

Permitting and Building an Oil Pipeline in Lago Agrio, Ecuador

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The Ecuadorian Amazon has a history of conflict over large petroleum infrastructure projects, particularly pipelines. The rapidly growing city of Lago Agrio is at the terminus of the recently constructed and controversial OCP Trans-Andean export pipeline and the location of a legal dispute over impacts from petroleum development in the 1970s. EnCana was faced with the difficult task in 2002 of permitting and building a crude oil pipeline around this city to connect with OCP. EnCana worked with the environmental consulting firm WALSH to analyze thirteen different ROW alternatives, jointly with other petroleum companies interested in sharing the ROW to determine the three best alternatives. The goals were to minimize social and environmental impacts, allow for sharing of a ROW with four different oil companies, be compatible with the Lago Agrio plans for urban growth, and be economically and technically feasible.

These three alternatives were presented to the external stakeholders including: local, regional and national government, community councils, individual land owners, religious organizations and NGOs. A key strategic decision was made by EnCana to maintain transparency throughout consultation process and flexibility in the final design, despite the atmosphere of conflict. The product of this process was a fourth alternative that addressed specific micro-routing issues, public participation in monitoring, and a special exemption from the hydrocarbon law to allow multiple pipelines in a single ROW. The pipelines in the ROW were constructed in 2002-2003 with no public controversy and have been operating to date without incidents.

Keywords: Pipeline, Negotiation, Stakeholder

PROJECT AND MISSION

The project objective was to build EnCana's Lago Agrio Tank Farm (designed storage capacity of 200,000 barrels - 100,000 currently installed) and a 10 kilometer oil pipeline connecting to the Amazonas Station of the Heavy Crude Oil Pipeline - OCP (*Oleoducto de Crudos Pesados* in Spanish) in the city of Lago Agrio, Sucumbios Province of Ecuador. Managing the ROW of this pipeline required an innovative approach to minimize the social impacts, considering that three other petroleum producers were also planning to install pipelines across Lago Agrio. The current hydrocarbon regulation demanded a 30-meter-wide ROW per pipeline. Despite this hurdle, EnCana initiated discussion with the other producers to share a single ROW among four companies in order to reduce spatial impacts. This project of sharing a single ROW is the first in Ecuador (Fig. 1).

Fig. 1. ROW Cross Section

EnCana's pipeline is a 16" diameter buried pipeline which loops to the south of the city in a low-growth-rate rural area. It is 9.20 kilometer long with a remote oil spill detection system. The estimated construction time was four months. Non-skilled job opportunities as well as some skilled positions were provided to local community members in order to help address the high unemployment in the region, which is currently 14.40%¹.

The mission of this project was to build the storage facility and associated pipeline within budget and schedule, while openly engaging all stakeholders. EnCana has a strong corporate commitment to creating a transparent negotiating environment for the public consultation process, and to maintain flexibility in the final design. This approach is a distinct change in philosophy from historical projects in Lago Agrio, which have often been developed in an atmosphere of conflict due to a lack of trust with stakeholders.

¹ National Statistics and Census Institute - INEC, Population Census 2001.

STAKEHOLDER ENGAGEMENT

Lago Agrio grew out the oil-boom of the 1970s, expanding from a remote production field located in primary rainforest. Urban development and population growth of this boomtown has been chaotic and disorganized. New neighborhoods have been developed on top of existing ROWs, key city properties are located next to tank farms, etc. Lago Agrio is also the center of a legal dispute over impacts from the petroleum industry and its development in the 1970s. Local communities including immigrant farmers and indigenous tribes are still calling for international attention to these residual social and environmental impacts. The relationships between some stakeholders and the OCP project were tense, which made consensus building difficult. Another critical factor was the political affiliation of the city mayor, which has generally been in opposition to foreign multinational company activities, especially those related to the petroleum business. This backdrop of controversy required that EnCana be creative and manage an aggressive stakeholder engagement plan in order to succeed. A specific Engagement Strategy was drafted for all of EnCana's internal stakeholders before project implementation.

ENGAGEMENT STRATEGY

Key stakeholders were identified including: local authorities, provincial and central government entities, civic organizations, local church organizations and other interested informally organized parties. The objective of this strategy was to define parameters and boundaries to engage all stakeholders, including regulatory bodies, with fair compensation and sustainability factors, as well as, adequate environmental and social management of the project.

Specific Objectives

Four specific objectives were established:

1. Identify and apply the highest environmental standards for the pipeline construction and operation phase, searching for the best pipeline route, less intrusive, with community consensus and support
2. Establish the synergies and connections with the civil society and other stakeholders including community leaders, environmental groups, local authorities and the church
3. Negotiate a large compensation project, which is socially oriented and with real community backing including consent of the civil society and local government local authority, e.g local mayor, city council, etc.
4. Execute the project with no social, environmental or safety incidents

Methodology

In order to achieve the specific objectives as part of the engagement strategy, the following steps were taken:

1. A multidisciplinary team was established to initiate dialog with the community, build consensus and negotiate compensation.
2. Review and systematization of information provided by secondary sources
3. Engagement with key stakeholders and representatives of regulatory bodies
4. Discuss and analyze primary and secondary environmental and social impacts of the pipeline project development and reach consensus with stakeholders for its execution

Multidisciplinary Team

The multidisciplinary team included personnel with adequate skills and experience in civil engineering, environmental engineering, social management, conflict resolution and negotiation, media management and communications. The team members were: (a) A manager for environmental, health, safety and community affairs (EHS-CA); two environmental/social advisors; a community relations advisor, for negotiation with civic and community organizations. (b) Two pipeline engineers for stakeholder awareness and technical project description and execution. (c) A 4-person team of community relations coordinators, for on site negotiations. (d) A social communication expert to manage local media at national level. (5) A social communications expert to manage the Lago Agrio and Amazon region media. (e) WALSH Scientists and Engineers (WALSH) to provide the environmental and social impact assessment. Four tiers of interaction were pre-established in order to expedite interaction and timing:

1. Regulatory bodies of the central government
2. Local and provincial authorities
3. Civic and local organizations
4. Individual landowners and land acquisition

Team Working Methodology

Transparency in project evaluation, stakeholder dialogue and compensation negotiation were the key for success. The first approach was taken with the regulatory bodies of the central government, which provided feedback stemming from concerns of stakeholders in Lago Agrio regarding oil industry activities. A local and influential social communications expert was included on the team to manage the Lago Agrio and Amazon region media, and act as a liaison between the team and the civil society in search for project consensus. It was also decided to use an inductive negotiation method. First reach consensus with the bases of civil society (those most directly impacted) and then move up to the local Mayor, as the

elected representative of Lago Agrio city. This is a well-known principle: “many negotiation processes must be defined by the bases and not by the central power bodies”².

The environmental and social impact assessment addressed the primary design goal of determining the least intrusive pipeline route considering current Lago Agrio demographics and infrastructure, environmental sensitivities and urban growth plans. WALSH identified thirteen possible alternatives, which were scrutinized using high resolution imagery³ and aerial photography, prior to select the top seven based on additional considerations involving city expansion trends, river bank stability, existing oil infrastructure and pipelines ROW, hydrological conditions, soil stability, among others (Fig. 2).

Fig. 2 Initial Route Alternatives

The best three alternatives were determined using historical information based on 30 years of satellite imagery⁴ and other analysis analyses performed by civil society representatives, Lago Agrio Municipal technical staff, representatives of the regulatory bodies of the central government, some non-organized groups, and the local church representative (Fig. 3).

Fig. 3 Top-three Route Alternatives

The preferred route alternative was selected from these three alternatives, with the full participation of these stakeholders after on the ground inspection, aerial inspection by helicopter. Some localized concerns were to be addressed by the team with micro-routing alternatives (Fig. 4).

Fig. 4 Selected Route Alternative

The alternative selection process also involved four pipelines within a single ROW with different owners and “tie-in points” along the ROW. EnCana obtained a power-of-attorney from the other producers to manage the environmental and social issues on their behalf. This was a unique initiative that demanded EnCana take the lead in the whole process. The route selection was also linked to the existence of a recently negotiated pipeline ROW which connected to the OCP Amazonas Station. This section needed to be designed for five pipelines of five separate producers (Fig. 5).

Fig. 5 Cross Section Including OXY’s pipeline

Communication and Education

Managing and screening adequate information internally and externally, was a real challenge in order to communicate harmoniously with the stakeholders, the other three oil producers and other internal stakeholders. All field data, design and technical information, government approval status and stakeholder interaction reports were prepared accordingly with the target audience to reach permanent and effective communication. The community relations staff was paramount in providing feedback from the field. This enabled an effective communication and proper education of the different steps taken towards full Lago Agrio community acceptance and understanding.

Negotiation: Consensus and Agreement

Once communication and education of the project were in place, a negotiation strategy with those community members directly affected by the project execution was initiated directly under the community relations staff. The EHS-CA Manager with authority delegated by the other producers also initiated compensation negotiations with the city Mayor. Several presentations related to the project made known to community members and stakeholders’ feedback were given to the Mayor and his staff. Two critical stakeholders participated in all meetings with the Municipal staff: a church

² “Conflict Management: Building Consensus”, Del Castillo Luis, Madrid 2000.

³ IKONOS, 1 meter resolution.

⁴ LANDSAT

representative and the local influential social communications expert. These individuals were witnesses of the transparency in the negotiation process and facilitated communication with the community as a whole.

The community relations advisor also interacted with the civil society stakeholders, among others: community organizations, trade organizations, unions, women associations, etc. in order to maintain open communication channels between the Mayor and his staff and EnCana's representative, which were critical for reaching agreement.

Dialog among all community stakeholders continued for several weeks until reaching a social compensation agreement, which was the construction of a public market building following the Municipality of Lago Agrio design requirements. This contribution was "in-kind" and to be built by EnCana fully in compliance with environmental and safety construction requirements. The public market selection was the result of a consensus of several alternatives discussed by the local stakeholders, in order to fulfill a Lago Agrio city need which had been pending for several years. Additionally, EnCana committed to perform the pipeline construction activities under permanent community monitoring; to implement a health campaign during the construction phase; to provide all non-skilled job opportunities and some for skilled jobs to local community members; and to optimize utilization of local services, such as transportation, catering and monitoring; to implement an open community audit process during project execution and post-execution.

Project Execution and Completion

Project was initiated immediately after signing the compensation agreement and individual land owners' permits were granted for the ROW access and construction. A total of 400,000 worked man-hours accident free were reached and no social or environmental incident occurred during the whole process. Community monitors acted, as previously agreed, with full empowerment to verify EnCana's commitment to the Environmental and Social Management Plan. Four Community Audits were successfully executed and immediate corrective actions were implemented when necessary.

BIOGRAPHICAL SKETCHES

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Mr. Benalcazar is a Certified Safety Professional (CSP) in the USA, with professional engineering background in Civil Engineering holding a Masters Degree from the Federal University of Rio de Janeiro, Brazil. He is a professional member of the American Society of Safety Engineers (ASSE) and the Society of Petroleum Engineers (SPE). Mr. Benalcazar has 13 years of experience in Environmental, Health, Safety and Community Affairs (EHS-CA). Currently he is working as EHS-CA Manager for EnCana, a Canadian Corporation, in Ecuador, where its operations are closely related to sensitive rainforest environments, considering biodiversity and indigenous communities. Mr. Benalcazar has performed similar activities in Oman, the United States and Venezuela, with emphasis on developing and implementing Management Systems of these areas and related audits. Mr. Benalcazar participated in the UN World Summit on Sustainable Development (WSSD) as part of Ecuador's Official Delegation in Johannesburg, South Africa in 2002.

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Mr. Thurber is a geologist with ten years of experience as an environmental consultant for the petroleum industry in Ecuador. He currently manages the WALSH-Ecuador office, which provides environmental, community and archeological services. Mr. Thurber graduated from Wesleyan University in Earth Sciences and holds a M.S. in geology from the University of Washington. He participated in the UN World Summit on Sustainable Development (WSSD) as part of Ecuador's Official Delegation in Johannesburg, South Africa in 2002. Mr. Thurber and the WALSH-Ecuador team were recently honored with the Institute of Petroleum Award for the best Environmental Project for 2003.

Fig 1.

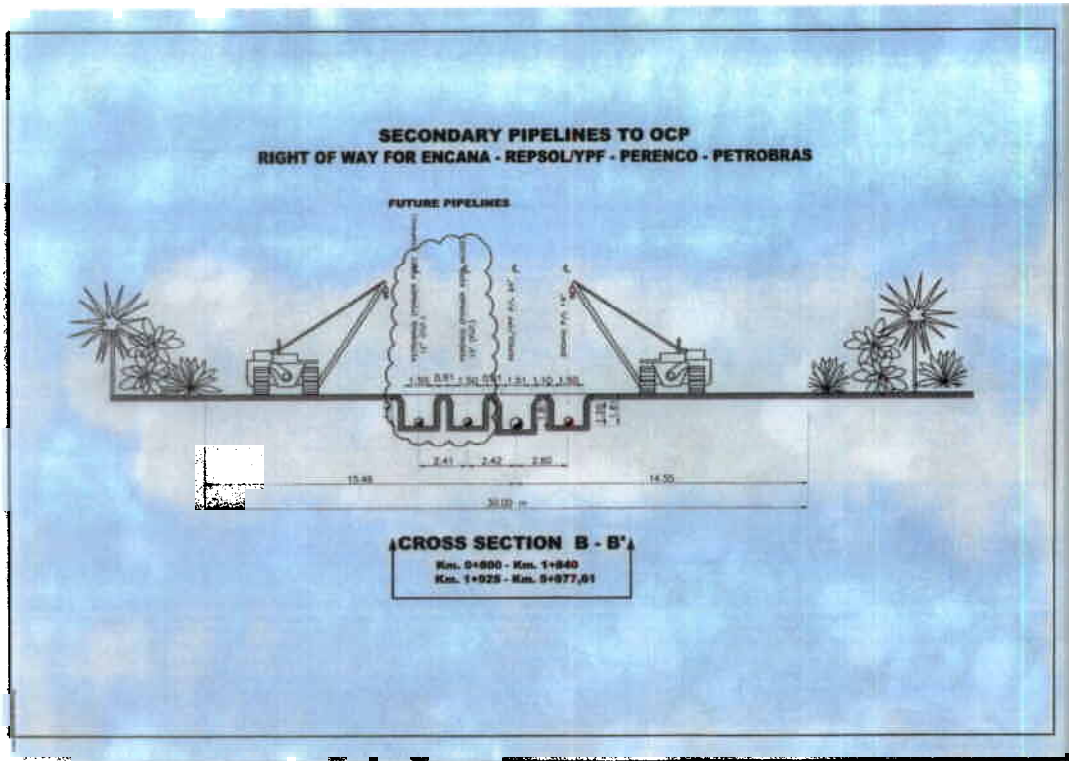


Fig 2.



Fig 3.



Fig 4.

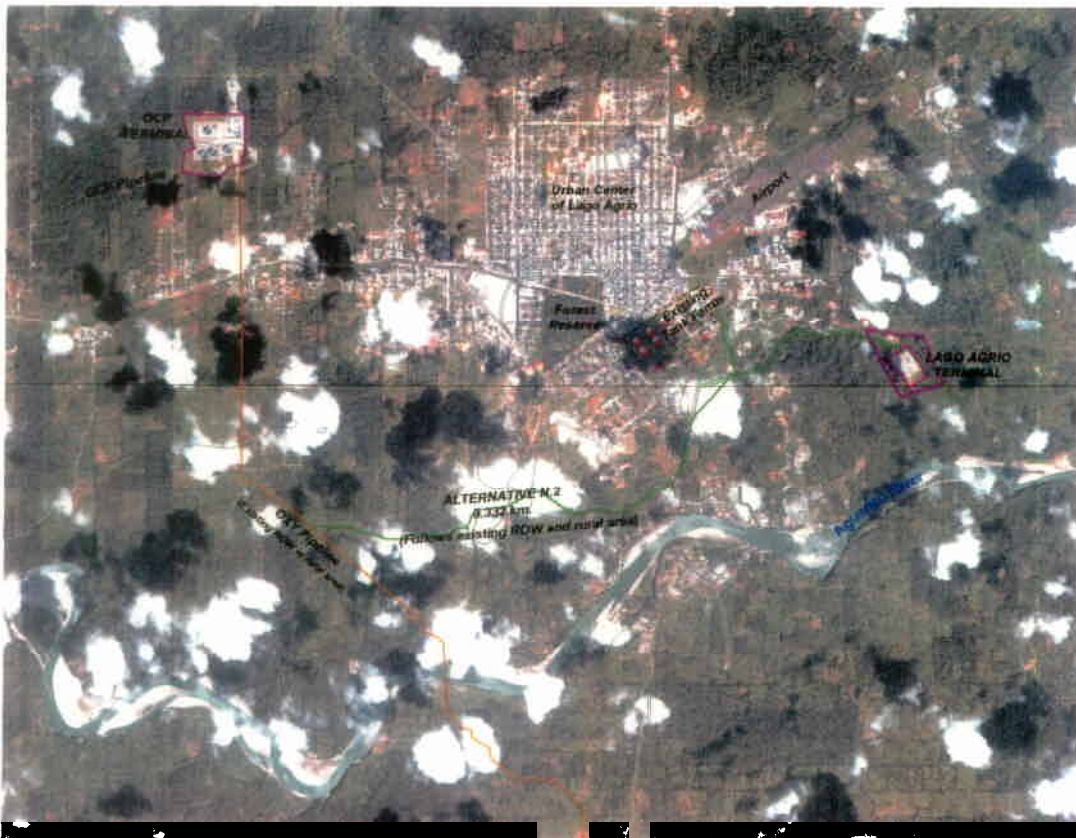


Fig 5.

