking water supply for Los Angeles County residents. Eros's analyses focused on the migration of contaminants into production wells under active pumping conditions, integrating hydrostratigraphic data, plume delineation, and aquifer hydraulics into the EE/CA framework.

He also contributed to the preparation of the Community Involvement Plan (CIP) to ensure transparent stakeholder engagement and compliance with NCP procedural requirements. His work provided SCV Water with a scientifically defensible, cost-effective remedial strategy that advanced both regulatory and legal objectives for long-term groundwater protection.

Elsinore Valley Municipal Water District, Well Siting, Evaluations, Well Design and Construction, and Well Rehabilitation – Elsinore Valley, CA | Eros supported the Elsinore Valley Municipal Water District (EVMWD) with comprehensive hydrogeologic investigations, new well design, and rehabilitation of existing wells to enhance reliability and sustainable production.

He led multi-criteria well siting analyses integrating hydrogeologic field data, groundwater resource evaluations, and regulatory compliance reviews (RWQCB, DDW, and CEQA). Eros prepared Drinking Water Source Assessment and Protection (DWSAP) capture-zone analyses and authored the Project Design Report (PDR).

For new wells, he developed engineering plans and technical specifications, directed exploratory drilling and geophysical logging, supervised final construction and testing, and validated water quality under Title 22 standards. For rehabilitation projects, he analyzed historical well performance, assessed casing integrity, and oversaw construction to restore capacity and extend service life.

His work improved EVMWD's system reliability, operational efficiency, and compliance with state and regional groundwater management standards.

Sweetwater Authority, Richard A. Reynolds Groundwater Desalination Facility (Desalter Wells) – Chula Vista, CA | Eros provided technical support for the Phase 2 expansion of the Richard A. Reynolds Groundwater Desalination Facility, a critical infrastructure project enhancing Sweetwater Authority's potable water supply through brackish groundwater desalination. The project involved the design, permitting, and construction oversight of five new San Diego Formation desalter wells, each drilled to approximately 800 feet and designed for sustained production capacities exceeding 1,300 gallons per minute.

He oversaw preliminary well design development, preparation of detailed plans and specifications, bid-phase technical support, and adaptive final design during construction based on field conditions and aquifer performance. The design incorporated stainless steel well screens and casings to maximize efficiency and longevity under high-salinity conditions. Eros coordinated aquifer testing, step-drawdown, and constant-rate pumping evaluations that demonstrated exceptional production rates—up to 2,500 gpm, surpassing design expectations and providing the



Eros Bilyeu, PG, CHG, CGWP, QSD (continued)

Authority with expanded operational flexibility. His technical direction supported seamless integration of the new wells into the Desalination Facility's expanded treatment and distribution network.

City of Corona, SGMA Water Management and Engineering in the Upper Santa Ana Valley Basin and Temescal Subbasin – Corona, CA | Eros served as the technical lead for SGMA compliance and basin management services contract within the Upper Santa Ana Valley Basin and Temescal Subbasin. The project advanced the City's long-term groundwater sustainability objectives through the integration of hydrogeologic, hydrologic, and engineering analyses under California's Sustainable Groundwater Management Act (SGMA).

Responsibilities encompassed basin-scale hydrogeologic investigations, development of groundwater monitoring networks, and evaluation of managed aquifer recharge and conjunctive-use opportunities to enhance local supply reliability. Eros was also responsible directing modeling support for aquifer characterization, treatment feasibility assessments, and stormwater infiltration design, establishing alignment with regional sustainability strategies and the Santa Ana Watershed Project Authority's basin management framework. Deliverables included technical memoranda, regulatory compliance documentation, and agency coordination to position the City for future SGMA milestones and grant funding opportunities.

Castaic Lake Water Agency, Well Design and Construction Management Services – Santa Clarita, CA | Eros provided design and construction management services for the installation of two deep, triple-nested monitoring wells to support sentinel monitoring of impacted municipal supply wells within the Castaic Lake Water Agency (CLWA) service area. These monitoring wells were strategically sited to track plume migration and protect critical water supply infrastructure in the Santa Clarita Valley.

He supported site selection and permitting efforts, prepared detailed technical specifications and bid documents, and provided bid-phase consultation and full-time field oversight during construction. Boreholes were advanced to depths between 1,000 and 1,200 feet, with nested monitoring intervals between 600 and 1,100 feet, designed to isolate discrete hydrostratigraphic zones for targeted water quality assessment. Screen intervals were selected based on detailed geophysical log correlation with nearby supply and monitoring wells, ensuring high-resolution subsurface characterization. Eros's work strengthened CLWA's capacity for early detection and response to groundwater contamination while advancing long-term basin management objectives.

Keyera Energy Incorporated, Groundwater Production Well Development and Testing – Glenpool, OK | Preparation of a project execution plan for development and testing of the existing groundwater production wells which included: Field methodologies, drilling rig equipment and tools, and objectives/targets for development and testing; Data collection requirements and criteria to be used during field evaluations; Site and project specific health and safety; and Definition of specific roles and responsibilities for client and all subcontractors. Provision of on-Site technical supervision which included: Supervision of the aquifer testing program for the wells; Providing recommendations, Preparation of daily field reports documenting activities conducted on-Site, recorded data, and field observations; and siting potential new groundwater production well locations for rig access. Analysis and assessment of safe yield and the serviceability of the existing wells. Providing recommendations for well operations and maintenance (O&M); and determination of the water budget.

County of Riverside, Coachella Valley Well Certifications – Riverside County, CA | Eros conducted hydrogeologic investigations and well certification services in the Coachella Valley for the County of Riverside, supporting potable water supply and emergency fire suppression infrastructure for a major development. His responsibilities included performance testing, aquifer characterization, and analysis of transmissivity, storativity, and sustainable yield to ensure reliable groundwater production and compliance with County and state regulatory standards.

He validated the performance of on-site treatment systems and assessed the reliability of the groundwater distribution system under variable demand and seasonal conditions. Eros's work provided the County with a comprehensive technical basis for certification, ensuring both immediate functionality and long-term operational sustainability of the water supply infrastructure.

CrossCreek Golf Club, Groundwater Resources Assessment and Well Rehabilitation Program – Temecula, CA | Eros conducted a comprehensive, multi-scale groundwater resources assessment to evaluate sustainable irrigation supply alternatives for the CrossCreek Golf Club in Temecula, California. The project was commissioned to reduce reliance on



Eros Bilyeu, PG, CHG, CGWP, QSD (continued)

imported water and ensure long-term irrigation self-sufficiency by integrating regional hydrogeologic frameworks with site-specific investigations.

Key contributions included: Synthesizing regional hydrostratigraphy through the compilation and interpretation of well completion reports, lithologic logs, and groundwater production records from adjacent basins and academic sources; Quantitatively evaluating aquifer transmissivity, storativity, and sustainable yield using pumping test data, long-term groundwater level trends, and California DWR basin datasets; Characterizing irrigation-relevant water quality metrics—such as TDS, hardness, and ion-specific chemistry—to assess agronomic suitability and system compatibility; Identifying and prioritizing prospective well sites and advancing conceptual well design scenarios aligned with projected irrigation demand and site hydrogeologic constraints; Developing phased development and permitting strategies that integrated well rehabilitation, infrastructure design, and operational optimization for golf course management.

This assessment established the hydrogeologic foundation for future water-supply planning and well rehabilitation, enabling informed capital investment, regulatory compliance, and sustainable groundwater resource management for the facility.

Las Vegas Music Venue (The Sphere), Hydrogeological Services – Las Vegas, NV | Eros conducted a detailed hydrogeologic evaluation to support the design and construction of the iconic Las Vegas Sphere entertainment venue. The project required a comprehensive understanding of shallow groundwater dynamics within complex alluvial deposits of the Las Vegas Valley, where variable permeability, perched water, and localized artesian pressures posed unique geotechnical challenges.

He oversaw the installation and performance testing of both temporary and permanent dewatering systems, integrating new aquifer testing data with historical groundwater datasets to refine site-specific hydraulic parameters. Eros analyzed drawdown responses, aquifer transmissivity, and vertical hydraulic gradients to optimize well placement and pumping design. His findings directly informed foundation engineering and construction dewatering strategies, ensuring safe, stable, and cost-effective groundwater management during one of Las Vegas’s most technically sophisticated urban developments.

San Gabriel Canyon Production, Well Evaluation and Capacity Improvements – Azusa, CA | Eros conducted a comprehensive Water Supply and Treatment Study to evaluate existing well infrastructure and support capacity improvements for the the development of a water system in the San Gabriel Canyon near Azusa, CA. The work was designed to optimize performance, enhance reliability, and ensure compliance with regional water quality and supply objectives.

His scope included downhole video inspection, review of historical hydrogeologic records and long-term groundwater level trends, constant-rate discharge testing, spinner flowmeter logging, and groundwater quality sampling. Eros also provided conceptual design input for on-site wastewater management and potable/fire-water distribution systems, including fire-flow calculations and preliminary engineering schematics. The findings provided a technical foundation for infrastructure redevelopment planning and improved sustainable yield management of the San Gabriel Canyon wellfield.

City of Perryton - Well Site 2 – Perryton, Texas | Eros managed a \$225,000 groundwater investigation, municipal well design, and wellfield expansion project for the City of Perryton to delineate the vertical and lateral migration of carbon tetrachloride (CTC) contamination through multiple aquifers within the Ogallala Aquifer system. The work was performed under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) procedures, ensuring regulatory compliance and defensible data for remedial and infrastructure decision-making.

He supervised drilling operations using both air and mud rotary methods, designed and oversaw the construction of new municipal supply wells, and conducted aquifer testing to evaluate hydraulic properties, production capacity, and contaminant distribution. Eros also advanced qualitative field methods to map lithology and porosity as functions of quantitative Unified Soil Classification System (USCS) data, correlating findings with resistivity log interpretations. These efforts refined the site conceptual model, improved understanding of contaminant migration pathways, and supported the City’s long-term groundwater resource protection and sustainable supply development strategy.

GROUNDWATER RECHARGE PROJECTS



Mojave Water Agency, Ames-Reche Recharge Basin Relocation, Oeste Demonstration Recharge Pilot Test, & Lucerne Valley Pump Station Recharge Basin & Oeste Permanent Aqueduct Turn Out Projects – Mojave Desert Region, CA | Eros supported the Mojave Water Agency (MWA), one of 29 State Water Contractors (SWCs) with an annual entitlement of 89,800 acre-feet (AF) of State Water Project (SWP) Table A water, in advancing multiple managed aquifer recharge (MAR) and infrastructure projects to enhance basin sustainability. His work contributed to planning, design, permitting, and construction management efforts for the Ames-Reche Recharge Basin Relocation, Oeste Demonstration Recharge Pilot Test, Lucerne Valley Pump Station Recharge Basin, and Oeste Permanent Aqueduct Turnout.

The objective of these projects was to increase recharge capacity by approximately 13,000 AFY through new and relocated facilities capable of optimizing the distribution of imported SWP water for beneficial use and groundwater replenishment. In collaboration with Ardurra Group, Inc., Eros provided hydrogeologic evaluation and technical support for site selection, infiltration testing, and pilot recharge performance analysis. He also assisted with design development, regulatory permitting, and integration of the permanent aqueduct turnout with MWA's recharge and conveyance infrastructure. His contributions supported the Agency's long-term groundwater management strategy to ensure basin health, water supply reliability, and compliance with SGMA objectives.

Rock Creek Reclamation District, Rock and Sand Creek Flood Mitigation and Recharge Project – Chico, CA | Eros conducted a comprehensive feasibility investigation under the Small Communities Flood Risk Reduction (SCFRR) grant program to evaluate the groundwater recharge potential of the Rock and Sand Creek system. His work integrated flood-routing models with geomorphic, geotechnical, and geophysical analyses to inform the preliminary engineering of flow-control and recharge infrastructure designed to reduce flood hazards while enhancing aquifer storage.

He performed advanced hydrogeologic assessments using high-resolution frequency-domain electromagnetic (FDEM) surveys, Department of Water Resources (DWR) airborne electromagnetic (AEM) datasets, and the UC Davis Groundwater Recharge Banking Index to delineate favorable recharge zones. Eros also analyzed long-term hydrograph trends, potentiometric gradients, and detailed hydrostratigraphic relationships to estimate the magnitude and spatial trajectory of lateral and vertical groundwater migration. His findings established a scientific foundation for future recharge basin design and basin-scale flood mitigation planning.

City of San Diego, Mission Valley Aquifer Storage and Recovery (ASR) Program Hydrogeological Evaluation, Expert Peer Review, and Feasibility Study – San Diego, CA | Eros served as a third-party hydrogeologic expert providing independent technical evaluation and peer review for the City of San Diego's Mission Valley Groundwater Basin ASR Program and its integration with the City's Pure Water initiative. The project aimed to assess the feasibility of large-scale managed aquifer recharge and later provide third party expert review for the seasonal storage operations in proximity to the redevelopment of the former Qualcomm Stadium site by San Diego State University.

His role encompassed review of basin-scale hydrogeologic data, aquifer testing methodologies, and modeling assumptions to validate recharge and recovery performance under varying hydrologic and operational scenarios. Eros provided strategic recommendations to optimize wellfield placement, assess potential hydraulic connectivity and boundary conditions, and identify geochemical or operational constraints to recharge sustainability. His technical review helped the City and SDSU refine the conceptual hydrogeologic framework and guide infrastructure planning for one of the region's most visible integrated water resource projects.

CONTAMINANT HYDROGEOLOGY & ENVIRONMENTAL PROJECTS

Boeing, Scientific Monitoring Well Design, Construction, Inspection, and Testing: In-Situ Solinst Waterloo Multilevel Wells, Westbay Wells, FLUTE Wells, Multi-Completion Wells, In-Situ Chemical Oxidation (ISCO) Wells, Injection Wells (i.e., Heat, Fluorescein Dye, and Beads and hydro-gel bead tracer studies), and High Resolution Aquifer Characterization in Diffused Fractured Bedrock (DFN) – Santa Susana Field Laboratory, Canoga Park, CA | Eros directed technical field operations, personnel, contractual oversight, and regulatory coordination across multiple task orders under a \$17 million site-wide investigation at the 2,850-acre Santa Susana Field Laboratory, an aerospace and defense research and testing facility historically operated by Rocketdyne/Boeing, NASA, and the U.S. Department of Defense. The work was performed under a multi-agency regulatory framework to support long-term groundwater and soil remediation.



Eros Bilyeu, PG, CHG, CGWP, QSD (continued)

He conducted high-resolution hydrogeologic characterization of diffuse fractured bedrock networks (DFNs) within the Chatsworth Formation, performing structural and statistical analyses of joints, bedding-plane shears, and multi-scale fault systems in turbidite sequences. Working collaboratively with Dr. John A. Cherry and the University of Guelph 360 team, Eros advanced DFN conceptualization and monitoring well network design, implementing innovative in-situ subsurface fault mapping and downhole geophysical logging techniques for deformation analysis. His leadership contributed to the development of pilot studies that refined DFN modeling methodologies and informed remediation strategies for one of the most technically complex environmental sites in California.

National Aeronautics and Space Administration (NASA), Remedial and Hydrogeological Investigations – Marshall Space Flight Center- Huntsville, AL | Eros supervised field operations for a multi-million-dollar Resource Conservation and Recovery Act (RCRA) Remedial Investigation (RI) at NASA’s Marshall Space Flight Center, overseeing comprehensive investigations of surficial media and groundwater systems across a karstic geologic setting. The project aimed to characterize complex hydrogeologic processes governing contaminant migration through fractured carbonate bedrock and high-permeability alluvial units.

He coordinated high-resolution hydrogeologic investigations, including surface and subsurface geophysical surveys, aquifer performance testing, groundwater quality characterization, tracer studies, and spring discharge monitoring. To refine the conceptual hydrogeologic model, the project utilized airborne thermal imagery surveys to locate artesian springs and zones of focused discharge along fracture-controlled conduits within the karst system. The integration of airborne and ground-based datasets provided a detailed understanding of groundwater flow connectivity, recharge dynamics, and discharge patterns.

Additional work included seismic and microgravity surveys and Monitored Natural Attenuation (MNA) design and evaluation. Eros directed multiple remedial pilot studies, including clay matrix fracturing and in-situ chemical oxidation using zero-valent iron, hydrogen peroxide, and potassium permanganate for BTEX reduction, as well as biological injections monitored via DNA/RNA analysis. His integrated technical approach informed remedial decision-making and advanced NASA’s environmental restoration initiatives across the site.

National Aeronautics and Space Administration (NASA), Remedial and Hydrogeological Investigations – Santa Susana Field Laboratory – Canoga Park, CA | Eros supported field operations and technical investigations for NASA’s RCRA Remedial Investigation (RI) at the Santa Susana Field Laboratory, a complex aerospace and defense research site jointly managed by NASA, Rocketdyne/Boeing, and the U.S. Department of Energy. The project focused on the characterization of surficial and subsurface media to evaluate the distribution and fate of VOCs, SVOCs, PAHs, PCBs, dioxins/furans, soluble and insoluble metals, pesticides, formaldehyde, and inorganic compounds.

He oversaw high-resolution hydrogeologic and structural mapping of the fractured bedrock system within the Chatsworth Formation, integrating aerial and drone-based imagery, trenching, and mesoscopic structural mapping to delineate fault geometry and fracture networks controlling groundwater flow. Eros directed a bedrock vapor extraction study and subsurface vapor pathway assessment to support risk evaluation and remedial design. Drilling operations employed multiple techniques—including air rotary, hollow-stem auger, and rock coring—along with re-entry of legacy boreholes for data refinement.

San Gabriel Valley Basin Superfund Litigation, Expert Witness and Hydrogeological Services – El Monte, CA | Eros served as a hydrogeologic expert supporting litigation involving the San Gabriel Valley Basin Superfund Site in South El Monte, one of the nation’s most complex and heavily regulated groundwater contamination cases. The California Regional Water Quality Control Board (Los Angeles Region) issued an Investigative Order under California Water Code Section 13267, mandating further subsurface investigation and contaminant delineation.

Eros evaluated multiple potential contaminant sources and pathways, including industrial releases and migration through heterogeneous alluvial aquifers. His technical analyses addressed volatile organic compounds (VOCs), hexavalent chromium, 1,4-dioxane, 1,2,3-trichloropropane (1,2,3-TCP), N-nitrosodimethylamine (NDMA), and perchlorate—chemicals of emerging concern within the basin. He provided expert interpretations of groundwater flow dynamics, contaminant transport, and regulatory compliance issues to inform the client’s legal strategy and engagement with the Regional Board, contributing to the scientific rigor of one of California’s precedent-setting groundwater enforcement actions.



Naval Facilities Engineering Systems Command, Naval Air Station - Outlying Landing Field (OLF) Coupeville - PFCs (PFA and PFO) Investigation – Whidbey Island, Washington | Eros performed a regional groundwater investigation under the United States Department of the Navy's Comprehensive Long-Term Environmental Action—Navy (CLEAN) Program, administered by the Naval Facilities Engineering Systems Command (NAVFAC). The investigation was conducted in accordance with the Navy's Uniform Federal Policy (UFP) +SAP guidance and focused on the delineation of per- and polyfluoroalkyl substances (PFAS, including PFOA and PFOS) in groundwater near the Outlying Landing Field (OLF) Coupeville.

He directed the installation and testing of new monitoring wells across both the perched and regional drinking water aquifers to evaluate hydrostratigraphic relationships, groundwater flow directions, and potential contaminant migration pathways. Eros oversaw the collection and interpretation of groundwater level and water quality data, confirming the presence and distribution of PFAS compounds and assessing the hydraulic influence of nearby off-base production wells. The results refined the site conceptual model, informed risk communication with local stakeholders, and supported the Navy's adaptive management and remediation planning under federal environmental policy.

Naval Facilities Engineering Systems Command, Munitions Response Geophysics Program, Former Atlantic Fleet Weapons Training Area in Vieques – Puerto Rico, Vieques Island, Puerto Rico | Eros executed advanced geophysical and hydrogeologic investigations under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) at the former Atlantic Fleet Weapons Training Area in Vieques, Puerto Rico, a National Priorities List (NPL) Superfund site where more than 300,000 munitions were deployed during decades of U.S. Navy and NATO training operations. The site presented complex environmental challenges associated with unexploded ordnance (UXO), residual energetics, and munitions-related contaminants in soil and groundwater.

He performed high-resolution geophysical surveys for munitions classification using advanced electromagnetic induction (EMI) technologies, establishing geophysical prove-out areas and calibration networks across the island. Eros assembled and managed sub-meter GPS base stations, EMI sensor arrays, and data acquisition systems, processing large geophysical datasets to produce sub-surface conductivity maps and three-dimensional anomaly models using Oasis Montaj and Surfer software. His work enhanced the detection and classification accuracy of UXO identification, supported remedial decision-making, and contributed to the restoration of one of the largest and most environmentally significant military cleanup efforts in U.S. history.

Naval Facilities Engineering Systems Command, Naval Air Facility - Remedial Investigation – El Centro, CA | Eros contributed to the Remedial Investigation (RI) of former small arms, turret, and skeet ranges at Naval Air Facility El Centro under the Military Munitions Response Program (MMRP) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The project addressed legacy munitions impacts and potential contaminants of concern associated with historic military training operations.

He supported site characterization, geospatial data integration, and field verification activities to evaluate soil and groundwater quality and delineate potential exposure pathways. The investigation was conducted under the regulatory oversight of the California Department of Toxic Substances Control (DTSC), with coordination among the Colorado River Basin Regional Water Quality Control Board, the U.S. Fish and Wildlife Service, and the California Department of Fish and Wildlife. Eros's work contributed to the development of defensible remedial strategies balancing human health protection, environmental stewardship, and continued military readiness.

Naval Facilities Engineering Systems Command, Naval Base Point Loma Remedial Investigation & Feasibility Study – San Diego, CA | Eros supervised multidisciplinary teams, contracts, and technical reporting for two multi-million-dollar Preliminary Assessment (PA) and Remedial Investigation/Feasibility Study (RI/FS) projects at Naval Base Point Loma. The work characterized the nature and extent of CERCLA releases associated with buried debris and historical waste disposal, forming the technical basis for remedial design and regulatory decision-making.

He provided hydrogeologic oversight of trenching and subsurface investigations, including mapping and structural analysis of landslide and beach terrace deposits to delineate deformed Cretaceous-aged stratigraphic units and colluvial materials. Eros integrated hydrostratigraphic, chemical, and structural data into Human Health Risk Assessment (HHRA) and Ecological Risk Assessment (ERA) frameworks, supporting the evaluation and optimization of remedial alternatives in compliance with Navy, EPA, and state environmental regulations.



Naval Facilities Engineering Systems Command - Navy Base San Diego Remedial Investigation – San Diego, CA | Eros served as Field Quality Manager for a CERCLA remedial investigation task order at Naval Base San Diego, providing high-resolution surficial and subsurface delineation of volatile and semi-volatile organic compounds (VOC/SVOC/PAH), total petroleum hydrocarbons (TPH), organochlorine pesticides (OCP), polychlorinated biphenyls (PCBs), soluble and insoluble metals, and dioxins/furans. The project focused on assessing contaminant fate and transport in complex saline tidal aquifer environments.

He supervised field crews and ensured technical quality and regulatory compliance through all phases of well installation, development, and testing using hollow-stem auger methods. Eros deployed pressure transducers and performed slug testing to characterize aquifer behavior under tidal influence, managing real-time data correction and analysis. He produced GIS-based maps and field figures to support adaptive decision-making and rapid response to unexpected subsurface conditions. His performance was recognized with a Reward and Recognition (R&R) award for exceptional leadership, data integrity, and field problem-solving in a high-stakes Navy environmental program.

Naval Facilities Engineering Systems Command - Morris Reservoir Groundwater Non-Time Critical Removal Action – Azusa, CA | Eros supervised field operations, data evaluation, and reporting for long-term groundwater monitoring conducted as part of a Non-Time Critical Removal Action (NTCRA) at the former Navy torpedo testing facility near Morris Reservoir. The project required coordination among multiple state and federal agencies, including the United States Forest Service (property owner), California Department of Toxic Substances Control (DTSC), Los Angeles Regional Water Quality Control Board, California Department of Fish and Wildlife, Metropolitan Water District of Southern California (property owner), and Los Angeles County Department of Public Works.

He managed project budgets and field staff, oversaw groundwater and sediment sampling, and conducted toxicological and feasibility studies for site constituents of concern. The results informed remediation planning and supported a proposed land transfer from the Metropolitan Water District to Los Angeles County. Eros's leadership ensured regulatory alignment, interagency communication, and high-quality data collection to advance environmental restoration and property redevelopment objectives.

Kinder Morgan Energy Company, Colton Terminal Hydrogeological Investigations – Rialto CA | Eros managed project delivery and field operations for a \$2 million Phase II RCRA Remedial Investigation (RI) at Kinder Morgan's Colton Terminal facility, focused on delineating light non-aqueous phase liquid (LNAPL) impacts across multiple unconfined and confined alluvial aquifers in the Rialto-Colton Basin. The investigation was conducted under Resource Conservation and Recovery Act (RCRA) protocols to support corrective action planning and long-term groundwater remediation.

He directed subsurface characterization activities, including mapping of confining units and aquitards, and developed innovative qualitative field methods to correlate lithologic and porosity variations with quantitative Unified Soil Classification System (USCS) data and geophysical resistivity logs. Eros's integrated analytical approach improved the resolution of hydrostratigraphic boundaries and LNAPL distribution modeling, informing remedial system design and performance monitoring. His work was formally recognized with a Reward and Recognition (R&R) award for exceptional technical leadership and field innovation.

Kinder Morgan Energy Company, Carson Terminal Hydrogeological Investigations – Carson, CA | Eros conducted a comprehensive site-wide hydrogeologic characterization of soil and groundwater systems at the Kinder Morgan Energy terminal in Carson, integrating quarterly monitoring data with advanced subsurface interpretation techniques. His responsibilities encompassed detailed analysis of aquifer interactions, contaminant migration pathways, and hydraulic gradients across both perched and regional aquifer systems within the Rialto-Colton Groundwater Basins.

He developed and implemented innovative field logging methodologies, including relative lithology logging, to improve stratigraphic resolution and subsurface correlation. Eros prepared high-quality technical deliverables—analytical reports, hydrogeologic figures, and three-dimensional geospatial models—derived from multi-method datasets and digitized records. His work enhanced the understanding of aquifer geometry, boundary dynamics, and contaminant transport processes, providing the technical foundation for ongoing groundwater management and remediation planning at one of Southern California's key petroleum distribution facilities.

Los Angeles Community College District, District Wide Environmental Services – Los Angeles, CA | Eros contributed to the Los Angeles Community College District's district-wide environmental compliance and risk management program,



Eros Bilyeu, PG, CHG, CGWP, QSD (continued)

supporting campus redevelopment and modernization projects across multiple college sites. Responsibilities included conducting independent environmental and health risk assessments, Phase I Environmental Site Assessments (ESAs), and Phase II soil and groundwater investigations. His work involved site reconnaissance, stakeholder interviews, and evaluation of potential contaminants.

Eros prepared remedial cost estimates for unrestricted land use, developed and implemented soil management plans, and reviewed regulatory work plans, closure orders, and remedial designs for consistency with state and federal environmental requirements. He also supported Phase III remediation oversight, including the operation, maintenance, and monitoring of soil vapor and groundwater treatment systems, ensuring timely and compliant project closeout across the District's extensive property portfolio.

U.S Corps of Engineers, Los Angeles River Channel Hydraulic Assessments, Water Quality Monitoring, and Digital Modeling – Los Angeles, CA | Eros supported the U.S. Army Corps of Engineers in conducting hydraulic, environmental, and digital modeling evaluations for the Los Angeles River (LAR) channel, focusing on the Glendale Narrows reach, one of the few remaining soft-bottom sections of the river system. The Corps' maintenance area included both rectangular and trapezoidal concrete-lined segments and a 6.4-mile soft-bottom channel stabilized with grouted stone and concrete levees.

Eros led NASSCO-compliant assessments of stormwater side drains and monitored water quality compliance during channel maintenance operations to ensure adherence to federal and state discharge requirements. He also developed a comprehensive digital model and database of the LAR channel geometry, hydraulics, and conveyance features to support ongoing maintenance planning, sediment management, and habitat preservation objectives within this critical urban watershed.

Agua Mansa Commerce Park (former Riverside Cement Plant), Hydrogeological Investigation – Jurupa Valley, CA | Eros conducted a comprehensive hydrogeologic investigation to support the redevelopment of the former Riverside Cement Plant and limestone quarry, repurposed as the Agua Mansa Commerce Park under a California Land Reuse and Revitalization Act (CLRRA) agreement with the Department of Toxic Substances Control (DTSC). The project required integrating complex legacy industrial impacts with modern groundwater protection and redevelopment objectives. He oversaw subsurface characterization of soil and groundwater conditions, including delineation of hexavalent chromium (Cr⁶⁺) and other trace metal impacts within the shallow and regional aquifer systems. Eros prepared soil management plans and contributed to remedial strategy development to guide excavation, dewatering, and treatment measures in coordination with DTSC and regional water quality regulators. The investigation provided the technical foundation for informed risk management and regulatory closure supporting the site's conversion to one of the Inland Empire's largest commercial and logistics centers.

Union Pacific Railroad, Stormwater Assessments and Sampling – Los Angeles, CA | Eros supported Union Pacific Railroad in conducting comprehensive stormwater compliance assessments and sampling programs across multiple major rail yards throughout Los Angeles County. The work was performed under the Industrial General Permit (IGP) requirements of the California State Water Resources Control Board and focused on evaluating pollutant sources, hydrologic flow paths, and stormwater management effectiveness at each facility.

Project sites included the Los Angeles Transportation Center (LATC)/East Los Angeles, Intermodal Container Transfer Facility (ICTF) and Dolores Yard in Long Beach, City of Industry Yard, Commerce Yard, Mira Loma Yard, West Colton Yard, and Gemco Van Nuys Yard. Eros conducted site inspections, developed sampling strategies, and collected stormwater runoff samples to assess water quality and compliance with National Pollutant Discharge Elimination System (NPDES) standards. His work provided actionable recommendations for improving best management practices (BMPs) and mitigating stormwater-related impacts at high-traffic intermodal and rail freight facilities across the Basin.

Simi Valley Landfill and Recycling Center, Hydrogeological Investigation – Simi Valley, CA | Eros provided reporting, data evaluation, and field operations for long-term groundwater monitoring and well installation activities at the Simi Valley Landfill and Recycling Center, a Class III solid waste management facility overlying unconsolidated sediments and localized petroleum-bearing formations. The work was conducted in accordance with Waste Discharge Requirements (WDRs) and Monitoring and Reporting Programs (M&RP) adopted by the Regional Water Quality Control Board (RWQCB) under California Code of Regulations Title 27.



Eros Bilyeu, PG, CHG, CGWP, QSD (continued)

He oversaw well installation using sonic drilling methods to achieve high-quality lithologic recovery and minimize borehole disturbance, ensuring accurate hydrogeologic interpretation and long-term monitoring reliability. Eros managed sampling programs, reviewed analytical results, and prepared compliance reports supporting the facility's detection monitoring program. His technical oversight contributed to regulatory compliance, data integrity, and sustainable landfill management practices.

United States Air Force, Remedial Investigations and Long-Term Groundwater Monitoring – Biloxi, MS | Eros supervised operations for a \$5 million fixed-price, long-term groundwater monitoring and operations program conducted under a Resource Conservation and Recovery Act (RCRA) permit and the EPA Hazardous and Solid Waste Amendments (HSWA) at a major U.S. Air Force installation in Biloxi, Mississippi. The program ensured compliance with federal and state environmental regulations and supported long-term management of legacy waste sites and groundwater remediation systems.

He provided oversight for a large base-wide monitoring well network, coordinated field sampling and data validation, and managed the operation and maintenance of landfill gas emission control systems. Eros also prepared work plans, technical proposals, and regulatory reports, maintaining close communication with U.S. Air Force environmental personnel and agency representatives. His leadership ensured cost-effective program execution, regulatory compliance, and sustained protection of groundwater and air quality at the installation.

United States Air Force, Remedial Investigations and Long-Term Groundwater Monitoring – Columbus, MS | Eros supervised operations for a \$10 million fixed-price Remedial Investigation (RI) conducted under a Resource Conservation and Recovery Act (RCRA) permit at the Columbus Air Force Base, encompassing the entire military installation. The program involved comprehensive investigation and monitoring of surficial and subsurface media to evaluate the distribution and fate of contaminants associated with historical base operations.

He managed field teams performing multi-media investigations for VOCs, SVOCs, PAHs, soluble and insoluble metals, pesticides, PCBs, and inorganics, while overseeing the collection, evaluation, and reporting of Monitored Natural Attenuation (MNA) data for multiple solvent plumes. Eros directed the design and installation of a base-wide groundwater monitoring network across multiple aquifers using both single- and multi-screen wells, as well as the design and construction of horizontal extraction and injection wells to optimize plume capture and remediation efficiency.

In addition to technical oversight, Eros developed ArcGIS-based field data collection and mapping methodologies to enhance spatial analysis and decision support in real time. His work resulted in improved understanding of contaminant transport pathways, plume stability, and hydrostratigraphic connectivity across the installation, supporting long-term environmental management and regulatory compliance.

Army National Guard (ARNG)/USACE NDNODS Munitions Response – Multiple States (AL, MS, AR, CO, NM, IL) | Eros performed extensive Historical Records Reviews (HRR) and munitions response evaluations under the U.S. Army National Guard (ARNG) and U.S. Army Corps of Engineers (USACE) National Defense Non-Stockpile Ordnance and Explosives Disposal System (NDNODS) program across multiple states, including Alabama, Mississippi, Arkansas, Colorado, New Mexico, and Illinois. His work supported regulatory decision-making and prioritization for Remedial Investigations/Feasibility Studies (RI/FS), Time-Critical Action Removals (TCAR), and No Further Action (NFA) determinations.

He conducted on-site visits and interviews at active and inactive ranges, reviewed archival and operational military records, and procured legacy documentation to reconstruct historical munitions use and disposal activities. Eros designed and proposed field sampling methodologies incorporating electromagnetic induction (EMI) geophysical techniques and prepared detailed field sampling and safety plans in accordance with state-specific regulatory frameworks. He analyzed and synthesized large datasets for final reporting and deliverables, directly contributing to risk-based prioritization and cleanup planning. His exemplary performance earned a Reward and Recognition (R&R) award for exceptional diligence and technical excellence.

Honeywell, Remedial Investigations – San Diego, CA | Eros managed subcontractors and field operations for the installation of monitoring wells in both shallow and deep aquifers at an industrial facility in San Diego impacted by



Eros Bilyeu, PG, CHG, CGWP, QSD (continued)

legacy chlorinated solvent releases. The work required telescoping through confining units to isolate and characterize distinct hydrostratigraphic zones across known contamination intervals.

He provided oversight of drilling operations, well design, and construction to ensure proper hydraulic separation between aquifer zones, supporting accurate groundwater sampling and contaminant delineation. Eros coordinated lithologic logging, geophysical interpretation, and well completion verification to ensure compliance with regulatory standards and project specifications. His work strengthened the site's long-term monitoring network and informed the conceptual hydrogeologic model for future remediation planning.

EPA/New Mexico Environmental Department, Grants Chlorinated Solvent Plume Superfund – Grants, NM | Eros provided hydrogeologic field support and technical reporting for the Grants Chlorinated Solvent Plume Site, encompassing a 20-acre, 100-foot-deep groundwater contamination area impacted by chlorinated solvents from historic dry-cleaning operations. The project involved installation and development of groundwater monitoring wells, deployment of vapor intrusion mitigation systems, and implementation of an in-situ thermal oxidation treatment system within identified source areas.

From 2011 to 2012, approximately 950 pounds of chlorinated solvents were successfully removed from the subsurface. Eros supported design and implementation of In-Situ Chemical Oxidation (ISCO) and Enhanced Reductive Dechlorination (ERD) technologies to address the shallow groundwater plume core and associated hotspots. He also helped design ERD bio-barriers for treatment of the plume periphery and deeper zones exceeding 20 feet. In coordination with the project team, Eros contributed to preparation of the Explanation of Significant Difference (ESD), which summarized the treatability and value engineering studies that guided the site's remediation and long-term monitoring strategy.

EPA, Tar Creek Superfund Site – Ottawa County, Oklahoma | Eros provided hydrogeologic and environmental field support at one of the largest and most complex Superfund sites in the United States, the Tar Creek Site in Ottawa County, Oklahoma. His work focused on the characterization and remediation of groundwater and surface-water systems impacted by historical lead and zinc mining. Responsibilities included drilling oversight, installation and development of multi-depth monitoring wells, aquifer testing, and mapping of hydraulic gradients within fractured carbonate and sulfide-bearing formations. He performed sampling and analysis to delineate metal contamination pathways, and supported the design and implementation of passive and active treatment systems for acid mine drainage.

Eros also contributed to groundwater–surface water interaction studies in coordination with the U.S. EPA, U.S. Geological Survey (USGS), and Oklahoma Department of Environmental Quality (ODEQ), integrating geophysical data, potentiometric mapping, and seep/spring flow measurements to refine conceptual models of contaminant transport. His work supported remediation strategy optimization and long-term monitoring plans for groundwater restoration and ecological recovery within the Tar Creek watershed.

Lockheed Martin, Remedial Investigations, and In-Situ Chemical Oxidation Pilot Testing - U.S. Air Force Plant No. 6 - Atlanta, GA | Eros supported remedial investigation and corrective action activities at the U.S. Air Force Plant No. 6 (AFP #6), operated by Lockheed Martin in Atlanta, Georgia. His work focused on improving statistical estimates of background concentrations for inorganic compounds and organochlorine pesticides in soil, groundwater, sediment, and surface water to establish defensible cleanup criteria and regulatory benchmarks.

He conducted In-Situ Chemical Oxidation (ISCO) pilot studies using permanganate injections, overseeing field implementation, performance monitoring, and post-treatment sampling to evaluate contaminant degradation effectiveness. Eros also contributed to the facility's long-term groundwater monitoring program, integrating hydrogeologic data with statistical trend analyses to assess remedial progress and inform site management decisions under state and federal regulatory frameworks.

Reichhold Chemicals, Remedial Investigations – Gulfport, MS | Eros performed groundwater monitoring and provided field oversight of remedial activities at the Reichhold Chemicals facility in Gulfport, Mississippi. His responsibilities included managing air sparging operations to enhance in-situ remediation of volatile organic compound (VOC) impacts in shallow groundwater.



Eros Bilyeu, PG, CHG, CGWP, QSD (continued)

He coordinated data collection, system performance evaluation, and compliance reporting to ensure the effectiveness of subsurface air injection and contaminant volatilization processes. Eros's field management contributed to optimizing remedial system operation and achieving progress toward regulatory closure at this legacy chemical manufacturing site.

SASOL Georgia Chemicals and Vinyls, Remedial and Hydrogeological Investigations – Aberdeen, MS | Managed field staff and subcontractors under a multi-year RCRA Remedial Investigation (RI) program focused on long-term groundwater monitoring and light non-aqueous phase liquid (LNAPL) delineation. Directed multiple surficial and subsurface investigations targeting VOCs, SVOCs, PAHs, soluble and insoluble metals, and inorganics. Evaluated monitored natural attenuation (MNA) trends and developed performance metrics to support regulatory closure strategies. Oversaw remedial excavations, confirmatory sampling, and validation of cleanup effectiveness.

Coordinated closely with regulatory agencies and client representatives, leading weekly site meetings and ensuring compliance with RCRA and state environmental regulations. Work included development of innovative groundwater sampling techniques and quality-assurance procedures to improve data reproducibility. Received multiple Rewards and Recognition (R&R) commendations for exceptional performance and project leadership.

Kemira Water Solutions, Remedial Investigations – Mobile, AL | Eros provided field and geological support for the Kemira Water Solutions facility, conducting detailed soil and groundwater characterization and topographic surveying using total station equipment to inform the design and implementation of a new stormwater routing and drainage system. His work contributed to optimizing site hydrology and mitigating stormwater impacts on nearby surface water features.

The site, originally established in 1938 to support the regional lumber and pulp and paper industries, evolved into a key chemical manufacturing facility serving industrial water treatment and energy sectors. Eros's hydrogeologic and geotechnical input supported infrastructure modernization and environmental compliance efforts for a facility integral to water treatment, paper production, and energy resource optimization.

HYDROGEOLOGIC MODELING PROJECTS

San Bernardino Valley Municipal Water District, San Bernardino Basin Model (SBBM) Update & Steering Committee, San Bernardino County, CA | Eros supported the update of the San Bernardino Basin Model (SBBM), a key regional decision-support tool used by the San Bernardino Valley Municipal Water District (SBVMWD) for safe yield assessments and sustainable groundwater management planning. Working in collaboration with S.S. Papadopoulos & Associates, he provided technical review and strategic guidance as part of the project's Steering Committee.

His role included evaluation of the model framework, hydrostratigraphic layering, calibration datasets, and boundary conditions to improve model accuracy and predictive performance. Eros also analyzed historical recharge and production simulations, identifying opportunities to enhance the model's representation of managed recharge operations, fault-controlled groundwater flow, and inter-basin connectivity. His recommendations have informed model refinements and increased stakeholder confidence in its application for basin sustainability, recharge optimization, and long-term water resource planning.

Chino Basin Watermaster, Chino Basin Model Peer Review and Basin Safe Yield Evaluation – Rancho Cucamonga, CA | Eros supported S.S. Papadopoulos & Associates in conducting an independent peer review of the Chino Valley Groundwater Model (CVM) and its application to the Chino Basin Watermaster's safe-yield evaluations. The review addresses Board and stakeholder concerns regarding boundary conditions, recharge representation, and applied-water/return-flow assumptions used in basin management analyses.

He evaluated model calibration, hydrostratigraphic structure, and boundary condition implementation to ensure scientific defensibility and transparency. Eros also developed a framework to identify and prioritize "uncertainty hot spots," including areas such as the Mount Rubidoux flank and the Rialto-Colton interface, where model sensitivity is highest. His recommendations support refinement of the model for improved predictive reliability and provide a roadmap for long-term basin planning, management, and regulatory compliance under the Sustainable Groundwater Management Act (SGMA).

Calleguas Municipal Water District, Las Posas Basins SGMA Groundwater Sustainability Plan 3D Hydrostratigraphic Conceptual Model – Ventura County, CA | Eros served as the lead hydrogeologist and technical developer for the



three-dimensional hydrostratigraphic conceptual model (HCM) of the Las Posas Basin in Ventura County, supporting the Fox Canyon Groundwater Management Agency (FCGMA) and Calleguas Municipal Water District in meeting Sustainable Groundwater Management Act (SGMA) requirements. The 66-square-mile basin, extending more than 3,500 feet in depth, was digitally modeled to refine understanding of groundwater–surface water interactions, aquifer geometry, and resource availability for sustainable yield and water budget estimation.

He integrated oil and gas well records, geophysical and lithologic logs, and field mapping of paleostratigraphic, lithostratigraphic, and mesoscopic structural features to construct a high-resolution subsurface framework. Eros applied geostatistical and 3D modeling tools, including RockWorks, Leapfrog, Petra, ArcGIS, and gINT—to synthesize disparate datasets into a cohesive geologic model used to inform basin management and numerical flow modeling. His work strengthened the scientific foundation of the Las Posas Groundwater Sustainability Plan and enhanced stakeholder confidence in regional water resource decision-making.

Tinker Air Force Base, 3D Hydrogeological Conceptual Model – Oklahoma City, OK | Eros led the development of a digital three-dimensional hydrogeologic conceptual model (HCM) for Tinker Air Force Base, one of the U.S. Air Force’s largest active installations with complex subsurface conditions and legacy contaminant plumes. The model integrated multiple aquifer systems, saturated zones, aquifer test datasets, geophysical interpretations, and groundwater surface and chemistry data to support future quantitative groundwater flow and contaminant transport modeling.

The 3D digital HCM served as a foundational decision-support tool for evaluating contaminant migration pathways, refining site conceptualization, and prioritizing remedial investigation areas under CERCLA oversight. Eros presented key findings at the Battelle Conference, emphasizing data integration methods, uncertainty reduction techniques, and the model’s role in advancing adaptive groundwater management and remediation planning across the installation.

PUBLICATIONS & PRESENTATIONS

- April 2025. American Water Works Association. “Well Testing: Tools to Monitoring Well Performance”. Anaheim, CA.
- July 2020, Los Angeles Department of Water and Power, “Hydrogeological Assessment and Water Well Drilling, Design, Construction, Development, and Pump Selection Process”
- May 2016 – CH2M Hill Hydrogeological Community of Practice, “Development of Conceptual Site Models in Complex Groundwater Basins using Rockworks and GIS Platforms”
- February 2016, Fox Canyon Groundwater Management Agency/Calleguas Municipal Water District/United Water Conservation District, “Geology, Hydrogeology, and Hydrostratigraphy of the Las Posas Valley Basin in Ventura County”
- January 2010, USGS & Geological Society of America, “Geology of Ozan, Alabama, 7.5’ USGS Quadrangle”
- January 2009, USGS, “Geology of Lay Dam, Alabama, 7.5’ USGS Quads”

