

**Ecuador:**  
**Oleoducto de Crudos Pesados (OCP)**  
**(Heavy Crude Oil Pipeline)**

**Independent Compliance Assessment of OCP with the World Bank's  
Environmental and Social Policies.**

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**Abstract**

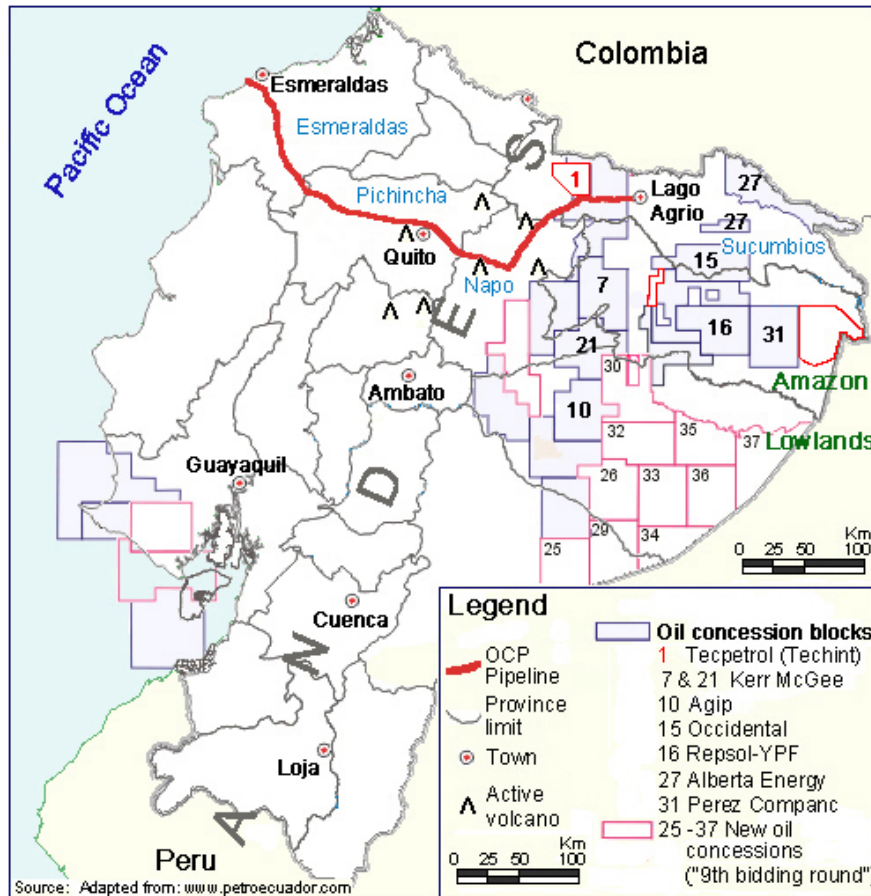
This compliance assessment analyzes the extent to which Oleoducto de Crudos Pesados Ecuador S.A. (OCP) Environmental Impact Assessment (EIA) complies with the World Bank Group's (WBG's) four applicable social and environmental policies<sup>1</sup>. A field trip to Ecuador was made to gather findings; interviews were conducted in the field and elsewhere; and a desk review of relevant documentation available was performed. This paper begins with the WBG's Operational Policy (OP) 4.01: **Environmental Assessment Policy**. The paramount Analysis of Alternatives needed to ensure the selection of the least impact route is inadequate in the EIA. The pipeline route was chosen before the Terms of Reference for the EIA were set, and without adequate public consultation, especially of affected people. The EIA does not evaluate the main impacts of OCP, namely those imposed by a doubling of oil production in the Amazon. Thus, the most important tenets of the WBG's OP 4.01 were not complied with. The EIA does not comply with OP 4.04: **Natural Habitats Policy** because OCP violates the protected area financed by the Global Environment Facility and six other protected areas. OP 4.04 prohibits degradation of such critical natural habitats. The EIA fails to address effective means of minimizing the loss of other natural habitats and the need to create offsets. OP 4.12: **Involuntary Resettlement Policy** requires resettlement plans and an equitable compensation process, which are absent in the EIA. Finally, OD 4.20: **Indigenous Peoples Policy** requires an analysis of the OCP's impacts on vulnerable ethnic minorities and AfroEcuadorians, and an indigenous peoples' development plan, which are lacking in the EIA. OCP's non-compliance with each of these four policies is documented and explained.

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<sup>1</sup> The World Bank Group includes the World Bank (IBRD and IDA) and its private sector-oriented affiliate the International Finance Corporation (IFC). IFC applies to its investment the World Bank's OP 4.12 and OD 4.20. IFC has a separate OP 4.01 and OP 4.04, but they closely resemble their World Bank counterparts, with minor adjustments to adapt them to the private-sector context of IFC's operations.

**About the OCP's Pipeline Project:**

OCP's pipeline is designed to transport up to c.450,000 barrels of crude oil per day for 503 kms (or 315 miles) from the receiving Amazonas Terminal in Lago Agrio (Nueva Loja), over the Andes, and down to the Marine Terminal near Esmeraldas on the Pacific Ocean. OCP starts by roughly paralleling the SOTE pipeline and National Highway 45 to Baeza and the Papallacta pass (4096 m. alt). OCP splits from SOTE at Cachaucu in Pifo. Thence OCP runs northwest to Yaruqui, then between Calderon and Pomasqui; then east to Nono, Guarumos, Mindo, Santa Rosa, San Miguel de Los Bancos, Pedro Vicente Maldonado, and Puerto Quito. OCP rejoins and roughly parallels SOTE and National Highway 25 near La Union, thence to Punta Gorda on the Pacific coast between Puerto Balao and Chevele. Preliminary work on the Northern ROW was taken up as early as 1999, and is expected to be operational by September 2003. The 61cm to 92 cm-diameter coated steel pipe will be buried in a trench and covered by about 2 m. The ROW width is not supposed to exceed 30 m, and there are many new access roads. The ocean tanker loading buoys will be 6 km and 7 km from the shore.



**Image 1:** Map of Ecuador with OCP pipeline route and oil concession blocks

**About the Author:**

The author, Dr. Robert Goodland, is a tropical ecologist (RbtGoodland@aol.com). He assessed the social and environmental impacts of many big infrastructure projects, including Brazil's TransAmazon Highway, the Yadana gas pipeline between Myanmar and Thailand, and the Chad-Cameroon oil pipeline. He authored most of what are now called the "Social and Environmental Safeguard Policies" during his quarter century serving the WBG, namely Environmental Assessment, Natural Habitats, Indigenous Peoples, and Cultural Property. The official policies he wrote on Environment, and on Dams and Reservoirs have been integrated into the umbrella EA policy. He led the team publishing the WBG's best-selling 'Environmental Assessment Sourcebook' (3 vols), and about 20 other books. He was one of the team writing the Involuntary Resettlement policy. He was elected President of the International Association of Impact Assessment, and the Metropolitan chair of the Ecological Society of America. He won Excellence Awards from the WBG, the International Society for Ecological Economics, and the Millennium Conservation Prize, before retiring in 2001.

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# 1. Introduction & Purpose

A consortium of international banks, led by Westdeutsche Landesbank of Dusseldorf (WestLB), is financing a major crude oil pipeline in Ecuador (Oleoducto de Crudos Pesados, OCP), to be constructed by a consortium of seven oil companies.

The financing contract between WestLB, and the construction company Oleoducto de Crudos Pesados Ecuador (OCP) S.A. of Quito for the construction of the pipeline remains secret<sup>2</sup>. However, WestLB confirmed<sup>3</sup> to the Government and Parliament of North Rhine Westphalia that the contract specifies that OCP must comply with the World Bank Group's (WBG) social and environmental safeguard policies<sup>4</sup>, although the WBG is in no way related to OCP financing. That compliance of OCP with the WBG's social and environmental standards is mandatory was recently re-confirmed by the State Government of North Rhine Westphalia, which is WestLB's major (43%) shareholder.<sup>5</sup> OCP also recently re-affirmed its conviction that the pipeline complies with WBG policies.<sup>6</sup>

Italy's Banca Nazionale del Lavoro (BNL), a member of WestLB's syndication of OCP's financing, also reaffirms that WBG's guidelines "have been fulfilled and respected during project execution and that this was certified by an internationally recognized specialist in EIAs and technical assessments."<sup>7</sup> During the 30 April 2002 annual general shareholders meeting, although the details of BNL's role remain unknown, its President confirmed that BNL participates as 'managing agent' to OCP with a quota of \$50 million.

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<sup>2</sup> Abschluss des Finanzierungs und Syndizierungsvertrags of 10<sup>th</sup> June 2001. (Signing the financing and syndication contract). WestLB's syndicate conditionally lent \$900 million to OCP in June 2001 for 17 years, although the first down-payment of \$223 million is reported to have been received by OCP in April 2001. Construction costs for this build/own/operate/transfer (after 20 years) private sector project are about \$1.3 billion.

<sup>3</sup> [Excerpted from]: Stellungnahme der WestLB auf Fragen des Ministerium fuer Wirtschaft und Mittelstand, Energie und Verkehr des Landes Nordrhein-Westfalen", 11 January 2002. (Statement of the WestLB to the Ministry of Commerce, Energy and Transport of the State North Rhine Westphalia): (a) P.3 "According to the Authorization Agreement, OCP loses relevant permits in the framework of the Authorization Agreement if the Consortium violates either environmental protection guidelines, or the standards of the World Bank, or the Government of Ecuador. In this case a premature settlement clause comes into force." (b) P.7: "Compliance with the national and internationally accepted environmental standards of the World Bank by the project sponsors are indispensable prerequisites for the financing engagement of the WestLB." (c) P.4: The Ministry of Commerce, Energy and Transport asks the WestLB which specific standards it means, when it refers to World Bank standards. In response the WestLB confirms that the World Bank has 10 key [social & environmental] safeguard policies, listing them all in the written response. WestLB's website (www.westlb.de) of 28 Aug 201 states "A prerequisite for any financial involvement of WestLB in the [OCP] project is that the project sponsors adhere to the environmental standards set by the World Bank."

<sup>4</sup> The World Bank's main "Environmental and Social Safeguard Policies" addressed in this compliance assessment are: OP 4.01 Environmental Assessment, OP 4.04 Natural Habitats, OP 4.12 Involuntary Resettlement, OD 4.20 Indigenous Peoples. It does not assess compliance with the following policies: OP 4.20: Poverty Reduction, OMS: Cultural Property, OP 4.09 Pest Management, Public Participation Handbook, Pollution Prevention & Abatement Handbook, Corruption Policy (although there are strong and frequent allegations of corruption against OCP and its subcontractors which merit investigation); "Energy Efficiency and conservation in the developing world" (1993; Policy Paper number 11987; 107 p); "Priority action for achieving energy efficiency" & Least Cost Rule; OP 4.36 Forest Policy, OP 10.04 Economic Evaluation of Investment Operations (9/1994), nor the Environmental Assessment Sourcebook (3 vols.)

<sup>5</sup> Letter of the State Chancellery of North Rhine Westphalia to Heffa Schuecking, July 2002. "Of course the State Government continues to expect that the Board responsible for WestLB's operative business, will also take care that World Bank standards are strictly complied with in the further development of the project. These are the prerequisite for the financing engagement of the WestLB."

<sup>6</sup> Letter of the Finance Ministry of North Rhine Westphalia to Dr. Michael Knipper, August 5, 2002. "In a letter to the World Bank from January 22, 2002, OCP confirms, that it is in compliance with the World Bank's operational policies, and the general environmental guidelines (Pollution Prevention and Abatement Handbook). OCP has committed itself toward the Government of Ecuador, its financiers, their owners and the country of Ecuador to implement this project in a way, that takes full account of the ecological sensitivity of the region." GOE's Terms of Reference for the EIA clearly states the compliance with WBG or higher standards in all aspects of the project.

<sup>7</sup> BNL President Luigi Abete 16 March 2002 letter to Jaroslava Colajacomu.

On occasion, Ecuadorian government officials have asserted that the pipeline complies with WBG standards. Other Ecuadorian government officials have disputed the contractual mandate for OCP to comply with WBG standards. (Clarity on this point has so far been unachievable because the financing contract remains secret.) For example, the 6 June 2002 letter from Ministry of Energy & Mining (MEM) Minister Pablo Teran Ribadeneira (p.6 of 14 p. + annexes)<sup>8</sup> to GOE's Anti-Corruption Commission states that such compliance is voluntary. On the other hand, the Stone & Webster (S & W) report, commissioned by WestLB, states that compliance with WBG guidelines is mandatory for OCP during EIA preparation, as signed in the Authorization Agreement Exhibit 4, of 15<sup>th</sup> February 2001 between OCP and the Ministerio de Energia y Minas (MEM) (S & W P.2, #6).

In Ecuador, Europe, and North America, there is widespread concern that OCP does not comply with WBG environmental and social policies<sup>9</sup>. In Germany, the State Government of North Rhine Westphalia is the largest shareholder (43%) in Westdeutsche Landesbank of Dusseldorf (WestLB), which has signed a financing contract with the construction company Oleoducto de Crudos Pesados (OCP) of Quito, for the construction of OCP. The State Government of North Rhine Westphalia, and the One World Committee of the North Rhine Westphalian Parliament have received many complaints about OCP's work, and the One World Committee has held official hearings on the issue.

Two North Rhine Westphalia parliamentary fact-finding missions, led by Parliamentarian and 'Green Spokeswoman for One-World Politics', Ute Koczy, MdL, in April & August 2002, have inspected OCP's work in Ecuador and have heard testimony from a broad spectrum of Ecuadorian stakeholders and others that OCP's social and environmental performance does not comply with WBG policies (Koczy 2002 a, b). The February 2002 NGO mission to Ecuador, and the June 2002 Italian Solidarity mission, composed of Parliamentarians, NGOs and journalists found similar results. North Rhine Westphalia Environmental Minister Baerbel Hoehn criticized OCP's route selection to WestLB's Friedel Neuber.

The World Bank has repeatedly written to GOE requesting it to cease claiming that OCP meets World Bank policies, as the WBG's own staff are concerned that OCP does not comply with WBG policies.<sup>10</sup> WBG's spokesperson, Elena Serrano, stated in the First German Television Channel 'ARD': "...we are concerned that our standards are not being complied with, but that our name is misused to justify a project". Although this is a matter of concern for the WBG, President James Wolfensohn also repeated in his 16<sup>th</sup> June 2002 letter to WestLB CEO Juergen Sengera, that the WBG as an institution cannot be put into a position where it is asked to certify compliance with its policies in projects that it is not financing.

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<sup>8</sup> "... el contrato no establece ninguna estipulacion que obligue a las partes a aplicar dichas politicas, razon por la qual, consideramos que las partes no estamos obligados en modo alguna a aplicar tales politicas.... OCP voluntariamente se ha comprometido a cumplir con las normas y politicas del Banco Mundial...."

<sup>9</sup> The oil industries "Amazon Financial Information Service" clarifies the concerns of the industry with OCP and the WBG. See: [www.redlisted.com/ecuador\\_proposed.html](http://www.redlisted.com/ecuador_proposed.html).

<sup>10</sup> For example, the 19 December 2001 letter from World Bank VPs Ian Johnson and David de Ferranti to OCP President Hernan Lara. WBG then took the unprecedented step of publishing an Op Ed in Quito's El Comercio expressing "profound concern" over OCP's environmental impact. WBG official Elena Serrano stated on the First German TV Channel's program 'Monitor' in their report: "Ecuador: The dirty oil pipeline of WestLB" on 17th January 2002 that the WBG is concerned that its standards are not complied with, but that its name is misused to approve a project, when it is not complying with WBG policies.

Because of continuing, polarized claims that OCP does or does not comply with WBG standards, WestLB contracted with Stone & Webster Engineers Inc. (S&W) to assess comprehensively the extent of such compliance. S&W's 19 April 2002 report asserts that OCP does indeed comply with WBG policies, and that S&W cannot identify any non-compliance. S&W's findings have been disputed in Ecuador and elsewhere<sup>11</sup>.

Because of such conflicting views about compliance, I was asked by a coalition of German, US and Italian NGOs and Trade Unions<sup>12</sup> to undertake an independent assessment of OCP's compliance with WBG social and environmental policies. This report assesses the extent of OCP's compliance with WBG's applicable social and environmental policies, but does not specify whether or how OCP could bring itself into compliance with WBG policies. That approach would be a major and quite separate task.

## **2. OP 4.01: Policy on Environmental Assessment<sup>13</sup>**

OP 4.01 is designed to help ensure that projects are environmentally and socially sound and sustainable. It sets out requirements for EA, including various instruments to be used (depending on the complexity of the project) such as an Environmental Impact Assessment (EIA) and a Resettlement Plan. It also sets forth the minimum requirements for public consultation and public disclosure for projects.

### **2.1. Sectoral, Regional and Cumulative Impacts**

**OP 4.01: Para 7: *“When the project is likely to have sectoral or regional impacts, sectoral or regional EA is required.”***

OCP is planned to double Amazonian oil extraction in Ecuador<sup>14</sup>. Without OCP, the well-known social and environmental impacts of Amazonian oil extraction<sup>15</sup> would remain about the same as they are today (unless oil extraction performance improves). As OCP will stimulate major new oil prospecting and production in the Amazon this will impose major social and

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<sup>11</sup> For example: Caffrey (2002) & Urgewald, Rettet den Regenwald et al. (2002) signed by 37 German NGOs.

<sup>12</sup> Urgewald, Rettet den Regenwald, Institut Suedwind, Greenpeace Germany, AmazonWatch, Environmental Defense, ATTAC Italy, Greenpeace Italy, CARTA, Campagna per la Riforma della Banco Mondiale, and the labor unions FISAC-CGIL, FIBA-CISL, UILCA, and FABI.

<sup>13</sup> The WBG required a strategic EA for the Bolivia-Brazil gas pipeline. The WBG's July '02 Inspection Panel ruling on Uganda's Bujagali Hydroproject stated that a "Strategic EA" was called for which includes cumulative and regional EA. In Ecuador's OCP case, compliance with WBG policies would mean that a Sectoral EA would be essential. The Sectoral EA would address the critical question: can a doubling of the earlier pipeline impacts be prevented in the OCP case? Are adequate social and environmental standards and laws firmly in place? Is implementation capacity adequate to enforce compliance with such laws and standards? Is the track record of the oil sector since the 1970s better now, such that the OCP project would not double the earlier pipeline impacts?

<sup>14</sup> OCP's consortium has 7 members: Occidental Petroleum, Alberta Energy Corp., Kerr McGee, AGIP-ENI, Perez Companc, Repsol-YPF, as well as the construction firm Techint (owner of Tecpetrol operating the Bermejo block in the Amazon region and which is crossed by OCP).

<sup>15</sup> OCP facilitates the opening of a further 2.4 million ha of Amazon forest to oil production by auctioning oil concessions to private oil corporations Blocks 22, 25, 26, 29, 30, 32 to 37 (Noventa y Decima Ronda Petrolera). The international controversy about the impacts of oil extraction on Amerindians and forest are detailed by Kimerling (1991 a, b, 1994, 1996, 1997 & 1998). The World Bank has long publicized its concern with such impacts for the Government, and has sought to support their mitigation (e.g., Hicks et al. 1990, World Bank 1993, 1995, 1996, 1997, & 1998). Impacts mainly on Amerindians are outlined by: CESR 1994, EarthJustice 1994, Mendez et al. 1998, Sawyer 1996, Whitten 1981, & Wray 2000. Impacts more on the environment are outlined by: Campana & Ulloa 1994, Gomez et al. 1992, Silva et al. 1994, Smith 1995, & Southgate 1992.

environmental impacts on the region. Oil companies have signed ‘use or pay’ contracts with OCP, which means they have to sharply boost their oil production to feed the pipeline. If they do not fill their share of OCP’s capacity, they have to pay major penalties (Quito’s La Hora 14 August 2002). For these reasons, the oil companies are strongly expected to invest another \$2.5-4.5 billion in prospecting and production in the Amazon region. Until then Ecuador will have two semi-empty oil pipelines, according to OCP President Hernan Lara (La Hora, 14 August 2002).

The main social and environmental impacts of OCP are those on Amerindians and on the tropical rain forest, as well as on the poor farmers along the ROW and in the Amazon region. (For further details, see section 5 below on OD 4.20: Indigenous People.) Generally, the impacts of oil extraction in the Amazon on vulnerable ethnic minorities include expropriation of lands or prohibition by the oil corporations of traditional land use, and on a much larger scale by pollution of water, soil, and air from inadequate disposal of associated brines and contaminated process fluids, flared gas, and improper oil spill clean-ups (see images 14 and 15 in the photo annex). These impacts harm vulnerable ethnic minorities by causing malnutrition and a decrease in the environmental resources on which vulnerable ethnic minorities, subsistence farmers, and peasants depend (e.g., fish, crops, and non-timber forest products).

San Sebastian & Cordoba (1999) and Hurtig & San Sebastian (2002) document the association of cancer risk (e.g., stomach, skin, uterus) with those provinces having a long history of petroleum exploitation. They also highlight spontaneous abortions, respiratory problems & skin diseases. The impacts of oil extraction on the tropical forest ecosystem include irreversible losses of Ecuador’s rich patrimony of biodiversity. Improper oil disposal and spills are so common that the areas degraded and contaminated by oil have been increasing tremendously over the last 30 years.

Despite WBG’s OP 4.01<sup>16</sup> and despite the severity, 30-year duration, and well-known nature of impacts including those on Amerindians and the Amazon forest resulting from doubling oil extraction in Ecuador, neither sectoral, nor regional EAs were included in OCP’s EIA (c.f., Stone & Webster 2002)<sup>17</sup>.

OCP is a project with sectoral impacts because it doubles Ecuadorian oil exports. OCP is a project with regional impacts because it impacts the oil producing Amazon region (mainly) as well as other regions. OCP’s impacts are cumulative because OCP intensifies the impacts of the

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<sup>16</sup> OP 4.01 (Para. 7) states that when a project is likely to have sectoral or regional impacts, sectoral or regional EA is required. Doubling Amazonian oil extraction is clearly a sectoral and a regional impact of OCP. The impacts of doubling Amazonian oil extraction could not be addressed adequately as part of future permitting processes (as intimated by GOE, and this should be strongly encouraged), this would still not comply with WBG policies. When OCP is opened, the oil companies want to fill it immediately. OCP and the production needed to fill it are planned to be simultaneous. WBG policies emphasize the overwhelming power of good planning rather than *post hoc* monitoring or deferring improvements to some future date.

<sup>17</sup> Stone & Webster’s 19 April 2002 report: Stone & Webster, a leading engineering and construction company with lengthy experience since it was founded in 1889, has recently started offering “Environmental Services” to its engineering and construction services. S & W’s experience with environment seems restricted mainly to atomic energy and nuclear power projects, and those sponsored by the US Army Corps of Engineers. It is unclear why WestLB would choose a leading engineering and construction company, firmly in the oil and gas sector based in Houston Texas, to provide an independent view on environmental and social questions. One Ecuadorian affected group likened it to a physician being asked to design a highway bridge. The main concern with the S & W report is that it omits the single most important issue of OCP, namely the social impacts. S & W also focuses on mitigation, while scarcely mentioning the WBG’s strongly preferred strategic approach of prevention. S & W seem to have overlooked the WBG requirement to address sectoral, cumulative and regional impacts. S & W assert that violating a protected biodiversity area is not a problem, whereas WBG policy is clear that impacts inside critical natural habitats are such a major problem that if not avoided would force the WBG to withdraw all support.

30-year-old SOTE oil pipeline, which begins and ends in the same places (Lago Agrio in the Amazon lowlands & south of Esmeraldas on the Pacific Ocean) as OCP.

To comply with the WBG's OP 4.01, a sectoral, regional, and cumulative EA was needed, before the Analysis of Alternatives phase could begin. The assessment that sectoral, regional, and cumulative EA was needed is based on:

- The WBG's EA policy OP 4.01.
- Informal corroboration by all the professional EA colleagues that were contacted in the performance of this assessment.
- Advice of the WBG to GOE that the regional, sectoral and cumulative impacts of increased oil production and transport are probably the most severe of any environmental impacts affecting the Ecuadorian nation (See Footnote 15).
- The head of Quito's WBG office emphasized (Interview, 13 August 2002) that evaluation of such impacts would certainly have been insisted on in any WBG-supported EIA of OCP.
- The International Mission of Observers of OCP, led by the outstanding ecological economist, Dr. Joan Martinez-Alier, states that OCP signifies at least a doubling of the current social and environmental impacts imposed by SOTE (Martinez-Alier et al. 2001).
- The Netherlands' EA Commission's (MER, 2001) first and most important recommendation on the main gaps in OCP's EIA is that it should include the social and environmental impacts in the Amazon oil producing area, and a cumulative EA (p.5 & Annex 3ii).
- Ecuador's Minister of Environment, Dra. Lourdes Luque Jaramillo, is reported (IPS 23 May 2001) to have publicly agreed with Amazonian indigenous leaders that the ecological damage caused by OCP's crossing 11 nature and indigenous reserves would be irreparable, although she later went on and approved the EIA.
- Personal inspection and listening to many affected people along the OCP between 4-13<sup>th</sup> August 2002.
- Meetings with Governmental and other officials in Quito and on the ROW.

## **2.2 Independence of the EA**

### **OP 4.01, Para. 4: “EA needs to be carried out by independent experts”**

The EIA for OCP was carried out by Entrix, which has served the oil industry since Entrix was established in Houston, Texas in 1984. Entrix's logo asserts that the company has stood for “Environmental Excellence since 1984.” Entrix Americas was established as a subsidiary of Entrix in 1996 (reportedly because of court battles about Texaco's Amazonian practices). Entrix has worked on other pipelines in Ecuador, such as Arco's 200 km pipeline in 1998. The President of Entrix Ecuador, Ing. Miguel Aleman is also Environmental Coordinator of OCP. Miguel Aleman's address, fax and phone numbers are the same as OCP's President Hernan Lara. President Aleman often represents and speaks for OCP. He sends official letters to MEM on OCP letterhead. His business card documents his employment by OCP, rather than by Entrix. The Ministry of Finance of North Rhine Westphalia questions the ‘objectivity’ of Entrix's



EIA, because the operators of the pipeline prepared it<sup>18</sup>. Because of the above-mentioned facts, Entrix cannot be said to meet the criterion of independence required by the WBG.

## **2.3 Panel of Environmental and Social Experts**

OP 4.01 (Para. 4) mandates that for projects such as OCP, “the borrower should normally engage an advisory panel of independent, internationally recognized environmental specialists to advise on all aspects of the project relevant to the EA.” In order to fulfill this task, the panel needs to be established and functioning before the EA phase begins. As the panel is to be formed of independent, internationally recognized environmental specialists, a panel of engineering or construction specialists would not comply with this requirement.

The first task of the panel required under OP 4.01 is to ensure that the critical scoping and screening phases of the EA are carried out properly, and especially to ensure that the route selection process is reliable and robust before it begins. This requirement is important because it ensures that the design of the EA is reliable before the EA itself begins. The mandated Panel of Experts focuses first on the design of the EA process before it begins. The Panel then has the role of inspecting progress a couple of times a year during construction, and about annually during operation. Planning for decommissioning and rehabilitation when the operational life is coming to an end is the last important duty of such a panel.

In all the documentation examined in preparing this report, no mention was found of a mandated panel of experts having been appointed in the case of OCP. The panel planned by WestLB/Entrix/OCP to monitor environmental implementation (WestLB’s website, 28 Aug ’01) soon or at the end of construction would not comply with WBG policy.

OCP is not in compliance – and cannot retroactively become compliant – with this element of OP 4.01.

## **2.4 Systematic Analysis of Alternatives**

**OP 4.01, Para 2: and Annex B Para 2f: “*Systematic Analysis of Alternatives needs to compare alternative routings for impacts... Quantification of trade-offs is needed.*”**

### **2.4.1 Background**

The Analysis of Alternatives is mandated by the WBG in EIA work to ensure that the least impact alternative is chosen, and should include the no-project scenario. Most alternatives are ruled out during this analysis, and detailed reasons are given for their rejection. “Least cost” analysis has long been standard practice in economics. In the case of OP 4.01, “least cost” means that the alternative with the “least social and environmental cost” is taken up. Alternatives commonly include: improving efficiency and conservation, boosting the capacity of the existing pipe, accelerating the velocity of oil in existing pipelines (e.g., with more powerful pumps), reducing leaks and ruptures, retrofitting remote check valves, electronic leak detection, automatic

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<sup>18</sup> Dr. Lahrman, in a letter to the State Secretary of NRW Finance Ministry’s Dr Noack 21<sup>st</sup> November 2001 (2 p. p.2, para 4). WestLB has already taken a position regarding compliance with WBG policies in the 10/01/01 letter to Minister Schwanhold: Entrix base the EIA on work, which has been prepared by OCP’s operators themselves. This should question the objectivity of the EIA.

safety systems, increasing the pressure by stronger pipe wall thickness or stronger steels, increasing volume by replacing current diameter pipe with larger diameters, diluting oil viscosity, expediting spill response capabilities, expanding refinery capacity in the Amazon region, using river or rail or road transport, tunnels, etc. All this is standard practice in Analysis of Alternatives.

In OCP's case, the siting or routing of linear infrastructure projects, such as roads, canals, railways, and pipelines, is by far the most influential opportunity to prevent social and environmental impacts and to mitigate any residual impacts. The routing of the pipeline Right of Way (ROW) is the most powerful opportunity to reduce impacts. As Ecuador is doing right now so commendably in boosting electric power transmission, the new transmission towers are either on top of, or immediately adjacent to, the old electric power ROW. Once the routing is fixed, most of the other mitigatory measures are weak in comparison with routing. Routing is paramount in pipelines.

Analysis of Alternatives is designed to meet two objectives. The first objective is to ensure that the route with the least impacts is selected. The second objective is to ensure that the route with the least impacts is socially and environmentally acceptable. For example, it is conceivable that a routing, although having least impacts, could still be unacceptable on certain social and environmental grounds.

OCP's EIA contains several sections on Analysis of Alternatives and commendably recognizes that closely following the 30-year-old SOTE route would prevent new impacts. Williams Corp. of Tulsa OK, USA built the existing SOTE pipeline 30-years ago, so have had much experience with TransAndean pipelines. They have been involved in Ecuador's oil sector ever since. Williams recommended closely following the existing southern route alternative to reduce the need for a new ROW. Williams routing proposal and bid were substantiated by a package of supporting documents; these are, however, not publicly available. Brazil's Andrade Gutierrez Co. partnered with the Army submitting a bid proposing a routing close to the Colombian frontier. Komex International Ltd., Calgary, Canada seems to have proposed the old Southern route too, plus an environmental and social assessment, also unavailable.

From the available documents, it appears as though the critical decision for the Northern routing was taken sometime between early and mid-1999 (see chronology in Section 7). This fundamental decision was confirmed by OCP as being made prior to August 1999, more than a year before the Terms of Reference were completed for the environmental assessment. Some preliminary construction works on the Northern route began early in 1999. Thus, arguably the most important decision of the entire OCP construction -- that should have been taken by means of the EIA process -- was taken long before the EIA began. The use of the EIA for such retroactive justification violates the WBG's whole EA policy. EA is a process to aid good decision-making. It is a major wastage of resources to carry out *post hoc* EA, and causes major risks to the Republic of Ecuador. Using the EA process for retroactive justification of major decisions, such as the routing, undermines the entire EIA.

## 2.4.2 Rejection of the Southern Alternatives

The case for OCP's rejection of what have been called the "lower impact" (i.e., Southern) routes is not at all clear. The Southern end of Quito where the SOTE pipeline runs certainly has more people than the protected forests bisected by the Northern route. These people are very poor, hence would likely agree to being resettled if they were offered a resettlement package that meets WBG standards (See Section 4 on Resettlement).

Experienced engineers (e.g., Williams, Gulf Interstate Engineering, Komex) have concluded that it is indeed feasible to build OCP closely parallel to SOTE. There is, however, no need to enter the North vs. South routing debate in this report. Stone & Webster (2002) state that: (a) "*each of the international environmental experts noted that the EIS for this projects did not fully develop all alternatives considered for the pipeline route... and (b) cost estimates were not developed for the Southern route that more closely paralleled the existing SOTE pipeline.*" The Netherlands' MER Commission (April, 2001; Para. 2.5) found it "... *impossible to verify the reasons given for rejection of the Southern route*". In addition, the Smithsonian biodiversity experts also found the route selection to be inadequate.<sup>19</sup>

OCP is not compliant with WBG's OP 4.01 as the process of analysis of alternatives in its EIA is unsatisfactory.

## 2.4.3 Selection of the Northern Route

For many people who have looked at OCP, there are several ways in which clarity is lacking regarding the selection of the Northern route: (a) the reasons for the selection of the Northern route, especially given that it has higher impacts than the Southern route, are unclear; (b) the case that the Northern route is less costly in money terms (given that new access roads are needed for the N-route and less so or not at all for the S-route) is not convincing; (c) the case that the Mindo route is the lowest impact is unpersuasive; and (d) the reasons for rejecting all the other alternatives are unclear.

The requirement for Analysis of Alternatives was designed precisely to foster broad agreement on the route with the least impacts. Because worldwide experience shows that closely paralleling an existing ROW is almost always substantially lower impact than driving a new ROW in a quite different direction, the case for the rejection of the old parallel route and the selection of the new Northern route needs to be made, meaningfully discussed with all stakeholders, and a broad consensus sought before deciding. Had OCP's EIA persuasively made

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<sup>19</sup> The Smithsonian report (2001) is evidence of the inadequacy of route selection and analysis of alternatives. The Smithsonian tried valiantly to retroactively revise the text of the EIA, and indeed improved the text, but the decisions had already been taken for the Northern route. P.50: makes the Smithsonian realize that OCP had long since decided to go ahead with the Northern (Mindo) route. In other words, the EIA was a retroactive justification of the route selected. The EIA does not permit identification of either the criteria nor the methods followed in route selection...p.29-30:... the criteria are not well thought through. Retroactive disqualification of the Southern route. If the EIA findings correspond to the text, the Oyacachi route would win....despite contradictions and bias against SOTE, SOTE is the winning route...p. 31: The EIA makes an unbalanced comparison between North & Southern routes. P.35: Following the criteria weighed, the Southern equivalent comes out best....all the analysis favors the SOTE-equivalent. The Smithsonian concludes (p. 52) that it may be best to search for a new alternative. While the SOTE route's short San Juan-Chiriboga segment is difficult, engineering opinions differ on its feasibility. OCP commendably tunnels under major rivers elsewhere. Gulf Interstate Engineering Co, as well as Williams, seem to conclude that Chiriboga is feasible (P.77; Table 4.1-28).

the case for the rejection of the Southern alternatives, the Northern alternatives would be less contentious.<sup>20</sup>

Even S & W (p.15) could not bring themselves to state that the route selected is the least bad. S&W recognize that the analysis of alternatives has been criticized. But their main determination on route selection is that "... the final route expended time and effort." While true (and not apposite) that time and effort were expended, the expenditure of time and effort in itself does not mean that an analysis of alternatives as required by OP 4.01 was performed. S&W's writing on this subject suggests that they themselves may have been unconvinced that route selection was adequate. Still, S&W erroneously and misleadingly cited the reports of the Smithsonian (2001) and the Netherlands' EIA Commission (2001) as justification for route selection. In fact, the Netherlands' EIA Commission did not conclude that the Northern route was better than the Southern route. On the contrary, the Netherlands' report (MER, 2001) said it is impossible to justify rejection of the Southern route, and that OCP's EIA lacks "*transparent comparison of alternatives.*" The Smithsonian report points out numerous flaws in the EIA and route selection processes that are not consistent with WBG policy.

Because of all the deficiencies noted so far in this section, the selection of the Northern route does not comply with WBG policy OP 4.01 – or with OP 4.04. Selection of a new route that bisects many critical natural habitats, as the Northern route does, contravenes both WBG policies OP 4.01 and OP 4.04.

The EIA's neglect of many of the social impacts of the Northern route undermines this critical section of the EIA. For example IDB's former staff Ing. Jose Ledergruber points out that the Northern route will transect some 20 medium to large-sized municipalities, and that this poses great risks for their inhabitants. Among others, he mentions Yaraqui (population 9,000) where the pipeline is only 600 meters from the city center, and 400 meters from a large high school. In the seismically active Papallacta region, the pipeline is close to Quito's main drinking water supply (see # 3.6.2).

Moreover, the EIA lacks adequate oil spill contingency plans (expected late August 2002, M. Aleman 13 Aug '02) and does not identify the location of helicopter landing sites (expected end-2002). The siting of pipe storage yards which are sizeable and numerous, and the dramatic increase in heavy traffic are not resolved. These deficiencies further make OCP non-compliant with OP 4.01.

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<sup>20</sup> The 15 February 2001 contract between GOE (MEM Minister Pablo Teran) & OCP (President Hernan Lara) defines the route as the Northern alternative. This suggests that route selection had been finalized sometime before February 2001. That contract (p.4, Para.9h): states that the Northern route was authorized by the National Security Council on 31<sup>st</sup> October 2000. The Annex (pp. 418-423) corroborates pre-selection of the Northern route. The paramount decision on route selection must therefore have been made before 31st October 2000. Therefore most of the social and environmental work from then on compounded the non-compliance. The EIA TOR had not at that time been agreed on. This suggests that the EIA was designed to retroactively justify key decisions already taken without environmental and social assessment.

## 2.5 Public Participation and Consultation

**OP 4.01, Para 15: “Public consultation is needed with affected people and NGOs (a) before TOR is finalized, (b) on the draft EA report before it is formally approved, (c) throughout project implementation.”**

Draft TORs were not made available to potentially affected people and other stakeholders before the EA process began. The scoping and screening phases of early EA process were not carried out as required, and stakeholders do not seem to have participated in the design of the EA.

It appears that OCP made the executive summary of the draft EIA available in nine locations for between two and three weeks between April & May 2001. OCP made three public presentations to the affected people about the project and its EIA in May 2001. Entrix and others confirmed that the last presentation was not even begun because of protests, and that the second presentation deteriorated, such that most attendees had left before OCP’s presentation had started.

To be meaningful, participation must be based on balanced access to information; it is not a one-way presentation of information about decisions already made. If affected people feel they have not been consulted before the critical decisions were taken, they rightly conclude that the presentation is a mockery. OCP attended meetings, some of which were requested by affected people or civil society, but seems to have had no interest in a meaningful consultation. OCP often refused to entertain questions and to enter into a dialog with affected people. The views of Fundacion Natura, Ambiente y Sociedad, EcoCiencia, Maquipucuna & Cecia do not seem to have been addressed by OCP, and comments from the Comité Pro Ruta Menor Impacto were ignored or misunderstood.

Even the provision of information seems to have begun well after critical decisions had been concluded and without input from affected people. Only a few weeks were granted for comment, which is unrealistic given the length and complexity of the 1,500-page EIA. If affected people feel their concerns are not being addressed, they rightly feel abused. This may have been the cause of the disturbances of the last few presentations of OCP to the affected people and other stakeholders.

The WBG’s requirement for participation by potentially affected people was not complied with throughout this process. OCP’s presentations did not start early enough to comply with the WBG’s requirement to start meaningful participation before the EA process begins. Screening, scoping and agreement on the TORs are the places to integrate the views of civil society. Martinez-Alier et al. (2001) and the Smithsonian corroborate this non-compliance.<sup>21</sup>

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<sup>21</sup> Martinez-Alier et al. (2001): Considering the total lack of information in the communities about OCP’s construction and operation, and the lack of a participatory process in decision-making for the route selected, [OCP’s] environmental licence becomes vulnerable on constitutional, legal and administrative grounds...[as well as] World Bank policy requirements. Smithsonian (2001): [Consultas publicas] *Este proceso pudiese haber sido mucho mas efectivo si la compania hubiese implementado con una adecuada antelacion un programa de comunicacion y diffusion amplio para todos los sectores de la poblacion Ecuatoriana, con especial enfasis en la comunidades posiblemente afectadas por el ducto (p. 4)*. The three presentations in 2001 were first in El Chaco 4 May, (OCP refused to take questions and would not reveal the routing). Second was in Quininde (5 May), and the third was in San Miguel de los Bancos (11 May). El Comercio (12 May) reported that dialog was not possible, OCP could not win approval, so 2000 people decided to abandon the presentations.

## 2.6 Identification, Analysis, and Quantification of Impacts on Natural Habitat

**OP 4.01, Para 3** mandates *identification, study and quantification of likely impacts of the project on critical and other natural habitats.*

At the screening and scoping phases, maps of all natural habitat, critical natural habitat, protected areas (public and private, existing and proposed, according to OP 4.01), and rare and endangered species should have been used to design a robust selection process to be followed with full participation of stakeholders in order to find the least impact route. OCP seem to have recognized this deficiency because they commissioned the Mindo Working Group, composed of national and international experts with considerable experience with birds, mammals, amphibians and reptiles, botany, geology, EIA, ecotourism, and GIS interpretation to undertake a rapid (9-day) ecological assessment of the proposed Northern route from 2<sup>nd</sup> to 10<sup>th</sup> April 2001 (Mindo Working Group 2001).

The Mindo Working Group's report highlighted the inadequacies of the biodiversity chapters in the EIA. In view of the information on the species richness of the Northern route contained in the assessment by the Mindo Working Group, the biodiversity of the Southern routes now appears to be substantially lower, relative to the Northern route, raising further questions about the process and choice of route selection. The information, findings and conclusion of the Mindo Group REA were not adequately incorporated into the EIA.

The Smithsonian (2001) asserts that the EIA's lists of species lack a scientific basis. The Smithsonian's recommendations for the EIA to rectify the inadequate treatment of biodiversity, especially endemics (threatened and unique species), seem not to have been understood by the EIA team. Recognizing the EIA's deficiencies further, OCP commendably contracted Cecilia, the Ecuadorian branch of BirdLife International, to advise on necessary follow-up to the Mindo Group's findings. It is however not apparent that Cecilia's advice has had any impact on project design. During my field inspection of the ROW, it seemed that much more primary and secondary forest are affected by OCP than described in the EIA. For example, most of the slopes surrounding Chiquilpe Pressure Reduction Station are covered with valuable cloud forest (see images 6 to 10 in the photo annex), whereas the EIA states, "only small groups of bushes remain on the slopes".<sup>22</sup>

As the selected route will cause so many impacts on habitat, conservation of relatively intact remnants should have been a priority. Old second growth can be valuable for restoration of habitat and can support rich biodiversity. EA says that the "Bosque de Balao" was not studied. Even in areas in which studies took place, these seem little more than cursory. The Rio Mindo watershed, which cuts through the Mindo-Nambillo Protected Forest, was not studied in spite of the fact that the EIA recognizes negative impacts affecting this area would be severe in all stages of the project due to instability along the ROW from Cerro Castillo to San Luis. The Mindo-Nambillo Protected Forest supports more than 37 globally threatened or endemic bird species, contributing to the \$100 million annually spent by wildlife tourists in Ecuador last year. Mindo

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<sup>22</sup> Entrix July 2001: Estudios Ambientales complementares, Estacion Chiquilpe, p. 5: *De la vegetacion nativa solo quedan grupos de arbustos en las laderas.*

is clearly the WBG's highest category of "Critical Natural Habitat" (OP 4.04, Para. 4). The BirdLife coalition, as well as Conservation International, the Nature Conservancy, the World Wildlife Fund, and the World Bank's Global Environment Facility (GEF) group agree that this area is one of the most critical regions for conservation on this planet.

### **2.6.1 Critical Natural Habitat**

The WBG Natural Habitat Policy prohibits the support of conversion or degradation of critical natural habitat, such as the Mindo-Nambillo Protected Forest. Although there could conceivably be flexibility for some tradeoffs for loss of non-critical natural habitat, that would depend on OCP's ensuring that such habitat would be better off with the project, and that offsets would be bought and conserved. Offsets for natural habitats do not seem to have been considered by OCP (for details, see Section 3 below on Natural Habitats).

## **3. OP 4.04: Policy on Natural Habitats**

**OP 4.04, Para. 4-5 & Annex A Para 1(b): *Avoid significant loss or degradation of Critical Natural Habitats.***

### **3.1 Global Environment Facility-Financed Biodiversity Protected Area**

The pipeline route selected, and now under construction, bisects the project area financed by the GEF's Choco-Andean Corridor project (see images 11 and 12 in the photo annex) and other critical natural habitats.<sup>23</sup> It seems imprudent to protect a specific area with scarce international financing and then to build access roads, a major pressure reduction station, and a permanent ROW through it. This caused much concern on the part of the World Bank, culminating in the unusual step of two WBG Vice Presidents complaining directly to OCP's Hernan Lara (19 Dec 2001). The 22 February 2002 response by Ecuador's Chancellor and three ministers (Finance, Energy, and Environment) claimed that GOE had previously (between 1999 and 2000) sought WBG finance for social and environmental priorities (PERTAL/PERTEC) of five petroleum megaprojects (which included OCP), but WBG-financing failed to materialize because of environmental concerns. This does not resolve the issue.

Requesting GEF grants to conserve biodiversity and then routing an oil pipeline through the thus protected area does not comply with WBG policies. OCP's bisection of GEF's Choco-Andean Corridor is a serious and major violation of OP 4.04.

### **3.2 Conflicting Forest Conservation and Hydrocarbon Policies**

Ecuador's Forest legislation and the WBG's OP 4.04 constrain environmentally damaging activities inside National Parks & protected areas (e.g., Cuyabeno, Yasuni, Limoncocha, Panacocha)<sup>24</sup>. This conflicts with MEM's hydrocarbon legislation, which states that oil extraction is permitted inside National Parks if it is compatible with environmental sustainability. For the purposes of this compliance assessment, oil production inside National Parks has been

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<sup>23</sup> Ecuador requested this \$3.3 million project (# EC-GM-PO66534) which was approved in May 2000.

<sup>24</sup> Boundaries of Ecuador's protected areas have been adjusted to facilitate the oil industry on several occasions, but pollution does not stay inside oil concessions.

substantially damaging them over the last 30 years. It is therefore incompatible and should not be permitted until the oil industry proves it can produce oil in an environmentally compatible manner. While there are suggestions of improvement in practice, such as reinjecting of production brines and directional drilling, these are exceptions and not yet widespread. There are also two “Zonas Intangibles” in the Amazon (e.g., Wray, 2000). Alberta Oil seems to be operating inside the Cuyabeno-Imuya (435,500 ha.) “Untouchable Zone.” To the extent that oil production occurs on indigenous lands, it does not comply with OD 4.20 (see below for details).

### **3.3 Assess Impacts on Natural Habitats**

**OP 4.04, Para. 4 & BP 4.04, Para 5 (as well as EA OP 4.01, Para 3):** *The EA needs to assess (study and evaluate) if there is a risk of significant conversion or degradation of natural habitats, and quantify the likely impacts.*

OCP’s ROW bisects seven or more protected areas, which are the WBG’s most stringent category “Critical Natural Habitat”. The Ecological Reserves Cayambe-Coca & Antisana, Parque Natural Cumanda, Bosques Protectores Cumanda, Mindo-Nambillo, Cuenca Alta del Rio Guayllabamba, San Francisco, and the conservation units Lumbaqui, Maquipucuna, Bellavista, La Perla, & Reventador have not been accorded adequate attention and mitigation (c.f., Smithsonian 2001). In addition, impacts need to be assessed on Sumaco National Park, Bosque Protector La Cascada, Geobotanic Reserve Pululahua & the tropical dry forest remnant Bosque Lomas de Balao.

Compliance with OP 4.04 would entail mapping these dozen or so critical natural habitats (and any others potentially impacted), and assessing the risk of degradation by the OCP, together with measures to avoid (e.g., by rerouting) such areas, and to mitigate any damage. For example, BirdLife International asks why OCP cannot follow the existing Tandayapa-Nono road for that critical segment. The Northern route has more access roads than the Southern routes, hence can be more damaging to habitat. Most of the access roads constructed 30 years ago for SOTE’s Southern route have become National highways (e.g., Lago Agrio to Baeza #45).

### **3.4 Minimization of Habitat Loss**

**OP 4.04:** *Minimize and compensate for any loss or degradation of other natural habitats.*

The habitat of the critically endangered Black-breasted Puffleg hummingbird (*Eriocnemis nigrivestis*), burned for c.30 days in August 2001 while there were many workers and much equipment (e.g., pumps) to quench the fire. In early August 2002, more Puffleg habitat was on fire in more than one site, during a visit (undertaken for this report) to the Chiquilpe pressure reduction station. Watching critical natural habitat burn while it is easy to put the fire out does not comply with OP 4.04. It is difficult to see what priorities OCP’s environmental monitors had during such lengthy and repeated fires.

The Chiquilpe sub-contractor Techint thought that a tiny (30 ha) reserve of Puffleg habitat had been bought and conserved in the vicinity of Oyacochoa, near Rundupamba, but no one had heard of this tract and it was not mentioned in the colored Puffleg pamphlet just published (undated). As this species is down to possibly 250 individuals, compliance by the EIA means



avoidance should have been a priority and attention given to conserving remnant habitat (and conceivably expansion of offset habitat, provision of protection, food, & nesting opportunities, and reduction in predation and fires). It is important to emphasize that the Black Breasted Puffleg is but one of many rare and endangered species of Ecuador's extraordinary biodiversity (e.g., Canaday & Rivadeneyra 2001, Coopmans & Crabbe 2000, Dodson & Gentry 1991, Hijmans & Spooner 2001, Robbins & Stiles 1999, Whitney & Alonso 1998), including the Tanager Finch, Long-wattled Umbrellabird (Pajaro Toro), Spectacled [Andean] Bear, *Lepanthes* orchids (See Ridgely & Greenfield 2001, and Schenck 2002, for the most up-to-date facts and photos on endangered species in the Mindo area). Bosque Protector Cuenca Alta del Rio Guayllabamba is as important as Bosque Protector Mindo Nambillo, but receives less attention, as it is less accessible.

### **3.5 Offsets are Needed for Compliance**

Offsets are tracts of relevant habitat, similar in size and biodiversity values, purchased and conserved in compensation for unavoidable reduction in habitat elsewhere (Cf: Ledec 2000). While offsets are not a solution for destruction of critical natural habitats, they could for example foster compliance with OP 4.04 for the degradation of valuable second growth forests outside protected areas, but only if habitat and biodiversity are clearly better off with the project plus the offsets. Over 5000 ha of suitable habitat is available for sale already. The Mindo-based ecotourism industry has bought a few hundred hectares for \$70,000, but news of OCPs construction is already causing eco-tourist cancellations<sup>25</sup> thus endangering the economic viability of this industry.

### **3.6 Aquatic Habitats**

**OP 4.04, Para. 4-5 & Annex A, Para. 1 (a): *avoid, minimize and compensate for degradation to aquatic natural habitats***

#### **3.6.1 Marine Terminal**

A site of about 400 ha has been bought for OCP's new Marine Terminal about mid-way between Puerto Balao and Chevele. The community of Punta Gorda is not on Entrix's Marine Terminal map. OCP President Hernan Lara said that construction of the coastal part of the Marine Terminal was about 60% complete. OCP's EIA did not include adequate studies on coastal zone management, fish biodiversity and fisheries, nor was any EA conducted on the impacts of the Marine Terminal. According to MEM's Michael Hoffman such studies will be prepared, although the team had not been found as of 7th Aug 2002. This is another example of non-compliance

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<sup>25</sup> This compliance assessment does not address how compliance could be achieved, but there may be scope. The Bolivia-Brazil gas pipeline allocated \$20 million to rectify ENRON's damage to the Chiquitano and other natural habitats. The Chad-Cameroon oil pipeline financed two new National Parks totaling several thousand sq kms. Laos' Nam Theun hydro allocates \$30 million for the conservation of 3000 sq km of watershed habitat. The figure of 10% of total project costs to be allocated to compensate for such damage is mentioned in the literature. OCP's \$2million eco-fund was so meaningless that it was dropped. We are unable to verify how OCP's \$50 million Environmental Bond (MEM/OCP 15<sup>th</sup> Feb.'01 contract: p.65, Para. 11.4), nor the damage insurance policy, nor the \$50 million escrowed performance bond will be allocated. If they are used to capitalize Ecuador's commendable National Environmental Fund, some damage could be rectified. Adoption – and particularly forceful implementation – of the three National Legislations proposed on (a) National Parks, (b) Biodiversity and (c) Forests could also play an important role in mitigating environmental damage.

with basic World Bank environmental standards, with OCP undertaking belated studies to retroactively justify decisions already previously taken.<sup>26</sup>

### **3.6.2 Papallacta Lagoon**

The section of OCP between Papallacta and the pass on the eastern flank of the Andes (Alto de la Virgen, 4096 m) may not be likely to rupture, but if it did it would risk the unique wetland – the Papallacta lagoon – at 3450 m elevation (see image 5 in the photo annex). That this is also in or near Quito’s water supply catchment should have merited special attention by the EIA. OCP closely parallels the Papallacta River in some segments and has led to heavy siltation (BirdLife 24 May 2002) due to poor construction practices. Techint’s tractors and power shovels excavate the riverbed; tear up the riverbanks, and are removing old growth riverine forest habitat, thus creating siltation for several kilometers downstream, clearly visible from Route 45 about five kms East of Papallacta during my August 2002 visit (see images 2 to 4 in the photo annex). The riparian forest is treated cursorily in the EIA and the Torrent Duck is declining possibly because of such damage. The Papallacta watershed supports several globally threatened birds, such as the Spot-winged Parrotlet, Coppery-chested Jacamar, Bicolored Antvireo and the Masked Mountain-Tanager, as well as the Spectacled Bear and the Mountain Tapir.

## **3.7 Impacts During Operation**

It is essential to ensure that impacts during operation are kept less than impacts during construction. As the contents of OCP will be under high pressures and temperatures, any rupture may flow out at c.250m/sec., so explosions should be prevented, as well as leaks. Miguel Aleman of OCP/Entrix calculates that 3050 barrels could be spilled in each rupture before being controlled in Mindo (El Comercio 27 May 2001). This contradicts OCP’s prior assertions to the affected people of Mindo that no or hardly any spill could possibly occur because of the technical design of the pipeline (early 2001 meeting in OCP’s head office, *fide* P. Greenfield). One much needed rapid calculation is the number and deployment of check-valves along the OCP. The number and locations of the 62 check-valves along the 503 kms (298 miles) ROW should be scrutinized to ensure meeting good practice for such sensitive areas.

## **4. OP 4.12: Involuntary Resettlement**

A developmentally responsible project design, which aims at reducing poverty and social impacts, and to conserve environment would have been to parallel SOTE very closely. While the number of people potentially impacted is one of the critical considerations to be used in route selection, it is also important to differentiate between urban and rural resettlement. Usually, urban resettlement is much easier to make acceptable than rural resettlement because urban employment remains relatively unaffected. The number of people affected by the Southern route is said to be 260,000 or 20% of the population of the Metropolitan District of Quito, but without disaggregation it is difficult to assess. In addition, the Williams bid proposed a deviation around the Southern boundary of the city of Quito to minimize the number of affected people.

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<sup>26</sup> Esmeraldas society, apart from being mainly AfroEcuadorian ethnic minorities, is vexed which has led to civil disobedience. The 26<sup>th</sup> February 1998 fire from the refinery spread down the Teaone river to the Rio Esmeraldas delta, with major loss of life and destruction of c.600 houses.

The number of people affected by the Northern route<sup>27</sup> (see image 13 in the photo annex), including potential explosions, and the landslips already starting, should have been compared with the disaggregated 260,000 figure. This is still another example of inadequate assessment at odds not only with World Bank policy but with accepted international principles of Environmental Assessment—one of the most basic being the conducting of the EIA in a timely fashion to assess impacts of different alternatives and to provide the essential information on costs, impacts and benefits necessary for a rational choice of alternatives. In this case, the commitment to the Northern Route early on foreclosed the required analysis of resettlement and social impacts that should have been evaluated and compared in the choice of route.

## 4.1 Types of Compensation

**OP 4.12, Para 3a & 6 state that *appropriate in-kind assistance or compensation is mandated for any loss of income or reduction in livelihoods, not only involuntary resettlement.***

**OP 4.12, Para 13, Annex Paras 6a & b state that a *“full socio-economic analysis has to be carried out” for the affected population.***

The EIA does not have a ‘full socio-economic analysis’ of the affected people. It is a necessary pre-requisite to designing equitable compensation. Loss of a portion of a smallholder’s farm reduces income & livelihoods, and can make the difference between subsistence and destitution. Hence the WBG’s requirement of a resettlement plan. This plan must be developed with the participation of the c.5000 affected people. I have not been able to find anything resembling the required resettlement plan, and the lack of opportunity for participation by the affected people has, in many cases, led them to protest the project.<sup>28</sup>

The WBG policy clearly prefers land-for-land for rural compensation. Only where land-for-land compensation has been shown to be unfeasible, should the cash option be resorted to. However, cash compensation seems to have been the only choice OCP offered to the affected people. This does not comply with WBG policy. In view of the well-known risks of cash compensation, why was replacement land not an option? While OCP claim to have been generous in compensation, the affected people disagree. WBG policy is to draw up a menu of options. For example, some infirm or widowed farmers losing part of their land to the ROW may prefer to move to the nearest settlement, or join their children, rather than to struggle with a smaller plot. Where cash is one option, then replacement value should be used, rather than cadastral or taxation values.

The most important issues of social non-compliance are the social impacts along the ROW. On the one hand, OCP claims that only 40 landholders (out of a total of 1583 affected landholders) have not agreed to compensation, so have to be forced into expropriation. On the other hand, I interviewed many affected families, elected officials & community leaders who

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<sup>27</sup> OCP asserts (El Comercio 7 June '01; p.A6) that the Northern route “no afecta a las poblaciones”. On the contrary, the Northern route does not pass mainly through almost uninhabited areas. Even excluding the Northern suburbs of Quito, the number of people in the zone of influence of the ROW could exceed 111,000 people (in Calderon, San Miguel de los Bancos, Puerto Quito, Pomasqui, Pedro Vicente Maldonado, Yaruqui, Pifo, Checa, Calacali, Nono, & Mindo).

<sup>28</sup> For example, on 12<sup>th</sup> May seven protesters and one minor were arrested while asleep on their own private property. Illegal arrests are probably even more severe in Lago Agrio (See National Congress’ 16-18 May 2002 report).

have substantial claims that OCP or their sub-contractors abused them<sup>29</sup>. This is substantiated by:

- the Government's Veeduría Commission;
- the National Congress' Oficio No. 062-FUL-DG-CN-02 of 22 May 2002;
- Weemael's (2001) detailed statistics;
- interviews with elected officials; and
- Three lawyers from the Office of Human Rights 'ISAMIS', Comisión Ecuemenica de Derechos Humanos from Quito, and other legal specialists who are compiling physical evidence in preparation for the upcoming Federación Internacional de Derechos, or OAS' Human Rights Commission.

ROW sub-contractors are supposed to take the signed contracts with the signers to the local Notary Public, get the agreement notarized, then provide the affected people with a copy, and transport the people back to their homes. The sub-contractor, Azul Co., is widely criticized for not providing copies of the contracts to their signers. While some dissatisfaction with the amount of compensation is to be expected, affected people claim they were deliberately confused by talk of *suces*<sup>30</sup> and payment in dollars.

## 4.2 Lack of Requisite Resettlement Plans

The resettlement from the c.60 ha. Amazonas Terminal near Lago Agrio, though modest, lacks the resettlement plan required by WBG policy. The siting of this terminal does not seem to have had adequate EA (relatively intact Amazonian moist forest was removed from part of the site), and the elected officials opposed the siting, noting that it infringes on municipal plans and rules. OCP received the inputs of the Sucumbios College of Engineers, but the local authorities rejected it. Thus the siting of the Amazonas Terminal remains a source of dissatisfaction.

The community resettled from the Marine Terminal also lacks a resettlement plan. OCP President Hernan Lara informed us (8 Aug) that only a small number (about half a dozen) houses had been resettled because it had long been a Naval Restricted area. Even so, equitable resettlement is necessary for compliance. As the EIA for the Marine Terminal is not yet available (expected by October 2002), the artisanal fishing communities of Esmeraldas fear that their livelihoods will be affected.

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<sup>29</sup> An extraordinary mission from Ecuador's National Congress met with 200 affected people in Lago Agrio between 16 & 18 May 2002, documenting OCP's non-payment of compensation, or paying less than the agreed amount, or fraud, deception, and malversation, intimidation and imprisonment for not signing, police brutality, women and children assaulted by police, battering with machine guns, police throwing tear-gas canisters into occupied dwellings which also housed women & children. This Congressional Hearing writes (my unofficial translation of a partly illegible copy) that neither the Lago Agrio authorities, nor the Interior Minister are responsible, because the police are not under their control. The police are exclusively under OCP's control (which also pays them). We spent 5 hours on 10th August 2002 in one community meeting listening to verbal testimony from about 80 affected people with very specific claims of unsatisfactory compensation or abuse from OCP or their subcontractors. Weemaels (2002) found 67% of the 149 affected landowners sampled had not been previously consulted as required by WBG policy. Fence damage and leaving gates open causing loss of livestock was a common complaint. The tariff of compensation was not transparent and many claim they had never seen it. The ROW exceeds the agreed-on width in places. Although the affected people are poor and have little help to air grievances, Weemaels lists 10 lawsuits against OCP. Money is required for court costs so most of the poor are not able to use the justice system. OCP does not seem to have an accessible grievance process (see below). There have been several attempted murders of both the Mayor of Lago Agrio and the Prefect of Sucumbios. The last night a hand grenade was thrown in their car, it bounced back enabling the perpetrators to be imprisoned in Quito. The affected poor find writing difficult. They do not have access to tape recorders, cameras or videos so their testimony is difficult to corroborate, but the National Congress has documented pervasive illegalities by OCP or the police.

<sup>30</sup> Former Ecuadorian currency until September 2000. \$1US = 25,000 *Suces* (See Beckerman & Solimano 2002).

In addition, on the social side, there is significant land take, not so much from the ROW, but from bigger features such as pumping stations etc. Here, WBG policy is clear that detailed involuntary resettlement plans need to be agreed on before construction can begin.

### **4.3 Grievance Procedures**

Social impacts are real and cannot always be instantly resolved. This is especially important for the poor and vulnerable, who may not be very literate and who do not have the resources to use the usual channels of complaints, such as the municipal public defender, judges and the court system. Even an accidental failure to close a gate by the prospecting or surveying crews can result in significant losses to the poor if their cow wanders off.

Grievances, differences of opinion, traffic accidents, or causing more damage than agreed upon are normal in projects such as OCP. In the case of OCP, Accion Ecologica (2002) has documented more than 20 work stoppages and protests against OCP by affected peoples in Quito, Guarumos, Mindo, Nono, San Miguel de Los Bancos and the Provinces of Napo and Sucumbios.

To help with grievances in cases like this, EIA public reading rooms serve as an initial, essential point of contact between affected people and project sponsors and their associates (in this case, OCP, Entrix, Techint and their sub-contractors such as Azul). Publicly accessible dissemination of the EIA and information-sharing, such as by means of reading rooms are a requirement of WBG policy, and normally prevail for the life of the project. Yet for OCP, the EIA public reading room was open for less than one month. In general, it seems that no appropriate and accessible grievance mechanisms were established to deal with the problems that the project is causing for displaced and otherwise affected families. This does not comply with WBG policy OP 4.12.

ESPOL recently found that social programs relating to OCP were just starting up. This does not comply with WBG policy of consulting potentially affected people during screening and scoping stages, or well before the EIA proper can begin. The concerns of the potentially affected people need to be addressed in the EIA from its earliest phase, not when land acquisition is 90% complete.

## **5. OD 4.2: Indigenous Peoples**

**OD 4.2: Para. 13-20 mandate *preparation of an Indigenous Peoples Development Plan to address any adverse impacts and help ensure that indigenous peoples benefit from the project.***

### **5.1 Vulnerable Ethnic Minorities**

As OCP will double oil production, much of which will be inside or will impact on Indigenous Peoples<sup>31</sup> lands, OD 4.2 mandates preparation of Indigenous Peoples Development

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<sup>31</sup> Including the Achuar, Shuar, Huaorani, Quichua, Shiwari, Zaparo and possibly others. This is important because there may be some as yet uncontacted nomadic tribes in the Amazon such as the Tagaeri (related to the Huaorani's Taga ethnicity) who although refusing any contact with strangers won the honorific in the 1998 Bartolome de las Casas prize for living in harmonious symbiosis with the forest. IPS (23 May 2001) notes that OCP would violate the indigenous peoples land held by the Zaparo ethnic minority now designated by UNESCO as "Heritage of Humanity". On 7<sup>th</sup> August 2002, the Parliamentary Commission on Health and Environment, VicePresident & Congressman Reynaldo Paes said that any OCP impacts harming such societies and environment would constitute a 'crime against humanity'.

Plans. As the impacts on vulnerable ethnic minorities and the Amazon oil producing area are omitted from OCP's EIA, this requirement has not been complied with. The basic error seems to have occurred very early on in the EIA process, namely the incorrect ruling to exclude the impacts of doubling oil extraction from the Amazon region.<sup>32</sup> Indigenous coalitions, including CONAIE & FENOCIN, united in opposition to OCP on 17 May 2001, partly because OCP will impact on Indigenous Territories of the Huaorani, Siona, Secoya, Quichua, and Shuar & Achuar. This also does not comply with WBG policies.

Because this kind of non-compliance can lead to intensified impacts, the WBG emphasizes the need for participation by civil society in scoping, screening and preparation of TORs for the design of the EA process, under the scrutiny of an internationally recognized panel of environmental and social experts. OCP does not seem to have complied with these checks and balances. Thus, potentially, OCP could lead to massive social impacts on the indigenous peoples as the 30 years of the SOTE pipeline operation so clearly show. Martinez-Alier et al. (2001): 'Construction of OCP on indigenous territory without proper consultation....shows a total abandonment....of compliance with treaties and international agreements on human rights,' as well as non-compliance with WBG policies.

These persistent impacts are well known in Ecuador and outside. They have led to severe harm to Amerindians<sup>33</sup>, civil unrest and years of High Court litigation in Ecuador and the USA. This is precisely the risky sort of error that the WBG's requirement for a Panel of Social and Environmental Experts is designed to prevent.

OD 4.2 also requires verification of the legal situation of the indigenous people. Prior to project financing, the legal status of concerned groups, as treated by the national constitution, legislation and secondary legislation; as well as the ability of these groups to access and effectively use the legal system to defend their rights should be assessed. These and OD 4.2's other provisions seemed to have been rejected by the OCP project.

## 5.2 AfroEcuadorians

Since there is substantial evidence of impacts by OCP on vulnerable ethnic minorities, as noted above, were the WBG involved with OCP, at minimum an Indigenous Peoples specialist would have been called upon to assess whether OD 4.2 applied in any way to OCP. Without doubt, an Indigenous Peoples specialist would have determined that the AfroEcuadorians impacted by the Esmeraldas end of OCP would have been considered an ethnic minority under OD 4.2. The Constitution of Ecuador accords special provisions for this ethnic minority and the Government has special units to support such minorities. As a result of the facts that no

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<sup>32</sup> The damage of oil to the vulnerable ethnic minorities of the Amazon region of Ecuador are well-known. For example: "Protesters Take Over Oil Wells," Reuters, Financial Times, February 23, 2001; "Nationwide Protests End with Triumph by Indians," Kinto Lucas, Inter Press Service, February 7, 2001; "After Deadly Protests, Ecuador Rolls Back Fuel Prices," Samantha Newport, Washington Post, February 8, 2001; "Army Crackdown Leaves Four Indian Protesters Dead," Kinto Lucas, Inter Press Service, February 5, 2001; "Army Attacks Village in the East," Jose Izquierdo, Servicio Informativo del Periodico En Marcha PCMLE, February 5, 2001; Weekly News Update On The Americas - La Hora (Quito) January 30, 2001; El Telegrafo (Guayaquil), January 30, 2001; Agencia Informativa Pulsar, January 30, 31 & February 1, 2, & 3, 2001.

<sup>33</sup> After nearly three decades of damage to human health and fish, and pollution of their water supplies, the Cofan Ethnic Minority occupied Texaco's main oil well, Dureno-1, and requested it be turned off. As the occupation was peaceful and in view of the severe harm to the Cofan community, even the Army gave up on 12 October 1998 and the well has remained closed ever since. Cofan's commemorative plaque "Notssia Tsampu Jin'ttima Isu" notes that the 10,300 ft deep well produced 2.5 million bbl of oil, 1 million bbl of formation brines, 700,000 cu ft of gas burned, 6,000 bbl of oil spilled, 10 ha deforested and pollution of both Rio Pisurie & Rio Aguarico.

Indigenous Peoples specialist has been called upon by OCP, and appropriate provisions for AfroEcuadorians have not been made, OCP is not in compliance with OD 4.2.

## 6. Conclusions

This independent compliance assessment of the extent to which OCP's Environmental Impact Assessment (EIA) meets the World Bank Group's social and environmental policies is not comprehensive. Even so, it finds substantial non-compliance with all four applicable WBG's Social and Environmental Safeguard Policies. The main specific areas of non-compliance are:

- (a) Non-compliance with OP 4.01 starts in the paramount need for an Analysis of Alternatives to ensure the selection of the least impact route, and the failure to garner adequate public participation and consultation, especially the views of the affected people. OCP's EIA did not evaluate the main impacts of OCP, namely those imposed by a doubling of oil production in the Amazon. OP 4.01 would require an analysis of the sectoral, regional, and cumulative impacts of OCP, which the EIA fails to do. The EIA is inadequate in identifying and quantifying impacts on natural habitats. The EIA fails to recommend the establishment of a requisite Panel of Environmental and Social Experts. A company that fails to meet the requirement of independence set by OP 4.01 prepared the EIA. Finally, the EIA violates not only WB policy but basic principles of international practice in environmental assessment by having been prepared *post hoc*, retroactive to the most important decision regarding environmental and social impacts -- namely after selection of, and the commencement of construction on, the OCP pipeline route.
- (b) The EIA does not comply with OP 4.04 because it fails to analyze OCP's violation of a GEF-financed Protected Area and six other legally protected conservation areas, all of which are "critical habitats," which OP 4.04 requires not to be violated. The EIA also fails to address critical issues of minimizing habitat loss, and fails to identify offsets
- (c) OCP's EIA does not comply with OP 4.12 because it does not contain a resettlement plan and process that would meet the policy's requirements. It fails to address pervasive complaints with compensation procedures, including the lack of any offer of land for land in lieu of cash compensation, as OP 4.12 requires for rural populations.
- (d) The EIA ignores the requirement of OD 4.2 for an analysis of OCP's impacts on vulnerable ethnic minorities and AfroEcuadorians, and does not provide for an indigenous peoples' development plan, as OD 4.2 requires.

## 7. OCP's Social & Environmental Chronology

**1999 March:** OCP/Techint's subcontractors cut illegal ROW through protected forest and private lands along the "Northern Route Alternative".

**1999 August:** Entrix & OCP began work on the EIA for the Northern route (M. Aleman, President, Entrix, quoted on 14 Jan 2002 before the European and One-World Politics, North Rhine Westphalia Parliamentary committee).

**1999 November 12<sup>th</sup>:** OCP met an active member of the opposition to the Northern route, Richard Parsons of Bellavista Ecotourist Lodge, Mindo. He ceased opposition to the Northern Route soon thereafter, but now re-opposes OCP as their risky practices became clear.

**Late 1999/early 2000:** Techint & Williams international consortium dissolved.

**2000 October 9<sup>th</sup>:** 22 groups formed the 'committee for the lower impact route' (=Southern).

**2000 October:** Quito Colon Hotel bidding process: MEM's Pablo Teran stated that two pipelines should be built, although it will be difficult to fill one. Techint's Northern route (costing \$890 million) won over Williams Southern route (costing \$730 million). Techint, through its subsidiary Tecpetrol, is an oil-producing member of the OCP consortium, which may have influenced the bidding process.

**2000 December 7<sup>th</sup>:** Williams Southern/SOTE route dropped; OCP's Northern route goes ahead. M. Aleman presented TOR for the EA to MEM (cited 14 Jan 2002).

**2001 January:** TOR for the EIA finalized, according to S & W (p 8).

**2001 January/February:** OCP's 1500p EIA and executive summary were ready but not released.

**2001 January 10<sup>th</sup> & March:** OCP formally met with the Committee for the Lower Impact Route, with Fundacion Maquipucuna, the NGO responsible for conserving the protected areas about to be bisected by the ROW. This implies that the Northern route had already been selected.

**2001 February 15<sup>th</sup>:** GOE and OCP signed the agreement to construct the OCP, including TOR for the EIA. Pp. 417-422 (#4.1: annex) states that the OCP route is defined as North of Quito between Calderon and Guayllabamba, thence between Pomasqui and San Antonio de Pichincha (p.418); south of Calacali village, and north of San Miguel de los Bancos. The Northern route is mapped on p. 423. Appendix IV (Anexo IV) 3 1.1.2: "*El EIA cumplira con las siguientes reglamantaciones....Normas del Banco Mundial*". Curiously Energy & Mines Minister Teran states to the press at signing that the routing was not specified in the OCP contract. MEM's Environmental Sub-Secretary Lizett Torres had guaranteed to the Committee for the Lower Impact Route in January that the OCP contract would not define the route.

**2001 March 21<sup>st</sup>:** MMA fines Techint for illegally cutting in Mindo-Nambillo forest preserve.

**2001 April 10<sup>th</sup>:** The Mindo Group's 9-day rapid ecological assessment released.

**2001 April 16<sup>th</sup>:** OCP submits EIA to MEM.

**2001 April 17<sup>th</sup>:** OCP submits EIA to MMA.

**2001 April 30<sup>th</sup>:** The 1,500-page EIA was submitted to SPE/Dinapa and was released for public review, only about one month before approval.

**2001 May 16<sup>th</sup>:** Smithsonian found route selection and other important aspects of the EIA inadequate.

**2001 May 17<sup>th</sup>:** MEM sends 25 pages of comments to OCP on the EIA.

**2001 May 17<sup>th</sup>:** MMA sends 72 observaciones to OCP.

**2001 June 4<sup>th</sup>:** Revised EIA submitted to MEM.

**2001 June 6<sup>th</sup>:** MMA accepts OCP's EA.

**2001 June 6<sup>th</sup>:** WestLB finished the syndication of the financial support for the Northern route.

**2001 June 7<sup>th</sup>:** MMA grants Environmental license to OCP.

**2001 June 8<sup>th</sup>:** The final EIA was approved by SPA/DINAPA.

**2001 July:** Quito court found Techint guilty of trespass on private land.

**2001 August:** GOE's Congressional Veeduria del OCP (Inspection/Audit) Commission was created to assess allegations of OCP's corruption; first report became public.

**2001 October 8<sup>th</sup>:** Sucumbios' Police Chief issues a 30-day warrant for the arrest of Raymond Kohut responsible for OCP's environmental affairs, after charges of illegal land invasion and illegal land clearing by OCP.

**2001 October 14<sup>th</sup>:** Special forces of the army created to protect OCP.

**2001 November 7<sup>th</sup>:** OCP starts paying National Police monthly in Lago Agrio.

**2001 Nov:** EA still very difficult to obtain. Only 4/01 draft is on-line as of 9/02.

**2001 December:** DINAPA's separate EIA task force under the aegis of ESPOL began too late to influence the critical design decisions.

**2002 February 7<sup>th</sup>:** DINAPA suspends environmental license because of erosion infractions at Guarumos.

**2002 February 22<sup>nd</sup>:** President Noboa declares State-of-Emergency in the Amazonian provinces of Orellana and Sucumbios because of strikes and demonstrations against OCP in which four people were reported killed and many more injured in several days of violent clashes.

**2002 May 22<sup>nd</sup>:** National Congress urgently demands GOE to halt police attacks on affected campesinos.

**2002 June 10<sup>th</sup>:** WestLB says no route changes are needed.

**2002 June 12-20<sup>th</sup>:** Italian International Solidarity mission of Parliamentarians, NGOs and journalists finds OCP in non-compliance.

**2002 August 4-13<sup>th</sup>:** Field inspection for this compliance assessment.

**2003 September:** OCP's expected completion (est.).



## Abbreviations and Acronyms

bbl	Barrel (~159 l)	MEM	Ministerio de Energia y Minas
BNL	Banca Nazionale del Lavoro	MMA	Ministerio de Medio Ambiente
CONAIE	Confederación de Nacionalidades Indígenas del Ecuador	NGO	NonGovernmental Organization
Corp.	Corporation	NRW	North Rhine Westphalia
cu	Cubic	OAS	Organization of American States
DINAPA	Dirección Nacional de Protección Ambiental	OCP	Oleoducto de Crudos Pesados
EA	Environmental Assessment (process)	OD	Operational Directive (of the WBG)
EIA	Environmental Impact Assessment (of OCP)	OP	Operational Policy (of the WBG)
ESPOL	Escuela Superior Politécnica del Litoral	OK	Oklahoma
FENOCIN	Federación Nacional de Organizaciones Campesinas, Indígenas y Negras	ROW	Right of Way
ft	Foot	SOTE	Trans-Ecuadorian Oil Pipeline System
GEF	Global Environment Facility	S & W	Stone & Webster Construction Inc
GOE	Government of Ecuador	SPA	Subsecretaría de Protección Ambiental, MEM
IDB	Inter-American Development Bank	TOR	Terms of Reference
ha	Hectare	WestLB	Westdeutsche Landesbank
Ltd.	Limited	WBG	World Bank Group

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