

**REPORT OF THE POST-FINANCIAL CLOSE
INDEPENDENT ENVIRONMENTAL CONSULTANT (IEC)
BAKU-TBILISI-CEYHAN (BTC) PIPELINE PROJECT**

SEVENTH SITE VISIT, JUNE 2006

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EXECUTIVE SUMMARY

This report presents the results of the seventh post-financial close field visit of the Independent Environmental Consultant (IEC) to Azerbaijan, Georgia and Turkey, between June 12 – 23, 2006 to monitor compliance with BTC Project Environmental and Social (E&S) commitments. The IEC team conducted the visit as two teams; one focused on Project activities in Turkey and the other in Azerbaijan and Georgia.

During the visit, the IEC had the opportunity to meet with the three BTC in-country organizations (Azerbaijan, Georgia and Turkey), BOTAŞ and the EPC Contractor in Georgia, reviewing documentation and interviewing personnel in charge of implementing E&S commitments and monitoring construction activities. The IEC visited several construction sites including activities along the Right-of-Way (ROW) and several Above Ground Installations (AGIs).

Shortly prior to the IEC visit, BTC achieved a historic milestone with the shipment from Ceyhan Marine Terminal (CMT), Turkey of its first cargo of crude oil to world markets by BP tanker British Hawthorn on June 5, 2006. This inaugural shipment of about 600,000 barrels of crude oil marked the start of export of Azerbaijan's crude oil via the BTC pipeline.

A fundamental finding from this mission is that there is still a considerable amount of construction work and ROW repairs remaining in Georgia and Lot B in Turkey. However, at this point in time, although construction issues to be resolved and non-compliance situations still remain, the IEC considers that the Project has consistently and successfully worked, during these years, in the direction of meeting the principles and intent of ESIA and ESAP commitments in all three countries. Several key issues remain during this transition period to operations:

- In Turkey, BTC and BOTAS should ensure that the institutional memory and experience of the Project is adequately transferred to BIL and that this commitment continues throughout operations;
- In Georgia, considerable construction work still remains; timing and contractor resources are issues affecting transition, but where reinstatement work is completed, a good level of quality has been achieved;

- In Azerbaijan, the transition to operations is progressing smoothly.

Organization and Staffing: In Georgia, the construction of the South Caucasus Pipeline (SCP) project is essentially complete, and the role of the E&S organizations is associated primarily with the reinstatement of the common BTC/SCP corridor. SPJV's compliance program continues to be compromised by staff reductions. The latest change has been the demobilization of the SPJV Field Environmental Manager for Spread 2 in November 2005. This has left SPJV without a Project Environmental Manager. As a result of these demobilizations, BTC has assumed more and more responsibility for contractor E&S issues, including the bioremediation program and also the management of the Central Waste Accumulation Area (CWAA) at PSG-1. BTC has also experienced a loss of staff, including its in-country environmental manager. Although it is recognized that there have been contractual strains over the past several months that have interfered with BTC's ability to control SPJV, there is concern that BTC is not fully staffed to monitor all of the activities being undertaken by SPJV. For example, the use of river-derived aggregate is a significant SPJV non-compliance that should have flagged by BTC monitors. The deteriorated conditions encountered at the CWAA at PSG-1 should have triggered its takeover by BTC earlier than what actually took place.

In Azerbaijan, there has also been substantial staff reduction, but reinstatement is effectively complete and sufficient staff from both CCIC and BTC has been retained to ensure completion of the Project. In essence, staffing appears sufficient to ensure the completion of the construction phase of the Project and allow for a smooth transition to operations.

In Turkey, there have been changes in the BTC License to Operate (LTO) organization and there is a new BTC Environmental and Social (E&S) organization, covering construction, transition and operations aspects with different groups. The BOTAŞ Environmental and Community Relations (CR) organization in charge of construction phase aspects as of June 2006 has decreased. BIL is in the process of finalizing its E&S team. The BIL environmental organization is already in place, whereas the CR organization remains to be staffed. A limited involvement of BIL during reinstatement punchlisting and land exit activities was observed. IEC is concerned that an adequate transfer of institutional memory and experience has yet to be achieved during the transition from the construction to operation phase.

Management of Change: In Azerbaijan and Georgia, the only significant management of change initiative for the BTC project is in Georgia and is the Class III change related to waste management. The MOC proposes to modify the Landfill Conditioning Plan (LCP) for the Iagljudja Disposal site. The IEC has rejected this MOC, primarily because BTC proposes to abandon those aspects of the LCP that would represent environmental improvement to the management of the Iagljudja facility. This MOC, however, is superseded by the decision of BTC to interrupt any activity related to the LCP and to plan for the identification, together with the local

authority, and the construction of a dedicated cell to be identified, where to dispose of the non-hazardous waste.

Third Party Concrete and Aggregate Suppliers:, Now that both the BTC and SCP pipelines have been installed and associated facilities constructed in Azerbaijan and Georgia, the need for third-party concrete suppliers is essentially complete. Aggregate supplies are being required primarily for gabion construction in Georgia. As noted during previous missions, Project intervention has been, to date, limited and generally late, with respect to implementing basic ESAP principles with third party concrete and aggregate suppliers. In Azerbaijan, the observation was made that former third-party batch plants identified as having been essentially Project concrete suppliers have been reinstated satisfactorily. In Georgia, one of the targeted batch plants at PSG-2 has been reinstated, but aggregate suppliers for the construction of gabions contradict commitments made in the ESAP by using direct river extraction. These third-party aggregate suppliers do not implement any pollution prevention measures, nor do they appear to implement any health and safety measures for their workers.

Construction Camps, Infrastructure and Services: In Azerbaijan, where Project potable water treatment facilities are in operation, testing is conducted on a regular basis and the results do not indicate that there is any health risk from drinking treated water. The only problem noted has been that the dispensers for drinking water in kitchens and offices have sometimes allowed for contamination with unacceptable Total Viable Bacterial Counts – TVC. In Georgia, water treatment at the camps and facilities continues to be good, except for PSG-2, where persistent low levels of total coliforms indicate that the potable water treatment process needs to be carefully checked and the problems corrected.

In Turkey, some construction camps are still being used across the Project. As reported by the Project, a decision still needs to be made with respect to the decommissioning of the remaining camps, especially at the Pump Stations. Due to their design characteristics, there appears to be some degradation of the modules and camp infrastructure at those locations. Housekeeping is also more problematic due to the limited workforce. Where camps have been decommissioned and reinstated, some issues of questionable reinstatement and two conditions with apparent community safety issues were observed during this visit.

Waste Management: This issue continues to be one of the most important environmental challenges in Georgia. Prior to this mission, the Project had proposed a MOC for the Landfill Conditioning Plan (LCP) that would reduce the level of effort for improving the use of this facility. The IEC had already rejected this proposed modification to the LCP, primarily because the changes would mean that the conditioning would not include improvements to the environmental management of the facility. The current status reported to the IEC during this mission is that the LCP for the Iagudja dump site has been interrupted, but the Project will continue to send its domestic non-hazardous waste to that facility until a new EU-compliant landfill can be constructed. Although it is recognized that in the post-construction phase only

limited amounts of domestic non-hazardous waste are being generated by the Project, the abandonment of the LCP represents a failure of the Project to manage its non-hazardous domestic waste. With respect to the management of hazardous waste, the plans to construct a new hazardous waste facility in Georgia have been abandoned and the Project is planning to export its hazardous waste to an EU-compliant facility in Europe. Some of the accumulated waste oil has been injected into the Western Route Export Pipeline (WREP), but the requirement to filter this oil before injection has slowed down the process, consequently the Project is now considering recycling this oil into the BTC pipeline. For the remaining hazardous waste currently being stored at the Central Waste Accumulation Area (CWAA) at PSG-1, conditions have deteriorated since the IEC's last audit, and the Project has relieved SPJV of their responsibilities and assumed waste management at that facility. There is a substantial amount of work now required to bring this facility up to Project standards. The Project also is required to fully assess the ramifications of exporting hazardous waste in relation to ESIA and ESAP commitments and international conventions (e.g. Basel Convention).

In Azerbaijan, both non-hazardous and hazardous waste streams are being managed acceptably. The incinerator at Kurdamir is about to be decommissioned and waste managed by a new hauling company Caspian Logistics Group (CLG), who are staging waste at the Sangachal CWAA. Non-hazardous waste will be stored temporarily at a dedicated cell at Sumgayit until an EU-compliant non-hazardous waste landfill is completed at the Sumgayit site. Hazardous waste has been staged at Kurdamir CWAA, the AMSCO facility at Temirmash, and the Sangachal CWAA pending the availability of Sumqayit Hazardous Waste Landfill at the National Waste Management Site, expected to be upgraded to Project standards by the end of 2006. Significant progress is being made with the waste oil from the BTC Project being stored by AMSCO, as is now being injected into the WREP.

Solid waste management practices across all Contractor operations in Turkey continue to be consistently conducted and adequately managed. However, at two CWAA locations visited (CMT and PT-2) poorer maintenance conditions were observed compared to previous visits. The level of housekeeping at these locations has decreased, including areas outside of the fence. Waste segregation, stockpiling and labeling were also inadequate. The IEC was also informed that the Project is taking an action to improve the design of the permanent CWAA at the CMT. The permanent CWAA facility at PT2, which was visited, also appeared to need improvements in terms of its design capacity, segregation and containment. IEC was also informed that BIL are investigating the potential to use regional landfills for the disposal of non-hazardous waste produced during observations. This would be a significant departure from the current practice of using the EU compliant facility at Izaydas. IEC recommends that BTC fully evaluate BIL's plans for waste management and ensure they continue to meet ESIA and ESAP commitments.

Wastewater Treatment: In all three countries, the performance of wastewater treatment plants (WWTPs) had reached close to what is achievable given the type of portable plants being used. At this point in time, many of the camp WWTPs have been dismantled, especially in Azerbaijan where the only remaining WWTP is that associated with PSA-2. In this case, the old WWTP is not operational and the effluent is being temporarily trucked to the non-compliant Sahil municipal facility until a new WWTP can be constructed. In Georgia, the camps are still operating with reed beds used for tertiary treatment and the treatment plants are general in compliance with Project standards. Where total coliform exceedances were encountered in March 2006, the Project did respond to bring the systems into compliance. In Turkey, the Project has continued to ensure compliance with Project discharge commitments for all camp locations. However, according to the WWTP effluent register, non-compliant measurements since January 2006 have been reported at the new permanent CMT WWTP. These problems with the CMT WWTP in complying with project standards require immediate attention on behalf of the Project.

Pollution Prevention: As noted in past IEC trip reports, the infrastructure for pollution prevention has been implemented in all three countries and at this point the success of the pollution control systems depends on maintenance, which appears to be generally well done. The situation in each country can be summarized as follows:

Azerbaijan and Georgia: The camps in Azerbaijan have been demobilized, so most of the potential for contaminant release has been eliminated. In Georgia, good pollution prevention systems were observed in the areas where spot checks were conducted, except for the CWAA at PSG-1 where liquid waste was found to be stored in unbunded areas. A problem encountered in both countries is the ability of the main oil-water separators at the pump stations for the management of spill control. These systems are being re-engineered and it is anticipated that improved equipment will be installed.

In Turkey, the permanent facility oil-water separators (OWS) at PT2, PT1 and the CMT from the open drain systems appear not to be fully operational. The systems at PT2 and PT1 were reportedly not discharging at the time of the visit, since the permitting was still ongoing. The available analytical results for oil and grease at three of the CMT OWS were non-compliant during the first round of sampling in April 2006, and reported to meet Project standards in May 2006. Quality assurance and quality control issues for discharge testing procedures were noted and should be corrected.

Reinstatement: Much of the focus of the IEC's seventh mission was directed towards the monitoring of reinstatement along the BTC pipeline ROW and reviewing the effectiveness the winterization efforts. In general, reinstatement was found to be of high quality across all three countries, with only a few exceptions. Repairs however, still need to be implemented to fully comply with reinstatement commitments.

In Georgia, reinstatement of the entire BTC/SCP corridor is mostly complete, with 116 km still remaining, mostly in Spread 2. The issue of excess rock spoil is being well managed and it is expected that suitable solutions will be developed for the few remaining areas where excess rock still needs to be managed. The concern in Georgia is that little to no reinstatement has taken place with respect to the off-ROW project footprints, in particular the camps, pipe yards, borrow pits and access roads.

The situation in Azerbaijan is that reinstatement for the BTC/SCP corridor is nearly complete and reinstatement for the off-ROW footprints is also essentially complete. Biorestitution efforts in the difficult Gobustan Desert area and steep slopes are beginning to show progress.

In Turkey, reinstatement is complete in all three Lots, and, based on the locations visited, for the most part is considered to be well done. Punchlisting activities are complete in Lot A and were underway in Lot B and C. A punch list process has been established for temporary facilities, borrow pits, access roads and offset areas and the Project is committed to implement its findings. In Lot B, although reinstatement is generally adequate (particularly in agricultural land and some of the most challenging steep slopes), the quality of reinstatement works was lower than that observed in the other two Lots and a considerable repair is needed. Final agreement on these repairs has yet to be reached between BOTAŞ and BTC.

The previous impasse regarding reinstatement of the NGPL has been reportedly resolved, and additional funds have been made available to BOTAŞ to start NGPL reinstatement. IEC acknowledges the concerted efforts of both BOTAŞ and BTC towards resolution of this issue and awaits timely preparation of a detailed final scope of work and selection of the NGPL contractor. Given the lateness of the year, work on NGPL reinstatement will likely continue through the summer of 2007.

The actual status of access roads, as observed in the field, still requires a cross-check with the access road registers and, particularly in Lot B, there are access roads and shoo-flies that remain to be reinstated.

Archaeology: The cultural heritage programs directly associated with the BTC Project have now entered the phases of interpretation, preservation and interpretation of the findings. Although responsibility now rests with the host governments, the BTC Project has a substantial investment into cultural heritage management and a commitment to manage this investment according to international standards. In Georgia and Azerbaijan, the BTC/SCP management has hired an experienced archaeologist to work with the respective governments to interpret and present the results of the archaeological programs and positive results are being obtained. The individuals responsible for the field work are also actively involved with the follow-up programs, which is a good indicator that appropriate efforts are being made. In Turkey, as construction has now concluded, work is focused on the production and distribution of scientific and lay publications associated with the wealth of archaeological material generated as a result of the BTC pipeline construction.

Ecological Management: In Georgia, ecological monitoring programs are underway. Issues previously identified by the IEC with respect to this monitoring are being resolved by the Project. The Georgian MoE believes that the program of ecological management should be refocused to avoid attempts at reinstatement, but emphasize the assessment of botanical systems and wetlands in the Tsalka area. In Azerbaijan, the program of ecological management has consisted of collecting and protecting endangered species from the ROW, specifically for spur-thighed tortoises (*Testudo graeca*) and European marsh turtles (*Emys orbicularis*) and the endangered plant *Iris Acutiloba*. Substantial losses have been recorded with respect to the *Iris* translocation, but the remaining plants appear to be in good condition. Plans for reinstatement of these species have yet to be finalized. In Turkey a draft Biorecovery Monitoring Strategy has been prepared, establishing the responsibilities of BTC and BIL for reinstatement commitments made in the ESIA and ESAP. It is considered a good start to measuring the success of revegetation along the ROW in Turkey. ROW biorecovery is just beginning and an assessment of these efforts is envisioned in the next IEC site visits. BTC is also initiating the second phase of the Environmental Investment Program with a focus of integrating biodiversity and community development needs along the entire ROW in Turkey.

1 INTRODUCTION

D'Appolonia S.p.A.(D'Appolonia), located in Genoa, Italy, has been appointed as the post-financial close Independent Environmental Consultant (IEC)¹ to the Lender Groups for the Baku-Tbilisi-Ceyhan (BTC) Pipeline Project (BTC Project)² and the Azeri, Chirag and deepwater Gunashli (ACG) Phase 1 Project (Phase 1 Project)³. The BTC Project is currently nearing completion and is owned by BTC, a company formed by a consortium of the Main Export Pipeline Participants (MEPs)⁴. Construction of the BTC Project is underway in Azerbaijan, Georgia and Turkey. The ACG Contract Area is being developed by Participating Production Sharing Agreement (PSA) Contracting Parties.⁵

The overall role of D'Appolonia within the BTC and ACG Projects is to assess and report to the Lender Group on the compliance with the environmental and social provisions contained within the respective project Environmental and Social Action Plans (ESAPs), the associated Contractor Control Plans (CCPs), and BTC/ACG

¹ IEC Team members: Roberto Carpaneto (Team Leader), Paolo Lombardo (Team Coordinator), Miles Scott-Brown (Team Member), William J. Johnson (Team Member), Giovanni B. De Franchi (Team Member).

² The Lender Group for the BTC Project (BTC Finance Parties) comprises the International Finance Corporation ("IFC"), the European Bank for Reconstruction and Development ("EBRD"), Compagnie Française d'Assurance pour le Commerce Extérieur ("COFACE"), Her Majesty's Secretary of State acting by the Export Credits Guarantee Department ("ECGD"), Euler Hermes Kreditversicherungs-AG ("Hermes"), Japan Bank for International Cooperation ("JBIC"), Nippon Export and Investment Insurance ("NEXI"), Overseas Private Investment Corporation ("OPIC"), Servizi Assicurativi del Commercio Estero ("SACE"), the Export-Import Bank of the United States ("US EXIM") and any other export credit agencies and commercial lenders and any other providers of debt financing or political risk insurance for the BTC Project, in their capacity as the providers of debt financing or political risk insurance for the BTC Project, including, for the avoidance of doubt, the Sponsor Senior Lenders.

³ The Lender Group for the Phase 1 Project (Phase 1 Finance Parties) means IFC and EBRD.

⁴ Also termed the "BTC Sponsors" includes Amerada Hess Corporation, BP International Limited, BP Corporation North America, Inc. ConocoPhillips, ENI International, B.V., INPEX Corporation, ITOCHU Corporation, SOCAR, Statoil ASA, TOTAL, S.A., Türkiye Petrolleri A.O. and Union Oil Company of California.

⁵ The parties to the PSA at the date of the CTA, also termed the "PSA Parties" includes Amoco Caspian Sea Petroleum Limited, Amerada Hess (ACG) Limited, BP Exploration (Caspian Sea) Limited ("BP Exploration"), Devon Energy Caspian Corporation, Exxon Azerbaijan Limited, INPEX South West Caspian Sea, Limited, ITOCHU Oil Exploration ("Azerbaijan") Inc., Statoil Aspheron a.s., Türkiye Petrolleri A.O. ("TPAO") and Unocal Khazar, Ltd.

Management Plans and with HSE management systems. This report summarizes the results of D'Appolonia's seventh field visit held between June 12 – 23, 2006 for the BTC Project.

The primary objective of D'Appolonia's with respect to the BTC Project has been to verify the implementation of BTC Project commitments at the end of the construction phase. These commitments are established in the Environmental & Social Action Plan (ESAP), final at the time of financial closure (February 2004), and supporting documents developed to assure implementation of the ESAP including Contractor Implementation Plans and Procedures (CIPPs) and associated Method Statements and Procedures. D'Appolonia's review has included the environmental and social (E&S) and health and safety (H&S) management activities of BTC, the Turkish State Petroleum Pipeline Corporation (BOTAS) in the case of Turkey, and the individual Engineering, Procurement and Construction (EPC) Contractors. Emphasis has been placed on evaluating compliance primarily on the reactions of the BTC/BOTAS and the individual Contractors to non-compliant situations based on the following:

- Random checking of individual non-compliances identified by BTC/BOTAS or individual Contractors and reviewing the mechanisms followed by the responsible organizations to identify, address, correct and follow up non-compliant situations, as well as the documentation demonstrating the implementation of appropriate procedures.
- In-depth review of symptomatic non-compliances, which may indicate a deficiency in the process of compliance management and identifying mechanisms and the procedures the BTC Project, proposes to follow to make sure that similar situations will not occur again.
- Follow-up to non-compliant conditions identified during the previous missions, as practical. It should be noted that not all of the locations where non-compliant situations were originally encountered could be visited during this mission, so it is not always practical to close the issues previously identified, even if the Project has performed the required actions.

Most of the findings identified in this report have been based on field observations, and interactions with the individuals actually responsible for the field implementation of the ESAP.

The IEC team conducted the visit as two teams; one focused on Project activities in Turkey and the other in Azerbaijan and Georgia.

Subsequent sections of this report provide the following:

- Section 2 presents the review of the Project in Georgia
- Section 3 presents the review of the Project in Azerbaijan
- Section 4 presents the review of the Project in Turkey
- Appendix A presents the trip itinerary
- Appendix B presents lists of non-compliances with the ESAP, with relevant observations and recommendations.

2 AZERBAIJAN

The BTC Project in Azerbaijan includes 443 km of pipeline extending from the first pump station (PSA1) in Sangachal Terminal, to the border with Georgia. The corridor followed by the pipeline is close to the existing Western Route Export Pipeline (WREP) and is also the corridor that will be subsequently followed by the South Caucasus Pipeline (SCP), which will transport gas from the Shah Deniz field to the Georgian/Turkish border in a separate, related project. The BTC Project in Azerbaijan includes several permanent Above Ground Installations (AGIs) including an Intermediate Pigging station (IPA1) near KP 125, and a second Pump Station (PSA2) near KP 245, as well as necessary block and check valves. PSA1 at the Sangachal Terminal is visited as part of auditing of the ACG Phase 1 Project and was not visited during this mission.

First Oil in Azerbaijan was celebrated on May 25, 2005. Shortly prior to the IEC visit, BTC achieved a historic milestone with the shipment from Ceyhan, Turkey of its first cargo of about 600,000 barrels crude oil to world markets by BP tanker British Hawthorn on June 5, 2006. At the time of the visit, the SCP was also fully installed in the ground.

The BTC Project in Azerbaijan uses two prime Contractors, Consolidated Contractors International Company (CCIC) responsible for pipeline construction and valves and Spie-Capag Petrofac Joint Venture (SPJV), responsible for the main AGIs.

In addition to the permanent facilities, the pipeline is associated with several temporary facilities, which include:

- Construction camps (for CCIC: Mugan near KP 65, currently being discontinued; Kurdamir near KP 130, discontinued; Yevlakh near KP 240, discontinued; Tovuz near KP 380, discontinued. For SPJV: Kurdamir for IPA1 near KP 126, transferred to Operations; Yevlakh PSA-2 camp near KP 244 is planned to be used by Operations for one more month and then returned to the landowner). Operations BTC is planning the construction of a small camp (21 person capacity) in Yevlakh that will serve primarily to provide lodgings for temporary workers and visitors.
- Dump Yards for pipe, which include (Umbaki near KP 0; Mugan near KP 65; Kurdamir near KP 129; Yevlakh near KP 235; Ganja on the north east edge of the town of Ganja; Agstafa next to the town of Agstafa near KP 400; Beyuk Kassik next to the Georgia border near KP 440) are all discontinued.

This mission focused on a review of the reinstatement of the pipeline from the beginning of the BTC pipeline at Sangachal Terminal to the border with Georgia.

Construction camps and pipe yards were visited only to verify their reinstatement. Kurdamir Camp was visited to tour the still-operational Central Waste Management Area (CWAA).

2.1 CONSTRUCTION STATUS

Current (June 2006) construction progress is as follows:

- *Facilities* – Construction of Pump Stations PSA-1 at Sangachal Terminal and PSA-2 is complete and both are operational; Intermediate Pigging station IPA1 is also operational.
- *Pipeline* – Pipeline construction for both the BTC and SCP projects is complete to the Georgian border (443 km). Now that the SCP is complete, reinstatement for the entire BTC/SCP corridor is nearly finished – remaining work is primarily to close, reinstate and complete biorestitution of the running track (~165 km remaining).

All major river crossings were complete for both BTC and SCP projects at the time of the mission. During the visit, the reinstatements of the crossings at Kura West, (KP 411) Hasan Su (KP 398), and Shamkir Chai (KP 344) were reviewed in the field. Numerous borrow pits along the ROW were also visited.

2.2 ENVIRONMENTAL AND SOCIAL MANAGEMENT ORGANIZATION AND RESOURCES

2.2.1 Resources and Organization - Observations

The following discussion summarizes information obtained regarding the environmental management organizations of BTC. CCIC (pipeline contractor) and SPJV (facilities contractor) organizations were not specifically reviewed during this trip as their current roles are minimal, given that the facilities are constructed and the pipeline construction for the entire BTC/SCP corridor is near completion. BTC Operations are now effectively responsible for most of the Project. The remaining construction staff is close to being demobilized and has the primary responsibilities of completing reinstatement of the ROW and decommissioning of the off-ROW facilities. Although the Environmental Manager responsible for construction activities has left the Project, the remaining E&S management for completion of the construction phase (five people) is experienced and it is anticipated that the transition to Operations will be relatively smooth.

Environmental and social management for Operations has the requirement of covering the WREP, as well as the BTC/SCP projects. An Environmental Team Leader with two years of background with construction is already in place and is supported by a Technical Assistant and four environmental advisors. A Social Coordinator is currently in place with a staff yet to be assigned. For issues that

transcend the construction phase, such as cultural heritage management, support is being provided from the Core Management Team.

2.2.2 Resources and Organization - Recommendations

1. BTC needs to continue to focus on the staffing requirements necessary to achieve a smooth transition from Construction to Operations and reserve the appropriate resources to this task (repeat recommendation).

2.2.3 Management of Change (MOC) - Observations

As the BTC Project has entered into the operations stage of development, the MOC process associated with construction are no longer relevant. Where MOC documents were pending, such as the previously reported proposed changes for biorestitution in arid areas, the takeover of that activity by BTC negates the need for BTC to enact an MOC with CCIC.

The only significant MOC activity reported in Azerbaijan is the transition to Operations, which is actually a Management of Change Assessment, rather than a true MOC, as the transition to Operations is clearly anticipated within the framework of the ESAP. As noted in Section 2.2.2, the transition to Operations appears to be well planned and proceeding smoothly.

2.3 CONSTRUCTION CAMPS, INFRASTRUCTURE AND SERVICES

The review of construction camps, infrastructure and services focuses on construction operations that potentially have an impact to surrounding infrastructure, natural resources, and community and household assets, including land, roads, and irrigation systems. In addition, the review of this topic includes camp water supplies and general aspects of camp management. At this point in time, none of the construction camps nor the pipe yards are operational, so the mission focused on reinstatement of these facilities.

2.3.1 BTC - Observations

Since IEC's third mission in October, BTC Core Management Team (CMT) has dedicated considerable resources to the identification of third-party sources of supplies, in particular aggregate and cement/concrete. The Project was not able to implement sufficiently H&S and E&S project standards at the third-party operated batching plant near PSA-2, but the IEC can confirm that the facility is no longer present and the land has been acceptably reinstated.

2.3.2 CCIC - Observations

As noted above, CCIC is in the process of demobilizing from the Project and the camps and pipe yards are no longer being used. During this field trip, Tovuz, Yevlakh and Kurdamir camp locations were visited. The status of the former construction work camps is as follows:

- Mugan (KP 20) – this camp is in the process of being decommissioned.
- Kurdamir (KP 130) – this site has been decommissioned to the point that it is not an environmental hazard, although it has not been returned to a natural condition, as previous to BTC occupancy it was already an industrial site. This site has been returned to the landowner, except for the Central Waste Accumulation Area (CWAA), which is expected to be decommissioned next month.
- Yevlakh (KP 240) – this site has been decommissioned to the satisfaction of the landowner, but it has not been reinstated to its original greenfield condition with some paved areas and underground storage tanks still on place. BTC and CCIC still need to resolve the issue relevant to the level of reinstatement at this location.
- Tovuz (KP 380). This camp has been fully and adequately reinstated.

Of the six pipe yards, the three at Ganja, Agstafa and Kurdamir have been reinstated. Scrap pipe is still being stored at Yevlakh. At that location IEC observed that the fencing around that facility had been removed, making the scrap pipe a community safety hazard. IEC understands that the Project has also noted this problem and CCIC is in the process of installing a new fence until the pipe is removed and the land reinstated to its former condition. IEC also observed the Umbaki pipe yard near the Sangachal Terminal. Most of the requirements pending for cleaning up this site have been completed by CCIC and the overall reinstatement appears to be satisfactory.

A chronic problem that does not appear to have ever been the focus of attention by Project environmental staff is with respect to noise pollution. The chronic noise problem from the generators at the Kurdamir Camp was effectively resolved by the closure of the camp prior to the June 2005 IEC mission. Subsequent to the June 2005 trip the Project was able to determine that ambient noise levels at Mugan Camp exceeded Project standards, even when the generators were not running, so it was not practical to achieve compliance. Data to evaluate the effectiveness of noise mitigation measures at Tovuz Camp were apparently not obtained by the Project. Regardless of the presence or lack of documentation, none of the camps are operational and the ultimate solution to this problem has been the closure of the camps.

2.3.3 SPJV – Observations

During the visit potable water quality data were reviewed. A significant problem was encountered (e-coli and coliforms) at the Kurdamir Guest House in January 2006, but the problem was quickly recognized and resolved. The new potable water treatment system at PSA-2 with the new deep well appears to be working acceptably. Nevertheless, Project standards have recently not been met for Total Viable Bacterial Counts - TVC from several of the water dispensers (PSA-2 kitchen, site office and camp, and IPA-1). The problem has been evaluated by the H&S staff and determined to be within the dispensers themselves, rather than the 30 liter bottles of water used as the water supply. The problem of bacteria in drinking water dispensers is proving not unique to BTC. Test results from the WREP Pump Station 5 indicate the presence of e-coli and total coliforms from drinking water dispensers, so it is clear that action needs to be taken by BTC before the situation becomes as serious as encountered with the WREP project. The H&S staff is aware of this recent problem at PSA-2 and is working to resolve the problem (*Level I Non-Compliance, CCP Infrastructure and Services, Commitment ID: 528, 628, 1130; CCP Construction Camps, Commitment ID: 308*).

2.4 WASTE MANAGEMENT

2.4.1 Non-Hazardous and Hazardous Waste – Observations

The contract CCIC established with AMSCO for construction waste management is effectively nearing completion, as AMSCO is not under contract for Operations and the Operations waste from PSA-2 and IPA-1 is managed by the Caspian Logistics Group (CLG). Non-hazardous waste is currently being incinerated at the Kurdamir Camp Central Waste Accumulation Area (CWAA). When the incinerator is decommissioned at the end of June, this waste will be hauled by CLG to the Sangachal CWAA and eventually to a new dedicated BP Strategic Performance Unit non-hazardous waste cell with 48,000 m³ capacity at Sumgayit – one identical dedicated cell was filled in June 06. The dedicated cells at Sumgayit are not EU compliant, but represent a safe temporary solution until the construction of a new EU compliant landfill. This EU compliant non-hazardous waste landfill, which is being funded by BP, is planned to be constructed at Sumgayit and is intended to have a 14 year life with a 160,000 m³ (47,500 t) capacity. This facility is expected to be operational before the end of 2006 (construction contract signed in April 2006).

Hazardous and recyclable waste collected by AMSCO continues to be stored at Kurdamir Camp or their own waste management facility (Temirmash Waste Storage Area) located in Baku. Once the incinerator at Kurdamir Camp is closed at the end of June, it is expected that the hazardous waste currently stored there will be sent to the Sangachal CWAA, as it would not be practical for AMSCO to continue to store this waste.

IEC visited the Temirmash facility and found conditions to be similar to those previously encountered, except that the largest waste stream, the used lube oil, is now being sent to the close drain system at Sangachal for reinjection into the WREP at the pigging station. Approximately half of the used oil has been removed from this location (~130,000 liters) at a rate of about 27,000 liters/week. Although the site continues to exhibit good waste management practices with hazardous waste and empty oil drums temporarily stored in paved, bunded and covered areas, some improvement in housekeeping is needed with respect to the empty paint cans storage area. Although this issue has limited material impact from an environmental point of view, it represents a non-compliance with respect to ESAP commitments (*Level I Non-Compliance, CCP Waste Management Plan, Commitment ID: 374, 788, 946*).

Solid hazardous waste will continue to be stored at either the Temirmash facility or at the Sangachal CWAA until the newly constructed Sumqayit Hazardous Waste Landfill at the National Waste Management Site, designed to be compliant with EU regulations (constructed by the Azerbaijan Government using funding provided by the World Bank), and operated by a government owned company, can become available to the Project in Azerbaijan. AZBU has dedicated considerable effort to make sure that this facility will comply with Project requirements and the use of this new EU compliant state facility (540,000 m³) is expected to be the long-term solution for BP's hazardous waste. This facility is still expected to be used before the end of 2006.

2.4.2 Hazardous Waste - Recommendations

1. It is suggested that the AMSCO facility be decommissioned as a temporary storage facility as soon as the waste oil has been removed and waste currently stored is moved to the Sangachal CWAA. The motivation for this suggestion is that some of the waste at this facility has been there for such a long time that it should be re-inventoried and the facility was never designed for hazardous waste storage, taking into account that it is next to a work area.

2.4.3 Wastewater Management - Observations

WWTP effluent from the camps is no longer an issue because the camps have been closed. The only sources of wastewater are from PSA-2 and IPA-1. The construction WWTPs from these facilities that were frequently non-compliant have been decommissioned and are planned to be placed into service at the Operations camp expected to be constructed in Yevlakh. As this camp will be designed for temporary workers and visitors (maximum of 21 residents), these two WWTPs should be adequate for this small population. Currently, sewage effluent from PSA-2 and IPA1 is being trucked to the Sahil Municipal Plant, although the Project is about to switch to the Mingechevir Municipal Plant, neither of which is fully compliant with Project standards. This non-compliant situation should be corrected as soon as practical, although it is acknowledged that BTC has committed significant resources

to the upgrade of the entire WWTP system at PSA-2 and IPA1 (*Level I Non-Compliance, CCP Waste Management Plan, Commitment ID: 553*). It is understood that upon completion of the upgrade works the non-compliant discharge to the Municipal facilities will be stopped.

2.4.4 Wastewater Management – Recommendations

1. Make sure that the design for the new WWTPs accounts for the fact that most of the waste production will originate from transient workers, rather than permanent residents (i.e., make sure that the units are not undersized and have better controls than the poorly-designed units used for construction).

2.5 POLLUTION PREVENTION

2.5.1 Observations

One issue common to both Georgia and Azerbaijan has proven to be related to the main oil-water separators designed to clean up surface water from the pump stations. The design of these systems was flagged as a possible concern at the time of the construction of the pump stations, and the conclusion of the BTC staff is that the systems are undersized for the loads they could potentially face. These systems are currently being redesigned and plans are to replace them.

2.6 ROW MANAGEMENT

2.6.1 Observations

Now that the SCP is complete, reinstatement for the entire BTC/SCP corridor is nearly finished. Remaining work is primarily to close the running track (~165 km remaining).

Similar to Georgia, BTC has initiated a Landscape Monitoring Program incorporated with the Project GIS that has proved useful in documenting the re-vegetation of the ROW by taking photographs at pre-defined vantage points at intervals of several months. The vantage points have been selected to be representative of the pipeline ROW and cover areas of potential environmental/social concern, as well as areas where the reinstatement needs to be carefully monitored from the standpoint of stability and erosion/sediment transport concerns. By looking at photographs from exactly the same location over time, it is possible to identify where vegetation is properly growing, as well as where problems may be appearing. The Project has also developed a procedure for the quantitative measurement of vegetative recovery by using a quadrant sighting frame and vertical photography to map sampling plots and make an estimation of the ground cover within the quadrant that can then be compared with the interpretation from photographs.

Specific observations were made over the course of the IEC visit that correspond to the different areas visited.

- Sangachal Terminal to Mud Volcano Ridge (KP 29) – Biorestoration for BTC and the dual lay areas (both BTC and SCP pipelines constructed at the same time) has taken place both in 2004 and 2005. As a result, patchy mixed vegetation has appeared that has allowed for improved seed gathering and management procedures to be developed. Some areas have returned to spotty scrub vegetation (normal), but there are many bare spots. It should be noted that natural ground also has many bare spots, although the BTC ROW still has more than natural ground. Much of the vegetation on the BTC side is in the pioneer stage, similar but not the same as natural vegetation. Except for the dual lay areas, the SCP portion has only been reinstated within the past few weeks and revegetation has not started yet. Although to a limited degree, the SCP reinstatement has encroached on the BTC side.
- Middle section of pipeline ROW (KP 214 taken as typical) – the entire BTC/SCP pipeline corridor depicts good vegetative regrowth, although the full reinstatement of this area was only a few weeks prior to the IEC visit.
- Central – Western portion (KP 300-KP 400+) – the entire BTC/SCP pipeline corridor depicts good vegetative regrowth. Good reinstatement was observed at the Kura West micro-tunnel crossing (KP 411) where deep excavations had been made. The bentonite disposal area (waste from horizontal drilling and the micro-tunneling activities) where bentonite was mixed with natural soils and placed back on the ground surface is indistinguishable from natural ground at the Kura West crossing, as is the former location of the hydrotest water storage pond. The massive slope stabilization and reinstatement effort undertaken at Hasan Su (KP 398) appears likely to be successful. The spoil disposal areas at Hasan Su also appear to be well reinstated and are difficult to discern from natural ground. The weir at Shamkir Chai (KP 344) is protecting the two pipelines from river erosion, but deep channels are forming downstream that could eventually undercut the weir and place the pipelines at risk if the channel is not widened.

The Project reports that of the 55 borrow pits used for construction, only two located at KP 5 and KP 50 are still pending sign-off by the Project. Spot checks of borrow pit reinstatement were conducted at KP398 and KP 364, and reinstatement was found to conform to Project standards.

2.6.2 Recommendations

1. Sound procedures have now been developed over two seasons for the gathering and storage of seeds used for the biorestation program. Take advantage of this experience and also review where there have been successes and failures of the biorestation, compare them to the composition of the seed mix, and optimize go-forward biorestation procedures. Evaluate if some watering / hydroseeding / mulching might not accelerate the process of revegetation in the areas of desert and steep slopes.
2. Evaluate procedures to ensure the stability of the weir at Shamkir Chai.

2.7 ECOLOGICAL MANAGEMENT

2.7.1 Observations

Now that both the BTC and SCP pipelines are completely installed in Azerbaijan, two programs initiated at the beginning of construction to manage rare and endangered species can now be completed. Specifically for fauna, a number of spur-thighed tortoises (*Testudo graeca*) and European marsh turtles (*Emys orbicularis*) were collected and relocated in appropriate habitats distant from the pipeline in accordance with the Project requirements. A second program involved the collection of approximately 33,000 individuals of the endangered plant *Iris acutiloba* from from the pipeline ROW and their translocation at a designated desert habitat in the Mardakan Arboretum operated by the Azerbaijan Institute of Botany (IoB). In addition, 8,105 individuals of *Iris* were replanted adjacent to pipeline area. The basic plan has been to return these endangered species back to the ROW once the BTC/SCP corridor has been reinstated. The IEC was not provided information regarding the status of the turtle translocation program, but was provided additional information regarding the *Iris acutiloba*.

In the February 2005 IEC trip report, it was noted that an NGO group invited by the Project visited the Mardakan arboretum in November 2004 and reached the conclusion that the survival rate of the *Iris* was poor (60 - 70 % loss). In December 2004 BTC initiated their own investigation of this situation and confirmed that there had indeed been a substantial loss of the *Iris* species at Mardakan, due to inappropriate timing of the translocation, soil differences between the ROW and Mardakan, unusually heavy rains, and miscommunications between BTC and IoB. Since that time BTC has undertaken a monitoring program of the *Iris* at the Mardakan arboretum with the conclusion that the remaining plants are generally doing well. The IoB recommended that the *Iris* specimens be reintroduced to the Gobustan Desert portion of the ROW in August 2006. BTC has developed a strategy for the re-introduction of *Iris acutiloba* to appropriate locations along the BTC/SCP ROW (*Iris acutiloba* translocation - Re-introduction Procedure, March 06) and the situation is currently under control. According to the information provided, a recent survey of the *Iris* population was performed at Mardakan. Results indicate that the

rhizomes are healthy with an estimated 44,000 viable for re-introduction in August 2006. Progresses from the re-introduction program will be verified during next IEC visit.

2.8 CULTURAL HERITAGE MANAGEMENT

2.8.1 Observations

Cultural heritage management is predominantly the responsibility of BTC. The governing procedures are defined in the ESAP, Appendix D as *Archaeological Late Finds Protocol*. Each Contractor has also developed *Cultural Heritage Protection Procedures* that define their obligations to report chance finds to BTC. Prior to construction, the ROW was surveyed and more than 150 potentially significant archaeological sites were identified, of which only four were found not practical to avoid. Excavations at all four of these sites are now complete (Phase III complete). Close to 50 sites requiring excavation were identified as chance finds during construction (Phase IV). The field archaeology was conducted by the Azerbaijan Institute of Archaeology (AIA) with supervision provided by international experts under contract to BTC. The only remaining excavations relate to offset mitigation at two important locations, Soyuq Bulag - a group of kurgans at KP 431-432 and Beyouk Kasik – a dense collection of kurgans from the Copper Age (Eneolithic) and Bronze Age at KP 431.

Except for the above locations, the archaeological program is currently in Phase V – curation of finds, analysis, display of finds and publication of information. Much of the work associated curation and artifact analysis is undertaken by the AIA, where some capacity building is required before their work is fully up to international standards. BTC is supporting the capacity building of AIA by setting up a conservation lab and bringing in a professional conservator who can conduct workshops. BTC has recalled their senior field archaeologist from the construction phase to participate with the Phase V activities, consistent with the previous IEC recommendation that the individuals involved with the field activities be the same as those involved with the follow-up activities.

Major efforts to disseminate information are being planned for the results of the archaeological program in Azerbaijan, as well as to integrate the findings from Azerbaijan with those from Georgia and Turkey as follows:

- Artifacts to Museum at Garanboy
- Artifacts to Museum at Shamkir
- Open house and presentations to school children
- Website for Three Countries
- Exhibit at BP Sangachal Terminal Visitor Center
- Exhibit in Baku at Institute of Archaeology and Ethnography Facility
- “Coffee-table Book” on Archaeology for Three Countries

In Azerbaijan, it is estimated that approximately half of the archaeological collection for the entire country has originated with findings from BTC/SCP. This is an astonishing statistic indicating the importance of preserving and studying this world class collection.

In addition to the above activities, significant effort has been expended to train Operations personnel in the procedures that need to be followed to protect cultural heritage along the ROW. This has involved the integration of archaeological site information within the Project GIS and defining procedures to manage cultural sites.

2.8.2 Recommendations

1. The AIA in Azerbaijan still needs encouragement to analyze and interpret their findings in a manner consistent with international practice. A significant step in the right direction would be to hold a cross-country workshop to compare analytical procedures, curation practices and findings across the three countries.

2.9 ENVIRONMENTAL INVESTMENT PROGRAMME

During the mission, the IEC did not conduct a detailed review of the Environmental Investment Programme (EIP) in Azerbaijan and the EIP has been reviewed on the basis of limited information provided by BTC.

The program is broken into Phase I and Phase II projects. The Phase I projects have been the subject of discussions the Ministry of Ecology and Natural Resources (MENR) of Azerbaijan such that the overall effort can be achieved as a partnership achieve the EIP goals. Six Phase I projects have been selected as being technically compliant with the goals of the EIP Program (including alignment with international and national biodiversity conventions) as listed below.

- NABU: Kura-Araz Lakes System - Conservation of Wetlands Biodiversity in Azerbaijan
- United Nations Development Programme (UNDP): Desert Conservation Demonstration Project
- Azerbaijan Society of Geographers: Desertification Prevention Project
- Azerbaijan Society of Zoologists: Conservation Management of Persian Gazelle *Subgutturosa*
- Azerbaijan Society for the Protection of Animals (AzSPA): Humane Environmental Education of Children and Youth
- ECOS - Biodiversity Conservation Awareness Raising Project

BTC has been unable to obtain ministerial support for any of these Phase I projects and is developing a revised strategy for the EIP. This new strategy that is now the responsibility of Operations could include offering the UNDP a management fee to drive the EIP forward and working with NGOs and MENR at a high level to link projects more closely to international conventions to which Azerbaijan has subscribed (many under the UN).

BTC continues to implement Phase 2 (community driven small grants program), which does not require the same level of regulatory support, does not present a significant financial risk, but should result in real and measurable benefits to the environment and the potentially affected communities.

Although no specific information regarding the Phase II EIP projects were provided, the EIP is ongoing although expenditure in Azerbaijan remains behind schedule as further adjustments were made to better align the program with the National biodiversity objectives as established by the MENR. New budgets have been allocated to fund existing projects and plans are to transfer funds remaining unspent at the end of construction into the Operations phase EIP budget.

3 GEORGIA

The BTC Project in Georgia encompasses 249 km of pipeline extending from Azerbaijan-Georgia border in the Gardabani District and finishing in the Akhaltsikhe District at the Turkish border. The corridor followed by the pipeline is close to the existing Western Route Export Pipeline (WREP) for a short distance from the Georgia – Azerbaijan border until the BTC pipeline deviates towards Turkey at KP 19. The BTC pipeline also shares the same corridor with the SCP pipeline, which is a subsequent separate related project that has begun construction and will transport gas from the Shah Deniz field to the Georgian/Turkish border. The BTC Project includes several permanent Above Ground Installations (AGIs) including two pump stations, PSG-1 located at KP 3.8 and PSG-2 located at KP 88, as well as necessary block and check valves.

In addition to the permanent facilities, the pipeline is associated with several temporary facilities, which include:

- Temporary construction camps (Marneuli at KP 53, with a population of about 240; Tsalka at KP 123, with a population of about 150; Akhaltsikhe at KP 228, with a population of about 180. The camps at PSG-1 and PSG-2 have been turned over to Operations.
- Temporary pipe yards for pipe (Gatchiani; Marneuli; Tetrtskaro; Tsalka 2; Andeziti and Akhaltsikhe); these pipe yards are no longer in operation and is expected that closure/reinstatement plans will be prepared and implemented for these sites.

During this seventh mission the visit was conducted along most of the ROW from the Turkish border eastward to PSG-1, with the majority of the field observation made in the mountainous area of Spread 2 from KP 183 to the Turkish border. The Akhaltsikhe mechanical yard was also visited.

3.1 CONSTRUCTION STATUS

The BTC Project uses a single EPC Contractor, Spie-Capag Petrofac Joint Venture (SPJV), for both pipeline and AGI construction. Current (June 2006) construction progress is as follows:

- *Facilities* – Pump Stations PSG-1 and PSG-2 are both operational.
- *Pipeline* – the pipeline is operational and reinstatement of the entire BTC/SCP corridor was reported to be 52% complete at the time of the visit.

3.1.1 Resources and Organization - Observations

BTC

BTC is still in the process of transition from Construction to Operations. At the same time, SPJV has continued to demobilize, which has required BTC to continue to assume more of the responsibilities for correcting non-compliant conditions and assuring environmental compliance for ongoing activities in support of SPJV. A positive aspect is that some of the key individuals responsible for management of environmental and social programs are transitioning to Operations. On the negative side, the loss of key individuals from the construction phase may have limited BTC's ability to monitor and control the activities of SPJV, as evidenced by some IEC findings as described in the following chapters. Nevertheless, new staff has been added to assume specific responsibility for critical new Project components, specifically the Kodiana projects, and the BP Azerbaijan Business Unit is also providing support for certain project components, such as cultural heritage management.

SPJV

SPJV remains understaffed for the remaining field efforts. Based on the IEC's field observations, the environmental field monitoring being conducted by SPJV appears to be focused primarily on ROW reinstatement to the detriment of non-ROW issues such as waste management. In November 2005, the SPJV Environmental Manager was reassigned to Akhaltsikhe camp to be in charge of environmental issues along Spread 2, which has left SPJV without a Project Environmental Manager.

3.1.2 Resources and Organization - Recommendations

1. The biggest challenge to the transition to Operations will be filling the gaps that SPJV leaves during their ongoing demobilization. In particular, BTC will need to define an organization that anticipates the completion of work that SPJV may leave behind.
2. Environmental and social monitoring of field activities needs to improve to better cover activities not associated with ROW reinstatement.

3.1.3 Management of Change - Observations

The most significant Management of Change (MOC) associated with the BTC Project in Georgia is AGT002-2004-PM-DCN-00045, Revision U-05, Modifications to Scope of Work for Iagudja Landfill Capital Improvements Works. This MOC and the relevant IEC review are discussed in Section 3.3.

3.2 CONSTRUCTION CAMPS, INFRASTRUCTURE AND SERVICES

The review of construction camps, infrastructure and services focuses on construction operations that potentially have an impact to surrounding infrastructure, natural resources, and community and household assets, including land, roads, borrow pits and irrigation systems. In addition, the review of this topic includes camp water supplies and general aspects of camp management.

3.2.1 Observations

BTC

Since IEC's third mission in October 2004, BTC Core Management Team (CMT) has dedicated specific resources to the survey of third-party sources of supplies, in particular aggregate and cement/concrete. On the basis of this survey, BTC identified suppliers of concrete and borrow pits used as a source of construction aggregate considered to merit Project intervention. Two batch plants, one servicing PSG-1 and the other servicing PSG-2 were identified where by far the majority of their production was dedicated to Project use. BTC has cleaned the sites and written a scope of work for the reinstatement of the PSG-2 batch plant. The PSG-1 batch plant will not be reinstated as it is located within the structures of a pre-existing military facility.

At the time of the October 2005 IEC mission, it was thought that the policies to control third-party suppliers for aggregates were established and fully implemented. The IEC visited the Vale II aggregate supply site which is apparently one of several similar sites being used by SPJV for the supply of cobbles to construct gabions at river and stream crossings. A large portion of the production of this facility was currently for Project use. No environmental baseline survey was ever conducted for this facility and several situations not consistent with Project environmental and social commitments were encountered during the site visit:

- Aggregate appears to be extracted directly from river;
- Wash water from cleaning the stone is conveyed directly to the river with no sedimentation pond;
- Numerous spills of fuel and oil with flow pathways to the river were observed;
- Absence of basic PPE for the workers was observed.

As noted from the third IEC trip report, the Project has already committed to the following in the CCP for Procurement and Supply: "...*Sand, Stone and Aggregates: The need to buy these materials shall be minimised by crushing rock excavated from the work site. The balance of materials shall only be procured from sources that have been approved by BTC Co. The contractor will submit to BTC Co. an environmental statement giving details of the proposed sourcing and transport of the materials and the environmental impact involved*". Commitment Z3 (N17) - Contractor Control Plan - Procurement & Supply – Georgia states: "*Extraction of*

Aggregates – surplus rock and subsoil from right-of-way may be used as construction material for other project needs; and additional aggregate should be sourced if possible from local aggregate extraction sources, ESA required prior to extraction”. Contractor Control Plan, Infrastructure & Services – Georgia, page 12, with respect to aggregates: “...Completion of full environmental and social permitting procedures prior to extraction”. A Level II Non-Compliance is assigned (Level II Non-Compliance, CCP Procurement and Supply, Commitment ID Z3 (N17)).

SPJV

The IEC did not focus this visit on the condition of the camps, as they will be closed and reinstated as appropriate. A visit was conducted at the Akhaltsikhe Mechanical Yard during this mission, where satisfactory conditions were observed, similar to the October 2005 mission. In addition to the limited field review, documents were reviewed to determine the appropriateness of other camp activities and associated infrastructure:

- *Water supplies:* Available test data indicate that potable water meeting WHO standards continues to be supplied to the camps and facilities. An exception was noted at PSG-2 camp, kitchen and office taps where low levels of coliforms (1-3 MPN total coliforms/100 ml) have been persistently detected throughout 2006. This is considered a Level II non-compliance because the problem of low-level coliforms has been persistent throughout 2006 over several months of testing (Level II Non-Compliance, CCP – Construction Camps, Commitment ID S3).
- *Project footprint:* Borrow pit closure has not started except where borrow pits have been convenient for receiving excess rock and spoil from the ROW. The situation with respect to borrow pits used to obtain trench fill is essentially the same as observed in October 2005. Borrow pits such as the one observed at KP 153 are very large (10.5 Ha) and will require specific plans for their closure, but they have been reviewed and listed. Final decisions are still pending for their closure. A similar situation exists with access roads. Access roads requiring reinstatement have been identified, but the process of reinstatement has not started.
- *Third-Party Concrete and Aggregate:* see section 3.2.1 above.
- *Excess Rock:* Disposal of excess rock from the ROW is an ongoing process, but appears to be proceeding in a satisfactory manner. Reclaimed disposal sites were visited at KP 121 and KP 80 and found to be conducted in an acceptable manner.

3.2.2 Recommendations

1. Discontinue the use of non-compliant third-party aggregate suppliers or intervene such that their activities can be brought into compliance.

2. Determine the origin of the low levels of total coliforms at PSG-2; fix the problem; and verify that the problem has been resolved.
3. Make sure appropriate plans are in place for the reinstatement of all off-ROW footprints. In particular, BTC needs contingency planning, should SPJV not be able/available to complete these reinstatements.

3.3 WASTE MANAGEMENT

3.3.1 Non-Hazardous and Hazardous Waste – Observations

The observations made in the field by the IEC team and the review of the data and information collected during the visit, demonstrate, once again, that most of the phases relevant to non-hazardous waste management are properly implemented by the project. There is evidence of proper segregation, handling, transportation and recycling for a large portion of the waste. The critical point is still the disposal of the remaining domestic waste. According to verbal communication to IEC, the Landfill Conditioning Plan (LCP) developed for the Iagljudja municipal disposal facility has now been stopped by BTC. MOC AGT002-2004-PM-DCN-00045, Revision U-05, *Modifications to Scope of Work for Iagljudja Landfill Capital Improvements Works* was planned to be implemented by BTC. This MOC was reviewed and rejected by the IEC prior to this mission, primarily because the proposed changes would no longer represent environmental improvement to the Iagljudja dump site.

The current plan for non-hazardous domestic waste management is to continue using the Iagljudja dump site until development of an EU-compliant cell and/or landfill is constructed. The dedicated landfill cell and the EU-compliant landfill are still in the planning stage. Considerable negotiations with the Georgian Government have been undertaken and it appears that BTC is spending considerable efforts to advance this development with Georgian Government authorities. Although it is recognized that the post-construction phase non-hazardous domestic waste stream is small the continued use of a municipal facility with open burning and no leachate control is a significant breach of Project commitments. Similar to the situation reported in February 2005, IEC believes that, although this situation represents a breach of the commitments, there are probably no significant impacts to any receptors in the area. Nevertheless, this situation represents a potential Level III Non-Compliance (*CCP Waste Management Plan, Commitment ID: J1, J16, J18 (N15)*), especially now that the original Conditioning Plan will not be completed as originally stated, and a voluntary breach of the original commitment is unquestionable. The IEC, taking into consideration the limited material impact of the current situation, defers assigning this non compliance, pending a firm commitment by BTC as to how they intend to proceed during the current final period of the construction phase and during operations. IEC recommends the development of a specific plan to provide a sustainable solution for the disposal of domestic waste in Georgia that will not

present, once again, unrealistic expectations, which has been the situation over the past two years.

With respect to hazardous waste, the concept of constructing a hazardous waste landfill has been abandoned and the plan is to export the approximately 170 tons of hazardous and recyclable waste that was mainly generated during construction, to a country with EU-compliant facilities. The Project has achieved a significant breakthrough by starting to recycle spent oil into the Western Route pipeline. Of the approximately 300 m³ of waste oil, about 20 m³ has been injected into the Western Route. More would have been injected, but Operations has placed a requirement of filtering this waste oil to 400 microns, which has slowed the process, especially during the winter. BTC is currently exploring the possibility of injecting the oil into the BTC pipeline, where there may be different requirement for filtering the oil.

The Central Waste Accumulation Area (CWAA) at PSG-1 was visited during this mission. The condition of this facility was found to be deteriorated from previous visits:

- The central storage platform is unbunded and liquid wastes are now being stored in this area.
- Some drums are in poor condition and some appear to be leaking.
- Many drum labels are difficult to read or are missing.
- Some drums have indications of being overpressured.
- Medical waste is being stored well past what is good practice.
- Site safety needs to be improved.

It is recognized that BTC has only recently assumed responsibility for this facility from SPJV and has allocated a budget and is in the process of designing and implementing improvements that would bring this area into compliance with ESAP requirements for waste storage and pollution prevention. The basic commitment in the Waste Management Plan is as follows. “... *The category of waste shall be identified by the label or by a colour coding. Waste storage areas shall: comply with the relevant requirements of Directive 75/442/EEC and 91/156/EEC; be located away from accommodation areas; be properly marked-out; and, have design features to contain the waste...*”. A Level II non-compliance is assigned (*Level II Non-Compliance, CCP Waste Management Plan, Commitment ID: J32*).

3.3.2 Non-Hazardous and Hazardous Waste - Recommendations

1. BTC should reconsider their proposed changes to the Iagljudja LCP as long as the facility is still being used. If the LCP is reconsidered, it should place emphasis

on providing environmental improvements such as a passive leachate treatment system and a pipe to allow for the diversion of surface water around the waste.

2. BTC should develop a specific non-hazardous waste disposal plan, providing a commitment and a timeline for the final disposal solution of the domestic waste in Georgia.
3. BTC should implement planned improvements at the CWAA at PSG-1 as soon as possible.

3.3.3 Wastewater Management - Observations

As noted in the October 2005 trip report, the Project appears to have developed and operated the WWTPs at all of the camps within the limits that can be reasonably expected for a Project of this nature and with the types of treatment units that are being used. At this point in time, the camps are expected to be decommissioned in the relatively near future and were therefore not a focus of this IEC mission. Based on a review of the WWTP effluent test results, compliant results were encountered at all of the camps and facilities. Where total coliform exceedances were encountered in March 2006, the Project did respond to bring the systems into compliance.

3.4 POLLUTION PREVENTION

3.4.1 Observations

The Project has adopted a pollution prevention plan aimed at systematically identifying potential impacts from construction activities and implementing avoidance and mitigation measures to minimize the likelihood, extent or duration of their occurrence, and any associated adverse effects. The mitigation measures include: spill prevention and management; management of existing contaminated areas, if any found during construction; groundwater protection; surface water protection; ecological receptor protection; air quality protection and dust mitigation; noise control; soil erosion control and topsoil protection.

As the BTC pipeline is now operational, pollution prevention issues relate primarily to erosion and sediment control along the pipeline ROW, as discussed in Section 3.5. As most of the camps are expected to be decommissioned in the relatively near future, the pollution prevention systems at these locations were not a focus of this IEC mission, but, where a spot check was conducted at the Akhaltsikhe Mechanical Yard, acceptable conditions were encountered as previously noted in October 2005. The one exception to encountering acceptable pollution prevention systems was that encountered at the CWAA at PSG-1, as previously noted in Section 3.3.

Stack emission monitoring has not yet been initiated at PSG-1 and PSG-2. The Emissions Management Plan for Operations calls for stack emissions testing to be conducted within a month of full operation, a situation not yet reached. Pending the

stack monitoring, ambient air monitoring has been initiated in August-September 2005 with the first of several periodic sampling. Five monitoring stations at each pump station were established and the total number of hours of ambient monitoring exceeded 860 hours at each location. Gaseous and particulate concentrations were demonstrated to be less than 75% of the EU ambient air quality standards at all of the sampling locations. Measurement concentrations were noticeably higher than 2003 baseline levels, as predicted by the atmospheric dispersion modeling assessment.

3.5 ROW MANAGEMENT

3.5.1 Observations

Most of the time spent by IEC team in the field was dedicated to the visit along the ROW. The pipeline route was visited from the Turkish border at KP 249 to PSG-1 near the Azerbaijan border, primarily to observe final reinstatement that has taken place or is ongoing across the combined BTC/SCP corridor. Most of the time was spent reviewing reinstatement along Spread 2 from KP 183 to the Turkish border, as this area was undergoing active reinstatement and was also where the effects of the winterization measures taken the previous fall could be best observed.

At the time of the visit, approximately 116 km of the entire BTC/SCP remained to be reinstated, mostly within Spread 2. The section from the border with Azerbaijan to KP 98 had been fully reinstated. Biorestitution has been initiated with the planting of trees. Biorestitution is being undertaken in non-agricultural areas or where natural revegetation is not considered to be sufficient. This process has just started, but is beginning to show some progress at the ROW segments where biorestitution has been planned, as follows: KP 0-11 - 100%; KP 18-29 – 72%; KP 52-54 – 33%; KP 70- 85 – 20%; KP 177-180 – 17%). Although this process has been initiated, the Ministry of the Environment (MoE) still has not accepted the Biorestitution Plan or the Method Statements associated with the Plan. As indicated in a meeting with the IEC held on June 12, the MoE still has concerns regarding the use of non-native grasses.

The IEC visited the Andezit tree nursery near Bakuriani and the Bakuriani Botanical Garden on June 14 and the Tetriskaro nursery on June 16. BTC assumed responsibility for the Andezit and the Tetriskaro nurseries from SPJV in September 2005. A criticism to the Andezit nursery, made by the IEC during the third mission in October 2004, was that the number of species was very limited (only three). However, with the nursery at Tetriskaro, where the number of tree species available for reforestation is now seven and with the further establishment of the Bakuriani and Tbilisi Botanical Gardens by BTC, the total number of plant species has increased to +25. There has been significant loss of trees from what was originally salvaged from the ROW in 2003, but the losses have been replaced with additional trees recovered locally. BTC reports that 2,800 trees have been planted to date as a start to their biorestitution program. At Tetriskaro approximately 54,000 trees are available for

replanting. For the three species being grown at Andezit, BTC indicates that more plant individuals than are required for replanting are available there.

As a general observation, where final reinstatement has been implemented, ROW conditions appear to be good. Re-contouring of the land surface has been generally consistent with pre-construction contours, except at some river valleys where it proved necessary to reduce the steepness of the riverbank. Vegetation is growing along the ROW and, where agriculture has been initiated, the BTC/SCP corridor is often difficult to discern. In areas that were reinstated last year e.g. KP 0-11 the ROW has fully blended into the natural terrain.

BTC has initiated a Landscape Monitoring Program within the Project GIS that has proved useful in documenting the re-vegetation of the ROW by taking photographs at pre-defined vantage points at intervals of several months. The vantage points have been selected to be representative of the pipeline ROW and cover areas of potential environmental/social concern, as well as areas where the reinstatement needs to be carefully monitored from the standpoint of stability and erosion/sediment transport concerns. By looking at photographs from exactly the same location over time, it is practical to identify where vegetation is properly growing, as well as where problems may be appearing. The Project has also developed a procedure for the quantitative measurement of vegetative recovery by using a quadrant sighting frame and vertical photography to map sampling plots and make an estimation of the ground cover within the quadrant that can then be compared with the interpretation from photographs.

As another general observation, much of the work remaining for reinstatement will need to focus on the non-ROW facilities including borrow pits, access roads, camps, and pipe yards. Except for borrow pits used for the disposal of excess rock, where SPJV has achieved good results with respect to reinstatement, substantial effort is still required to complete reinstatement. For example, borrow pits such as observed at KP 152 are very large and substantial planning and effort in the field will be required for their reinstatement.

The following sections briefly described the situations encountered during the ROW visit.

KP 183 – KP 249 – Spread 2. Conditions of the BTC corridor are essentially the same as encountered in October, when winterization efforts were underway. The winterization efforts have proved for the most part effective and the full BTC/SCP corridor reinstatement has just started. A few locations with agricultural value appear to have (at the surface) higher rock content than before construction. This is an issue that was identified by the MoE in the June 12 meeting with IEC. BTC acknowledges this issue and rock picking will take place along critical portions of the pipeline route before the final handover to communities particularly in the western part (KP 249 - KP 206). It should be noted that most of the areas where excess rock was observed was where SPJV had not completed reinstatement.

Several river and stream crossings were observed, where significant effort is being placed to provide permanent stabilization to critical locations. At some locations in the western part of Spread 2 the use of gabions will assure stability and are being well constructed. A pier has been constructed to prevent erosion at the river level at the Kura West crossing (KP 222). At the time of the visit, approximately 25% of the Spread 2 BTC/SCP ROW had been reinstated and there is much work remaining.

A repeated observation along Spread 2 is that numerous access roads, that were significantly upgraded because of the difficult access, now constitute a significant footprint of the project. SPJV/BTC should be prepared to dedicate a significant amount of resources for the reinstatement of these access roads taking into account previous conditions as the standard for their final reinstatement, as practical.

KP 90 – KP 183 – Western Portion, Spread 1. The winterization measures adopted in this section for the most part were effective over the 2005 - 2006 winter. Between approximately KP 130 and KP 176 a total of 6 km has been reinstated, essentially the same as was observed in October 2005. In this area the reinstatement of the access roads represents a significant effort to be completed after the ROW is fully reinstated. The disposal of the excess rock along the ROW appears to be well managed in this area. Four disposal schemes are being utilized:

- Reuse along the ROW;
- Dispose (landscape) within the ROW;
- Recycling/reuse off the ROW;
- Disposal off-ROW.

The IEC team visited several reinstated borrow pits and areas where excess rock was being used for slope stabilization: rock being used as a protective layer over the pipeline ROW between KP 135-115; extending natural geomorphic features at KP 152; and reinstated borrow pits at KP 121, KP 118, and KP 90. It is expected that the problem of excess rock along the ROW will be satisfactorily resolved this year. The team made a brief visit to the Tabatskuri borrow pit located at KP 162 and the Samsari borrow pit at KP 153. As noted in the October 2005 trip report, the Tabatskuri borrow pit has not been greatly enlarged by Project usage, but it is located within the Tabatskuri Managed Reserve, which dictates why its reinstatement is necessary. The Samsari borrow pit now represents a footprint covering approximately 10.5 hectares that will need reinstatement. Both of these borrow pits have been identified by the Project as having a high priority for stabilizing and landscaping, as practical.

KP 0 – KP 90 – Eastern Portion, Spread 1. This entire section of the ROW has reached final reinstatement. The Project has completed satisfactory reinstatement of the borrow pits used for the disposal of rock spoil and examples were visited at KP 80 and KP 76+500. The large pile of rock spoil from PSG-2 at KP 88 has now been reinstated in a satisfactory manner. One innovative solution for the disposal of rock spoil was observed at the village of Chiv-Chav (~ KP 83), where approximately

3,500 m³ of rock were used to construct a rock wall around a church under construction. Farther towards the border with Azerbaijan, the ROW is well reinstated. In particular, the Kura East river crossing site at KP 29 is now reclaimed and vegetation is starting to grow back. The section from KP 0 – 11 where biorestitution has been completed is nearly indistinguishable from the natural terrain.

3.5.2 Recommendations

1. A considerable amount of work still remains to complete the reinstatement of the entire BTC/SCP corridor, but satisfactory progress is being made. The concern in Georgia is that little to no reinstatement has taken place with respect to the off-ROW project footprints, in particular the camps, pipe yards, borrow pits and access roads. As this work might not be completed until 2007, BTC should have a contingency plan, should SPJV demobilize before all of the off-ROW reinstatements are complete.

3.6 KODIANA PROJECTS IN THE BORJOMI AREA

3.6.1 Observations

The Borjomi Work Region extends from about KP 176 to KP 196. This area is one of the most significant parts of Georgia in terms of environmental, economic, cultural and aesthetic considerations. The area is part of the catchment of Borjomi Mineral Water, which is one of the most significant private developments in Georgia. Communities in this area are hopeful that tourism will be redeveloped and are concerned that the Project will adversely impact the landscape and their prospects for tourism.

The Project has committed to strictly following best practices with multiple lines of protection and redundancy in design and operations to achieve as close to “zero risk” of an oil spill or leak as practical. During this visit, the IEC was presented the status of the Kodiana Project, as briefly discussed in the following paragraph.

The Kodiana area is where the Government of Georgia has requested that BTC implement special protective measures, including: temporary secondary containment, permanent secondary containment, a drain down tank, and construction of a security base for a patrolling security crew. Critical issues will include landscape alteration and aesthetics, potential impacts from altering the local hydrology, construction impacts taking also into account the presence of an archaeological site at one location, potential social consequences (especially from the stationing of about 200 soldiers at the security base), management issues during operation (e.g. waste management, pollution prevention requirements), access control (especially the Tori site location), ecology, and identification of relevant mitigation measures.

Prior to this mission, the IEC reviewed the EIA documents for the Kodiana projects and has found them to be generally adequate in terms of identifying potential impacts

and having mitigation measures to the degree practical. In general, these projects do not appear to represent a net environmental benefit, but fulfill the requirement of the Georgian Government for having an additional oil spill containment systems.

Construction for all of the Kodiana Projects is scheduled to be complete by October 2007, but there are still some challenges to meeting this schedule. One remaining issue with the Georgian Government is the design criteria for the permanent secondary containment systems. The Government has requested that the facility designs be upgraded such that the pipeline rupture is assumed to take place during a 100-year flood, as opposed to the 30-year flood for which the containments are currently designed. This would require that the containments be significantly larger than their current design with correspondingly greater environmental, social, and aesthetic impact. It is understood that the construction of the Kodiana Projects will be undertaken with Georgian contractors to the degree practical.

3.6.2 Recommendations

1. IEC acknowledges the benefit to use local contractors, but cautions that special care (coaching) from BTC will be required to assure that ESAP commitments are followed, as local contractors will be unfamiliar with Project requirements.

3.7 BLOCK VALVE 9

3.7.1 Background

At the request of the Lender Group, the IEC visited Block Valve (BV) 9 located near KP 112 along the ROW, the location of an oil spill from the failure of the intermediate 1" drain valve.

3.7.2 Observations

The oil leak from BV09 took place on May 2, 2006 and involved the failure of a 1" drain valve. The leak resulted in a high pressure spray that went through the concrete grid roof of the containment building and eventually flowed over the ground. The ambient temperature at the time of the leak was approximately 1° C. It is estimated that the drain valve leaked for a period of no more than about a half an hour. The leak detection system did identify that a leak had occurred and the approximate position of the leak.

The response to this leak by the oil spill response team from the SEACOR Environmental Services International facility at Tsalka took place in less than two hours including the time for a safety briefing and involved the use of absorbents, as well as the excavation of approximately 25 – 30 tons of contaminated soil. At the time of the IEC mission, soil test results from a laboratory in the U.K. were pending and the soil was stored at the CWAA at PSG-1.

As a consequence of this leak, BTC conducted an inspection of similar valves at other Block Valve locations and a number were replaced as being defective. The overall response by the oil spill response team was appropriate to the spill and the end result was that the spill appeared to have not caused any environmental or social impact.

The IEC briefly visited the SEACOR facility in Tsalka. The components for emergency spill response seem to be present at this facility, but mobilization during periods of inclement weather (most of the winter season) could be problematic with the available transport systems and accounting for typical Georgian road conditions.

3.8 ECOLOGICAL MANAGEMENT

3.8.1 Background

BTC Ecological Management Plan Commitment F16/D6 defines the Project's responsibility to "...*Promote and undertake a wildlife monitoring programme in forest areas and wetlands to promote the conservation of endangered species...*". In compliance with Commitment F16/D6, a Biodiversity Monitoring Programme for Georgia consisting of floral and faunal monitoring components is being implemented by the Project.

As part of this program, the Project will conduct five years of annual monitoring, the first of which was conducted in 2004, with faunal and floral annual monitoring reports finalized and submitted to BTC in November 2004. The Biodiversity Monitoring Programme was developed jointly by BTC, the Government of Georgia, and a Georgian environmental consultancy firm (Dzelkva Ltd.). The implementation of the Programme (annual monitoring and report production) is carried out by Dzelkva Ltd. The Biodiversity Monitoring Programme has been approved by the Government in May 2004 following discussions with the Project and involving the governmental Environmental Advisors.

Briefly, the floral component of the Biodiversity Monitoring Programme focuses on three habitats (wetlands, forests, and high mountain meadows), as well as on individual rare species. For the faunal component, multi-taxa monitoring is conducted with emphasis on IUCN and Georgia Red-listed species that occur in the vicinity of the ROW (as determined by the ESIA and as confirmed by the pre-clearance surveys).

The subject of biodiversity monitoring was reviewed extensively by a special IEC team ecologist during the 5th mission in June 2005. The essence of this review was that the language describing the conclusions in the annual monitoring reports for flora and fauna needs to be better substantiated by field data. Prior to the issuance of the 5th IEC trip report, this subject was debated between BTC and IEC at length with the general consensus reached that a separate document would be provided that could provide further information to help fill the gaps in the annual monitoring reports.

Final draft versions of the floral component and draft version of faunal component of 2005 annual report were provided to the IEC that did provide an improved analysis of the field data.

3.8.2 Observations

During the 5th mission in June 2005, the a Level II non-compliance was assigned as follows: “*Although pre-clearance faunal surveys were conducted, it appears that recommendations from these surveys were not always translated into actual mitigation measures that were considered during pipeline construction (Level II Non-Compliance, Ecological Management Plan, Commitment F6).*” The basis for this non-compliance was based on a lack of information regarding potential direct impacts of pipeline construction on the seasonal hydrological regime at the KP 40 breeding pond; the potential indirect impact on the spadefoot toad population within this breeding pond; and the potential cumulative impact on the greater regional viability of this species.

During this mission the IEC visited locations along the ROW where potential ecological impacts were previously interpreted. At the spadefoot toad breeding pond at KP 40 BTC was able to demonstrate that pipeline construction did not have direct impact on this pond as drainage visible at the time of the mission showed that this pond is upgradient of the ROW. The IEC also observed that the swampy channel also interpreted to be a spadefoot toad habitat (KP 11) is showing the development of wetlands vegetation. Although the location of the compensatory ponds supporting Caucasian mud-diver habitats (KP 187 through 189) destroyed during construction activities were not visited, BTC provided photographic evidence of the level of effort associated with the redevelopment of these new habitats. The Level II non-compliance assigned in the June 2005 mission report is considered rescinded.

3.8.3 Recommendations

1. A process to accelerate the completion of the annual reports needs to be considered. The ability to review annual results of biodiversity monitoring is compromised when report for 2005 has not been finalized by June 2006.

3.9 OFFSET MITIGATION AND ENVIRONMENTAL INVESTMENT PROGRAMS

During the mission, the IEC was updated on the status of the Offset Mitigation Measures and the Environmental Investment Programme (EIP) in Georgia. The following table presents the information provided by the Project for the components of the EIP that are being actively implemented.

Project Name:
Caucasian Black Grouse (CBG) Research, Monitoring and Conservation Management

Project Start Date:
January 2004

Implementing Organizations:
The Lead Implementing Organization is the Georgian Center for the Conservation of Wildlife (GCCW) partnering with the World Pheasant Association (WPA), University of Idaho (USA) and BirdLife International

Location:
Black Grouse habitats in Georgia as determined by the programme

Project Description:
To provide a scientific basis and the capacity for the effective conservation management of the CBG (an endemic, rare and globally threatened species) in Georgia.

Highlights and Achievements:

- Phase I – completed in January 2006.
- National Species Action Plan (NSAP) – final deliverable approved by MoE.
- Components of NSAP implementation – Phase II.
- Phase II proposal – review ongoing.

Project Name:
Ecosystems and Species Conservation in Georgia: Brown Bear

Project Start Date:
June 2004

Implementing Organization:
NACRES (Noah's Ark Centre for Recovery of Endangered Species)

Location:
Trialeti Range in Georgia

Project Description:
To estimate the brown bear population in the Trialeti Range; appraise current levels of threats; describe the underlying reasons for loss of bear habitat; develop a Bear Conservation Action Plan; and establish the basis for community involvement conservation activities.

Highlights and Achievements:

- Work be completed in June 2006.
- Draft Brown Bear Conservation Action Plan (final deliverable) – developed, discussed at several workshops.

Project Name:
Management of Small Grants for NGO Capacity Building along the BTC ROW

Project Start Date:
September 2004

Implementing Organization:
Save the Children

Location:
Pipeline ROW

Project Description:

The objective is to develop NGOs' capacities to engage citizens in environmental awareness and education, and social development. The capacity of six selected NGOs to function as long-term Intermediary Support Organizations (ISO) will be built through Tailored Assistance Packages (TAP). This will enable them to provide training, information, facilities, communications and office equipment, and any number of other services to facilitate primary level NGOs to focus on their mandate of serving people and the environment.

Through a locally-based and transparent decision-making process, another 26 NGOs will be offered grant aid to undertake projects addressing environmental and /or social development needs. Such projects must incorporate public education /awareness and participation components. These primary-level NGOs will be supported by the six ISOs. Extensive training to all will be given by Save the Children and its partners.

Highlights and Achievements:

- On schedule – progressing well.
- Three rounds of RFP completed – in total, 26 Specialist NGOs grant-aided to undertake projects addressing environmental and/or social development needs.
- Final evaluation planned for October 2006.

Project Name:

Environmental Education Programme (EEP):
Enhancement of Environmental Education around
Borjomi Kharagauli National Park
Implementing Organization: CARE

Project Start Date:

October 2004

Location:

Districts to south / south-east of Borjomi
Kharagauli National Park

Project Description:

To deliver extra-curricular training to adolescents on major environmental issues and environment conservation approaches, to promote active learning methodologies in teaching and to upgrade teaching materials. Thirty-three secondary schools have been selected, eleven of which are in towns and twenty two are in villages.

Highlights and Achievements:

- Successfully completed in March 2006
- Phase II - Additional funds (co-funding to ADA) allocated for environmental education component of CARE's COPE project initiated in May 2006

Project Name:

Environmentally Sound Livestock Farming (ELF)
Implementing Organization:
CARE

Project Start Date:

January 2005

Location:

Districts to south / south-east of Borjomi
Kharagauli National Park

Project Description:

To reduce negative impact on biodiversity in the National Park and its Support Zone through the adoption of environmentally sustainable livestock management practices. To be implemented in 24 villages surrounding the National Park and in the vicinity of the pipeline. The target group will be 2,580 livestock farmers (both men and women) representing approximately 40% of all farming households in the target villages.

To achieve environmentally sustainable livestock management practices and improving livelihood security by:

- Increasing awareness of how excessive human activities affect ecosystems;
- Developing key technical practices for local farmers;
- Providing farming households with access to information on production (by demonstrations, training, handouts, local newspapers etc.);
- Investigating opportunities and demonstrate technologies for value-added household production of processed meats and dairy products; and
- Assisting key support services.

Highlights and Achievements:

- On schedule – progressing well.
- 87 Demo-farmers selected/participating.
- Positive feedback received from recent evaluation.

In addition to the above active projects, BTC provided information on an additional project considered to be in the planning/definition stage:

- **The Forest Eco-compensation Program** aims to recreate similar forest habitat to that affected by the pipeline construction. Information regarding this proposed project was not presented by the Project, but information was provided in a meeting held with the Georgian MoE on June 12 to indicate that negotiations are

ongoing with BTC. The MoE has requested compensation at a ratio of 10:1 ha for the ~ 100 ha of forest estimated to have been affected by the Project. It is noted that the ESIA has the commitment to plant 1.5 trees for every single tree felled.

- **Management Planning for Ktsia Tabatskuri Managed Reserve.** The following activities have recently taken place:
 - Feasibility Study – submitted to MoE in November 2005
 - Request for Proposals (RFP) for international tender to develop a management plan for KTMR) – submitted to MoE in February 2006
 - RFP issued in mid-Feb and finished in April 2006
 - Proposals received submitted to MoE
 - Proposal evaluation completed
 - Selected proposal (IUCN) refined
 - Preparing Grant Agreement to be set up with IUCN
- **Sustainable Forest Pilot Project.** In order to minimize dependence on governmental officials BTC aim to partner with one international agency to take this issue forward. Information regarding this proposed project was not presented by the Project, but information was provided in a meeting held with the Georgian MoE on June 12 to indicate that they would like to have a meeting with BTC to identify the priority themes for this project.

As noted above, the IEC had the opportunity to have the point of view of the Georgian Ministry of the Environment regarding aspects of the EIP in a meeting held on June 12. Additional details of the MoE position are provided in Section 3.12.

3.10 CULTURAL HERITAGE MANAGEMENT

Cultural heritage management is predominantly the responsibility of BTC. The governing procedures are defined in the ESAP, Appendix D as *Archaeological Late Finds Protocol*. The definition of significance and actual excavation of sites is the responsibility of the Centre for Archaeological Studies (CAS), the Georgian government's cultural properties review and compliance agency, as specified in the *Georgian Law on Cultural Protection*. SPJV is responsible for reporting chance finds and stopping work until the BTC Cultural Heritage Field Team (CHFT) can evaluate the situation in association with CAS and provide appropriate guidance.

3.10.1 Observations

As recommended in the October 2005 IEC report, BTC has assumed responsibility for evaluating and managing off-ROW archaeological sites that should have been managed by SPJV. As a result 60 new sites have been identified. In addition to these sites, additional sites may be identified during construction monitoring of off-ROW reinstatement efforts and the Kodiana projects. The degree to which these sites need to be mitigated will depend on requirements imposed by CAS.

At this point in time, it is important to make sure that there is the appropriate follow-up in terms of interpreting, curating, presenting and reporting the finds. The display of archaeological artifacts encountered during construction at the National Museum in Tbilisi as part of the First Oil celebrations held on October 12, 2005 was a major accomplishment, but this display has unfortunately been discontinued. The curation facility issue is project wide and a strategy for addressing the problem is under development by senior management. Contractually CAS has been required to prepare extensive background research and contextual studies which should aid in getting better analysis and interpretation out of the collections.

The transition to Operations is well underway, with CHFT staff assigned to field monitoring, 2005 field season laboratory work, and post construction compensation excavations. A training program is in draft form, but has not formally been delivered to Operations personnel. There is an informal agreement with Operations authorities to consider heritage issues in the permitting process. Meanwhile, Operations activities are supported by the Project cultural heritage team. In addition to activities initiated in Georgia, additional planned project undertakings include a thematic book on heritage work undertaken across the three countries, a heritage website, and possibly a conference. This work is supervised and managed by the CMT in Baku.

As noted in the October 2005 report, a major accomplishment achieved by the BTC/SCP Projects in October 2005 is the conservation of one of the Phase III sites, the 10th century Tadzrizi Monastery, for the Ministry of Culture, Department for Protection of Monuments in Georgia (Monuments Department). This monument had its official opening during this current IEC mission and it is understood that additional restoration may be considered to further improve this structure, which represents an important contribution by the Project to the local community.

3.10.2 Recommendations

1. The most critical activity currently required with the archaeological program is the analysis and interpretation of the findings made during construction. IEC recommends CAS, according to contractual agreement, to initiate analysis and interpretation out of the collections according to plans.

3.11 COMMUNITY LIAISON

The Community Liaison teams of BTC and the SPJV are responsible for communicating BTC Project information to the general public and, specifically, the community in areas along the pipeline route, as well as receive and transmit community information to the BTC Project. The overall objective for the community liaison is to build a positive, non-dependent relationship between the BTC Project and the local communities.

3.11.1 Observations

The BTC social programs are managed by a Social Programs Manager supported by two field social coordinators, who in turn are supported by five CLOs. The responsibility for the social tem now includes the Western Route and the group is currently divided between Construction and Operations responsibilities. SPJV has continued to demobilize their social staff since the October IEC mission. Two CLOs with one assistant now report directly to the Community Relations Manager for the entire Project.

Most of the community relations issues are disappearing now that both the BTC and SCP pipelines are in the ground. Land grievances are nearly all closed. SPJV management of and response to land grievances has continued on both spreads, with a reduction in the overall quantity and scale of the grievances received. Most grievances encountered by SPJV are passed to BTC.

The significant social issue reported in the October 2005 mission report related to the increased turbidity at the village of Tsemi has been effectively resolved with the installation of a new intake pipe upgradient from the influence of the pipeline. Villagers are generally satisfied with the solution, although they have requested another two kilometers of pipe for their own purposes.

3.12 MEETING WITH GOVERNMENTAL OFFICIALS

A meeting was held between the IEC and representatives from the Georgian Ministry of Environmental Protection and National Resources (MoE) and the Georgian International Oil Corporation (GIOC) on June 12. This was the third meeting held between the IEC and the MoE/GIOC, and MoE/GIOC was able to voice their concern and priorities about several environmental and social issues associated with the BTC project. The IEC was pleased to have the opportunity to listen at the point of view of these two important groups.

Information was presented to the IEC following the outline of the topics of interest presented by the MoE, as follows:

Conditions for the approval of the OSRP

The MoE indicated that they had requested BTC to design the secondary containment structures for the 100-year flood, but that the design had not been resolved. However, they had conditionally approved the E&S evaluation. The EDDF ESIA is under review. With respect to Condition 9, “Special Response for Tsalka Catchment” MoE stated that their comments had been prepared for the Tsalka Catchment that BTC indicated had not been received.

Reinstatement

The MoE has the same issues with respect to reinstatement that were expressed during the October 2005 meeting. The current Biorestoration Specification Plan and Biorestoration Method Statements are not considered acceptable by the MoE. Also part of these documents, MoE has had meetings with BTC emphasizing their concerns of the use of non-native grasses and the specific species of shrubs and trees used for reinstatement. The MoE has agreed on the list of species to be planted for biorestoration, but do not believe the four nurseries will ensure ROW reinstatement because of their poor conditions and management. They indicated that some agricultural areas were not properly reinstated due to the excess amount of rocks mixed in with the topsoil.

Biodiversity Monitoring Program (Biodiversity Monitoring Report – 2004)

The MoE considers that a shortfall of the Biodiversity Monitoring Reports is the lack of specific recommendations to mitigate residual effects in the area of Mount Tavkvetili. Rather than attempt to restore mountain wetlands, the MoE considers that other compensatory actions should be considered, such as a detailed botanical evaluation of the wetland systems and their functionality in the vicinity of the pipeline in the Tsalka area, as well as mapping wetland ecosystems on the Javakheti upland. The 2005 Biodiversity reports had not yet been submitted to the MoE.

Forestry – Eco-compensation

The basic issue that has not been resolved between MoE and BTC is the amount of compensatory reforestation for unit damage, as was the case in October 2005. The MoE wants to see 10 hectares of forestation for every hectare removed.

Environment Management Plans for Operations Stage

The MoE indicated that they are still missing some information for the Operations ESAP, in particular as related to ecological management and monitoring.

Environmental Investment Plan (EIP)

Of the six EIP components, the MoE indicated that they had provided their concurrence to only three of these components. MoE would like to have a meeting with BTC to identify the priority themes for the forest eco-compensation project. The MoE considers that Environmental Education Program (EEP) and the Environmentally Sound Livestock Farming (ELF) projects do not relate to the conservation of biodiversity and should be closed. The MoE indicated that BTC had not held consultations with them regarding the EIP projects and made the proposal that BTC assist the MoE in the elaboration of Management Plans for the Protected Territories (Tetrobi Managed Reserve; Erusheti National Park; Algeti State Nature Reserve). The MoE has also requested assistance in the preparation of Management

Plans for protected and/or potentially protected areas (Bedini Plateau; Santa; Mt. Tavkvetili; Narianis Veli); assistance with defining supervision methods for forest reinstatement; and general assistance for the preparation of Management Plans for protected and/or potentially protected areas.

Compensation for Damage to Ichthyofauna (Fish)

A methodology for ichthyofauna damage and a calculation of damages has been sent to BTC.

Oil Spill at Block Valve GB09

MoE has not received a report on this spill incident.

Gas Leakage Area 72 at PSG-1

MoE has not received a report on this incident.

4 TURKEY

The BTC Project in Turkey encompasses 1,074 km (according to as-built information) of pipeline extending from the Georgia - Turkey border in the Posof District to the Ceyhan Marine Terminal (CMT) on the Mediterranean Sea. From the Georgian border, the pipeline Right-of-Way (ROW) crosses the provinces of Ardahan, Kars, Erzurum, Erzincan, Gumushane, Sivas, Kayseri, Kahramanmaras, Osmaniye and Adana, terminating at Ceyhan. The BTC Project runs approximately parallel to the existing East Anatolian Natural Gas Pipeline (NGPL, completed in 2001) for about 30% of its length (approximately 330 km), between the cities of Erzurum and Sivas (Lot B). The BOTAŞ Gas Pipeline, now under construction, is parallel to the BTC pipeline at the Georgian border, where it connects to the South Caucasus Pipeline (SCP), but diverges until it terminates in Horasan.

During the construction phase, the BTC Project in Turkey has been broken down into three Lots from the Georgian border to Ceyhan: Lot A (278.0 km), Lot B (465.4 km) and Lot C (332.8 km). Each Lot has effectively operated as a separate construction project undertaken by an EPC Contractor as indicated below:

Lot A: KP 0 – 278

Contractor: TEPE – Nacap JV (TPN) – contract terminated in January 2005 by BOTAŞ, which, since then, has been directly in charge of construction.

Spreads: 3, plus one mini-spread

Block valves: 15

Major crossings: 3 rivers, 6 roads, 3 railways

Camps: 3, main at Kars at KP 115, 2 spread camps at Hanak (transferred to the BOTAŞ Gas Pipeline project) and Köprüköy (decommissioned and reinstated).

Lot B: KP 278 – 744

Contractor: Günsyl-Haustadt & Timmerman-Max Streicher-Alarko JV (STA)

Spreads: 3

Block valves: 24

Major crossings: 9 rivers, 13 roads, 3 railways

Camps: 1 main (Kova at KP 527 in Spread 1), 4 spread camps: Iliça – (decommissioned) and Çardikaya in Spread 1 (in process of decommissioning); Koyunkaya and Sivritepe in Spread 2 (decommissioned).

Lot C: KP 744 – 1076

Contractor: Punj Lloyd - Limak JV (PLL)

Spreads: 2 + 34" spread

Block valves: 13

Major crossings: 10 rivers, 6 roads, 1 railway

Camps: 1 main (Azizli at KP 1037), 3 spread camps (Andirin, Yesilkent, Orensehir, decommissioned).

Pump Stations

Contractor: TEPE – contract terminated in April 2005; since then BOTAŞ in charge of construction.

Four Pump Stations: PT1 at KP 21.3

PT2 at KP 278

PT3 at KP 442 and

PT4 at KP 744

Two Intermediate Pigging Stations: IPT1 at KP 944

IPT2

The BTC pipeline terminates at the Ceyhan Marine Terminal (CMT), which includes 2.6 km long jetty and offshore loading facility, seven one-million barrel storage tanks, a central control building, housing compounds and administration, and a fiscal metering system (Contractor TEKFEN).

The June 2006 visit covered all three Lots, focusing on reinstatement of the pipeline ROW and off-ROW footprints. Documentation pertaining to environmental, social and health and safety management was collected and is reviewed in this report, as provided by both BTC and BOTAŞ.

Site visits were made to the CMT, PT4, PT2 and IPT2 to monitor the status and progress of temporary and permanent waste and wastewater management facilities.

During the June 2006 visit, aerial markers and marker posts had been installed on portions of the ROW. Unless otherwise indicated, locations of visited sites are denoted in as built KP (kilometer post) locations, which reportedly are approximately two kilometers less than the KPs in the construction phase alignment sheet.

A detailed itinerary of the June 2006 visit is provided in Appendix A.

4.1 CONSTRUCTION STATUS

Construction has concluded at Lots A, B and C and the fixed facilities, although some completion works are ongoing. Linefill and first tanker lifting at Ceyhan were completed in early June; official project inauguration is scheduled for the second week of July, 2006. At the time of the June 2006 visit, Azizli, Kova and Kars construction camps were still in operation, as were the CMT camp and pump station camp locations. Repairs to the ROW are anticipated, once punchlisting, including reinstatement punchlisting, will be concluded and agreed to between BTC and BOTAŞ. Repairs will require additional contractor staff and machinery on the ROW.

4.2 ENVIRONMENTAL AND SOCIAL MANAGEMENT ORGANIZATION AND RESOURCES

4.2.1 Observations

In Turkey, a turnkey contract was signed between BTC and BOTAŞ who subsequently awarded EPC contractors the construction work in each of the three Lots, the Pump Stations, and at the CMT. BTC maintains an assurance role over both BOTAŞ and the EPC contractors.

Since the time of last visit in October 2005, the number of Environment and Social and Health and Safety personnel has greatly decreased, as construction has for the most part concluded.

BTC

There have been changes in the BTC License to Operate (LTO) organization since the October 2005 visit. The BTC Environmental and Social (E&S) organization in Turkey is now structured in three groups, coordinated by the E&S Manager:

- Construction E&S: consisting of two E&S Senior Advisors and two LTO Advisors, as discussed below;
- Transitional E&S: in charge of the transition to operations activities including E&S, the Regional Sustainable Development Program (e.g., social investments, environmental investments), Communications, and External Monitoring and Evaluation;
- Operation E&S, currently staffed by two specialists.

With respect to the Construction E&S organization, there are no LTO advisors in Lot C. There is one LTO advisor in Lot B and one LTO advisor in Lot A.

The Lot A E&S senior advisor is also involved in ROW reinstatement punchlisting activities in Lot C. The Lot B senior advisor is currently involved in ROW reinstatement punchlisting activities in Lot B and assessment of reinstatement needs for the NGPL. BTC has no staff solely dedicated to land exit in Lot B.

BOTAŞ

The BOTAŞ Environmental and Community Relations (CR) organization as of June 2006 has also decreased. An Environmental Manager and a Community Relations Manager continue to oversee activities of the BOTAŞ site teams from Ankara. One pipeline environmental supervisor is now responsible for all three Lots, assisted by a reinstatement expert in Lot B, and is involved in the reinstatement punchlisting activities. There are two environmental monitors dividing responsibilities for the

pump stations. There is an environmental expert, based in Ankara, collaborating with the Environmental Manager, and covering the responsibilities for the CMT.

There is one CR specialist responsible for both Lot C and B, and one CR specialist in Lot A. The pump station environmental monitors are also responsible for CR issues.

A Turkish consultant firm, CINAR, continues to provide third party monitoring and technical support in environmental management, reinstatement and ecological issues.

BIL

BIL is in the process of finalizing its E&S team. The environmental organization is already staffed. An environmental manager has been selected, supported by three environmental engineers, one environmental officer and ten environmental monitors (8 for the pipeline; 2 at CMT). An environmental advisor is also under contract to assist on reinstatement issues.

The CR organization is still to be staffed, and is proposed to include a CR manager, supported by a CR Chief, a CR Supervisor and six Community Liaison Officers (4 at the pump stations, 2 at CMT).

The organization for waste management operators (unskilled, semiskilled and skilled workers) at the fixed facilities is still under evaluation.

A limited involvement of BIL during reinstatement punchlisting and land exit activities was observed.

STA – Lot B

One environmental specialist and one CR specialist remain in Lot B.

PLL – Lot C

There is one CR specialist in Lot C.

4.2.2 Recommendations

1. BTC should maintain a designated CR presence in Lot B for land exit.
2. BOTAŞ should strengthen the current environmental team during repairs and final closure of punch list items to meet the needs for reinstatement evaluation, supervision of repairs, monitoring and aftercare. Similar expertise will be required for the reinstatement of the NGPL.
3. STA and PLL should maintain environmental and CR capability up to termination of land exit and punch list closure.

4. The Project has committed to preferential use of local workers. BTC, BOTAŞ and BIL should employ local staff for continued environmental functions across the pipeline and fixed facilities, for example the Central Waste Accumulation Areas (CWAAs) and Wastewater Treatment Plants (WWTPs).
5. As indicated in the Operations ESAP, BIL should be involved during the handover period in order to verify that reinstatement commitments have been met, and be responsible for maintenance and monitoring of reinstatement works after final acceptance. Although direct participation of BIL to field punchlisting activities in this phase is not a commitment, IEC stresses the importance of BIL direct involvement in these activities during the transition period, particularly in regard to fulfillment of Operation ESAP commitments for ROW reinstatement and maintenance and biorestitution.

4.2.3 Non-Conformance Records (NCR) Register

The latest NCR Register was provided by the Project during the June 2006 visit. There are no open NCRs either by BOTAŞ or BTC.

4.3 CONSTRUCTION CAMPS, INFRASTRUCTURE AND SERVICES

The review of construction camps, infrastructure and services focuses on construction operations that potentially have an impact to surrounding infrastructure, natural resources, and community and household assets, including land, roads, and irrigation systems. In addition, the review of this topic includes camp potable water supplies and general aspects of camp management. During the June 2006 visit, the focus shifted to reviewing the condition and status of decommissioned campsites, no longer used by the Project.

CINAR completed a due diligence report of camps in Lot C in November 2005. A due diligence decommissioning checklist has also been prepared by BTC. BTC has also prepared a draft Camp Assurance report for Lot B (April 2006). IEC was also informed that CINAR is planning to complete due diligence surveys on Lot A for Koprukoy Camp (Lot A) and Sivritepe, Koyunkaya, Cadirkaya Camps (Lot B) in July 2006.

4.3.1 Construction Camps – Observations

Construction camps are still being used across the Project (Azizli, Kova, Kars, Pump Station locations). The Contractor Control Plan, Construction Impacts – Turkey defines the temporary nature of campsites. Commitment R19 states that “*camps will consist of pre-fabricated modules that will be brought in by trailer. They will remain in place for 6 to 9 months and then be disassembled and removed.*” As reported by the Project, a decision still needs to be made with respect to the decommissioning of the remaining camps, especially at the Pump Stations. IEC observed that, due to

their design characteristics, there appears to be some degradation of the modules and camp infrastructure at those locations. Housekeeping is also more problematic due to the limited workforce.

Lot C

Andirin Camp

At the time of the June 2006 visit, IEC observed that the Andirin camp had been reinstated. BOTAŞ reported that the landowner asked to maintain some buildings on the site.

The CINAR due diligence report was completed prior to final reinstatement. The report noted numerous instances of poor waste management practices and incomplete removal of concrete foundations. The CINAR report also noted that relatively low, oil and grease and fecal coliform concentrations were detected in a well water sample at the Andirin Camp. There appear to be inconsistencies in the water testing results available from CINAR and the EPC contractor.

During the visit, the IEC noted garbage, including conduit, on the north end of the site, and was informed that this observation is included in the BTC punch list.

IEC was informed by BTC that the Andirin situation has been included in BOTAŞ Off-ROW Punchlist dated June 10th, 2006 as: "... partially reinstated, piping and debris remain; requires further reinstatement, grading, and cleanup...". The resolution of this punched item and the verification of the water quality data will be assessed during the next visit.

Yeshilkent Camp

Yeshilkent Camp was decommissioned in October 2005, but not reinstated. IEC was informed that the local municipality has requested that the camp footprint and some concrete structures be left as a future housing location. During the June 2006 visit, concrete pads and foundations were still in place, sewage sludge was noted in the WWTP area, a large concrete pit filled with water was evident, and open trenches with waste were still present. The gate was found open and free access to the site poses a community safety issue.

The November 2005 CINAR due diligence report noted the following:

- Sumps were still full of sewage and waste water;
- Presence of contaminated soil with hydrocarbons and burnt plastics;
- Improper waste management procedures;
- Plastic waste was left in the pipe storage area; and

- The car wash area showed signs of hydrocarbon contamination.

The CINAR due diligence report also reported the presence of oil and grease and fecal coliform concentrations in well water at Yeshilkent Camp. In addition, there appear to be inconsistencies in the water testing results available from CINAR and the EPC contractor.

After the visit, IEC was informed by BTC that the Yesilkent situation has been included in BOTAŞ Off-ROW Punchlist dated June 6th, 2006 as: "...buildings and above-ground structures removed, but concrete foundations and pads remain, as well as open trenches and pits. Piping and debris remain, and some evidence of spills near WWTP. Requires further reinstatement, grading, and cleanup...".

Although it is recognized that the site has been punch listed by the Project, a non-compliance (*Level II Non Compliance, CCP Community Safety, Commitments ID: CH4E85, CH12S52, CH12S53, CH12S5*) is raised because the deficiencies identified in November 2005 in terms of site decommissioning and reinstatement, creating a community safety hazard, were still to be addressed in June 2006 at the time of the IEC visit.

The resolution of this punched item will be assessed during the next visit.

Orensehir Camp

The November 2005 CINAR due diligence report noted the following:

- Poor attention to waste management – presence of scrap metal, plastics, pipe, and construction waste;
- Subsidence was noted; and
- Topsoil had not been spread.

During the June 2006 site visit, the site was reported as reinstated. However, garbage was still evident at the site, including waste pipe, conduit and insulation. Some subsidence was observed at the former WWTP site. IEC was informed that BTC had yet to formally visit the site as part of the punchlisting activities.

After the visit, the IEC was informed by BTC that the Orensehir situation has been included in BOTAŞ Off-RoW Punchlist dated June 15th, 2006 as: "...partially reinstated, piping and debris remain, including conduit and insulation. Requires further reinstatement, grading, and cleanup...". The resolution of this punched item will be assessed during the next visit.

Lot B

Sivritepe Camp

At the time of the June 2006 visit, IEC was informed that the Sivritepe Camp had just been decommissioned and reinstated, and that work began three weeks previously. Small amounts of garbage and debris were noted on the site. Most significantly, the site was found to be not leveled and the pre-existing topography was not adequately reestablished.

After the visit the IEC was informed by BTC that the Sivritepe Camp has not been visited during Lot B Final walk down and is a part of Off-RoW punchlisting process. IEC was informed by BTC that the following statement has been included into the BOTAŞ RoW punchlist dated June 17th, 2006: “Sivritepe and Koyunkaya Camps have been reinstated by STA and inspections are ongoing. Çınar Due diligence survey has now been completed for these sites between (4-8 July 2006) and deficiencies identified.

BTC provided a Lot B Camp Assurance Report (Punchlist Attachment #7) which indicated the following:

- Fencing and gravel was not removed;
- Concrete bases and bunds were not removed;
- Hazardous wastes was disposed of at the camp location, including Protegol, and
- Hydrocarbon contamination was noted in several locations.

A BOTAŞ due diligence report was not made available at the time of the visit, to provide evidence that the issues raised by the BTC assessment have been adequately closed. The resolution of this punched item will be assessed during the next visit.

Koyunkaya Camp

During the June 2006 visit, IEC observed that the Koyunkaya Camp site had not been fully reinstated. The site surface is gravelly and lacks sufficient topsoil cover. Poor waste management practices were observed, and several concrete blocks have been dumped outside the site in an adjacent river bed. Oil staining was noticed in several locations and the sewage discharge location had not been reinstated. In addition, the Project used a pipe storage area across the highway from the camp location, which had yet to be reinstated at the time of the visit.

The STA pre-site assessment report indicates that the Koyunkaya Campsite was near to a NGPL pipe storage area. The report states that there are no records of any

previous use of the Koyunkaya Campsite, but the pre-construction survey reported previous “anthropogenic disturbance” at this site.

The BTC Lot B Camp Assurance Report (April 2006) lists several deficiencies observed by the IEC at Koyunkaya Camp, although it misses to highlight the concrete blocks dumped in the adjacent river bed.

After the June 2006 visit, IEC was informed by BTC that the Koyunkaya Camp has not been visited during Lot B Final walk down and is a part of BTC/BOTAS Off-RoW punchlisting process which will be carried out in the following weeks. IEC was also informed that the BOTAS ROW punchlist dated June 17th, 2006 states that “Sivritepe and Koyunkaya Camps have been reinstated by STA and inspections are ongoing. A CINAR due diligence survey has now been completed for these sites between (4-8 July 2006) and deficiencies identified”. The CINAR due diligence report was not available to IEC at the time of the June 2006 visit.

The site decommissioning and reinstatement are non-compliant with the relevant commitments and require significant improvements (both cleanup and reinstatement). However, it is recognized that the inadequacy of the reinstatement has been identified by the Project; the resolution of this punched item will be assessed during the next visit.

Çadırkaya Camp

BOTAS reported that the landowner requested the site to be left with fencing, gravel and concrete slabs and some structures for a potential future use.

However, during the site visit, IEC observed a serious situation at the partially decommissioned Çadırkaya camp site in regard to community health and safety (*Level II Non Compliance, CCP Community Safety, Commitments ID: CH4E85, CH12S52, CH12S53, CH12S57; and CCP Reinstatement, Commitment ID: APC2E30*):

- Although perimeter fencing is still in place, the three gates to the camp were found to be not secured allowing third party access to site ;
- The site was left with open sumps and tanks, which pose a community safety hazard. In addition nails, spikes and broken glass shards were also noticed throughout the site;
- Sludge was present in the former grease traps;
- Numerous concrete walls and foundations in poor condition were still in place; and

- Hydrocarbon staining was noted at the former electric generator and fueling locations.

The BTC Lot B Camp Assurance Report (Punchlist Attachment #7) confirms these observations:

- Security fencing was not removed;
- Litter and waste material was present;
- Underground services were not removed;
- Open sumps and tanks were present, posing a community safety hazard;
- Waste was left in the waste storage area;
- Oil spills appeared to have occurred but were not reported or cleaned up;
- Concrete bases were not removed, posing a community safety hazard; and
- Concrete bases were not removed in the refueling area.

The most significant observation is that these safety hazards have persisted without any effective remedial action, on behalf of the Project, since the camp was decommissioned in late 2005. IEC received correspondence from BTC informing BOTAŞ of these safety and environmental concerns in March 2006 and again in early June; no response to these concerns was made subsequently by BOTAŞ. Therefore, known safety hazards at the site have persisted for about eight months with no remedial action. During the June 2006 visit, IEC was informed that an action was finally implemented by the Project.

Lot A

Köprüküy Camp

Decommissioning of the Köprüküy site began in October 2005 and IEC again visited the site in June 2006. The camp appears to be sufficiently reinstated, although scattered small pieces of concrete were observed on the cultivated surface.

CMT

Temporary Harbor

In June 2005, IEC visited the temporary harbor at the CMT and was informed that removal and reinstatement of temporary harbor is still not decided. At the time, the Project stated that there was a possibility that the temporary harbor may not be

removed. As with all temporary facilities, IEC recommended the Project to apply ESAP commitments for footprint minimization.

In June 2006, the situation is unchanged. The temporary harbor is still in place and no formal decisions have been provided by the Project.

4.3.2 Construction Camps – Recommendations

1. IEC notes that the Project has developed a due diligence decommissioning checklist, which includes the evaluation of contamination. Due diligence reviews of some camp locations have been undertaken by CINAR together with additional BTC Assurance Reviews. The detection of hydrocarbon and fecal coliform levels in a limited number of well water samples collected at decommissioned camp locations in Lot C is of concern. BTC should evaluate the significance of these observations as part of the final punchlist sign-off of the camp locations. Quantitative evidence that no contamination potentially related to camp operation should also be provided for other camps decommissioned and reinstated by the Project.
2. IEC is concerned about the lack of apparent consistency regarding sampling for hydrocarbon and fecal coliform contamination at camp locations. Additionally, IEC is troubled by the lack of any assurance verification on behalf of the Project, in response to these findings raised by the BOTAŞ third party monitor. BOTAŞ should re-evaluate the existing due diligence procedures, including sampling and testing of soil and groundwater, and implement adequate protocols in place for hydrocarbon sampling, using rapid sampling techniques (e.g. field TPH kits). BTC should verify that this has been accomplished.
3. IEC is concerned about the poor attention to community safety paid by the Project at some decommissioned camps in Lot B and C. The Project should take immediate action to address safety hazards at the Çadırkaya Camp and other camps which are not fully reinstated and make it secure from public entry. Sites should not be left unattended and unsecured by the Project, if a safety hazard exists. Discussions should also be held with local community representatives and the site landowners to ensure their awareness with respect to potential residual safety hazards, particularly for children.
4. BOTAŞ should develop consistent safety protocols that should be included in the camp decommissioning checklist. The final camp punchlists should include safety action items to be agreed to between BOTAŞ and BTC. BTC should ensure that safety oversight continues to be provided.
5. BTC should evaluate the status of camps where the final use remains indeterminate (e.g. Çadırkaya and Yeshilkent) and assess the liability to the Project.

6. The Project should review the pre-assessment reports of all camp locations against the final camp punchlist action items to ensure that all camps are being reinstated to pre-disturbance conditions.
7. Because the Contractor Control Plan, Construction Impacts – Turkey is clear about the temporary nature of campsites and field observations indicated a deterioration of the existing structures at camps still in use, BTC should conduct specific audits of the campsite conditions (including all temporary facilities and infrastructure) to ensure that relevant ESIA and ESAP requirements continue to be met. The Project should develop MOC procedures for those camps that may continue to be in use into the operations phase, particularly if they are transferred to BIL or its Contractors (e.g. Azizli, Kars and the Pump Station locations).
8. BOTAŞ should include the reinstatement of access roads to camp locations, as part of the final camp reinstatement punchlist. BTC should include this in their list of oversight commitments regarding the reinstatement of Project access roads.
9. The Project should rationalize its decision on the CMT temporary harbor and inform the Lenders. Any decision will require an environmental and safety assessment considering potential changes to marine traffic patterns, potential water and sediment contamination issues, underwater noise and vibration disturbances, and other relevant issues.

4.3.3 Aggregate and Excess Material Management - Observations

IEC acknowledges the progress made by the Project to reinstate borrow pits and excess material dump sites across all three Lots. The Project is preparing a final borrow pit punchlist in support of reinstatement, which will require verification against the borrow pit registers prepared for each Lot. During the June 2006 visit, several reinstated borrow pits were visited across all three Lots and the following observations were made:

- The borrow pit at PT4 was reinstated and good recontouring was observed;
- The borrow pit at Kalkanci around KP 530 in Lot B has not been properly reinstated. Topsoil quantities appear to be insufficient; and
- The borrow pit and waste rock disposal area near KP 174 was observed to be adequately reinstated.

In October 2005, IEC noted that work had begun on reinstating the three inert waste disposal areas at PT-3 (DS1, DS4 and DS5). IEC visited these sites in June 2006 and made the following observations:

- DS1 – good recontouring and reinstatement were observed. The Project reported that the local Muhtar asked to keep the access road in place to plant a community orchard. IEC was informed that the Project has decided to accept this request, and a short access road was left open, although narrower than the original construction footprint.
- DS4 – good recontouring and reinstatement were observed; surface drainage and subsurface drainage were installed. At the time of the visit, work was completed since one month and the site was awaiting bio restoration;
- DS5 – good recontouring and slope stabilization works with installation of slope breakers, surface drainage and jute matting, were noted. Excess material was removed.

During the previous visits, IEC raised numerous non-compliances over the failure of the Project to reinstate the inert material dump sites at PT3 in a timely manner. During the June 2006 visit, the IEC observed that the reinstatement of inert waste material dumpsites at PT3 has been completed and results appear to be satisfactory.

Reinstatement was also underway at inert waste disposal areas at IPT2 and PT1. At IPT2, waste piles have been removed by the contractor to their borrow pit; the dumpsite has been regraded. Some cleanup was still needed to remove waste and excess gravel. At PT1, earthworks were ongoing to reinstate the inert waste disposal area and the mechanical yard.

4.3.4 Aggregate and Excess Material Management - Recommendations

1. BOTAŞ, with BTC oversight, should undertake a due diligence review of the borrow pit registers against the borrow pit punchlists to assure that all borrow pits used by the Project have been properly reinstated, according to established criteria.
2. BOTAŞ, with BTC oversight, should closely monitor the effectiveness of the measures implemented for slope stabilization of the three PT3 dump sites, particularly DS4 and DS5. The Project should also define final land use of these sites, in conjunction with adjacent communities and ESAP requirements.

4.4 WASTE MANAGEMENT

4.4.1 Non-Hazardous and Hazardous Waste – Observations

Consistent solid waste management practices at all Contractor operations continue to be observed across the Project in Turkey. Waste is routinely collected in Central Waste Accumulation Areas (CWAAs) and segregated into recyclable and non-recyclable components. Non-recyclable domestic and hazardous wastes are shipped to Izaydas treatment facilities.

Waste registers are standardized and adequately maintained, and manifest procedures for waste tracking are in place.

The IEC visited the construction-phase CWAAAs at the CMT, PT2 and PT4 and had the following observations:

- The CWAA at CMT, operated by Tekfen, was found in poor condition compared to previous visits. The level of housekeeping has decreased significantly, including areas outside of the fence. Waste segregation and stockpiling was inadequate. The site drains were found to be clogged and organic waste leachate was evident from some stored waste (*Level II Non Compliance, CCP Waste Management, Commitments ID: APC3E34, APC3E45, APC3E46, APC3E55*);
- Housekeeping at the PT2 CWAA was found to need improvement. Hazardous waste labeling and storage were inadequate. Some garbage was observed in the yard outside of the CWAA fence. Although it is recognized that it may be due to camp decommissioning that has yet to be cleaned up, nonetheless overall housekeeping of the CWAA and surrounding storage yard should be improved (*Level I Non Compliance, CCP Waste Management, Commitments ID: APC3E48*); and
- At PT4, good attention to waste management, housekeeping and adequate waste storage was noted. IEC was informed that local residents continue to staff the waste collection and management team, which have developed good skills for the continued attention to compliant waste management practices.

The IEC was informed that BOTAŞ is taking an action to improve the design of the permanent CWAA at the CMT, which was considered inadequate by BTC. During the visit, the IEC also visited the permanent CWAA facility at PT2, which appeared to need improvements in terms of its design capacity, segregation and containment.

4.4.2 CMT Narlik Inert Material Disposal Site – Observations

In October 2005, IEC raised a repeat Level II non-compliance because of the possible uncontrolled dumping of Project waste at the Narlik Inert Material Disposal site (*Level II non-compliance CCP Waste Management Turkey, APC1E69, APC3E41*). The repeat Level II non-compliance was raised due to a failure of the project to confirm that only inert waste materials were disposed at the Narlik site.

In June 2006, IEC visited the Narlik site to find out that it had been fenced by the Kurtkulagi municipality which plans to use the site to construct a senior citizens facility.

The IEC received a copy of an Environmental Assessment Report for Inert Materials Storage at the Narlik site prepared by Tekfen. The report was revised in November

2005 in response to questions raised by IEC in October 2005 regarding waste disposal. The following observations are made:

- The document does not contain any confirmation, as requested in October 2005 (in the form of manifests or other specific documentation), and/or any quantitative evidence from a specific site investigation, that only inert waste materials from CMT construction were disposed at the Narlik site. The document only summarizes waste inventory data with no other supporting information and validation;
- There are apparent discrepancies between the CMT waste register and waste volumes presented in the report, although there is no summary table of wastes disposed at the Narlik site in the report, so this cannot be confirmed; and
- The report indicates that 80% of the disposal area has been recontoured, reinstated and handed over to the Municipality. A letter from the Municipality confirming that the reinstatement activities have been completed and absolving Tekfen's of any future liability was enclosed.

The Level II non-compliance cannot be rescinded (*Level II Non-Compliance CCP Waste Management, Commitments ID: APC1E69, APC3E41, APC3E55*).

4.4.3 Non-Hazardous and Hazardous Waste - Recommendations

1. BOTAŞ, with BTC oversight, should undertake a review of waste management operations across all Project facilities to make certain that disposal measures continue to comply with Project practices and standards, especially at construction camps still in use. BTC should maintain its assurance role in complying with ESAP waste management requirements, until the time that BIL is fully operational.
2. During the June 2006 visit, IEC was informed that BIL are investigating the potential to use regional landfills for non-hazardous Project waste generated during the operations phase, rather than continue the use of Izaydas as a final disposal location. The Project should ensure that waste management commitments are maintained during operations and that any choice of alternative landfill locations should follow the same analytical and decision-making process as that employed for the construction phase.
3. The construction CWAA site at CMT should be cleaned up and a commitment to operate according to past standards should be made.
4. BOTAŞ, with BTC oversight, should undertake a review of the design of permanent CWAA facilities at pump stations to make sure they have adequate capacity, segregation and containment provisions for the expected waste volumes and streams generated during operations.

5. The updated documents provided by the Project still do not adequately address concerns about potential liability at the Narlik site. Further supporting evidence should be provided by the Project, in the form of a specific site assessment, and waste manifests or logs from the waste register, that only inert waste was disposed of at this location. Information contained in the CMT waste register should also be consistent with the information presented in the supporting report. IEC recommends that BOTAS, with BTC oversight, complete a due diligence assessment, if supporting evidence cannot be provided, to confirm that there is no residual liability to the Project due to the aforementioned uncertainties in waste disposal practices. A specific discussion with municipal authorities to confirm that they fully understand potential liability issues associated with the intended final use of the Narlik site, is recommended.

4.4.4 Wastewater Management - Observations

BOTAS - Lot A

In October 2005, a Level I Non-Compliance (*CCP Pollution Prevention, Commitment ID: CH7E13, APC4E39*) was assigned until the Project provided evidence that WWTP standards were being met at Kars Camp. During the visit, IEC was informed that Kars Camp wastewater treatment plant was shut down in April 2006 due to insufficient organic load. Since then, wastewater from Kars Camp is being transported to PT2 for treatment. However, the analytical results reported in the WWTP effluent register showed compliant discharges from January through March 2006. The Level I non-compliance is rescinded.

STA - Lot B

The last analytical results presented in the WWTP effluent register for Kova Camp is for 4 March 2006. At the time, the WWTP was in compliance.

Stations

IEC reviewed the WWTP effluent registers for each of the four stations and have the following observations.

- PT2: in compliance, but BOD5 exceedance noted in April 2006. Discharge is to the Çöğender river, or for dust control;
- PT3: in compliance, but BOD5 exceedance noted in March 2006. During the site visit, it was noted that discharge to the topsoil irrigation pile was to the surface only and not through the piping system;
- PT4: in compliance.

CMT

Wastewater from the CMT construction camp is transported to the BOTAŞ directorate WWTP. The former WWTP is being used as intermediate storage.

According to the WWTP effluent register, four of six measurements taken since January 2006, at the new CMT WWTP have been non-compliant for BOD₅ and coliforms (*Level II Non-Compliance, BIL Environmental Emission Management Plan, Commitment ID: CH12E21*).

4.4.5 Wastewater Management – Recommendations

1. The Project should continue to ensure compliance with Project discharge commitments for all camp locations. As done for wastewater from the Kars camp (shipped to PT2), in the event that a camp cannot longer meet Project standards, alternative measures for treatment in a Project compliant facility should be undertaken.
2. Sewage from the CMT camp is being transported to the BOTAŞ directorate WWTP. Facility compliance with Project standards should be assured by BTC.
3. Long-term problems with the permanent CMT WWTP in complying with project standards have been identified. The Project should take immediate action to ensure that this facility complies with BOD₅ and coliform discharge standards.
4. Where topsoil piles are still in use at pump station locations, discharge should be to the piping system and not to the surface, e.g. PT3.

4.5 POLLUTION PREVENTION

4.5.1 Observations

The Project has adopted a pollution prevention plan aimed at systematically identifying potential impacts from construction activities and implementing avoidance and mitigation measures to minimize the likelihood, extent or duration of their occurrence, and any associated adverse effects. The mitigation measures include: spill prevention and management; management of existing contaminated sites; groundwater protection; surface water protection; ecological receptor protection; air quality protection and dust mitigation; noise control; soil erosion control and topsoil protection.

Various provisions apply directly to the protection of surface water and groundwater, including permanent fuel and chemical storage, hazardous materials storage, vehicle maintenance facilities, wastewater discharges, run-off controls, and disposal of trench water and groundwater.

In June 2006, IEC reviewed the status of oil-water separators (OWS) at PT2, PT1 and the CMT from the open drain systems. Several OWS are in operation at the CMT. The systems at PT2 and PT1 were reportedly not discharging at the time of the visit, since the permitting was still ongoing. The available analytical results for oil and grease at three of the CMT OWS were non compliant during the first round of sampling in April 2006, and are reported to comply with the Project standards in May 2006. The other parameters to be measured according to the BIL Environmental Emission Management Plan were not reported to the IEC. It should also be highlighted that BIL Environmental Emission Management Plan commits to treat the aqueous effluent from the loading deck of the CMT jetty to 5 ppm residual hydrocarbons. The tests currently available have a detection limit of 10 ppm(?) (the measurement unit is missing in the report provided by BOTAS). A level I Non Compliance is assigned (*Level I Non-Compliance, BIL Environmental Emission Management Plan, Commitment ID: CH9E10*).

4.5.2 Pollution Prevention – Recommendations

1. The actual effectiveness of the oil water separator equipment and discharge compliance at each of the stations and the CMT cannot be fully assessed during the start up period. The Project should evaluate the systems, as built, and their actual capacity to ensure proper treatment. The full list of parameters indicated in the Operations ESAP should be consistently monitored during the start up period. Quality Assurance / Quality Control of the testing procedures should be adequately performed by BOTAS and verified by BTC.

4.6 ROW MANAGEMENT, EROSION CONTROL, REINSTATEMENT AND BIORESTORATION

4.6.1 Erosion Control, Reinstatement and Biorestoration - Observations

Reinstatement Progress

The June 2006 visit focused on reviewing the success of ROW reinstatement over the winter months, and assessing the progress of biorestoration implementation.

General observations on the success of reinstatement activities are as follows:

- Reinstatement is complete in all three Lots, and, based on the locations visited, for the most part is considered to be well done;
- Punchlisting activities are complete in Lot A and were underway in Lot B and C; and
- A punchlist process has been established for temporary facilities, borrow pits, access roads and offset areas and the Project is committed to implement its findings.

Specific observations relative to each of the three Lots follow.

Lot A

In October 2005, IEC recognized the efforts of Lot A personnel to complete Phase I, II and III reinstatement prior to the winter months. IEC documented a few cases where routine maintenance, repairs and attention to details were still needed along the ROW. Since the October 2005 visit, IEC was informed that the entire ROW of Lot A has been punchlisted and that repair actions have been agreed to between BTC and BOTAS. In June 2006, the following progress was noted at the various sites visited.

- KP 2 (1+679) - good recontouring and placement of jute matting was noted on a steep side slope; jute matting was partially displaced, likely due to animal movement evident across the ROW;
- KP 3+814 Incendere River – the steep slope looked good and the jute matting has held over-winter. The slope was seeded and revegetation is satisfactory. Good river crossing and channel reinstatement were also noted nearby. Some land on the ROW is being farmed;
- KP 12 - 13 – ESA 1 – good terracing is in place for erosion control. Revegetation of the top part of the seeded slope in the ESA 1 (negative side) is successful; however the positive slope was observed to have naturally revegetated;
- Posof River crossing – riprap performance is satisfactory. Revegetation of the ROW above gravel pit is also adequate;
- KP 17 – erosion control measures on this steep slope appear to be well designed; jute matting has been draped over retaining walls. The slope was seeded and revegetation is underway;
- KP 20 – the reinstatement and stabilization of the steep slope and side cut at this location are satisfactory; side drainage and subsurface drainage have been installed to prevent slope failure and no sign of movements were noticed after winter;
- KP 54-56 – slopes are well reinstated with adequate revegetation. A tree planting area was also visited, and planted trees were found to be very small in size, which may be problematic for their survival. At KP 56, a drainage across the ROW was well reinstated;
- KP 59-62 – good recontouring on side slopes was observed and good revegetation was noted;

- KP 171 – ESA 8 – reinstatement of the slope appears to be good; biorestation is underway and pines were planted in October 2005. Installation of jute matting was observed and there was good reinstatement of the pre-existing access road; and
- KP 247 – this location is a loose sand slope, which suffered erosion problems immediately after construction. Good erosion control measures were noted, and the slope appears to be stabilized. Some initial revegetation was observed.

In June 2005, IEC revisited Köprüköy camp, where decommissioning was initiated by BOTAŞ in October 2005. IEC understands that no sampling was undertaken to assess potential contaminant levels in key locations, prior to beginning reinstatement work. However, the site has now been totally reinstated and appears to be well done. The farmer had cultivated the field and planted a crop. Small amounts of concrete and some debris were noted.

There were no issues noted regarding the reinstatement of borrow pits and pipe storage yards in Lot A.

Monitoring will be essential to assess the effectiveness of vegetative cover restoration in the next growing season and identification of erosion-prone zones.

Lot B

In October 2005, IEC acknowledged the efforts of Lot B personnel to complete reinstatement of the 465 km length of ROW in the Lot before winter 2005-2006. In June 2006, IEC observed that, although reinstatement is generally adequate, particularly in agricultural land and some of the most challenging steep slopes, the quality of reinstatement works in Lot B was lower than that observed in the other two Lots. The following are specific observations for some locations visited:

- In Spread 2 (southern spread of Lot B), erosion problems were frequently noted on shallow slopes, due to the limited use of slope breakers, poor re-establishment of drainage features, and likely insufficient compaction (e.g. KP 681, 678, 672, 616). Poor attention to rip-rap of channels / drainages crossing the ROW was also noted in this spread (e.g. KP 682-683);
- KP 674+800 (river crossing and steep slope). The river crossing appears to be well reinstated and stabilized. The slope was found to be adequately stabilized, although excess rock from the BTC pipeline appears to have been pulled back on top of the NGPL ROW. The access road was not reinstated;
- Severe subsidence problems due to poor compaction were noted on a steep slope at KP 660 and across to BVS-36. Less severe subsidence was noted also at other locations (e.g., KP 575);

- The Piredede Offset area was visited at KP 599 – IEC was informed that about 6,400 pine trees were planted at this location. However, regrowth was poor and the selection and long term prognosis for the offset area are questionable;
- Other locations in Spread 2 were found to be adequately reinstated and stabilized (e.g., KP 603, 567-568, 520, 518 – ESA 25, 517).
- In Spread 1, severe problems were noted on some steep slopes, such as KP 456, where slope failure due to poor compaction and installation of slope breakers was observed, and where the pipe was found to be exposed;
- Good reinstatement works were noted on a steep slope at KP 458 and at KP 450 with use of jute matting, although the vegetation re-growth is still limited;
- Adequate placement of rip-rap was noted at crossings of the Aksu and Karasu Rivers;
- Good reinstatement and vegetation regrowth were noted in a wetland area and steep slope at KP 409;
- Locations with gully erosion and stability problems were also found in Spread 1, particularly at KP 367, 365, 364, where the use of jute matting was limited and again limited slope breakers or poor compaction likely had a negative impact on the ROW stabilization; and
- ESA 13 reinstatement and revegetation were found to be adequate.

In June 2005 and October 2005, IEC assigned a Level II non-compliance for a failure of the Project to adequately assess topsoil fertility in high elevation areas between KP 458 and KP 449. In June 2006, progress on this issue remains limited: BTC informed the IEC that BOTAŞ should prepare a corrective action plan for dealing with areas where revegetation is non-compliant with project revegetation and erosion performance requirements. This should include, but not be limited to soil nutrient testing together with possible methods for soil amelioration, and the timing for such action. The Level II Non-Compliance is downgraded to Level I on this basis (*Level I Non-Compliance - CCP Reinstatement, Commitment ID: CH6E6, CH15E3, CH15E7, CH15E10, APC2E143, 410*).

Lot C

IEC has observed a high quality reinstatement in Lot C and the June 2006 visit confirmed little failure has occurred over the 2005-2006 winter months, although subsidence problems along ROW were reported by BTC. At the time of the June 2006 visit, BTC was completing punchlisting of Lot C. Good examples of reinstatement and biorestation were noted at the following locations:

- KP 1026 (ESA 48) - good reinstatement of agricultural land was noted;
- KP 1022-1021 – good revegetation was observed, with slope stabilized and successful tree planting;
- KP 1007 to 1004 - good recontouring of steep side slopes was observed with satisfactory revegetation regrowth;
- KP 1001 - Kesis river crossing. Good effectiveness of rip-rap was noted with adequate terracing of the two slopes;
- KP 992 at BV50 (ESA 47) - the reinstatement of the rocky steep slope is satisfactory in terms of stabilization and recontouring, although very limited revegetation was observed;
- KP 991 - the two rocky steep slopes with a small river crossing are well reinstated and stabilized, although an access road is present; it is unclear if it was opened by the Project and should be reinstated. The two slopes showed some revegetation growth;
- KP 983 – buried retaining walls were installed at this location. The slope was stable and some revegetation and regrowth were noted, especially where jute matting was installed. Limited survival of trees was observed;
- KP 952, 945 and 942 – good reinstatement examples were viewed demonstrating adequate use of jute matting, vegetation regrowth, tree planting and stream crossing stabilization;
- KP 931 + 738 – good reinstatement was evident on steep slopes across the road, with good performance of erosion control and jute matting noted;
- KP 878 – river crossing with adequate rip rap installation. The steep slope at the location was noted to be well reinstated with use of jute matting, although the extent of revegetation is still limited; and
- Excellent reinstatement of the Zamanti River crossing was observed at KP 795, including the reinstatement of the two slopes, where some regrowth was evident, particularly where jute matting is in place.

Reinstatement of the NGPL

In previous visits, IEC has expressed numerous concerns over persistent and unresolved delays in the reinstatement of the NGPL. In October 2005, IEC raised a repeat Level II non-compliance for an ongoing failure of the Project to conclude reinstatement of the NGPL as per ESAP commitments (*Level II Non-Compliance*,

CCP Reinstatement Turkey, Commitment ID: CH15E5, APC2E15, APC2E16, APC2E17, APC2E18).

During the June 2006 visit, IEC was informed that the previous impasse regarding reinstatement of the NGPL has been resolved, and that additional funds have been made available to BOTAŞ to start NGPL reinstatement. IEC acknowledges the concerted efforts of both BOTAŞ and BTC towards resolution of this issue and awaits timely preparation of a detailed final scope of work and selection of the NGPL contractor. The Level II Non-Compliance is rescinded, based on the new commitment to act, indicated by both BTC and BOTAŞ. Given the lateness of the year, IEC recognizes that work on NGPL reinstatement will likely continue through the summer of 2007.

Landscaping at Camp Locations

During the October 2006 visit, IEC noted that although landscaping of disturbed areas of the CMT and pump station locations is proceeding, no work has been done for landscaping and erosion control at the construction camp locations. The CCP Reinstatement Turkey (p. 17) commits the Project to full reinstatement, using species appropriate to the surrounding habitat or land use, of all areas of non-permanent land take, such as the temporary construction camp. While this practice has been followed at decommissioned camps, the lack of temporary landscape measures for ongoing construction camp facilities, such as the pump stations and CMT, is leading to erosion and visual impacts.

4.6.2 Erosion Control, Reinstatement and Biorestoration – Recommendations

1. As soon as possible, BOTAŞ should finalize punchlists for the pipeline ROW, temporary facilities, access roads, borrow pits and offset areas. The punchlists should identify agreed remedial action items between contractors, BTC and BOTAŞ, including a timeline and clear indication of responsibilities.
2. BOTAŞ should ensure a consistent level of reinstatement quality is achieved across all three Lots, including implementation of adequate repairs, particularly in Lot B. All repairs should be completed before winter 2006; priority should be given to Lot B. BTC should verify that reinstatement quality meets ESIA and ESAP standards and commitments.
3. BOTAŞ should ensure that sufficient human resources and equipment are made available for the repairs through to the conclusion of land exit, including experienced reinstatement and CR personnel.
4. During the June 2005 mission, IEC recommended that BOTAŞ, in conjunction with BTC, implement a systematic assessment of topsoil fertility, particularly focused on problematic high elevation areas with fragile and thin topsoil in Lot

- B. IEC continues to recommend that special attention be paid to monitoring and quantitatively reporting revegetation success in high elevation areas in Lot B.
5. IEC noted that in several locations, animal feeding and use of the ROW may impact biorestitution efforts. The CCP Reinstatement Turkey discusses this concern and Commitment ID: APC2E12 2 states *“Where necessary, contractor will provide appropriate fencing to prevent access by grazing animals and vehicles. Fences will be fitted with signs in Turkish indicating the purpose, i.e., the enclosure is a BTC biorestitution project area and fencing is required for protection.”* The Project should consider the need for fencing in areas where animals could affect the future success of biorestitution, as necessary.
 6. BTC/BOTAŞ should ensure the same level of quality and scrutiny for NGPL reinstatement as for the Project ROW, where required. The CCIP Reinstatement Turkey provides guidance as to how this is to be defined..... *“In areas adversely affected by construction of the NGP, or in other areas where third party activities have affected the level of vegetative cover, the original cover shall be determined by reference to adjacent, unaffected areas of similar topography and soil (Commitment ID: APC2E10 3).”* In October 2005, IEC recommended that a Management of Change Procedure be implemented to deal with modifications to the EIA regarding reinstatement of the NGPL. IEC continues to request that the Project provide a unified plan that fully outlines BOTAŞ and BTC responsibilities to fulfill the commitments made to reinstate the NGPL. As a final scope of work and contractor selection process have yet to be developed, the NGPL reinstatement plan should include a timeline for completion and clear identification of responsibilities and required resources. This plan should incorporate the results KP by KP of the joint punch list being prepared for Lot B.
 7. BTC and BOTAŞ should also develop audit protocols and procedures to ensure that NGPL commitments are upheld and implemented.
 8. BTC should review the implementation of temporary landscape and erosion control measures for those construction camps that will continue to be used during Operations, or transferred to other contractors.

4.6.3 Access Roads - Observations

In past visits, IEC has recommended that the Project establish clear commitments and procedures for the reinstatement of Project access roads as indicated in the ESAP. During the June 2006 visit, the IEC reviewed the access road registers provided by the Project, supplemented by observations in the field, to confirm the status of access road reinstatement across all three Lots.

Based on the discussions with BTC and BOTAŞ management, the IEC recognizes the Project commitment to resolve the off-ROW footprint issues, including access roads. The condition of access roads is being recorded during the punchlisting

activities ongoing in all three Lots. However, it appears that the actual status of access roads, as observed in the field, still requires a cross-check with the access road registers.

The following observations were made during the visit.

Lot A

IEC was provided with the access register for Lot A, dated 22 March 2006. It is not known whether the register has been updated recently to include the punchlist information of the Lot A walk-through. The access road register does not provide any clear indication of the overall status of access road reinstatement in Lot A.

Lot B

In June 2006, IEC was provided with the access road register of Lot B. The access road register has no date and is different than the register provided by the Project in October 2005. Specifically, the summary of the status of access road reinstatement is not included in the register provided to IEC June 2006, as was noted in the October 2005 register. These differences in the access road register raises concerns about the data quality and maintenance of the entire E&S BOTAŞ data base, now that construction has concluded.

The field visit allowed the observation of several access road conditions. For example, at KP 456, the footprint created by several access roads / shooflies opened by the project is still visible, although some access roads reportedly were reinstated. In Spread 2, a number of examples were noted where small access roads and shooflies had not been properly reinstated (e.g. KP 681) (*Level II Non-Compliance, Reinstatement CCP, Commitment ID: 2*).

Lot C

IEC was provided an access road register for Lot C, dated 31 May 2006. It contains no summary information on the overall final status of access roads in Lot C. It does contain information on what roads were reinstated by the Project, but final completion dates are not consistently reported. The access road register does not yet appear to have been reconciled with the results of punchlisting activities for Lot C.

4.6.4 Access Roads - Recommendations

1. BTC should evaluate the success of access road reinstatement and the minimization of these footprints across all three Lots. Once the final punchlists have been tallied for each Lot, they should be checked against the access road registers. BTC should provide a summary position of access road status at the end of the construction phase.

2. Non-reinstated access roads and shoo-flies should be consistently reinstated, particularly in Lot B.
3. BTC should undertake a due diligence evaluation of the BOTAŞ E&S database to ensure that it is being duly maintained following the close of construction. Confirmation should also be given by the Project as to the final status of the database and whether it will be transferred to BIL.

4.7 ECOLOGICAL MANAGEMENT

4.7.1 Observations

A total of 55 Ecologically Sensitive Areas (ESAs) have been identified in Turkey from the EIA studies (and two additional ones during the pre-construction Phase along the CMT water supply line). ESAs were identified in two phases, which included a habitat survey in the 500 meter corridor. There are 12 ESAs in Lot A, 24 ESAs in Lot B and 19 ESAs in Lot C. As part of the pre-construction survey, detailed vegetation mapping studies were undertaken in the 28-meter ROW. Based on these additional detailed studies, Special Area Reinstatement Method Statements (SARMS) were developed by BOTAŞ and the EPC Contractors for each ESA, and Areas of Important Plants (AIPs) were identified.

The focus of the ecological management has now shifted to reinstatement of ecological conditions along the BTC ROW. In June 2006, the Project provided IEC with a copy of a draft Biorestitution Monitoring Strategy that establishes the responsibilities of BTC and BIL for reinstatement commitments made in the ESIA and ESAP.

The draft strategy notes the following.....*”The BTC and SCP projects have made a number of commitments through the ESIA process that relate to ensuring that areas disturbed during construction are returned as much as possible to their pre-disturbed conditions. These commitments were made during the planning stages of the project and with limited or no reference to the methods to be used to determine the success or otherwise of these efforts.*

As the construction and transition phases of project come to a close, it is the responsibility of the Operations Environmental teams to set up and implement a biorestitution monitoring programme which will be able to practically demonstrate that the commitments are being met. In addition, the monitoring programme should be able to indicate where interventions are required in the case that commitments are not being met.....(page 1)”

The Biorestitution Monitoring Strategy has four components:

- Vegetation cover assessment – satellite or aerial derived;

- Evaluation of species diversity;
- Assessment of tree and shrub survival; and
- Rare plant species monitoring.

IEC believes that the Biorestitution Monitoring Strategy as prepared by BTC is a good start to measuring the success of revegetation along the ROW in Turkey and meeting ESIA and ESAP commitments for reinstatement, which are summarized in the following (CCP Reinstatement Turkey):

APC2E102	A minimum of 70% cover of ground vegetation established within one year of planting shall be set for undeveloped areas.
371	If below-average rainfall is experienced, or where soil is lacking in nutrient, or where there are slopes of 25% or greater, a minimum of 50% cover (50% of the original cover where original cover <70%) shall be achieved in the first year with 70% occurring after the end of the following year.
APC2E104	Original percentage cover shall be estimated from the contractor's photographic record of the route, or, in case of doubt, by reference to adjacent undisturbed areas.
APC2E105	The vegetation cover shall be composed of either: <ul style="list-style-type: none"> • The species originally found in each route section or project area; • Other species (for example, fast growth types) which are suited to the local environment and indigenous to the region; or • An ecologically compatible mixture of those two groups.
APC2E113	Where rapid growth is necessary for erosion control or other reasons, the species selected for initial planting shall have the following properties: <ul style="list-style-type: none"> • Dense, fibrous horizontal root structure close to the surface; • Dense uniform ground cover, particularly during the season of the most intense rain falls; • Resistant to damage by high-velocity run-off; • Resistant to damage from trampling by people and animals; • Not persistent – will allow the original species to re-colonise the area; and • If possible, not clumpy or tussocky as this may lead to concentration of run-off between the plants.
APC2E117	The reforestation strategy will be to successfully replace every tree felled during right-of-way clearance. However, not all trees will be able to be replaced in the same location from which they were removed as trees will not be able to be replanted along an 8m wide strip above the pipeline. It is noted that the revegetation strategy in all sections of the right-of-way will be to reinstate the pre-construction vegetation in terms of both composition and density.
APB7E1	The Reinstatement Plan's Project Erosion Performance Criteria require areas outside of Ecologically Sensitive Areas ("ESAs") to meet a moderate Erosion Class III (ranging between 5 and 10 T ha-1 y-1). ESAs will meet Erosion Class II (ranging between 2 and 5 T ha-1 y-1).

In addition, the CCP Reinstatement Plan Turkey has two specific KPIs for reinstatement:

- Tree survival rates of planted trees/shrubs based on agreed planting scheme – 100% replacement; and
- Survival rate of transplanted or reintroduced rare species - 75% survival rate of original reintroduced species after one year or otherwise stated.

IEC is unclear about the timing and responsibility of contractor obligations for biorestitution and transfer of responsibility to BIL. According to Commitment ID: APC2E10 6, CCP Reinstatement Turkey *“The biorestitution maintenance shall be the contractor’s responsibility for a period defined within the Contract. BOTAŞ shall assume responsibility for continued maintenance of the biorestitution into operations.”*

IEC notes that ROW biorestitution monitoring is just beginning. An assessment of the results is envisioned in the next IEC site visits.

4.7.2 Recommendations

1. BOTAŞ should endorse the Biorestitution Monitoring Strategy as soon as possible, particularly in order to meet commitments for adequately measuring the attainment of 70% cover in this growing season. The Commitment APC2E10 0 of the CCP Reinstatement Turkey states that *“All biorestitution programs shall be approved by BOTAŞ. Landowners shall be consulted by the contractor to assist in developing these programs. Where landowners requirements cannot be achieved, the contractor shall consult with BOTAŞ to agree final resolution of the issue”*.
2. BIL should be involved in the process of developing the biorestitution monitoring strategy, procedures and plans, particularly in regard to their responsibility for long-term monitoring, as indicated in the Ecological Management and Monitoring Plan.
3. BIL should clarify the timing and responsibility for maintenance of biorestitution into operations.

4.8 COMMUNITY LIAISON

Community liaison and dialogue with affected stakeholders is a major concern of the Project. Processes are well established for communicating Project information to the general public and communities along the pipeline route, as well as to receive and transmit community concerns to the Project. The overall objective for the Community Liaison and Community Relations teams is to build a positive, non-dependent relationship between the Project and local communities. Specific responsibilities for Community Liaison include, but are not limited to:

- Providing Project affected communities with regular information on construction progress and its' implications for these communities;
- Informing the Project of any community related issues that may impact on construction progress;
- Monitoring implementation of mitigation measures and the impact of construction via direct monitoring and feedback;
- Resolving grievances and managing disputes between the Project and affected communities;
- Assisting with the implementation of community safety, health and investment programs, particularly in response to the recent concerns over open trench;
- Conducting community training programs in important issues such as transportation safety and third party access and safety along the pipeline ROW;
- Recruiting workers from affected communities; and
- Negotiating and obtaining agreements with landowners pertaining to land exit.

4.8.1 Observations

A team of Community Relations (CR) Supervisors from BOTAŞ and the two EPC contractors (Lot B and Lot C) continue to be responsible for community liaison activities. Planning has now shifted toward concluding land exit procedures. Land exit is being concluded in conjunction with DSA.

The Project has distributed 48,500 brochures on land exit across all three Lots, through registered mail to all landowners and users.

As indicated in Section 4.3.1, there is a community safety concern with respect to decommissioned camps.

Lot A

There is now one BOTAŞ CR representative in Lot A and one BTC LTO responsible for land exit. CINAR assisted in an independent review of complaints.

The first round of land exit began in April and concluded in May 2006. There were 196 complaints reported by the end of May 2006; most were due to stones on the ROW and land border problems. Most complaints were received from the Ardahan region. There have been few complaints received in Lot B over access roads, and no complaints regarding damages to community roads.

Land exit should be concluded prior to the end of the LSTKA Contract period termed ‘Work Completion’; there is a reinstatement team working in conjunction with the CR team.

Lot B

An STA CR specialist and a BOTAŞ CR representative, who is also responsible for Lot C, undertake land exit in Lot B.

By the end of May 2006, CR personnel reported that there are currently 131 complaints in Lot B. Of the approximately 5,100 parcels in Lot B, approximately 51% percent of all landowners signed land agreements in the first round of land exit surveys. The remaining complaints are expected to be resolved in the second round of land exit surveys. This will be done in conjunction with the environmental ROW punchlist crew.

IEC was informed that reinstatement issues are the most predominant complaint; these are generally in agricultural land and relate to poor grading, soil erosion and damage to irrigation channels. There are few community complaints relating to road damage: one in Erzurum province and one in Sivas province.

Lot C

IEC met with the PLL CR representative responsible for undertaking land exit in Lot C. All outstanding 156 complaints have been settled and closed.

CMT

There are no CR representatives currently at the CMT. IEC was informed that the Project is about to undertake consultation with affected fishermen from the Golovasi and Incirli villages.

4.8.2 Recommendations

1. BOTAŞ should review its CR resources for Lot C and Lot B, in relations to the needs during ROW repairs after punchlisting activities are completed. There is currently one person (from Ankara) responsible for about 800 km of ROW.
2. STA and PLL should maintain social capability up to termination of land exit and punch list closure.
3. At the time of the visit, the BIL CR team was still not selected, although an organization chart was provided. BIL should staff its CR team as soon as possible.

4. BOTAŞ should ensure that all contact information and lessons learned from the CR process across all three Lots is adequately transferred to BIL during this transition phase.
5. The CR teams should be fully aware of potential community safety issues during this transition phase period. IEC is concerned about the late response to address issues observed at decommissioned camps. It is essential that CR staff conducts its evaluation of the conditions at decommissioned facilities and along the ROW, with a special focus on community safety, third party intrusion and safety awareness. The CR staff should coordinate with the Health and Safety team and be adequately informed of the potential community hazards during this phase of the Project.

4.9 ENVIRONMENTAL INVESTMENT PROGRAMME

IEC received an update of the EIP during the June 2006 visit. Of the 10 projects ongoing, one has been completed and four are due for completion by the end of June 2006. An additional six projects of the small investment fund are underway. Disbursement of the EIP is about 90 percent of what has been planned to be disbursed at the time of the IEC visit.

IEC was presented a draft EIP strategy for 2006-2008 that is currently set for external review and consultation. The 2006-2008 EIP strategy has four themes:

- Nature conservation;
- Ecologically sustainable enterprises;
- Clean energy; and
- Environmental pollution control.

Across all four themes, the 2006-2008 EIP will incorporate the following aspects:

- Enhance of conservation and human livelihoods along the length of the pipeline in Turkey;
- Diversification of tools, methods and partners;
- Increased local vision and input;
- Focus on priority areas to maximize biodiversity benefits; and
- Achieve long-term sustainability.

4.10 CULTURAL HERITAGE MANAGEMENT

IEC was updated by BTC on the Cultural Heritage Management Program. As construction has now concluded, work is focused on the production and distribution of scientific and lay publications associated with the wealth of archaeological material generated as a result of the BTC pipeline. The following achievements are to be reported:

- Ten scientific publications on archaeological finds will be produced. The first one on Yüceören site was just published at the time of the visit and appears to be of very good editorial quality;
- BTC is also preparing a publication presenting the archaeological finds along the BTC pipeline ROW in the context of Turkish history; and
- Local museums will receive support from BTC.

Appendix A
Trip Summary- 7th IEC Mission by D'Appolonia for the BTC Pipeline Project –
June 2006

For this mission, two members of the team toured Turkey while another two visited Georgia. The trip summaries of the two groups are presented separately.

Georgia Team

June 11 – Georgia. Team arrives in Tbilisi by air.

June 12 – Georgia. Meetings held with BTC staff at the BTC offices in the morning; meeting held with SPJV at SPJV offices in the afternoon; meeting held with MoE and GIOC at BTC offices.

June 13 – Georgia. Travel to the Turkish border and visit locations along the ROW to KP 218, including the Potskovi I and II river crossings at KP 239 and KP 245. Travel to Akhaltsikhe Camp and conduct a camp tour. The team spends the night at Akhaltsikhe Camp.

June 14 – Georgia. Tour the Akhaltsikhe Mechanical Yard and then travel along the ROW from KP 216 to KP 192 with a stops at the Tadzrizi Monastery at KP 200, the Andezit tree nursery, the Bakuriani Botanical Garden. The team spent the night in Bakuriani.

June 15 – Georgia. Tour the ROW from KP 176 to KP 192 with a stop at BV 9 at KP 112 and then continue to Tbilisi.

June 16 – Georgia. Drive from Tbilisi to Tetriskaro nursery. After a stop at Chiv-Chav village to observe the new stone wall travel from KP 80 to PSG-1 and tour the CWAA.

June 17 – Georgia. Present closeout meeting at BTC office in Tbilisi and then attend a meeting with NGOs as part of their capacity-building process.

Azerbaijan Team

June 18 – Azerbaijan. Travel day via train from Tbilisi to Baku, meet second IEC team member in Baku.

June 19 – Azerbaijan. Orientation meeting in Baku with BTC and CMT and visit Temirmash seed storage facility and CWAA.

June 20 – Azerbaijan. Tour ROW from KP 5 to KP 26 with stop at Umbecki pipe yard and then travel to Yevlakh Camp and pipe yard. Spend night at Ganja.

June 21 – Azerbaijan. Travel from Ganja to Kura West crossing (KP 411) and tour the ROW to Shamkir Chai (KP 344) with stops at the Hasan Su crossing (KP 398) and the former Tovuz Camp near KP 380. Spend night at Ganja.

June 22 – Azerbaijan. Travel from Ganja to PSA-2 near KP 245, tour facility and then travel along the ROW to visit the Kurdamir CWAA near KP 129 and return to Baku.

June 23 – Azerbaijan. Conduct interview with BTC medical staff and then conduct Azerbaijan closeout meeting in BTC offices in Baku. A three-country closeout meeting was held in the afternoon covering Azerbaijan, Georgia and Turkey.

June 24 – Azerbaijan. Entire team departs.

Turkey Team

June 11 – Team arrives in Ankara by air.

June 12 – Meetings in Ankara, team departs to Adana in the afternoon.

June 13 – Visit the CMT and operations facility. Drive to Lot C from Ankara. Visit sites at KP 1026, 1022, 1004-1007, 1003, 1001, 992 and 991. Team overnights at Kahramanmaras.

June 14 – Continue visit to Lot C – KP 983, ESA 46, visit Andirin Camp and borrow pit (decommissioned), KP 952, 945, 942 and BV 48, ESA 42, KP 931, Yeshilkent Camp and KP 878. Overnight in Kayseri.

June 15 – Continue driving through Lot C – visit Orensehir camp, Zamanti River crossing and PT4 camp. Travel into Lot B and visit KP 737, ESA 34, KP 727-728, and Sivritepe Camp. Overnight in Sivas.

June 16 – Travel to Spread 2, Lot B – KP 681-682, 678, 677, 674, 672, 660 and BVS 36, KP 620 in the karstic area, KP 616 and 603. Visit the Piredede Offset area. Visit Koyunkaya Camp (partially reinstated), KP 575, 567-68, Kalkanci Borrow Pit, KP 520, ESA 25 and KP 518 and KP 517 and BVS 29. Overnight in Erzincan.

June 17 – Continue in Lot B, drive across the pass to KP 458 and 456. Travel to KP 450 and ESA 20. Visit PT3 inert disposal sites at DS1, DS4 and DS5. Visit the Aksu and Karasu River crossings and KP 409. Visit Cardikaya camp. Continue paralleling the ROW to KP 367, 365 and 364. Stop at ESA 13. Overnight in Erzerum.

June 18 – Visit PT2; interviews with Lot B CR and Environmental personnel. Toured CWAA at PT2 camp. Visited the CWAA and OWS at the PT2 station. Visit Köprüköy Camp. Continued along ROW in Lot A to KP 247, 210, 198-199, 185, 174

and KP 171 and ESA 8. Continue along ROW to KP 171, 167, 155, 149. Overnight in Kars Camp.

June 19 – Drive to Hanak via Ardahan in Lot A. Visit IPT-1. Continue on ROW to KP 60, 59, 56 and 54. Return to Kars. Interviews with Lot A CR personnel at Kars Camp. Overnight in Kars Camp.

June 20 – Drive to Georgian Border. Visits along ROW at KP 2, 3+800, 5, ESA 1 and KP 13, Posof River Crossing, KP 17 and 20. Visit inert waste disposal area at PT1. Return to Kars Camp and overnight

June 21 – Flight from Kars to Ankara. Preparation of Closeout.

June 22 –Turkey closeout meeting. Turkey team departs for Baku.

Appendix B
Table B-1 : Non-Compliances with ESAP – Azerbaijan

Section Ref.	Observation	Non-Compliance	Level	Comments / Recommendations
2.3.3	Project standards have recently not been met for Total Viable Bacterial Counts - TVC at several of the water dispensers (PSA-2 kitchen, site office and camp, and IPA-1). Furthermore, test results from the WREP Pump Station 5 indicate the presence of e-coli and total coliforms from drinking water dispensers.	CCP Infrastructure and Services, Commitment ID: 528, 628, 1130; CCP Construction Camps, Commitment ID: 308.	I	Although the problem has been promptly evaluated by the H&S staff and determined to be within the dispensers, BTC needs to identify final solutions before the situation becomes a serious issue
2.4.1	During the visit at the Temirmash facility the empty paint cans storage area was not properly maintained and poor housekeeping was observed.	CCP Waste Management Plan, Commitment ID: 374, 788, 946.	I	Although IEC acknowledges that the Temirmash facility is currently undersized and the issue could have limited material impact from an environmental point of view, enhancement actions should be implemented as soon as practical in order to achieve an acceptable storage solution
2.4.3	Sewage from PSA-2 and IPA-1, currently trucked to the Sahil Municipal Plant, will be switched to the Mingechevir Municipal Plant, neither of which is fully compliant.	CCP Waste Management Plan, Commitment ID: 553	I	Although both Sahil and Mingechevir Municipal Plants are reported to be temporary solution for sewage disposal, BTC needs to make additional efforts to speed up the construction of the new WWTPs planned at PSA-2 and IPA-1

Appendix B
Table B-2: Non-Compliances with ESAP – Georgia

Section Ref.	Observation	Non-Compliance	Level	Comments / Recommendations
3.2.1	The IEC visited the Vale II aggregate supply site which is apparently one of several similar sites being used by SPJV for the supply of cobbles to construct gabions at river and stream crossings. A large portion of the production of this facility was currently for Project use. No environmental baseline survey was ever conducted for this facility and several situations not consistent with Project environmental and social commitments were encountered during the site visit	CCP Procurement and Supply, Commitment ID Z3 (N17)	II	Discontinue the use of non-compliant third-party aggregate suppliers or intervene such that their activities can be brought into compliance
3.2.1	PSG-2 camp, kitchen and office taps where low levels of coliforms (1-3 MPN total coliforms/100 ml) have been persistently detected throughout 2006	CCP – Construction Camps, Commitment ID S3. This is considered a Level II because the problem of low-level coliforms has been persistent throughout 2006 over several months of testing	II	Determine the origin of the low levels of total coliforms at PSG-2; fix the problem; and verify that the problem has been resolved
3.3.1	The Central Waste Accumulation Area (CWAA) at PSG-1 was visited during this mission. The condition of this facility was found to be deteriorated from previous visits	<i>CCP Waste Management Plan, Commitment ID: J32</i>	II	BTC should implement asap planned improvements at the CWAA at PSG-1

Appendix B
Table B-3: Non-Compliances with ESAP – Turkey

Section Ref.	Observation	Non-Compliance	Level	Comments / Recommendations
4.3.1	At the decommissioned Yeshilkent Camp in Lot C, concrete pads and foundations were still in place, sewage sludge was noted in the WWTP area, a large concrete pit filled with water was evident, and open trenches with waste were still present	CCP Community Safety, Commitments ID: CH4E85, CH12S52, CH12S53, CH12S57	II	Address safety hazards at the Camp and make it secure from public entry. Ensure that the camp is reinstated to pre-disturbance conditions and/or that a due diligence process adequately documents that there is not pollution remaining on site
4.3.1	A serious situation at the partially decommissioned Çadırkaya camp site in regard to community health and safety was observed	CCP Community Safety, Commitments ID: CH4E85, CH12S52, CH12S53, CH12S57; and CCP Reinstatement, Commitment ID: APC2E30	II	Address safety hazards at the Camp and make it secure from public entry. Ensure that the camp is reinstated to pre-disturbance conditions and/or that a due diligence process adequately documents that there is not pollution remaining on site
4.4.1	The CWAA at CMT, operated by Tekfen, was found in poor condition. The level of housekeeping has decreased significantly, including areas outside of the fence. Waste segregation and stockpiling was inadequate. The site drains were found to be dogged and organic waste leachate was produced from some stored waste	CCP Waste Management, Commitments ID: APC3E34, APC3E45, APC3E46, APC3E55	II	The construction CWAA site should be cleaned up and a commitment to operate according to past standards should be made
4.4.1	Housekeeping at the PT2 CWAA was found to need improvement. Hazardous waste labeling and storage were inadequate. Some garbage was observed in the yard outside of the CWAA fence	CCP Waste Management, Commitments ID: APC3E48	I	The Project should undertake a review of waste management operations across all Project facilities to make certain that disposal measures continue to comply with Project practices and standards, especially at construction camps still in use
4.4.2	Uncontrolled dumping of a variety of Project waste at the Narlik inert material	CCP Waste Management Turkey, APC1E69, APC3E41	II (repeat)	The Project supplied IEC with additional documentation in response to a Level II

Section Ref.	Observation	Non-Compliance	Level	Comments / Recommendations
	disposal site for the Ceyhan Marine Terminal			finding in June 2005. IEC considers that the updated documents provided by the Project do not adequately address concerns about potential liability at the Narlik site and requests further supporting evidence that only inert waste was disposed of at this location
4.4.4	Four of six measurements taken since January 2006, at the new CMT WWTP have been non-compliant for BOD ₅ and coliforms	BIL Environmental Emission Management Plan, Commitment ID: CH12E21	II	The Project should take immediate action to ensure that this facility complies with BOD ₅ and coliform discharge standards
4.5.1	The available analytical results for oil and grease at three of the CMT OWS were non compliant during the first round of sampling in April 2006, and are reported to comply with the Project standards in May 2006. The other parameters to be measured according to the BIL Environmental Emission Management Plan were not reported to the IEC. The BIL Environmental Emission Management Plan commits to treat the aqueous effluent from the loading deck of the CMT jetty to 5 ppm residual hydrocarbons. The tests currently available have a detection limit of 10 ppm(?)	BIL Environmental Emission Management Plan, Commitment ID: CH9E10	I	The Project should evaluate the systems, as built, and their actual capacity to ensure proper treatment. The full list of parameters indicated in the Operations ESAP should be consistently monitored during the start up period
4.6.1	Progress on failure of the Project to adequately assess topsoil fertility in high elevation areas between KP 458 and KP 449 remains limited: The Level II Non-Compliance is downgraded to Level I on this basis	CCP Reinstatement, Commitment ID: CH6E6, CH15E3, CH15E7, CH15E10, APC2E143, 410	I	BTC informed the IEC that BOTAŞ should prepare a corrective action plan for dealing with areas where revegetation is non-compliant with project revegetation and erosion performance requirements. This should include, but not be limited to soil nutrient testing together with possible methods for soil amelioration, and the timing for

Section Ref.	Observation	Non-Compliance	Level	Comments / Recommendations
4.6.3	In Lot B a number of examples were noted where small access roads and shooflies had not been properly reinstated	Reinstatement CCP, Commitment ID: 2	II	such action BTC should evaluate the success of access road reinstatement and the minimization of these footprints across all three Lots. Non reinstated access roads and shoo-flies should be consistently reinstated, particularly in Lot B
