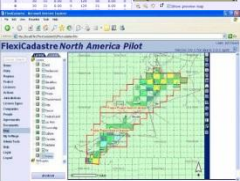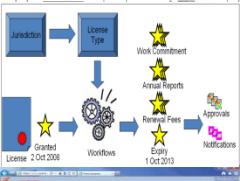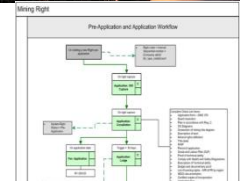# Environmental and Drilling Permit Management

Rogerio Castejon - Manager South America, Spatial Dimension

Felipe Allegretti - Business Analyst South America, Spatial Dimension

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Spatial Dimension in Latin America

Countries / Jurisdictions
- Argentina
- Brasil
- Chile
- Colombia
- Ecuador
- Mexico
- Guatemala
- Peru

Companies
- Anglogold Ashanti
- Barrick Gold
- GoldCorp
- Hochschild Mining
- Kinross
- Pan American Silver
- RTX
- Vale

Other Companies COMING SOON!!!

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Pan American Silver - Overview

Founded 1994, based on Vancouver – Canada

o Second largest primary silver mining company in the world

o Seven operating silver mines in:
   o Peru
   o Bolivia
   o Mexico
   o Argentina

o Very important project under development:
   ▪ Navidad Silver deposit and La Preciosa

o Market Capital US$3.1 Billion @ Sept,30 2011

o www.panamericansilver.com

Pan American Silver - Overview

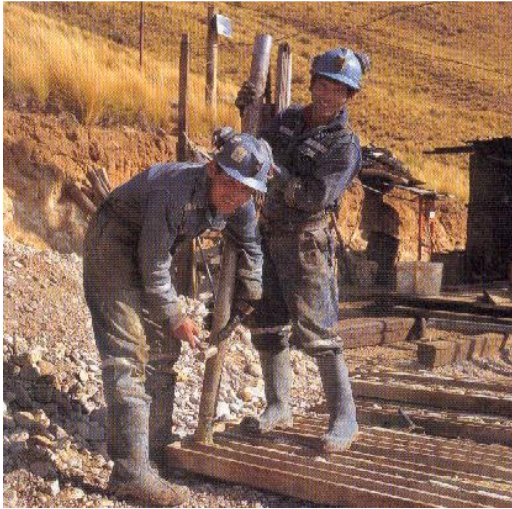Source: Pan American Silver home page

Peru - Overview

o World Producer:

- ❖ Second Silver and Zinc
- ❖ Third Cooper and Tin
- ❖ Forth Molybdenum
- ❖ Sixth Gold

o Mining represents ~ 21% of country GDP

o Modern institutional framework for mining concessions

o Increased concern on environment and communities

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Peru – Environment Regulation (all stages)

Exploration

Exploitation/Process

Closure
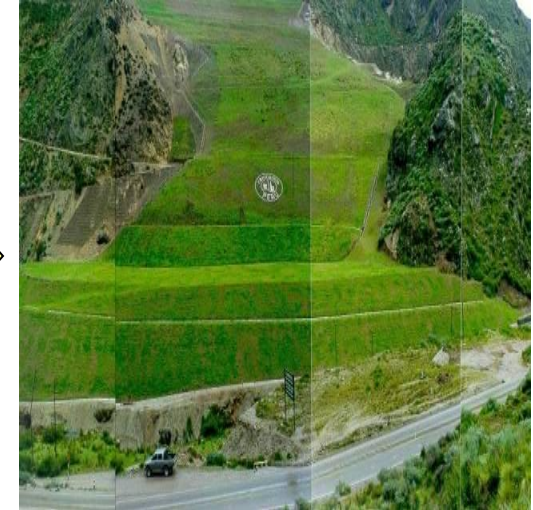

Declaración Jurada

Evaluación Ambiental

Declaración de Impacto Ambiental

Declaración de Impacto Ambiental Semidetallado

Estudio de Impacto Ambiental

Programa de Adecuación y Manejo Ambiental

Estudio de Impacto Ambiental Semidetallado

Plan de Cierre de Minas

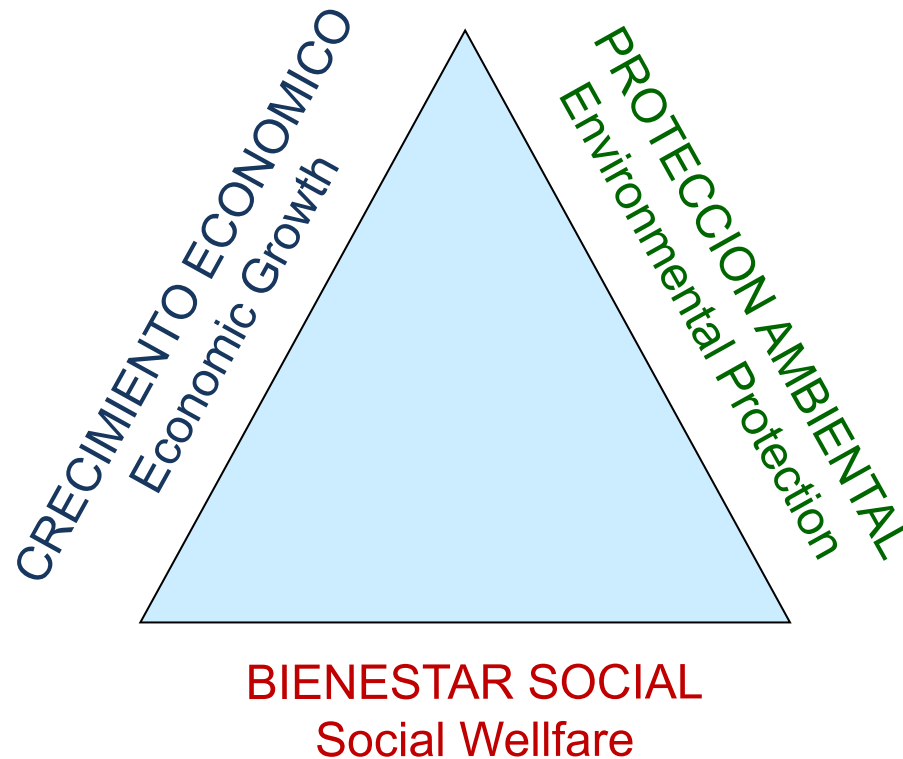Plan de Cierre de Pasivos Ambientales Mineros

Source: Ministerio de Energía y Minas Perú

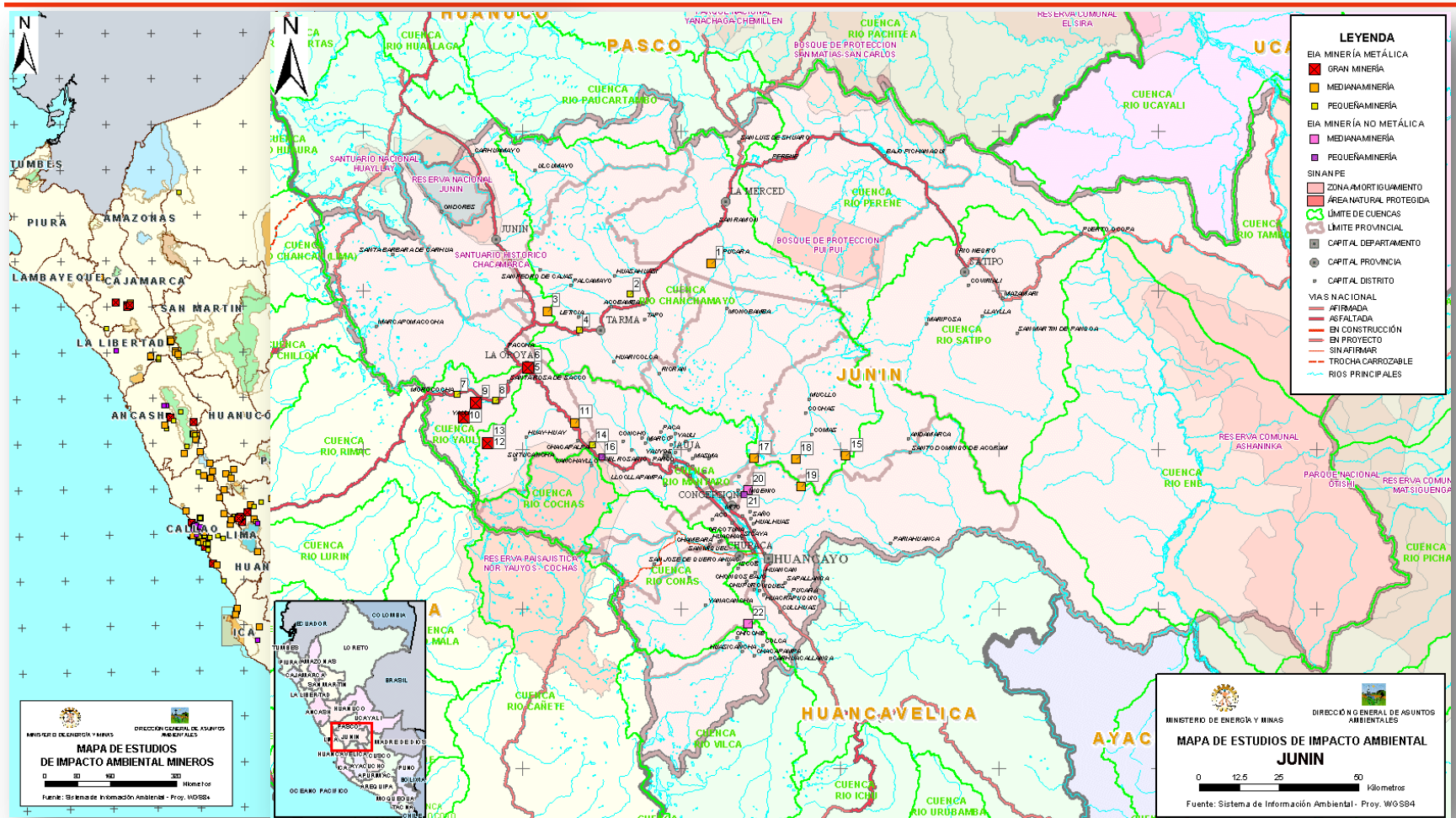flexicadastre

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Peru – Sustainable Development

DESARROLLO SOSTENIBLE

CRECIMIENTO ECONOMICO
Economic Growth

PROTECCION AMBIENTAL
Environmental Protection
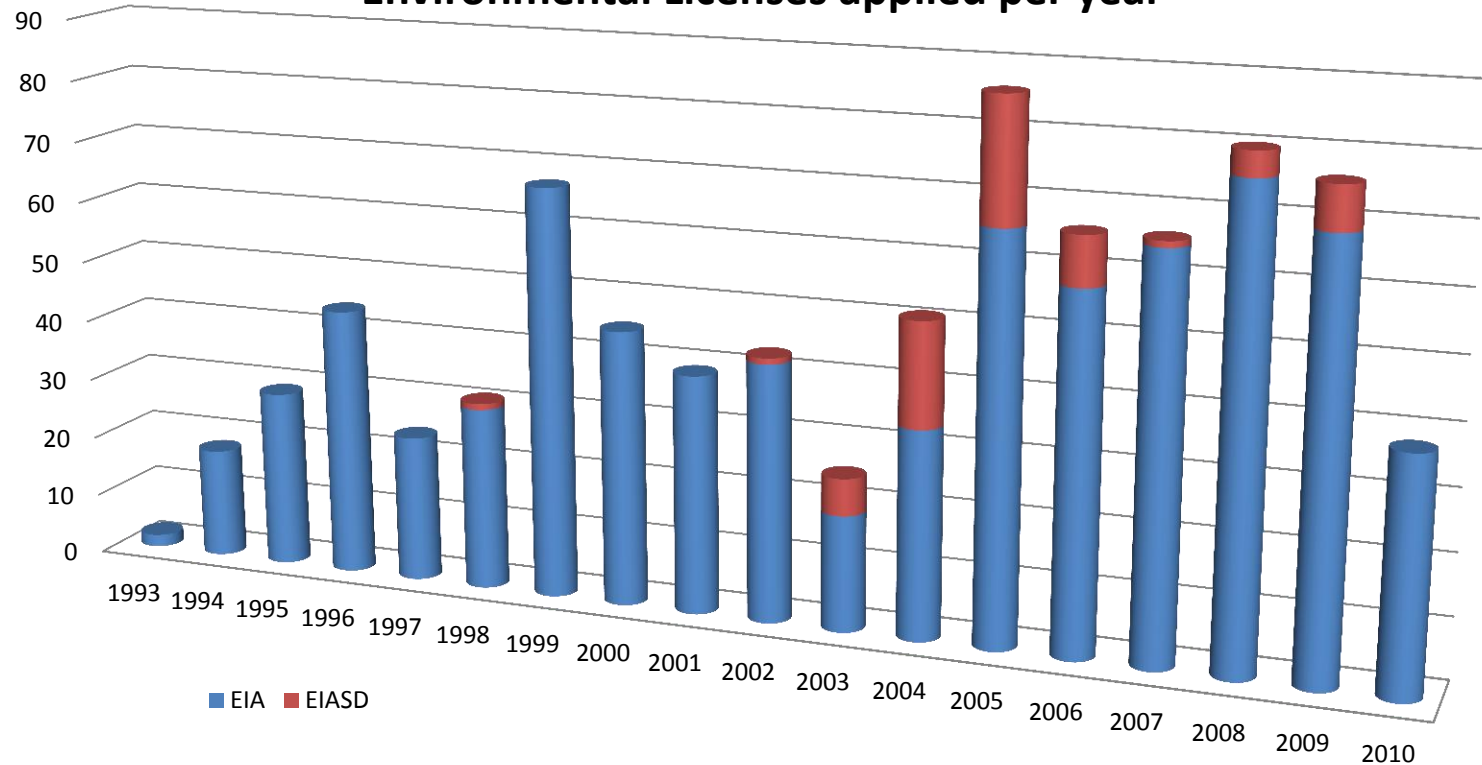
BIENESTAR SOCIAL
Social Wellfare

Source: Ministerio de Energía y Minas Perú
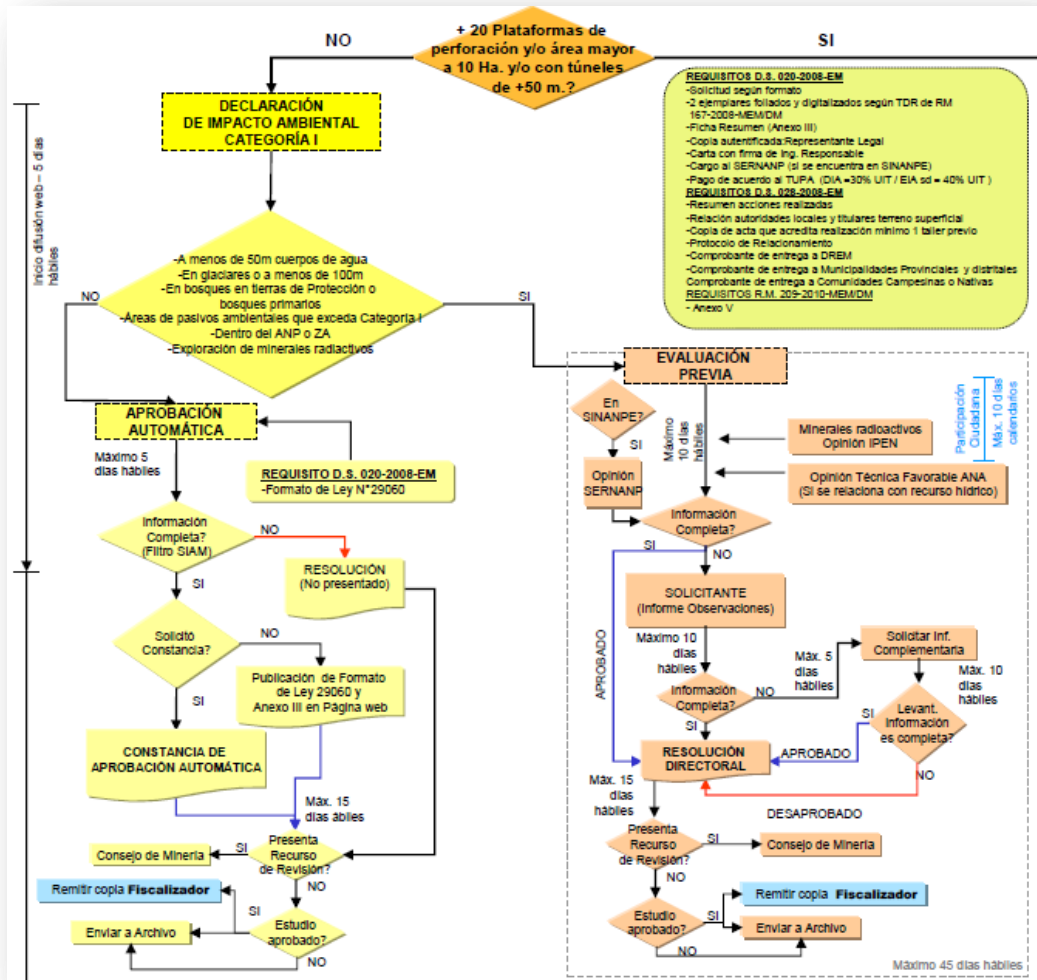
Peru – Sustainable Development

Peru – Sustainable Development
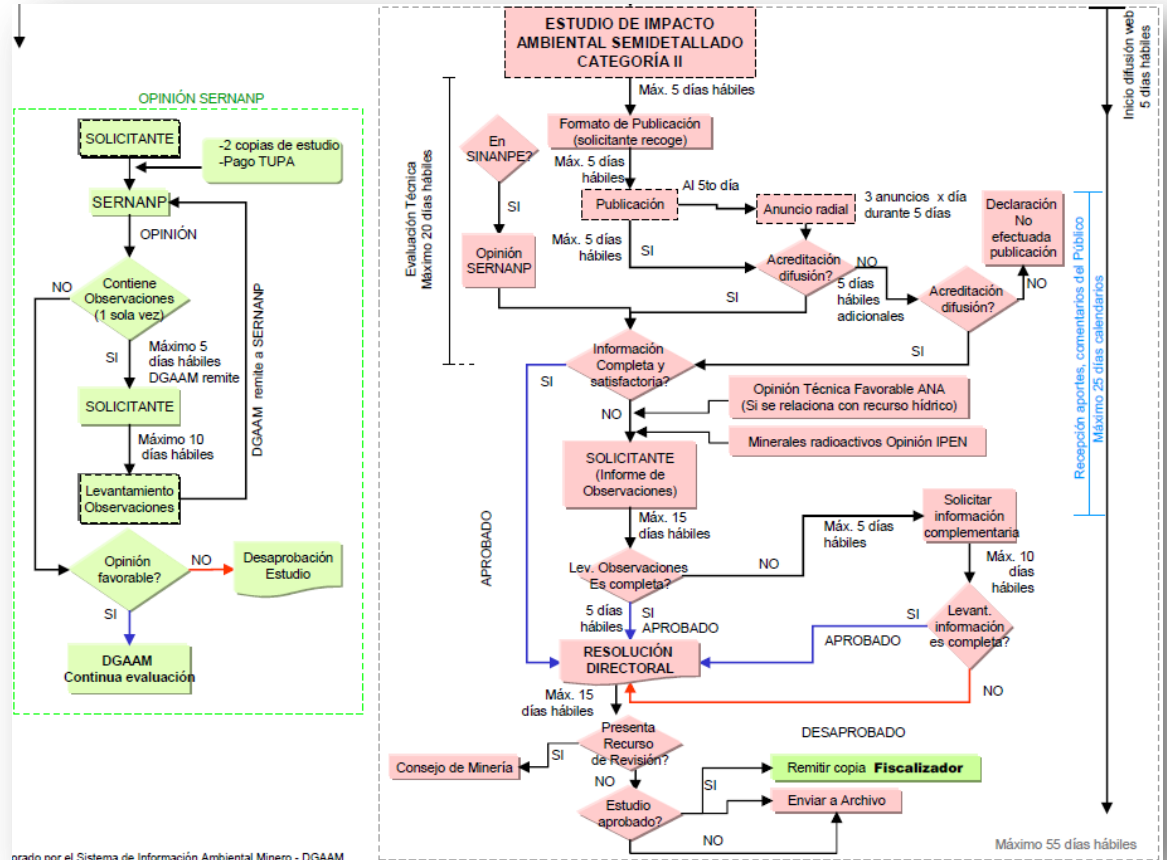
Environmental Licenses applied per year

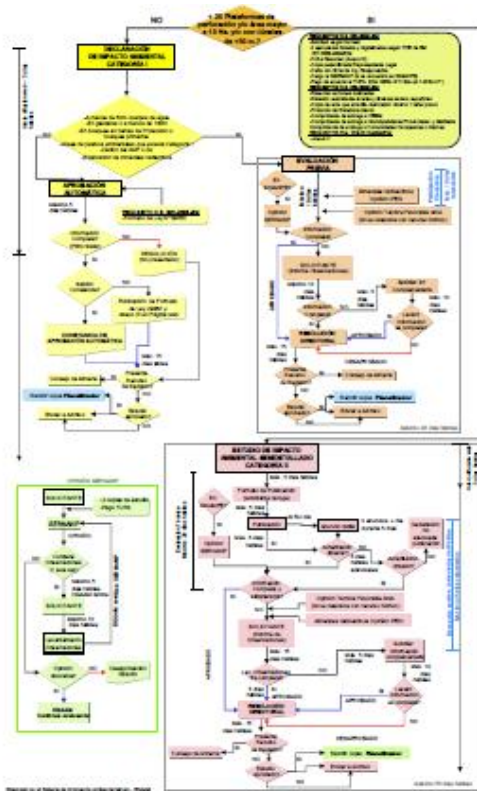
Legend: ■ EIA   ■ EIASD

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
■ EIA	2	18	29	44	24	30	67	45	39	42	19	34	66	58	65	76	69	38
■ EIASD						1				1	6	17	20	8	1	4	7	
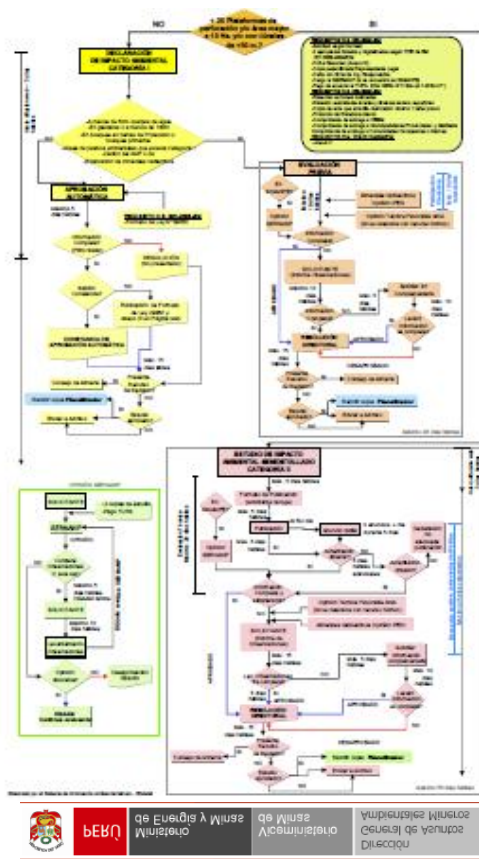
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Peru – Environmental Permits for Drilling (1)

Peru – Environmental Permits for Drilling (2)

Peru – Environmental Permits for Drilling

+ 20 drilling platforms

and/or

Area larger than 10ha

and/or

Tunnels larger than +50 m

Then ➡ EIA-SD

Else ➡ DIA

Peru – Environmental Permits for Drilling

In our implementation for Pan American Silver Peru…

Declaración Jurada: A template form generated for the application – Affidavit commitment with good environmental practices

Declaración de Impacto Ambiental – DIA: - Modeled in FlexiCadastre as the License Type PE:DIA – "Environment Impact Declaration" is more than an affidavit but a simplified process

Estudio de Impacto Ambiental Semidetallado - EIA-SD: Modeled in FlexiCadastre as the License Type PE:EIA-SD – "Semi Detailed Environment Impact Study"

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Peru – Environmental Permits for Drilling

Objectives:

- Implement the Drilling permits process into FlexiCadastre in order to acquire the drilling permits on time

- Integrate information related to Land Management and the Exploration process

- Have all documentation related to the process at hand

- Comply with all the obligations related to the environmental permits

Peru – Environmental Permits

The Process

Peru – Environmental Permit: DIA
The Process

Before Presenting the Application to the responsible authority
- Prepare documentation
- Apply for permits for water consumption
- Negotiate with land owner / community

After the Presentation
- Environmental Agency resolution
- License granting

After the Drilling process
- Initiate the Environmental Closure
- Communicate to the Government Agency about the closure
- Closure "accepted"

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Peru – Environmental Permit: DIA
Workflow diagram

Peru – Environmental Permit: DIA
Workflow diagram

Peru – Environmental Permit: DIA
Open and Closed Actions

Peru – Environmental Permit: EIA-SD
The Process

Before Presenting the Application to the responsible authority
- Prepare documentation
- Apply for permits for water consumption
- Negotiate with land owner / community
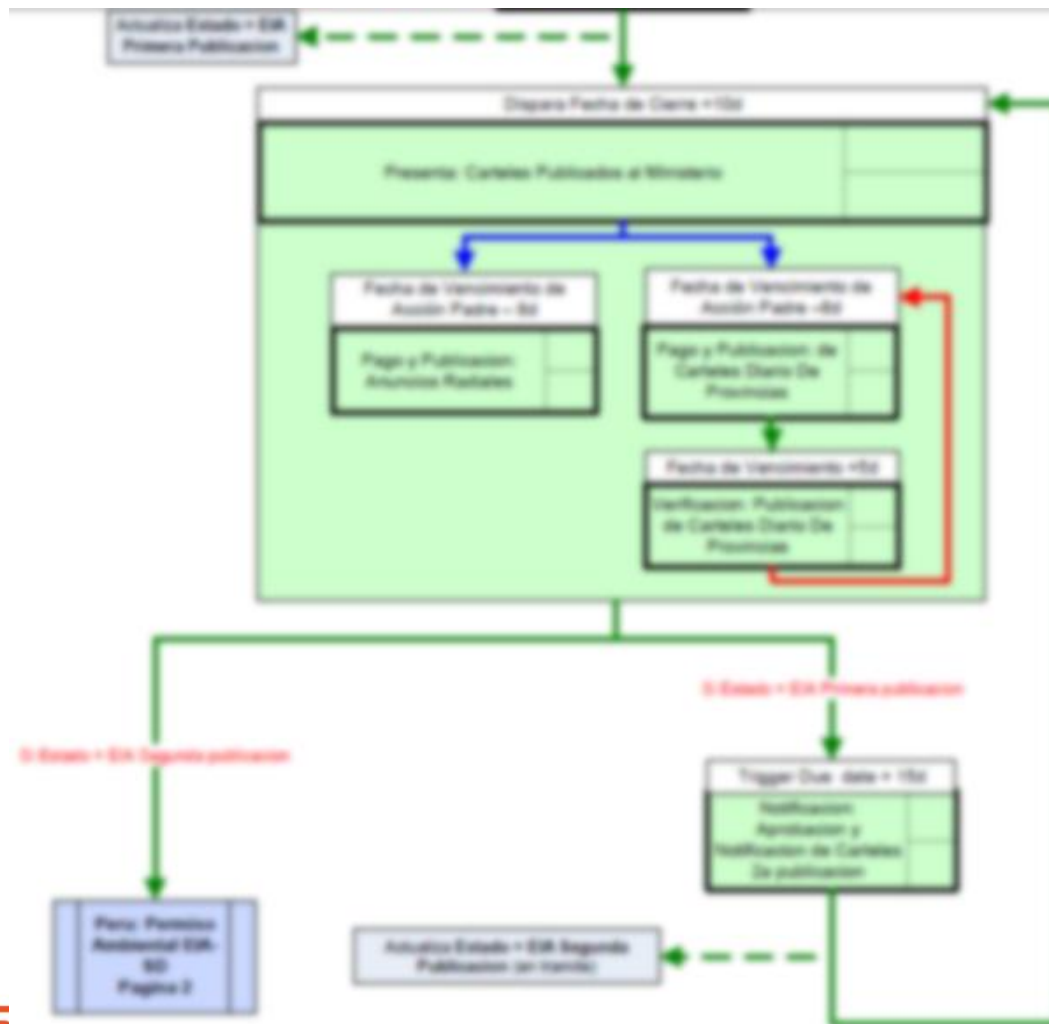
After the Presentation
- Publication (radio broadcast and papers)
- Environmental Agency analysis and resolution
- License granting
- Communicate start of work

After the Drilling process
- Initiate the Environmental Closure
- Communicate the Government Agency about the closure
- Closure "accepted"

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Peru – Environmental Permit: EIA-SD
Workflow Diagram

Peru – Environmental Permit: EIA-SD
Workflow Diagram

Workflow Diagram

Peru – Environmental Permit: EIA-SD
Open and Closed Actions

Peru – Environmental Permit: EIA-SD
The Map

Expectations and Conclusions

- All obligations within the process will be done on time

- Information related to Land Management and to the Environment process integrated in a single database

- Anticipation of requirements for Environment process within the Exploration objectives

- Improve communication between the Land, Environment and Exploration groups

- All documents related to the environmental permits are uploaded and accessible in FlexiCadastre

- Adds value to company's investment in FlexiCadastre

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Q&A

OBRIGADO!

GRACIAS!

THANKS!