

# Environmental

Respecting the nature

CESEL S.A. is a consulting company with more than 40 years of experience in developing engineering with several integrated disciplines. Its headquarters are located in Peru and it has branches and offices in several Latin American countries. CESEL develops studies, designs and engineering projects; studies, works and assembly supervision; factory inspection; environmental studies and comprehensive management of engineering and construction projects through its twelve operating divisions and six technical departments. The Environmental Division is described as follows:

## Services

- Risks and social conflicts preliminary analysis.
- Required environmental permits and/or certifications preliminary identification.
- Location alternatives environmental and social evaluation.
- Environmental investment costs estimation and community relation plans.
- Environmental Impact Assessment (categories I, II y III).
- Supporting technical reports (ITS).
- Certificate of Absence of Archaeological Remains (CIRA).
- Compensation and Involuntary Re-settlement Plan (PACRI).
- Studies to determine environmental flows.
- Environmental supervision and control during the construction.
- Environmental monitoring.
- Contaminants dispersion modeling (air and water).
- Environmental due diligence.

## Software

- Soundplan.
- ISC Aermod.
- Qual2k.
- Caline 4.
- CAL3QHC.
- Aloha.
- Tanks.
- ArcGIS.
- Rhabsim 3.0.
- Help.
- Stella 8.0.
- SEDCAD.

## Areas

### Environmental impact assessment and environmental project management strategies

- Baseline development.
- Environmental impacts identification and assessment.
- Management, mitigation, contingency and compensation plans.
- Environmental impact economic valuation.

### Land-use planning and sustainable plans

- Strategic (EAE) and territorial (EVAT) Environmental Assessment.
- Shared Vision Planning for water resources (PVC).
- Environmental management plans at basin level.

### Environmental liabilities remediation

- Contaminated soils recovering engineering.
- Underground aquifers contamination assessment.
- Liability physical and chemical stabilization designs.

### Mine closure plans

- Current situation physical-chemical characterization.
- Mining tasks physical and chemical stabilization proposal.
- Financial guarantees calculation for the mine service life final closure.

### Solid waste management studies

- Designs for encapsulating hazardous waste and dumps design.
- Hazardous waste transport plans.



## Projects

- Cerro del Águila (525 MW) hydroelectric project. Study to determine the environmental flow. Huancavelica, Peru.
- Curibamba (195 MW) hydroelectric project. Environmental Impact Assessment and ecological flow determination. Junin, Peru.
- El Platanal hydroelectric power plant (220 MW). Environmental flow determination study. Lima, Peru.
- Mantaro - Caravelí - Montalvo 500 kV transmission line, 740 km. Environmental impact assessment. Central and South area of Peru.
- Piriquitas mine closure plans. Mining components closure works detail study, rehabilitation costs, budgets and final closure. Jujuy, Rinconada; Argentina.
- Metal Huasi Ex-Lead Smelter in Abra Pampa. Detailed evaluation and affected areas remediation plan design. Jujuy, Rinconada; Argentina.
- Coroccohuayco mining project. Semi-detailed environmental impact assessment. Cusco, Peru.
- New hydrocarbons storage and distribution terminal. Detailed environmental impact assessment. Ilo, Peru.
- Lot 8 oil exploitation environmental remediation. Remediation works design and supervision. Loreto, Peru.



- 1 Citizen participation workshop, La Virgen Mine. La Libertad, Peru.
- 2 El Platanal hydroelectric power plant. Environmental flow study. Lima, Peru.
- 3 Goyllarisquiza Mine. Closure engineering. Pasco, Peru.
- 4 Pajuscocha Lagoon. Comprehensive environmental study. Ancash, Peru.
- 5 Chinchaycocha Lagoon. Environmental management plan. Junin, Peru.
- 6 Cobriza Mining Unit. Closure plan. Junin, Peru.
- 7 HI - VOL air quality monitoring equipment.
- 8 Tablachaca tailing deposit. Detail engineering for closure. Lima, Peru.
- 9 Lot 8. Environmental supervision for remediation. Loreto, Peru.