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| **Thomas P. Horn, P.E.** 922 E. Watson Dr., Tempe, AZ 85283+1 775 293-2440(c) USA - [espinaroja@hotmail.com](mailto:espinaroja@hotmail.com) [www.espinaroja.com](http://www.espinaroja.com) / [skype](http://findicons.com/icon/64177/skype?id=64359) - espinaverde / [LinkedIn Profile](https://cl.linkedin.com/pub/tom-horn/26/882/763) |
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| **Summary of Qualifications** |
| Self-starting motivated team player, conversant in Spanish, with extensive experience in mining and construction; involved in health and safety, production, maintenance, and customer service. Background in computer modeling, construction management, cost control, mine dewatering, permitting, project management, QA / QC, scheduling, and electric, hydraulic, mechanical, transportation, ventilation, blasting, and water systems. |

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| Management | | | **Engineering** | |
| * Quality Control * Resourceful * Results Driven | | | * Registered Professional Engineer * Creative * Detail Oriented | |
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| **Summary of Experience** | | | | |
| **10/2015 – Present** | | Espinaroja, LLC **Manager Engineering** | | **Tempe, AZ. USA** |
| Reviewed Mine Plan of Operation for open pit copper project. | | | | |
|  | * Proof read Air Quality Control Permit for accuracy. * Developed Manning Schedule to coordinate employee hiring schedule matched equipment commissioning schedule. * Created capital equipment procurement schedule. * Evaluated the use of alternative blasting agents to insure compliance with Air Quality Control Permit and to minimize drill and blast costs. * Review stormwater protection plan. | | | |
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| **06/2012 – 09/2015** | | KGHM International Ltd. **Superintendente de Proyectos** | | **Antofagasta, Región II, Chile**  **S.C.M. Franke and Sierra Gorda S.C.M.** |
| Responsible for mining and plant operations support construction projects. | | | | |
|  | * Directed the erection and commissioning of new leach stacker conveyor. Implementation of a second stacker provides less downtime for leach pad building while allowing for more efficient preventive maintenance. * Managed design/build dust suppression system for crushing plant. Installation of the dust collection system will reduce health risks associated with respirable dust. * Completed process pond repairs early and under budget. Pond had leaks in dual liner system. * Designed repairs to second process pond embankment. Pond had leak in both liners. Repairs consisted of constructing bypass piping, removal and replacement of wet material, removal and replacement of liners. * Oversaw development of mine closure plans. SERNAGEOMIN, (Chile Mining Authority) implemented new regulations requiring new submittal with detailed engineering for mine closure. Plans were used to calculate bonding requirements. * Scoped plant optimization project to increase plant throughput by 20% through the modification to the primary crusher dump pocket, addition of secondary screen and crusher, and addition of a process pond. * Prepared budgetary pricing for additional process pond and leach pad. Additional leach pad to process low grade ROM thereby increasing copper production. Additional process pond will facilitate future pond repairs. | | | |
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| **01/2012 – 05/2012** | | KGHM International Ltd. (QuadraFNX Mining Ltd.) **Liberty Project Manager**  **Chief Project Engineer** | **Ely, NV, USA** |
| Responsible for rehabilitation of historic Liberty Pit to prepare for renewed mining activities. | | | |
|  | * Managed the design, cost estimation, contractor selection, and construction of secondary haul road. Haul road would be used for initial access and as emergency egress after primary access completed. * Oversaw design and construction of in-pit dewatering system. Draining pit lakes essential for pit rehabilitation prior to active mining and further exploration. * Managed engineering design consultant. * Developed commissioning program for mine dewatering pipeline. Commissioning plan was requested by City of Ely, Nevada Northern Railroad, and Nevada Department of Transportation. The plan defined a monitored ramp up process which identified mitigation steps to prevent damage to drainage infrastructure. | | |
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| **06/2009 – 12/2011** | | QuadraFNX Mining Ltd. **Chief Project Engineer** | **Ely, NV, USA** |
| Responsible for mining support projects. Scope of projects included: 1) Mine dewatering, 2) Removal of historic waste material deposited in pit, 3) Environmental mitigation projects related to Final Permanent Closure Plan, 4) Remedial mitigation related to environmental issues, 5) Pre-Stripping activities, 6) Haul road construction, 7) Municipal utility work, and 8) Mine infrastructure development. | | | |
|  | * Managed mine dewatering program designed to reduce water table elevation at mine site. Lowering water table reduced pore pressure on highwalls mitigating geotechnical concerns as pit is developed. Stable highwalls improved pit optimization. * Developed and constructed a pipeline to offer an alternative in discharging freshwater from ex-pit dewatering wells. Prior to the pipeline, the discharge rate from ex-pit wells was determined by mill consumption which is seasonally variable. Pipeline allows for maintaining constant dewatering rate facilitating well development and long term mine planning. * Proposed novel concept to supply the City of Ely with potable water during municipal water emergency. Providing potable water to City municipal supply gained good will with the City Council which aided company efforts to obtain additional water rights for dewatering. * Partnered with contractor to devise scheme to classify 6 million tons of waste material from pit bottom in advance of mining operations. Pre-removal characterization plan was designed to expedite regulatory approval prior to moving process material/waste material mixture. * Liaison between Robinson Nevada Mining Company and the City of Ely and White Pine County. Mine dewatering activities had a major impact on the City’s and some County resident’s primary source of drinking water. Developing a partnership between the Mine and City/County procured assistance from these bodies in obtaining water rights and discharge permits for the Mine’s dewatering activities. * Installed water evaporators to aid in environmental compliance. Evaporators drained ponds scheduled in Final Plan for Permanent Closure. Use of evaporators was more economical compared to pumping and transporting pond water to mill for disposal. | | |
| **08/2005 –05/2009** | | Perini Building Company **Quality Control Manager-West** | **Phoenix, AZ / Las Vegas, NV** |
| Established quality control program for General Contractor on multi-use commercial project in Las Vegas NV. Scope of work consisted of hotel and condominium towers, casino, theater, convention center, retail, central plant, and parking structures. Manager with 14 direct report engineers, superintendents, and admin assistants and 30 indirect report engineers and superintendents. | | | |
|  | * Overall project value exceeded $9 billion; Contractor’s scope exceeded $5 billion. Quality Control Program minimized rework and reduced costs. * Responsible for mitigation activities during construction. Major items involved unplanned water intrusions in completed work. Accurate documentation assured a ‘clean bill of health’ at end of project. | | |

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| **11/2004 – 07/2005** | | Kinross Gold USA, Inc. **Senior Field Engineer (contract)** | **Copiapó, Región III, Chile** |
| Coordinated construction activities in bilingual (Spanish) mine upgrade construction project. Scope of work included $140 million upgrade to ore processing facilities from primary crusher to heap leach pads. Ability to communicate with subcontractors in the field accelerated implementing work programs. Expeditious resolution to problems reduced schedule delays. | | | |
|  | * Redesigned transformer protocols, saving construction time and materials. Realized direct material cost savings of $100,000. * Participated in plant commissioning activities. Conducting proper commissioning activities ensured successful operation of process facilities. * Installed belt conveyor and lime addition circuit. Proper recording of process throughput insured correct addition of lime to optimize leach recovery. * Refugio Project Elevation 4,500 masl. | | |

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| **11/2003 – 10/2004** | | Perini Building Company **Post Construction Engineer** | **Phoenix, AZ / Las Vegas, NV** |
| Directed post construction activities for commercial construction projects. Responsibilities included warranty work, litigation investigation, closeout testing, and document control. | | | |
|  | * Outlined engineering protocols for closeout commissioning procedures. | | |

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| **1/2002 – 10/2003** | | Espinaroja, LLC **Project Manager (contract work)** | **Phoenix, AZ. USA / Las Vegas, NV, USA** | |
| Managed infrastructure construction; including box culverts, asphalt paving, wet/dry utilities, and sidewalk/curb and gutter. | | | | |
| * Proposed field solutions for design-build infrastructure project. * Drafted proposals, prepared estimates, procured labor and materials, developed schedules. | | | |
| Developed annual budgets and capital equipment replacement schedule for underground utility construction. | | | | |
|  | * Created database interface to improve time and materials billing. New spreadsheet interface permitted project superintendents to produce time and material billings as they occurred, thereby improving cash flow. * Originated cost forecasts used to develop business plan. * Designed theoretical blast layouts to evaluate the patterns with the optimum powder factor in both surface and underground scenarios. | | | |
| **03/1998 – 12/2001** | | Kiewit Companies **Superintendent of Facilities** | **Phoenix, AZ / Las Vegas, NV / Barstow, CA** | |
| Oversaw the site selection, design, permitting, budgeting, and construction of multiple remote telecommunications booster sites for General Contractor. Site locations were spread across 1600 miles and located in four states. Scope of work included utility and access road development. Innovative solutions provided cost and schedule savings at remote sites. Managed direct employee inspectors as well as third party inspectors to observe construction activities. | | | | |
|  | * Overall project value in excess of $3 billion, Contractor’s value exceeded $2 billion. * Created unique solution to provide power to remote site. Novel approach saved owner $500,000 capital investment and long term maintenance cost. * Developed punch lists for site commissioning and turnover. | | | |

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| **06/1997 - 03/1998** | | **Espina**  **Mining Engineer (contract work)** | **Copiapó, Región III, Chile / Chandler, AZ, USA** |
| Constructed mine model for surface mine using Medsystem software package. Model was used to develop overburden stripping schedule which was integrated with ore production. Integrated geostatisical models with ore and waste production schedules for life of mine. Combined geostatisical and mine models led to better scheduling and cost forecasts. | | | |
|  | * Completed mine planning contract ahead of schedule. Remaining contract period was spent on economic analysis of equipment fleet. * Developed work plans and schedules in bilingual situations. Working in indigenous language promoted teamwork, cooperation, and facilitated turnover of deliverables. * Refugio Project Elevation 4,500 masl. | | |

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| **04/1994 - 07/1997** | | **Redpath McIntosh Engineering**  **Mining Engineer** | **Tempe, AZ, USA / Juneau, AK, USA** |
| Constructed computer models for underground mining scenarios using Maptek software package, extracted reserve data, developed mining costs, produced short and long term schedules, prepared proposals and reports for engineering company. | | | |
|  | * Developed UNIX shell scripts and VBA macros in Excel to facilitate report generation freeing graphical user interface to be used simultaneously for design. * Evaluated blast design to best incorporate into mining system. This process was used on multiple mining systems. | | |

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| **08/1991 – 03/1994** | | **MGA America**  **Technical Trainer** | **Phoenix, AZ, USA** |
| Responsible for training and policy error correction for 10 person data entry department. | | | |
|  | * Developed in house training program eliminating the need for outside employee development and training. Onsite training reduced data entry errors and policy rewrites. | | |

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| **01/1986 – 05/1991** | | **Cyprus Coal Co.**  **Project Engineer** | **Steamboat Springs, CO, USA** |
| Duties included upgrade to mine ventilation system incorporating installation of new main fan and section fans, capital equipment purchasing, corporate presentations, and mine inspection for underground coal mine. | | | |
|  | * Developed ventilation model of mine used for fan selection and installation of new fan. Accurate modeling minimized production downtime during fan startup. * Created and managed continuing EMT training course. Minesite EMT refresher training made it easier for shift workers to obtain required Continuing Education credits for recertification which provided more EMTs per shift. | | |
| **Supervisor** | | | |
|  | * Designed the manpower schedule for and supervised a ten man crew during longwall moves. | | |

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| **06/1981 – 12/1985** | | **Underground Miner** |  |
|  | | **Mid Continent Resources, Inc.** | **Redstone, CO, USA** |
|  | | **Beaver Creek Coal Co.** | **Price, UT, USA** |
|  | | **Soldier Creek Coal Co.** | **Price, UT, USA** |
|  | | **Northern Coal Co.** | **Meeker, CO, USA** |
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| **06/1980 – 05/1981** | | **Surface Miner** |  |
|  | | **Barren Coal Co.** | **Pottsville, PA, USA** |
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| **12/1979 – 5/1980** | | **Surveyor** |  |
|  | | **A. B. Reidel Assoc.** | **Hegins, PA, USA** |
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### EDUCATION

Pennsylvania State University, USA, B.Sc. Mining Engineering

North American Technical College, USA – Residential/Commercial Electricity

Chandler-Gilbert Community College, USA – Spanish

University of Advancing Computer Technology, USA – Professional AutoCAD

### SHORT COURSES / CONTINUING EDUCATION

Ground Water in Mining

Acid Rock Drainage

Water Management

Guidelines for Open Pit Slope Design

Extractive Metallurgy

Ethics in Mining

Heap Leach Pads

Surface Water Management at Mines

### COMPUTER SOFTWARE

UNIX, Maptek, Medsystem, Agtek, AutoCAD, Microsoft Office Suite, Prolog, Word Perfect, Lotus 123.

### CERTIFICATES

Registered Professional Engineer (P.E.) – Mining/Arizona – Mining/Nevada

National Council of Examiners for Engineering and Surveying Registration

Underground Mine Foreman: Colorado, Montana, Utah

Shot firer - Underground

OSHA – 10Hr and 30Hr

### MEMBERSHIPS

Society of Mining Engineers

Penn State Alumni Association:

National Chapter

Greater Phoenix Chapter

Southern Nevada Chapter