BTC Project
Environmental and Social Annual Report (Operations Phase)
2009

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CASE STUDIES

ABBREVIATIONS

ACG	-	Azeri, Chirag, Gunashli (offshore oil fields)
AGI	-	Above Ground Installation
APLR	-	Association for the Protection of Landowners Rights
ASA	-	Advanced Safety Audit
AzSPU	-	Azerbaijan Strategic Performance Unit
bbl	-	Barrel
BIL	-	Botaş International Ltd
BNB	-	See RUDF
BOD	-	Biochemical Oxygen Demand
BOSS	-	Behavioural Observation Safety System
BTC	-	Baku-Tbilisi-Ceyhan Pipeline
BTEX	-	Benzene, Toluene, Ethyl Benzene and Xylene
CARE	-	CARE International NGO
CAS	-	Centre for Archaeological Studies, Georgia
CBG	-	Caucasian Black Grouse
CBO	-	Community Base Organization
CCIC	-	Consolidated Contractors International Company
CDAP	-	Caspian Development Advisory Panel
CDI	-	Community Development Initiative
CIP	-	Community Investment Programme
CLO	-	Community Liaison Officer
CMAS	-	Competency Management and Assessment System
CMT	-	Ceyhan Marine Terminal
CO_2	-	Carbon dioxide
COD	-	Chemical Oxygen Demand
COPE	-	Conflict Prevention through Environmental Awareness for Youth
CTU	-	Crude Topping Unit
CWAA	-	Central Waste Accumulation Area
DAFWC(F)	-	Days Away From Work Cases (Frequency)
dB	-	Decibel
DRC	-	Development Resource Centre
DSA	-	Designated State Authority (Turkey)
E&S	-	Environmental and Social
EBRD	-	European Bank of Reconstruction and Development
EDDF	-	Emergency Drain Down Facility
EHC	-	Environmental Health Criteria
EIA	-	Environmental Impact Assessment
EIP	-	Environmental Investment Programme
EMS	-	Environmental Management System
ERM	-	Consulting Company Environmental Resource Management Ltd
ESA	-	Ecologically Sensitive Area
ESAP	-	Environmental and Social Action Plan
ESD	-	Emergency Shutdown
ESER	-	Environmental and Social Evaluation Report

ESIA	-	Environmental and Social Impact Assessment
EU	-	European Union
FCI	-	Facilities Construction and Installation
GEF	-	Global Environmental Facility
GIOC	-	Georgian International Oil Company
GIS	-	Geographical Information System
GHG	-	Greenhouse Gas
GTZ	-	Deutsche Gesellschaft fur Technische Zusammerarbeit (NGO)
HGA	-	Host Government Agreement
H&S	-	Health and Safety
H1	-	First half of year (January – June)
H2	-	Second half of year (July – December)
HGA	-	Host Government Agreement
HiPo(f)	-	High Potential Incident (frequency)
HIV	-	Human Immunodeficiency Virus
HSE	-	Health, Safety and Environment
HSSE	-	Health, Safety, Social and Environment
IBA	-	Important Bird Area
IBC	-	International Blue Crescent
IEC	-	Lenders' Independent Environmental Consultant
IFC	-	International Finance Corporation
IFI	-	International Finance Institution
IGA	-	Inter Government Agreement
IMC	-	International Medical Corps
IMS	-	Incident Management System
IoAE	-	Azerbaijan Institute of Archaeology and Ethnography
IoB	-	Azerbaijan Institute of Botany
IP	-	Implementing Partners
IPA	-	Important Plant Area
IPLOCA	-	International Pipeline and Offshore Contractors Association
IPT	-	Intermediate Pigging Station (Turkey)
ISO	-	International Standards Organisation
ISP	-	Improved Schools Project
IUCN	-	International Union for Conservation of Nature and Natural Resources
KP	-	Kilometre Point
KPI	-	Key Performance Indicator
LLC	-	Limited Liability Company
LP	-	Low pressure
MENR	-	Ministry of Ecology and Natural Resources (of Azerbaijan)
MOC	-	Management of Change
MoE	-	Ministry of Environment (Georgia)
MOL	-	Main Oil Line
NACRES	-	Noah's Ark Centre for Recovery of Endangered Species (NGO)
NDVI	-	Normalised Difference Vegetation Index
NGO	-	Non-Governmental Organisation
NOx	-	Nitrogen Oxides

OSI	-	Open Society Institute (Azerbaijan)
OSR	-	Oil Spill Response
OSRB-	-	Oil Spill Response Base
OSRP	-	Oil Spill Response Plan
PAC	-	Provisional Acceptance
PM	-	Particulate Matter
PSA	-	Pump Station, Azerbaijan
PSG	-	Pump Station, Georgia
PT	-	Pump Station, Turkey
PTW	-	Permit to Work
Q1/Q2/Q3/Q4	-	Quarter 1 / Quarter 2 / Quarter 3 / Quarter 4
QIP	-	Quick Impact Project
RAP	-	Resettlement Action Plan
RBC	-	Rotating Biological Contactor
RDI	-	Regional Development Initiative
RINJ	-	Recordable Injuries
ROW	-	Right of Way
RUDF	-	Rural and Urban Development Foundation (now called BNB)
SARMS	-	Special Area Reinstatement Method Statement
SCP	-	South Caucasus Pipeline
SES	-	Seacor Environmental Services
SESMeke	-	Joint Venture between SES and Meke Marine
SIF	-	Small Investments Fund
SLAP	-	Supplementary Land Acquisition Programme
SLCC	-	State Land and Cartography Committee
SME	-	Small and Medium Enterprises
SO_2	-	Sulphur Dioxide
SOC	-	Safety Observation and Conversation
SoLoNOX	-	Solar Turbines Dry Low Emissions Technology
SPJV	-	Spie Petrofac Joint Venture
SPPD	-	State Pipeline Protection Department (Georgia)
SRAP	-	Social and Resettlement Action Plan
SSPS	-	Special State Protection Services (Azerbaijan)
STP	-	Sewage Treatment Plant
TOC	-	Total Organic Compound
TPH	-	Total Petroleum Hydrocarbons
TVA(R)	-	Traffic Vehicle Accident (Rate)
UN	-	United Nations
UNDP	-	United Nations Development Programme
VOC	-	Volatile Organic Compound
VPI	-	Vulnerable People Initiative
WBH	-	Water Bath Heater
WHO	-	World Health Organisation
WWTP	-	Waste Water Treatment Plant

EXECUTIVE SUMMARY

BTC Co. (hereinafter BTC) and its agents have complied in the development, construction and operation of the BTC Project with the Environmental and Social Action Plan (ESAP), applicable environmental laws and applicable Lender Environmental Policies and Guidelines in all material respects during the period covered by this report.

There was one governmental fine incurred against BTC in Georgia during 2009 for the late submission of an environmental report. With this exception there were no other fines or penalties incurred for environmental or social non-compliances, and no material environmental claims against BTC during 2009.

There was one Class III change submitted to Lenders for approval. This related to the temporary use of municipal waste water treatment facilities in Azerbaijan for the disposal of raw sewage and sewage sludge. There were no ESIA addenda submitted.

During the year there were four oil spills, all minor, and no significant heath and safety incidents.

A number of HSE audits and reviews took place during the year.

The 11th post-financial audit of the Independent Environmental Consultant (IEC), acting on behalf of BTC Lenders took place in June. One new non-compliance was raised, (lack of back-to-back BIL community liaison staff in Turkey Area 3), and one level 1 non-compliance retained (stack emission NOx levels in Azerbaijan and Georgia). Previous issues with non-hazardous waste disposal were closed following the start-up of the BP Georgia EU-compliant non-hazardous waste landfill.

An internal Safety and Operational Integrity Audit across Azerbaijan and Georgia found no legal non-compliances. The majority of its recommendations (72%) were closed by the end of the year.

In May BTC in Azerbaijan and Georgia were audited by Moody International against the environmental management system standard ISO 14001. There were no system non-compliances and BTC retained its ISO14001 certification.

An Oil Spill Response readiness assurance review for Azerbaijan and Georgia conducted by Polaris concluded that BTC had maintained and improved its oil spill readiness capability since the 2007 review.

The RAP Completion Audit quantitative and qualitative surveys that began in 2008 were completed. The final audit report is awaited from the SRAP auditors.

Emissions monitoring for the operations phase continued and results were generally in compliance. Monitoring of gas turbine exhaust gases showed some exceedences of NOx levels, believed to be due to the turbines operating at low load conditions. There were a number of cases where monitoring of aqueous effluents indicated that some parameters exceeded project standards. In such cases the effluent was not discharged to the environment but was taken to a treatment plant for final disposal.

In Turkey the contaminated soil (approx. 4,000m^3) arising from the BVT30 incident in 2008 was removed to the Izaydas landfill. Final site clearance and demobilisation was achieved by the 12th of December.

Environmental and community investment programmes totalling $5.6 million for the year continued to benefit communities along the pipeline route.

1 INTRODUCTION

2009 was the fourth year of operating the BTC pipeline. On the 18th December a new milestone was reached when the 1,000th tanker, the British Kestrel, was loaded at Ceyhan. By the end of the year over 803 million barrels of oil had been exported by BTC since the first tanker was loaded at Ceyhan on 4th June 2006.

This BTC Annual Environmental and Social (E&S) Report has been prepared and structured in accordance with the requirements of Annex J of the ESAP governing construction of BTC and Annex H of the ESAP governing the operations phase of BTC. These requirements are reproduced in Appendix 1. It is the sixth Annual E&S Report post-financing and covers the calendar year 2009[1].

2 ESIAs / EIA AND PERMITTING

2.1 SUMMARY OF ANY MATERIAL MODIFICATIONS TO THE ESIAS[2]

There were no material modifications made to the BTC ESIAs in Azerbaijan, Georgia and Turkey in 2009.

2.2 SUMMARY OF MATERIAL PERMITS ISSUED IN 2009

2.2.1 Azerbaijan

In 2009 an approval for the drilling of sub-artesian water well at the BTC PSA 2 Camp facilities in Yevlakh was obtained from the Ministry of Ecology and Natural Resources of Azerbaijan.

2.2.2 Georgia

A summary of Statutory Environmental Permits acquired by BTC Georgia in 2009 is as follows:

- Tree felling consent issued by Borjomi Municipality Council for Tori secondary containment facility (SCF).
- Mineral Extraction License for a water well at the Emergency Drain Down Facility (EDDF).

2.2.3 Turkey

During 2009 the following activities took place with respect to material permits in Turkey:

- Non-Hygienic Establishments Operation Permits applications for permanent permits for Adana, Erzincan, Erzurum, Sivas, Ardahan and Kahramanmaras provinces remained unchanged in 2009. Permits can only be obtained after the approval of air emission permits. The process is ongoing for the air emission permits for these provinces. As the related regulation changed in 2009, the application is going to be renewed and submitted in 2010.
- An application for a ‘shore facilities operating licence’ was made in 2009. The process is ongoing and it is expected that the licence will be granted in 2010.

[1] While construction started in 2003-Q2, the financing for the project was finalised in early 2004-Q1.
[2] Environmental and Social Impact Assessment. Note that in Turkey the formal terminology is EIA (Environmental Impact Assessment).

- An Emergency Response Plan related to law 5312 (Response to Emergencies and Compensation of Losses in case of Pollution of the Marine Environment by Oil and Other Harmful Substances) was submitted to the MoEF in 2008. The process is ongoing.
- A Discharge Permit application was made for the new waste water treatment plant built at IPT1 in December 2009. The process is ongoing.

2.3 UPDATE ON STATUS OF PROJECT SPECIFIC REQUIREMENTS FOR FURTHER WORK UNDER THE ESIAS OR PERMITS

A summary of country-specific activities relating to ongoing studies or surveys as required under the ESIAs or permits is given below. Studies or surveys noted as completed in the 2008 Annual report are not shown.

2.3.1 Azerbaijan

The only 'Additional ESIA Study and Survey' as specified in the Operations ESAP relates to a groundwater monitoring programme.

Study/Survey: Groundwater Monitoring Programme	**Expected Timing:** Monitor water level and quality: Ongoing
Ref: 2004-Q1 (p5-3); 2004-Q2 (p3-3); 2004-Q3 (p3-2); 2004-Q4 (p3-2); 2005-Q1 (p3-2); 2005-Q2 (p3-2); 2005-Q3 (p3-2); 2005-Q4 (p3-1), 2006-H1 (p3-1), 2007 (p4); 2008 (p4)	
Groundwater monitoring was carried out according to the ESAP requirements in May 2009 and November 2009. A summary of results is given in Section 4.2.1.5 and the data sheets are presented in Appendix 2.	
Completion Status: ONGOING	

In the Construction ESAP there was a requirement to translocate *Iris acutiloba* off the ROW prior to construction. This requirement was fulfilled, and monitoring of the success of the relocation was ongoing in 2009. Similarly, Cultural Heritage programme Phase V (Analysis and Reporting) was ongoing during 2009. A summary of the results of both these surveys are given below:

Study/Survey: *Iris acutiloba* Monitoring Programme	**Expected Timing:** Monitoring: Ongoing
Ref: 2004-Q1 (p5-2); 2004-Q2 (p3-2); 2004-Q3 (p3-1); 2004-Q4 (p3-2); 2005-Q1 (p3-1); 2005-Q2 (p3-2); 2005-Q3 (p3-1); 2005-Q4 (p3-1), 2006-H1 (p3-1), 2007 (p5); 2008 (p4)	
Following two surveys in 2007 to assess *Iris acutiloba* survival rates, a further detailed field survey was carried out during March–April 2008 and 2009 (the *Iris acutiloba* growing season). In total 6,127 individuals (19% of all bulbs transplanted) were successfully located using GPS and observed to be viable (either sprouting and visible above the ground, or alive but comprising only a dormant bulb beneath the soil surface). Of these, 3,286 individuals (38.7% of those originally transplanted there) were observed off-ROW and 1018 individuals were observed on-ROW (4% of those originally transplanted there) in 2009. Because it is extremely difficult to locate the dormant bulbs beneath the ground surface when relying on the GPS system (+/-1 metre accuracy), it is preferable to gather data on the numbers of sprouting irises. It is not uncommon for natural (non-commercial) bulbs of this kind to remain dormant after transplantation for 3 or more years before sprouting. Given this, it is considered to be too soon to be able to make an informed judgement regarding the success of this programme. Further surveys shall be conducted during the 2010 and subsequent growing seasons, after which a more meaningful determination will be possible.	
Completion Status: ONGOING	

Study/Survey:	**Expected Timing:**
Cultural Heritage – Archaeology Phase V (Analysis and Reporting)	Phase V: Ongoing
Ref: 2004-Q3 (p3-2); 2004-Q4 (p3-2); 2005-Q1 (p3-2), 2005-Q2 (p3-2); 2005-Q3 (p3-2); 2005-Q4 (p3-1); 2006-H1 (p3-1), 2007 (p5); 2008 (p5)	
A new archaeology exhibition "Pipelines awaken ancient history" was opened in April 2009 to display objects discovered on the route of the BTC and SCP pipelines. This permanent exhibition is located in the Caspian Energy Centre (CEC). It was developed by the designer and curator of the Smithsonian Institution in collaboration with the Azerbaijan Institute of Archaeology and Ethnography (IOAE). The exhibition introduces the lifestyle of ancient people who lived on the territory of Azerbaijan to visitors of the CEC. IOAE has kindly lent 10 artefacts discovered on the BTC and SCP route to be on display in the CEC along with a historical photo timeline, an animated video, and an interactive touch screen game.	
Completion Status: ONGOING	

2.3.2 Georgia

Study/Survey:	**Expected Timing:**
Kodiana Special Projects and Other Legacy Projects	Monitoring: Projects / Operations
Ref: 2006-H1 (p3-2); 2007 (p-6); 2008 (p-5)	
Landscaping of the EDDF is finished. In addition, biorestoration and relocation of translocated species has been completed at Kodiana project area. Survivability rates are planned to be assessed in 2010-Q2. Biorestoration of Kodiana access road (KPs 181-183) is underway (80% completed) and planned to be finished by 2010-Q2. Survivability monitoring and compensative planting will be carried out in accordance with the planned maintenance schedule. The status of other activities is as follows: Construction of Non-hazardous Sanitary Landfill and BTCX 1&2 completed in 2009-Q2; Construction of OSRB at PSG1 was completed in 2009-Q4. Minor punch list clearance is ongoing. Landscaping commitments associated with the EDDF have been implemented, with the exception of tree planting which will be implemented in 2010-Q2. Construction of the Secondary Containment Structures is complete, while Control buildings will be completed in 2010-Q2. Landscaping for Secondary Containment Structures has been partially fulfilled, and will recommence in 2010-Q2. In addition, relocation of rare species from nursery back to Kodiana sites was implemented at the end of 2009-Q2. The status of other activities is as follows: Installation of sewage treatment plants at PSG2 and Tsalka OSRB is completed (100%). Modification of Retention Ponds is expected to be completed in 2010-Q3. Construction of Area 80 permanent Camp is well ongoing, with completion planned for the end of 2010-Q4. Meanwhile, additions to PSG2 Accommodation Camp is planned to commence at the end of 2010-Q2 while installation of STPs at PSG1 is planned to commence at the beginning of 2010-Q2. Modification of PSG1 and PSG2 Oily Water Separator and Potable Water Treatment Projects design work is due to commence 2010-Q2.	
Completion Status: ONGOING	

2.3.3 Turkey

Study/Survey:	**Expected Timing:**
Landscape Plans and Monitoring for Facilities	Construction and Operations
Ref: 2005-Q1 (p3-4); 2005-Q2 (p3-4); 2005-Q3 (p3-4); 2005-Q4 (p3-4); 2006 Annual (p6) ; 2007 Annual (p7); 2008 Annual (p16)	
An amendment to the CMT landscaping plan was required to accommodate construction of the BTC Co patrol road. The implementation of the plan amendment was conducted by BTC Co. contractor under the supervision of the Landscaping Supervisor. The CMT landscaping plan was revised accordingly. The status of landscaping that was implemented at all facilities by BTC Co. and handed over to BIL in late 2008 is being monitored during the ad hoc site visits and annual compliance audits. In parallel, BIL's ROW Monitoring and Maintenance and site teams monitor the condition of landscaping and take necessary action when required.	
Completion Status: MONITORING ONGOING	

Study/Survey:	**Expected Timing:**
Marine Turtle Survey	Operations

Ref: 2004-Q1 (p5-10); 2004-Q2 (p3-8); 2004-Q3 (p3-6); 2004-Q4 (p3-5); 2005-Q1 (p3-5); 2005-Q2 (p3-6); 2005-Q3 (p3-6); 2005-Q4 (p3-5); 2006-H1 (p3-4); 2006 Annual (p7-8); 2007 (p7); 2008 (p16)

The annual marine turtle survey was conducted in June-September 2009. As was the case for previous surveys, the survey was carried out at Sugozu, Akkum, Botaş and Hollanda beaches. In 2009, a total of 163 *Chelonia mydas* (Green Turtle) nests and 4 *Caretta caretta* (Loggerhead Turtle) nest were found in the study area.

A summary of the number of nests observed this year compared with previous years is as follows:

	2002	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Green Turtle	42	44	213	29	198	57	160	163
Loggerhead Turtle	18	3	3	7	0	1	1	4

The number of Green Turtle nests observed in 2009 is approximately equal to that of 2008 while the number of Loggerhead nests is too small to draw any firm conclusions regarding trends, particularly given that past experience has shown that year-to-year fluctuations can occur.

As with previous surveys, hatchling success was quite high and predator profile was similar to previous years. Generally, neither any significant death of the hatchlings due to scorching effect of the sun nor any significant disorientation (i.e. disorientation due to light sources at night) was determined along the studied beaches.

A summary of the hatchling success observed this year compared to previous years is as follows:

Beaches	**2007**	**2008**	**2009**
Sugozu	80.9 %	87.2 %	76.5 %
Akkum	84.5 %	86.6 %	77.1 %
Botaş	44.4 %	60.7 %	83.9 %
Hollanda	44.4 %	77.0 %	80.5 %
Overall	82.3 %	82.9 %	77.8 %

Completion Status: ONGOING

2.4 OTHER STUDIES

2.4.1 Azerbaijan

Study/Survey:	**Expected Timing:**
Vegetation Cover & Species Diversity: April / May 2009	Operations

In 2009, biorestoration monitoring included species diversity and vegetation cover assessments. The results of the third year of the biorestoration monitoring programme can be summarised as follows:

Vegetation cover data indicates that over a third of transects located in disturbed areas have equal or greater vegetation cover than adjacent, undisturbed areas, and half of the transects have vegetation cover that is no less than 10% lower than undisturbed areas.

On average, all of the habitats exhibit an increasing trend in vegetation cover. However, there are large differences between habitats in the rate and scale of increase.

Species-commonality between the ROW and adjacent, undisturbed areas is still low (mostly around 30%, although some are much lower), and in most habitats there is only a small increase in the commonality recorded between 2007 and 2009.

In general the vegetation recovery on the ROW is following the pattern that would be expected: vegetation cover establishes relatively quickly as species colonise the ROW, but this mostly comprises ruderal species that are not characteristic of the adjacent, undisturbed vegetation.

Analysis of frequency data for selected species shows that, in general, there is an increase in characteristic perennial species, and a decrease in ruderal species on the ROW. Vegetation recovery in the Gobustan region is severely limited. This is probably largely due to the

environmental conditions, in particular hydrologic function and soil stability, but disturbance from vehicles and livestock also plays a part.

Transects in the Sangachal area have lower vegetation cover than those further west in Gobustan.

Highly saline soils are prone to very poor vegetation recovery, and in some instances there is no difference in species-composition or vegetation cover since the first year of survey in 2007.

Completion Status: ONGOING

Study/Survey:	**Expected Timing:**
BTC/SCP Biorestoration (Seeding)	Monitoring: Ongoing

The short to medium term objective of the biorestoration programme is to establish sufficient vegetation cover to meet or exceed the requirements of Erosion Class 3. The longer term objective is to create stable landform conditions that in turn are conducive to the re-establishment of the of original mix of plant species.

To assist this natural process ephemeral and perennial provenance seeds have been collected and broadcasted on the ROW in selected areas (e.g., environmentally sensitive areas (ESA) and areas prone to erosion.

Approximately 550 kg of perennial and 200 kg of ephemeral seeds were collected during the summer and autumn collection periods. These seeds will be broadcast in key areas in spring 2010.

Completion Status: ONGOING

Study/Survey:	**Expected Timing:**
BTC/SCP 6m running track reinstatement	Monitoring: Ongoing

One of the key commitments of the BTC Environmental and Social Impact Assessment (ESIA) and the Resettlement Action Plan (RAP) is to ensure that areas disturbed during construction are returned their pre-disturbed conditions.

Since this commitment was made, a Government of Azerbaijan Decree (2003) resulted in the formation of the EPPD (Export Pipelines Protection Department). The EPPD provides security for the WREP, BTC and SCP pipelines in Azerbaijan. It is a state military organisation and is not controlled by BP.

Since 2005 EPPD has patrolled the BTC and SCP ROW by vehicle on a 24 hour basis. These activities have the effect of compacting soils and encouraging the creation of running tracks along the pipeline ROWs. Both outcomes effectively prevent BTC from fulfilling many of its reinstatement and bio-restoration commitments.

Accordingly BTC has had extensive discussions with the EPPD with the objective of reducing patrol traffic on the ROW and thus minimizing impacts. As a result of these discussions it was agreed that, at several locations, EPPD would use alternative roads for routine patrolling and these sections would be reinstated by BTC. This work commenced in November 2009 and has resulted in the reinstatement of 4.5 km of the running track in Gobustan and Shamkir districts. BTC is planning to reinstate another 26 km of running track in Gobustan, Shamkir and Tovuz districts in March, 2010.

Completion Status: ONGOING

Study/Survey:	**Expected Timing:**
Landscape Monitoring of FCI-ROW	**Monitoring: Ongoing**

BTC committed to undertake landscape monitoring along FCI-ROW. The programme and corresponding methodology aims to record changes to landscape over time in order to either demonstrate progress in restoring the landscape, or areas where additional intervention is necessary.

Monitoring commenced at 90 vantage points in 2005 and continues annually. In 2009 monitoring was also carried out at all AGIs.

The vantage points were selected to represent a cross-section of landscapes and features and include: rivers and streams crossings; slopes and gullies liable to erosion; areas with high visibility to communities; borrow pits; permanent AGIs, and BVs/CVs; temporary AGIs' areas; and road crossings within environmentally or socially sensitive areas. Areas that have been fully restored will be removed from the monitoring programme at the end of 2010.

Completion Status: ONGOING

2.4.2 Georgia

There were eight 'Other' studies/surveys carried out in Georgia in 2009:

Study/Survey:	**Expected Timing:**
Biodiversity Monitoring off FCI-ROW	2009

Progress: BTC committed to undertake a five-year programme for Biodiversity monitoring at off FCI-ROW locations. The programme consists of faunal (including ichthyofauna) and floral (including habitat) components and aims to identify any potential impact caused by pipeline construction and operational activities. It was launched in Spring 2004 and was completed in 2009. Results of the 2009 monitoring as well as cumulative trends are discussed in detail in the Annual Biodiversity Monitoring report, completed in 2009-Q4.

As per a 2007 agreement with the MoE of Georgia, BTC conducted biannual invasive species surveys across BTC/SCP ROW in 2009. Remedial actions were implemented where necessary, e.g., a locally registered herbicide was used to treat a site heavily infested with *Ambrosia.*

Ichthyological surveys undertaken in 2009 ended the five year annual monitoring programme. During this period river and stream crossings were visited and assessed using a range of metrics including a river assessment algorithm (assigning scores to selected environmental indices based on invertebrate field survey data) and an Index of Biotic Integrity (IBI) pursuant to EPA standards, Various metrics were also developed and measured for periphyton, water quality and fish productivity and the results used to develop a 3-year trend analysis for all rivers and streams. The cumulative trend-based values can be used as a background for future operational impacts related activities.

Completion Status: COMPLETED

Study/Survey:	**Expected Timing:**
Landscape Monitoring of FCI-ROW	Operations

Progress: BTC committed to undertake landscape monitoring along FCI-ROW. The objective of the programme was to systematically record visual changes at predetermined locations and therefore measure progress in restoring the landscape. The programme is based on a monitoring methodology that was revised in 2007 to ensure consistency with the requirements of the ESAP. As in previous years the following features have been included in the scope: river and stream crossings; bear crossings; slopes and gullies liable to erosion; seismic faults; areas with high visibility to communities; borrow pits; permanent AGIs, including PSGs and Block Valves; temporary AGIs' areas; road crossings within environmentally andsocially sensitive areas; and rare species reintroduction locations. Data has been incorporated into GIS.

Completion Status: ONGOING

Study/Survey:	**Expected Timing:**
Vegetation Cover Recovery and Potential Erosion Risk Assessment within BTC & SCP Right-of-Way (ROW), 2009	Operations

Progress: Vegetation cover regrowth trends and erosion risk potential are being monitored annually. The main findings of the vegetation cover analysis and erosion risk assessment within BTC & SCP ROW based on the data collected over the three years of observation (2007-2009) are summarised below.

All habitats[3](based on 100m long ROW sections):

- Vegetation cover within the ROW approximates to that of the adjacent undisturbed areas for the majority of the pipeline corridor. A decrease in cover occurred in 12.4% of the 100m ROW sections between 2008 and 2007; 14% between 2009 and 2008 and 7.8% between 2009 and 2007. Overall an increase in cover has occurred in 92.8% of the 100m ROW sections between 2009 and 2007.
- In 2007 8.5 ha of disturbed areas (representing all habitats) had vegetation cover in the range 0-10%; in 2008 vegetation cover of 0-10% was observed in 12.3 ha while in 2009 the area of such sections reaches almost 16 ha. Even though total area with <10% vegetation cover has increased since 2007, the total area of the ROW sections with vegetation cover of 90-100% has increased from 4ha in 2007 to 10ha in 2008 and almost 12ha in 2009.

[3] excluding agricultural land.

Erosion Potential Assessment Using GIS-Based USLE

Erosion potential assessment was conducted based on the methodology detailed in the report "Vegetation Cover Recovery Trend & Potential Erosion Performance Analyses by Satellite Imagery" produced by BTC Co.

Desktop USLE evaluation shows that, in 2009, 94.7% of the ROW meets the biorestoration target achieving Erosion Class 3 or better. Areas assessed as being Erosion Class 4 or greater have been identified at 30 locations and are subject to follow up by field crews.

The **species diversity** surveys covered 49 sample points or transects selected at random (applying sample generator software developed specifically for this project) among all the defined habitat types occurring along the pipeline corridor.

The results of the 2009 survey indicate that approximately 41% (294) species are found only within the ROW or off the ROW (i.e., not both), which is slightly lower than in 2007 (54% or 314 species). This indicates a tendency for convergence between floras on and off the ROW. Conversely, approximately 8% (52) species occur both on and off the ROW. This is higher than in 2007 (6% or 36 species) which again suggests convergence. Detailed information can be found in the Species Diversity 2009 report.

The next round of Vegetation Cover and Erosion potential assessment monitoring is scheduled to commence in April 2010.

Completion Status: ONGOING

Study/Survey:	**Expected Timing:**
Botanical Survey of South Georgian Wetlands (Second year)	2007-2009

Progress: An agreement was reached between BTC and the MoE of Georgia to mitigate pipeline construction related impacts in wetland areas within the BTC/SCP ROW. Botanical surveys of wetlands will be conducted in southern Georgia with the aim of identifying a high conservation value site worthy of protection status under the Ministry for Protection of Environment and Natural Resources of Georgia. Accordingly, field studies of 15 wetland sites on Javakheti Upland (South Georgia) were carried out in June-September 2008 and July 2009. In total, 246 plant taxa (59 mosses, 187 vascular plants) and 29 different plant communities were recorded in 202 sample plots.

In summary this survey is the first comprehensive study of mid- to high altitude wetlands in Georgia and therefore represents a significant contribution to the knowledge of wetland communities in the Caucasus. Based on the survey results, six sites are proposed for designation of protection status. These sites are Levangyol, Godorebi-Didi Abuli, Abulgyol, Avchalagyol, Agrikari-Emlikli and Madathapa Lake. Examination of floristic quality showed that nutrient-poor fen meadows (Didi Samsari, Satchem, Gorelovka and Kirkh-Bulagi) support richer flora with higher number of rare and endemic species.

Completion Status: COMPLETED

Study/Survey:	**Expected Timing:**
Bat Mitigation Pilot Project	2008-2009

Progress: The 2003 pre-clearance surveys identified a total of 134 trees with hollows - potential shelters for the *Chiroptera* located within the ROW or adjacent Tetritskaro and Borjomi administrative districts (47 and 87 respectively). All these trees were destroyed as part of the ROW clearance. It was therefore proposed to install artificial bat shelters in the forested areas adjacent to the ROW to mitigate this loss.

A pilot project involved installation of fifty artificial bat shelters in the vicinity of BTC/SCP pipeline ROW in Tetritskaro administrative district (KPs 88 and 91). Six different models of shelters were provided in order to accommodate different species and different number of individuals. While the first-year activities of the Bat Mitigation Pilot Project are described in detail in the Bat Mitigation Pilot Project Summary Report, 2008, 2009 fieldwork involved two activities: (1) monitoring rates of colonization, and (2) shelter cleanup.

The 2009 surveys showed that three shelters were stolen, three were found to be occupied by bats, while remainder were either empty or inhabited by various animals including insects (butterflies, wasps, bees and spiders), various birds and mice.

Completion Status: ONGOING

Study/Survey:	Expected Timing:
Rare floral species management programme	Operations

Progress: The main objective of the rare species monitoring programme was to measure the survival rates of the translocated species against the objective of re-establishing a minimum of 75% of the original population within the areas designated for translocation. This commitment has been achieved in nine species out of eleven; no individuals of *Gentiana angulosa* (two populations) and *Orchis coriophora* were recorded on the reintroduction sites.

Fifteen populations of eleven rare herbaceous species reintroduced to the ROW and its close vicinity were assessed in spring-summer 2009 in order to evaluate reintroduction success. A set of biotic and abiotic characteristics were recorded for each population and a fertility and vitality index was calculated to evaluate the sustainability of the populations. Low index values (<50%) were calculated for two populations of *Gentiana angulosa* and *Galanthus alpinus* var. *alpinus*, and for single populations of *Pulsatilla georgica, Scilla rosenii* and *Orchis coriophora*. Grazing and trampling, together with relatively slow adaptation to undisturbed habitats, are the most likely explanations for the low index values.

Surveys to assess survivability rates will continue to be undertaken twice during 2010. The survey methodology is described in Operations procedure "Evaluation of Reintroduction/ Adaptation Success of Rare Species" (AZSPU-HSSE-DOC-00185-3).

Formalized results are available in the 2009 monitoring report.

Completion Status: ONGOING

Study/Survey:	Expected Timing:
Survey of invasive common ragweed *Ambrosia artemisiifolia* and Reed Canary-Grass *Digraphys arundinacea* and in the vicinity of the BTC/SCP ROW	Operations

Progress: A survey of the BTC/SCP ROW conducted in Georgia in 2009 revealed the presence of 8 populations of alien species on the ROW. Two of these – *Ambrosia artemisiifolia* and *Robinia psedoacacia* – are invasive taxa with effective dispersal mechanisms (*Ambrosia artemisiifolia* has been studied separately to elaborate effective control measures).

Results of the survey are summarized in a separate report "Mechanical and Chemical Control Options for Invasive Common Ragweed *Ambrosia artemisiifolia* Recorded in the BTC/SCP ROW"). A high proportion of observed alien species are naturalized annuals and are likely to be gradually replaced with native perennials.

Completion Status: ONGOING

Study/Survey:	Expected Timing:
Assessment of trees and shrubs survival	Operations

Progress: A total of 68,819 trees and 14,265 shrubs have been planted along the ROW by BTC since the end of construction. Ten randomly selected planted sections were surveyed in 2009 to determine tree and shrub survival rates.

The survey revealed that of those surveyed, 2,991 trees and 1,024 shrubs survived. This is equivalent to a mean survival rate of 4.3% for trees and 7.1% for shrubs. These results are considerably less than the established performance target of 75% survival. The major factors affecting the low success of planting were water deficiency, grazing/trampling, weed impact, poor soil conditions and vandalism (removal of saplings and stakes by third parties). Unusually low temperatures during the spring vegetative period, together with frosts, strong winds and insufficient snow cover may have affected the saplings planted in some sites at higher altitudes.

The findings of surveys conducted in 2008 and 2009 clearly indicate that survival expectations need to be tempered to account for local environmental circumstances and interventions by third parties, as well as the fact that regular and ongoing maintenance may have little affect on the overall outcome. These have led to the consideration to the forest eco-compensation programme (refer to Case Study on Forest Eco Compensation project).

Expanded recommendations are given in the survey report "Assessment of Trees and Shrubs Survival Georgia", AGT Project, 2009.

Completion Status: COMPLETED

Study/Survey:	Expected Timing:
Erosion filed survey	Operations

Progress: In September, 2009 BTC and SCP companies undertook erosion field surveys along some sections of the pipeline ROW between KPs 176 - 220 to determine erosion potential. These sections were identified as sites with high erosion potential based on the modeling (GIS-based USLE assessments). The key objective of the field surveys was to ground truth erosion potential of these sites and assess and document their current status in terms of erosion.
The sites identified were located in three main zones: (1) KP 176 - KP 177 (Tskhratskaro), (2) KP 192 - KP 200 (Kodiana), and (3) KP 218 - KP 220 (Sakuneti - Minadze).
In order to evaluate erosion class of the selected ROW sections, detailed visual surveys were conducted along the entire length and width of each section; in addition, adjacent areas were also inspected for comparison. Qualitative-quantitative assessment of vegetation cover and surface composition was based on visual assessment and expert judgment.
In total, 36 sites were surveyed. None was assessed as having an erosion potential that exceeded the first three classes (i.e., 1- Very Slight; 2 - Slight; 3 - Moderate).
Site-specific recommendations are given in the Erosion Field Survey Selected Sections of the ROW, 2009 report.

Completion Status: COMPLETED

Study/Survey:	Expected Timing:
Biorestoration works along BTC/SCP ROW: Kodiana access road (KP181-183)	Operations

Progress: The impact of the GB18 access road on the adjacent forest and its consequences on drainage patterns and growth of native species was assessed. In addition a forest restoration plan involving the planting of trees and shrubs was implemented in accordance with a landscaping plan. Four species were planted: Scots Pine (Pinus sylvestris), Oriental Beech (Fagus orientalis), Black Alder (Alnus barbata) and Goat Willow (Salix caprea). Planting will be completed in 2010. A maintenance plan will also be implemented. Site-specific recommendations are given in the work completion report on landscaping at the Kodiana access road.

Completion Status: ONGOING

Study/Survey:	Expected Timing:
Landscaping works around PSG2	Operations

Progress: To comply with BTC ESIA commitment No Y12 (Physical Presence of AGIs - A landscaping plan will be implemented which will use grass, shrubs and trees, where practicable, to screen the AGIs and associated access roads. Screening will be subject to ongoing monitoring.) BTC Co decided to undertake measures to mitigate natural habitat deterioration and visual intrusion.
Planting activities therefore took place around PSG2 in autumn, as vegetation starts late in the mountains. Maintenance works are prescribed and planned for 2010.
Site-specific recommendations are given in the 2009 completion report.

Completion Status: ONGOING

2.4.3 Turkey

Ten other studies were carried out in 2009 in Turkey. Details are as follows:

Study/Survey:	Expected Timing:
Tree and Shrub Survival Monitoring	Operations
Ref: 2007 Annual (p10-11); 2008 Annual (p21)	

An MOC prepared in 2009 proposed that the original tree and shrub planting programme described in the ESIA be replaced with an off-set planting programme for areas where long-term protection, aftercare and ownership could be assured.
Planting was initiated by MoEF in 2009 and will be completed in 2010. Maintenance will be MoEF's responsibility. BTC Co. will ask for progress updates from MoEF, but otherwise will not be involved in any further monitoring.

Completion Status: COMPLETED

Study/Survey:	**Expected Timing:**
Ceyhan Sediment Quality Survey	Operations
Ref: 2006 Annual (p9-10); 2007 Annual (p11); 2008 Annual (p21)	

The annual CMT sediment quality and marine ecology surveys were conducted in August 2009. Below are the outcomes of the surveys:

Sediment Quality:

- Sediment samples were collected from 12 different locations near the BTC Jetty and analyzed for nine trace metals (Cu, Sn, Zn, Cd, Pb, Hg, Al, Fe, Cr).
- In general, there was an overall decline in concentrations of metals between 2004 and 2009, although Cu, Cr, Hg and Fe increased at some locations with annual fluctuations
- Cr, Zn, Pb, Cu, Cd, Al and Hg were distributed to the east of BTC Jetty in Iskenderun Gulf whilst Sn was distributed to the west suggesting that Sn possibly has a land origin. Sn, Fe concentrations at all stations, and Cu and Cr concentrations at some, were above the international guideline values. The high Fe, Cu and Cr concentrations might be attributed to the industrial facilities (such as iron-steel, fertilizer factories) at the east of Iskenderun Gulf. All metal distributions showed that the area was polluted, with the high concentrations, indicating long term anthropogenic inputs.
- Concentrations for Hg, Cd, Pb and Zn in all of the sediment samples are below the established international and national guideline values and other literature values.
- Total Petroleum Hydrocarbon (TPH) (C5-C10 and C10-C28 components) concentrations measured in sediment samples collected around the jetty were lower than the guideline values reported for Class A sites (100 mg/kg) and Class B sites[4]. Thus, it was concluded that there was no significant TPH contamination in the area.

Marine Ecology:

- No significant differences were observed in relation to water parameters (nutrients, dissolved oxygen, chlorophyll-a, secchi disc depth, pH, turbidity, conductivity, temperature, density) over the period 2001, 2005, 2007 and 2009. All samples were within acceptable limits, as compared with reference values.
- No significant increase in nutrient concentrations was observed in the study area
- No sign of *Zostera marina* was observed during the survey period, which is consistent with the results of previous surveys.
- In general, the structure of the phytoplankton community appears normal, as was the species composition of zooplankton in the vicinity of the BTC jetty. Finally the ichthyoplankton species composition and abundance of the area sampled was similar to that recorded in July 2008.
- Despite the unproductive sea bottom, most of the commercially important fish and prawn species typically of the region inhabit the survey area.

Completion Status: ONGOING

Study/Survey:	**Expected Timing:**
Waste Water Feasibility Survey	Operations
Ref: 2007 Annual (p12); 2008 Annual (p22)	

In Q1, all facilities were visited to identify options that would enable wastewater systems to meet project compliance requirements.

Construction activities have since begun at the PT1 and PT3 WWTPs and are scheduled for completion in 2010. BIL and BTC Co. will continue to work collectively on the justification and timing of other elements of the environmental enhancements.

Previously approved enhancement items (e.g., IPT1 WWTP installation and commissioning of a settling tank for the WWTP at CMT) were finalized in 2009. An application for a discharge permit was made to Provincial Directorate of MoEF in December 2009. The granting of permit will be followed up in 2010.

Completion Status: ONGOING

[4] CCME Canadian Soil Quality Guidelines of Environment Canada (March, 1997).

Study/Survey:
Ballast Water Management Study

Expected Timing:
Operations

Ref: 2007 Annual (p10-11); 2008 Annual (p22)

Two different Ballast Water Risk Assessment (BWRA) studies were undertaken for CMT by Tubitak MAM in order to help calculate the relative overall risk of introducing a harmful alien species to İskenderun Bay. The first BWRA covered the period between 4th June 2006 and 28th May 2007 and including 54 source ports. The second covered a 2 year period, between 4th June 2006 and 2nd November 2008 and included 102 source ports.

A general comparison of 2007 and 2008 BWRA studies is presented in the table below.

BWRA	Assess-ment period	No. of visit record	No. of source port	No. of source port in the following risk categories:				
				highest	high	medium	low	lowest
First study (2007)	12 months	164	54	6	8	10	11	19
Second study (2008)	29 months	573	102	13	16	18	22	33

Tubitak MAM also undertook an environmental similarity analysis. This enables BIL to assess risks associated with a previously un-assessed source port to be assessed prior to the ship arriving at CMT so that ballast water management can be applied pro-actively.

The BWRA will be updated in 2010.

Completion Status: ONGOING

Study/Survey:
Coastal Processes Survey

Ref: 2007 Annual (p13); 2008 Annual (p23)

The coastal processes survey was carried out between December 2009 and January 2010. The report is in preparation. The results will be summarised in the 2010 Annual Report.

Completion Status: ONGOING

Study/Survey:
Right of Way (ROW) Physical Monitoring

Expected Timing:
Operations

Ref: n/a

Physical monitoring of the ROW is conducted on a yearly basis. Three monitoring programmes have been completed to date; in 2007 (May and June), 2008 (May and June) and 2009 (June and July).

The scope includes an assessment of erosion, landscape restoration, oil contamination and ROW access with a particular focus on priority areas such as archaeological sites, river crossings, ESAs, illegal tap locations as well as side and steep slopes.

A total of 37 archaeological sites were inspected. All were found to be in good condition. The same conclusion was made for the ESAs.

Erosion was the common issue identified in all three monitoring programmes. Class 1-2 erosion was evident in three of the ESAs (ESA 4, 8 and 37) and was consistent with the results of the survey conducted in the previous year. In addition the 2009 survey identified an enhanced erosion risk in three additional ESAs (ESA 1, 24 and 35).

Seventy five river crossing were inspected in 2009. Erosion (in about 50% of the locations visited) and deformed rip-rap, represented ongoing concerns.

Eighteen illegal tap locations were visited in 2009. In general, these sites were assessed as being in a safe condition; no signs of oil contamination were identified since 2008.

During 2009 monitoring programme 236 slope locations were inspected. Around 50% of the monitored slopes were found to have remained in good state since the previous monitoring campaigns. For the remaining 50%, erosion was a prevailing concern.

Completion Status: ONGOING

Study/Survey: CMT VOC Speciation Analysis	**Expected Timing:** Operations
Ref: n/a	
Speciation analysis for the Volatile Organic Compound (VOC) stacks at CMT was carried out to identify the VOC standards that apply to enclosed ground flare (EGF) emissions and to confirm if any continuous emissions monitoring (CEM) is legally required for EGF. The study results confirmed that the mass flow rate of emissions was below the regulatory threshold to justify a CEM. The report that will be used to identify which HC emission standard set applies to VOC emissions will be completed in 2010-Q2.	
Completion Status: ONGOING	

Study/Survey: Waste Management Best Practicable Option (BPEO) Study	**Expected Timing:** Operations
Ref: n/a	
A Best Practicable Environmental Option (BPEO) for the management of solid wastes arising from BTC operations in Turkey was initiated and an implementation plan was developed for 2009 and 2010. Following the pre-screening phase, the study identified five municipal landfill sites (to be used for domestic waste disposal) and four cement factories (to be used for hazardous waste disposal) located along the pipeline route. (N.B. Izaydas is being used for disposal of domestic and hazardous waste generated from BTC Turkey facilities). The study focused on the facilities which had the potential to accommodate project wastes in accordance with Project standards (including the EU standards). The study is ongoing; the complete report will be finalized in 2010.	
Completion Status: ONGOING	

3 CHANGES

As reported in previous Annual Reports, the BTC Project uses a management system process called “Management of Change” (MOC). Proposed changes with potential associated environmental or social impacts are graded by three Classes – I, II or III, as defined in the ESAP. Class III changes are the most significant. Changes are subject to a process of review and approval by BTC, including review and approval by the Lenders for Class III changes. Class I and II changes do not require direct approval by the Lenders, but are assessed as part of the in-country monitoring process by the Lenders’ Independent Environmental Consultant. The following sections summarise BTC approved changes as recorded during 2009.

3.1 AZERBAIJAN

There was one Class III change in Azerbaijan in 2009.

Asset	Class	Approved Internally	Description of Change
BTC/ SCP Az	**III**	**May 2009**	**Sewage disposal** Disposal of raw sewage and sewage sludge to external municipal wastewater treatment facility. This MOC covers temporary use of external wastewater treatment facility for treatment and disposal of sewage water in emergency situations and sewage sludge disposal.

3.2 GEORGIA

There were no changes made in Georgia in 2009 with potential associated environmental impacts.

3.3 TURKEY

There was one Class II change in Turkey related to reforestation that was internally approved in July 2009. The purpose of MOC was to address reinstatement commitments and the anthropogenic threats to reforestation and hence to identify the most practical and appropriate locations where the reforestation should be applied for the number of felled trees which could not be replanted in the same location from which they were removed.

3.4 CROSS-COUNTRY CHANGES

There were no cross-country Class I, II and III changes in 2009.

3.5 DESCRIPTION OF ANY MATERIAL AMENDMENT, SUPPLEMENT, REPLACEMENT OR MATERIAL MODIFICATION TO AN ESIA, ESAP, THE RAP, THE ESMS OR ANY OSRP

3.5.1 Azerbaijan

No material amendments to the Azerbaijan BTC ESIA or RAP were made in 2009.

Development of the BTC ESMS continued and in October 2009 the system was externally audited by Moody International and re-certified to ISO14001 standard.

The Azerbaijan Oil Spill Response Plan was updated and amended as described in Section 5.3.

3.5.2 Georgia

No material amendments to the Georgian BTC ESIA, ESAP or RAP were made in 2009.

Execution of two material modifications to the BP operations (BTC expansion and non-hazardous landfill) led to an expansion of BTC ESMS. In 2009 the system was externally audited by Moody International and re-certified to ISO 14001 standard.

3.5.3 Turkey

There were no material changes to the Turkey BTC EIA, ESAP or RAP other than those described in Section 3.3.

4 COMPLIANCE WITH ENVIRONMENTAL STANDARDS AND APPLICABLE ENVIRONMENTAL LAW

4.1 SUMMARY OF ANY NOTICES OF NON-COMPLIANCE, REMEDIAL ACTION, ANY FINES OR PENALTIES PAID AND FINAL DISPOSITION OF ANY REGULATORY PROCEEDINGS

All notices of non-compliance served by the IEC in 2009 are detailed in Appendix 3 of this report.

4.1.1 Azerbaijan

There was one Level I non compliance incurred by IEC in Azerbaijan relating to stack emissions (for not relocating generators sample ports and for adjustment of NOx standards).

There were no government fines or penalties incurred for environmental or social non-compliances, and no material environmental claims were made against BTC in Azerbaijan during 2009.

4.1.2 Georgia

There was one Level I non compliance incurred by IEC in Georgia relating to stack emissions (for not relocating generators sample ports and for adjustment of NOx standards).

There was one government fine incurred for environmental non-compliances against BTC in Georgia during 2009 for late submission of an environmental report as per a mineral extraction license from the Environmental Protection Inspectorate of the Ministry of Environmental Protection and Natural Resources.

4.1.3 Turkey

There was one Level I non compliance in Turkey relating to public and community relations activities.

There were no government fines or penalties incurred for environmental or social non-compliances, and no material environmental claims were made against BTC in Turkey during 2009.

4.2 MONITORING RESULTS

During 2009 environmental monitoring of the operation of the BTC Pipeline continued in accordance with the BTC Emissions Management Plans. These plans were developed to ensure compliance with project standards as well as to monitor, minimise and where necessary mitigate the environmental impact of pipeline operations.

4.2.1 Azerbaijan

4.2.1.1 Ambient Air Quality

Annual ambient air quality monitoring was carried out at PSA2 six times and covered the period from January to December 2009. Sampling devices were deployed for four weeks at five locations around PSA2 station and PSA2 Camp. Analyses were carried out for NO_2, SO_2, and benzene.

Monitoring at IPA1 was conducted in September, 2009. Analyses were carried out for NO_2 and SO_2.

In accordance with the ESAP, annual average concentrations need to be calculated at each monitoring point for each parameter. All results indicated compliance with the ESIA specified limits, although at the PSA2 Reed Beds elevated concentrations of SO_2 were detected (30 µg/m^3 in Sep-Oct, compared with a project standard of 20µg/m^3). The investigation showed there was road construction around PSA2 Camp and the main entrance was temporary closed. All vehicles used to use the detour road which was next to the Reed Beds. The vehicle emissions could have been the reason for the temporarily elevated levels of SO_2.

A summary of monitoring results is provided in Appendix 2.1a.

4.2.1.2 Stack Emissions

Stack emissions monitoring was carried out for all major combustion plants at BTC Pipeline Stations: (PSA-2 - 3 Main Power Generators, 4 Turbines and WBH, IPA-1 - 2 Main Power Generators). All of the stacks were sampled for NOx, CO, SO_2, and PM10. This successfully concludes all of the stack emissions monitoring required by the ESAP within one year of full start-up.

The monitoring results of all BTC diesel generators (PSA-2 Generators A, B, C; IPA-1 Generators A, B) and Water Bath Heater indicated that the oxides of nitrogen (NOx), carbon monoxide (CO), sulphur dioxide (SO_2) and particulate matter (PM) concentrations were well below the limits specified for these plants in the BTC Azerbaijan ESIA (AzSPU-HSSE-PMT-00571-A1) and ESAP Emissions Management Plan (AZSPU-HSSE-PMT-01265-2).

However monitoring results of the BTC PSA-2 MOL Turbines indicated that the oxides of nitrogen (NOx) concentrations were higher than the 75 mg/m^3 limit specified in the BTC ESAP (AZSPU-HSSE-PMT-01265-2) for this plant, but lower than the 125 mg/m^3 limit specified in the BTC Azerbaijan ESIA (AzSPU-HSSE-PMT-00571-A1). Taking into account that the emission standard set in the ESAP was based on the LCPD (which is currently not applicable to turbines of this size) and the inconsistency between limits specified in the BTC ESIA it is proposed to replace the limits to UK, Environmental Protection Act[5] standard for BTC Azerbaijan PSA-2 MOL turbines. A MOC is currently under discussion with the IEC.

A summary of monitoring results is provided in Appendix 2.1b.

4.2.1.3 Noise

In 2009 environmental noise monitoring took place in accordance with ESAP requirements at two pre-identified receptors around PSA2, at three pre-identified receptors around IPA1, and at 6 BTC Block Valves which are located less than 300m from community receptors.

All of the results at all locations indicate compliance with the standards in the ESAP.

A summary of monitoring results is provided in Appendix 2.1c.

4.2.1.4 Effluent

BTC's effluent discharges in 2009 comprised treated sewage from PSA2 and PSA2 Camp.

Sewage from PSA2 and PSA2 Camp undergoes three stages of treatment: (i) biological treatment, (ii) UV sterilisation, and (iii) final polishing in reed beds. This system in PSA2 Camp was successfully commissioned and the final treated effluent has been continuously discharged from the reed beds to a nearby drainage canal from March onwards. Discharges to the environment were in full compliance with the ESAP standards at all times for five out of the six parameters, namely pH, TSS, COD, ammonia, total nitrogen.

There were two instances when the treated sewage discharge was temporarily out of compliance with regard to Coliform bacteria (August and September). On these occasions the Coliform bacteria ranged from 552/100ml to 1234/100ml compared with the standard of 400/100ml. No adverse environmental impact was detected in the receiving water. In both cases the cause of these exceedences (a defective UV lamp and excessive flow) was investigated and corrective actions taken.

Commissioning of IPA1 RBC was started in the end of December 2009.

A summary of monitoring results is provided in Appendix 2.1d.

4.2.1.5 Ground and Surface Waters

In 2009 surface and groundwater monitoring was carried out in May and in November. Groundwater samples were taken from five monitoring wells at the Karayazi aquifer (because two wells were dry and one well had been vandalised) and from two wells at PSA2. Surface water samples from five locations around IPA1 and PSA2 were taken in May and in November.

[5] Environmental Protection Act 1990, Part I Secretary of State's Guidance Gas Turbines, 20-50 MW Net Rated Thermal Input.

All the results indicated no significant deterioration from pre-project baseline conditions.

A summary of monitoring results is provided in Appendix 2.1e.

4.2.1.6 Waste Management

During 2009 waste management practices were maintained and improvements undertaken to minimize waste generation through awareness sessions, tool-box talks etc. All wastes were handled and disposed of in accordance with BP AzSPU waste management requirements.

A summary of waste generated is provided in Appendix 2.1f.

4.2.2 Georgia

4.2.2.1 Ambient Air Quality

There were seven rounds of monitoring conducted in 2009 (February, April-May, June, July, August, October, and December) at PSG 1 and PSG 2. The February round of monitoring was conducted as part of the programme. The 2009 programme started in April.

As required by the ESAP monitoring was conducted in April within the month of highest results from previous year.

Measurements were taken at five locations around PSG 1 and PSG 2 for NO_2, SO_2, and benzene. All results demonstrated compliance with the relevant standards.

A summary of monitoring results for Ambient Air Quality is provided in Appendix A2.2.1.

A summary of GHG air emissions calculations results is provided in Appendix A2.2.6.

4.2.2.2 Stack Emissions

Stack emissions monitoring was carried out for NOx and CO. The monitoring results for generators demonstrated full compliance with the specified standards.

The annual round of the stack emissions monitoring for MOL Turbines took place in March 2010[6]. All of the stacks were sampled for NO_x, CO, SOx and calculations for PM10 were performed. In addition, CO_2 was monitored at the request of Operations.

The monitoring results for the MOL turbines demonstrated compliance with all parameters with the exception of NOx. Although the turbines are fitted with low emission technology (hence emissions are well below those of conventional turbines) this only becomes fully active when the turbine speed exceeds 97% of its design maximum. As the turbines operate below this point for much of the time it impossible always to meet the low NOx emission limit that was initially specified in the ESAP. The turbines only run in low NOx mode during higher temperatures when the efficiency of the turbines reduces, so they must rotate faster in order to provide the required power.

One-off monitoring took place during Solonox mode at MOL Turbine No2, demonstrating full compliance with all the parameters of ESAP.

The monitoring results for WBHs demonstrated full compliance with ESAP standards.

CTUs were activated on a quarterly basis and PSG 1 CTU was used in January 2010 and PSG 2 CTU in February 2010. The next activation round is planned for 2010-Q2 as well as the CTU stack emissions monitoring.

A full set of results is given in Appendix A2.2.2.

[6] Due to the need for the stack emissions monitoring instrument Testo to be used for the duration of 2009, it had been sent for calibration and maintenance later than usually and not returned until the end of the year.

4.2.2.3 Noise

In 2009 environmental noise monitoring took place on quarterly basis around PSG 1 (including Area 72) and PSG 1 camp, PSG 2 and PSG 2 camp, Area 80 and Akhaltsikhe camp, Tsalka and Borjomi OSRBs. In Q4, the EDDF was added to the list of monitoring locations.

All of the results at all locations indicate compliance with the ESAP project specified standards.

A summary of monitoring results for environmental noise is provided in the Appendix A2.2.3.

4.2.2.4 Effluent

BTC's effluent discharges in 2009 comprised treated sewage from PSG 1, PSG 1 camp, PSG 2, PSG 2 camp and Akhaltsikhe camp. All of these discharges are subject to regular monitoring.

The results indicate general compliance with the project specified standards with the following exceptions:

- PSG 1 –seven out of twelve TSS and six out of twelve Coliform bacteria;
- PSG 1 camp – three out of twelve Coliform bacteria;
- PSG 2 – one out of eight TSS and two out of eight Coliform bacteria;
- PSG 2 camp – five out of twelve Coliform bacteria.

A summary of monitoring results is provided in Appendix A2.2.4.

The reason for the elevated TSS and Coliform bacteria was revealed during investigations conducted in 2008 (and reported in the 2008 BTC Annual Report). As a result of these investigations a maintenance programme was set up for the retention ponds at the pump stations and the STPs at the camps.

The programme also included replacement of the effluent pumps and concreting the bases of the retention ponds. In addition, it was agreed that new Kee Process RBC units would replace the original STPs located at PSG 1 camp (with the capability to treat effluent from PSG 1 pump station), PSG 2 pump station, and the Tsalka OSRB. It was also agreed that the existing RBC would be maintained at Borjomi OSRB.

To date new RBCs have been installed at the Tsalka OSRB and the PSG 1 site. Each is now being commissioned. In addition the STP at the new EDDF has been installed and is being commissioned.

The programme is scheduled to be completed by the end of 2011.

4.2.2.5 Ground and Surface Waters

In April 2009 BP and Government of Georgia reached a significant agreement in relation to ground water and surface water monitoring baseline data (Ref: BTC/OUT/1755; BTC/OUT/1904; BTC/OUT/1905). In this agreement the frequency of ground water and surface water monitoring will be kept at two seasonal rounds per annum. The following parameters will be monitored: BTEX, Naphthalene from PAH and TPH.

GoG also accepted the baseline data set for 101 of a total of 112 monitoring locations; the 11 exceptions were: BMW 9, BMW 10, BMW 11, TMW 7, TMW 13, TMW 15, TSW 9, TSW 20, KTMW 4, KTMW 14 and KTMW 15.

It was agreed that the 11 locations would be monitored on monthly basis in 2009, beginning from first seasonal round of monitoring, and that BP and GOGC/MoE would discuss the monitoring results to agree baseline data that will be used as reference limits for all future monitoring rounds. Two full seasonal rounds (May-June and September-October) and two additional rounds, as per agreement with GoG (July and August), were conducted at 6 locations in 2009. The remaining 5 locations will be monitored in 2010.

The results for the first round of monitoring demonstrated elevated levels of benzene at 8 out of 120 locations. The rinsate of used bottles also showed an elevated level of benzene, which suggested cross contamination of samples from long stored sample bottles.

New sample bottles were subsequently requested from the laboratory and the next rounds of monitoring demonstrated full compliance with the recommended trigger levels for all parameters of interest.

The dry well rehabilitation programme was completed in 2009. Historically dry wells were (re)drilled and/or washed and re-included on the list of monitoring locations.

Water supply re-sampling was also been completed for the seven specific locations as requested by the MoE.

A summary of groundwater and surface water monitoring results is provided in Appendix A2.2.5.

4.2.2.6 Waste

A summary of waste generated in 2009 is given in Appendix 2.2A. The main waste generation areas are at PSG1 and PSG2. The Central Waste Accumulation Area (CWAA) continues to be utilised by Operations for the management of hazardous waste that cannot be recycled or disposed of in accordance with appropriate standards.

In 2009 the project started using a waste processing and recycling centre (WPRC) for operational non hazardous wastes. All non hazardous waste generated from BTC/SCP and WREP sites are collected at this centre for secondary and final segregation. Recycling waste (plastic bottles, paper and cardboard) is stored in special containers. Activities include sorting for reuse, secondary recycling, storage and separation. Non-recyclable waste is sent to landfill for final disposal on monthly basis. An operations-phase WPRC is located at Sanitary Base in Rustavi.

In 2009 BP Georgia continued using local PET manufacturer *Caucasus PET Company* for recycling of plastic waste. More than 100 tonnes of plastic were delivered for recycling during 2009. In addition “”Vargi LTD” recycled 191.2 m^3 of paper/cardboard and 29m^3 of metal waste was sent to “NSM & Company”.

Various waste plans were approved during 2009. These were: Waste Management Plan (WMP); Waste Management Implementation Plan (WMIP); Waste Offset Plan (WOP) and; Waste Projects Plan (WPP). These plans outline particular actions to improve waste management, to develop a new non-hazardous landfill, to close the Level 3 non-compliance associated with the BTC Iagluja waste disposal site, and to set offset mechanisms for compensation of past non-compliant waste disposal.

In May 2009 the first EU-standard non hazardous waste landfill in Georgia commenced operations. By the end of 2009 the landfill had received 2700 m^3 of waste.

BP continued using food waste macerators and a dewatering system at PSG1 Camp, PSG2 Camp and Akhaltsikhe Camp and in so-doing was able to reduce the volume of food waste by 70-80%. Macerated and dewatered food waste was then sent to the WPRC for composting. Composted food waste is used for various purposes e.g. conditioning of ROW, final covering for the landfill, and by local farmers.

4.2.2.7 Flora and Fauna

A detailed botanical assessment of the populations of high conservation value species, sensitive habitats and invasive/alien species along the BTC/SCP route was conducted in 2009 by local specialists and international experts. The overall goal of the Floral Component of the Biodiversity Monitoring Programme was to identify and quantify any off-ROW floral impacts of pipeline construction and operation, and recommend any remedial mitigation measures if required. Comprehensive quantitative and qualitative data has been collected in 143 permanent plots, of which 58 were established to monitor forest communities, 36 wetlands, 32 meadows, 2 scrub and 15 populations of species of high conservation value. In addition to these activities, a walkover survey was conducted along the BTC/SCP ROW to identify the presence of populations of invasive/alien species which might pose a threat to local biodiversity. A comprehensive set of data is presented in the 2009 floral component report.

The faunal component of the biodiversity monitoring program covers selected species of amphibians, reptiles, avifauna and mammals and the evaluation of the selected aquatic habitat quality through indicator species (dragonfly guilds).

Six-year trend analysis indicates that the livelihood fluctuations of the nominated faunal species are not related to the pipeline operation activities.

A comprehensive set of data is presented in the faunal component report of year 2009.

4.2.3 Turkey

4.2.3.1 Ambient Air Quality

Ambient air quality monitoring is undertaken only at the Ceyhan Marine Terminal (CMT). The results are presented in Appendix A.2.3. No ambient air monitoring is required at the Pump Stations (PTs) as the major sources of emissions (pump drivers and water heaters) use natural gas as a fuel.

Passive diffuser tubes were used to monitor air quality. VOCs (benzene, toluene, ethyl benzene and xylene–BTEX), SO_2 and NO_x are measured at 10 locations at and around CMT once in every three months.

In 2009, 4 surveys were undertaken between January and December (although the January 2009 survey actually commenced in December 2008).

The annual average values of all parameters were generally lower than or close to the annual average values of 2007 and 2008 monitoring campaigns as well as the associated baseline values.

The only exceptions were:

- The average value of SO_2 at CMT3 was high due to the contribution of the quarterly average value in autumn 2009. This is thought to be due to nearby farming activities such as burning of stubble.
- Elevated levels of BTEX at CMT1 and CMT10 in winter and spring.

4.2.3.2 Stack Emissions

The flue gases originating from gas fired reciprocating engines, water heaters, diesel fired generators and wax handling boilers were monitored by DOKAY in accordance with ESAP EEMP.

Stack emissions monitoring results for 2009 are shown in Appendix A.2.3. The results demonstrate compliance at all facilities.

Stack sampling ports were installed to heaters at all facility camp sites in 2009-Q3. One round of monitoring consistent with the Regulation on Control of Air Pollution Originated from Heating (RCAPOH) has been scheduled for 2010 by BIL.

4.2.3.3 Noise

The project standard for noise specifies a maximum of 45 dBA for night time ambient noise levels at sensitive receptors or a 3dBA increase above background levels. Noise modelling was undertaken as part of the ESIA process (Volume II, Section 7.9.4) and indicated that 40dBA is reached a maximum of 50m from the perimeter fence at each pump station. The closest residential receptor to any of the facilities is 1.5 km. Monitoring at off-site residential receptors is therefore not considered necessary unless in response to concerns raised by residents or if there is evidence that on-site noise is rising. Neither of these situations arose during 2009, consequently, no ambient monitoring was conducted.

4.2.3.4 Aqueous Discharges

Aqueous discharges originating from project facilities, as well as downstream surface water bodies which receive the aqueous discharges are monitored on a monthly basis. Upstream water bodies are similarly monitored to establish 'control' conditions. Aqueous discharge monitoring results for 2009 are shown in Appendix A.2.3.

The monitoring results showed that no non-compliant discharges were released to environment. However a number of aqueous discharge streams did not meet project standards. For example monthly effluent monitoring results show that there were 25 non-compliant samples among 100 samples taken from the Oily Water Separators (OWSs); 32 non-compliant samples of WWTP effluent among 72 samples and 46 non-compliant samples of Storm Water Pond (SWP) effluent among 60 samples. In such cases the effluent was re-cycled or trucked to Project approved Municipal WWTPs for further treatment.

The recommendations raised from waste water and OWS feasibility surveys which were finalized in 2008, formed part of the 2009 enhancement programme. The details of these studies are provided in Section 2.4.3 of this report.

4.2.3.5 Groundwater

Groundwater quality monitoring programme for operations was developed by BIL in order to monitor:

1. The operational impacts of groundwater abstraction from the wells;
2. The possible contamination by BTC facilities on groundwater;
3. Saline intrusion at the CMT well.

Groundwater level (static and dynamic) will also be monitored on a monthly basis in order to assure that the safe yield is abstracted from the aquifer.

It is anticipated that the programme will commence in 2010.

4.2.3.6 Waste Management

In 2009, about 435 tonnes of solid waste was disposed off-site. Of this, 2.5% was hazardous waste that was sent to Izaydas for incineration, 39% was domestic waste sent to Izaydas for landfill and the rest, 58%, was non-hazardous waste that was re-used or re-cycled.

Appendix A.2.3 provides details of waste volumes generated.

4.3 STATEMENT OF COMPLIANCE

BTC and its agents have complied with the ESAP, applicable environmental laws and Applicable Lender Environmental and Social Policies and Guidelines in all material respects during the period covered by this report.

All non-compliances that have been identified in 2009 are summarized in Executive Summary and shown in Appendix 2. Non-compliances relating to other audits are given in Section 11 (and detailed in Appendices 3 and 4). For all non-compliances identified, corrective actions have been developed and implemented.

4.4 CHANGES IN APPLICABLE ENVIRONMENTAL LAW[7]

4.4.1 EU Legislation

New and amended EU directives, regulations, and decisions announced in 2009 have been reviewed. Potential implications arising from the review are being taken into account as part of the HSSE Compliance Programme. The following Directives have been identified as being potentially relevant to BTC's legal obligations and, where reasonably practicable, aspects of these will be incorporated into BTC's HSSE compliance programme (unless otherwise stated):

1. Directive 2009/30/EC dated 23 Apr 2009 amending Directive 98/70/EC as regards the specification of petrol, diesel and gas-oil and introducing a mechanism to monitor and reduce greenhouse gas emissions and amending Council Directive 1999/32/EC as regards the specification of fuel used by inland waterway vessels and repealing Directive 93/12/EEC. This Directive sets technical specifications on health and environmental grounds for fuels to be used with positive ignition and compression-ignition engines, taking account of the technical requirements of those engines and a target for the reduction of life cycle greenhouse gas emissions.
2. Directive 2000/60/EC dated 31 July 2009 on technical specifications for chemical analysis and monitoring of water status. It provides technical specifications for chemical analysis and monitoring of water status and establishes minimum performance criteria for methods of analysis to be applied by Member States when monitoring water status, sediment and biota, as well as rules for demonstrating the quality of analytical results of the limit of quantification concerned for the calculation of mean values.

4.5 CHANGE IN NATIONAL LEGISLATION

The following summary of changes in national legislation of Azerbaijan, Georgia and Turkey aims to give an overview of new legislation and highlight recent developments. Although some may have direct relevance to BTC, inclusion of specific legislation into this Report does not imply its applicability to BTC.

4.5.1 Azerbaijani Law

There were no environmental related legislative changes in 2009 that were potentially relevant to BTC Azerbaijan.

4.5.2 Georgian Law

The following environmental related legislative changes occurred in 2009 that were potentially relevant to BTC Georgia:

1. Resolution No. 799 of the Government of Georgia, dated October 30, 2009, on the Auction License Conditions for Issuing Mineral Extraction License.
2. Resolution No. 1054 of the Government of Georgia, dated December 29, 2005, on Approving the Ministry of Environmental Protection and Natural Resources as the Recipient of the Grant in the amount of USD 3,500,000 to the Georgian Government by BTC Co. & SCPC.
3. Order No. 8 of the Ministry of Environmental Protection and Natural Resources, dated March 9, 2009, on Approving Statute on Environmental Impact Assessment.

[7] Applicable environmental laws as defined within HGA and IGA

4.5.3 Turkish Law

The list of national environmental regulations that were published or re-issued in 2009 is shown below, along with a statement regarding BTC's likely response:

Official Gazette No	Official Gazette Date	Regulation On:	New / Revision	Impact on BTC Turkey Operations?
27190	04.04.2009	Exhaust Gas Emissions Control	New	Exhaust gas monitoring and management of BIL and BTC Co. vehicles will be carried out consistent with the regulation.
27214	29.04.2009	Permits and Licenses that need to be obtained as per environmental law	New	Following actions consistent with the regulation will be taken by BIL: - Environmental permits (air emission, aqueous discharge) and licenses for CWAAs will be received. BIL is exempt for noise permit. - Online application to MoEF using e-signature should be done through environmental management unit or environmental representative or consultant company. There will be one application for all facilities. - Following online application, a temporary license for 1 year will be granted by MoEF for BIL to incorporate any comments.

5 OIL SPILL RESPONSE

5.1 SUMMARY OF OSRPS COMPLETED, UPDATED, OR AMMENDED DURING THE YEAR

The OSRP for Azerbaijan was amended and updated in February 2009 and the OSRP for Georgia was amended and updated in September 2009, as summarised in Section 5.3.

5.2 SPILL AND REMEDIATION SUMMARIES

BTC reports any material release that reaches the environment (i.e. is uncontained) or that is greater than 1 barrel, even though it maybe contained. Gas releases are always classified as uncontained. All material releases (liquids, gases or solids) are internally reported and investigated. There is no minimum reportable volume for internal release reporting and investigation. A summary of these releases is given in Table 5.1.

Table 5.1: BTC Material Releases in 2009

Asset	Liquid			Gas
	< 1 bbl	> 1 bbl		
	Uncontained	Contained	Uncontained	
BTC Azerbaijan	0	0	0	0
BTC Georgia	1	0	0	0
BTC Turkey	1	2	0	1

Further details on the material release shown in Table 5.1 are given in the following sections.

5.2.1 Azerbaijan

There was one third part diesel spill within ROW safety zone. A tractor operator (landowner) lost control on the steep descent of unauthorized road and the tractor rolled over on the central line of the pipeline. As a result of the rollover, approximately 20 l of diesel fuel were spilt within the pipeline safety zone. Contaminated soil was removed from the accident site and disposed of in accordance with the BTC Waste Management Plan.

There were also two minor spills recorded during the year at IPA1. Both of them were contained and therefore not discussed further in this report. None impacted the environment.

5.2.2 Georgia

There was one minor spill recorded at BTC Georgia in 2009. After a period of heavy rain hydrocarbon sheens and smell of diesel and a lubricant oil mixture were detected at several areas within and outside of the PSG 2 Camp. On investigation it was apparent that the heavy rain had raised the groundwater level and washed out hydrocarbons from an area contaminated during the construction phase. It is evident that this latest event occurred despite the measures applied at the time of the original contamination, such as repair of a generator bund and installation of several hydrocarbon collection sumps). Due to the fact that the ground contamination was historical the total amount of spill could not be estimated but was assumed to be less than a barrel.

The following actions were undertaken in response to the incident:

- Oil absorbent booms were located within and outside of the area of the camp to prevent further spread of contamination;
- The source of contamination was located;
- 16m^3 contaminated soils were removed and sent to a bioremediation cell located at Rustavi, Sanitary Base;
- A new drain channel, with natural separation ponds, was constructed outside and along of the camp fence with the view to intercepting any further oily water discharge.

5.2.3 Turkey

5.2.3.1 Contained

There were two contained spills recorded during the reporting period:

Estimated 1 bbl crude oil (PT1 – June 2009)

The spill occurred at PT1 and was caused by a leaking wax handling unit. Oily water was collected in a pit and pumped into the slops system and then re-injected into the pipeline.

Unknown size of spill – taken as > 1bbl (PT2 – June 2009)

The spill occurred when the site team drained the relief tanks during routine maintenance. The water passed through the oily water separator (OWS) and ended up in the primary withholding pond (PWHP) causing a significant colour change (to brown) at the pond.

5.2.3.2 Uncontained

There were two uncontained material releases in 2009:

Estimated 0.31 bbls crude oil (BVT 24 – August 2009)

The spill occurred due to a cavity drain pipe connection failure at BVT 24 HV. SESMeke team collected the contaminated soil, and the contaminated waste was transferred to central waste accumulation area of PT3.

Release of Gas (CMT – November 2009)

The release occurred when the Enclosed Ground Flare (EGF) system was down for approximately 12 hours on 16th of November, as a result of excessive vibration at blower roller bearing (Berth 1).

5.2.3.3 Illegal Taps

No illegal tap occurred in 2009.

5.2.3.4 Remediation

A bioremediation programme was developed by BIL for the contaminated soils originating from previous illegal taps. The programme is ongoing with monitoring activities.

BVT30

About 4,000 m^3 of contaminated soil was generated as a result of a fire that occurred in August 2008 at BVT30. The contaminated soil was temporarily stored in a lined and bunded area while a detailed review of disposal options was conducted. As a result of the review the contaminated soil was transported to the Izaydas landfill site. The transport activities commenced on the 10th of November 2009 and continued until 9 December 2009. Final site clearance and demobilisation was achieved by the 12th of December 2009.

5.3 SUMMARY OF MATERIAL MODIFICATIONS TO THE OSRPS

The OSRP for Azerbaijan was amended and updated in February and for Georgia, in September of 2009. Section 1.6 Response Planning Guidelines was modified and amended to reflect the changes made to response times under the new Oil Spill Response Tier 2 contract, which came into force in June 2009. As a result of some changes in the structure of the Tier 2 contractor's (Seacor) personnel, the Distribution list was also amended. Equipment list and contact details were updated and OSR (Tier 3 contractor) Notification and Mobilization forms were revised and modified.

The OSRP for Azerbaijan included the following changes: Section 1.2 was amended to include a section on DRA (Drag Reducing Agent); Section 1.6 Response Planning Guidelines was modified and amended to reflect the changes made to response times under the new Oil Spill Response Tier 2 contract; Section 1.7 Responsibilities for some members of the IMT (Incident Management Team) were amended to reflect the updated IMS (Incident Management System manual); Section 1.9 Public Relations was expanded; Section 2.2 was amended to reflect the changes in the updated IMS; Section 2.1.5 & 3.1 contact details were up-dated; Section 3.4 Scenario was expanded to include a DRA incident and some scenarios were amended to incorporate clean up & remediation strategies and Section 3.5 Forms were revised and modified to incorporate the changes to the OSR (Tier 3 contractor) Notification and Mobilization forms and minor changes were made throughout the OSRP to incorporate the name change of the Tier 3 contractor from OSRL to OSR.

6 ADDITIONALITY PROGRAMMING

The BTC Additionality Programmes are carried out through a series of regional and community-based projects. These projects are designed to conserve biodiversity, deliver local and long term benefits, and empower local communities to resolve issues for themselves. The Additionality Programmes were formalised into an Environmental Investment Programme (EIP) and a Community Investment Programme (CIP). CIP and EIP are jointly and equally funded by BTC and SCP in Azerbaijan and Georgia. In Turkey these programmes are 100% funded by BTC.

6.1 SUMMARY OF EIP

6.1.1 Azerbaijan

Since 2009 the Azerbaijan EIP no longer exists as a separate programme but rather within the frameworks of the Sustainable Development Initiative (SDI) and the Community Development Initiative (CDI), see Section 6.2.

6.1.2 Georgia

6.1.2.1 Construction Phase EIP Projects

The Ktsia-Tabatskuri Managed Reserve Management Plan project is jointly funded by both EIP funds and separate offset funds[8].

The initial goal of preparing a Management Plan was completed in 2009. The second goal involving capacity building and implementation is currently being conducted by IUCN.

6.1.2.2 Forest Eco-compensation Project

BP Georgia reached an agreement in principle with the government of Georgia on eco-compensations for the forestry loss which occurred during pipeline construction.

Following detailed analysis of options and extensive discussions with Ministry of Environment with the involvement of invited Austrian experts, it was agreed that BP would contribute $3.5 million towards an offset eco-compensational project, namely protection of the Sataplia State Reserve infrastructure development project. The relevant agreement between BP and MoE was signed in January 2010 (See Case Study 2).

6.1.2.3 Operations Phase EIP

The Eco-Awards Program is funded by BP on behalf of BTC and SCP. It rewards individuals and organizations involved in promoting awareness of the environment and its protection. The budget allocated for the program is $ 900,000 for three years (2008-2010). The first transfer of $300,000 was made in December 2008. The following discusses the various programs.

1. Organization: Wild Plant Conservation Association (WPCA)

Project title: *Ex-Situ* Conservation and Commercial Use of Some Economically Important Species of Wild Flora Protected by *CITES* Convention

Goal: To support conservation and commercial use of economically important species of wild flora protected by *CITES* convention.

[8] In addition to the Georgia EIP budget of US$3 million, an additional US$1.3 million was designated for Offset Programmes. To take advantage of synergies with EIP, offset money spent on Ktsia-Tabatskuri Managed Reserve is managed under the EIP.

Start/End dates: 25.03.2009 – 24.09.2010

Outcomes: Conducted field visits and collected seeds in Ajara. Seeds were sown in laboratories, greenhouses and in natural conditions outside.

2. Organization: Georgian Tourism Association (GTA)

Project title: Market-Oriented Sustainable Tourism Development in Protected Areas of Georgia

Goal: To facilitate market-oriented, participatory sustainable tourism for the Lagodekhi, Algeti and Kintrishi Protected Areas (PA) in Georgia.

Start/End dates: 23.03.2009 – 22.10.2009 (extended till January 15, 2010)

Outcomes:

Workshops: local products for sustainable tourism in Mtirala national park, Algeti national park, Vashlovani national park.

Video clips: of Kintrishi and Mtirala national parks, Vashlovani national park, Lagodekhi national park. http://www.tourism-association.ge; http://www.youtube.com/user/georgiantourism#p/u)

School camps: in Algeti national park, Vashlovani national park, Lagodekhi national park.

Construction in Algeti national park of picnic area, toilet facility, garbage container, marking of path with signs, road signs, explanatory boards and informational desk.

Printing materials: maps, brochures, photo- documentation, guesthouse booking system (webpage with details and photos).

3. Organization: Biological Farming Association Elkana

Project title: Reviving the Meskhetian Wheat *Tsiteli Doli* through an Effective Marketing Chain

Goal: To reduce the negative impact of agriculture on the environment in the Samtskhe-Javakheti Region and preserve local agricultural biodiversity by introducing the sustainable use of endemic species.

Start/End dates: 01.06.2009 – 04.02.2011

Outcomes: Organized a 'Farmers' Day' in Akhaltsikhe and completed selection of farmers to participate.

4. Organization: IUCN Programme Office for the Southern Caucasus

Project title: Facilitating Stakeholder Participation in Protected Areas of Georgia

Goal: Promote environment protection in Georgia through facilitating stakeholder participation in Protected Territories.

Start/End dates: 23.03.2009 – 23.11.2010

Outcomes: A strategic framework document was developed to help establish Protected Area Advisory Boards. Stakeholder analysis was carried out, a questionnaire developed and the first charter of Friends Association drafted.

5. Organization: Association for Environment Protection and Sustainable Development "MTA-BARI"

Project title: Support to the cultivation and sale of economically important species of Adjara wild flora in the buffer zone of Mtirala National Park

Goal: To support sustainable use of resources in the buffer zone of Mtirala National Park that envisages sustainable use of economically important and endangered indigenous species of flora and involvement of local population in the marketing development.

Start/End dates: 15.04.2009 – 14.08.2010

Outcomes: 22 families were selected to participate in this programme and a brochure developed containing information on cultivating and marketing economically important species in the region.

6.1.3 Turkey

All ten of the construction phase (EIP 1) projects have been completed, while eight operations phase (EIP 2) projects are ongoing as of the end 2009 (Table 6.1). The eight operations phase projects will continue in 2010 and are described below.

Table 6.1: EIP Turkey: Summary of Activities

	Project	Phase	Started	Completed	BTC Funds Spent US$
1	Sea Turtle Expedition	Construction (EIP 1)	01.08.2003	31.12.2005	175,000
2	Research on Monk Seals	Construction (EIP 1)	01.08.2003	31.12.2004	100,000
3	Improving the Conservation and Status of Caucasian Black Grouse in Turkey	Construction (EIP 1)	01.08.2003	31.12.2005	230,000
4	Important Bird Areas in the BTC Pipeline Region	Construction (EIP 1)	01.08.2003	31.12.2005	215,000
5	Important Plant Areas in the BTC	Construction (EIP 1)	01.08.2003	31.12.2005	260,000
6	Lesser Caucuses Forests Gap Analysis	Construction (EIP 1)	01.02.2004	31.04.2006	305,000
7	Small Investments Fund – Phase 1	Construction (EIP 1)	01.09.2004	30.04.2007	250,000
8	Awareness Raising Materials on Biodiversity Along the BTC Pipeline	Construction (EIP 1)	01.11.2004	30.10.2008	200,000
9	Yumurtalik Lagoons Wetland Management Plan and Erzurum Marshes Conservation Zones	Construction (EIP 1)	01.11.2004	31.12.2007	545,000
10	Participatory Eco-System-Based Planning and Management of Ardahan – Yalnizcam Forests	Construction (EIP 1)	01.06.2005	30.05.2008	1,110,000
11	Eksisu Wetlands Management Project – Phase 1	Operations (EIP 2)	01.12.2006	On-going	360,000
12	Biogas/Fertilizer Demonstration in Kahraman Maras – Phase 1	Operations (EIP 2)	01.12.2006	On-going	62,000
13	Conservation Priority Analysis for Central and South BTC Region – Phase 1	Operations (EIP 2)	01.12.2006	On-going	1,177,000
14	Grand Kackar Project	Operations (EIP 2)	01.12.2006	On-going	50,000
15	Marine Wildlife Rehabilitation Capacity Building	Operations (EIP 2)	01.06.2007	On-going	15,000
16	Small Investments Fund – Phase 2	Operations (EIP 2)	01.05.2007	On-going	420,000
17	Yumurtalik Wetlands Management – Implementation Phase 1	Operations (EIP 2)	01.12.2008	On-going	220,000
18	Conservation of Commercially Important Endangered Endemic Plants in Ardahan and Kahramanmaras	Operations (EIP 2)	01.12.2007	On-going	218,000
				TOTAL	**5,912,000***

* Two more commitments were about to be made by end of 2009 which total about $ 250,000

The original EIP strategy was focussed entirely on the issue of promoting biodiversity. Having met most of the objectives in this area, BTC is considering extending the EIP into other areas where further substantial national benefit would be obtained from capacity building. Three additional areas that have been identified:

- National environmental infrastructure (i.e. waste disposal and waste water facilities)
- Wildlife Response Capability enhancement in the event of an oil spill
- Regulator capacity support (awareness and experience)

6.1.3.1 Project Status

A summary of key EIP developments in 2009 are as follows:

- **Conservation of Endangered Plants along the BTC Pipeline Region (Phase I):**

A pilot garden was allocated and funded by the District Governorship of Cildir, Ardahan with the aim of propagating target species (10,000 plants were planted successfully). A partnership was established with the Cyclamen Society in UK in order to rehabilitate and maintain of the propagation gardens in Baskonus, Kahramanmaras.

- **Eastern Mediterranean Marine Wildlife Rehabilitation Centre:**

Although an extensive set of consultation activities were carried out and key stakeholders such as universities and the Ministry of Environment and Forest (MoEF) were willing to contribute, the full set of elements to ensure sustainability of the Centre was not secured and therefore the project remained in consultation phase in 2009.

- **Small Investments Fund (SIF-II):**

The Small Investment Fund (SIF) is a mini grant programme under EIP. Individual grant projects under SIF were completed in early 2009. Programme level monitoring and documentation was completed in order to assess the impacts of the small grants. Both evaluation and final reports of SIF-II were produced by project partners. Two grant projects were discontinued due to administration issues the grantees faced. The project portfolio included:

1. Development of Ecotourism in Kuyucuk Lake, in Akyaka-Kars
2. Production of Biogas and Biomass from Systematically Collected Cattle Manure, in Hemite-Osmaniye
3. Decreasing the Threats on the Fish Populations in the Rivers of Amanos Mountains, in Dortyol-Hatay
4. Development of Ecotourism in Yogunoluk Village, in Samandag-Hatay: (discontinued)
5. Sustainable and Effective Usage of Resources in the Production of Local Zerun, Kirik and Sigon Organic Wheat, in Pasinler-Erzurum
6. Using Wind Energy for Drinking Water of Kirmitli Municipality, in Kirmitli-Osmaniye: (discontinued)
7. Technical feasibility of use of Modern Fish Barriers in the Yelkoma Lagoons, in Yumurtalik-Adana
8. Bogatepe Village Sustainability and Life with Plants, in Bogatepe-Kars
9. Promoting the Yumurtalik Lagoons for Conservation, in Yumurtalik-Adana: To develop alternative income-generating activities and to establish necessary infrastructure for visitor management

- **Eksisu Marshes; for Nature and People (Phase I):**

A Draft Wetland Management Plan was prepared in conjunction with the Erzincan Provincial Directorate of MoEF, Erzincan University and project team. The Draft Plan was later presented to the Local Wetlands Commission. Suggestions were collected from all related stakeholders and incorporated into a revised Management Plan. This document will be sent to the National Wetlands Commission for review in 2010.

- **Conservation Investment Priority Analysis for the Central and Southern BTC Region:**

Priority sites and nature conservation priorities have been identified together with the suggested actions to achieve conservation at these sites. The project team has initiated a long-term consultation process with related state institutions in order to share these proposed actions and establish an implementation plan.

Transferring EIP data into the National Database (Noah's Ark) was completed except for information collected as part of the Important Plant Areas Project.

The project has also led the General Directorate of Forestry (GDF) to appoint a Chief Engineer of Biodiversity to coordinate all biodiversity studies and to conduct forest biodiversity inventories.

- **Implementation of the Yumurtalik Lagoons Management Plan (Phase II):**

Four projects, all of which are in accordance with the implementation of the Management Plan, were submitted to the Çukurova Development Agency. By June 2009 three of these projects were accepted by the Agency having met the necessary financial criteria.

Other achievements during 2009 included the opening of the Yumurtalik Lagoons Education and Information Centre and the implementation of the Pasture Rehabilitation and Rehabilitation of Yumurtalik Lagoons projects (at a cost of 500,000 TL and 70,000 TL respectively).

A multiple land use agreement involving agricultural and conservation interests in Yumurtalik was also agreed following extensive discussions between local stakeholders and state institutions.

Finally the Yumurtalik Lagoons Management Plan was judged to be the most successful wetland management plan implemented in Turkey during 2009.

- **Kaçkar Mountains Forest Conservation and Sustainable Rural Development Project:**

The project is a continuation of the Lesser Caucasus Forest Gap Analysis and aims to demonstrate ecologically sound community development. The project received a matching fund of $1,800,000 from the EU in late 2006. In 2009 project activities gained momentum with the completion of additional income activities research and non-timber forest products research. Consultation with several local organizations regarding beekeeping lead to a workshop involving approximately 150 local beekeepers and the development of a 2-year work plan.

6.1.4 EIP Expenditures, 2009

Table 6.2 shows the amount budgeted for the EIP and cumulative expenditure since the inception. Table 6.3 shows the breakdown of expenditures for 2009.

Table 6.2: EIP Budget and Expenditures ($), 2003-2009

	Azerbaijan	Georgia	Turkey[9]	TOTAL
EIP Budget	3,467,000	3,000,000	6,550,000	13,017,000
Total Spent to date (at end 2009)	1,697,298	2,672,948	6,490,000	10,860,246

Table 6.3: Summary of EIP (Operations Phase) Expenditures ($), 2009

	Azerbaijan	Georgia	Turkey	TOTAL
Planned	0	300,000	850,000	**1,150,000**
Actual	0	445,000[10]	800,000	1,245,000

6.1.5 EIP Budget, 2010

The EIP and CIP budgets in Azerbaijan were consolidated and became part of the overall social investment budget (refer Table 6.5).

Table 6.4 shows the breakdown of 2010 planned budget.

Table 6.4: EIP Budget ($), 2010

	Georgia	Turkey	TOTAL
Budget 2010	750,000	610,000	1,360,000

6.2 SUMMARY OF CIP[11]

The following table summarises the projects being performed across all three countries under the CIP (Table 6.5). This is followed by an outline of project activity in each country.

[9] Includes technical support to grantees on top of the grants awarded.
[10] Additional $145K to the initially planned $300K was added in 2009 for Ktsia-Tabatskuri Reserve Management implementation project
[11] In Azerbaijan term Community Investment Program (CIP) has changed to Community Development Initiative (CDI).

Table 6.5: BTC/SCP CIP and Other Investments - Visualising the Benefits (up to end 2009)

Investment Type	AZERBAIJAN	GEORGIA	TURKEY
Number of communities benefiting	150	77	326
Amount of money invested (US$)	$12.96 million[12]	$4.08 million	$18.7 million ($ 2.3 m was allocated for 2009)
Implementing Partners (IP)/ Number of local/national NGOs	5 IPs and 11 local NGOs	1 IP and 5 NGOs assisting	4 IPs (all national) and 66 local NGOs (association, Coop. farmer union) assisting
% Women in Community Action Groups	—	22%	Varies from 8% to 40% according to region. (All CIPs have separate projects targeting 100 % women)
Number of medical facilities improved	42	2	11
Number of education facilities improved	52 (in addition 14 schools have received computers)	5	133 schools upgraded (in addition 622 women/girls applied to open school programme)
Number of water supply systems improved	98 (potable and irrigation)	24 potable, 19 irrigation	123 potable water systems including 12 electrical motor pump system improved, 14 irrigation system improved
Km of road upgraded	274.42 km	10 km	Road improvements were not included in CIP Turkey (In 2009 only 4 km field road in Erzurum and 3 km pasture road in Ardahan). Construction Contractors upgraded the roads.
% Infrastructure project achieving >25% community contribution	—	100%	95% All infrastructure projects have cash or in-kind beneficiary's contribution. 29 projects finished in 2009 and 382 from beginnings.
Number of medical staff trained	497	0	401
Number of people receiving direct medical support	183,970	0	34,840 people received general health trainings (also over 13,000 people received Reproductive Health training from an EU funded project implemented by a CIP IP in Ardahan)
Number of micro loans issued	423,844[13]	4,138	(Except Geben association micro-loans were cancelled and funds are used for collective income generation activities in agro-businesses by cooperatives 30 micro credit used at Geben in 2009)
% Repayment rate for micro-loans	93%	100%	100% for Geben Association in Maras
Average value of micro-loan (US$)	861[14]	1,680	400 for Geben in Maras
% Women receiving micro-loans	26%	45%	12% for Geben in Maras
Number of demonstration farms / agricultural trainers	53 demonstration field plots and 50 agricultural trainers	100 demonstration farms / 11 trainers	1585 demonstration farms were established in villages along the BTC route (365 agricultural trainers)
Number of farmers trained	4,428 farmers, additionally 60 youth participated in youth business plan and marketing training	3,379	Over 129,000 (also 800 beekeepers)
Number of livestock vaccinated	—	828	Reportedly over 790,000 livestock vaccinated
Weight of high quality seed provided	22.1 tonnes	15.4 tonnes	Over 1200 tones (also over 63,000 fruits saplings provided)
Number of co-operatives established	1 Dev. Resource Centre in Yevlakh 4 Agricultural Service Centres 8 Water Purification LLC's	25 co-operatives (15 producer and 10 service groups are created)	70 village based organisations established (Coops, Associations and informal CBOs). CIP IPs working together with 126 CBO s for capacity building programme.

[12] Amount invested: untill 31st 2006 – accruals plus amount disbursed, from 1st January 2007 – only amount disbursed.
[13] All the data re micro-loans includes the data from micro finance projects of Sustainable Development Initiative.
[14] Average value of micro-loan for year 2009 is $USD 865.

6.2.1 Azerbaijan

The following activities of note took place in 2009:

- The *Water Purification Programme Phase II* continued. This programme, which started at the beginning of 2007 and is being implemented by Umid NGO, targets communities along the BTC/SCP route that lack potable water.
- The *Youth Employment and Economic Opportunities Expansion Initiative* helps youths living along the Baku section of the pipeline corridor through apprenticeship courses and grants for business start-ups.
- The British Council began the *Interactive Science Project* to support student-centred, interactive approaches to teaching and learning science subjects (biology, chemistry and physics).
- In June 2009 Junior Achievement Azerbaijan began to implement the *Community Economics and Business Education Program – Phase II*.
- In November 2009 the *Economic Development of the Garadaghly Community by the Strengthening of the Agricultural Sector* project began. This project is being implemented by the Ganja Agribusiness Association (GABA) and provides sustainable income development for people involved in the agriculture sector.
- In June 2009 the programme of *Economic Development of the Khatinli Community by the Strengthening of the Agriculture Sector* began. This project is also being implemented by GABA and has been designed to support Khatinli community efforts to enhance their economic development through strengthening agricultural capacity.
- In August 2008 Gaba began the programme of *Enhancement of the Capacity and Potential for Sustainable Development of the Eyvazlilar Human Development and Sustainable Income Generation Public Union (EHDU).* The programme's goal is to improve the quality of life and increase opportunities for sustainable livelihoods in the target areas.
- In October 2009 *Expansion of Economic Opportunities and Community Skills Development Program* began by Umid. The goal of the project is to create better environment for entrepreneurs to build sustainable businesses and to support unemployed youth in finding employment opportunities.
- In January 2009 Umid also began the programme of *Management of Community Micro-projects*. The program aims at equipping 39 communities from Agsu to Agstafa with the skills and resources needed to initiate positive sustainable change and socio-economic development.
- In August 2009 Local Governance Assistance (LGA) Public Union began the programme of *Improving of Agstafa ASC and Surrounding Communities*. The goal of the program is to increase the productivity of 16 communities along BTC/SCP pipeline in Agstafa region and increase income of agriculture producers and target communities.

6.2.2 Georgia

The Operations Phase of the CIP (CIP II) was launched in August 2006 and is due to be completed in January 2010. Its main goal is to enhance positive relations between BP and communities along the BTC/SCP pipeline route through sustainable socio-economic development. Initially, a project implementation contract was signed with CARE International with the following project themes:

- Community mobilisation;
- Infrastructure rehabilitation;

- Economic and agricultural development, support for business start up and provision of micro credit;
- Education and youth empowerment.

CARE International has been working with a consortium of 5 national NGOs to support communities implement and sustain self–help projects, thereby improving the livelihoods and opportunities for pipeline-affected communities through a partnership relationship with BP.

Key achievements of the project in 2009 were as follows:

- 17 rehabilitation projects were implemented: 35% were potable water system rehabilitation projects and 47% irrigation system rehabilitation. These allowed over 1,756 households to irrigate over 1,275 ha of land plots and orchards. Planting of potato seeds and different kind of vegetables increased from 15% to 50%. Most of the villages enjoyed bigger harvests (average increase 30%) compared with previous years.
- All grantee agricultural producer and service groups are functioning. More than 1,402 vaccinations were provided to cattle owned by 523 households. 137 Ha of land were tilled and 15 ha of land were cultivated with machinery received by the service groups.
- All young women start-up businesses that have received support from the programme are operational. The third round of the entrepreneurs grant competition project selected 58 ladies for future funding. In total 89 grants were disbursed to start new businesses.
- Rehabilitation projects were implemented in five target schools. The project continued supporting Ministry of Education reform via strengthening the capacity of the Board of Trustees at schools.

In March 2008 CIP, BTC and SCP started the “Farmers to Market” project, which is due to finish in August 2010. The main themes are:

- To give farmers increased access to agricultural product buyers via establishing 4-6 Consolidation Centres.
- To give farmers increased skills, knowledge and tools for improved marketing of their products.

As a result of the project, two agricultural Consolidation Centres (CC) for honey processing and packaging and milk processing were established, resulting in the following outputs:

- 350 kg packed honey;
- 4,266 kg cheese;
- 118,106 litres of milk collected from 188 farmers;
- About 70 tons of other products.

6.2.3 Turkey

2009 was the 3rd year of Phase II CIP implementation in Turkey. During this time CIP Implementing Partners (IPs) have focused on developing sustainable income generating activities through capacity building of community-based organizations (such as cooperatives, village development associations and unions), so that these can continue to operate and prosper after the exit of the IPs from the regions at the end 2011.

Active projects and key achievements in 2009 were as follow:

Ardahan Sustainable Rural Development Project *implemented by IBC in 37 villages:*

- 79 women trained on beekeeping and started honey production.
- Two village Cooperatives supported to establish milk collection centre. They collected over 750 tons of milk in 2009.
- 20 greenhouses established by project supports harvested nearly eight tons of vegetables in 2009;

Kars Sustainable Rural Development Project *implemented by SURKAL in 20 villages:*

- Farmers trained in all project villages together with Kars Cattle Breeders Union in all BTC affected villages; animals vaccinated and inseminated
- 25 female and 35 male intermediaries (local villagers) trained on ex-paraziter disinfection, measuring the body temperature, conducting injection and conduction mastitis test.

Erzurum Sustainable Rural Development Project *implemented by Atatürk University in 27 villages:*

- 11 projects prepared by 22 producers from 11 project villages submitted to and accepted by the Ministry of Agriculture Support for Rural Development Projects Investment Programme 1.000.000 USD of external funds generated by these projects.

Erzincan Sustainable Rural Development Project *implemented by PAR Consulting in 12 villages:*

- Şahverdi Village Agricultural Development Cooperative (ADC) supported strawberry producers; 18.330 kg of strawberries was harvested in 2009. Şahverdi ADC was also awarded an aid from Refahiye SPA to establish a 25 da strawberry garden in addition to the current gardens (10 da).

Sivas Sustainable Rural Development Project *implemented by SURKAL in 22 villages:*

- 50 producers from 3 villages were supported in organic production of cereals in 10.000 da of area.
- Ulaş Development Association in Sivas carried out activities for disseminating organic farming with the support of CIP. 4 tons of organic products have been cultivated in 2009.
- 136 producers from 22 project villages have done greenhouse farming in total 9.130 m² in 2009.

Kayseri Sustainable Rural development Project *implemented by PAR Consulting in 26 villages:*

- Hanımeli Women Cooperative's pastry production in Kayseri increased by 50% compared to previous year. 11 local women employed by the cooperative.

Kahraman Maraş Sustainable Rural development Project *implemented by IBC in 24 villages:*

- Geben Development Association (close to IPT1) started to provide agricultural machineries to the farmers in the region.

Adana-Osmaniye Sustainable Rural Development Project *implemented by PAR Consulting in 21 villages*

- In Adana and Osmaniye Sustainable Rural Development Project (SRDP), land reclamation in Cukurova plain (which is one of the main agricultural fields of Turkey) was one of the most significant activities in 2009. Sulphur application was done on a total land of 9.800 decares (da) in the project area although 3.000 da were targeted for 2009.

6.2.3.1 Summary of the Regional Development Initiative (RDI) Programme

2009 was the 3rd year of implementation of RDI programme in Turkey. Two projects were active in 2009:

- ***Organic Honey Production Project*** financed by IFC and BTC Co. and implemented by Temari in Northeast part of Turkey. This project was successfully completed. Temari still continues project activities through its own funds in Ardahan province which indicated the sustainability of the project.
- ***Supporting Sustainable Livelihoods for Yumurtalık and Gölovası Fishermen Project***: This project also concluded in 2009 and resulted in the development of an artificial reef in Yumurtalık Bay, building a scaffold winch for the maintenance of boats and establishment of a fish storing and selling facility. The project also supported alternative income generating activities such as olive cultivation (involving 20 fishermen families), pension improvement support for 3 fishermen families, welding courses for 20 fishermen sons, and hair dressing courses for female members of community. Support for fishermen communities will continue in 2010 and 2011.

Budget details for each of these projects are presented in Table 6.6

Table 6.6: Completed RDI Projects

Project	Partners	BTC Grant (US$)	Partner Contribution (US$)	Total project Funds (US$)
Temari Organic Honey production	IFC	180,000	90,000	270,000
Supporting Sustainable Livelihoods for Yumurtalık Fishermen project	PAR	350,000	267,000	617,000
Total		**530,000**	**357,000**	**887,000**

Current projects which are being implemented together with the Government and, other development institutions are summarised in Table 6.7 below.

Table 6.7: Ongoing RDI Projects

Project	Partners	BTC Grant (US$)	Partner Contribution (US$)	Total project Funds (US$)
Supporting the SMEs to bank credits on BTC Pipeline Route	Credit Guarantee Fund (CGF) TC. Ziraat Bankası	2,000,000	2,000,000	4,000,000 (x5 leverage from Banks = $ 20 m USD)
Towards an Industrial Symbiosis Programme in Iskenderun Bay Area – Phase I	United Nations Development Programme (UNDP) Turkey	106,500	67,500	174,000

Project	Partners	BTC Grant (US$)	Partner Contribution (US$)	Total project Funds (US$)
Employment and Enterprise Development Based on Inter-sectoral Cooperation in Çukurova Region – Phase II	National Employment Agency (ISKUR) and National SME Development Agency (KOSGEB)	1,370,000	2,032,000 1,180,440	4,582,440
Technical Assistance for Management of the Antakya Landfill Facility in line with International Standards	Municipality of Antakya & İSTAÇ	360,000	197,306	557,306
TOTAL		**3,836,500**	**5,477,246**	**9,313,746**

The following projects are in the planning phase:

Table 6.8: Planned Projects

Project	Partners	BTC Grant (US$)	Partner Contribution (US$)	Total Project Funds (US$)
CEYDEM (Ceyhan Fire and Natural Disaster Training Center)	Çukurova Regional Develop-ment Agency, Çukurova University, Rescue and Research Foundation (AKUT)	400,000	500,000	900,000
Industrial Symbiosis – Phase II	UNDP and other donor organisations (tbd)	tbd	tbd	tbd

6.2.4 CIP Expenditures 2009

CIP expenditures for the total Operations phase and for the year 2009 are summarized in Tables 6.9 and 6.10.

In Georgia CIP II expenditures for 2009 included expenditures associated with the CIP II 3rd year contract, which was completed in July 2009, but was extended until the end of 2009.

Table 6.9: Operations Phase CIP II Budget and Expenditures ($), 2006-2009 (BTC/SCP only)

	Azerbaijan	Georgia	Turkey	TOTAL
CIP II Budget	8,165,097	4,472,214[15]	9,650,000	22,287,311
Total Spend up to the end 2009	7,130,524	4,084,477	9,650,000	20,865,001

Table 6.10: Summary of BTC/SCP CIP II Expenditures ($), 2009

	Azerbaijan	Georgia	Turkey	TOTAL
Planned	1,282,500	1,111,596	2,400,000	4,794,096
Actual 2009	923,363[16]	1,061,443	2,400,000	4,384,806

[15] CIP II 1st year contract value was $1,470,000;CIP II 2nd and 3rd year contract value is $2,390,000. 6 months extension value is $92,214. the project "Farmers to Market" contract value is $520,000.
[16] Actual commitment based sum.

6.3 CIP BUDGET, 2010

The BTC CIP II budget for 2010 is presented in Table 6.11 below.

Table 6.11: BTC CIP II Budget ($), 2010

	Azerbaijan	Georgia	Turkey	TOTAL
Budget 2010	855,000[17]	387,737	2,900,000[18]	4,142,737

7 E&S MONITORING PROGRAMME

7.1 INTERNAL MONITORING

Internal monitoring takes place as necessary on a daily basis or through theme audits and reviews. In some cases the review might result in actions and recommendations for implementation.

Non-compliances are only raised by BTC or BIL in certain circumstances, generally for persistent issues that need management attention. If the matter can be rectified in a timely manner through local site intervention, a non-compliance is not generally raised. The status of all internal non-compliances raised is given in the relevant country sections in this Chapter.

BTC has also developed a set of tools to assist in the management of E&S issues including detailed monthly reports and quarterly performance reviews.

Detailed summary of internal ESMS monitoring commitments completed during the year is provided in Section 4.2 and monitoring results in Appendix 2.

7.2 EXTERNAL MONITORING

7.2.1 Host Government Monitoring

7.2.1.1 Azerbaijan

In April, 2009 a letter complaint was received by MENR from a Chohranli village resident of Kurdamir Region. The basis of the complaint was that, after completion of pipeline reinstatement works, the soil surface had not been levelled adequately and this inhibited sowing activities. BP met with representative of MENR, provided detailed documentation and relevant information regarding the complaint, arranged a visit to the area and conducted a thoroughly investigation. A Joint site visit involving BTC and MENR concluded that the complaint was not grounded.

As a condition of MENR approval for the Small Scale Erosion Control Works at River Crossings on the BTC/SCP and WREP ROWs. A MENR representative conducted an inspection in July.

7.2.1.2 Georgia

BP coordinated bi-weekly meetings with Georgian Oil and Gas Corporation (GOGC) and the Ministry of Environment. Other meetings were held with the Georgian Prime Minister and the Ministers of Energy, Economic Development, Interior, as well as governmental bodies.

[17] Consolidated social investment budget for Az EIP & CIP.
[18] Consolidated social investment budget for Tu CIP & RDI

7.2.1.3 Turkey

Employment Standards Audit by Ministry of Labor and Social Security:

The Ministry of Labor and Social Security audited BIL activities at all Pump Stations (PT1-PT2-PT3-PT4), IPT1 and CMT for 20 days between May and June 2009. In total, 1,296 personnel employed at the facilities were reviewed during the audit (471 by BIL and 825 by sub-contractors/service providers). Their social security insurance was also verified by the Ministry Inspectors (see also Section 11).

MoEF Audit of Antakya Landfill Facility:

BTC Co. developed a project with İSTAÇ A.Ş. (the company manages Istanbul Municipality's waste) to upgrade the Antakya Landfill facility so that it could meet EU standards. Once this was achieved the plan was for BIL to send their domestic waste to Antakya (which is very close to CMT and IPT1) rather than to the distant Izaydaş facility (close to Istanbul).

After the upgrade was completed MoEF representatives were invited to audit the facility prior to providing the license as per Turkish regulations. Two main outstanding items were identified by MoEF which delayed the permitting process;

- Part of the facility was not fenced
- The access road in the facility was not suitable for the operation

The Municipality is expected to rectify these matters in 2010, following which BTC Co. will commence the permitting process.

In addition to above, representatives from Provincial Directorates of MoEF and State Hydraulic Works (DSI) Turkish regulatory authorities visited BVT30 and CMT in 2009. The main purpose of the visits was to seek information on the final status of MARPOL facility at CMT and BVT30 monitoring activities in Erzincan.

7.2.2 NGO Monitoring

7.2.2.1 Azerbaijan

No NGOs monitoring took place in 2009.

7.2.2.2 Georgia

Due to lack of interest from NGOs towards BP/BTC operations in the country, formal NGO monitoring of BP/BTC activities in the country has stopped. Informal activities and engagement continued however to keep the NGOs and general public informed about BP's operations. In June 2009 BP took part in the forum organized by the UN Global Compact Georgia network and used this opportunity to present its sustainability report and provide an update on ongoing company activities.

More information is provided in Section 8.3.2.

7.2.2.3 Turkey

In Turkey a facilitating/capacity building organisation is not being used as in Azerbaijan and Georgia. As many national NGOs are already involved in the Project their experience is generally greater so there was a lack of demand for a facilitated scheme. Notwithstanding this, BTC Co. and BIL continued to engage both national and regional stakeholders to discuss specific issues on an as needed basis.

7.3 TRAINING

7.3.1 Azerbaijan

Training for BTC Operations continued to be delivered to both BP and contractor staff through a variety of media including formal classroom trainings, tool-box talks, roll-out of respective environmental procedures, aspects and impacts, objectives and targets, etc. on the base of developed Environmental Training matrix. Training was provided on key operational environmental issues such as waste management, emissions management and HSSE Policy. In addition training on specific topics such as cultural heritage and faunal protection was given to ROW personnel. The environmental element in HSE induction has been updated in order to fulfill awareness of all new staff arriving at BTC facilities.

7.3.2 Georgia

Training for BTC Operations in 2009 focused on ESMS and ISO 14001awareness. Other key issues included site personnel training on the following topics: a) AGI and ROW environmental aspects and impacts management, b) pollution prevention and housekeeping and c) waste management procedure specific trainings.

Training was delivered mostly at sites through formal classroom training as well as toolbox talks.

7.3.3 Turkey

In Turkey, BIL continued to provide environmental and social training to operations and maintenance teams, subcontractors, etc. Training topics were wide in scope and have been tailored to the departmental teams according to their roles.

Site specific and role specific environmental training was provided on the following topics:

- Waste management (segregation, collection and storage)
- Management of vegetable oil wastes
- Role specific training to drivers
- MSDS awareness
- Chemical handling and storage
- Oil spill response training (by ER management)

A two phase hydrogeology training for oil spills was also held by BTC Co. which involved BIL HSE Engineers and BTC Co.'s and BIL's Environmental and ER teams.

Further, in 2009, ISO 14001 lead auditor and OHSAS 18001 trainings were provided for BIL Environmental team.

BIL PCREs provided training to all new employees of BIL and contractors as part of the orientation programme (in total 226 employees were trained in 2009). These training programmes covered the following topics:

- Community Relations (Organization & Responsibilities)
- Complaints & Compensations
- Employment
- Procurement
- Safety (Traffic & Pipeline Safety)
- Land Use / Restrictions

- Code of Conduct
- Audits (Internal and External)
- Responding to Media
- Community Investment Programmes
- Refreshment of PCR Training
- Communication Skills

In 2009, all BIL PCRE team members and BTC Co. CSR team members received SA 8000 Internal Audit training.

8 PROJECT COMMUNICATION

8.1 CONSULTATION APPROACH

Consultation and communication with various Project stakeholders, from communities to Government organisations, was ongoing during 2009 with the key objective being to avoid situations that could lead to complaints. Where complaints do arise, as is inevitable for a project of this size and complexity, effort is made to ensure they are resolved promptly. Information on complaints raised by project affected communities is detailed below.

Across the Project significant efforts were also made to engage other Project stakeholders, government ministries and the local and national media. Information on meetings held with key stakeholders in 2009 is provided below.

8.2 AZERBAIJAN

8.2.1 Project Affected Communities

There were a number of community relations initiatives launched by the Operation's social team in response to various requests from Project Affected Communities.

Due to the request for additional information from state administrations and community members the Operations Social team has doubled the subjects covered at its community consultation meetings. The subjects now covered include:

Grass fires; Illegal crossings, land use rules and restrictions; waste management along the pipeline route; pipelines integrity; weight restrictions applied to the agricultural equipment used within the pipelines corridor, conditions of operations for irrigation canals, allotment of pipeline-affected lands to new land users, and work plans of government agencies and enterprises within the ROW.

8.2.1.1 Interim Routine Right of Way Access Strategy

A key part of the Access Strategy was to acquire a 6m wide access track within the ROW corridor. This process necessarily involved extensive consultation, in accordance with RAP principles, which was independently monitored by the NGO Center for Legal and Economic Education (CLEE).

8.2.1.2 Complaints

In 2009, the Operations Social team received eight complaints from land owners and users within the pipeline ROW in Azerbaijan – 30% less than in 2008 (Table 8.1). By the end of 2009, all outstanding complaints had been resolved.

Also, during 2009 Social Team closed six complaints that were outstanding from the previous years. The majority of these related to compensation.

Table 8.1: Summary of Complaints received by BTC/SCP, 2009 (Azerbaijan)

Complaint Category	Complaints received	Complaints open at end of 2009
Reinstatement	1	0
Compensation	5	0
Parcel ownership and size	1	0
Land use	1	0
TOTAL	8	0

8.2.2 NGOs and Technical Organisations

Regular meetings were held by Community Liaison Officers and the Sustainable Development Initiatives Team with a range of national (Umid, Madad, GABA, LGA) and international (Junior Achievement Azerbaijan, Save the Children, FINCA) Implementing Partners to discuss progress of Community Development Initiatives.

8.2.3 Government

Communications with Government during 2009 are discussed in Section 7.2.1.1.

8.3 GEORGIA

8.3.1 Project Affected Communities

The BTC Social team continues to work and communicate with local communities on a regular basis. CLOs maintain constructive relationships with communities in districts crossed by the pipelines and the Company continues to inform communities on land use restrictions, safety issues, how they can lodge a complaint, etc. Communications with district governors continues.

A summary of the main activities conducted in 2009 is as follows:

- The Social team continued working with Contractors both at management and field level to ensure understanding and compliance with social commitments.
- Social Awareness Training was conducted at all sites for key Operations staff and contractors. 80% of all Company staff was covered. Social Awareness Training for security guards was conducted jointly with the Voluntary Principles training and 161 guards were trained;
- In order to increase community engagement and reinforce key message BTC Co. developed the Community Calendar for 2010. The calendar also contains information on energy efficiency which serves to increase community awareness in this area.
- In March a contractor conducted a quantitative survey of AGI affected households as part of the RAP completion process. In addition in September an SRAP Panel member and an IFC representative conducted a 10-day qualitative field survey that involved interviews with landowners, community members, complainants, village heads, district officials, NGOs and BTC Co. management. The overall conclusion was that livelihoods had been substantially restored or enhanced with the exception of some pockets within the intensively cropped agricultural land.
- During 2009 all BTC community village profiles were updated and uploaded into a new community database system. This is now linked to the complaints log, thereby allowing community issues to be better managed.

8.3.1.1 Complaints

The Company continued effective management of the 3rd Party Complaints Procedure. Communities are aware of how they can raise grievances and CLOs helped them to lodge complaints when necessary. During 2009 year 45 complaints were received of which 42 have been closed. Table 8.2 gives breakdown of complaints categories. There remain two outstanding complaints from 2007 for which BTC has resolution plans in place.

Table 8.2: 2009 Complaints Log Statistics (as of December 2009)

Complaint category	Total number received to date	Number of complaints resolved	Total % of complaints resolved	Number of complaints pending
Additional Land	1	1	100%	0
Land Handback/Reinstatement	4	4	100%	0
Orphan Land	0	0	100%	0
Other Land Issues	7	6	86%	1
Access Restricted/Abolished	7	7	100%	0
Inventory/compensation disagreed	9	9	100%	0
Parcel Ownership or Size	0	0	100%	0
CBO Compensation	0	0	100%	0
Community Infrastructure	4	3	75%	1
Household Infrastructure	4	3	100%	1
Bee-Related	1	1	100%	0
Irrigation	2	2	100%	0
Cracked house	1	1	100%	0
Employment	3	3	100%	0
Other Social Issues	1	1	100%	0
Miscellaneous	1	1	100%	0
TOTAL	**45**	**42**	**93%**	**3**

8.3.2 National NGOs and Technical Organisations

In 2009 BP/BTC continued to engage with national NGOs through a range of different initiatives. These initiatives are: a) Environmental Investment Program b) Community Investment Program C) Different cultural heritage initiatives.

BP/BTC also actively participates in the different conferences and forums organized by the UN Global Compact Georgia Network. This creates an excellent networking opportunity with different stakeholders – NGOs, businesses, other national and international organizations.

8.3.3 Government Ministries and Departments

Close contacts were maintained with GOGC, including by-weekly meetings with MoE involvement. Relationships continued with various ministries and departments: Ministry of Economic Development, Ministry of Environment, Ministry of Energy, Ministry of Justice, Ministry of Infrastructure and others. There were positive outcomes for a number of important issues including eco-compensation for forest affection during construction, land category change for BTC SCS, regulatory clearance for the initial stage of WREP SR Project and numerous GoG sponsored 3rd party works in ROW.

8.3.4 Media

During 2009 various media activities took place in Georgia including:

- A round table arranged for the local media in order to discuss and disseminate the company's Sustainability Report
- A press release was issued and interviews recorded during the Award Ceremony of Eco- Awards Program involving BP management, government, scientists, local NGOs and media.
- A media trip was arranged to communicate the results of the CIP
- A press release was issued regarding a special performance staged under the cultural exchange program between Rustaveli Theatre and UK National Theatre. This was sponsored by BP and HSBC in partnership with the British Council.
- A press release was issued and interviews recoded with BP's General Manager during the Project Management College launch event attended by Georgian government, international organizations, businesses and media.
- A press release issued and interviews recorded with BP's General Manager for the Energy Efficiency Program – Energy Bus project launch attended by Georgian government, international communities, businesses, NGOs and media.

8.3.5 Donor Organisations

BP/BTC continued to meet with various development organizations in Georgia including: UNDP, USAID, World Bank, IFC, Millennium Challenge Commission Georgia and several national and international NGOs.

BP/BTC and its co-venturers, in collaboration with number of international organizations, continue to implement a number of projects in Georgia, including: Georgia Enabling Business Environment Project (IFC); Corporate Governance Project (IFC), Technical Assistance and Landing Support to Constanta Foundation (EBRD), Energy Efficiency Project (USAID, EBRD, OSCE, EBRD), Georgia Food Safety Project (IFC); English Language Program for Media (OSGF/British Council).

Regular talks with donor organizations and participation in different coordination meetings continue with the aim of defining potential areas for future engagement.

8.4 TURKEY

8.4.1 Consultation

8.4.1.1 BIL

The main highlights of consultation activities conducted in 2009 are as follows;

- The RAP completion audit was conducted to asses whether the project affected peoples' living standards and income levels have been fully restored.
- 52 villages along the pipeline route and 8 villages around AGIs in 10 provinces along the route, were surveyed, resulting in interviews with 838 people.
- Several landowners/users from 20 villages, local authorities, Chamber of Agriculture, cooperative heads and village leaders were interviewed by the SRAP Panel during a survey conducted in June 2009. Initial results indicated that there were no significant issues other than some outstanding reinstatement complaints that were still being resolved by BTC Co. Over 60% of the surveyed people found CIP activities beneficial and stated that project activities such as income generation and animal husbandry had a positive impact on their income.

The final report is awaited from the SRAP Panel.

Other consultation activities performed during 2009 are as follows:

- The BTC Co. Social Team continued to work very closely with the Project and Environment teams to close out the reinstatement complaints along the BTC route. All residual complaints from Ardahan to Kahramanmaraş provinces were actioned by end 2009. Complaint close out forms were signed by each landowner/user at the end of reinstatement activities.
- In order to monitor the employment standards in BTC Operations, BTC Co. engaged the Ministry of Labour to conduct an audit at all locations along the route. The audit took 2 months of site work including CMT, all PTs and IPT1. No major non-compliance with the Turkish Employment Law was found.
- Introductory meetings were held with all affected village leaders (Muhtars) along the pipeline route, who were elected during the local elections on 29th March 2009. BIL PCREs introduced themselves and left their contact details. Information provided to all Muhtars with regard to the project including land use restrictions, and venues for lodging complaints. Villagers also attended these meetings.

8.4.1.2 Community Meetings

In total 529 community meetings were organized by PCREs during 2009. This figure does not include consultation meetings with affected villagers conducted by BTC Co. and by its implementing partners for CIP and RDI related issues. A breakdown of meetings held by BIL in 2009 is shown in Table 8.3.

Community pamphlets which provide information on land use restrictions, emergency response, security, venue for grievance log, etc. were distributed to all villages and other local stakeholders such as sub-governors, mayors and state officers by PCREs during these meetings.

In addition BTC Co. financed the establishment of Village Information Boards in 300 villages along the pipeline in 2008 where posters on land use restrictions, emergency phone numbers, PCRE contact details and CIP related information are displayed. In 2009 information on these permanent village information boards was updated and some were renovated.

Table 8.3: BIL Community Meetings, 2009

BIL Community Meetings	No. of Village Meetings	Stakeholder Meetings
Introductory Meetings	26	4
Community Awareness and Consultation Meeting	127	19
Regular Meetings (follow-up to introductory meetings)	157	38
ER/Oil Spill Drill Notifications	8	3
Land-use Restriction Notification meetings*	22	-
Women Meetings	7	-
Third-party Crossings*	39	2
SRAP Audit	9	-
Illegal Tap Consultation Meetings/ROW Security**	-	18
Other (holiday courtesy visits; response to particular issues, etc.) Evaluation Meeting with BTC Co.	11	39
1.2 Expansion works consultation meeting	-	-
TOTAL	**406**	**123**

* The scope of introductory and regular follow-up meetings includes land-use restrictions and third-party crossings. These subject specific meetings were held in most cases to re-emphasise these issues where considered necessary.

** As there were no illegal taps in 2009 no consultation meeting on this issue was held. Security forces and relevant authorities were consulted on this subject.

8.4.1.3 Regional Stakeholders Meetings

BIL stakeholder communication included consultation meetings with the local gendarme, provincial governors, district sub-governors, mayors, government utility providers, and other relevant government departments. The purpose of these meetings was to introduce BIL and discuss restrictions regarding land-use, third-party crossings and emergency response issues. Throughout the year the PCR department of BIL continued to host official visitors at CMT including country representatives, government officials, media and NGO representatives.

8.4.2 Complaints Management

During this reporting period 89 complaints were received, as shown on Table 8.4.

As reported in last year's report, BTC Co. and BIL visited all villages and interviewed with landowners/users to ensure any remaining issues from construction or post construction phase are identified and resolved. All of the recorded reinstatement related complaints in Lot A and Lot B (in total 223) were resolved in 2009 by a contractor under direct management of BTC Co. with the support of BIL PCREs. Complaint close out forms were signed by each landowners in line with the Grievance Procedure. The tendering process is ongoing to reinstate the problematic areas in Lot C in 2010.

In 2009 most of the newly registered complaints were related to land repair and compensation for damages associated with construction works, the BVT30 incident and payment to service providers for operation. With 304 remaining complaints from 2008, and 89 new complaints logged in 2009 total complaint number for 2009 is 393. However 164 of them were found to either be unfounded by external reinstatement experts and/or already registered as a complaint.

Therefore the number of open complaints at the end of 2009 was 229, of which 42 are about to be concluded. Complaint close out forms will be signed in 2010.

The second highest number of operational complaints received in 2009 was related to compensation payments for the construction camp sites. BTC Co. and BIL have initiated a joint study to evaluate permanent land acquisition needs for camp sites in 2010. This is expected to help to resolve the camp payments issue.

Table 8.4: Total Number and Category of Operation Complaints received, 2009

Subject	2008	2009
Employment	7	0
Reinstatement*	390	58
Access to land and other resources	2	0
Damage to property, crops and land	20	4
Damage to infrastructure and community assets**	77	7
Dust & Noise	0	1
Payment/Payment to service provider	22	14
Local Procurement	1	0
Outstanding expropriation payments	17	2
Misconduct of BIL employees	0	0
CIP – perceived inequity in distribution of support	5	1
Decrease or loss of livelihood	3	1
Other (3rd party crossing – Use of local resources)	2	1
TOTAL	**546 (residual open 304 by end 2008)**	**89**

* Includes reinstatement, biorestoration, border, grading, riprap, soil, transportation, stone complaints

** Includes damage to channels, irrigation channels, drinking water, drainage, water source, road, bridge

Table 8.5: The category of remaining open complaints for 2010 (# 229)

Subject	2010	Action Plan
Reinstatement	54	In the scope of 2010 reinstatement plan. Tendering process is ongoing.
Border issues	33	In the scope of BIL PCRE's action plan for 2010.
Geohazard	11	In Geohazard team scope for 2010.
Damage to tree	4	These are the trees planted as part of offset mitigation however landowners want to remove them now.
Biorestoration	2	In the scope of 2010 reinstatement plan. Tendering process is ongoing.
Operational issues; ROW maintenance related reinstatement, compensation issues, etc.	83	In the scope of BIL ROW monitoring and maintenance team for 2010.
Second crop payments	19	Not legitimate but close out forms to be signed.
Complaints waiting for close out forms	23	Action taken but close out forms not signed yet.
TOTAL	**229**	

8.4.3 BTC

8.4.3.1 Consultation Activities with Government, NGOs and Other Donor Institutions

BTC Co. also undertook various stakeholder meetings as part of its assurance role in Turkey. The majority of the meetings were related to investment programmes (EIP, CIP and RDI), however some social and environmental issues associated with reinstatement activities in Lot A and Lot B were also covered.

BTC Co. held several meetings with stakeholders for investment projects including local, regional and national government representatives, development/donor organisations such as UNDP, national and international NGOs, universities and private businesses. The objectives of the investment stakeholder meetings were to raise awareness and support for the investment activities, promote cross-learning across villages and municipalities, understand government and NGO future priorities and strategies, seek additional funds, etc.

In 2009, two main CIP&RDI workshops were held to discuss the progress in CIP and RDI projects and also to shape the future activities together with implementing partners (IPs). These workshops involved all IPs, representatives of local NGOs, cooperatives, local Government and other donors.

A summary of the number of meetings or other formal communications held by BTC Co. is shown on Table 8.6. Note that the number of meetings held does not include meetings held by EIP and CIP IPs. The IPs held many district and village level meetings in addition to those shown on the table below.

Table 8.6: BTC Stakeholder Meetings, 2009

Type of Meeting	No. of Consultations*
Donor	10
Government	20
NGO	25
Private companies	18
University	10
TOTAL	**83**

* In some cases, consultation can represent a series of meetings on the same subject.

8.4.3.2 Media

BTC Co. is managing relations with media institutions in Turkey in line with the Operating Agreement with BIL. Several press events were organised to disseminate information about the progress of the BTC project as well as to launch CIP & RDI projects.

9 LAND ACQUISITION AND COMPENSATION

The land acquisition, compensation, hand-back and livelihood restoration activities and processes are described in the Resettlement Action Plan (RAP). This section of the report summarises relevant activities conducted in 2009.

9.1 AZERBAIJAN

9.1.1 Land Acquisition, Exit and Compensation

The primary land acquisition and compensation process for the pipeline ROW in Azerbaijan has been successfully completed. As noted in previous Annual Reports, bank accounts have been established for all affected people, in all districts, except for nine unavailable landowners (compensation for these owners has been retained until such time as they are located). Relevant compensation has been paid to 99.9% of the land owners/land users.

At present there are 54 cases where the Land Lease Agreements' Addendum (for the prolonged construction period) has not been signed by landowners/land users (SLAP 1 and SLAP 2). The main reasons for this situation are the absence or unavailability of landowner/land users as a result of being out of the country, having died, being in prison or as a result of heritage family disputes. BP monitors such cases and if the landowner/user becomes available, the agreement will be signed and compensation paid. The agreed action plan for closure of these outstanding land exit agreements has been developed on a village by village basis and comprises assigned responsibilities and suggested budgets.

In other developments:

- 4 informal land users from 14 villagers (Hajialili village, Shamkir district) have elected not to sign the agreement
- 4 land owners have elected not to sign the agreement

The land exit process has been implemented by the project with the help of local land committees and continues to be monitored by the project social team along with the third party NGO, CLEE. No issues or concerns were reported.

9.1.2 Land Acquisition Program for 6m Access Corridor for Interim Routine Right of Way Access Strategy

As the part of the ESIA and RAP compliance, BTC acquired a 6m land strip alongside the RoW as some sections were used for the temporary driving of Azerbaijan Government EPPD vehicles (refer Section 2.4.1). This land acquisition process consisted of the following stages: consultation with landowners/land users, notification, agreement signing, land entry, compensation payments and at the end, land exit.

During 2009 the following activities were accomplished:

- Signing of the Addendum to agreements and Land Pre-Entry/Exit Agreements with 45 landowners/users and compensation paid;

- Signing of agreements and Land Pre-Entry/Exit Agreements with 5 new landowners/users and compensation paid;
- 22 complaints solved/compensation paid.

9.1.3 AGI Certificates Change

As a result of the land acquisition associated with the construction of the AGIs, 31 landowners did not obtain new land certificates showing the new land boundaries. As an act of good will, the third party legal NGO CLEE was hired by BTC to assist the affected landowners redress this situation. This involved payment of the state registration fee on their behalf and assistance in collecting all necessary legal documents to apply for the new land certificates.

As a result, 24 out of 31 landowners have now received their certificates. In one case the landowner has passed away and relevant the heritage documents are being prepared. The remaining 5 landowners will soon to receive their certificates. This process is planned to be completed in 2010.

9.2 GEORGIA

9.2.1 Acquisition and Compensation

As of December 2009, land acquisition in Georgia is nearly complete. To date a total of approximately $12 million has been paid out for land acquisition and approximately $12 million has been disbursed as compensation for crop loss. Table 9.1 summarizes key information regarding the acquisition, compensation and hand back of land used.

It is noteworthy that a large number of errors in the state land registration and documentation system were identified and rectified throughout the land acquisition process. One outcome was that the number of land parcels involved in the compensation process grew from 2782 to 3522.

Table 9.1: Number of Land Parcels for which compensation has been paid (to end December 2009)

	Private Land Parcels		High Mountain Village Land Parcels		State Leased Land Parcels	
District	**Required**	**Actual**	**Required**	**Actual**	**Required**	**Actual**
Total	3,522	3,478	206	206	239	226
% Complete	-	99%	-	100%	-	95%

9.2.2 Land Registration and Ownership

Some of the ongoing court cases regarding land registration and titling have not yet been finalised. Additional payments may be necessary, for example in Naokhrebi where BTC has appealed against a ruling that affects 62 parcels of land.

In addition, BTC has acquired Necessary Rights of Way (NROW) for land owned by 28 absent landowners. Future resolution may prove to be a challenge owing to fluctuating land prices.

9.2.3 RAP Fund

The budget for land acquisition and RAP costs for the Georgia section of the BTC pipeline project was estimated to be $10.8 million. The actual expenditure amounted to $24 million. The major elements were: payments for permanent privately owned land acquisition - $12 million, Crop - $8.3million, Orphan Land - $3.7million.

9.2.4 Land Hand-back

As of December 2009, Akhaltsikhe camp is scheduled to be reinstated in 2011 after the construction of permanent accommodation facility near Area 80 is complete.

Land exit agreements are still being signed with landowners and land users. As of December 2009, 83% of all Land Use and Servitude Agreements have been completed. The reasons for delay in signing of land exits vary but many relate to absence of landowners (101), and changes in regulations for state registration.

9.3 TURKEY

9.3.1 Acquisition and Compensation

Table 9.2 provides an update of the status of the acquisition and compensation process as of end 2009.

Table 9.2: Land Acquisition and Compensation Progress (December 2009)

Indicators	Information Provided by Botaş DSA (DSA Monthly Report: December 2009)		
	Total (by parcel)	Complete (#)	Complete (%)
Overall Land Acquisition*	16,834	16,592	98.56%
Title Deed Registration for private lands only	11,748	11,640	99.08%
Resolution of Article 10 Cases	7,708	7,632	99.01%
Transfer or Rights to Land to BTC Co.**	17,942	17,376	96.85%

*This figure includes all private and public parcels subject to land acquisition for pipeline ROW, energy transit lines, AGIs, and additional land needs for operations, etc. Change in the statistics compared to previous reports is due to the parcels being subject to transfer, owing to different configurations.

** This figure represents the title deeds acquired as a result the expropriation of 16,834 parcels which were subject to local cadastre works, and gathering and/or dividing of parcels during the land acquisition.

Throughout 2009 Botaş/DSA (Designated State Authority) has been trying to finalise the acquisition process, mainly for additional land identified during the as-built survey, and additional land needs for operations (such as security road around CMT, etc.). At the end of 2009, 97.99% of land was ready to be transferred to BTC Co. and 96.85% of these land rights were transferred to BTC Co. BTC Co. continued to monitor the acquisition of additional lands directly and will continue to monitor this process closely during the operation phase.

9.3.2 Land Management during Operations

BIL and Botaş/DSA signed a protocol which outlines future roles and responsibilities between DSA and BIL during Operations (refer to Section 8.4.1.1 of the 2008 BTC E&S Annual report). As a result all additional permanent land needs are addressed by Botaş/DSA and are required to conform to the principles described in the RAP.

Temporary land needs required for BTC 1.2 Expansion were managed by BTC Co.'s social team with the support of the contractor and BIL PCREs. All land entry and exit forms and payment documents were signed and documented by BTC Co. No issues are outstanding with regard to BTC 1.2 Expansion works.

Rental payments to camp sites at all pump stations were delivered by BIL PCREs by end 2009. Due to the permanent need for these camp locations, BIL and BTC Co. are considering acquiring these areas permanently in 2010. A field study will be conducted to ensure lands that are not needed for camp locations are handed back to the original landowners.

The other major land acquisition activity in 2009 was expropriation of a security road around CMT. This land was owned by Treasury and there was no impact on individuals.

9.3.3 Transfer of Land Rights

Efforts to complete the transfer of land rights to BTC Co. continued on a district basis using two Official Acts: 1) private/customary owned land; and 2) state/forest owned land.

By the end of 2009 approximately 97% of parcels had been transferred to BTC Co. The process will continue in 2010 for those parcels that were not ready for transfer mainly due to on-going cadastral works, court cases and due to the administrative process at the title deed offices (registrations). The aim is to finalise the transfer of the remaining land rights in 2010.

9.3.4 RAP Monitoring

9.3.4.1 Internal RAP Monitoring - BNB (formerly RUDF)

Due to completion of the land acquisition activities, except for a few parcels for BTC expansion and security road around CMT, and due to the fact that BTC Co. managed the land acquisition and construction works directly, BNB monitoring did not continue in 2009.

The internal monitoring role was covered by BTC Co. Social team for all additional land needs in 2009. Land entry, exit and compensation forms were signed by each landowner and documented in the BTC Co. office.

9.3.4.2 Fishermen Monitoring

No additional monitoring activity was conducted in 2009, however engagement with fishermen on CIP and operational issues continued.

Fisheries experts in Çukurova University and CIP Implementing Partner, PAR Consulting continued to design and implement community investment projects targeting fishermen in 2009 based on the social and economic survey and extensive consultation results in 2008.

Several project activities including improvement of fishing, alternative income generation, vocational training and, agriculture were implemented successfully (refer to case study presented in Appendix C3).

10 SUMMARY OF KEY HEALTH AND SAFETY STATISTICS

The majority of targets and key performance indicators set at the beginning of 2009 both for Projects (construction) and Operations were met. All construction and operational activities were conducted in a safe manner without any major incidents (MI) or high potential incidents (HiPo).

Construction and Operational activities were conducted across the three countries, although work carried out by the construction team was limited.

Table 10.1 presents an overview of cumulative BTC performance in Project (construction) and Operations.

Table 10.1: BTC (BP Controlled) H&S Performance

	BTC Statistics for 2007	BTC Statistics for 2008	BTC Statistics for 2009
Number of Contractors submitting data	32	42	45
Total man-hours	3,333,635	3,534,100	3,263,261
Project Reportable Fatality	0	0	0
DAFWC	0	0	0
DAFWC f rate	0.00	0.00	0.00

Notes:
200,000 man hours is used to calculate DAFWC frequency
DAFWC: Days Away from Work Cases (frequency)

At the beginning of 2009, the Azerbaijan and Georgia section of the BTC project was audited by representatives from BP Global to assess safety and operations of the pipeline. The audit focused on delivery of gHSEr (Getting HSE Right), number of standards (Driving Safety, Integrity Management, Control of Work), the Compliance Management Framework, BP policies and procedures and applicable legal requirements (see Section 10.2).

10.1 BTC PROJECT (CONSTRUCTION) H&S PERFORMANCE

In 2009 a number of small projects were completed. The biggest was the BTC 1.2 expansion project which required the construction and commissioning of DRA (drug reduced agent) injection kits and storage shelters at all pump stations in Azerbaijan and Georgia. All project activities were subject to the vigilant attention of H&S personnel, who worked closely with contractors to impose high safety standards and culture. As a result, 2009 was successfully completed without any major incidents and recordable illnesses/injuries. Personnel were also actively involved into BOSS and SOC programs as shown in Table 10.2.

Table 10.2: BTC Project Leading Indicators

Project Inputs	2009 Target	2009 Performance
Safety Observations and Conversation (SOC)	100%	226%
Behavioural Observation Safety System (BOSS)	100%	136%
Safety Training Matrix Compliance	>95%	164%

Table 10.3: BTC Project Lagging Indicators

Project Performance Outputs (Actual)	2009	Project to Date
Man-hours	1,281,350	115,713,628
Fatalities	0	10
DAFWC	0	56
Medical Treatment and Restricted Work	0	280
Recordable Illnesses/Injuries	0	287
Total Recordable	0	633
First Aid Cases	1	1,271
Near Misses	10	842
Traffic Vehicle Accidents	0	418
Kilometres Driven	3,443,832	219,211,945

10.2 BTC OPERATIONS H&S PERFORMANCE

2009 was a year of challenges for BTC pipeline operations. Parallel to the BTC 1.2 expansion project and normal operations, the pipeline went through Safety and Operational Integrity Audit across Azerbaijan and Georgia.

As a result of the audit, BTC Operation was assessed to be in a full compliance with BP Group Standards on Control of Work and Driving Safety. No examples on non-compliance with applicable legal requirements were found. The majority of recommendations addressed gaps identified in Compliance Management Framework and emergency response.

By the end of 2009 the majority of recommended actions were closed (72%) with zero recycle rate meeting exceptional performance targets on actions closure.

Following S&O audit recommendations, a review of Emergency Response Plan and arrangements were conducted in 2009. This review resulted in formalizing the interaction with Ministry of Emergency Situation of Azerbaijan and access to fire fighting resources at Sangachal Terminal.

In addition two extensive safety related programs were launched in Azerbaijan: H&S Advisors Competency and Driving Enhancement programs.

In 2009 Georgia hosted a cross country Exports Performance Unit forum in Health and Safety. The Incident Management team was fully nationalized and the Oil Spill response cross boarder exercise to test preparedness was successfully completed.

In Turkey the majority of activities concentrated on Emergency Response and Crisis Management, particularly fire fighting capabilities. A Fire Design Review was conducted for Ceyhan Marine Terminal and a Fire Peer Review for Pump Station/BVT and CMT. Additional fire fighting equipment was purchased (RRV, Industrial Fire Truck, OSR Truck). A CMT fire fighting team competency assessment was completed.

Overall, in 2009 there was no MI, HiPo or DAFWC (Major Incident, High Potential Incident or Day Away from Work Case) at the BTC operation. The pipeline experienced four recordable injuries at BP controlled facilities in Azerbaijan and Georgia and six at BP influenced facilities in Turkey.

A summary of H&S performance during 2009 for Operations activities is presented in Table 10.4 (Leading indictors) & 10.5 (Lagging Indicators).

Table 10.4: BTC Operations H&S Leading Indicators

Operations Inputs	Target	2008 Performance		2009 Performance	
		BP	BIL	BP	BIL
BOSS	100%	127	18	185	219
SOC	100%	96	4	165	42
Safety Training Matrix Compliance	>95%	210	34	130	79

Table 10.5: BTC Operations H&S Lagging Indicators (Actual)

Operations Outputs	2008 Performance		2009 Performance	
	BP	BIL	BP	BIL
Man-hours	1,565,302	2,328,066	1,981,911	2,191,368
Fatality	0	3	0	0
DAFWC	0	1	0	0
Medical treatment	3	2	3	5
Restricted Work	0	2	1	1
First Aid Case	4	10	7	7
High Potential Incident (HiPo)	0	0	0	0
TVA	4	8	4	8
KM driven	5,344,789	5,989,249	6,276,594	5,992,997
Near miss	34	13	31	7

BP = BP operated section of BTC (Azerbaijan & Georgia) and the BTC Assurance Team in Turkey

11 AUDITS

11.1 INTERNAL REVIEWS

11.1.1 Azerbaijan

Internal environmental inspections, reviews and audits continued to be carried out at both AGIs and on the ROW. A full summary of internal reviews and audits is given in Table 11.1[19].

Table 11.1: Summary of Internal Reviews/Audits, Azerbaijan, 2009

Audit/ Review	Auditor	Scope	Findings and/or Recommendations
ISO 14001 Internal Audit	Audit team consisted of environmental advisors across AzSPU assets	BTC/SCP readiness for the ISO 14001 re-certification audit scheduled for October 2009	No major gaps were identified with respect to EMS documentation and implementation of the EMS on site. The audit team concluded that BTC/SCP were adequately prepared to undergo the scheduled ISO 14001 re-certification audit in October 2009.
Subject matter expert audit on GHG emissions reporting	Audit team consisted of environmental advisors across AzSPU assets	Status of BTC/SCP GHG emissions reporting against applicable legislative requirements, lender requirements, AzSPU procedures and international best practice.	A subject matter expert (SME) audit for GHG demonstrated that responsibilities for reporting of GHG emissions were clearly assigned and written procedures existed relating to GHG emissions reporting. GHG emissions reporting were completed for BTS/SCP/WREP Azerbaijan in accordance with BP group guidance. GHG reporting calculation was modified in 2009 in order to include vehicles GHG emissions

[19] Note: these are treated separately from environmental monitoring, which is detailed elsewhere in this report.

Audit/ Review	Auditor	Scope	Findings and/or Recommendations
Biorestoration subject matter audit including compliance	Audit team consisted of environmental advisors across AzSPU assets	To verify that the bio-restoration programme complies with the applicable ESIAs and ESAPs approved by the regulator and/or lender agencies and AzSPU procedures	A subject matter expert (SME) audit on biorestoration demonstrated that bio-restoration and related activities are being conducted in a diligent and thorough manner. However in some sections of the pipeline route, notably Gobustan, restoration efforts are continuing.
Regular Environmental Inspections	BTC	Regular Environmental Inspections of IPA1, PSA2, Block Valves	Weekly and monthly environmental inspections were carried out at all AGIs throughout 2010. No major issued were identified, and all minor issues are closed out as soon as practicable on an ongoing basis.
Internal Social Audit	Exports PU E&S Advisor, Social Specialists from Tur Social Teams	Community Liaison, Infrastructure, Services and Safety Management Plan (ESAP)	No non-compliances were identified. There were a number of positive observations and some areas for improvements and recommendations to address identified gaps with respect to action tracking system, training updates, complaints resolution timeframes, KPIs etc.

11.1.2 Georgia

Environmental inspections and internal audits continued to be carried out at AGIs and along the ROW. A full summary of significant internal reviews and audits is given in Table 11.2.

Table 11.2: Summary of Internal Reviews/Audits, Georgia, 2009

Audit/ Review	Auditor	Scope	Findings and/or Recommendations
Operations EMS Health Check Audit	Auditors from AzSPU assets (other than Geo Pipelines)	Status of BTC/SCP readiness for ISO 14001 re-certification: August 2009	No major gaps were identified with respect to EMS documentation and its implementation at sites. The audit team concluded that BTC/SCP Operation's EMS was well prepared for ISO14001 Re-certification audit that later took place in October 2009. Audit actions were uploaded and tracked through the Tr@ction system.
Ecological Compliance Audit	Auditors from AzSPU assets (other than Geo Pipelines)	Assess compliance status of BTC/SCP against applicable ESIA and ESAP ecological requirements: August 2009	The compliance status of BTC/SCP ecological management against ESIA and ESAP requirements was reviewed. Out of total 55 ecological checklist items 37 were compliant and 10 were not applicable. Audit actions addressing non-compliances were uploaded and tracked through the Tr@ction system.

Audit/ Review	Auditor	Scope	Findings and/or Recommendations
Subject Matter Audit: Atmospheric Emissions	Auditors from AzSPU assets (other than Geo Pipelines)	Subject Matter Audit: Atmospheric Emissions: August 2009	A subject matter expert audit for air emissions demonstrated that Air emission monitoring both at source and ambient was conducted by qualified and competent personnel on a timely manner and all records, including calibration were available. Significant progress has been made since previous internal air emission subject matter audit (April 2008). The majority of previous findings were closed. However, no MOC was placed, nor did an ESAP revision take place in relation to non compliant NOx concentrations in the pump turbine stack emissions. It is to be noted that the pump turbines are designed and capable of meeting compliance requirements when they work on SoLoNox mode. Audit actions were uploaded and tracked through the Tr@ction system.
Regular Environmental Inspections	BTC	Regular Environmental Inspections of PSG1 & 2; Area 80; Camps, ROW	Regular environmental inspections were carried out at all AGIs and camps throughout 2009. Identified issued were tracked through inspection checklists, site Environmental Action plans and action tracking system tools on ongoing basis.
Internal Social Audit	Exports PU E&S Advisor, Social Specialists from Azerbaijan and Turkey Social Teams	Community Liaison, Infrastructure, Services and Safety Management Plan (ESAP)	No non-compliances were identified. There were a number of positive observations and some findings and recommendations to address identified gaps with respect to resource management, procedure updates, etc.

11.1.3 Turkey

Internal monitoring takes place as necessary on a daily basis or through theme audits and reviews. In some cases the review might result in actions and recommendations for implementation.

The significant internal reviews conducted in Turkey during this reporting period are summarised in Table 11.3.

Table 11.3: Summary of Internal Reviews/Audits, Turkey, 2009

Audit/ Review	Auditor	Auditee	Scope	Findings and/or Recommendations
Day to day field inspection and monitoring of reinstatement activities	BTC Co.	Reinstate-ment Contractor	Monitoring of the reinstate-ment works on a daily basis by BTC Co. E&CSR teams	The reinstatement contractor was monitored by BTC Co.'s E&CSR staff (two) on full time basis. All complaints successfully resolved in Lot A and Lot B villages as planned in the scope with the support of BTC Co. teams. No open items remained from Lot A and Lot B construction phase.
Management of additional land needs during Operations	BTC Co.	BIL and Botaş/DSA	Temporary and permanent land acquisition	BTC Co. CSR team directly managed the monitoring of additional land needs during Operations such as BVT30 incident, BTCX 1.2 expansion works, security road for CMT, rental payments to camp sites, land for PT2 flood permanent mitigation measures, etc. No open items from additional land acquisition activities left in 2009.

Audit/ Review	Auditor	Auditee	Scope	Findings and/or Recommendations
CIP and RDI Technical Monitoring	BTC Co.	CIP and RDI Implementing Partners (IPs)	CIP and RDI activities	BTC Co. CSR team and external consultants conducted several site visits to monitor projects and provide technical input to IPs and local organisations. In total 26 site visits were organised. Site reports were produced after each site visit and shared with the relevant IP. The actions are being followed up on a monthly basis with each IP.
Internal Social Audit (April 2009)	BTC Co. Azerbaijan and Georgia Social teams	BTC Co. & BIL Social teams in Turkey	Community Liaison, Safety, Infrastructure and Services Plan (BTC ESAP) and Community Relations Programme (BIL Plan)	An internal social audit was conducted for the BTC Operations in Turkey which included documentation review, site visits, followed by interviews with BTC Co. and BIL personnel. The audit results were generally positive.
CIP and RDI Financial Audits	BTC Co.	CIP implementing partners (grantees)	Financial compliance to grant agreements	In addition to quarterly reviews of financial reports submitted by the implementing partners (IPs), BTC Co. Finance team together with an external finance consultant conducted audits on all CIP projects. Similar audits will also be conducted on RDI projects in 2010. The audit results will be completed in 2010-Q1.
Municipality Emergency Response Capacity Audit	BTC Co. & BIL HS&ER and Social teams	Ardahan (close to PT1) and Erzincan (close to PT3) Municipalities	Compliance to Emergency Response Plan	The aim of this review was to identify the capacity of local authorities in responding hydrocarbon fires along the BTC route. This was done as part of the needs assessment survey undertaken for one of the RDI projects which was under development in 2009.
Waste Management BPEO (Best Practicable Environmental Option) Audits	BTC Co. & BIL Environmental teams	Antakya, Erzurum, Erzincan, Trabzon, Bayburt Municipalities (Landfills) Adana, Mersin, Kayseri, Kars Cement Factories	Continuous Improvement (ESAP)	The overall objective of the study was to determine the Best Practicable Environmental Option (BPEO) for the management of wastes arising from BTC operations in Turkey.
Waste Water Feasibility Study Audits	BTC Co. & BIL Environmental teams	Adana, Erzincan, Kayseri, Osmaniye, Sivas Municipalities (WWTPs)	Compliance with ESAP	5 Municipal WWTPs along the pipeline route were audited to determine their ability to take project wastes in emergency situations. Facilities at Adana, Kayseri, Osmaniye and Sivas were found to be suitable.

Audit/ Review	Auditor	Auditee	Scope	Findings and/or Recommendations
Pre-IEC Audits and Environmental Compliance Reviews – All facilities and the ROW; May-June 2009	BTC Co.	BIL	Compliance with ESAP and ESIA	Level I and II non-conformances were identified during the pre-IEC Audit and Environmental Compliance Review. Three were identified (one each at IPT1, PT3 and PT4). All related with non-compliant waste water discharges.
EIP Internal Evaluation – ongoing throughout the year	EIP Consultants	EIP implemen-ting partners (grantees)	Additionally (Environmental Investment)	Scientific monitoring of Project ecological impacts was recommended. Gaps in H&S driving training and office safety equipment were identified and corrective actions were taken.

Table 11.4: Audits Conducted by BIL

Audit/Review	Auditee	Scope	Findings and/or Recommendations
Quarry Sites Audit	Canogullari Quarry (Adana)	Compliance with ESAP	The facility was found as compliant.
Environmental Compliance Audit of Contractors	SESMeke Ceyhan OSR Base	Compliance with ESAP	Findings were recorded and will be followed up during next visits/audits.
Environmental Compliance Audit of Contractors	ITEMSAN – General Services (inc. cleaning)	Compliance with ESAP	The new contractor was found to be compliant.
Environmental Compliance Audit of Contractors	Polat Yemek – Catering Company	Compliance with ESAP	The new contractor was found to be compliant.
Environmental Compliance Audit of Contractors	Yıldız Nakliyat – Hazardous Waste Carrier	Compliance with ESAP	The new contractor was found to be compliant.
Waste Management BPEO (Best Practicable Environmental Option) Audits	Antakya, Erzurum, Erzincan, Trabzon, Bayburt Municipality Landfills Adana, Mersin, Kayseri, Kars Cement Factories	Continuous Improvement (ESAP)	Same as above.
Waste Water Feasibility Study Audits	Adana, Erzincan, Kayseri, Osmaniye, Sivas Municipality WWTPs	Compliance with ESAP	Same as above.

11.2 EXTERNAL REVIEWS

11.2.1 ISO 14001 Certification

BTC retained certification against the international environmental management system standard ISO 14001 following to re-certification audit in October 2009. Audit ended successfully with no system findings in Azerbaijan and Georgia. The certification body was Moody International.

11.2.2 Independent Environmental Consultants

The 11th post-financial audit of Independent Environmental Consultant (IEC), acting on behalf of BTC Lenders, was accomplished in Azerbaijan, Georgia and Turkey in June 2009. The objectives of the Audit were to assess project performance against BTC project environmental and social commitments, report any non-compliances, assign a appropriate levels of importance (Level I, II or III, with III being the most significant), and verify closure of BTC's responses to non-compliances identified in previous monitoring visits.

The audit did not identify any new non-compliance in either Azerbaijan or Georgia. Previous issues associated with non-hazardous waste disposal were considered closed as a result of the successful start-up of the BP Georgia EU-compliant non-hazardous waste landfill in May 2009. However, an earlier Level I non-compliance related to NOx stack emissions was retained.

There was one Level 1 non compliance raised in Turkey related to E&S Management Organization and Resources.

Appendix 3 contains details of the non-compliances along with a summary of actions taken to resolve the issue. Full reports are given on www.bp.com/caspian.

11.2.3 Social and Resettlement Action Plan (SRAP) Panel

The RAP Completion Audit, undertaken by the SRAP Panel, assessed the effectiveness of RAP measures for restoring or enhancing project affected households' standards of living and livelihood up until the end of 2009.

The Audit utilized both quantitative and qualitative approaches to gather data and assess household standards of living. Particular attention was paid to assessing the impact of RAP interventions on the circumstances of vulnerable households.

The focus of the audit was as follows:

- Households that comprise full-time residents of project affected villages and that, as owners or users of BTC affected land, are substantially reliant on agriculture for their income and livelihood;
- Households that experienced permanent loss of use of land for above ground installations (AGIs);
- Vulnerable households.

The Completion Audit had four principle components:

- NGO verification of compensation entitlements delivery, grievance redress and dispute resolution through consultation;
- Quantitative household survey;
- Qualitative survey (stakeholder and key informant interviews);
- SRAP Panel assessment of unresolved grievances, court cases and disputes.

The RAP Completion Audit Quantitative survey was completed in February 2009 and the Qualitative survey completed in September 2009. The final assessment report is awaited from SRAP panel.

The results of the SRAP monitoring actions closure from previous visits are given in Appendix 4.

11.2.4 Azerbaijan Social Review Committee

Azerbaijan SPU continued its cooperation with Azerbaijan Social Review Commission (ASRC), an independent external monitoring group dedicated to provide assurance, advice to BP's social performance in Azerbaijan. In May 2009 BP hosted a BP-ASRC session which discussed a number of issues related to our performance. The session was followed by third Azerbaijan Social Review Committee (ASRC) report to BP containing a number of observations and recommendations. This report and the Company's response were posted on the public website - www.bp.com/caspian. The Commission's mandate has been extended for another 2 years to cover 2010-11.

11.2.5 Polaris

An external audit of BTC's Oil Spill Response readiness in Azerbaijan and Georgia was conducted by Polaris in October 2009. The key findings of the audit were:

- BTC has maintained and improved its oil spill readiness capability relative to the findings of the 2007 OSR audit;
- The Corporate commitment to spill readiness is evident in the project's policies and actions;
- BTC has maintained an action tracking programme and implemented a number of recommendations and lessons arising from earlier audits and previous exercises;
- SEACOR teams have maintained a high level of response preparedness;
- IMT and OSR contractors are nearly 100% comprised of nationals;
- OSR equipment has been added at bases;
- The Azerbaijan response programme is in a transition phase, with a strong response capability that is expected to improve further as the new team at PSA 2 gains experience.

Further details can be found in Appendix 5 which contains a summary of Polaris audit findings and key recommendations.

11.2.6 Turkey External Reviews/Audits

Table 11.5: Audits Conducted by External Parties

Audit/ Review	Auditor	Auditee	Scope	Findings and or recommendations
RAP Close Out Audit	SRAP Panel	Botaş/DSA and BIL	Land acquisition/ livelihood restoration, reinstatement, operations phase community relations management, etc.	See Appendix 4.3.
Employment Standards Audit; May-June 2009	Ministry of Labor and Social Security	BIL and its sub-contractors at all facilities along the p/l route	Health and safety conditions of the facilities, social security and tax issues	Ministry of Labor and Social Security audited BIL activities in all PTs, IPT1 and CMT for 20 days between May and June 2009. Audit results were submitted to BIL after completion of each site by the Ministry inspectors. In summary main findings were: All BIL and contractor personnel have social security and their taxes are paid in line with local regulations. Some of the project documents (plans and procedures) are in English but implementation documents were translated into Turkish. Plans, procedures should also be translated in local language. Camps used for construction are now used for operations. Conditions of the camp site should be improved.

Audit/ Review	Auditor	Auditee	Scope	Findings and or recommendations
				There were also some recommendations to improve the H&S conditions of the work environment which are already in the scope of BIL.
Environmental Review; Feb 2009	Adana Provincial Directorate of MoEF	BIL	Compliance with MARPOL	Information on final status was provided to auditors; no finding recorded.
Environmental Review; March 2009	Erzincan Provincial Directorates of MoEF and State Hydraulic Works	BIL	BVT30 activities and status	Information was provided to auditors; no finding recorded.

APPENDIX 1

Annex J of the Construction ESAP – Outline of Project Environmental and Social Monitoring Annual Report[20]

Each annual report will address each of the topics listed below for BTC Co. activities conducted in Azerbaijan, Georgia and Turkey.

1 EXECUTIVE SUMMARY

2 ESIAs / EIA AND PERMITTING

2.1 SUMMARY OF ANY MATERIAL MODIFICATIONS TO THE AZERBAIJANI, GEORGIAN AND TURKISH ESIAS DURING THE YEAR.

2.2 SUMMARY OF MATERIAL PERMITS ISSUED DURING THE YEAR AND ANY APPLICABLE CONDITIONS.

2.3 UPDATE ON STATUS OF PROJECT STATE SPECIFIC REQUIREMENTS FOR FURTHER WORK UNDER THE ESIAS OR PERMITS.

3 CHANGES

3.1 DESCRIPTION OF ANY CHANGES TO AN ESIA DURING THE PERIOD TO REFLECT A CLASS I, II OR III CHANGE.

3.2 SUMMARY OF THE TYPE OF CLASS I CHANGES IMPLEMENTED DURING THE PERIOD, OR A CONFIRMATION OF NO SUCH CHANGE.

3.3 LIST OF ALL CLASS II CHANGES NOTIFIED DURING THE PERIOD, OR CONFIRMATION OF NO SUCH CHANGES.

3.4 SUMMARY OF ALL CLASS III CHANGES DURING THE PERIOD, OR CONFIRMATION OF NO SUCH CHANGES.

3.5 UPDATE ON CONSTRUCTION STATUS IN A CHANGE AREA INCLUDING DESCRIPTION OF ANY IMPACTS OR MITIGATION MEASURES.

3.6 DESCRIPTION OF ANY MATERIAL AMENDMENT, SUPPLEMENT, REPLACEMENT OR MATERIAL MODIFICATION TO AN ESIA, THIS ESAP, THE RAP, THE ESMS, OR ANY OSRP.

4 COMPLIANCE WITH ENVIRONMENTAL STANDARDS AND APPLICABLE ENVIRONMENTAL LAW

4.1 SUMMARY OF ANY NOTICES OF NON-COMPLIANCE, REMEDIAL ACTION, ANY FINES OR PENALTIES PAID AND FINAL DISPOSITION OF ANY REGULATORY PROCEEDINGS.

4.2 SUMMARY OF AIR EMISSIONS.

4.3 SUMMARY OF ENVIRONMENTAL DISCHARGES.

4.4 STATEMENT INDICATING WHETHER BTC CO. AND ITS AGENTS HAVE COMPLIED IN THE DEVELOPMENT, CONSTRUCTION AND OPERATION OF THE BTC PROJECT WITH THIS ESAP, APPLICABLE ENVIRONMENTAL LAWS AND APPLICABLE LENDER ENVIRONMENTAL AND SOCIAL POLICIES AND GUIDELINES IN ALL MATERIAL RESPECTS AND SUMMARY OF ANY (I) MATERIAL NON-COMPLIANCE AND THE STEPS BEING TAKEN TO REMEDY IT AND (II) MATERIAL MODIFICATIONS OF ESIAS, PLANS OR PROGRAMMES MATERIALLY IN CONTRAVENTION OF THE OPERATIONAL POLICIES AND DIRECTIVES LISTED IN THIS ESAP.

4.5 UPDATE ON SIGNIFICANT CHANGES IN APPLICABLE LAW, IF ANY.

5 OIL SPILL RESPONSE

5.1 SUMMARY OF OSRPS COMPLETED, UPDATED OR AMENDED DURING YEAR (AS DESCRIBED IN THIS ESAP).

5.2 SPILL SUMMARIES (AZERBAIJAN, GEORGIA AND TURKEY).

5.3 SPILL RESPONSE AND REMEDIATION SUMMARIES.

5.4 SUMMARY OF MATERIAL MODIFICATIONS TO THE OSRPS DESCRIBED IN THIS ESAP.

6 CIP AND EIP PROGRAMMING

6.1 SUMMARY OF PROGRAMMING FOR THE PAST YEAR.

6.1 COMPARISON OF ACTUAL TOTAL EXPENDITURES AND BUDGETED TOTAL EXPENDITURES.

6.3 DESCRIPTION OF EXPECTED BUDGET AND PROGRAMMING FOR THE COMING YEAR.

7 ENVIRONMENTAL AND SOCIAL MONITORING PROGRAMME

7.1 SUMMARY OF ESMS MONITORING COMMITMENTS COMPLETED DURING THE YEAR, INCLUDING SUMMARY OF RESULTS, COMPARISON OF ENVIRONMENTAL PERFORMANCE TO APPLICABLE ENVIRONMENTAL STANDARDS AND SUMMARY OF PERFORMANCE AGAINST KPIS.

7.2 SUMMARY OF ENVIRONMENTAL AND SOCIAL TRAINING.

8 PROJECT COMMUNICATION

8.1 UPDATE OF ONGOING COMMUNICATION WITH EXTERNAL STAKEHOLDERS.

8.2 UPDATE OF COMMUNITY LIAISON ACTIVITIES.

9 SUMMARY OF RESULTS OF RAP MONITORING

10 SUMMARY OF KEY HEALTH AND SAFETY STATISTICS

10.1 DAYS AWAY FROM WORK CASES.

10.2 INJURIES.

10.3 FATALITIES.

11 AUDITS

11.1 SUMMARY OF THE RESULTS OF BTC CO. AND BOTAŞ'S INTERNAL ENVIRONMENTAL AND SOCIAL AUDIT PROGRAMMES.

[20] Following completion of construction, the annual report will not cover items that are relevant only to construction. In addition, if matters are covered in the Operations ESAP that are not reflected in the contents for the annual report, this Annex will be amended as appropriate to cover these matters.

Annex H of the Operations ESAP – Outline of Project Environmental and Social Monitoring Annual Report

Each annual report will address each of the topics listed below for BTC activities conducted in Azerbaijan, Georgia and Turkey.

1 EXECUTIVE SUMMARY

2 ESIAs / EIA AND PERMITTING

2.1 SUMMARY OF ANY MATERIAL MODIFICATIONS TO THE AZERBAIJANI, GEORGIAN AND TURKISH ESIAS DURING THE YEAR.

2.2 SUMMARY OF MATERIAL PERMITS ISSUED DURING THE YEAR AND ANY APPLICABLE CONDITIONS.

2.3 UPDATE ON STATUS OF PROJECT STATE SPECIFIC REQUIREMENTS FOR FURTHER WORK UNDER THE ESIAS OR PERMITS.

3 CHANGES

3.1 DESCRIPTION OF ANY CHANGES TO AN ESIA DURING THE PERIOD TO REFLECT A CLASS I, II OR III CHANGE.

3.2 SUMMARY OF THE TYPE OF CLASS I CHANGES IMPLEMENTED DURING THE PERIOD, OR A CONFIRMATION OF NO SUCH CHANGE.

3.3 LIST OF ALL CLASS II CHANGES NOTIFIED DURING THE PERIOD, OR CONFIRMATION OF NO SUCH CHANGES.

3.4 SUMMARY OF ALL CLASS III CHANGES DURING THE PERIOD, OR CONFIRMATION OF NO SUCH CHANGES.

3.5 DESCRIPTION OF ANY MATERIAL AMENDMENT, SUPPLEMENT, REPLACEMENT OR MATERIAL MODIFICATION TO AN ESIA, THIS ESAP, THE RAP, THE ESMS, OR ANY OSRP.

4 COMPLIANCE WITH ENVIRONMENTAL STANDARDS AND APPLICABLE ENVIRONMENTAL LAW

4.1 SUMMARY OF ANY NOTICES OF NON-COMPLIANCE, REMEDIAL ACTION, ANY FINES OR PENALTIES PAID AND FINAL DISPOSITION OF ANY REGULATORY PROCEEDINGS.

4.2 SUMMARY OF AIR EMISSIONS.

4.3 SUMMARY OF ENVIRONMENTAL DISCHARGES.

4.4 STATEMENT INDICATING WHETHER BTC CO. AND ITS AGENTS HAVE COMPLIED IN THE DEVELOPMENT, CONSTRUCTION AND OPERATION OF THE BTC PROJECT WITH THIS ESAP, APPLICABLE ENVIRONMENTAL LAWS AND APPLICABLE LENDER ENVIRONMENTAL AND SOCIAL POLICIES AND GUIDELINES IN ALL MATERIAL RESPECTS AND SUMMARY OF ANY (I) MATERIAL NON-COMPLIANCE AND THE STEPS BEING TAKEN TO REMEDY IT AND (II) MATERIAL MODIFICATIONS OF ESIAS, PLANS OR PROGRAMMES MATERIALLY IN CONTRAVENTION OF THE OPERATIONAL POLICIES AND DIRECTIVES LISTED IN THIS ESAP.

4.5 UPDATE ON SIGNIFICANT CHANGES IN APPLICABLE LAW, IF ANY.

5 OIL SPILL RESPONSE

5.1 SUMMARY OF OSRPS COMPLETED, UPDATED OR AMENDED DURING YEAR (AS DESCRIBED IN THIS ESAP).

5.2 SPILL SUMMARIES (AZERBAIJAN, GEORGIA AND TURKEY).

5.3 SPILL RESPONSE AND REMEDIATION SUMMARIES.

5.4 SUMMARY OF MATERIAL MODIFICATIONS TO THE OSRPS DESCRIBED IN THIS ESAP.

6 ADDITIONALITY PROGRAMMING

6.1 SUMMARY OF PROGRAMMING FOR THE PAST YEAR.

6.2 COMPARISON OF ACTUAL TOTAL EXPENDITURES AND BUDGETED TOTAL EXPENDITURES.

6.3 DESCRIPTION OF EXPECTED BUDGET AND PROGRAMMING FOR THE COMING YEAR.

7 ENVIRONMENTAL AND SOCIAL MONITORING PROGRAMME

7.1 SUMMARY OF ESMS MONITORING COMMITMENTS COMPLETED DURING THE YEAR, INCLUDING SUMMARY OF RESULTS, COMPARISON OF ENVIRONMENTAL PERFORMANCE TO APPLICABLE ENVIRONMENTAL STANDARDS AND SUMMARY OF PERFORMANCE AGAINST KPIS.

7.2 SUMMARY OF ENVIRONMENTAL AND SOCIAL TRAINING.

8 PROJECT COMMUNICATION

8.1 UPDATE OF ONGOING COMMUNICATION WITH EXTERNAL STAKEHOLDERS.

8.2 UPDATE OF COMMUNITY LIAISON ACTIVITIES.

9 SUMMARY OF RESULTS OF RAP MONITORING (AS APPLICABLE)

10 SUMMARY OF KEY HEALTH AND SAFETY STATISTICS

10.1 DAYS AWAY FROM WORK CASES.

10.2 INJURIES.

10.3 FATALITIES.

11 AUDITS

11.1 SUMMARY OF THE RESULTS OF BTC CO. AND BIL'S INTERNAL ENVIRONMENTAL AND SOCIAL AUDIT PROGRAMMES.

APPENDIX 2: ENVIRONMENTAL MONITORING RESULTS

APPENDIX 2.1: AZERBAIJAN

Please read this section in conjunction with the commentary in Section 4.2.1.

Appendix 2.1a – Ambient Air Quality

Pollutant	Standard	Units	Averaging Period
NO_2	40 (Annual average will reduce by 2 µg/m^3 every year, to reach 40 µg/m^3 by 1 January 2010)	µg/m^3	Annual mean
SO_2	20	µg/m^3	Annual mean
Benzene	5 (Annual average will reduce by 1 µg/m^3 every year from 2006, to reach 5 µg/m^3 by 1 January 2010)	µg/m^3	Annual mean
PM_{10}	20 (30 on 1 January 2005, reducing every 12 months thereafter by equal annual percentages to reach 20 by 1 January 2010)	µg/m^3	Annual mean

PSA2:

ID	Jan-Feb 2009	Mar-Apr 2009	May-Jun 2009	Jul-Aug 2009	Sep-Oct 2009	Nov-Dec 2009	Annual Mean	Pollutant	Units
PSA 2 AQ 3p	8	6	5	7	10	8	6.3	NO_2	µg/m^3
PSA 2 AQ 5p	8	6	5	7	10	8	6.3	NO_2	µg/m^3
PSA 2 AQ 6p	10	10	9	11	12	10	10.3	NO_2	µg/m^3
PSA 2 AQ 7p	9	6	7	7	5	8	7	NO_2	µg/m^3
PSA 2 AQ 8p	16	8	8	10	11	10	10.5	NO_2	µg/m^3

ID	Jan-Feb 2009	Mar-Apr 2009	May-Jun 2009	Jul-Aug 2009	Sep-Oct 2009	Nov-Dec 2009	Annual Mean	Pollutant	Units
PSA 2 AQ 3p	1	3	6	6	1	1	3	SO_2	µg/m^3
PSA 2 AQ 5p	1	5	11	6	4	1	4.6	SO_2	µg/m^3
PSA 2 AQ 6p	<1	8	6	9	1	1	5	SO_2	µg/m^3
PSA 2 AQ 7p	<1	5	15	6	30	6	12.4	SO_2	µg/m^3
PSA 2 AQ 8p	2	3	6	11	2	2	4.3	SO_2	µg/m^3

ID	Jan-Feb 2009	Mar-Apr 2009	May-Jun 2009	Jul-Aug 2009	Sep-Oct 2009	Nov-Dec 2009	Annual Mean	Pollutant	Units
PSA 2 AQ 3p	2.7	2.22	0.85	2.9	1.5	1.845	2	Benzene	µg/m^3
PSA 2 AQ 5p	2.4	1.06	0.8	1.65	2.15	3.455	1.92	Benzene	µg/m^3
PSA 2 AQ 6p	2.95	1	0.95	2.5	0.9	2.115	1.74	Benzene	µg/m^3
PSA 2 AQ 7p	2.8	1.525	0.55	2.7	1.7	2.325	1.93	Benzene	µg/m^3
PSA 2 AQ 8p	2.05	1.2	0.6	2.05	1.4	1.935	1.54	Benzene	µg/m^3

IPA1:

Date	Sep-Oct 2009		Units
Pollutant	SOx	NOx	
IPA 1 AQ 1p	3	15	µg/m^3
IPA 1 AQ 2p	3	12	µg/m^3

Appendix 2.1b – Stack Emissions Monitoring

Emission Stream Sources	Pollutant	Standard	Units
MOL Turbine	NOx	70-75 at 15% O2, dry	mg/Nm^3
	CO	N/A	mg/Nm^3
	SO_2	35	mg/Nm^3
	PM_{10}	5	mg/Nm^3
Generators	NOx	2000	mg/Nm^3
	CO	650	mg/Nm^3
	SO_2	1700	mg/Nm^3
	PM_{10}	130	mg/Nm^3

PSA 2 / IPA-1:

Equipment	Date tested	Load (MW, Speed in % and Tem°C)	Fuel	Mean stack gas concentrations				Mass Emissions			
				NOx	CO	SO_2	PM	NOx	CO	SO_2	PM
				mg/Nm^3, corrected to 15% O_2				g/h			
PSA-2 Turbine 1	21.05.09	91.6% speed	Gas	107	358	0	5	818	11589	0.0	47
PSA-2 Turbine 2	01.12.09	88.8% speed	Gas	103	2041	0	5	4817	95394	0.0	289
PSA-2 Turbine 3	01.12.09	90% speed	Gas	109	1685	0	5	5143	79266	0.0	291
PSA-2 Turbine 4	03.12.09	88.7% speed	Gas	101	2233	0	5	4711	104046	0.0	288
PSA-2 Generator A	30.09.09	40.5% kWth	Diesel	464	198	7	50	2683	1146	44	358
PSA-2 Generator B	30.11.09	43.3% kWth	Diesel	492	236	0	50	2636	1269	0.0	332
PSA-2 Generator C	30.09.09	47.5% kWth	Diesel	487	191	22	50	2766	10857	128	351
PSA-2 WBH	01.10.09	65% °C	Diesel	200	1182	12	50	78	465	4	21
IPA-1 Generator A	29.09.09	52.3% kWth	Diesel	1107	78	0	50	1551	110	0.0	86
IPA-1 Generator B	29.09.09	53.1% kWth	Diesel	1078	89	35	50	1403	116	45	80

NOTE: Figures in red indicate non-compliance with project standards

Appendix 2.1c – Environmental Noise

	Standard	Units	Period
PSA2 & IPA1 & Block Valves	55	dB (A)	Daytime
	45	dB (A)	Night-time

PSA2:

ID	Readings	Units	Date	Duration	Comments
PSA 2 NM 1p	40	dB (A)	Sep-2009	5 min	daytime
PSA 2 NM 2p	42	dB (A)	Sep-2009	5 min	daytime

IPA-1:

ID	Readings	Units	Date	Duration	Comments
NM 1p	36	dB (A)	Sep-2009	5 min	daytime
NM 2p	44	dB (A)	Sep-2009	5 min	daytime
NM 3p	42	dB (A)	Sep-2009	5 min	daytime

Block Valves:

ID	Readings	Units	Date	Duration	Comments
AB-4 NM 1p	35	dB(A)	Nov-2009	5 min	daytime
AB-7 NM 1p	46	dB(A)	Nov-2009	5 min	daytime
AB-10 NM 1p	46	dB (A)	Nov-2009	5 min	daytime
AB-11 NM 1p	40	dB(A)	Nov-2009	5min	daytime
AB-13 NM 1p	41	dB(A)	Nov-2009	5 min	daytime
AB-14 NM 1p	41	dB (A)	Nov-2009	5 min	daytime
AB-14 NM 2p	45	dB (A)	Nov-2009	5 min	daytime

Appendix 2.1d – Effluent Discharge Monitoring Programme

Parameter	Standard	Units
Total coliform bacteria (per 100ml)	<400	MPN/100ml
pH	6-9	
Total residual chlorine	0.2	mg/l
BOD	25	mg/l
COD	125	mg/l
Total suspended solids	35	mg/l
Ammonia NH_4	10	mg/l
Total Nitrogen	15	mg/l
Phenols	0.5	mg/l
Total Phosphorus	2.0	mg/l
Sulphides	1.0	mg/l
Oil and grease	10	mg/l

Parameter	Standard	Units
Ag	0.5	mg/l
As	0.1	mg/l
Cd	0.1	mg/l
Cr (total)	0.5	mg/l
Cu	0.5	mg/l
Fe	3.5	mg/l
Pb	0.1	mg/l
Hg	0.01	mg/l
Ni	0.5	mg/l
Se	0.1	mg/l
Zn	2.0	mg/l

PSA-2 (Sample Location – PSA-2 Retention Pond)

Parameter	Units	Month, 2009											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total coliform bacteria	per 100ml	56.7	16	58.7	157	274	97.7	170	552.5	1234	233.3	164	81.3
pH	-	7.54	7.47	7.53	7.41	7.23	7.23	7.26	7.32	7.48	7.38	7.36	7.42
Total residual chlorine	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.03	0.03	0.025
COD	mg/l	23.7	32	14.6	17.7	42	56.8	50	16	23.4	18.3	31	20
Total suspended solids	mg/l	2	0.03	2.7	1.5	2.3	0	0	1.6	1.2	1	3.5	2.5
Ammonia NH4	mg/l	0.04	1	0.08	0.11	0.33	0.6	0.3	0.4	0.32	0.22	0.2	0.27
Total Nitrogen	mg/l	8	16	14.5	2	3	1.45	-	-	4.8	8.63	9.5	11.9
Turbidity	FNU	4.46	0.42	1.15	1.01	2.11	10.1	1.55	4.43	1.5	0.55	2.5	4.75
Conductivity	mS/cm	1.7	1.7	1.76	1.76	1.7	1.7	1.8	1.97	2.18	1.68	1.08	1.36

Appendix 2.1e – Groundwater & Surface Water Monitoring Programme

Groundwater Monitoring – Karayazi & Around PSA2

Date of sampling		May 2009									
Parameter	Unit	Kar M1	Kar M2	Kar M3	Kar M5	Kar M6	Kar M7	Kar M8	Kar M10	PSA-2	
										Aran	Yaldili
pH	-	no water	6.8	7.2	7.3	no water	no water	7.2	7	8.6	9.1
Temperature	°C		15.8	16.7	18.8			13.4	17.4	25.7	25.5
Conductivity	mS/cm		4.47	3.06	9.35			1.82	11.1	1.97	0.52
THC	µg/L		<20	<20	<20			<20	<20	<20	<20
PAH	µg/L		<0.01	<0.01	<0.01			<0.01	<0.01	<0.01	<0.01
BTEX	µg/L		<0.02	<0.02	<0.02			<0.02	<0.02	<0.02	<0.02
TSS	mg/L		1310	310	51			80	233	5.2	4.4

Date of sampling		November 2009									
Parameter	Unit	Kar M1	Kar M2	Kar M3	Kar M5	Kar M6	Kar M7	Kar M8	Kar M10	PSA-2	
										Aran	Yaldili
pH	-	No water	6.9	7.2	7.3	No water	No water	7.1	7	8.7	9.3
Temperature	°C		16	15	16			15	15	19	18
Conductivity	mS/cm		4.62	3.4	8.1			2.52	11.3	1.95	0.52
THC	µg/L		<20	<20	<20			<20	<20	<20	<20
PAH	µg/L		0.01	<0.01	0.01			<0.01	<0.01	<0.01	<0.01
BTEX	µg/L		<0.05	<0.05	<0.05			<0.05	<0.05	<0.05	<0.05
TSS	mg/L		175	340	20			110	110	<2	<2

Surface Water Monitoring PSA2

Date of sampling		May-09		Nov-09	
Parameter	Unit	SW1	SW2	SW1	SW2
Total coliform bacteria (per 100ml)	per 100ml	$1.6x10^3$	$2x10^3$	$2.4x10^3$	$3.5x10^3$
pH	-	7.8	7.7	8	8
BOD	mg/l	<0.5	<0.5	0.7	0.6
COD	mg/l	6.8	5.9	10	0.9
Total suspended solids	mg/l	82	12	9.3	2
Ammonia NH4	mg/l	<0.01	<0.01	0.02	0.03
Total Nitrogen	mg/l	0.62	1.1	0.75	1.5
Total Phosphorus	mg/l	<0.03	0.06	0.03	0.5
TPH	µg/L	<20	<20	<20	<20
PAHs (sum of 4)	µg/L	<0.01	<0.01	0.01	0.01
Benzene	µg/L	<0.02	<0.02	<0.05	<0.05
Toluene	µg/L	<0.02	<0.02	<0.05	<0.05
Ethylbenzene	µg/L	<0.02	<0.02	<0.05	<0.05
o-Xylenes	µg/L	<0.02	<0.02	<0.05	<0.05

Surface Water Monitoring IPA1

Date of sampling		May-09		Nov-09	
Parameter	Unit	SW1	SW2	SW1	SW2
Total coliform bacteria (per 100ml)	per 100ml	$2.7x10^3$	$2.3x10^3$	$4.6x10^3$	$1.2x10^4$
pH	-	7.3	7.8	7.9	8.4
BOD	mg/l	0.9	67	2	1.4
COD	mg/l	13.8	17.9	8.4	10
Total suspended solids	mg/l	9.7	116	15	<2
Ammonia NH4	mg/l	0.02	0.02	0.03	0.03
Total Nitrogen	mg/l	1.1	0.89	0.89	1
Total Phosphorus	mg/l	0.06	0.05	0.06	0.03
TPH	µg/L	26	23	<20	25
PAHs (sum of 4)	µg/L	0.01	<0.01	<0.01	0.01
Benzene	µg/L	<0.020	<0.020	<0.05	<0.05
Toluene	µg/L	<0.020	<0.020	<0.05	<0.05
Ethylbenzene	µg/L	<0.020	<0.020	<0.05	<0.05
o-Xylenes	µg/L	<0.020	<0.020	<0.05	<0.05

NOTE: SW1 - Upstream sampling point; SW2 - Downstream sampling point

Appendix 2.1f – Waste

BTC Waste Volumes: Summary – 2009

	Unit	Value
Main Waste Streams		
Oily Solid Waste (oily rags, filters, absorbents, polyethylene)	tonne	11.4
Oily water	m^3	141
Oil and diesel (used)	m^3	0
Sewage wastes (raw)	m^3	1753
Sewage sludge	m^3	Included into sewage water
Contaminated cans and drums	tonnes	6.4
Antifreeze	m^3	Included into chemicals
Chemicals	tonnes	16
Wax	tonnes	7
Fluorescent tubes	tonne	0.3
Insulation material	tonne	Included into non-recyclable domestic waste
Construction waste	m^3	Included into non-recyclable domestic waste
Pig discs	tonne	12.2
Aerosol cans	m^3	0.1
Non-recyclable domestic wastes	tonne	57.4
Paper	tonne	1
Wood	tonne	1.3
Metal	tonne	7.8

APPENDIX 2.2: GEORGIA

Please read this section in conjunction with the commentary in Section 4.2.2.

Appendix 2.2a – Ambient Air Quality

Pollutant	Standard	Units	Averaging Period
NO_2	40 (Annual average will reduce by 2 µg/m^3 every year, to reach 40 µg/m^3 by 1 January 2010)	µg/m^3	Annual mean
SO_2	20*	µg/m^3	Annual mean
Benzene	5 (Annual average will reduce by 1 µg/m^3 every year from 2006, to reach 5 µg/m^3 by 1 January 2010)	µg/m^3	Annual mean
PM_{10}	20 (30 on 1 January 2005, reducing every 12 months thereafter by equal annual percentages to reach 20 by 1 January 2010)**	µg/m^3	Annual mean

* For the protection of vegetation and ecosystems

** No PM 10 was measured in 2009 due to the system running on natural gas

NOx results

ID	Feb - 2009	Apr-2009	Jun-2009	July-2009	Aug-2009	Oct-2009	Dec-2009	Pollutant	Units
PSG 1-1	0.45	0.26	0.54	0.54	0.29	0.36	0.44	NOx	µg/m^3
PSG 1-2	0.55	0.22	0.35	0.35	0.36	0.42	0.48	NOx	µg/m^3
PSG 1-3	0.45	0.31	N/A	N/A	0.28	0.35	0.44	NOx	µg/m^3
PSG 1-4	0.53	N/A	0.41	0.41	0.31	0.43	0.51	NOx	µg/m^3
PSG 1-5	0.54	N/A	0.49	0.49	0.34	0.57	0.33	NOx	µg/m^3
PSG 2-1	0.4	0.11	0.05	0.05	0.07	0.12	0.11	NOx	µg/m^3
PSG 2-2	0.24	0.08	0.12	0.12	0.05	0.1	0.12	NOx	µg/m^3
PSG 2-3	0.1	0.07	0.05	0.05	0.04	0.11	0.1	NOx	µg/m^3
PSG 2-4	0.26	0.21	0.15	0.15	0.09	*	0.07	NOx	µg/m^3
PSG 2-5	0.18	0.11	0.06	0.06	0.11	0.17	0.11	NOx	µg/m^3

SOx results

ID	Feb - 2009	Apr-2009	Jun-2009	July-2009	Aug-2009	Oct-2009	Dec-2009	Pollutant	Units
PSG 1-1	0.32	0.57	1.73	1.73	0.63	0.24	0.14	SOx	µg/m^3
PSG 1-2	0.38	0.51	0.6	0.6	0.94	0.25	0.12	SOx	µg/m^3
PSG 1-3	0.46	0.99	N/A	N/A	0.8	0.32	0.09	SOx	µg/m^3
PSG 1-4	0.53	N/A	0.55	0.55	0.69	0.79	0.2	SOx	µg/m^3
PSG 1-5	6.95	N/A	5.47	5.47	1.33	0.25	0.12	SOx	µg/m^3
PSG 2-1	0.28	0.29	2.49	2.49	0.25	0.18	0.22	SOx	µg/m^3
PSG 2-2	0.36	0.29	0.25	0.25	0.41	0.24	0.08	SOx	µg/m^3
PSG 2-3	0.28	0.27	0.28	0.28	0.41	0.24	0.36	SOx	µg/m^3
PSG 2-4	0.32	0.25	0.31	0.31	0.33	*	0.09	SOx	µg/m^3
PSG 2-5	0.31	0.35	0.43	0.43	0.34	0.19	0.31	SOx	µg/m^3

Benzene results

Benzene	Feb - 2009	Apr-2009	Jun-2009	July-2009	Aug-2009	Oct-2009	Dec-2009	Pollutant	Units
PSG 1-1	0.57	0.2	0.66	0.66	0.98	0.49	0.53	Benzene	µg/m^3
PSG 1-2	0.85	0.4	0.38	0.38	0.58	0.72	0.60	Benzene	µg/m^3
PSG 1-3	0.50	0.3	0.49	0.49	0.45	0.39	0.65	Benzene	µg/m^3
PSG 1-4	0.52	0.4	0.37	0.37	0.44	0.50	0.50	Benzene	µg/m^3
PSG 1-5	0.67	0.4	0.73	0.73	1.61	0.37	0.51	Benzene	µg/m^3
PSG 2-1	0.27	0.6	0.26	0.26	2.89	0.75	0.31	Benzene	µg/m^3
PSG 2-2	0.43	0.2	0.53	0.53	4.73	0.35	0.24	Benzene	µg/m^3
PSG 2-3	0.33	0.2	0.52	0.52	1.46	0.26	0.37	Benzene	µg/m^3
PSG 2-4	0.28	0.1	0.30	0.30	0.88	0.24	0.41	Benzene	µg/m^3
PSG 2-5	0.68	0.6	1.12	1.12	0.55	0.18	0.32	Benzene	µg/m^3

N/A - Tubes displaced by external party

* - Laboratory was not able to analyze the tube due to damage or similar reason

Appendix 2.2b – Stack Emissions

Emission Stream Sources	Pollutant	Standard	Units
MOL Turbine	NOx	70-75 at 15% O2, dry	mg/Nm^3
	CO	N/A	mg/Nm^3
	SO_2	35	mg/Nm^3
	PM_{10}	5	mg/Nm^3
Generators	NOx	2000	mg/Nm^3
	CO	650	mg/Nm^3
	SO_2	1700	mg/Nm^3
	PM_{10}	130	mg/Nm^3

November-December 2009 and March 2010: Annual monitoring

NOTE: Figures in red indicate non-compliance with project standards

Equipment	Date	Load	Concentration at ref conditions			
			NOx	CO	SO_2	PM
				mg/m^3		
PSG 1						
MOL Turbine 1	08.03.10	90%	112.76	1534.79	2.05	3.61
MOL Turbine 2	26.06.09	95%	38.87	82.30	0.00	3.98
MOL Turbine 2	08.03.10	90%	118.04	1359.50	0.26	3.66
MOL Turbine 3	09.03.10	90%	115.58	1165.00	2.40	3.42
MOL Turbine 4	09.03.10	90%	122.99	960.16	0.00	3.62
MOL Turbine 5	08.03.10	90%	125.07	799.74	0.00	3.65
Generator 1	23.12.09		441.50	256.30	17.95	37.35
Generator 2	23.12.09		481.34	172.20	19.32	37.26
Generator 3	23.12.09		449.58	200.36	18.19	37.68
WBH	12.03.10		162.68	0.09	66.53	29.16
PSG 2						
MOL Turbine 1	16.03.10	92%	119.55	1296.77	0.14	3.50
MOL Turbine 2	16.03.10	91%	114.32	1142.52	0.00	3.55
MOL Turbine 3	17.03.10	92%	108.32	1525.64	2.81	3.51
MOL Turbine 4	15.03.10	92%	118.80	609.96	0.00	3.51
MOL Turbine 5	15.03.10	92%	134.08	534.08	0.00	3.72
Generator 1	22.12.09		432.54	248.32	18.55	38.23
Generator 2	22.12.09		461.07	212.24	16.94	37.83
Generator 3	22.12.09		437.04	200.65	19.12	37.77
WBH	18.03.10		170.70	2.74	57.30	29.81

Appendix 2.2c – Environmental Noise

	Standard	Units	Period
PSGs	55	dB (A)	Daytime
	45	dB (A)	Night-time

2009-Q1 – PSG 1, Area 72, PSG 1 Camp, PSG 2, PSG 2 Camp, Area 80, Akhaltsikhe Camp, Tsalka OSRB, Borjomi OSRB

Monitoring point	GPS Coordinate	Date and Time	Noise Readings in dBA		Background noise
PSG 1/Area 72 NM 1	8512350	19.02.09	Max	52.7	Birds
	4589284	10:55	Average	50.9	
PSG 1/Area 72 NM 2	8512277	19.02.09	Max	54.2	Birds
	4589632	11:25	Average	52.7	
PSG1 Camp NM1	8512325	04.03.09	Max	46.7	N/A
	4589015	11:15	Average	45.7	
PSG 1/Area 72 NM 3	8513467	19.02.09	Max	47.1	Irrigation channel
	4590290	12:05	Average	44.3	
PSG 2 NM 1	8450375	19.02.09	Max	52.7	Birds. Light wind
	4602555	14:25	Average	49.5	
PSG 2 NM 2	8450170	19.02.09	Max	52.3	Birds
	4602501	14:59	Average	50.1	Light wind
Area 80 NM 1	8319395	20.02.09	Max	45.2	N/A
	4610010	13:20	Average	44.3	
Area 80 NM 2	8319201	20.02.09	Max	45.1	N/A
	4610129	13:50	Average	44.8	
PSG2 CAMP NM1	8452711	05.03.09	Average	48.2	Camp generators within 40m. Birds
	4600379	12:50	Max	51.3	
PSG2 CAMP NM2	8452675	05.03.09	Average	42.5	Birds
	4600248	13:25	Max	44.1	
PSG2 CAMP NM3	8452657	05.03.09	Average	41.2	Birds
	4600181	13:55	Max	43.4	
Akhaltsikhe camp NM1	8334644	06.03.09	Average	42.3	People, light vehicle
	4613771	14:15	Max	59.2	
Akhaltsikhe camp NM2	8334754	06.03.09	Average	39.9	Birds
	4613988	14:35	Max	42.5	
Akhaltsikhe camp NM3	8334676	06.03.09	Average	54.8	Traffic
	4613607	15:15	Max	58.2	
OSRB1	8368530	09.03.09	Average	50.3	Cars from road
	4632354	13:15	Max	51.9	
OSRB2	8368529	09.03.09	Average	57.8	River, road traffic, heavy vehicles
	4632251	13:35	Max	69.7	
OSRB3	8368465	09.03.09	Average	55.9	River, road traffic, heavy vehicles
	4632339	14:15	Max	75.2	
OSRBNR	8368251	09.03.09	Average	58.2	River, road traffic, heavy vehicles
	4632817	14:30	Max	71.6	
OSRT1	8421025	10.03.09	Average	46.9	Birds
	4606632	14:15	Max	49.1	
OSRT2	8420964	10.03.09	Average	44.7	Birds
	4606641	14:35	Max	45.6	
OSRT3	8420925	10.03.09	Average	49.4	Birds
	4606586	14:45	Max	50.8	
OSRTNR	8420566	10.03.09	Average	51.2	Birds, vehicle
	4607965	15:05	Max	61.3	

2009-Q2 – PSG 1, AREA 72, PSG 1 CAMP, PSG 2, PSG 2 CAMP, AREA 80, AKHALTSIKHE CAMP, TSALKA OSRB, BORJOMI OSRB

Monitoring point	GPS Coordinate	Date and Time	Noise Readings in dBA		Background noise
PSG 1/Area 72 NM 1	8512350	10.05.09	Max	53.7	Birds
	4589284	10:25	Average	51.2	
PSG 1/Area 72 NM 2	8512277	10.05.09	Max	53.7	Birds
	4589632	10:45	Average	52.4	
PSG1 Camp NM1	8512325	10.05.09	Max	44.3	Birds.Frogs
	4589015	11:25	Average	42.6	
PSG 1.Area 72 NM 3	8513467	10.05.09	Max	36.1	N/A
	4590290	12:05	Average	35.1	
PSG 2 NM 1	8450375	12.05.09	Max	53.2	Rain
	4602555	15:30	Average	52.1	
PSG 2 NM 2	8450170	12.05.09	Max	52,5	Rain
	4602501	16:10	Average	51.9	
PSG2 CAMP NM1	8452711	12.05.09	Max	51.5	Camp generators within 40m. Birds
	4600379	16:50	Average	49.2	
PSG2 CAMP NM2	8452675	12.05.09	Max	44.4	Birds
	4600248	17:10	Average	43.1	
PSG2 CAMP NM3	8452657	12.05.09	Max	43.9	Birds
	4600181	17:25	Average	41.5	
Area 80 NM 1	8319395	14.05.06	Max	46.4	Birds
	4610010	10:15	Average	45.1	
Area 80 NM 2	8319201	14.05.06	Max	47.8	Birds
	4610129	10:35	Average	47.1	
Akhaltsikhe camp NM1	8334644	14.05.06	Max	48.2	People, birds
	4613771	12:45	Average	45.4	
Akhaltsikhe camp NM2	8334754	14.05.06	Max	42.9	Birds
	4613988	13:05	Average	40.7	
Akhaltsikhe camp NM3	8334676	14.05.06	Max	57.2	Traffic
	4613607	13:20	Average	54.1	
OSRB1	8368530	13.05.09	Max	55.1	birds
	4632354		Average	54.4	
OSRB2	8368529	13.05.09	Max	49.3	River
	4632251		Average	49.1	
OSRB3	8368465	13.05.09	Max	49.8	River
	4632339		Average	49.4	
OSRBNR	8368251	13.05.09	Max	49.6	River, road traffic, heavy vehicles.
	4632817		Average	49.3	
OSRT1	8421025	13.05.09	Max	51.2	Birds, people, wind
	4606632		Average	45.9	
OSRT2	8420964	13.05.09	Max	48.1	Birds, wind
	4606641		Average	47.1	
OSRT3	8420925	13.05.09	Max	52.2	Birds
	4606586		Average	51.1	
OSRTNR	8420566	13.05.09	Max	37.2	Birds
	4607965		Average	34.3	

2009-Q3 – PSG 1, AREA 72, PSG 1 CAMP, PSG 2, PSG 2 CAMP, AREA 80, AKHALTSIKHE CAMP, TSALKA OSRB, BORJOMI OSRB

Monitoring point	GPS Coordinate	Date and Time	Noise Readings in dBA		Background noise
PSG 1/Area 72 NM 1	8512350	28.09.09	Max	53.9	Birds
	4589284	10:35-10:41	Average	51.7	
PSG 1/Area 72 NM 2	8512277	28.09.09	Max	55.7	Birds
	4589632	10:56-11:02	Average	53.6	
PSG1 Camp NM1	8512325	28.09.09	Max	48.6	Birds/Frogs
	4589015	11:25-11.31	Average	44.9	
PSG 1/Area 72 NM 3	8513467	28.09.09	Max	36.8	N/A
	4590290	11:45-11:51	Average	35.4	
PSG 2 NM 1	8450375	28.09.09	Max	55.1	Birds
	4602555	14:45	Average	53.3	
PSG 2 NM 2	8450170	28.09.09	Max	52,9	Birds
	4602501	15:10	Average	52.3	
PSG2 CAMP NM1	8452711	28.09.09	Max	49.8	Camp generators within 40m. Birds
	4600379	15:50	Average	49.1	
PSG2 CAMP NM2	8452675	28.09.09	Max	44.9	Birds
	4600248	16:10	Average	44.2	
PSG2 CAMP NM3	8452657	28.09.09	Max	46.9	Birds
	4600181	16:25	Average	45.2	
Area 80 NM 1	8319395	21.09.09	Max	49.8	Birds
	4610010	16:29-16:35	Average	47.6	
Area 80 NM 2	8319201	21.09.09	Max	49.3	Birds
	4610129	16:45-16:50	Average	47.4	
Akhaltsikhe camp NM1	8334644	22.09.09	Max	48.9	People, birds
	4613771	08:35-08:41	Average	45.8	
Akhaltsikhe camp NM2	8334754	22.09.09	Max	43.4	Birds
	4613988	08:52-08:58	Average	41.2	
Akhaltsikhe camp NM3	8334676	22.09.09	Max	55.2	Birds
	4613607	09:10-09:17	Average	54.8	
OSRB1	8368530	22.09.09	Max	54.8	Birds
	4632354	13:47-13:53	Average	54.1	
OSRB2	8368529	22.09.09	Max	49.7	River
	4632251	13:35-13:41	Average	49.3	
OSRB3	8368465	22.09.09	Max	49.9	River
	4632339	14:02-14:09	Average	49.2	
OSRBNR	8368251	22.09.09	Max	50.1	River, road traffic, heavy vehicles
	4632817	14:35-14:40	Average	49.8	
OSRT1	8421025	14.09.09	Max	47.7	Birds
	4606632	13:48-13:55	Average	45.5	
OSRT2	8420964	14.09.09	Max	47.9	Birds, wind
	4606641	14:15-14:21	Average	47.1	
OSRT3	8420925	14.09.09	Max	52.4	Birds
	4606586	14:23-14:29	Average	51.3	
OSRTNR	8420566	14.09.09	Max	37.7	Birds
	4607965	14:45-14:51	Average	35.6	

2009-Q4 – PSG 1, AREA 72, PSG 1 CAMP, PSG 2, PSG 2 CAMP, AREA 80, AKHALTSIKHE CAMP, TSALKA OSRB, BORJOMI OSRB AND EDDF

Monitoring point	GPS Coordinate	Date and Time	Noise Readings in dBA		Background noise
PSG 1/Area 72 NM 1	8512350	15.12.09	Max	53.3	Birds
	4589284	10:25-10:35	Average	51.1	
PSG 1/Area 72 NM 2	8512277	15.12.09	Max	54.9	Birds
	4589632	10:47-10:53	Average	52.8	
PSG1 Camp NM1	8512325	15.12.09	Max	47.9	Birds/Frogs
	4589015	11:20-11.27	Average	45.6	
PSG 1/Area 72 NM 3	8513467	15.12.09	Max	37.9	N/A
	4590290	11:38-11:44	Average	36.1	
PSG 2 NM 1	8450375	16.12.09	Max	49.3	Birds
	4602555	09:26-09:31	Average	48.7	
PSG 2 NM 2	8450170	16.12.09	Max	45.4	Birds
	4602501	09:43-09:47	Average	44.3	
PSG2 CAMP NM1	8452711	16.12.09	Max	46.3	Birds
	4600379	10:07-10:12	Average	45.0	
PSG2 CAMP NM2	8452675	16.12.09	Max	55.3	Birds
	4600248	15:11-15:17	Average	53.6	
PSG2 CAMP NM3	8452657	16.12.09	Max	52,3	Birds
	4600181	15:31-15:36	Average	51.9	
Area 80 NM 1	8319395	17.12.09	Max	48.7	N/A
	4610010	14:16-14:21	Average	47.9	
Area 80 NM 2	8319201	21.09.09	Max	50.8	Birds
	4610129	14:35-14:40	Average	49.3	
Akhaltsikhe camp NM1	8334644	17.12.09	Max	48.7	People
	4613771	16:42-16:47	Average	46.1	
Akhaltsikhe camp NM2	8334754	17.12.09	Max	44.4	Birds
	4613988	17:12-17:17	Average	42.3	
Akhaltsikhe camp NM3	8334676	17.12.09	Max	55.8	People
	4613607	17:31-17:37	Average	54.9	
OSRB1	8368530	21.11.09	Max	54.2	N/A
	4632354	13:22-13:27	Average	53.8	
OSRB2	8368529	21.11.09	Max	49.8	River
	4632251	13:45-13:50	Average	49.1	
OSRB3	8368465	21.11.09	Max	50.1	River
	4632339	14:00-14:07	Average	49.7	
OSRBNR	8368251	22.09.09	Max	49.7	River, road traffic, heavy vehicles
	4632817	13:01-13:06	Average	49.3	
OSRT1	8421025	27.11.09	Max	47.4	N/A
	4606632	13:11-13:17	Average	45.1	
OSRT2	8420964	27.11.09	Max	48.1	Wind
	4606641	13:28-13:34	Average	47.6	
OSRT3	8420925	27.11.09	Max	52.1	Birds
	4606586	13:43-13:48	Average	51.0	
OSRTNR	8420566	27.11.09	Max	37.3	Birds
	4607965	14:48-14:52	Average	36.7	
EDDF1	8371325	21.11.09	Max	40.1	River
	4621123	16:10-16:15	Average	39.4	
EDDF2	8371485	21.11.09	Max	35.7	N/A
	4620962	16:35-16:40	Average	35.3	
EDDF3	8370815	21.11.09	Max	38.3	People
	4621309	16:55-17:00	Average	36.4	

Appendix 2.2d – Effluent

Figures in red show non-compliances with the operations standards

PSG 1

Parameters	Stan-dards	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly													
pH	6-9	8.25	8.7	8.4	8.6	7.87	8.05	8.01	6.77	7.68	6.98	7.65	8.44
COD	125	35	58	33	61	47	7	15	14	17	>3	>3	>3
Oil and grease	10	2	1.4	2.3	1.8	5.6	<1	2.8	3.1	1.6	1.6	1.1	2.1
TSS	35	16	36	16	62	74	44	56	6	42	94	10	20
NH_4	10	0.2	0.2	0.46	0.21	0.58	0.16	1.05	0.05	0.22	2.05	0.02	0.1
Sulphide	1	<0.1	<0.1	0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>0.1	>0.1	>0.1
Coliform	<400	8	7	26	33	5400	5400	9200	350	11000	92000	1800	26
Quarterly													
BOD	25	6.5			12.6			5.8	5.6	5.8	6.4		
Heavy metals	10	<10			<10			<10	<10		>10		
As	0.1	<0.01			<0.01			<0.01	<0.01		>0.01		
Cd	0.1	<0.01			<0.01			<0.01	<0.01		>0.01		
Cr (6)	0.1	0.02			<0.03			<0.03	<0.03		>0.03		
Cr total	0.5	0.04			<0.01			<0.01	0.07		0.01		
Cu	0.5	<0.01			<0.01			<0.01	<0.01		0.01		
Fe	3.5	<0.01			0.1			0.2	<0.01		1.9		
Pb	0.1	<0.01			<0.01			<0.01	<0.01		>0.01		
Hg	0.01	<0.01			<0.01			<0.01	<0.01		>0.01		
Ni	0.5	<0.01			<0.01			0.2	<0.01		>0.01		
Se	0.1	<0.01			<0.01			<0.01	<0.01		>0.01		
Ag	0.5	<0.01			<0.01			<0.01	<0.01		>0.01		
Zn	1	0.12			<0.1			0.6	0.05		>0.01		
Phenols	0.5	<0.03			<0.03			<0.02	<0.02		>0.02		
Chlorine	0.2												

PSG 2

Parameters	Standards	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Monthly									
pH	6-9	8.4	7.45	7.9	7.87	8.3	7.65	8.3	7.9
COD	125	22	26	<3	<3	14	<3	>3	>3
Oil & grease	10	1.4	4.7	<1	0.9	2	1.2	1.2	1
TSS	35	6	1476	21	24	2	20	22	14
NH_4	10	<0.02	0.19	0.09	<0.01	0.09	<0.01	>0.01	>0.01
Sulphide	1	<0.005	<0.1	<0.1	<0.1	<0.1	<0.01	>0.1	>0.1
Coliform	<400	14	240	33	79	350	1700	94	920
Quarterly									
BOD	25	9.4			0.4	5.4	4.8		
Heavy metals	10	<10			<10	<10			
As	0.1	<0.01			<0.01	<0.01			
Cd	0.1	<0.01			<0.01	<0.01			
Cr (6)	0.1	<0.03			<0.03	<0.03			
Cr total	0.5	<0.01			<0.01	0.05			
Cu	0.5	<0.01			<0.01	<0.01			
Fe	3.5	<0.1			0.2	0.1			
Pb	0.1	<0.01			<0.01	<0.01			
Hg	0.01	<0.01			<0.01	<0.01			
Ni	0.5	<0.01			0.4	<0.01			
Se	0.1	<0.01			<0.01	<0.01			
Ag	0.5	<0.01			<0.01	<0.01			
Zn	1	<0.1			0.1	<0.01			
Phenols	0.5	<0.03			<0.02	<0.02			
Chlorine	0.2								

No monitoring conducted in January, February, March and December – retention pond frozen or dry.

PSG 1 Camp

Parameters	Stan-dards	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
pH	6-9	7.15	7.15	7.2	6.9	7.2	7.1	7.79	6.73	7.15	6.53	7.2	7.22
BOD	25	0.16	9.2	0.24	8.2	6.8	5.6	2.9	6.2	5.1	5.6	4.2	8.4
COD	125	<3	13	10	12	13	12	9	38	<3	>3	>3	>3
TSS	35	4	2	2	18	4	2	3	12	14	8	8	4
TDS	-	720	753	627	541.2	542.4	726.6	873	276	613.2	847.8	975.6	762.6
NH_4	10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	0.02	0.4	>0.01	>0.01
Oil and grease	10	1.5	1.6	4.5	1.4	4.3	<1	2	2.8	1.5	1.5	1.3	1.5
Coliform	<400	350	49	280	130	240	1600	49	17	460	920	140	110

PSG 2 Camp

Parameters	Stan-dards	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
pH	6-9	7.3	7.6	7.5	7.1	7.37	7.21	7.31	6.9	7.58	7.25	7.55	7.65
BOD	25	0.15	10.8	0.18	8.8	6.4	0.8	0.6	5.8	4.9	4.4	4.1	7.8
COD	125	<3	20	20	17	13	<3	4	20	4	>3	>3	>3
TSS	35	2	4	3	8	24	2	3	2	7	4	2	4
TDS	-	569	526.8	471	597.6	486	590.4	552.6	496.8	543.6	521.4	487.2	528
NH_4	10	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	0.01	0.01	0.01	>0.01	>0.01
Oil and grease	10	1	1.9	2	1.8	4.3	<1	0.9	0.9	1.3	1.1	1.4	1
Coliform	<400	1600	9200	17	22	14	14	350	1600	>1800	140	1700	27

Akhaltsikhe Camp

Parameters	Stan-dards	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
pH	6-9	6.85	7	7.05	6.8	7.15	6.97	7.02	6.61	7.08	6.75	7.75	7.05
BOD	25	0.16	11.6	0.26	7.9	7.2	0.9	0.8	5.8	5.4	5	4.25	8.1
COD	125	<3	22	10	14	13	<3	8	26	11	>3	>3	>3
TSS	35	2	2	3	4	14	7	5	2	10	4	2	2
TDS	-	1277	1263.6	1192.8	1123.2	880.8	987	777.6	919.2	1124.4	1186.2	303	985.8
NH_4	10	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	<0.01	0.07	0.07	0.02	0.32
Oil and grease	10	1.9	2.4	4	1.4	2	<1	0.9	1.8	1.4	1.3	1.2	1.4
Coliform	<400	2	13	170	<2	170	5	350	220	2	5	70	<2

One-off as consistent with MoE new Technical Regulations – February 2009

Parameters	Standards	PSG 1	PSG 1 camp	PSG 2 camp	Akhaltsikhe camp
Total Surface Activated Substances (Detergents)	2	0.42	0.37	0.21	0.28
Total Nitrogen	15	25.8	22.6	10.6	11.3
Total Phosphorus	2	5.3	3.7	4	1.6

Appendix 2.2e – Ground and Surface Waters

Reports on seasonal rounds of monitoring:

May-June 2009

Location	Benzene 1 µg/l	Toluene 1 µg/l	Ethylbenzene 1 µg/l	Xylene 1 µg/l	Naphthalene 1 µg/l	TPH 10 µg/l
BMW 9	<1	<1	<1	<1	<0.1	<10/<10
BMW 10	<1	<1	<1	<1	<0.1	<10/<10
BMW 11	<1	<1	<1	<1	<0.1	<10/<10
TSW 9	<1	<1	<1	<1	<0.1	<10/<10
TSW 20	<1	<1	<1	<1	<0.1	<10/<10
KTMW 14	<1	<1	<1	<1	<0.1	<10/<10
TMW 7	DRY; included into the rehabilitation programme					
TMW 13	DRY; included into the rehabilitation programme					
TMW 15	DRY; included into the rehabilitation programme					
KTMW 4	Was damaged and represented hazard to livestock - decommissioned					
KTMW 15	DRY; included into the rehabilitation programme					

July 2009

Location	Benzene 1 µg/l	Toluene 1 µg/l	Ethylbenzene 1 µg/l	Xylene 1 µg/l	Naphthalene 1 µg/l	TPH 10 µg/l
BMW 9	<0.2	<0.2	<0.2	<0.5	<1	<0.2
BMW 10	<0.2	<0.2	<0.2	<0.5	<0.2	<10
BMW 11	<0.2	<0.2	<0.2	<0.5	<1	<0.2
TSW 9	<0.2	<0.2	<0.2	<0.5	<1	<0.2
TSW 20	<0.2	<0.2	<0.2	<0.5	<1	<0.2
KTMW 14	<0.2	<0.2	<0.2	<0.5	<1	<0.2
TMW 7	DRY; included into the rehabilitation programme					
TMW 13	DRY; included into the rehabilitation programme					
TMW 15	DRY; included into the rehabilitation programme					
KTMW 4	Was damaged and represented hazard to livestock - decommissioned					
KTMW 15	DRY; included into the rehabilitation programme					

August 2009

Location	Benzene 1 µg/l	Toluene 1 µg/l	Ethylbenzene 1 µg/l	Xylene 1 µg/l	Naphthalene 1 µg/l	TPH 10 µg/l
BMW 9	<0.2	<0.2	<0.2	<0.5	<1	<10
BMW 10	<0.2	<0.2	<0.2	<0.5	<1	<10
BMW 11	<0.2	<0.2	<0.2	<0.5	<1	<10
TSW 9	<0.2	<0.2	<0.2	<0.5	<1	<10
TSW 20	<0.2	<0.2	<0.2	<0.5	<1	<10
KTMW 14	<0.2	<0.2	<0.2	<0.5	<1	<10
TMW 7	DRY; rehabilitation programme initiated					
TMW 13	DRY; rehabilitation programme initiated					
TMW 15	DRY; rehabilitation programme initiated					
KTMW 4	Was damaged and represented hazard to livestock - decommissioned					
KTMW 15	DRY; rehabilitation programme initiated					

September-October 2009

Location	Benzene 1 µg/l	Toluene 1 µg/l	Ethylbenzene 1 µg/l	Xylene 1 µg/l	Naphthalene 1 µg/l	TPH 10 µg/l
BMW 9	<0.2	<0.2	<0.2	<0.5	<0.3	<10
BMW 10	<0.2	<0.2	<0.2	<0.5	<0.2	<10
BMW 11	<0.2	<0.2	<0.2	<0.5	<0.4	<10
TSW 9	<0.2	<0.2	<0.2	<0.5	<0.2	<10
TSW 20	<0.2	<0.2	<0.2	<0.5	<0.2	<10
KTMW 14	<0.2	<0.2	<0.2	<0.5	<0.2	<10
TMW 7	Rehabilitation works completed; existing well washed and deepened. However no positive outcome; well remains dry.					
TMW 13	Rehabilitation works completed. The new well was drilled up to 20 m (original well's depth was 16 m). However, no positive outcome; well remains dry					
TMW 15	Rehabilitation works completed. The existing well was deepened and washed. However, no positive outcome; well remains dry					
KTMW 15	<0.2	0.41	<0.2	<0.5	<0.2	<10
KTMW 4	Was damaged and represented hazard to livestock - decommissioned					

Report for Water supply re-sampling:

Analysis	Benzene	Toluene	Ethyl-benzene	Xylenes	Naph-thalene	Fraction C10-C12	Fraction C12-C22	Fraction C22-C30	Fraction C30-C40
Unit	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
MDL	1	1	1	1	1	10	10	10	10
Vale-WS02-July 04	<1	<1	<1	<1	3664	<10	<10	<10	<10
Vale-WS02-R008-09	<0.2	<0.2	<0.2	<0.5	<0.3	<10	<10	<10	<10
Sakuneti-WS01-July 04	<1	<1	<1	<1	4341	<10	<10	<10	<10
Sakuneti-WS01-R008-09	<0.2	<0.2	<0.2	<0.5	<0.2	<10	<10	<10	<10
Sakire-WS01-July 04	<1	<1	<1	<1	1134	<10	<10	<10	<10
Sakire-WS01-R008-09	<0.2	<0.2	<0.2	<0.5	<0.2	<10	<10	<10	<10
Sadgeri-WS01-July 04	<1	<1	<1	<1	1192	<10	<10	<10	<10
Sadgeri-WS01-R008-09	<0.2	<0.2	<0.2	<0.5	<0.2	<10	<10	<10	<10
Moliti-WS02-July 04	<1	<1	<1	<1	4204	<10	<10	<10	<10
Moliti-WS02-R008-09	<0.2	<0.2	<0.2	<0.5	<0.2	<10	<10	<10	<10
Andeziti-WS01-July 04	<1	<1	<1	<1	1427	36	<10	<10	<10
Andeziti-WS01-R008-09	<0.2	<0.2	<0.2	<0.5	<0.2	<10	<10	<10	<10
Tsikhisjvari-WS03-July 04	<1	<1	<1	<1	1725	<10	<10	<10	<10
Tsikhisjvari-WS03-R008-09	<0.2	<0.2	<0.2	<0.5	<0.2	<10	<10	<10	<10

Appendix 2.2f – Waste

Total Figures, 2009

TYPE OF WASTE (m^3)	PSG1 (site and camp)	PSG2 (site and camp)	SES Tsalka	SES Borjomi	BVs	SES Rustavi and Tbilisi Office
Hazardous waste disposed offsite						
Oily solids	22.4	25.2	1	0.6	0	2.6
Oily liquids	5.8	60	6.2	0.2	36	2.4
Sewage sludge	350	248	0	0	0	48
Wax	0	0	0	0	0	0
Other	59.8	35.8	0	7.5	2.2	1.4
Non-hazardous waste re-cycled/recovered offsite						
Glass (stored)	21	20	0	0	0	0
Plastic (stored)	75	41	17	5.2	0	0
Paper (stored)	70	29	8.4	5	0	12
Metal (stored)	4.2	2.4	0	0.4	0	0
Timber (stored)	2.2	3.4	0	0.3	0	0
Organic Wastes (food wastes)	36	58	0	0	0	0
General	370	454	84	22	0	419

APPENDIX 2.3: TURKEY

Appendix 2.3a – Ambient Air Quality

Air Quality Standards for Ground Level Concentrations (µg/m^3)

Parameter	Project Standards (Turkey)	Averaging Period
VOCs	Benzene: 5	Annual average by 2010. A limit value of 10 µg/m^3 (100%) must be met on 13 December 2000, reducing on 1 January 2006 and every 12 months thereafter by 1 µg/m^3 to reach 0% (5 µg/m^3) by 1 January 2010.
Oxides of Nitrogen (NO_x)	40	Annual mean
Sulphur Dioxide (SO_2)	20	24 hour average

NOTE: Figures in red show non-compliance with project standards

Ceyhan Marine Terminal – Averages of 2009 Measurements

No.	Monitoring Date	Average Ambient Concentrations (µg/m^3)						
		SO_2	NOx	Benzene	Toluene	Ethyl Benzene	o-xylene	mp-xylene
CMT 1	Jan-Apr-July-Oct 2009	5.21	13.99	1.17	7.00	0.80	0.51	1.95
CMT 2		3.83	13.41	1.01	5.79	0.64	0.55	1.37
CMT 3		23.18	10.62	0.93	1.58	0.47	0.51	1.16
CMT 4		3.08	13.76	0.94	1.56	0.51	0.43	0.87
CMT 5		6.51	16.17	0.92	5.18	0.83	0.68	1.76
CMT 6		5.85	13.64	0.86	3.32	0.55	0.49	1.13
CMT 7		4.37	11.03	0.8	1.65	0.49	0.43	1.13
CMT 8		6.46	12.14	0.74	4.07	0.60	0.57	1.21
CMT 9		9.02	11.65	0.78	2.42	0.60	0.83	2.00
CMT 10		6.35	8.78	1.13	11.51	1.46	1.23	3.77

Appendix 2.3b – Stack Emissions

Stack Emission Standards

Emission stream sources	Parameters	Project Specified Standard
5 MW Reciprocating engines (gas fired) (PTs 1, 2, 3 and 4)	NOx	500 mg/Nm^3 (5% Volumetric O_2)
	SO_2	60 mg/Nm^3 (5% Volumetric O_2)
	CO	650 mg/Nm^3 (5% Volumetric O_2)
	PM	130 mg/Nm^3 (5% Volumetric O_2)
Water Heaters (diesel fired) (Wax Handling Boilers at CMT, IPT1 and IPT2)	NOx	460 mg/Nm^3 (3% Volumetric O_2)
	SO_2	1,000 mg/Nm^3 (3% Volumetric O_2)
	CO	150 mg/Nm^3 (3% Volumetric O_2)
	Soot	2
Water Heaters (gas and LPG fired) (CMT, PTs 1, 2, 3 and 4)	NOx	320 mg/Nm^3 (3% Volumetric O_2)
	SO_2	100 mg/Nm^3 (3% Volumetric O_2)
	CO	100 mg/Nm^3 (3% Volumetric O_2)
	PM	10 mg/Nm^3 (3% Volumetric O_2)
Generators/Fire pumps (diesel fired) (monitored only if the annual run time is < 500 hrs)	NOx	460 mg/Nm^3 (3% Volumetric O_2)
	SO_2	1,000 mg/Nm^3 (3% Volumetric O_2)
	Soot	2
	CO	250 mg/Nm^3 (15% Volumetric O_2)
	PM	75 mg/Nm^3 (15% Volumetric O_2)

NOTE: Figures in red show non-compliance with project standards.

Stack Emission Monitoring Results for Pump Stations (April 2009)

Parameter	Emission Source							
	Driver Engines					Water Heaters		
	1	2	3	4	5	1	2	3
Facility: PT1								
NOx	161	134	103	102	Was not running during monitor.	95	95	98
SO_2	0	0	0	0		0	0	0
PM	1,76	1,81	1,32	1,01		0,06	0,21	0,17
CO	46	69	51	42		24	57	13
Facility: PT2								
NOx	122	104	144	158	Not existing	116	103	110
SO_2	0	0	0	0		0	0	0
PM	0,49	0,51	0,25	0,26		0,45	0,52	0,31
CO	44	39	40	49		11	6	6
Facility: PT3								
NOx	177	218	192	205	213	105	103	Was not running during monitor.
SO_2	0	0	0	0	0	0	0	
PM	0,31	0,32	0,25	0,27	0,27	0,5	0,7	
CO	59	29	93	100	108	2	5	
Facility: PT4								
NOx	274	Was not running during monitor.	283	264	Not existing	111	113	104
SO_2	0		0	0		0	0	0
PM	0,28		0,22	0,34		0,51	0,56	0,63
CO	3		11	23		3	3	1

Stack Emission Monitoring Results for Ceyhan Marine Terminal (April 2009)

Parameter	Emission Source		Parameter	Emission Source			
	Process Area Wax Handling Boiler (diesel)	Metering Wax Handling Boiler (diesel)		General Facilities Water Heater 1 (LPG)	General Facilities Water Heater 2 (LPG)	Housing Compound Water Heater (LPG)	Process Area Water Heater (LPG)
NOx	131	108	NOx	Not measured.			
SO_2	0	0	SO_2				
soot	2	2	PM				
CO	4	13	CO				

Stack Emission Monitoring Results for Intermediate Pigging and Pressure Reduction Station (April 2009)

Parameter	Emission Source	
	Wax Handling Water Heater	Diesel Generator
Facility: IPT1		
NOx	105	n/a since runs < 500 hrs/year
SO_2	0	
soot	1.5	
CO	12	
Facility: IPT2		
NOx	58	141
SO_2	0	0
soot	1.7	3.7
CO	7	52
PM	n/a	Not measured.

Appendix 2.3c – Aqueous Discharges

Aqueous Discharge Standards

Waste stream sources	Parameters	Project Specified Standard
Aqueous discharges to surface and marine waters from oily water separators	All limits 95th percentiles of annual operational hours.	
	pH	6-9 for fresh water and 5-9 for marine water
	Oil and grease	10 mg/l
	Total suspended solids	35 mg/l
	Metals	
	Heavy metals, total	10 mg/l
	Cd	0.05 mg/l
	Cr total	0.5 mg/l
	Cu	0.5 mg/l
	Pb	0.5 mg/l
	Hg	0.01 mg/l
	Ni	0.5 mg/l
	Zn	2 mg/l
	NH_4	10 mg/l
	Phenols	0.5 mg/l
	Sulphur	1 mg/l
Aqueous discharges to surface waters from sewage treatment plants	pH	6-9
	BOD	25 mg/l
	COD	120 mg/l
	Oil and grease	10 mg/l
	Total suspended solids	35 mg/l
	Chlorine, total residual	0.2 mg/l
	Coliform bacteria	<400MPN/100ml

NOTE: Figures in red show non-compliance with project standards

Table Notes:

1. When it is stated that there is 'no discharge' it means that the water was sampled but not discharged since the final effluent was not compliant with the Project Standards. In this case non-compliant waste water was re-cycled or when the capacity of the plant was exceeded it was disposed of at a Project approved Municipal WWTP. At CMT where there is a construction phase WWTP still in place, the waste water was transferred to this plant for treatment only if it was operating in compliance with Project Standards.

2. When it is stated that there is 'no flow' it means that the water could not be sampled since there was no flow at the time of monitoring.

3. As per EEMP, for OWSs, metals, phenols and sulphur will be monitored on a quarterly basis for one year to determine compliance with project standards. If standards are exceeded on these occasions follow-up monitoring will be undertaken as necessary. During 2008 quarterly OWS monitoring, it was seen that there were some exceedances of sulphur; thus quarterly sulphur monitoring continued in 2009.

4. At the MoEF's request, one round monitoring of OWSs was conducted consistent with Table 11.2 of Turkish Water Pollution Control Regulation. The parameters that fall outside the regular monthly monitoring parameters were analysed in November 2009 which related results are presented on below tables.

Sector: Petroleum Industry (Petroleum Filling Facilities and similar)

Parameter	Composite Sample – 2 hrs	Composite Sample – 24 hrs
COD	400 mg/l	200 mg/l
TSS	60 mg/l	30 mg/l
Oil and grease	40 mg/l	20 mg/l
Hydrocarbons	6 mg/l	8 mg/l
Phenols	2 mg/l	1 mg/l
Total Cyanide (CN^-)	0.5 mg/l	0.2 mg/l
Sulphur (S^-2)	2 mg/l	1 mg/l
pH	6-9	6-9

PT1 Aqueous Discharges Monitoring Results

	Jan 09	Feb 09	March 09	April 09	May 09	June 09	July 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09
Ops WWTP												
pH	No discharge		8.2	No discharge		7.63	No discharge		7.62	No discharge	7.33	No discharge
BOD (mg/l)			<4			11			<4		14	
COD (mg/l)			32.30			29.3			23.5		32.3	
Oil and grease (mg/l)			2.4			<1.5			<1.5		<1.5	
TSS (mg/l)			2.8			14.8			1.6		7.2	
Total residual chlorine (mg/l)			0.18			0.08			0.12		<0.02	
Coliform bacteria			0			4			43		<3	
Storm Water Pond (SWP)												
pH	No discharge											
BOD (mg/l)												
COD (mg/l)												
Oil and grease (mg/l)												
TSS (mg/l)												
Total residual chlorine (mg/l)												
Coliform bacteria												
OWS												
pH	6.35	7.08	7.76	7.23	7.22	7.72	6.9	7.59	8.03	8.29	6.33	7.02
Oil and grease (mg/l)	< 1.5	<1.5	3.00	<1.5	2.6	<1.5	<1.5	6.8	<1.5	14.6	4.4	1.6
TSS (mg/l)	9.2	9.6	36.7	8.4	13.6	16	9.2	2	24	37	10	3
Sulphur (mg/l)	1.3	n/a since wasn't in the programme		<1	n/a since wasn't in the programme		<1	n/a since wasn't in the programme		No flow	<1	n/a since wasn't in the programme
COD (mg/l)	n/a since wasn't in the programme			n/a since wasn't in the programme			n/a since wasn't in the programme			n/a since wasn't in the programme	1,925	
Hydrocarbons (mg/l)											0	
Phenol (mg/l)											<0.002	
Total cyanide (mg/l)											<0.002	

PT2 Aqueous Discharges Monitoring Results

	Jan 09	Feb 09	March 09	April 09	May 09	June 09	July 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09
Ops WWTP												
pH	No discharge	7.61	No discharge	No discharge		8.07	No discharge					
BOD (mg/l)		14				<4						
COD (mg/l)		29				23.5						
Oil and grease (mg/l)		<1.5				<1.5						
TSS (mg/l)		17.6				25.6						
Total residual chlorine (mg/l)		0.06				0.19						
Coliform bacteria		300				4						
Storm Water Pond (SWP)												
pH	7.34	No discharge										
BOD (mg/l)	6											
COD (mg/l)	65.5											
Oil and grease (mg/l)	9											
TSS (mg/l)	5.6											
Total residual chlorine (mg/l)	<0.02											
Coliform bacteria	0											
SWP upstream												
pH	7.61	8.57	7.31	6.51	6.87	7.71	8.18	6.9	8.39	8.15	6.77	7.7
BOD (mg/l)	<4	<4	<4	<4	<4	<4	<4	<4	<4	4.9	<4	<4
COD (mg/l)	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Oil and grease (mg/l)	<1.5	<1.5	<1.5	<1.5	4.8	1.8	4.6	9.6	<1.5	6	<1.5	5.6
TSS (mg/l)	<1	<1	1.6	145	44.4	8.8	3.2	75.6	<1	4	1.6	<1
Total residual chlorine (mg/l)	<0.02	0.02	<0.02	<0.02	0.02	<0.02	0.05	0.13	0.16	0.06	0.04	0.03
Coliform bacteria	0	300	450	<3	1,100	1,100	>1,100	>1,100	1,100	>1,100	>1,100	1,100
SWP downstream												
pH	7.85	8.41	7.68	6.51	6.88	7.85	8.42	7.34	8.76	8.59	6.8	7.64
BOD (mg/l)	<4	<4	<4	<4	<4	<4	<4	6.3	<4	<4	<4	<4
COD (mg/l)	<20	<20	<20	32.3	<20	<20	<20	64.8	<20	<20	<20	<20
Oil and grease (mg/l)	1.8	<1.5	<1.5	<1.5	3	<1.5	2.2	7	1.6	<1.5	<1.5	<1.5
TSS (mg/l)	4.8	1.6	4.4	256	157	4	2.8	64.8	11.6	1.2	1.6	2.4
Total residual chlorine (mg/l)	<0.02	0.06	<0.02	<0.02	0.05	<0.02	0.05	0.16	0.16	0.02	0.02	0.03
Coliform bacteria	0	300	60	150	1,100	460	1,100	>1,100	1,100	>1,100	460	1,100
OWS												
pH	6.79	No flow		6.71	6.9	8.88	8.58	7.14	8.13	8.76	7.76	7.24
Oil and grease (mg/l)	1.6			<1.5	14	<1.5	2.6	<1.5	<1.5	<1.5	<1.5	2.6
TSS (mg/l)	14			16	37	33.2	4.8	5. 6	13.2	16.4	8.8	12
Sulphur (mg/l)	<0.2			<1			<1			<1	<1	
COD (mg/l)	n/a since wasn't in the programme	n/a since wasn't in the programme		n/a since wasn't in the programme	n/a since wasn't in the programme		n/a since wasn't in the programme	n/a since wasn't in the programme		n/a since wasn't in the programme	<20	n/a since wasn't in the programme
Hydrocarbons (mg/l)											0	
Phenol (mg/l)											<0.002	
Total cyanide (mg/l)											<0.002	

PT3 Aqueous Discharges Monitoring Results

	Jan 09	Feb 09	March 09	April 09	May 09	June 09	July 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09
Ops WWTP												
pH	No discharge		7.9	7.48	8.51	8.19	8.5	No discharge			8.27	No discharge
BOD (mg/l)			<4	<4	<4	9.5	10.1				<4	
COD (mg/l)			<20	<20	<20	41.1	82.3				26.4	
Oil and grease (mg/l)			<1.5	<1.5	<1.5	<1.5	<1.5				6	
TSS (mg/l)			6	9.6	14.8	18	30.4				6.4	
Total residual chlorine (mg/l)			0.03	0.07	0.18	0.06	0.14				0.57	
Coliform bacteria			0	<3	3	<3	<3				<3	
Storm Water Pond (SWP)												
pH	No discharge			8.2	8.55	No discharge			8.55	7.95	No discharge	
BOD (mg/l)				<4	<4				16	6		
COD (mg/l)				26.4	29.3				99.9	85.2		
Oil and grease (mg/l)				3.8	<1.5				<1.5	<1.5		
TSS (mg/l)				12.8	21.6				9.2	10.8		
Total residual chlorine (mg/l)				0.11	0.3				0.14	0.2		
Coliform bacteria				<3	<3				<1.5	4		
OWS												
pH	7.58	7.7	7.3	7.65	8.44	8.96	7.61	7.08	8.28	7.63	8.18	9
Oil and grease (mg/l)	1.8	<1.5	<1.5	<1.5	<1.5	<1.5	2.2	<1.5	<1.5	10.6	9.6	<1.5
TSS (mg/l)	11.2	11.6	11.6	5.2	16.4	2.4	6.8	12.4	18	37	26.8	4.4
Sulphur (mg/l)	2.9			<1			<1			<1	<1	
COD (mg/l)											126.3	
Hydrocarbons (mg/l)	n/a since wasn't in the programme	n/a since wasn't in the programme		n/a since wasn't in the programme	n/a since wasn't in the programme		n/a since wasn't in the programme	n/a since wasn't in the programme		n/a since wasn't in the programme	0	n/a since wasn't in the programme
Phenol (mg/l)											<0.002	
Total cyanide (mg/l)											<0.002	

PT4 Aqueous Discharges Monitoring Results

	Jan 09	Feb 09	March 09	April 09	May 09	June 09	July 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09
Ops WWTP												
pH	7.41	7.99	7.8	No discharge		8.21	No discharge					
BOD (mg/l)	<4	5	<4			0.6						
COD (mg/l)	<20	29.3	41.1			52.9						
Oil and grease (mg/l)	3.2	8	2.4			1.8						
TSS (mg/l)	17.2	13.6	30.8			13.5						
Total residual chlorine (mg/l)	0.09	0.15	0.07			0.16						
Coliform bacteria	<1.8	<3	<3			<3						

	Jan 09	Feb 09	March 09	April 09	May 09	June 09	July 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09
Storm Water Pond (SWP)												
pH	7.36					8.01	8.73				8.13	7.51
BOD (mg/l)	<4					24.5	11.3				21.2	12
COD (mg/l)	<20					79.3	35.2				52.9	52.9
Oil and grease (mg/l)	3			No discharge		2.6	2.6		No discharge		2.2	1.5
TSS (mg/l)	15.6					19.2	18.4				13.6	8.4
Total residual chlorine (mg/l)	0.04					0.08	<0.02				0.02	0.18
Coliform bacteria	36					<3	<3				<3	<3
OWS												
pH	7.69	7.69	8.1	8	8.96	8.45	8.79		9.74	8.83	7.46	8.72
Oil and grease (mg/l)	<1.5	30.2	13.6	1.6	7	16.6	<1.5	No flow	1.8	9.6	<1.5	<1.5
TSS (mg/l)	5.2	4.8	9.2	29.2	14	31.6	32		6.8	10.8	13.2	6.4
Sulphur (mg/l)	<0.2			<1			<1			<1	<1	
COD (mg/l)											23.5	
Hydrocarbons (mg/l)	n/a since wasn't in the programme	n/a since wasn't in the programme		n/a since wasn't in the programme	n/a since wasn't in the programme		n/a since wasn't in the programme	n/a since wasn't in the programme		n/a since wasn't in the programme	0	n/a since wasn't in the programme
Phenol (mg/l)											<0.002	
Total cyanide (mg/l)											<0.002	

IPT1 Aqueous Discharges Monitoring Results

	Jan 09	Feb 09	March 09	April 09	May 09	June 09	July 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09
OWS												
pH		7.14	6.75	6.71	7.1	7.61	7.12	7.41	7.15	7.99	6.68	6.9
Oil and grease (mg/l)		1.5	1.5	3	3.2	1.5	1.5	1.5	2	3.8	2.4	1.5
TSS (mg/l)		<1	<1	<1	9.6	<1	3.6	4.4	4.4	<1	6	3.6
Sulphur (mg/l)				<1			<1			<1	3.2	
COD (mg/l)	No flow										<20	
Hydrocarbons (mg/l)		n/a since wasn't in the programme		n/a since wasn't in the programme	n/a since wasn't in the programme		n/a since wasn't in the programme	n/a since wasn't in the programme		n/a since wasn't in the programme	0	n/a since wasn't in the programme
Phenol (mg/l)											<0.002	
Total cyanide (mg/l)											<0.002	

IPT2 Aqueous Discharges Monitoring Results

	Jan 09	Feb 09	March 09	April 09	May 09	June 09	July 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09
OWS												
pH				8.3		6.32			6.98	8.08	6.57	
Oil and grease (mg/l)				2.2	No discharge	2.6		No discharge	2.2	3.4	3.4	No discharge
TSS (mg/l)				30		4.8			10.4	8.8	4	
Sulphur (mg/l)				<1						<1	<1	
COD (mg/l)		No discharge					No discharge				41.1	
Hydrocarbons (mg/l)				n/a since wasn't in the programme	n/a since wasn't in the programme			n/a since wasn't in the programme		n/a since wasn't in the programme	0	n/a since wasn't in the programme
Phenol (mg/l)											<0.002	
Total cyanide (mg/l)											<0.002	

CMT Aqueous Discharges Monitoring Results

	Jan 09	Feb 09	March 09	April 09	May 09	June 09	July 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09
Ops WWTP												
pH	8.67	8.33	8.08	7.77	7.57	7.88	7.5	7.97	8	7.6	8.41	7.74
BOD (mg/l)	<4	<4	7.5	13	15	16.5	5.2	22.4	<4	6	<4.0	<4
COD (mg/l)	34	<20	52.9	70.5	61.7	76.4	49.9	73.4	23.5	41.1	<20.0	<20
Oil and grease (mg/l)	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	5.6	<1.5	<1.5	4.6	3	<1.5
TSS (mg/l)	4.8	2.4	10.4	30.8	26.8	16	4.4	4.8	1.6	5.2	10	8
Total residual chlorine (mg/l)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.07	0.2	0.2	0.2	0.2
Coliform bacteria	<400	<400	<400	<400	<400	<400	<400	<400	<400	<400	<400	<3
Construction WWTP												
pH	8.22	8.26	8.21	7.91	7.57	7.4	7.65	7.79	7.97	8	7.82	8.08
BOD (mg/l)	<4	<4	<4	<4	<4	<4	<4	<4	4	<4	<4.0	<4
COD (mg/l)	<20	<20	<20	47	<20	<20	<23.5	<20	<20	32.3	<20.0	<20
Oil and grease (mg/l)	<1.5	<1.5	2.2	<1.5	1.8	6	<1.5	<1.5	2	6.8	<1.5	<1.5
TSS (mg/l)	5	4.8	3.6	1.2	<1.0	<1	<1	2	<1	<1	<1.0	2.4
Total residual chlorine (mg/l)	0.2	0.19	0.2	0.2	0.2	0.2	0.2	0.03	0.1	0.2	0.2	0.2
Coliform bacteria	<400	3	3	<400	<400	<400	<400	<400	<400	<400	<400	<3
Storm Water Pond (SWP)												
pH			8.65		8.9		8.91		8.9			
BOD (mg/l)			5.5		7.6		10.3		10.6			
COD (mg/l)			35.2		70.5		76.4		44.1			
Oil and grease (mg/l)	No discharge		1.5	No flow	<1.5	No discharge	<1.5	No discharge	8.4	No discharge		
TSS (mg/l)			14		29		34.4		19.2			
Total residual chlorine (mg/l)			0.1		0.02		0.09		0.02			
Coliform bacteria			43		<400		<400		<400			
SWP upstream												
pH	8.22	8.16	7.6	8.14	7.42	8.1	7.75	8.83			8.05	8.01
BOD (mg/l)	<4	<4	<4	<4	13.5	5.4	4.7	5.5			<4.0	<4
COD (mg/l)	<20	<20	<20	<20	76.4	<20	52.9	44.1			<20.0	<20
Oil and grease (mg/l)	1.8	<1.5	<1.5	<1.5	<1.5	<1.4	<1.5	<1.5	No flow		1.6	<1.5
TSS (mg/l)	35.6	1.2	3.6	14.4	740	94	8	13			3.2	4
Total residual chlorine (mg/l)	0.2	0.02	0.03	0.08	0.02	0.02	0.04	0.04			0.06	0.02
Coliform bacteria	1,100	240	460	460	460	<400	1,100	<400			<400	93

	Jan 09	Feb 09	March 09	April 09	May 09	June 09	July 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09
SWP downstream												
pH	8.44	8.17	8.02	8.03	7.5	8.59	8.18				8.08	7.95
BOD (mg/l)	6.2	<4	<4	<4	7.6	13.5	15.1				<4.0	4.7
COD (mg/l)	48.3	29.3	<20	26.4	70.5	59.7	44.1				<20.0	<20
Oil and grease (mg/l)	2.2	<1.5	<1.5	<1.5	<1.5	3.4	<1.5		No flow		<1.5	<1.5
TSS (mg/l)	20.4	4	6.4	18.4	29	111.6	17.2				13.3	16
Total residual chlorine (mg/l)	0.2	0.02	0.02	0.07	0.02	0.06	0.02				0.05	0.06
Coliform bacteria	<400	1,100	<400	460	1,100	1,100	1,100				>1,100	460
OWS 1&2 (office and housing compounds)												
pH	7.77	8.15	8.02	7.2	7.8	8.81	8.9				7.33	
Oil and grease (mg/l)	<1.5	<1.5	<1.5	<1.5	<1.5	31	<1.5				<1.5	
TSS (mg/l)	18.4	3.6	1.20	8.8	52.8	14	29.5				2	
Sulphur (mg/l)	0.7			<1			<1		No flow		<1	No flow
COD (mg/l)											<20	
Hydrocarbons (mg/l)	n/a since wasn't in the programme	n/a since wasn't in the programme		n/a since wasn't in the programme	n/a since wasn't in the programme		n/a since wasn't in the programme				0	
Phenol (mg/l)											<0.002	
Total cyanide (mg/l)											<0.002	
OWS 3 (process area)												
pH	7.73				6.9						7.25	
Oil and grease (mg/l)	<1.5	No flow			<1.5						<1.5	
TSS (mg/l)	2				7.6						<1.0	
Sulphur (mg/l)	0.7			No flow				No flow			4	No flow
COD (mg/l)											A20	
Hydrocarbons (mg/l)	n/a since wasn't in the programme	n/a since wasn't in the programme			n/a since wasn't in the programme						0	
Phenol (mg/l)											<0.002	
Total cyanide (mg/l)											<0.002	
OWS 4 (tank farm)												
pH	7.7	7.15	7.7	7.36	6.92		7.06				6.84	
Oil and grease (mg/l)	2	<1.5	<1.5	<1.5	3.2	No flow	<1.5				<1.5	
TSS (mg/l)	3.2	1.2	1	4.8	4.8		<1				1.6	
Sulphur (mg/l)	0.5			<1			<1		No flow		3.6	
COD (mg/l)											26.4	
Hydrocarbons (mg/l)	n/a since wasn't in the programme	n/a since wasn't in the programme		n/a since wasn't in the programme	n/a since wasn't in the programme		n/a since wasn't in the programme				0	
Phenol (mg/l)											<0.002	
Total cyanide (mg/l)											<0.002	No flow

	Jan 09	Feb 09	March 09	April 09	May 09	June 09	July 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09
OWS 5 (metering area)												
pH	7.62	7.65	7.81	7.98	6.85	7.7	8.1				7.65	8.37
Oil and grease (mg/l)	6	<1.5	<1.5	<1.5	4.6	5.2	5.4				<1.5	<1.5
TSS (mg/l)	3.2	2	1	1.2	8	3.2	2				1.2	<1
Sulphur (mg/l)	0.7			<1			<1		No flow		3.2	
COD (mg/l)	n/a since wasn't in the programme	n/a since wasn't in the programme		n/a since wasn't in the programme	n/a since wasn't in the programme		n/a since wasn't in the programme				<20	n/a since wasn't in the programme
Hydrocarbons (mg/l)											0	
Phenol (mg/l)											<0.002	
Total cyanide (mg/l)											<0.002	
OWS 6 (jetty 1)												
pH	No discharge	No flow		7.07	6.81						6.65	No flow
Oil and grease (mg/l)				4.8	5.6						<1.5	
TSS (mg/l)				18.4	4.8						6.4	
Sulphur (mg/l)	0.7			<1				No flow			3.2	
COD (mg/l)	n/a since wasn't in the programme	n/a since wasn't in the programme		n/a since wasn't in the programme	n/a since wasn't in the programme						<20	
Hydrocarbons (mg/l)											0	
Phenol (mg/l)											<0.002	
Total cyanide (mg/l)											<0.002	
OWS 7 (jetty 2)												
pH	No discharge	No flow			6.6			No flow			6.8	No flow
Oil and grease (mg/l)					5.8						<1.5	
TSS (mg/l)					9.6						2.8	
Sulphur (mg/l)	1.1										2.4	
COD (mg/l)	n/a since wasn't in the programme				n/a since wasn't in the programme			No flow			<20	
Hydrocarbons (mg/l)											0	
Phenol (mg/l)											<0.002	
Total cyanide (mg/l)											<0.002	

Appendix 2.3d – Waste

Total Waste Volumes, 2009

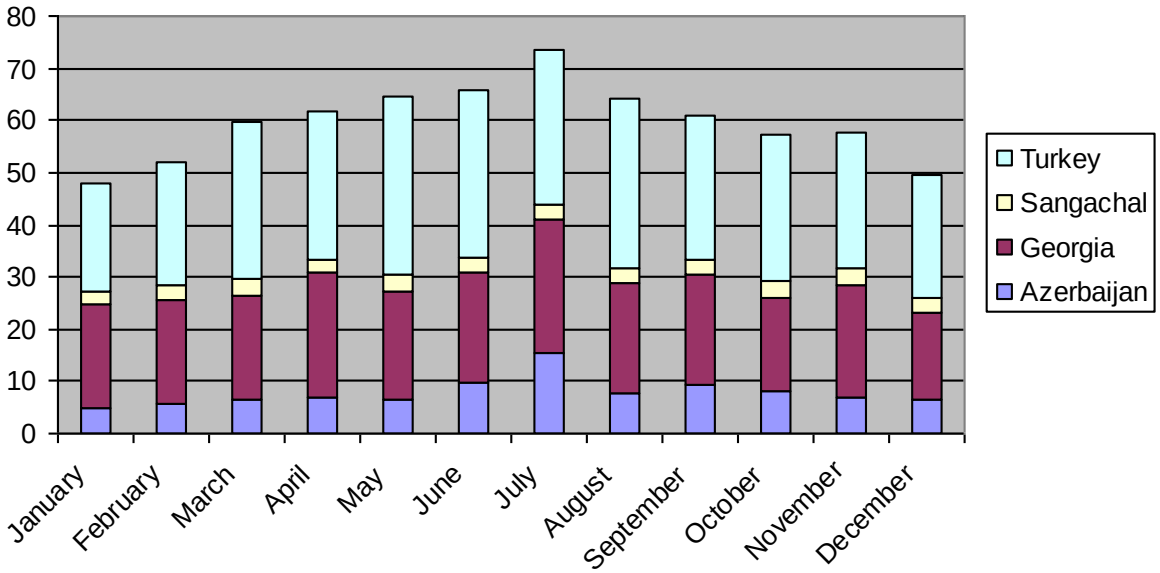
All figures are in kg	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
PT1&IPT2													
Hazardous waste disposed offsite	0	0	0	0	0	0	0	0	0	0	0	0	0
Domestic waste disposed offsite	1,813	0	950	4,012	0	1,150	1,970	1,650	720	2,050	1,500	1,178	1,813
Waste water disposed in 3rd party WWTP	15,000	15,000	30,000	30,000	15,000	30,000	23,000	30,000	30,000	30,000	15,000	10,000	15,000
Non-hazardous waste re-cycled	1,085	0	770	1,815	0	1,056	2,485	670	725	1,325	1,150	1,000	1,085
Non-hazardous waste re-used	800	600	925	610	245	665	650	660	505	640	340	567	800
PT2													
Hazardous waste disposed offsite	0	0	0	0	4,350	0	0	0	0	0	0	0	0
Domestic waste disposed offsite	3,100	0	1,300	4,110	1,700	1,400	2,400	1,500	1,300	1,800	1,300	3,000	3,100
Waste water disposed in 3rd party WWTP	20,000	10,000	10,000	10,000	0	20,000	30,000	20,000	10,000	10,000	10,000	20,000	20,000
Non-hazardous waste re-cycled	1,900	0	850	550	950	750	1,500	385	320	1,300	420	1,050	1,900
Non-hazardous waste re-used	1,030	785	1,085	1,091	1,060	855	970	860	655	810	746	780	1,030
PT3													
Hazardous waste disposed offsite	0	0	0	0	0	0	0	0	0	0	0	0	0
Domestic waste disposed offsite	1,300	1,200	1,300	2,900	0	700	2,150	620	500	1,500	1,200	1,450	1,300
Waste water disposed in 3rd party WWTP	20,000	0	10,000	10,000	10,000	10,000	10,000	10,000	0	65,000	10,000	10,000	20,000
Non-hazardous waste re-cycled	2,300	2,250	1,900	10,500	2,775	12,300	3,050	1,800	1,500	2,600	500	2,650	2,300
Non-hazardous waste re-used	1,100	660	850	1,050	750	1,100	1,000	800	700	840	360	650	1,100
PT4													
Hazardous waste disposed offsite	0	0	0	0	1,996	0	0	0	0	0	0	0	0
Domestic waste disposed offsite	500	1,250	1,250	2,550	0	2,750	2,500	1,200	0	1,500	900	1,700	500
Waste water disposed in 3rd party WWTP	0	30,000	15,000	17,000	20,000	0	40,000	32,000	20,000	40,000	0	20,000	0
Non-hazardous waste re-cycled	0	1,823	845	1,392	0	1,153	1,641	0	0	1,835	892	0	0
Non-hazardous waste re-used	820	950	810	1,040	1,295	1,705	1,030	940	780	600	750	1,000	820
IPT1													
Hazardous waste disposed offsite	0	0	0	0	644	0	0	0	0	0	0	0	0
Domestic waste disposed offsite	1,400	1,650	1,450	1,250	2,100	2,950	1,600	950	1,000	2,850	0	2,300	1,400
Waste water disposed in 3rd party WWTP	260,000	214,000	336,000	364,000	378,000	588,000	588,000	546,000	476,000	588,000	574,000	560,000	260,000
Non-hazardous waste re-cycled	0	0	993	2,259	320	1,143	0	630	610	0	580	890	0
Non-hazardous waste re-used	3,124	2,671	2,424	480	2,905	3,555	3,054	2,278	1,623	2,014	1,667	1,959	3,124
CMT													
Hazardous waste disposed offsite	0	0	0	0	3,722	0	0	0	0	0	0	0	0
Domestic waste disposed offsite	6,425	6,715	8,008	4,715	5,025	10,070	5,584	6,076	6,404	8,107	6,806	6,392	6,425
Waste water disposed in 3rd party WWTP	10,000	10,000	10,000	20,000	20,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Non-hazardous waste re-cycled	3,410	1,073	992	1,940	4,264	1,751	1,560	1,180	1,040	1,085	3,800	1,860	3,410
Non-hazardous waste re-used	7,071	7,633	3,685	18,675	6,400	5,954	5,364	5,205	5,930	4,248	3,340	5,114	7,071

TOTAL 2009 (in tonnes)	
Hazardous waste disposed offsite	10.71
Domestic waste disposed offsite	170.65
Waste water disposed in 3rd party WWTP	6,454.00
Non-hazardous waste re-cycled	107.14
Non-hazardous waste re-used (solid&liquid)	145.89
Incineration % for solid waste disposed offsite	2.5
Landfill % for solid waste disposed offsite	39.3
Re-cycle % for solid waste disposed offsite	24.7
Re-use % for solid waste disposed offsite	33.6

APPENDIX 2.4: GHG EMISSIONS

GHG Emissions in 2009 (in kilotonnes)

GHG	Azerbaijan	Georgia	Sangachal	Turkey	Total
January	4.7	20.08	2.60	20.60	47.98
February	5.55	20.04	2.73	23.50	51.82
March	6.37	20.14	3.16	30.02	59.69
April	6.72	24.29	2.30	28.30	61.61
May	6.42	20.81	3.13	34.08	64.44
June	9.56	21.14	2.95	31.95	65.6
July	15.61	25.33	3.00	29.56	73.5
August	7.86	21.08	2.86	32.48	64.28
September	9.26	21.06	3.06	27.73	61.11
October	8.05	17.84	3.23	28.19	57.31
November	7.04	21.25	3.22	26.23	57.74
December	6.44	16.67	3	23.3	49.41



APPENDIX 3: CLOSE OUT STATUS OF ACTIONS RELATED TO NON-COMPLIANCES RAISED THROUGH IEC MONITORING

Appendix 3 contains BTC Co.'s response and progress towards implementing and effectively closing out the non-compliances raised by IEC. Items that remain open are reported in the BTC E&S Reports until they have been closed. Items that have been closed do not appear in subsequent reports. In adopting this approach, the Project aims to provide the transparency and assurance that measures are being taken to ensure follow-up and close out of all actions to address the non-compliances.

APPENDIX 3A – AZERBAIJAN ACTION STATUS AGAINST AUDIT NON-COMPLIANCES AND RECOMMENDATIONS

Ref. No.	Date of finding	Category	Description of Finding	Level of Non-Compliance	Recommendation for Improvement	Action Taken	Closure Status
2.4.1	June 2009	Monitoring	Stack emissions for NOx and CO noncompliant with ESAP	I	Prepare an MOC that justifies not relocating the sampling ports on the diesel generator stacks. Should BTC choose to modify the emissions standards with an MOC process, the IEC expects that the change would be a Level 3 and that there would be substantial documentations as to the appropriateness of the change (repeat recommendation).	MOC was prepared that justifies not relocating the sampling ports on diesel generator stacks. Routine stack emissions monitoring was carried out at all three of the PSA2 generators and at both of the IPA1 generators and all PSA2 turbines in 2009, by use of existing sampling ports as per US EPA recommended location (i.e. 2 stack diameters downstream and ½ a stack diameter up stream). All of the stacks were sampled for NOx, CO, NO_2, and PM10. This successfully concludes annual stack emissions monitoring required by the ESAP. All of the generators at PSA2 and IPA1 were found to be in full compliance with all parameters. Emissions from PSA2 turbines indicated elevated levels of NOx compared to ESAP standard and CO (no ESAP standard specified). As indicated in the BTC Azerbaijan ESIA standards for NOx is 125mg/m^3 and turbines are designed to meet this standard. Monitoring results of 2008 and 2009 demonstrated that ESAP standard of 75mg/m^3 is not appropriate and should be replaced with ESIA standard. MOC for changing ESAP standard for NOx was prepared.	

APPENDIX 3B – GEORGIA ACTION STATUS AGAINST AUDIT NON-COMPLIANCES AND RECOMMENDATIONS

Ref. No.	Date of finding	Category	Description of Finding	Level of Non-Compliance	Recommendation for Improvement	Action Taken	Closure Status
3.4.1	June 2009	Emis-sions Manage-ment	Stack emissions for NOx non-compliant with ESAP commitments	I	Stack emission testing is ongoing, but an MOC is needed to close out the schedule 21 commitment for modifying the sampling ports for the diesel generator ports and an MOC is needed to justify NOx levels. Emission testing still needs to be done for CTU.	The following actions had been taken to address the recommendations for improvement: The MOCs had been prepared for submission to Lenders approval for keeping the sample ports at the current locations on generators stacks. The MOC had been prepared for submission to Lenders approval for justifying NOx stack emissions monitoring standards for MoL turbines. CTU stack sample ports had been modified to make them suitable for stack emissions monitoring.	Ongoing

APPENDIX 3C – TURKEY ACTION STATUS AGAINST AUDIT NON-COMPLIANCES AND RECOMMENDATIONS

Ref. No.	Date of finding	Category	Description of Finding	Level of Non-Compliance	Recommendation for Improvement	Action Taken	Closure Status
4.2.2	June 2009	E&S Management Organization and Resources	The BIL E&S team is fully operational but still is limited by a number of key vacancies. In particular, the environmental supervisor position at the CMT remains open since June 2008 and the Health and Safety Manager position has been recently vacated. IEC notes that the Environmental Manager is currently covering for these two positions.	Rec.	IEC recommends BIL take immediate steps to fill them, particularly the Environmental Supervisor at the CMT.	H&S Manager position was filled in. Two Environmental Supervisor positions are vacant as of end of 2009.	OPEN
4.2.2	June 2009	E&S Management Organization and Resources	IEC observes that BIL has taken steps to provide full time PCR coverage in the field, with the exception of Area 3 (IPT1 & PT3) that is being covered by the PCR supervisor.	Level I	Back to back coverage of PCR personnel in Area 3 (IPT1 & PT3) should be provided as soon as possible.	As soon as BIL PCR Department is authorized to recruit new PCREs, appointments will be made to stations where back to back coverage is needed.	OPEN
4.3.2	June 2009	Environmental Tracking and Performance	IEC noted a significant improvement in the management of environmental data associated with BIL operations.	Rec.	IEC requests additional clarification from BIL as to how corrective actions raised by BTC through the action logger are being addressed in the BIMS.	Use of preventive corrective action request (PCAR) was started for Level II & III NCRs raised by BTC Co. BIL Environmental team has worked on a new action tracking system (ECO – Environmental Compliance Observation Card System). Level I NCRs and recommendations raised by BTC Co. will be inserted into this new system. The system will be shared with IEC during 2010audit.	OPEN
4.4.2	June 2009	Construction Camps	IEC raised concerns in June 2007 and 2008 about camp due diligence and reinstatement and the final status of construction camps across the Project. Based on review of material provided in the June 2009 visit, IEC is satisfied that reinstatement of construction camps has been completed according to EIA and ESAP standards, with the exception of Kars and Hanak Camps (see below).	Rec.	IEC requests that BTC provide a sign-off to these camp closure reports with their verification that all previously identified concerns have been addressed closed in relation to relevant ESAP commitments.	BTC Co. has started to carry out a desktop legal and technical review in 2009 and is planning to define a position with respect to due diligence of construction camps.	OPEN
4.4.2	June 2009	Construction Camps	An MOC regarding the ongoing operation of construction camps at fixed facilities, until at least 2011, has been approved, and IEC notes that BTC has spent additional funds for camp maintenance.	Rec.	As noted in the June 2008 report, IEC requested that BTC consider the following: • plans and procedures for compliance to project standards with respect to operation of camp potable water supplies and WWTPs (CMT currently only in operation). CWAAs are being addressed as part of project enhancements;	An MOC which will reflect current plans and future uncertainties is planned to be issued in 2010.	OPEN

Ref. No.	Date of finding	Category	Description of Finding	Level of Non-Compliance	Recommendation for Improvement	Action Taken	Closure Status
					• control of erosion and implementation of reinstatement plans for construction camps at pump stations and the CMT as part of the MOC for continued use; • establishment of formal decommissioning plans, including a final date and a due diligence procedure for site closure. IEC response – no information provided; • by the time of the next operations audit in June 2010, IEC requests that BTC provide additional indication as to whether the construction camps will be closed and reinstated by 2011, or that an additional modification to the MOC will be required.		
4.4.2	June 2009	Construction Camps	In June 2008, IEC noted that although, Kars Camp has been transferred from the Project to the Governorship of Kars and Hanak Camp to the Governorship of Ardahan, there may have been non-Project use after conclusion of BTC usage. IEC raised concerns about discrepancies regarding damage, soil pollution, wastewater, chemical waste, and trash.	Rec.	After the June 2009 visit, IEC continues to request further clarification and due diligence regarding the final status of these two camps.	BTC Co. has started to carry out a desktop legal and technical review in 2009 and is planning to define a position with respect to due diligence of construction camps.	OPEN
4.4.4	June 2009	Aggregate and Excess Material Management	Monitoring of reinstatement success should continue at the PT3 dumpsites, in particular DS1, taking into consideration that the sites are located in or next to an environmentally sensitive area (ESA 19), as designated in the Environmental Impact Assessment. IEC was informed by BTC that the DS1 access road will be reinstated by the ROW remediation work contractor by autumn 2009.	Rec.		Access road to DS1 was reinstated in 2009. ESA 19 was monitored in 2007 by BTC Co. ESA 19 monitoring locations were added to BIL's long term ecological monitoring programme as well as other locations and ESA 19 was monitored in 2009. BIL will continue to monitor ESA 19 as part of this programme.	CLOSED
4.4.4	June 2009	Aggregate and Excess Material Management	Since Botaş has now signed off on the Yeniyol Dump site, the Project should make a final decision on whether reinstatement is considered to be successful at this location, in consideration of ESAP commitments. IEC awaits additional information and clarification in this regard.	Rec.		Reinstatement of Yeniyol Dump site was deemed acceptable and the site is anticipated to recover over time. No further action is considered.	CLOSED

Ref. No.	Date of finding	Category	Description of Finding	Level of Non-Compliance	Recommendation for Improvement	Action Taken	Closure Status
4.5.4	June 2009	Non-Hazardous and Hazardous Waste	IEC remains concerned that the permanent CWAA facility at CMT is not yet operational despite being fully completed in March 2008. In June 2008, IEC was informed that this site was to be operational by September 2008; in June 2009, no progress in this regard is evident.	Rec.	IEC recommends that BTC and BIL finalize any outstanding punch list items affecting final completion. BIL should also provide reasons as to why operation permits have not been obtained.	CWAA punch list items were completed in 2009; use of CWAA was started and permit process commenced by end 2009 by BIL.	CLOSED
4.5.4	June 2009	Non-Hazardous and Hazardous Waste	Despite observations of good operating standards at construction camp CWAA's during audits, IEC notes that little progress has been made to finalize the construction and implementation of permanent CWAAs at fixed facilities.	Rec.	IEC understands that a decision regarding these facilities will be made in 2009-Q3 and awaits further information in this regard.	BIL and BTC Co. have jointly prioritised the CWAAs to be built at the operations sites of acilities. Since the existing CWAAs are compliant degradation level will dictate the timing of construction of the operations sites CWAAs.	OPEN
4.5.4	June 2009	Non-Hazardous and Hazardous Waste	IEC notes that chemical storage areas at fixed facilities are nearing completion, but that outstanding punch list items remain unresolved.	Rec.	IEC hopes that these punch list items can be quickly resolved and that these facilities become operational as soon as possible. In addition to environmental considerations, a health and safety review should also be undertaken to evaluate fire and worker safety considerations.	Chemical Storage Areas were completed in 2009.	CLOSED
4.5.4	June 2009	Non-Hazardous and Hazardous Waste	IEC observed that wastes originating from the construction phase or waste construction materials are still being stored on-site at construction camps and that BIL has not taken action to remove these wastes, as they originate from Botaş. IEC also observed waste stored at PT2 that is over one year old, despite a pending insurance claim.	Rec.	IEC recommends that the project take actions to catalogue and remove this waste to a proper disposal site, rather than leaving it onsite the construction camp CWAAs at fixed facilities.	Materials handed over from the construction phase are legally accepted as public domain. A committee in BIL will soon be established to classify these materials as reusables and wastes. The materials that are defined as waste by the Committee will be disposed of as per the WMP. The waste generated form the flood at PT2 is scheduled to be sent to Izaydas in Feb 2010.	OPEN
4.5.4	June 2009	Non-Hazardous and Hazardous Waste	During the June 2008 audit, IEC visited the Protegol disposal site near Kars Camp. The site was not visited in June 2009.	Rec.	N/A	N/A	N/A
4.5.7	June 2009	Wastewater Management	IEC notes that Project WWTP discharges to storm water ponds (treatment performance) are consistently non-compliant and that BTC has an intention to implement WWTP enhancements to ensure full legal compliance of WWTPs at fixed facilities subject to confirmation based on an on-going feasibility analysis.	Rec.	IEC welcomes this initiative to address a long-standing problem and requests that the feasibility analysis underway include an implementation plan and budget and a definite date for construction and operation.	Construction of new WWTPs started at PT1 and 3 and will be completed in 2010. Engineering of PT2 and 4 will be carried out in 2010.	OPEN

Ref. No.	Date of finding	Category	Description of Finding	Level of Non-Compliance	Recommendation for Improvement	Action Taken	Closure Status
4.5.7	June 2009	Wastewater Management	BTC has undertaken a third-party review of OWS performance across the project that indicated a variety of considerations, including new performance enhancements and improved maintenance. In some cases, some of the OWS could not be located (e.g. PT1).	Rec.	IEC recommends that BTC develop an implementation plan to address these issues particularly those relating to consistency of maintenance operations across all fixed facilities.	A phased implementation plan was developed by BTC Co. and BIL.	OPEN
4.6.2	June 2009	Pollution Prevention and Environmental Monitoring	IEC notes that steps have been taken to deal with the legal issues regarding water heater and generator stacks at IPTs and CMT and notes that BIL has committed to target implementation by 2009-Q3.	Rec.	IEC has noted previously that this issue is not relevant to ESAP compliance, but rather legal compliance with Turkish regulations and requests that this issue be dealt with promptly as it was raised in the June 2008 audit visit.	The stack extensions of wax handling boilers and IPT2 generator were realized by BIL. MoEF identified some stacks as non-compliant as per Turkish Regulation for the Control of Air Pollution Originating from Industrial Establishments (RCAPOIE); the stacks with supposedly non-compliant heights are the generators and fire pumps at facilities. BTC Co. and BIL disagree with MoEF's approach since they interpret the regulation as these units are exempt from permitting due to their emergency purposes or low thermal power input. MoEF requested from BIL to submit a report that would be prepared by an academic; thus an agreement with a university was done and the review of those units has started. Once the report is finalized; will be issued to MoEF as an attachment to air emission permit application folder.	OPEN
4.6.2	June 2009	Pollution Prevention and Environmental Monitoring	IEC notes that BTEX in air is measured as a parameter at the CMT, but that there are no project standards, international standards or limits imposed by Turkish regulations. Higher annual BTEX levels compared to 2007 annual average values at CMT are reported by BTC in the annual report, but IEC can only find that there is a project standard for Benzene levels (5 $\mu g/m^3$). Furthermore, BTEX should be reported as ppb, not $\mu g/m^3$.	Rec.	IEC requests that the project clarify how BTEX levels are measured in accordance to a project specific standard and the relevance of these measurements, given no standard currently exists. BTC informed IEC that there are several international health guidelines/standards for BTEX compounds and that a comparison with these standards will be considered.	BTC Co. initiated a review in 2009 covering whole year's monitoring results which will be finalized in 2010.	OPEN
4.6.2	June 2009	Pollution Prevention and Environmental Monitoring	IEC was informed that as per the "Noise Regulation" of Ministry of Labor and Social Security, occupational noise monitoring is required and being performed by BIL site HSE and H&S engineers. This information was not available during the 2009 visit and will be reviewed as part of the 2010 audit visit.	Rec.	n/a	n/a	n/a

Ref. No.	Date of finding	Category	Description of Finding	Level of Non-Compliance	Recommendation for Improvement	Action Taken	Closure Status
4.6.2	June 2009	Pollution Prevention and Environmental Monitoring	IEC also requests that BTC/BIL provide additional information regarding VOC monitoring at the CMT and how VOC emissions will be compliant with project Standards.	Rec.		A detailed VOC monitoring study was completed in 2009 which confirmed compliance with emissions standards and also does not require continuous emissions monitoring system (which was a local regulatory issue).	CLOSED
4.6.2	June 2009	Pollution Prevention and Environmental Monitoring	IEC is pleased to note that the project intends to address both monitoring of groundwater and surface water quality, as stated by July 2009. However, the information provided during the June 2009 audit is not sufficient to address questions such as; at which facilities will groundwater monitoring be conducted, how groundwater characterization of each site will be undertaken, what new monitoring wells will be installed in addition to existing water wells, what parameters will be sampled, the sampling frequency and reporting procedures, etc.	Rec.	IEC requests that BTC clarify groundwater monitoring procedures for each specific facility and that these procedures are consistent with BP standards at other fixed facilities similar to those of the BTC project.	BIL has added groundwater monitoring framework to BIL Environmental Monitoring Programme in 2009 and will start implementing the monitoring framework in 2010. BIL also started developing groundwater monitoring procedure accordingly.	OPEN
4.6.2	June 2009	Pollution Prevention and Environmental Monitoring	IEC notes BTC's request to change the MOC at the CMT regarding a reception facility for the treatment of slops and awaits additional information in this regard, when available.	Rec.		BTC Co. has developed a MARPOL compliance strategy and submitted a report to Turkish Government for consent as of end 2009. A response is awaited from Turkish Government in 2010. The outcome will drive the scope of the change to the MOC.	OPEN
4.7.1	June 2009	BVT30 Incident	BTC has taken a proactive approach to limit the environmental consequences of the BVT30 incident since it occurred. This includes a combination of approaches including a) immediate delineation and removal of contaminated material b) ongoing delineation studies and monitoring c) safe containment of contaminated material d) resolving all landowner issues relating to the incident. Phase 1 and Phase 2 studies have been completed. BTC is now focusing on two initiatives a) treatment of contaminated material currently stored on site and b) ongoing monitoring to determine the extent of in-situ contamination and consideration of remedial options.	Rec.	It is recommended that BTC prepare a remediation and monitoring strategy to inform the Lenders as to how any residual liabilities resulting from the incident will be mitigated.	Reconstruction, further site clean-up, monitoring and soil disposal actions were all completed by end 2009. A summary document will be available in 2010.	OPEN

Ref. No.	Date of finding	Category	Description of Finding	Level of Non-Compliance	Recommendation for Improvement	Action Taken	Closure Status
4.8.2	June 2009	Erosion Control, Reinstatement and Biorestoration	In June 2009, IEC notes much progress has been made toward establishing an effective ROW management system since the last audit, in particular regarding development of an integrated operational methodology for ROW problem identification and solution. Major erosion and landslides, reinstatement and biorestoration issues were effectively addressed in the last 12 months.	Rec.	Considering that the post-construction ROW reinstatement has progressively achieved, the 2009/2010 activities on the ROW will mainly focus on maintenance aspects. However, further steps are required in order to fully achieve the objectives set out in the ESAP Commitments Register.	Post-construction ROW reinstatement actions were completed in Lot A and B in 2009. An extensive geohazard focused ROW maintenance programme was implemented in 2009. BIL has improved ROW monitoring and reporting system. These actions will continue in 2010.	OPEN
4.8.2	June 2009	Erosion Control, Reinstatement and Biorestoration	As the ROW Register is intended to provide the most comprehensive and effective ROW management tool, it is recommended that environmental data entry into the BIMS are regularly recorded to ensure that monitoring data is updated on a current and consistent basis.	Rec.		BIL has assigned a dedicated staff for data entry and reporting and further improved their database. The system will be tested in 2010.	OPEN
4.8.2	June 2009	Erosion Control, Reinstatement and Biorestoration	Several tools to ensure adequate ROW maintenance and safe pipeline operations have been implemented or are presently under development. In 2009, the ROW maintenance management system is mainly based on the Patrol Teams reporting activities for the short term and routine monitoring purposes, on the remote sensing/satellite imagery analysis for a ROW trend analysis monitoring purposes, while geohazard analysis approach provides the areas of intervention assessment and ranking. The reinstatement/maintenance teams carry out the actual remedial works.	Rec.	IEC noted that in spite of the multiple tool approach, a unified and integrated management system has not been developed yet.	A well coordinated management system is in operations rather than unified and integrated one. BIL has roles and responsibilities defined for ROW management which is based on coordination among respective teams.	OPEN
4.8.2	June 2009	Erosion Control, Reinstatement and Biorestoration	IEC suggests that it would be useful to develop a fully integrated ROW maintenance management system that makes full use of available resour-ces and available data. This would allow the implementation of effective operating proce-dures for an action management system that goes beyond the problem identification, to provide a coordinated action response, specifying needed timeline and resources, in particular those cases where ROW maintenance and reinstatement works are contracted to external company. The coordinated management system could take the form of an integrated web based database or other management tool, remotely accessible and easy to update and consult.	Rec.		BIL has improved their GIS system with the support from BTC Co. The GIS system is planned to be the central information source in the near future and linked to ROW register.	OPEN

Ref. No.	Date of finding	Category	Description of Finding	Level of Non-Compliance	Recommendation for Improvement	Action Taken	Closure Status
4.8.2	June 2009	Erosion Control, Reinstatement and Biorestoration	Monitoring system of the five identified active fault zones has yet to be implemented. Fencing of the ROW - fault zone crossing has been completed, but the monitoring strategy/scope of work for the potentially high risk active faulting areas has not been defined.	Rec.	IEC recommends BIL to further develop an active fault zone monitoring strategy that also includes site specific geological studies.	BTC Co. and BIL started to work on fault zone monitoring issues in 2009.	OPEN
4.8.4	June 2009	Access Roads	IEC recognizes the successful efforts of BTC and BIL to deal with access road reinstatement and closure, arising from the construction phase.	Rec.	IEC recommends that the coordinated transition from the BTC access road register to BIL access road register for operations is finally achieved and the outstanding punch list closed.	Further reinstatement of access roads was completed in 2009. The update of access road was completed by end 2009 and the gaps were filled in.	CLOSED
4.8.4	June 2009	Access Roads	IEC recommends that an access roads closure report be developed in conjunction with the reinstatement contractor to document the closure and reinstatement of access roads.	Rec.		Access road register was updated in 2009; a summary report for access road reinstatement will be prepared in 2010.	OPEN
4.8.4	June 2009	Access Roads	IEC recommends that BTC and BIL prepare an Operational Access Road Strategy and Plan. The Plan should consider also the BTC/BIL exit strategy for villagers, landowners and local authorities that request that some of new built or accidentally opened access roads remain open. In particular, the exit strategy should take into consideration the liability aspects connected to this issue.	Rec.		BIL continued planning works for access road strategy in 2009.	OPEN
4.8.4	June 2009	Access Roads	The previous Level II non-compliance (Reinstatement CCP, Commitment ID: 2) regarding the final reinstatement of project access roads is rescinded. IEC will review the status of operational access roads as part of the 2010 audit	Rec.	n/a	n/a	n/a
4.8.4	June 2009	Access Roads	IEC recommends that GIS based access road database is designed to interact with the general GIS web based ROW Management System.	Rec.		It is not in the short-term plans to develop a GIS based access road database. First step will be to make the general GIS system of BIL functional and collect and process further information on the use and status of access roads	OPEN
4.9.2	June 2009	Ecological Management	IEC recommends that BIL intensify restoration and re-vegetation efforts in those habitats where natural conditions make the re-growth very slow.	Rec.		Biorestoration workshop was held between BTC Co., BIL and external consultants to develop guidelines for biological methods to support ROW vegetation cover. Biorestoration methods will start to be implemented in 2010 where necessary.	OPEN

Ref. No.	Date of finding	Category	Description of Finding	Level of Non-Compliance	Recommendation for Improvement	Action Taken	Closure Status
4.10.2	June 2009	Community Liaison	In order to provide a full-time coverage and response to local communities and issues, BIL should fill the vacant PCRE position in Area 3.	Rec.		As soon as BIL PCR Department is authorized to recruit new PCREs, appointments will be made to stations where back to back coverage is needed.	OPEN
4.10.2	June 2009	Community Liaison	In conjunction with the Lenders, BTC and BIL should identify procedures as to how livelihood assessment and other social evaluation procedures as currently undertaken by SRAP shall be carried out in future IEC audits.	Rec.		SRAP panel visited Turkey and qualitative survey conducted in July. Statisticians completed additional data assessment requested by the SRAP panel. North part of SRAP report drafted and actions noted. Second part of the final report is awaited from SRAP.	OPEN
4.13.2	June 2009	H&S	IEC recommends that BTC and BIL work together to ensure that an adequate safety oversight, supervision and training be provided to all employees and to third party personnel for both fixed facility and pipeline operations.	Rec.		We believe that such an assurance exists and BTC Co. further increased the level of assurance over project contractors in 2009.	CLOSED
4.13.2	June 2009	H&S	IEC recommends that adequate and regular workplace monitoring systems be implemented for major pollutants at fixed facilities where relevant, including noise, VOCs and BTEX. Additionally, IEC requests clarification from BTC/BIL as to how the project is undertaking measures to protect workers and those using accommodation areas at the CMT and fixed facilities.	Rec.		Environmental and workplace noise monitoring were completed in 2009. The results were compliant. Relevant documentation will be provided to IEC in 2010 audit. H&S reviews of facilities accommodation areas are being conducted on a yearly basis, identified findings are recorded and actioned.	OPEN

APPENDIX 4: STATUS OF RECOMMENDATIONS RAISED THROUGH SRAP MONITORING

Appendix 4 contains the following for Azerbaijan, Georgia and Turkey:

Status of key recommendations raised during previous SRAP visits that were open at the time of the 2008 annual report (see Table A4.1);

The tables provide a transparent mechanism to demonstrate follow-up and close out of all actions to address the recommendations. The table shows that all SRAP recommendations have been closed and countries reported readiness for SRAP completion audit. In accordance with the audit scope, each country has selected the contractor to do the quantitative survey. After completion of quantitative survey SRAP panel have undertaken qualitative survey as part of the completion audit in 2009-Q3. The final completion report would outline the Project performance against social commitments.

Full reports from the SRAP audits are available on www.bp.com/caspian.

Table A4.1: Tracking of Recommendations from Previous Reviews

No	Date	Recommendation	Status as of end December 2009
1	April 2008	BP to compensate landowners interested by orphan land transactions against the cost of registering the remaining piece of their land (Azerbaijan only)	Ongoing
2	April 2008	SRAP Panel to re-assess effectiveness of measures to improve EPPD understanding of pipeline land use restrictions during its autumn review.	Turkey - completed
3	April 2008	Consider transferring responsibility for implementation of the Employment and Training Management Plan from the Social Team to the Human Relations Department.	Turkey- Completed
4	April 2008	BTC/BP to commission a mid-term evaluation of CIP-2 not later than Spring, 2009.	Azerbaijan - Completed Georgia - Completed.
5	April 2008	BTC to update tabulations of project affected landowners and users experiencing permanent loss of land and for each affected owner/user, to define the extent of those losses relative to his or her total landholding.	Azerbaijan - Ongoing Georgia – Completed Turkey-Completed
6	April 2008	BTC to undertake a survey of households affected by permanent loss of land in 2008 to verify whether or not each household has been able to restore its income. In the case of Georgia, a strategy should at least be in place by 2008 for doing this.	Azerbaijan - Completed Georgia – Completed Turkey - Completed
7	April 2008	BTC to consider additional livelihood restoration measures for permanent land losers if the survey above establishes that livelihoods are not adequately restored.	Azerbaijan - Completed Georgia – Completed Turkey - Completed
8	April 2008	Continued vigilance is required by BTC Co./BP in Georgia and Azerbaijan to ensure that the important role of the security of the pipeline is carried out in a manner which is appropriate and not antagonistic towards the communities	Azerbaijan - Ongoing Georgia – Completed Turkey - Completed
9	April 2008	BTC Co. and Botaş/DSA to monitor the number of outstanding compensation cases against a stable total number of parcels and to provide evidence that the number of such is under control and decreasing (Turkey only)	Completed
10	April 2008	BIL to ensure that during the early years of Operations, Zilyet villages are carefully observed so that potential tensions within the villages can be managed. (Turkey only)	Completed

No	Date	Recommendation	Status as of end December 2009
11	April 2008	Land owners/users whose names and second crop areas were assessed by BTC Co. and Botaş/DSA should be paid second crop compensation, unless third party investigation by BNB gives clear, reasoned alternative recommendations. (Turkey only)	Completed
12	April 2008	BTC Co. to carry out a rigorous analysis of the current situation with the communities around the CMT including Gölovasi fishermen (incorporating stakeholder dynamics assessment of power and influence inter-play both within the fishing community and outside) and develop a strategy for a way forward. (Turkey only)	Completed
13	April 2008	BTC Co. to ensure that reinstatement related issues are reflected adequately in the grievance mechanism (Turkey only)	Completed
14	April 2008	BIL to develop a formal mechanism for transfer of information to new land users on land use restrictions which would incorporate written information to be passed on to the new land user. (Turkey only)	Completed
15	April 2008	BIL to complete introductory and follow-up meetings in all villages ASAP. (Turkey only)	Completed
16	April 2008	BIL to review mechanisms through which they can be reached by the community (including through telephone lines) and ensure that these are effective and functioning. (Turkey only)	Completed
17	April 2008	BIL to resolve current resource constraints (personnel and vehicle) in a perspective of increasing field presence and visibility. (Turkey only)	Ongoing
18	April 2008	BIL to refresh villagers' awareness about avenues available to lodge grievances. (Turkey only)	Completed
19	April 2008	BTC Co. with BNB as independent monitors to ensure the quality assurance of the grievance management system. (Turkey only)	Ongoing
20	April 2008	BIL to place somewhere visible within the villages, the number of people employed in each village. (Turkey only)	Ongoing
21	April 2008	BIL to train unskilled employees to take up semi-skilled jobs. (Turkey only)	Ongoing
22	April 2008	BTC Co. and BIL to explore and identify supply chain opportunities for local firms. (Turkey only)	Ongoing
23	April 2008	BTC Co. and BIL to provide targeted support and capacity building to local firms to take up supply chain opportunities (BTC Co. already doing this to a certain extent but should increase efforts). (Turkey only)	Ongoing
24	June 2007	SRAP Panel to provide a cross country framework for livelihood restoration surveys to assure a level of consistency in approach.	Ongoing
25	June 2007	BTC Co. to undertake a survey of households affected by permanent loss of land in 2008 to verify whether or not each household has been able to restore its income. In the case of Georgia, a strategy should at least be in place by 2008 for doing this.	Azerbaijan - Completed Georgia – Completed Turkey - Completed
26	June 2007	BTC Co. to consider additional livelihood restoration measures for permanent land losers if the survey above establishes that livelihoods are not adequately restored.	Completed
27	June 2007	In all three countries, BTC Co. to develop action plans to address/manage situations in which the landowner refuses to sign the land hand-back agreements.	Turkey- Completed
28	June 2007	In all three countries, BTC Co. to develop a management plan that will ensure that land acquisition in Operations phase is also carried out following World Bank Group OD 4/30 principles.	Completed

No	Date	Recommendation	Status as of end December 2009
29	June 2007	Regular checks to be made on CIP I infrastructure to ensure that they are being properly managed and maintained.	Azerbaijan – Completed Turkey-Completed
30	June 2007	BTC Co. to undertake a pragmatic social risk assessment for the Operations phase, and to design within the Operations CIP, proactive measures to address identified risks, particularly – but not only – in communities located near permanent installations such as pumping stations and terminals (Carried over from previous review)	Ongoing In Turkey each project has a special strategy for AGI affected villages
31	June 2007	BTC Co./BP to provide training to security force patrol staff in Georgia and Azerbaijan on conduct along the pipeline as well as general human rights issues.	Azerbaijan – Completed Turkey - Completed
32	September 2006	BTC to make stakeholders aware of avenues available to lodge complaints during Operations (Carried over from previous review).	Azerbaijan – Completed Georgia – Completed Turkey – Completed
33	September 2005	Annual replicate income-expenditure surveys to be superseded by a one-off income-expenditure survey to be designed and overseen by the SRAP Panel, and conducted as part of the resettlement completion audit.	Completed. Report is awaited from SRAP panel (Action on SRAP)
34	September 2005	All countries to pay particular attention to monitoring livelihood status of households affected by permanent loss of land. Annual income-expenditure surveys recommended.	Azerbaijan – Completed Georgia – Ongoing Turkey – Completed
35	September 2005	To avoid ad hoc or piecemeal development assistance, BP Business Unit to look at designing the CIP strategy within a broader framework such as national poverty strategies (to the extent that these provide clear direction), or within a context of district or sub-district development plans	Azerbaijan – Completed Georgia - Completed Turkey – Completed
36	September 2005	BTC to give consideration to adopting a labour standard based on an internationally recognized code or standard, to be applicable to all supply chain contracts with regular monitoring of compliance. (carried over from previous review).	Turkey- Ministry of Labour conducted employment standards audit in Turkey.
37	March 2005	BTC to look at avenues to incorporate small scale procurement and supply opportunities (e.g. incentives or quotas fostering village level content, re-bundling of procurement contracts) for villages in Georgia and Azerbaijan as part of its Operations Phase procurement strategy.	Ongoing
38	February 2004	BTC to continue to reinforce its anti-corruption stance with all levels of government.	Turkey- completed

APPENDIX 5: FINDINGS AND KEY RECOMMENDATIONS OF POLARIS AUDIT

Appendix 5 contains a summary of Polaris audit findings and key recommendations in relation to Oil Spill Readiness Assurance Review undertaken on behalf of the Lenders in October 2009.

The key finding of the OSR audit are:

- BTC has maintained and improved its oil spill readiness capability relative to the findings of the 2007 OSR audit
- Corporate commitment to spill readiness is evident in the policies implemented for sustained capability
- BTC has maintained action tracking and implemented a number of recommendations from earlier audits and from feedback from responses and exercises
- SEACOR teams have maintained a high level of response preparedness (vigorous exercise schedule, OSR base and equipment maintenance)
- IMT and OSR contractors are nearly 100% comprised of nationals
- OSR equipment has been added at bases (Tuckers, MANN trucks, skimmers, boom vanes, oil-water separators, field command post trailers etc.)
- The Azerbaijan response programme is in a transition phase, with a strong response capability that is expected to improve further as the new team at PSA 2 gains experience.

Key recommendations are:

- Completion of OSR base at PSG1, including development of a wildlife rehabilitation centre, and transition from Rustavi
- Completion of secondary containment structures for the Georgia Special Response Area, including protocols for their use in emergencies
- Careful review and alignment between OSR plans and the IMT manual, particularly concerning structures and roles in incident command
- Vigorous training and field deployment efforts to bring the OSR response capability in Azerbaijan up to the level of Georgia OSR teams as they transition into a new role and responsibilities. It will take some time for the newly recruited PSA 2 team to gain experience and confidence and it would be better to be patient and we would recommend that this team rely initially on leadership support from the Baku base rather than push the new team too quickly
- Assure IMT and field OSR exercises are integrated per the exercise schedule, including debriefings and reports
- Add a robust inland spill response training programme to the IMT training requirements
- Add spill source control and on-land response to spill scenarios and exercises
- Recommend one annual Tier 2 exercise in each country for IMT and OSR teams that implements several nearly concurrent actions: source control, 1st downstream containment site and, 2nd containment site
- Connect OSR bases at Tsalka and Borjomi to the national electricity grid and to external piped-in water supplies with existing generators and water tanks as backup systems
- Invite Auditors external to the project to participate in a Tier 2 (transboundary or other) exercise design and evaluation.

CASE STUDY 1

PIPELINES AWAKEN ANCIENT HISTORY IN AZERBAIJAN

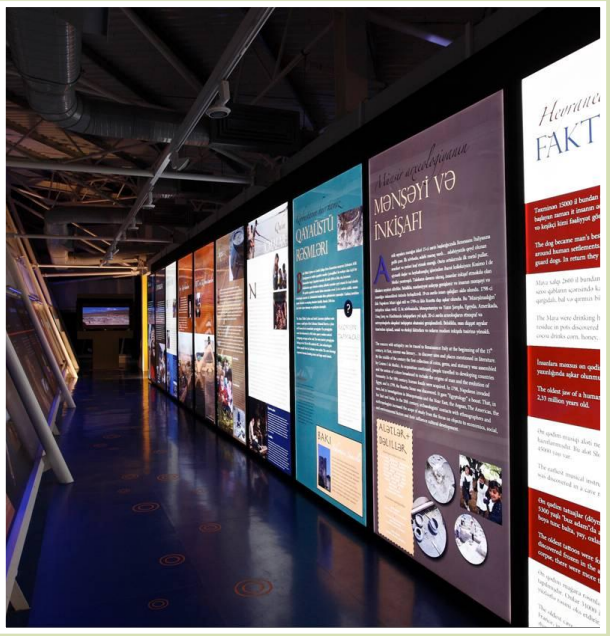
Remnants of everyday life 3,000 years ago in the Caspian region have gone on display for the first time at a BP-operated education centre. Cooking utensils and jewellery dating from the Bronze Age are among the items featured at a new permanent exhibition called "Pipelines awaken ancient history" in the Caspian Energy Centre (CEC), based at the Sangachal terminal in Azerbaijan. Unearthed during the construction of the Baku-Tbilisi-Ceyhan (BTC) and South Caucasus pipelines, the artefacts are teaching local schoolchildren and university students about the lifestyle and skills of their ancestors. The exhibition's design, content and educational programmes were developed by US based designer and curator and combines an animated film, gallery with archaeological facts, historical timeline and artefacts, and a touch screen interactive game. Total cost of this project is US $400,000.

The archaeological exhibition, which includes an illustrative book and website, forms part of a wider culture and heritage project, and displays the artefacts found along the length of the pipelines in all three countries. The full programme will be launched in 2010. In the meantime visitors to the Caspian Energy Centre have the opportunity to view some of the items excavated in Azerbaijan.

"It was the biggest digging project in the country's history," explains centre manager, Ismail Miriyev, who was the first Azerbaijani to complete an internship in museum management at the famous Smithsonian Institute in Washington D.C. "Archaeological work had never been done in Azerbaijan on such a scale."

The massive archaeological dig along the route of the 1,770-kilometre pipeline resulted in the production of some 40 reports on findings for the Azerbaijani section alone. Excavation work in Georgia and Turkey yielded a similar quantity of valuable material.

Artefacts from Azerbaijan have remained in storage at Institute of Archaeology and Ethnography of National Academy of Science of Azerbaijan in Baku, with ten pieces now on loan to the Energy Centre. It is hoped the new exhibition will offer an introduction to archaeology which will inspire visitors to seek further knowledge at national museums. "Reaction from our visitors – schoolchildren and their teachers – is very positive," says Ulviyya Gadirova, one of the centre's presenters. "They are excited to see objects that were used by ancient people who lived here; it truly astonishes them."



ECO-COMPENSATION IN GEORGIA

The BTC/SCP ROW in Georgia required the removal of about 105ha of forest. For pipeline integrity and safety reasons the centre of the pipeline ROW must be kept clear of trees and large shrubs, making it impractical to re-establish forests in their original location. BTC therefore evaluated the possibility establishing forest "offsets", either by planting new forests elsewhere in Georgia or by restoring existing degraded forests.

These plans, which involved planting and managing 230 ha over a 20 year period, were discussed with the Georgia Ministry of Environment. Out of these discussions arose a more radical offset that would bring substantial environmental and educational benefits to Georgia in a far shorter time.

The Sataplia State Reserve is located near Kutaisi and is of significant geological, paleontological, speleological and botanical interest, containing beautiful Colchian type mixed forests, rare limestone caves and even dinosaur footprints. It is one of the most popular tourist destinations in Georgia despite the current poor infrastructure.

The Sataplia State Reserve Infrastructure Development Project (SIDP), which has the enthusiastic support of the President of Georgia and other key Government officials, will be a sympathetic development of this reserve. With the support of BP, an exhibition and educational center will be built together with a conference hall. In addition the cave will be rehabilitated and lit, whilst the dinosaur footprints will be preserved and protected.

Although the SIDP is a very different offset project from that originally envisaged it is a great example of how to enhance local facilities whilst conserving the environment. BP has therefore committed to allocate $ 3.5 million in 2010 and 2011 towards the project as part of its environmental offset programme in Georgia.

CASE STUDY 3

CREATING SUSTAINABLE LIVELIHOOD FOR FISHERMEN COMMUNITIES IN CEYHAN

A key commitment of BTC Co. is to ensure that nobody living along the route of the pipeline is adversely affected by it and that livelihoods are fully restored. However, BTC Co. aims to go beyond mere mitigation by actively promoting development along the route through its Community Investment Programme (CIP). In the area around Ceyhan Marine Terminal (CMT) this programme is particularly focused on supporting fishermen and their communities.

During the operation phase of the terminal two fishing cooperatives (Gölovası and Yumurtalık Center) have been supported by BTC Co through the "*Supporting Sustainable Livelihood of Fishermen Communities in the Yumurtalık Bay Project*". These cooperatives have a membership of 163 fishermen drawn from a community of approximately 700 households who benefited from these projects in the region.

Although this project provided direct support to fishing activities, for example by the renovation of fishing boats, its scope went far beyond this. It included the enhancement of local infrastructure and provision of training and income generating opportunities outside of the fishing industry. The activities supported by the project include:

Improvement of the social infrastructure:

- ✓ Rehabilitation of Gölovası water system
- ✓ Establishment of a Computer Laboratory and training for all school children as well as 60 local women

Support to Income generation activities:

Improvement of current fishing activities:

- ✓ Fishing boat renovations
- ✓ Establishment of fish storage facilities
- ✓ Establishment of an artificial reef of 100 blocks to enhance the fish population in Yumurtalık Bay
- ✓ Establishment of an office room for the Gölovası Cooperative

Vocational Training

- ✓ Welding courses for 22 young male members of Fishermen community
- ✓ Hairdressing courses for members of fishermen community
- ✓ Callboy (seaman) certification for 37 fishermen

Support to small entrepreneurship

- ✓ Establishment of olive orchards for 20 fishermen families
- ✓ Support for improvement of fishermen pensions
- ✓ Support for renovating a fish restaurant and coffee house, from which two fishermen families benefited

Technical support to Cooperatives management

Trainings were organized to build the capacity of Golovasi and Yumurtalık Fisheries cooperatives on:

- ✓ Sustainable fishing techniques
- ✓ Financial and legal requirements of cooperatives
- ✓ Marketing of fisheries products
- ✓ Legal regulations for fisheries

As a consequence of these CIP activities in the village the income of the people affected by the pipeline has increased and, more significantly, they have also acquired new skills to help them organise and develop their businesses.

These communities were amongst those where initial concerns over the rapid industrialization of the region were the greatest. However with the support of the CIP project these concerns have been addressed and a potentially conflicting relationship has been transformed into one of mutual trust and respect.