

RAYMOND E. RICHARDSON P.E.
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CAREER SUMMARY

Thirty-four years of diversified responsibilities in the Mining/Chemical industries including management of production, maintenance, engineering, and both mine and refinery construction activities. Demonstrated operations leadership within both union and union-free environments. Skills include strategic planning, systems innovation, identifying and scheduling operational priorities, and the ability to communicate effectively. A record of producing results, building support for company goals and vision, developing subordinates, and encouraging productive change within teams. Committed to quality improvement within organizational parameters.

PROFESSIONAL EXPERIENCE

Self Employed Mining Consultant

2002-2005

Professional services provider to the mining industry. Services include project management, mine planning, facility design, environmental, permitting, mine economics, due diligence, appraisals, and litigation support.

- Pre-feasibility study for a 6+ million ton per year underground coal mine (multiple seam longwall operation) in NW Colorado. Geologic review; minable seam determinations; mine plan development; site planning; underground and surface conveyor systems, coal sizing, storage and unit train loading; support facilities; and project economics. Five-month project performed on customer's premises.
- Associate relationship with Stagg Resource Consultants, Inc. providing subcontract services for acquisition and divestitures, litigation support, environmental site assessment and appraisal projects. Confidentiality agreements prevent disclosure of numerous clients and projects.
- Mine plan reviews for a Wyoming trona mining operation.
- Business development activities for a full service project management, engineering, design, construction and industrial services firm.
- Associate relationship with Hollberg Professional Group, PC-Planning and permit support for a 2500 foot shaft and test mine for a new Cu-Ni-PGE prospect in MN.

Stagg Resource Consultants, Inc.

Principal Mining Engineer

1999-

2002

Professional services provider within a highly respected full service natural resource consulting firm. Contributing to a comprehensive network of professional services including mine engineering, geology, environmental, permitting, mineral economics, acquisitions and divestitures, appraisals, litigation and expert testimony, and property management. Representative engagements include:

- Surface facilities design, cost estimate, feasibility study support and construction management support for a new 7+ million ton per year underground coal mine (longwall operation) in New Mexico (28 months on site).
- Survey of staffing and operating schedules at Western USA longwall mining operations. Provide staffing recommendations for a longwall mining feasibility study by a Wyoming soda ash producer.

- Benchmark study for coal-mining operations acquired as a part of client's electric utility company purchase.
- Post-bankruptcy analysis including mine cost projections for an Eastern coal producer for use in a breach of contract litigation. Resulted in \$50+M award in favor of client.
- Phase 1 environmental site assessment (ESA) on the lease holdings of two Western surface coal operations, prepared for the lessor's utilization in finance restructuring.
- Data collection and analytical support for the mineral appraisal of a large block of trona ore reserves.
- Technical critique of expert witness reports prepared for arbitration between an Illinois coal company and Illinois utility.

OCI Wyoming, L. P.

Mine Manager

1994-1998

Mine Superintendent / Senior Mine Engineer

1992-1993

Accountability to oversee, plan and coordinate trona mining operations to achieve safe, productive, cost effective and timely delivery of high quality ore to a 2.8 MMTPY capacity soda ash processing facility. Responsible for the health, safety and performance of approximately 180 mine personnel including the direct supervision of three superintendents, a senior-staff engineer, and contracted engineering service providers. Prepared and administered annual operating and capital budgets of approximately \$21MM and \$3.5MM respectively. Member of the OCI Wyoming, L. P. and the OCI Corporate Leadership Teams. Frequently delegated site manager responsibility.

- Improved mine productivity 3-6% per year while achieving target financial budgets. Reduced mine personnel from 191 to 164 while increasing ore production from 3.2 to 3.4MM tons annually.
- National Mining Association - Sentinels of Safety Awards 1997, 1995; National Mine Rescue Champions 1996; Wyoming Mining Assoc. / State Mine Inspector Awards - Safest WY Underground Mine 1994-1997 consecutively. Only two, minor, lost work day accidents from 1995 through 1998.
- Increased employee involvement by encouraging self-directed and process improvement teams. Utilized a "Premier Achievement" Awards Program. Promoted Zenger Miller "Leadership 2000" Personal Development.
- Implemented new technologies, including 1st Joy 12HM-26 continuous-miner, which demonstrated capability to sump and load shuttle cars twice as fast as previous units. Redesign of a DME continuous haulage system.
- Improved ground control safety and ore grade prediction by refining the geologic definition of the ore reserves.
- Saved \$100,000/year by revising ventilation system to eliminate approximately 80% of stopping installations.
- Qualified the economic feasibility of introducing a "longwall" mining system.
- Design participant in developing system for returning refinery tailings to mine workings utilizing paste technology.
- ISO 9000 implementation for soda ash refining and shipping operations

Cyprus Shoshone Coal

Vice President & General Manager

1990-1992

Accountable for profit and loss of a 2.1 million ton per year underground coal mining operation generating \$36 million in annual revenues. Responsible for health, safety, and overall performance of 190 company personnel, plus contracted services. Longwall operation combating, steep grades, spontaneous combustion, weak roof conditions and water inflows.

- Turnaround of an unprofitable operation in need of safety performance improvement. Increased 1991 production by 42%, resulting in earnings of 3 times budget. Achieved all corporate performance goals.
- Resolved critical labor issues including the initiation of a "Pay for Skill" compensation program which resulted in increased productivity and acceptance of company objectives while boosting morale.
- Focused personal accountability and championed employee involvement concepts permitting reduction of a layer of middle managers at a savings exceeding \$500K annually in salaries and benefits.
- Instilled a new safety culture including a formalized "Repeat Violation Reduction Program" that reduced both lost-time accidents and Mine Safety and Health Administration (MSHA) citations by one-half.
- Achieved a two week reduction in Longwall move time, increasing revenue generating capability by over \$1.5 million. Coached critical path planning for longwall move scheduling and associated equipment rebuilds.

- Saved more than \$250K annually by establishing new procedures for tracking equipment and component warranty problems and negotiating claims.

Cyprus Emerald Resources

Manager of Technical Resources 1990

Cyprus Orchard Valley Coal

General Manager 1989-1990

Cyprus Empire Corporation

Manager of Technical Resources 1985-1990

Responsibilities in the above three assignments included strategic planning, mine operating budgets, authorizations for capital expenditures, equipment selection, mine plan scheduling, project management, environmental compliance, MSHA submittals, coal quality management and sales and marketing support.

- Extended economic life of Empire Mine 10 years through justification of a high capacity, longwall, mining system.
- Improved accuracy of Cyprus budgeting process by implementing use of a “zero based” budgeting process to best demonstrate manpower requirements and identify maintenance material and operating supply needs.
- Developed over \$50MM in mine renovation/expansion plans for Emerald and Empire Mines. Specified and negotiated purchases of new longwall mining systems and associated mine infrastructure for each operation.
- Assembled a strong technical staff which established standards for mine plan development and documentation adopted company-wide by Cyprus Coal. Several of these individuals progressed to managerial positions.
- Coordinated remedial response to a major spontaneous heating within the longwall gob areas at Empire Mine.
- Successfully petitioned MSHA for use of one of the first “bleeder-less longwall” ventilation systems.

Cyprus Coal Company

Senior Staff Mining Engineer 1981-1984

- Project Manager for a 700 ton-per-hour coal preparation plant which was custom designed, erected, and operated in just eleven months, thereby saving thousands of dollars per day in lost coal recovery.
- Evaluation of acquisition candidates. Due diligence activities.
- Cyprus Empire longwall justification, specification and purchase.
- New shaft installation at Emerald Mine in Pa.

Monterey Coal Company

Maintenance Superintendent 1975-1981

- 1st Maintenance Superintendent for Monterey #2 Mine, a 3.5 MMTPY underground coal mine with 14 continuous mining sections. Supervised a salary staff of approximately 15 including maintenance and electrical supervisors, maintenance trainers, planners and clerk. Approximately 70 hourly maintenance personnel.
- Screening and interviewing applicants to staff start-up of this new mining operation.
- Production and maintenance supervisory positions at Monterey #1 Mine including production foreman, preparation plant foreman, shop foreman, maintenance foreman and maintenance trainer.

Morrison Knudsen Company

1974-1975

- Investigation of potential coal mine/property acquisitions.
- Federal Tract C-A underground, oil shale mine studies.

Consolidation Coal Company

1971-1974

- Engineering responsibilities in developing coal properties in Indiana, Kentucky and Illinois.

- Maintenance foreman and shift leader at the underground Hillsboro Mine in Illinois.

EDUCATION

University of Phoenix	MBA Program	50% completed, 4.0 GPA, 1990
University of Wisconsin-Platteville	BSME (Mining Engineering)	1971

CERTIFICATIONS

Professional Engineer-Mining and Minerals-Wyoming #9479	
Underground Trona Examiner - Wyoming A1396	Mine Examiner - Illinois 6979
Underground Trona Foreman - Wyoming A1397	Mine Manager - Illinois 5065
Underground Mine Foreman- New Mexico 15-2000	

AFFILIATIONS

Society for Mining, Metallurgy, and Exploration, Inc. Association	Rocky Mountain Coal Mining
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