

EDGARD ALEGRIA CHIESA  
51 YEARS OLD  
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## SENIOR HYDROMETALLURGY ENGINEER

Professional with 25 years of experience in the mining industry, I held the following positions: Shift Head, Plant Metallurgist, Specialist Engineer, Lead Process Discipline, Project Engineer and Consultant.

I have worked in Brownfield and Greenfield projects, with experience in Brownfield project, that is, projects developed on metallurgical plants in operation. I also have experience in mining companies as operation engineer and senior metallurgic engineer.

My goal is to get a job that allows me to use my skills, knowledge and experience in the mining industry to be a part of integrate mining, technology and engineering companies. Identifying improvements and giving creative and economical solutions.

### ABILITIES

1. Knowledge and experience in proposal development. Supporting in technical subjects such as customer requirements at site, scope definition, hours estimation, strategies and implementation plan of project, schedule, etc.
2. Knowledge and experience in design and process engineering for all stage in cycle life project, from conceptual study until start up plant.
3. Knowledge and experience in stating of metallurgical proceses, sizing of equipment and installation plants, trade-off studies, economical evaluation, PFD, P&ID, Hazop, Opex, documents and typical activities.
4. Vast knowledge of metallurgical processing plants in Chile and I have a great network.
5. I have knowledge and experience in operations in mining companies, production and metallurgical improvement, copper quality definition and sale management and attendant of final costumer.

### SUCCESS - PROJECTS

1. Successful project development attaining getting and overcoming customer expectations.
2. Bring new business through proposal with creative solutions and showing knowledge of customer operations, specifically Brownfield projects.
3. Promote and reinforce services for the last stage of the projects such as: commissioning activities, operation manuals, training and start up plant.

## SUCCESS – OPERATION PLANT

4. Permanent compliance of production projections and without complaints about copper quality by the end customer.
5. Implementation of quality system to classify several commercial products.
6. Implementation of information system in real time (1998) to make a daily plan report and metallurgical balance.
7. I was the Engineer responsible for process of certification for the trademark registered in LME and COMEX.

## PROFESSIONAL EXPERIENCE

### 2017- Present WSP - Chile

Currently I am performing the role of Mining Process Consultant, developing Brownfield projects for mining companies and supporting the development of service proposals.

### 2007-2016 FLUOR Chile

Lead Process Engineer for Greenfield and Brownfield projects. Also development of services proposals focused in Brownfield projects.

### 1996-2002 SCM EL ABRA

Metallurgical Engineer responsible for the production plan, quality and sale of final products. Development activities for metallurgical and technical improvements as well.

### 1994-1996 SM PUDAHUEL

Shift leader process plant.

## ACADEMIC FORMATION

1989-1993 Metallurgical Engineer

1999-2002 Industrial Engineer

2004-2006 Master - Minerals Economic (candidate)

### CHARACTERISTIC

Confident  
Independent  
Loyal  
Motivated  
Friendly  
Flexible

### SKILLS

Well communicator  
Positive attitude  
Writing ability  
Analytic  
Focused and methodical  
New Challenger

### LANGUAJES

Native Spanish  
English in progress  
(intermediate level)

## PERSONAL REFERENCES

Velko Suvic  
Past Mining Manager, WSP Chile  
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| Company                    | Project   | Service   | Capacity                          | Role                | Capex US\$    | Year      |
|----------------------------|---|---|-----------------------------------|---------------------|---------------|-----------|
| Codelco CHILE<br>Gaby      | Greenfield: "Gaby, Oxide Plant".  | Detail Engineering and Training                                     | 150 ktpy Copper                   | Specialist Engineer | 1.300.000.000 | 2007      |
|                            | Brownfield: "Expansion Gaby II, Oxide Plant".   | Detail Engineering  | To 170 ktpy Copper                | Lead Process        | 190.000.000   | 2008      |
| Doña Inés de Collahuasi    | Brownfield: "Expansion of the Crushing Plant, Oxide Plant".   | Factibility Study   | from 22 to 30 ktpd ore            | Specialist Engineer | 50.000.000    | 2008      |
| BHP Minera Escondida       | Brownfield: "Encrease Capacity, Oxide Plant".   | Conceptual and Prefactibility Study                                 | 380, 440, 480 and 530 ktpy Copper | Lead Process        | 500.000.000   | 2008/2009 |
| Glencore Lomas Bayas       | Brownfield: "Expansion of Capacity, Oxide Plant".   | All Service more, Construction, Commisioning, Start up and Training | from 63 to 75 ktpy Copper         | Lead Process        | 70.000.000    | 2007/2008 |
|                            | Brownfield: "Extension Life of Mine II, Oxide Plant".   | All Service more, Construction, Commisioning, Start up and Training | 75 ktpy Copper                    | Lead Process        | 290.000.000   | 2009/2011 |
| Antofagasta Minerals       | Greenfield: "Antucoya Project, Oxide Plant".  | Detail Engineering  | 80 ktpy Copper                    | Lead Process        | 1.900.000.000 | 2011/2012 |
| Barrick Pascua Lama        | Greenfield: "Treatment Water Plant, Lama Area".   | Conceptual Study  | -                                 | Specialist Engineer | -             | 2013      |
| Codelco CHILE Andina       | Brownfield: Review of "Detail Engineering Concentrator Phase I".  | Detail Engineering  | 90 ktpd Ore                       | Specialist Engineer | 980.000.000   | 2010      |
| AngloAmerican              | Brownfield: "Slags Flotation Plant, El Soldado".  | Prefactibility Study  | 2,2 ktpd Slags                    | Specialist Engineer | 100.000.000   | 2013      |
|                            | Browfield: "Stay in Business, Project Group to Los Bronces, Confluencia, Las Tórtolas, El Soldado and Chagres". | All Service   | -                                 | Lead Process        | 50.000.000    | 2013/2015 |
| Teck Quebrada Blanca       | Brownfield: "Improvement of Hidrometallurgical Process Plant".  | Detail Engineering  | 80 ktpy Copper                    | Lead Process        | 165.000.000   | 2015/2016 |
| Codelco CHILE Chuquicamata | Brownfield: "Thermal and Services Plant, Concentrator and Smelting Plant".                                      | Prefactibility Study  | -                                 | Lead Process        | -             | 2017      |
|                            | Brownfield: "Operational Reliability Primary Crushing System to Mineral from New Underground Mine".             | Conceptual Study  | 180 ktpd Ore                      | Lead Process        | -             | 2017      |
|                            | Brownfield: "Preparation and Distribution, New Lime Plant".   | Factibility Study   | 173 ktpd Lime                     | Lead Process        | 10.000.000    | 2017      |
|                            | Brownfield: "Handling and Standardization of Metallurgical Dust, Smelting Plant".                               | Detail Engineering  | 288 tpd Dust Metallurgical        | Lead Process        | 10.000.000    | 2017/2018 |
| SQM CHILE Planta Coya Sur  | Brownfield: "Production of Nitrate Salts".  | Detail Engineering  | 2,5 ktpd Ore                      | Lead Process        | 100.000.000   | 2018      |
| Codelco CHILE El Teniente  | Brownfield: "Thickener Improvement Study, Molibdeno and Copper Process Plant".                                  | Conceptual Study  | 4.800 tpd Copper Concentrate      | Lead Process        | 10.000.000    | 2019      |