2013

BTC Project Environmental and Social Annual Report (Operations Phase)

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CASE STUDIES (REFER APPENDICES)

ABBREVIATIONS

ADR Certificate	-	European Agreement concerning the International Carriage of Dangerous Goods by Road
Ag	-	Silver
AGI	-	Above Ground Installation
AGT	-	Azerbaijan-Georgia-Turkey
Al	-	Aluminium
As	-	Arsenic
ASRC	-	Azerbaijan Social Review Commission
B	-	Boron
bbl	-	Barrel
BIL	-	BOTAŞ International Limited
BNB	-	Rural and Urban Development Foundation (now called BNB)
BOD	-	Biochemical Oxygen Demand
BOTAŞ	-	Boru Hatlari ile Petrol Taşima A.Ş. (Petroleum Pipeline Corporation, Turkey)
BPEO	-	Best Practicable Environmental Option
BSI	-	British Standard Institute
BTC	-	Baku-Tbilisi-Ceyhan Pipeline Company
BTEX	-	Benzene, Toluene, Ethyl Benzene and Xylene
BV	-	Block Valve
BVT	-	Block Valve, Turkey
BWRA	-	Ballast Water Risk Assessment
C&E	-	Compliance and Environment
CBO	-	Community Based Organisation
Cd	-	Cadmium
CDI	-	Community Development Initiative
CEYDEM	-	Ceyhan Fire and Natural Disaster Training Centre
CEYGEM	-	Ceyhan Business Development Center
CIP	-	Community Investment Programme
Cl	-	Chloride
CLO	-	Community Liaison Officers
CCME		Canadian Council of Ministers of the Environment
CMT	-	Ceyhan Marine Terminal
CO	-	Carbon monoxide
COD	-	Chemical Oxygen Demand
Cr	-	Chromium
CSR	-	Corporate Social Responsibility
Cu	-	Copper
CWAA	-	Central Waste Accumulation Area

dB(A)	-	A-weighted decibels
DSA	-	Designated State Authority (Turkey)
E&S	-	Environmental and Social
EDDF	-	Emergency Drain Down Facility
EDTP	-	Enterprise Development and Training Programme
EIA	-	Environmental Impact Assessment
EIP	-	Environmental Investment Programme
EMS	-	Environmental Management System
EPF	-	Eurasia Partnership Foundation
EPPD	-	Export Pipelines Protection Department
ESAP	-	Environmental and Social Action Plan
ESIA	-	Environmental and Social Impact Assessment
ESMS	-	Environmental and Social Management System
EU	-	European Union
FCI	-	Facilities Construction and Installation
Fe	-	Iron
GHG	-	Greenhouse Gas
GIS	-	Geographical Information System
H&S	-	Health and Safety
H1	-	First half of year (January – June)
Hg	-	Mercury
HSE	-	Health, Safety and Environment
IEC	-	Lenders' Independent Environmental Consultant
ISQG		Interim Marine Sediment Quality Guidelines
IP	-	Implementing Partner
IPA	-	Intermediate Pigging Station, Azerbaijan
IPT	-	Intermediate Pigging Station, Turkey
IS	-	Industrial Symbiosis
ISO	-	International Standards Organisation
KP	-	Kilometre Point
KPI	-	Key Performance Indicator
MARPOL	-	International Convention for the Prevention of Pollution from Ships
LEL		Lowest Effect Level
LOPC	-	Loss of Primery Containment
MENR	-	Ministry of Ecology and Natural Resources, Azerbaijan
MOC	-	Management of Change
MoEU	-	Ministry of Environment and Urbanization, Turkey
MOL	-	Main Oil Line
MSME	-	Micro, Small and Medium Enterprises
Na	-	Sodium

NGO	-	Non-Governmental Organisation
NH_4	-	Ammonium
Ni	-	Nickel
NO_2	-	Nitrogen dioxide
NO_x	-	Nitrogen oxides
NRC	-	National Response Company
OSR	-	Oil Spill Response
OSRB	-	Oil Spill Response Base
OSRP	-	Oil Spill Response Plan
OWS	-	Oily Water Separator
PAH	-	Polyaromatic hydrocarbons
PEL		Probable Effect Levels
Pb	-	Lead
PCAR	-	Preventive and Corrective Action
PCR	-	Public and Community Relations
PCRE	-	Public and Community Relation Experts
pH	-	Potential of Hydrogen
PM	-	Particulate Matter
PSA	-	Pump Station, Azerbaijan
PSG	-	Pump Station, Georgia
PT	-	Pump Station, Turkey
PWHP	-	Primary Withholding Pond
Q1/Q2/Q3/Q4	-	Quarter 1/Quarter 2/Quarter 3/Quarter 4
RAP	-	Resettlement Action Plan
RDF	-	Refuse Derived Fuel
RISC		Resource Information Standards Committee
ROW	-	Right of Way
RWIHC	-	Regulation on Concerning Water Intended for Human Consumption
SCP	-	South Caucasus Pipeline
SDI	-	Sustainable Development Initiative
Se	-	Selenium
Sn	-	Tin
SO_2	-	Sulphur dioxide
SO_4	-	Sulphate
SODES	-	Social Support Fund
SO_x	-	Sulphur oxides
SPM	-	School of Project Management
SRAP	-	Social and Resettlement Action Plan
STP	-	Sewage Treatment Plant
SWP	-	Storm Water Pond

TDS	-	Total Dissolved Solids
THC	-	Total Hydrocarbons
TPH	-	Total Petroleum Hydrocarbons
TSS	-	Total Suspended Solids
TTGV	-	Technology Development Foundation of Turkey
USAR	-	Urban Search and Rescue
VOC	-	Volatile Organic Compound
WBH	-	Water Bath Heater
WREP	-	Western Route Export Pipeline
WTN	-	Waste Transfer Notes
WWTP	-	Waste Water Treatment Plant
Zn	-	Zinc

EXECUTIVE SUMMARY

Baku-Tbilisi-Ceyhan Pipeline Company (hereinafter BTC) and its agents have complied in the development, construction and operation of the BTC Pipeline 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 Environmental and Social (E&S) Annual Report (Operations Phase) 2013.

There were no fines or penalties incurred for environmental or social non-compliances, and no material environmental claims against BTC during 2013.

There were no Class I, II or III changes or Management of Change (MOC) during 2013. There were no Environmental and Social Impact Assessment (ESIA) addenda submitted.

During 2013, there were eighteen minor uncontained material releases and no significant Health and Safety (H&S) incidents. The total amount of hydrocarbons spilt was approximately 1.3 barrels (bbl).

In May and October 2013, the International Standards Organisation (ISO) 14001 surveillance audit was held for the Georgia and Azerbaijan export pipelines. There were no corrective action requests and only 2 observations (in Azerbaijan) made during the audit. In Turkey, the ISO surveillance audit was carried out in December 2013.There were five minor findings reported and respective corrective actions will be undertaken against these findings

The fifteenth post-financial audit by the Lenders' Independent Environmental Consultant (IEC), acting on behalf of the Lenders, took place from September 9 to 19, 2013 to monitor compliance with BTC Pipeline Project E&S commitments. This is the first site visit (since February 2004) where no non-compliances with Project commitments have been identified. The main non-compliance with Project commitments identified over the past 2 years has been the lack of construction of a slops treatment facility at the Ceyhan Marine Terminal. This facility is now under construction and the non-compliance is closed.

Emission and discharge monitoring for the operations phase continued and results were generally in compliance. Monitoring of gas turbine exhaust gases showed some exceedances of nitrogen oxide (NO_x) levels in Azerbaijan and Georgia. To compensate for the NO_x exceedances, offset programmes for both countries were successfully completed in 2013. These programmes funded implementation of renewable energy and energy efficiency projects. As part of the NO_X offset programmes, solar heating systems were constructed at the Bashirli Secondary School, Gurbanzade School, and the Samukh District Kindergarten in Azerbaijan. This offset is now considered complete. An additional offset programme to compensate for the failure of *Iris acutiloba* plants to survive following replanting on the pipeline Right of Way (ROW) was approved by the IEC and is due to be implemented in 2014.

There were no material changes to the Oil Spill Response Plan (OSRP) in Azerbaijan, Georgia or Turkey.

BTC continues to benefit communities and Non-Governmental Organisations (NGOs) in all 3 countries through their Community Investment Programmes (CIPs) and Environmental Investment Programmes (EIPs). In 2013, over US$3,506,841 was invested in these programmes.

1 INTRODUCTION

The year 2013 was the eighth year of operating the BTC Pipeline Project.

This E&S Annual Report (Operations Phase) 2013 has been prepared and structured in accordance with the requirements of Annex J of the ESAP governing construction of the BTC Pipeline Project and Annex H of the ESAP governing the operations phase of the BTC Pipeline Project. These requirements are reproduced in Appendix 1. It is the tenth E&S Annual Report post-financing and covers the calendar year 2013[1].

2 ESIAS/EIA AND PERMITTING

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

2.1.1 Azerbaijan

There were no material modifications made to the BTC Azerbaijan ESIA in 2013.

2.1.2 Georgia

There were no material modifications made to the BTC Georgia ESIA in 2013.

2.1.3 Turkey

There were no material modifications made to the BTC ESIA in Turkey in 2013. A clarification from the Ministry of Environment and Urbanization (MoEU) confirmed that there was no requirement for any new ESIA, or amendment to the original ESIA, as long as the defined set of projects is within the original 500m ROW corridor.

2.2 SUMMARY OF MATERIAL PERMITS ISSUED IN 2013

2.2.1 Azerbaijan

There were 2 BTC Azerbaijan-related environmental permits issued in 2013 as follows:

- Relocation of trees at the following river crossings (ref.: 15/2000 dated 2 July 2013):
  - The Jeyrankechmaz riverbed;
  - The Pirsaat riverbed;
  - The Girdmanchay riverbed and nameless tributaries;
  - The Goychay riverbed;
  - The Turianchay riverbed and several salinisation treatment collectors on this territory;
  - The Kura river;
  - The Hasansu river;
  - The Tovuz riverbed;
  - The Zayamchay riverbed;
  - The Jayir riverbed; and
  - The Shamkir riverbed and salinisation treatment collectors.

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

- Related to the “Notification on the design of Pump Station, Azerbaijan (PSA) 2 and Intermediate Pigging Station, Azerbaijan (IPA) 1 treated waste water lines” (ref.: 15/3054 dated 10 October 2013).

2.2.2 Georgia

The statutory environmental permits acquired by BTC Georgia in 2013 were as follows:

- Water discharge limits for:
  - Oil Spill Response Base (OSRB) in Tsalka;
  - OSRB in Borjomi;
  - Oil spill secondary containment sites’ acceptance into operation by Borjomi Municipal Authorities; and
  - Pump Station, Georgia (PSG) 2 access road’s acceptance into operation by Tetritskaro Municipal Authorities (motor road rerouted to avoid Baku-Tbilisi-Kars Railway clash, that included Ministry of Environment authorised removal of red list species from nature).
- Authorisations for river crossing reinforcement works on the rivers:
  - Chilchil;
  - Gumbati; and
  - Mtkvari (west).
  - Maximum allowable air emission limits for South Caucasus Pipeline (SCP) Area 72 and Area 80.

2.2.3 Turkey

According to the Regulation on Permits and Licenses, which came into force in 2009, an integrated system for environmental permits and licenses has been applied instead of separate permitting for Waste Water Treatment Plant (WWTP) discharge permits, air emission permits and the like. As per the Regulation, an Environmental Permit obtained for a site will cover all related environmental issues such as discharge and emission at facilities for Pump Stations, Turkey (PTs) and Intermediate Pigging Stations, Turkey (IPTs). The Ceyhan Marine Terminal (CMT), also known as the MARPOL Facility, requires both an Environmental Permit and Environmental License. The CMT’s Environmental Permit application process, which commenced in late 2012, is almost completed. Following completion of construction at the MARPOL Facility, the Environmental License application process will commence.

The First Class Non-hygienic Institution Workplace Opening and Operations License (Operations Permit) status for facilities are as follows:

- PT 1, PT 4 and IPT 2: licenses granted;
- PT 2 and IPT 1: license processes are ongoing;
- PT 3: license re-application submitted, waiting for approval from respective Governorship; and
- CMT: license application to commence once the Environmental Permit has been granted.

2.3 UPDATE ON FURTHER WORK

A summary of country-specific activities relating to ongoing studies or surveys as required under the ESIAs or Environmental Permits is given below. Studies or surveys

noted as completed in the E&S Annual Report (Operations Phase) 2012 are not shown.

2.3.1 Azerbaijan

The only additional BTC Azerbaijan ESIA study and/or survey, as specified in the Operations ESAP, related to a groundwater monitoring programme.

Study/Survey: Groundwater monitoring programme	**Expected Timing:** Monitor water level and quality: Ongoing
Ref: Q1-2004 (p5-3); Q2-2004 (p3-3); Q3-2004 (p3-2); Q4-2004 (p3-2); Q1-2005 (p3-2); Q2-2005 (p3-2); Q3-2005 (p3-2); Q4-2005 (p3-1), H1-2006 (p3-1), 2007 (p4); 2008 (p4); 2009 (p3); 2010 (p 3); 2011 (p 3); 2012 (p4).	
Groundwater monitoring was carried out according to ESAP requirements in May 2013 and November 2013. A summary of results is given in Section 4.2.1.5.	
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 outcome of the relocation programme continued during 2013. An offset programme has been developed to compensate for plants that did not survive. A summary of the results of this programme is provided below:

Study/Survey: *Iris acutiloba* monitoring programme	**Expected Timing:** Monitoring: Ongoing
Ref: Q1-2004 (p5-2); Q2-2004 (p3-2); Q3-2004 (p3-1); Q4-2004 (p3-2); Q1-2005 (p3-1); Q2-2005 (p3-2); Q3-2005 (p3-1); Q4-2005 (p3-1), H1-2006 (p3-1), 2007 (p5); 2008 (p4); 2009 (p3); 2010 (p3); 2011 (p3); 2012 (p4).	
Prior to construction of the BTC Pipeline Project, approximately 32,900 individual plants, recorded as Red Data Book species, were removed from the ROW. In total, 8,105 individuals were replanted off-the ROW and 24,800 were temporarily planted in Mardakan Arboretum for further translocation back to their original habitat. In 2006, the rhizomes of the temporarily planted *Iris acutiloba* plants were translocated to their natural habitat on the ROW, mainly between Kilometre Point (KP) 6 and KP 28. Monitoring and evaluation began in 2008 and continued in 2013. In 2013, monitoring revealed that of the 11,718 plants moved from Garadag Cement Plant, 3,844 plants (33%) had survived. While this is less than the success rate achieved in 2012, (believed to be due to unfavourable weather conditions), it is substantially better than in previous years. BTC acknowledges that its original objective of re-establishing a minimum of 75% of the original population within the areas designated for translocation has not been met. To compensate, an offset programme was initiated, which included planting trees around PSA 2 and IPA 1 stations. However, due to delays with the implementation of this program, BP has been reviewing other options to restore the *Iris acutiloba* species and has sought advice from the IEC on their recommended approach. The outcome of these discussions has been a program to plant *Iris acutiloba* plants at selected areas (refer to the section 3.6.1).	
Completion Status: Ongoing	

2.3.2 Georgia

The following additional ESIA study/survey, as specified in the Operations ESAP, was conducted in Georgia during 2013.

Study/Survey: Kodiana special projects and other legacy projects	**Expected Timing: 2012-2015** Monitoring: Ongoing

Ref: H1-2006 (p3-2); 2007 (p-6); 2008 (p-5); 2009 (p-4); 2010 (p-4); 2011 (p-4); 2012 (p-4).

Construction of the PSG 2 accommodation addition is in progress. Completion is planned for Q4-2014 with reinstatement to follow in Q2-2015.

Construction of the new PSG 2 access road, which avoids crossing the new railway project, was completed in Q4-2013 and accepted into the operations by the Government of Georgia.

Design works were completed for an additional 6" fuel gas line installation at PSG 2. Construction of the line will commence in Q3-2014.

The PSG 1 warehouse and related access road design was amended in 2013 to reflect SCP Expansion Project needs. Construction is planned for Q4-2014.

Completion Status: Ongoing

2.3.3 Turkey

For Turkey, the following additional ESIA studies and surveys, as specified in the Operations ESAP, were conducted in 2013.

Study/Survey: Landscape plans and monitoring for facilities	**Expected Timing:** Construction and operations

Ref: Q1-2005 (p3-4); Q2-2005 (p3-4); Q3-2005 (p3-4); Q4-2005 (p3-4); 2006 (p6); 2007 (p7); 2008 (p16); 2009 (p4); 2010 (p5); 2011 (p5); 2012 (p5).

The status of landscaping that was implemented at all facilities by BTC and handed over to BOTAŞ International Limited (BIL) in late 2008 is being monitored during ad-hoc site visits and annual compliance audits. In parallel, BIL's ROW monitoring and maintenance teams monitor the condition of landscaping and take necessary action when required.

Completion Status: Monitoring ongoing

Study/Survey: Marine turtle survey	**Expected Timing:** Operations

Ref: Q1-2004 (p5-10); Q2-2004 (p3-8); Q3-2004 (p3-6); Q4-2004 (p3-5); Q1-2005 (p3-5); Q2-2005 (p3-6); Q3-2005 (p3-6); Q4-2005 (p3-5); H1-2006 (p3-4); 2006 (p7-8); 2007 (p7); 2008 (p16); 2009 (p5); 2010 (p5); 2011 (p5); 2012 (p5).

The annual marine turtle survey was conducted in late June-September 2013. As in previous years, the survey was carried out at Sugozu, Akkum, BOTAŞ and Hollanda beaches, which are in the vicinity of CMT jetty.

Nesting:

In 2013, 130 *Chelonia mydas* (Green turtle) nests were observed 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	2010	2011	2012	2013
Chelonia mydas (Green turtle)	42	44	213	29	198	57	160	163	104	145	76	125
Caretta caretta (Loggerhead turtle)	18	3	3	7	0	1	1	4	1	3	1	5

As seen from the table above, the nest numbers of both Green and Loggerhead turtles have fluctuated from year-to-year and show no discernible trend.

Hatchling:

In the season of 2013, about 7,200 hatchlings were estimated to have reached the sea, based on direct observations, track counts and opening the cover of the nests selected as control

sites.

The results for 2013 indicate the highest success rates since monitoring commenced in 2007. Two significant causes of mortality (the scorching effect of the sun and disorientation of the hatchlings as they attempt to reach the water) were evident during the 2013 monitoring period.

A summary of the hatchling success observed in 2013 compared to previous years is as follows:

Beaches	2007 (%)	2008 (%)	2009 (%)	2010 (%)	2011 (%)	2012 (%)	2013 (%)
Sugozu	80.9	87.2	76.5	86.6	92.1	95.4	98.0
Akkum	84.5	86.6	77.1	87.9	82.8	93.8	97.7
BOTAŞ	44.4	60.7	83.9	91.2	72.7	92.1	92.3
Hollanda	44.4	77.0	80.5	96.0	68.5	94.2	89.5
Overall	82.3	82.9	77.8	89.1	84.7	94.8	97.0

Completion Status: Ongoing

2.4 OTHER STUDIES

2.4.1 Azerbaijan

There were 4 other studies/surveys carried out in Azerbaijan in 2013.

Study/Survey:	**Expected Timing:**
Vegetation cover: April 2013	Operations

For 2013, biorestoration monitoring includes 7 years of percentage cover values, and 5 years of species-diversity data, collected from 50 transects located along the length of the ROW.

There were below changes to the monitoring process as follows:

- AZ23 TR replaced with 23a in 2012. But the new area totally cultivated in 2013
- AZ41 TR affected by crossing road to cropland
- AZ42 Ground level of downstream is higher than upstream, where makes difference in vegetation cover and species diversity
- AZ47 The ROW, where TR is located have been cultivated
- AZ56 Borrow pit. The location excavated and became a sand carrier by 3rd party

Data were collected according to the methods set out in the Biorestoration Monitoring Procedure. Vegetation cover data indicates that 45% of the ROW transects have vegetation cover equal to or greater than adjacent, undisturbed areas, within a margin of error of 10%. At the majority of transects (87.5%), the vegetation on the ROW has shown an increasing trend in vegetation cover over the 7 years of monitoring. During the reporting period, 4 transects that, in 2012, indicated a decreasing trend in vegetation cover, had largely begun to show an increasing trend in cover. These observations emphasise the importance of monitoring long-term trends as well as having the capacity to recognise short-term departures from these trends.

Completion Status: Ongoing

Study/Survey:	**Expected Timing:**
BTC/ SCP biorestoration (prolongation of perennial species)	Monitoring: Ongoing

As it was described in the previous reports, the biorestoration strategy is based on the need to create a stable landform in order that natural regeneration would occur without the need for further intervention. At certain stage, it was recognised that intervention would be necessary (e.g. in ecologically sensitive areas and areas prone to erosion). Under these conditions

instances, ephemeral and perennial provenance seeds have been collected and broadcasted on the ROW in selected areas.

For this purpose a total of 191kg of *Salsola nodulosa* (Dane-wort) and 122.5kg of *Artemisia lerchiana* (Wormwood) perennial species seeds (which were collected and stored in 2010), were sown during 2011 at KP 11 and KP 309 which have poor vegetation cover.

The revised saw seeding technique, which was described in the last year's report case study, commenced in 2012 and was continued in 2013. In May 2013, monitoring was provided to demonstrate the survival rate of the 1,500 *Artemisia lerchiana* and *Salsola nodulosa* seedlings which were planted in May 2012. The young seedlings planted in low-fertility soils with poor vegetation cover of the ROW at Gobustan, were soil-tilled and watered under the supervision of a botany specialist from the Azerbaijan Botany Institute until the middle of summer. At the end of aftercare process in July 2013, the planted species were left in natural habitat without any interventions.

Four locations were selected for planting perennials to avoid external disturbances as much as possible. Monitoring indicated that, of the 1,500 seedlings planted, 911 (61%) survived; this included 315 Dane-wort plants (21%) and 596 Wormwood plants (40%).

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Completion Status: Ongoing

Study/Survey:	**Expected Timing:**
Landscape monitoring of the Facilities Construction and Installation (FCI) ROW	Monitoring: Ongoing

Monitoring was conducted to assess changes to the landscape aesthetics.90 vantage points were selected along the Azerbaijan section of the pipeline to monitor restoration of vegetation in and around permanent pipeline facilities and at related construction work sites. The Azerbaijan section of the pipeline ROW was originally divided into 3 parts for simplification in the assessment of monitoring results: east, middle and west. The 2011 monitoring results indicated that the east section did not meet the reinstatement target (>50% vegetation cover). It was therefore decided that annual monitoring at these locations was warranted. The east component of the Azerbaijan section comprises 21 vantage points that feature flat and undulating terrain as well as river crossings and wetlands. Monitoring at each vantage point in May 2013 indicated that restoration percentages now exceed 50% at slopped (59%) and flat (64%) ROW sites than at the same sites (49% and 40% accordingly) in 2011.

Completion Status: Ongoing

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

The 2013 monitoring results showed that the running track continues to be used by vehicles from the Export Pipelines Protection Department (EPPD) along much of the ROW. This activity continues to restrict the recovery of vegetation at many locations.

Discussions with EPPD conducted in previous years continued in 2013. In November 2013, at an onsite meeting with the Hajigabul branch of EPPD, a verbal agreement was reached to stop the use of BTC running track at the Pirsaat river crossing (KP 42).

Completion Status: Ongoing

2.4.2 Georgia

There were 8 other studies/surveys carried out in Georgia in 2013.

Study/Survey:	**Expected Timing:**
Biodiversity monitoring off FCI-ROW	2011-2015

Progress

BTC has committed to five-year programme for Biodiversity monitoring at off FCI-ROW

locations, commencing in 2011.The 2013 round of annual monitoring commenced in spring. A revised scope of faunal monitoring at off FCI-ROW habitats (including ichthyofauna at 22 major river crossings conducted once in two years) covers selected species of amphibians, birds and mammals (like ichthyofauna, forest bats and Brandt's hamster populations are monitored also once in two years). The target animal species for the 2013 monitoring surveys were Spadefoot toad (*Pelobates syriacus*), Corncrake (*Crex crex*) and Grey crane (*Grus grus*), Caucasian black grouse (*Tetrao mlokosiewiczi*) and Common otter (*Lutra lutra*).

The monitoring data indicate a dramatic reduction in focal faunal species populations. These results are thought to be mainly due to an increase in anthropogenic pressure at all monitoring sites, including uncontrolled grazing of cattle and hunting.

Monitoring will be continued from spring 2014 period, while the next and final ichthyological monitoring will be carried out in 2015.

Completion Status: Ongoing

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

The main objective of the rare floral species monitoring programme is to measure the survival rates of translocated species against the objective of re-establishing a minimum of 75% of the original population within the areas designated for translocation. The above commitment has been achieved for 8 out of the 11 selected species. The results of the 2013 monitoring programme indicate that no individual specimens of *Gentiana angulosa* (Gentian) or *Orchis coriophora* were recorded at the reintroduction sites. Considerable reduction in abundance has been recorded for *Dactylorhiza urvilleana* (populations at KP 96) and *Dactylorhiza euxina*; however, the total number of individuals of both populations was found slightly increased as compared to last year's numbers.

In the fall of 2013, *Fritillaria ophioglossifolia* (Fritillary) and large numbers of Gentians were reintroduced to their original habitats on Tskratskaro Descent and Kodiana Pass. With support provided by Dr. Shalva Sikharulidze, the Director of the Institute of Botany at Ilia State University, 10 individuals of *Orchis coriophora* from the collections of Bakuriani Alpine Botanical Garden have been offered for the purpose of reintroduction to the wet meadow close to the BTC/SCP ROW in spring 2014.

Surveys to assess survivability rates will be continued in 2014.

Completion Status: Ongoing

Study/Survey:	**Expected Timing:**
Vegetation cover recovery and potential erosion risk assessment along the BTC and SCP ROW, 2013	Operations

Progress:

Vegetation cover regrowth trends and erosion risk potential are being monitored annually using a combination of satellite imagery and ground-based surveys. In 2013, no satellite imagery was acquired and therefore the findings presented below are based on field data only.

The results of the 2013 vegetation cover monitoring programme indicate that 16 out of the 18 surveyed habitats showed that vegetation cover was comparable to adjacent, undisturbed communities. The exceptions were Alpine grassland (69% of adjacent cover) and Xeric grassland combined with South-eastern Sub-Mediterranean deciduous thickets (shibljak) and dwarf cushion-heaths (67%). In total, both habitats occupy approximately 4% of the overall ROW area.

A visual assessment of erosion risk potential concluded that out of a total of 49 sites: 4 sites were assigned Erosion Class 3; 8 sites – Erosion Class 2; and remaining 37 sites – Erosion Class 1.

The next round of vegetation cover and erosion potential assessment monitoring is scheduled to commence in April 2014.

Completion Status: Ongoing

Study/Survey:	**Expected Timing:**
Propagation of Fritillary and Gentian by seeds and reintroduction to original habitat	3-year project (2010-2012), extended to 2013

The monitoring surveys of rare species, conducted in 2009, identified the absence of Gentian populations at Tskhratskaro (KP 176) and Kodiana (KP 193) passes. Both populations were reintroduced back to their original habitats upon completion of ROW reinstatement. Several thousand of the Gentian individuals were planted in these areas, however, their adaptation seems to have failed.

BP Georgia has implemented a rare species restoration programme aimed at propagation and subsequent reintroduction into original habitats of Fritillary and Gentian.

In total, 2,100 Gentians and 100 Fritillaries were grown from seeds for reintroduction to their original habitats adjacent to the BTC/SCP ROW. Prior to translocation to suitable habitats, the plants were weeded to remove competitors and prevent soil impoverishment. The plants were all placed in plastic containers to avoid transportation stress and were carefully handled during the loading process. All plants were planted on high-mountain meadows with 100 Fritillaries planted between KP 152 and 153 on the eastern macroslope of Mt. Tavkvetili; 1,000 Gentians planted on Tskhratskaro Pass between KP 175 and 176; and another 1,100 Gentians planted on Kodiana Pass between KP 192 and 193.

Completion Status: Completed

Study/Survey:	**Expected Timing:**
Control of invasive *Ambrosia artemisiifolia* (Common ragweed) and survey of alien/invasive species along the BTC/SCP ROW	Operations

Progress:

A walkover survey of the BTC/SCP ROW conducted in 2013 revealed the presence of populations of 8 alien species on the ROW. Two of the 8 – (*Ambrosia artemisiifolia* and *Robinia pseudoacacia*) are invasive taxa. The majority of alien species are naturalized annuals that over time will be gradually replaced with native perennials through natural succession.

Based on previous studies on Common ragweed management, BTC/SCP designed a combined management treatment consisting of a mechanical intervention (using a brush weeder) just before female flowering followed by treatment with the herbicide and 14 days later, Glyphosate. This treatment was applied at 12 sites across south Georgia. The result was a greatly reduced cover (to 44% of controls) and height (to 22% of controls) of Common ragweed at all sites, as assessed in late September 2013. The number of flowering plants, flowers per plant and total pollen and seed output is also expected to be considerably reduced in the treatment plots. With regard to impact on the accompanying vegetation, the treatment significantly reduced cover (by 25%) and species numbers (by 11%) of the dicots only, but not of monocots, thus transforming the vegetation towards dominance of the grasses. These results are well in line with the envisaged management interventions that should maximise effects on on *Ambrosia*, increase the competitive ability of the non-invasive ('natural') vegetation cover and minimise negative effects on species diversity.

BTC proposes to continue monitoring at 12 selected study sites in 2014, and to extend the study plot size to 25m^2. This will allow for an assessment of alien species and their invasion status at intersections between roads and the pipeline and to enhance the ability to monitor population dynamics of Common ragweed and their natural enemies (insects and pathogens) in accordance with the recently launched EU-COST Action on "Sustainable management of Ambrosia artemisiifolia in Europe (SMARTER)".

Further monitoring is recommended to identify trends in the populations of invasive species and develop control measures if necessary.

The control of Ragweed and monitoring of alien species will be continued in 2014.

Completion Status: Ongoing

Study/Survey:	**Expected Timing:**
Implementation of anti-erosion measures at erosion prone sites along BTC/SCP ROW	Operations

A visual inspection conducted in November 2013 identified 3 Erosion Class 3-4 sites requiring corrective action in order to stabilise soil, establish vegetation cover and prevent further gullying. The 3 sites, and the corresponding interventions, were as follows:

- KP 176 (on the Tskhratskaro descent); Conventional grass seeding over a 1ha area and installation of biodegradable erosion mat over an area of 2,000m^2;
- KPs 215 and 21; Conventional grass seeding on area of 1ha; and
- KPs 217 and 218; Conventional grass seeding over a 1.2ha.

Vegetation regrowth success is planned to be assessed in the summer of 2014.

Completion Status: Ongoing

Study/Survey:	**Expected Timing:**
Assessment of tree and shrub survival planted at PSG 1, Secondary Containment Facilities and Emergency Drain Down Facility (EDDF) sites and along Kodiana access road	Operations

The 2009 and 2010 landscaping and biorestoration projects outcomes and mitigation activities included aftercare activities at selected locations adjacent to BTC/SCP pipeline at PSG 1; Tskhratskaro Secondary Containment Facilities site (Andeziti); Kumiska 1 and 2; Oshora 1 and 2; EDDF temporary site; EDDF staging area 1; and along Kodiana access road.

The key objective of the project was to re-establish the original plant communities around the target sites in order to restore ecological balance and blend the artificially created landscapes with the local environment. This included regular maintenance applied to the plantation during appropriate seasons. Monthly inspections were accompanied by activities such as soil cultivation, mowing (weed control), watering, pest and disease control and maturing (case and season sensitive). In September 2013, the plantation survival/mortality rate was assessed by Dzelkva Ltd, a third-party, independent ecological consultancy, who identified various damaging factors/causes.

Dzelkva Ltd recommended that hedge trimming and shaping be undertaken at PSG 1, including formative pruning of shrubs, reduction of co-dominant stems, etc. They also advised that the hedgerows at PSG 1 be improved by planting of 2,500 *Thujas* and the same number of *Privets* along approximately 940m of the ROW to create a dense and aesthetically pleasing environment.

The above recommendation was accepted and implemented in the fall of 2013 and will be subject to further maintenance and monitoring in.

Completion Status: Ongoing

Study/Survey:	**Expected Timing:**
Weed management in BTC/SCP ROW	Operations

Progress:

As a part of the ESAP commitments, continuous visual inspections for weeds and alien species have been conducted along the BTC/SCP ROW as part of the general biorestoration monitoring programme.

Weeds species, which have proved to be a problem in monitoring areas, were removed through mechanical cutting as they are considered to be natural impediment to seasonal seed spread.

Completion Status: Ongoing

2.4.3 Turkey

Study/Survey: Ecological monitoring (species diversity and vegetation cover)	**Expected Timing:** Operations
Ref: 2010 Annual (p11); 2012 Annual (p11).	

Ecological monitoring consists of 2 components: monitoring of vegetation cover and monitoring of species diversity. Annual vegetation cover monitoring surveys are required and have been undertaken since 2006. Species diversity monitoring were carried out in the first, third and fifth year after biorestoration actions, in 2006, 2009 and 2011, respectively and the next species diversity monitoring will be conducted in 2016.

The 2013 monitoring of vegetation cover survey was conducted in July along the Turkey section of the BTC Pipeline Project.

In general, there has been an increasing trend in vegetation cover across most on-ROW sites when compared to adjacent off-ROW sites. Vegetation cover trend was determined as negative at 12 quadrants out of 119 while others performed neutral or positive results; the other ones were neutral or positive. The causes of such a performance in those particular areas are overgrazing, soil erosion and agricultural activities.

Completion Status: Ongoing

Study/Survey: Marine sediment and ecology survey	**Expected Timing:** Operations
Ref: 2006 Annual (p9-10); 2007 Annual (p11); 2008 Annual (p21); 2009 Annual (p22); 2010 Annual (p11); 2012 Annual (p11).	

The marine sediment and ecology survey was conducted in August 2013. Highlights of the results are given below:

- The majority of the survey area is covered with muddy intertidal sediments. These sediments are commonly subdivided into sandflats, mixed-flats and mudflats based on sand or mud contents. In addition, the benthic community structure is primarily influenced by the sediment grain size. The bottom surface is mainly composed of muddy formation such as silty sand and clay with very small grain size. This kind of habitat has low productivity and cannot support a healthy benthic life;
- Analyses of samples show that the study area has been colonised by mainly Polychaetous Annelids and Molluscs. It is widely known that high dominance of the Polychaetes is often associated with polluted benthic environments;
- The structure of phytoplankton samples indicated very poor in terms of both qualitative and quantitative aspects. There are not major differences between the present 2007, 2009 and 2010, 2011, 2012 samplings point out to the role of seasonal effects on phytoplankton most probably, however, never reached the eutrophication and/or hypertrophication levels in the all sampling water levels. From the general viewpoint of the previous samplings, it can be said that the ecological balance is normal in the phytoplankton community structure;
- The zooplankton of the BTC Jetty reflects the seasonal patterns in species composition and abundance. Increase in abundance of parthenogenetic and thermophilic Cladocerans in summer is a well-known phenomenon for temperate seas. The total zooplankton abundance determined for the region is comparable to other oligotrophic regions, considering that the heavily industrialised Iskenderun Bay is a polluted region;

- Ichthyoplankton data obtained from Iskenderun Bay indicate that several fish populations choose the area for spawning, including commercially important species such as mullids, sparids and carangids. Ichthyoplankton species composition and abundance at the region was similar to those determined in July 2011 period.
- The most abundant commercially important species were *Mullus barbatus* (907 individuals) *Upeneus pori* (504 individuals), *Diplodus annularis* (185 individuals) and *Nemipterus randalli* (174 individuals);
- The recent findings showed a high diversity of Crustacean fauna; The extensive amounts of crustaceans caught by bottom trawl enable to suggest that the economically important species depend mainly on the infaunal assembly.

- Physical and chemical properties of water samples were found to be within acceptable limits compared to reference values, and no significant differences were observed over the sampling period (2001, 2005, 2007, 2009, 2011 and 2013).
- Concentrations of mercury (Hg), chromium (Cr), cadmium (Cd), iron (Fe) and copper (Cu) were generally found to be above international guideline values (CCME (ISQG and PEL) value for Hg (0.13 and 0.70 µg/g, and RISC (LEL) value for Hg (0.2 µg/g)).. The high concentrations of Hg, Cr, Cd, Fe and Cu might be attributed to the existence of industrial facilities (such as iron-steel, fertilizer factories) at the east of in Iskenderun Gulf or the CMT. The noteworthy point is the occurrence of high metal concentrations in the vicinity of the BTC Jetty (stations 5, 7, 8, 9, and 12). According to above results aluminium (Al), Cu, Cd, lead (Pb), Fe and Hg contents of surface sediments are lower than the natural background (shale) average. According to above results Cu, Pb, zinc (Zn), Fe, tin (Sn) and Al contents of surface sediments are lower than the shale average. Cr concentrations in most of the station are high (station 5, 7, 8, 9, and 12) especially from station 5 of a great consideration; and
- Despite the unproductive sea bottom, most of the commercially important fish and prawn species observed in the survey area. Many stomatopod and polychaeta burrows were observed in the video recordings of the sea bottom. The extensive amounts of crustaceans caught by bottom trawl enable us to suggest that the economically important species depend mainly on the infaunal assembly.

Completion Status: Ongoing

Study/Survey:
Coastal processes survey

Ref: 2007 Annual (p13); 2008 Annual (p23); 2009 Annual (p23); 2010 Annual (p12); 2011 Annual (p16) ; 2012 Annual (p16).

The coastal processes survey was carried out in December 2013.

The results of the survey are still being assessed.

Completion Status: Ongoing

Study/Survey:
ROW physical monitoring

Expected Timing:
Operations

Ref: 2009 Annual (p23); 2010 Annual (p12); 2012 Annual (p12).

The annual physical monitoring activities led by the Environment Department was merged with the patrol activities of the Pipeline Technical Management team, which is continuous in nature and covers the whole pipeline. The entire ROW was visited and relevant precautionary and corrective actions were taken by the Pipeline Technical Management team.

Completion Status: Ongoing

Study/Survey:	Expected Timing:
Ballast Water Risk Assessment (BWRA) study	Operations

Ref: 2007 Annual (p10-11); 2008 Annual (p22); 2009 Annual (p23); 2010 Annual (p24); 2011 Annual (p17); 2012 Annual (p17).

The fourth BWRA study was undertaken for the CMT in early 2013 in accordance with the International Maritime Organization's GloBallast BWRA Methodology.

The overall objective of the BWRA study was to assess the relative overall risk posed by each ballast water source port to the CMT. The BWRA study assessed the level of risk for all source ports from ships used by CMT between June 2006 and January 2013. The secondary aim of the study was to examine the shipping traffic data in order to determine ships' ballast water effects relating to existing and potential alien species. This includes examining whether any species was transported by ballast water in the port area after BTC operations, and identifying potential alien species that can be transported via current shipping traffic. As a third task, potential invasive species that could be transported by ballast water to the CMT were estimated by using shipping traffic records between 2006 and 2013.

Results showed that 80,711,039t of ballast water were discharged to the CMT between June 2006 and January 2013 (annual average 12,000,000t) from 2,017 visits. The majority of the ballast water volume discharged to the CMT was from the Mediterranean Sea (73%), followed by the North-east Atlantic (9%), North-west Atlantic (7%) and Indopacific Ocean (6%), with only 3% of the ballast water sourced from the Red Sea.

From the 2,017 visits recorded in the database, the study identified 26 of the 162 source ports as representing the "highest" risk group (in terms of their ballast water source frequency, volume, environmental similarity and assigned risk species), of which 20 were from the Mediterranean Sea and 2 from the Red Sea. Of the 27 "high" risk ports identified, 15 were also in the Mediterranean. The number of ballast water source ports in the "medium", "low" and "lowest" risk categories was 28, 34 and 52 respectively. Of the 28 "medium" risk ports, 16 were from the Mediterranean while the others were from the North-east Atlantic, North-west Atlantic, Indopacific Ocean, North-east Pacific and South-east Atlantic. The combined 86 source ports in the "low" and "lowest" risk categories were generally a mixture of cool and very warm water ports, plus river/brackish ports with a wide distribution, and their environmental similarities to CMT are very low.

According to the findings of Marine Sediment and Ecology surveys undertaken in 2007, 2009, 2011 and 2013 and Marine Sediment surveys undertaken since 2008, a total of 84 alien species were reported in the CMT marine area, of which 21 were among the '100 Worst Invasive Species' in the Mediterranean. According to published records, possible introduction vectors of 15 aliens from 84 alien species observed was shipping, 4 of which were among the '100 Worst Invasive Species' in the Mediterranean. The other alien species are Lessepsian migrants introduced from the Suez Canal. Although there are 15 alien species introduced by ships, first sightings of all 15 species in the İskenderun Bay were before tanker traffic started in the CMT. Nine species were identified as possible aliens based on available information and data in the national and international online data archives, published scientific studies and technical reports. No BWRA is planned for 2014. The aim is to collect all previous BWRA study results and work on a BW management framework study with relevant stakeholders such as BP Shipping, before conducting another assessment.

Completion Status: Ongoing

Study/Survey:	Expected Timing:
Waste management Best Practicable Environmental Option (BPEO) study	Operations

Ref: 2009 Annual (p24); 2010 Annual (p25); 2011 Annual (p17); 2012 Annual (p17).

The Waste management BPEO study was planned in 3 phases: domestic, hazardous, and recyclable and reusable waste streams. The domestic waste actions of the BPEO for the management of solid wastes arising from BTC operations in Turkey are being undertaken by BIL and BTC. One of the outcomes of this study was to use the Antakya Municipal Landfill Site, which BIL has already begun using under a Protocol. Another outcome was to use the Erzurum Municipal Landfill Site following the 2-year Eastern Anatolia Waste Management

Project. The Protocol between BTC and Erzurum Municipality was signed and the Eastern Anatolia Waste Management Project was initiated.

The study on hazardous waste was conducted by İSTAÇ Company. The study aimed to explore the disposability of hazardous wastes generated along the BTC pipeline route as additional fuel in cement factories (Kayseri and Mersin factories that are close to the pipeline) and as an alternative to landfill or incineration at İZAYDAŞ. Use of wastes in cement factories as additional fuel and disposal of wastes through an incineration method are currently being conducted pursuant to provisions of the Regulation on the Incineration of Wastes (2010) that is fully harmonised with the 2000/76/EC Waste Incineration Directive. Kayseri and Mersin cement factories and İZAYDAŞ were found to be compliant with the emission standards specified in the national regulation and European Union (EU) Directives.

Finalisation of the study report is ongoing.

A number of existing and new recycling facilities were audited in 2013 and more will be audited in 2014. BIL is intending to prioritise recycling and reuse options based on cost as facilities meeting the local and EU standards become available. A decision for a need for a new BPEO study will be made by end of 2014, following the audits.

Completion Status: Ongoing

3 CHANGES

As reported in previous E&S Annual Reports, the BTC Pipeline Project uses a management system process called MOC. Proposed changes with potential associated environmental or social impacts are graded by 3 Classes – I, II or III, as defined in the ESAP, where 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' IEC.

3.1 AZERBAIJAN

There have been no Class I, II or III changes in Azerbaijan in 2013.

3.2 GEORGIA

There were no Class I, II or III changes in Georgia during 2013.

3.3 TURKEY

There were no Class I, II or III changes in Turkey during 2013.

3.4 CROSS-COUNTRY CHANGES

There were no cross-country changes approved in 2013.

3.5 DESCRIPTION OF ANY MATERIAL AMENDMENT, SUPPLEMENT, REPLACEMENT OR MODIFICATION

This section outlines any material amendments, supplements, replacements or material modification to any ESIA, ESAP, Resettlement Action Plan (RAP), OSRP or the Environmental and Social Management System (ESMS).

3.5.1 Azerbaijan

No material amendments to the BTC Azerbaijan ESIA, ESAP or RAP were made in 2013.

3.5.2 Georgia

No material amendments, supplements, replacements or material modifications to an ESIA, ESAP, OSRP, RAP or Environmental Management System (EMS) were made in 2013.

3.5.3 Turkey

There were no material changes to the BTC Turkey Environmental Impact Assessment (EIA), ESAP or RAP during the reporting period. Compliance with Environmental Standards and Applicable Environmental Law

3.6 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 2013 are detailed in Appendix 2.

3.6.1 Azerbaijan

There were no non-compliances in Azerbaijan from the IEC in 2013.

Action relating to an non-conformance raised during the 2010 audit (refer to the 2010 Annual Report) relating to the Red Book species *Iris acutiloba* commenced with the planting of 3,000 plants at IPA 1 and PSA 2 in 2013. Techniques successfully developed and applied in Garadakh Cement Plant will be used in an effort to improve the success rate of this offset program, which is planned to start in 2014.

No Government fines or penalties were incurred for environmental or social non-compliances, and no material environmental claims were made against BTC Azerbaijan during 2013.

3.6.2 Georgia

There were no Government fines or penalties incurred for environmental or social non-compliances, and no material environmental claims were made against BTC in Georgia during 2013.

3.6.3 Turkey

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 2013.

3.7 MONITORING RESULTS

Actions on operational environmental monitoring arising from the BTC Emissions Management Plan continued during 2013. These planned activities were implemented in accordance with the internal plans to ensure compliance with BTC Pipeline Project standards as well as to monitor, minimise and, where necessary, mitigate the environmental impact of pipeline operations.

3.7.1 Azerbaijan

3.7.1.1 Ambient Air Quality

In July 2013, ambient air quality monitoring was carried out at PSA 2. Sampling devices were deployed at 5 locations around PSA 2 and 2 locations around IPA 1. Analyses were carried out for nitrogen dioxide (NO_2) at PSA 2 and NO_2 and sulphur dioxide (SO_2) at IPA 1.

All results were within relevant limits. Details are provided in Appendix 3.1a.

3.7.1.2 Stack Emissions

Stack emissions monitoring for 2013 was completed in February 2014 for all major combustion plants at pipeline stations and included monitoring of the PSA 2 main power generators, 4 Main Oil Line (MOL) turbines, a Water Bath Heater (WBH), and the IPA 1 main power generators. All of the stacks were sampled for NO_x, carbon monoxide (CO), SO_2, and Particulate Matter (PM_{10}).

The monitoring results of all BTC Azerbaijan diesel generators and the WBH indicated that the NO_x, CO, SO_2 and PM_{10} concentrations were well below the limits specified for these plants in the BTC Azerbaijan ESIA and Emissions Management Plan.

Monitoring results of the BTC Azerbaijan PSA 2 MOL turbines indicated that NO_x concentrations from the 2 turbines were higher than the 75mg/m^3 limit specified in the Emissions Management Plan for this plant. PM concentrations for all turbines and SO_2 for 1 turbine were also higher than set limits.

An offset programme, accepted by the IEC, has been developed to compensate the exceeded NO_x emissions. The programme was implemented and completed in 2013.

A summary of monitoring results is provided in Appendix 3.1b.

3.7.1.3 Noise

In August 2013, environmental noise monitoring was conducted in accordance with ESAP requirements at 2 pre-identified receptors around PSA 2, 3 pre-identified receptors around IPA 1, and at BV 4, BV 7, BV 10, BV 11, BV 13 and BV 14, all of which are located within a 300m distance of community receptors.

Results indicated compliance with the ESAP standards for all locations.

A summary of monitoring results is provided in Appendix 3.1c.

3.7.1.4 Effluent

BTC Azerbaijan's effluent discharges in 2013 comprised treated sewage from PSA 2, PSA 2 camp and IPA 1.

Sewage treatment systems at PSA 2, PSA 2 camp and IPA 1 have the same design and undergo the same 3 stages of treatment: biological treatment, ultra violet sterilisation, and final polishing in reed beds.

Effluent monitoring included monthly measurements of effluent parameters at the internal environmental laboratory. A third-party subcontractor was engaged to conduct the quarterly effluent monitoring programme on the reed bed outlet at PSA 2.

All results from the PSA 2 reed bed complied with the ESAP standards with the exception of coliform bacteria. High levels of coliform bacteria have been detected in samples taken from the final polishing reed beds immediately after first rain. Since samples of water entering the reed beds do not contain high levels of faecal matter, the Sewage Treatment Plant (STP) is considered to be functioning as designed.

A summary of monitoring results is provided in Appendix 3.1d.

3.7.1.5 Ground and Surface Waters

Groundwater monitoring was carried out in May and November 2013 using samples taken from 6 monitoring wells at the Karayazi aquifer.

Surface water samples were collected in April, May, August, and November 2013 from upstream and downstream locations at IPA 1 and PSA 2.

All results were consistent with pre-Project baseline conditions and are compliant with relevant standards.

A summary of monitoring results is provided in Appendix 3.1e.

3.7.1.6 Waste Management

During 2013, waste management practices were maintained and improvements undertaken to minimise waste generation through awareness sessions, toolbox talks and the like.

All wastes were handled and disposed of in accordance with BTC AGT regional waste management and ESAP requirements. The AGT Region Waste Manual was developed and implemented to enhance waste management practices at all facilities.

A summary of waste generated is provided in Appendix 3.1f.

3.7.2 Georgia

3.7.2.1 Ambient Air Quality

Ambient air quality monitoring at PSG 1 and PSG 2 was conducted in November-December 2013. Measurements were taken at 5 points around both locations 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 3.2a.

3.7.2.2 Stack Emissions

Stack emissions monitoring was also conducted in November and December 2013 for most equipment, with the exception of the PSG 1 MOL Turbine 3, which was not operating due to maintenance, and the PSG 2 MOL turbine, which was monitored was in April 2013.

All of the stacks were sampled for NOx, CO and sulphur oxides (SO_x) with calculations for PM_{10} performed. Monitoring results demonstrated compliance with ESAP standards, with the exception of NOx emissions from turbines, which has been offset through implementation of a NOx offset programme (Section 5.1.2.1).

A full set of results is provided in Appendix 3.2b.

3.7.2.3 Noise

Noise monitoring was conducted at PSG 1 (including Area 72), PSG 1 camp, PSG 2, PSG 2 camp, Tsalka and Borjomi OSRBs and the EDDF in November and December 2013.

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

A summary of monitoring results for environmental noise is provided in Appendix 3.2c.

3.7.2.4 Effluent

Effluent discharge monitoring was conducted monthly in 2013 and covered treated hydrocarbon contaminated water from PSG 1 and PSG 2 retention ponds, treated sewage from PSG 1 camp, PSG 2 camp, PSG 2 site, Area 80 Permanent Accommodation and Borjomi and Tsalka OSRBs. In addition, Oily Water Separators (OWS) at PSG 1, Tsalka and Borjomi OSRBs, EDDF, PSG 1 camp and 2 locations at PSG 2 camp were tested for oil-in-water content. In accordance with the requirements of the ESAP, the monitoring programme was revised to reduce the frequency of monitoring for the parameters that were found to be in compliance with the relevant standards in 2012, with the exception of coliform at Area 80 Permanent Accommodation and the PSG 2 STP (due to non-compliance during 2012) and coliforms at PSG 1 and PSG 2 camps (due to treatment units modifications during 2012).

Start-up of the new Rotating Biological Contactor type STP installed at the EDDF is planned for 2014.

All measured parameters complied with project-specific standards except for coliform bacteria at the Area 80 STP and Tsalka OSRB. Analysis conducted for the Area 80 STP concluded that the problem occurred as a result of the treatment capacity of holding tank flow being exceeded, combined with a malfunctioning ultra violet wiping system. The problem was corrected by reducing the intervals between the flows in the tank to comply with STP treatment capacity, replacing the ultra violet wiping system and conducting visual inspections of ultra violet wiping systems.

Due to the small volume of discharge and large size of the reed bed, sampling at the Tsalka OSRB cannot be conducted at the final discharge point as water evaporates very rapidly. Samples for the analysis are therefore collected directly from the device, before discharge goes through the reed bed. This procedure explains why the levels of coliform bacteria are elevated. Accordingly, no non-compliance was raised with respect to this issue.

A summary of monitoring results is provided in Appendix 3.2d.

3.7.2.5 Ground and Surface Waters

Groundwater and surface water monitoring was conducted along the BTC pipeline route and around PSGs over 2 periods in May to June and October to November 2013.

The results complied with the relevant standards, as detailed in Appendix 3.2e.

3.7.2.5.1 Non-Hazardous Landfill Groundwater

Underground water monitoring was conducted at the BTC non-hazardous landfill during Q1-2013. Only monitoring wells 3 and 4 where sampled as wells 1, 2 and 5 were dry.

No monitoring could be completed during Q2-2013, Q3-2013 or Q4-2013 because all monitoring wells were dry.

The results of the analysis showed general compliance, although there were several exceptions, such as electrical conductivity, sulphate (SO_4), chloride (Cl), sodium (Na) and boron (B).

A summary of groundwater monitoring results for non-hazardous landfills is provided in Appendix 3.2e.

3.7.2.6 Greenhouse Gas and Non-Greenhouse Gas Emissions to Air

Monthly rounds of Greenhouse Gas (GHG) and non-GHG air emission calculations were completed during 2013. The figures for actual fuel used were received for MOL

turbines, while equipment specifications and fuel used from assumed running hours was used for generators and WBHs emissions calculations. Results of the calculations show that the actual GHG emissions are lower than the forecast, as has been the case in the previous years.

A summary of GHG air emissions calculation results is provided in Appendix 3.2f.

3.7.2.7 Waste

The main waste generation areas are PSG 1 and PSG 2. The Central Waste Accumulation Area (CWAA) continues to be utilised for the storage of hazardous waste, which cannot be recycled or disposed of in accordance with appropriate standards. All generated non-hazardous wastes are collected at the waste processing and recycling centre for secondary and final segregation. Recyclable waste (plastic bottles, paper and cardboard) is stored in special containers prior for sending in to local recycling companies. Non-recyclable waste, after compacting, is sent to landfill for final disposal on a monthly basis.

BTC Georgia continued using local companies for waste recycling, such as: Caucasus PET Company for plastic waste; Vargi Limited for paper/cardboard; and NSM and Company for metal waste recycling. In 2013, a local recycling company was employed for general plastic recycling. In 2013, 65m^3 of plastic stored at CWAA since 2006, was sent for recycling.

To minimise stored waste volume, a heave shredder was installed in 2012 for used tires, non-hazardous air filters and plastic waste shredding. In 2013, 189m^3 of shredded air filters was disposed to the EU-standard non-hazardous waste landfill.

Glycol treatment unit were installed at Waste Processing and Recycling Center (WPRC). This equipment enables to treat used glycol/coolants, currently stored at the CWAA. This is the first facility of its kind in the region.

Site camps continue using food waste macerators and a dewatering system.

A summary of waste generated in 2013 is provided in Appendix 3.2

3.7.3 Turkey

3.7.3.1 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 8 locations at and around CMT once in every three months.

In 2013, 4 surveys were undertaken between March and December.

All annual average measurement results of parameters are in compliance with the Project-Specific Standards and limit values set forth by the Turkish Regulation. The highest BTEX values observed at CMT-1 Kurtkulagi Village, CMT-3 Karatepe Quarter, CMT-4 Sahil Sitesi and CMT-7, which are intensively under the effect of next-door BOTAŞ facilities tank farm. Some other occasional increases also observed at other monitoring locations, which were not significant.

The annual average values of parameters measured in 2013, are close to values of 2012.

3.7.3.2 Stack Emissions

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

Stack emissions monitoring results for 2013 are shown in Appendix A.2.3. PT2 driver engine 3, PT3 water heater 3 and PT4 water heaters 1&2 could not be measured due to maintenance activities. The other results demonstrate compliance at all facilities except for the PT4 Driver Engine 2 NOx results. The maintenance of the equipment will be done by BIL Maintenance Department, following receiving non-compliant monitoring result.

3.7.3.3 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 2013, consequently, no ambient monitoring was conducted.

3.7.3.4 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 2013 are shown in Appendix A.2.3.

Number of aqueous discharge streams did not meet project standards. In such cases the effluent was re-cycled or trucked to Project approved Municipal WWTPs for further treatment.

In 2013, a number of enhancements were conducted, details of which can be found on Appendix 3.C.

3.7.3.5 Groundwater

The objectives of the monitoring programme are to:

- Determine the effects on groundwater during the operational phase; and
- Ensure the sustainable use of groundwater.

Sampling was carried out at the CMT and PTs. The target parameters for Potential of Hydrogen (pH), turbidity, EC/salinity/Total Dissolved Solids (TDS), dissolved oxygen, total coliforms, ammonia, nitrate, nitrite, TOC and Total Petroleum Hydrocarbons (TPH) were analysed in the samples taken from the wells. In addition, arsenic (As) analysis was conducted at the station wells at PT 2 and PT 3. Dissolved oxygen, EC/salinity/TDS, pH, turbidity and TOC parameters were analysed quarterly in the samples taken from the well at PT 4. There are no wells at IPT 1 and IPT 2.

The following summarises the results of the water quality monitoring conducted in 2012[3]:

- pH is within the upper and lower range limit for all stations;

[3] The compilation of monitoring results typically takes longer than the time available to prepare this report. Accodringly the 2012 results are presented here (the 2012 Annual Report presented the 2011 results). The 2013 monitoring results will be presented in the 2014 Annual Report..

- TDS, nitrate and nitrite parameters are below the limits;
- For the dissolved oxygen parameter, there is no limit value in World Health Organization and Regulation on Concerning Water Intended for Human Consumption (RWIHC) Annex-1. According to the analysis results, dissolved oxygen parameter values are between 2.19mg/L and 8mg/L;
- The turbidity parameter is above the limits for all stations. The analyses results are very close to the World Health Organization standards of 0.1 Nephelometric Turbidity Unit (NTU), except for PT 3 and November analysis result of PT 4;
- No bacterial growth has been determined at the facilities except for PT 1 and CMT (these stations will be assessed in the next monitoring round);
- Ammonia was found to be below the limits for all facilities except for PT 2 and PT 4. The analyses result is very close to RWIHC Annex-1 standards limit (0.50mg/L) and no abnormal situation was observed;
- The As parameter at PT 2 and PT 3 were below the limits according to the RWIHC Annex-1;
- For the TOC parameter, there is no limit value in World Health Organization and RWIHC Annex-1. However, according to the RWIHC Annex-1, the TOC parameter should be considered by looking for abnormal changes in TOC values over recent years. None was observed at any of the PTs. At the CMT, the variation in TOC values were slightly greater, thus warranting future monitoring; and
- TPH results show no abnormal situation either at the PTs or at the CMT.

Within the scope of groundwater level monitoring studies, measurements were performed in May at PT2, PT4, and CMT Yanıkdeğirmen wells to determine the effects during the operations phase. Site conditions at PT1 were suitable to measure the level in June. Level measurement could not be accomplished at PT3, as the site conditions were not suitable for measuring.

General findings obtained from the groundwater level monitoring studies are as follows:

- The groundwater level at PT 2 has varied between 1.8m to 4.8m since 2005. According to the measurements the groundwater level at PT 2 has decreased 1.8m since 2005;
- The groundwater level at PT 4 varied between 0.5m to 3.1m since 2006. According to the measurements, the groundwater level at PT 4 has increased 0.5m since 2006;
- The groundwater level at the CMT Yanıkdeğirmen wells varied between 0.84-3.84m since 2004. The groundwater level has decreased 3m since 2004; and
- The depth to water level was 80 m at PT1 in 2007. During 2012 sampling round, the depth to water level constituted 86 m. Thus, the groundwater level drop down at PT1 by 6 m since 2007.
- During the 2012 groundwater level monitoring studies, it was determined that there were normal fluctuations in groundwater level at PT1, PT2, PT4 and CMT-Yanıkdeğirmen wells in accordance with acceptable range for aquifers.

3.7.3.6 Waste Management

In 2013, about 539.4t of solid waste were disposed off-site. Of this, about 8% was hazardous waste and of that, 1% was sent to IZAYDAS, with the remainder sent to

Refuse Derived Fuel (RDF) for incineration. About 28% of the total amount was domestic waste and was sent to Antakya Municipal Landfill Site for landfill. The rest was non-hazardous waste that was reused or recycled. Appendix A.2.3 provides details of waste volumes generated.

Hazardous waste and waste oil and Seveso declarations to the MoEU have been completed by BIL for all facilities for 2013.

For details of the waste management BPEO study, refer to Section 2.4.3.

3.8 STATEMENT OF COMPLIANCE

BTC and its agents have complied with the ESAP, applicable environmental laws and applicable Lender E&S policies and guidelines in all material respects during 2013.

All non-compliances identified in 2013 are summarised in the Executive Summary and are shown in Appendix 3. Non-compliances relating to other audits are provided in Section 11 (and detailed in Appendices 2 and 4). For all non-compliances identified, corrective actions have been developed and implemented.

3.9 CHANGES IN APPLICABLE ENVIRONMENTAL LAW[4]

3.9.1 European Legislation

New and amended EU directives, regulations, and decisions announced in 2013 have been reviewed. There were no environment-related legislative changes in European legislation that were potentially relevant to BTC in 2013.

3.10 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.

3.10.1 Azerbaijani Law

There were no environment-related legislative changes in 2013 that were potentially relevant to BTC Azerbaijan.

3.10.2 Georgian Law

The following environment-related legislative changes occurred in 2013 and are potentially relevant to BTC Georgia.

Regulation Title	Regulation Topic	New/ Revision	Potential Impact on BTC Georgia Operations
Resolution No. 31 on Rules and Conditions for Issuance of Licenses for Useful Resources	Licensing	Revision 15 Feb 2013	If a legal entity is holder of license for extraction of useful resources and is willing to alienate some share of license, then the process will be managed in accordance with the rules described by this Resolution.

[4] Applicable environmental laws as defined within the Host Government Agreement and Inter-Government Agreement.

Regulation Title	Regulation Topic	New/ Revision	Potential Impact on BTC Georgia Operations
Amendments in the law of Georgia on Water	Water Resources	Revision 25 Mar 2013	Legal entity that implements activities related to water use or protection is responsible to undertake measures against harmful impact on water resources and eliminate its consequences in co-ordination with this Law.
Amendments to the Law on "Entrails"	Entrails	Revision 25 Mar 2013	The requirements of the Law shall apply if the projects carried out directly by BTC or through its contractors, involve mining activities.
Amendments to The Administrative Code of Georgia	Penalties	Revision 25 Mar 2013	This Law shall apply if the projects carried out by BTC or its contractors violate requirements determined by legally bound environmental regulations.
Amendments to the Law on "Protection of Atmospheric Air"	Atmospheric Air	Revision 25 Mar 2013	The requirements of the Law shall apply if the projects carried out directly by BTC or through its contractors, involve harmful anthropogenic impacts to the ambient air.
Amendments in the law of Georgia on Red Book and Red list	Protected species	Revision 25 Mar 2013	The law applies if the projects carried out by BTC or its contractors cause the damage to protected species.
Order No. 169 Changes in the Regulation for Calculation of Norms of Maximum Permissible Discharges of Pollutants into Surface Water	Water Resources	Revision 28 May 2013	The order applies if a legal entity discharges grey water into the surface water.
Order No. 108 Changes in the Regulation for Issuance of License for Extraction of Minerals	Mineral Resources	Revision 14 May 2013	The Order shall apply if the projects carried out directly by BTC or through its contractors, involve extraction of mineral resources.
Order No. 31 Approval of Regulation for EIA	Permit for EIA process	Revision 15 May 2013	The Order shall apply if the projects carried out directly by BTC or through its contractors, require EIA prior commencement of the project.

3.10.3 Turkish Law

The list of national environmental regulations that were published or re-issued in 2013 is shown below, along with a statement regarding BTC's likely response.

Effective Date	Regulation On	New/Revision	Impact on BTC Turkey Operations?
3 Oct 2013	Regulation on EIA	New	No impact.
21 Nov 2013	Regulation on Environmental Officials, Environmental Management Units and Environmental Consultancy Companies	New	Environmental officials are requested to submit annual internal audit reports and monthly evaluation reports into the database of the Ministry. Environmental officials are requested to attend to related training programme performed by government for environmental officials.
12 Oct 2013	Regulation from DSI (State Hydraulic Works) on Groundwater Measurement System	New	Measurement systems should be placed until April 2016 for all wells as per the Regulation.
18 Jan 2013	Communique on Transportation of Waste on Highways	New	National Waste Transfer Forms should be used for the hazardous waste transportation even though the amount is less than 50kg. (This requirement does not cover medical waste).
09 Mar 2013	Regulation on Management of Radioactive Waste	New	No impact.
24 Oct 2013	Regulation on Transportation of Hazardous Materials on Highways	New	Hazardous waste transfer companies are requested to obtain ADR[5] certificate for their vehicles and SCR5[6] certificate for their drivers.
30 Dec 2013	Regulation on Prevention of Major Industrial Accidents and Reducing their Effects	New	As per the new issued regulation, preparation of Quantitative Risk Analyses, Security Reports, Internal Emergency Plans have been postponed to 01.01.2016.

A clarification was received from the MoEU on the requirement for amendments or development of a new ESIA for maintenance and repair projects, including those for geo-hazard mitigations, block valve fortification. The MoEU confirmed that there will be no requirement for any new ESIA or an amendment to the original ESIA as long as the defined set of projects are within the original 500m pipeline corridor, which was the basis for the original ESIA impact assessments.

[5] "European Agreement concerning the International Carriage of Dangerous Goods by Road"

[6] SRC5 is the name of the certificate for drivers that will carry dangerous goods.

4 OIL SPILL RESPONSE

4.1 SUMMARY OF OIL SPILL RESPONSE PLANS COMPLETED, UPDATED, OR AMENDED DURING THE YEAR

The OSRP re-write project was initiated in 2013 and planned to be completed by the end of Q2-2014. The purpose of this OSCP re-write project is to provide guidance and actions to be taken during an oil spill incident associated with the operations of the BTC and WREP pipeline systems in Azerbaijan and Georgia.

Guidance and recommendations presented in this plan are based on historical experience and evaluation of typical conditions in the response area but are not meant to replace case-by-case evaluation, application of alternative or combined response techniques, the exercise of good judgment and use of common sense.

All relevant information was sent to the National Response Company (NRC), previously called SEACOR.

4.2 NO ANY CHANGES WERE MADE TO THE EXISTING TURKEY OSRP MANAGED BY BOTAŞ INTERNATIONAL LIMITED (BIL). SPILL AND REMEDIATION SUMMARIES

BTC reports any material release that reaches the environment (i.e. is uncontained) or that is greater than 1bbl, even though it may be 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 releases is provided in Table 4.1.

Table 4.1: BTC Material Releases 2013

Asset	Liquid			Gas
	<1bbl	>1bbl		
	Uncontained	Contained	Uncontained	
BTC Azerbaijan	4	0	0	0
BTC Georgia	2	0	0	0
BTC Turkey	12	0	0	0

Further details on the material releases shown in Table 4.1 are provided in the following sections.

4.2.1 Azerbaijan

Glycol leakage from recently certificated Process Safety Valve pipe

A glycol leakage of approximately 0.5L was observed from Process Safety Valve pipe work located inside the Drag Resistant Agent skid no. 2 during site inspection.

Minor nitrogen leakage from underground pipework

Upon investigation of a slight pressure drop in the IPA 1 nitrogen system, minor leakage was identified from underground pipework that supplies the pigging area with nitrogen from nitrogen receiver.

Minor oil leakage from the pig receiver

A minor oil leak of approximately 0.05L occurred from the second pig signaller after lining up of the pig receiver was completed. Oil was immediately cleaned by absorbent.

AB 16 main diesel generator coolant release

The engine fan belt broke on the main diesel generator at AB 16 and the engine overheated, resulting in the release of coolant into the drip tray.

4.2.2 Georgia

There were 2 minor reportable uncontained material releases during 2013:

- When refuelling Georgia Bulk Valve 16 (GB 16), a diesel leakage was observed from the BV 206 installed tank. Approximately 10L of diesel was spilled; and
- Camp generator 3 was shut-down during operation. After inspection of the generator enclosure, it was identified that a fuel filter cap had detached from the filter housing. Most of the diesel was contained inside the cap and only small amount of fuel (about 1L) was splashed inside generator enclosure.

4.2.3 Turkey

There were no contained spills > 1 bbl recorded during 2013 reporting period.

However, there were 12 uncontained spills during 2013 as follows:

-
- The emergency generator diesel tank at PT 2 overflowed resulting in a 0.19bbl diesel release. Isolation valves were closed and the spill was cleaned up;
-
- After the replacement of a hand valve at PT 2, 0.13bbl of crude oil was released during the filling of the line. The filling was stopped and oil spill was cleaned up;
-
- An estimated 0.001bbl of crude oil spilled at a fitting connected to a ball valve at KP 383. The oil spill was cleaned up;
- Due to the failure of bypass line globe valve packing at Block Valve, Turkey (BVT) 21, 0.5bbl of crude oil spilled. The by-pass line was isolated and oil spill was cleaned up;
- An estimated 0.22bbl of crude oil leaked from an inlet bypass valve at PT 2. The oil spill was cleaned up;
- An estimated 0.01bbl of diesel spilled from an excavator's auxiliary fuel pump system at the CMT. The rocks exposed to the spill was collected and removed;
-
- A burst in hydraulic hose caused a 0.01bbl lube oil leak at the CMT. The operation was stopped and the spill was cleaned up;
-
- At BVT 39, the mechanical seal of a globe valve was tensioned and 0.06bbl of crude oil was spilled. The spill was cleaned up;

- The Process Safety Valve at BVT 23 lost its integrity and 0.03bbl of crude oil was leaked. The crude oil spill was cleaned up;
-
- A slight lube oil spill of 0.006bbl was observed at PT 2 and cleaned up;
- Due to mechanical failure of a cherry picker, 0.003 bbl of lube oil was spilled at PT 2. The oil spill was cleaned up; and
- An estimated 0.006bbl of crude oil was released from the moving part of the pig flag at PT 2. The isolation valves were closed and the oil seep was cleaned up.

No illegal taps occurred in 2013.

A bioremediation programme was implemented by BIL at CMT for approximately 150m^3 of contaminated soil that originated from previous illegal taps. The program was completed and the bioremediated soil was confirmed as per the analysis at an accredited laboratory as non-hazardous waste (soil) category. Therefore, correspondences were completed and further acceptance from Antakya Municipality is expected to be sent to the Antakya Municipal Landfill Site for disposal.

The bioremediated soil (about 8 m3) removed after the BVT 24 spill occurred on August 22, 2009 will be sampled in Q2-2014 and, assuming the results meet the necessary criteria for non-hazardous waste (soil), and all necessary permits to meet necessary regulatory requirements.

4.3 SUMMARY OF MATERIAL MODIFICATIONS TO THE OIL SPILL RESPONSE PLANS

The OSRP for Azerbaijan was updated in May 2012 to include revised position titles.

The OSRP for Georgia was not changed in 2012 (except changes to contact numbers and formatting).

The OSRP for Turkey underwent no material changes. The Oil Spill Response (OSR) Contractor, NRC, started to update the containment site database in 2013. The update is due to be completed in 2014.

It should be noted that a major update of the OSRPs commenced at the end of 2013 based on a gap assessment against the new BP Group Defined Practice 4.6-0002 Oil Spill Preparedness and Response, and is due for completion at the end of May 2014.

5 ADDITIONALITY PROGRAMMING

5.1 SUMMARY OF ENVIRONMENTAL INVESTMENT PROGRAMME

5.1.1 Azerbaijan

The Azerbaijan EIP ceased to exist as a separate programme in 2009 when all EIP activities were integrated within the framework of the Sustainable Development Initiatives (SDIs) and Community Development Initiatives (CDIs). Refer to Section 6.2.1.

5.1.2 Georgia

5.1.2.1 NOx Offset Programme

Agreement A-11-BPCS-275667 between BP Exploration (Caspian Sea) Limited and the Energy Efficiency Centre Georgia was signed on 30 November 2011. This Agreement expired on 31 December 2013. Its scope included provision of funds within the SDI to implement renewable energy and energy efficiency projects for Georgian communities.

BTC Georgia has successfully completed all 3 offset projects related to NO_x emissions. Two out of 3 projects were finished in 2012 and the third solar project at Tbilisi Baby House was completed in 2013. This project consisted of installing a solar thermal system for hot water supply and the implementation of energy saving measures such as weatherisation of attics, replacement of old wooden windows and doors with double glazed equivalents in polyvinyl chloride frames, and replacement of 100W incandescent light bulbs with 20 to 22W energy saving bulbs.

NOx offset projects aimed to demonstrate that the application of clean energy solutions has the potential to assist meeting energy demand as well as resulting in energy bill reductions and lower emissions.

5.1.3 Turkey

All 10 construction phase projects (EIP 1) and 5 of the 11 operations phase projects (EIP 2) are complete. As shown in Table 5.1, there are 6 ongoing projects with new projects under development.

Table 5.1: Summary of Turkey EIP Activities

	Project	Phase	Started	Completed	BTC Funds Spent US$
1	Sea Turtle Expedition	Construction (EIP 1)	1 Aug 2003	31 Dec 2005	175,000
2	Research on Monk Seals	Construction (EIP 1)	1 Aug 2003	31 Dec 2004	100,000
3	Improving the Conservation and Status of Caucasian Black Grouse in Turkey	Construction (EIP 1)	1 Aug 2003	31 Dec 2005	230,000
4	Important Bird Areas in the BTC Pipeline Project	Construction (EIP 1)	1 Aug 2003	31 Dec 2005	215,000
5	Important Plant Areas in the BTC	Construction (EIP 1)	1 Aug 2003	31 Dec 2005	260,000
6	Lesser Caucuses Forests Gap Analysis	Construction (EIP 1)	1 Feb 2004	31 Apr 2006	305,000
7	Small Investments Fund – Phase 1	Construction (EIP 1)	1 Sep 2004	30 Apr 2007	250,000
8	Awareness Raising Materials on Biodiversity Along the BTC Pipeline Route	Construction (EIP 1)	1 Nov 2004	30 Oct 2008	200,000
9	Yumurtalik Lagoons Wetland Management Plan and Erzurum Marshes Conservation Zones	Construction (EIP 1)	1 Nov 2004	31 Dec 2007	545,000
10	Participatory Eco-System-	Construction	1 Jun 2005	30 May	1,110,000

	Project	Phase	Started	Completed	BTC Funds Spent US$
	Based Planning and Management of Ardahan-Yalnizcam Forests	(EIP 1)		2008	
11	Eksisu Wetlands Management Project - Phase 1	Operations (EIP 2)	1 Dec 2006	31 May 2011	420,000
12	Biogas/Fertilizer Demonstration in Kahraman Maras - Phase 1	Operations (EIP 2)	1 Dec 2006	31 Dec 2009	62,000
13	Conservation Priority Analysis for Central and South BTC Region – Phase 1	Operations (EIP 2)	1 Dec 2006	30.09.2012	1,351,721
14	Grand Kackar Project	Operations (EIP 2)	1 Dec 2006	31 Dec 2010	50,000
15	Small Investments Fund – Phase 2	Operations (EIP 2)	1 May 2007	31 May 2009	420,000
16	Yumurtalik Wetlands Management – Implementation Phase 1	Operations (EIP 2)	1 Dec 2008	Ongoing	985,000
17	Conservation of Commercially Important Endangered Endemic Plants in Ardahan and Kahramanmaras	Operations (EIP 2)	1 Dec 2007	31 Dec 2011	275,000
18	Terrestrial Wildlife Rehabilitation	Operations (EIP 2)	1 Apr 2010	Ongoing	395,000
19	Marine Wildlife Rehabilitation	Operations (EIP 2)	1 Jan 2011	Ongoing	350,000
20	Eastern Anatolia Waste Management	Operations (EIP 2)	1 Jan 2011	Ongoing	240,000
21	Integrating Biological Diversity to Forestry Management	Operations (EIP 2)	1 Jan 2012	Ongoing	223,397
	TOTAL				**8,162,118**

The EIP continued to be used to promote biodiversity as well as extending the themes into the following areas:

- National environmental infrastructure (i.e. waste disposal facilities and WWTPs);
- Wildlife care; and
- Regulator capacity support (awareness and experience).

5.1.3.1 Project Status as of December 2013

A summary of key EIP developments in 2013 are as follows:

- **Integrating Biological Diversity to Forestry Management:** Conservation Investment Priority Analysis for the Central and Southern BTC Region Project has been restructured under the Project on Integrating Biological Diversity to Forestry Management. BTC Turkey aims to support the Government on biodiversity and non-timber forest products in Turkey via a biodiversity integration study in priority forest areas along the BTC pipeline route. The Department of Non-Timber Forest Products and Services took the responsibility

to form legally binding documents from the manuals. Work started in June 2013.

- **Implementation of the Yumurtalik Lagoons Management Plan (Phase II):** The objective of this project is to support the conservation of a wetland ecosystem. The first 5-year Management Plan for Yumurtalık Lagoons was completed and submitted to the Government in 2007. The second 5-year Management Plan was submitted to the regulator for approval in 2013. Training on wetlands rehabilitation and restoration have been delivered. A Planning Guide for Nature Protection was published in 2013.
- **Terrestrial Wildlife Rehabilitation Centre Project:** This project aims to establish a terrestrial wildlife rehabilitation centre and an operation system with the aim of caring for sick, injured and orphaned wildlife. Support has been given to enhancement of infrastructure of Kuyucuk Visitors Centre and to Kars Kafkas University Wildlife Rehabilitation Centre, a facility that has expertise in treating wildlife that has been exposed to oil pollution.
- **Marine Wildlife Rehabilitation Centre Project:** This project has the same objective as its terrestrial counter-part referred to above, and that is to establish a marine wildlife rehabilitation centre and an operation system with the aim of caring for sick, injured and orphaned. Operational and treatment capacity of the centre was enhanced through purchase of boat and engine pump and filter system and other equipment.
- **Eastern Anatolia Waste Management:** The aim of this project is to provide technical assistance to Erzurum Municipality to enhance their capacity to operate a municipal landfill to the EU standards. Technical support to Erzurum Municipality is ongoing and includes the provision of assistance in overcoming deficiencies in the existing waste landfill and development of waste management plans. Work has commenced on the development of an environmental permit and license application.

5.1.4 Environmental Investment Programme Expenditures 2013

Table 5.2 shows the amount budgeted for the EIP and the cumulative amount spent since inception. Table 5.3 shows the breakdown of expenditures for 2013. The difference between planned and actual figures arise from rescheduling of activities and relevant grant disbursements and allocation of funds for potential projects.

Table 5.2: Cumulative EIP Budget and Expenditures (US$) 2003-2013

	Azerbaijan	Georgia	Turkey[7]	TOTAL
EIP budget	3,467,000	3,000,000	8,450,000	14,917,000
Total spent-to-date (at end 2012)	1,697,298	2,877,548[8]	8,162,118	12,736,964

Table 5.3: Summary of EIP (Operations Phase) Expenditures (US$) 2013

	Azerbaijan	Georgia	Turkey	TOTAL
Planned	0	300,000	380,000	680,000
Actual	0	300,000[9]	260,000	560,000

[7] Includes technical support to grantees on top of the grants awarded.
[8] Includes US$500,000 under the Agreement on Bakhmaro Resort Zone Forest Recovery and Reforestation Programme and Eco-wards Programme.

5.1.5 Environmental Investment Programme Budget 2013

The EIP, CDI and SDI programme budgets in Azerbaijan were consolidated and became part of the overall social investment budget.

Table 5.4 shows the breakdown of the 2014 planned budget.

Table 5.4: EIP Budget (US$) 2014

	Georgia	Turkey	TOTAL
Budget 2014	750,000[10]	415,000	1,165,000

5.2 SUMMARY OF COMMUNITY DEVELOPMENT INITIATIVES[11]

A 5-year strategy paper was developed for Azerbaijan, Georgia and Turkey for the years 2012 to 2016 and was been approved by BTC management and by the Implementing Partners (IPs) in 2013.

All projects designed and implemented in these 3 countries are in line with the approved strategy.

Table 5.5 summarises the projects performed across all 3 countries under the CDI programme. This is followed by an outline of project activities in each country.

[9] Additional US$145,000 to the initially planned US$300,000 was added in 2009 for Ktsia-Tabatskuri Reserve Management implementation project.
[10] Includes US$450,000 from Project EIP budget. US$750,000 transfer is postponed due to the reorganisations taking place in the relevant ministries.
[11] In Azerbaijan and Turkey, the term CIP has changed to CDI.

Table 5.5: BTC and SCP CDI and Other Investments – Visualising the Benefits (to year-end 2013)

Investment Type	Azerbaijan	Georgia	Turkey
Number of communities benefiting	99	79	330 in total (in 2013, projects mainly focused on 137 villages).
Amount invested (US$)	17.2 million[12]	6,800,984[13]	32,861,632[14].
IP/Number of local/national NGOs	3 local NGOs	2 local NGOs (5 others during previous phases)	In 2013 - 4 IPs (all national) implementing projects in partnership with 60 local/national NGOs and local authorities along the BTC route under SDI programme.
% Women in community action groups for 2012	48%	22%	Average 29% varies from 38% to 67% according to region (all CIPs have separate individual Small Support Fund projects targeting 100% women).
Number of medical facilities improved	n/a	2	11 (Not applicable in 2013).
Number of education facilities improved	n/a	5	134 schools upgraded and 164 schools painted (in addition, 622 women/girls have applied to open school programmes) (Not applicable in 2013).
Number of water supply systems improved	2 (Renovation of water pipes used for households and water supply to cemetery)	53 potable, 34 irrigation	123 potable water systems including 12 electrical motor pump systems, 97 irrigation systems (drip, sprinkling and concrete channel), 178 water systems for animals.
Kilometres of road upgraded	3	17 km	Village roads were improved as part of reinstatement activities during the construction and reinstatement phase. However, BTC's pipeline repair contractors have upgraded some of the village roads or access roads to the fields.
% Infrastructure project achieving >25% community contribution	-	100% Contribution was average 40%[15]	Approximately 500 quick impact projects have been completed between 2003 and 2012. 95% of all infrastructure projects have cash or in-kind beneficiary's contribution. In 2013 - All Small Support Fund projects must have at least 25% cash or in-kind beneficiary's contribution as equity capital.
Number of medical staff trained	-	0	401 (Not applicable in 2013).
Number of people receiving direct medical support	-	0	37,963 people received general health training (over 13,000 people received reproductive health training from an EU funded project implemented by a CIP IP in Ardahan) Not applicable in 2013.

[12] Amount invested: until 31 December 2006 – accruals plus amount disbursed, from 1 January 2007 – only amount disbursed. This amount includes spend on BTC/SCP projects within SDI.
[13] Only BTC and SCP share.
[14] Total amount invested for effective governance, enterprise development and community development projects, which are all implemented along the pipeline route since 2003.
[15] Due to the new CBO involvement contribution was lower in some of the communities

Investment Type	Azerbaijan	Georgia	Turkey
Number of micro-loans issued	-	4,589	In line with the new CDI strategy, IPs allocate 50% of their total budget to individual or institutions through a grant programme called Small Support Fund.
% Repayment rate for micro-loans	-	100%	In 2013 - SDI has changed its main approach to support local NGOs and individual through their applicable projects.
Average value of micro-loan (US$)	-	15,002,000	Not applicable in 2013.
% Women receiving micro-loans	-	70 %	4 women supported under individual Small Support Funds in 2013.
Number of demonstration farms/agricultural trainers	23 agricultural trainers 24 greenhouses were constructed	280 demonstration farms. 76 demonstration farming groups; 11 trainers	Between 2003 and 2012 - 2,603 demonstration farms were established in the project villages (333 agricultural trainers were trained). In 2013 - Only 1 demonstration farm has been supported under technical assistance on pumpkin production.
Number of farmers trained	360 farmers	9,890	Between 2003-2012 - Over 131,199 (also 842 beekeepers) In 2013 - 575 person (including vocational and entrepreneurship trainings).
Number of livestock vaccinated	-	828	Between 2003 and 2012 - 1,066,804 livestock vaccinated, CIP is giving support to Cattle Breeders' Unions; 60,722 cows have been artificially inseminated. In 2013 - New CDI strategy does not include this type direct intervention. However, some of the local NGOs supported within CDI projects continue these activities.
Weight (tonnes) of high quality seed provided	-	31.4t	Between 2003 and 2012 - Over 1,375t (also over 63,000 units of fruits saplings provided). Not applicable in 2013.
Number of co-operatives established	9 youth chambers established (Eurasia Partnership Foundation (EPF) project) 4 milk collection points were established 1 community based pre-school and child development centre registered (Centre for Innovation in Education project)	27 co-operatives (17 producer and 11 service groups are created) and 11 social enterprise groups are established	Between 2003 and 2012 - 70 village-based organisations established (co-operatives, associations and informal Community Based Organisations [CBOs]). In total, 133 village-based organisations (including co-operatives, village development associations and unions) received support from the project since 2003 under the capacity building component of the CIP. In 2013 – No new community or farmers based organisations established. In 2013 CIP activities supported in total 33 CBOs).
Number of people received vocational trainings	-	-	Vocational and entrepreneur trainings to 817 young people. Career consulting to 1,597 people. Workforce capacity building trainings to 1,018 employees.

Investment Type	Azerbaijan	Georgia	Turkey
Number of Small and Medium Enterprises (SMEs) benefited from enterprise development supports	**2013:** 301 local companies engaged in enterprise development activities; 28 companies completed the development process and graduated the Enterprise Development and Training Programme (EDTP).	243	252 (in 2012 and 2013).
Number of new enterprises established	-	-39	42 (in 2012 and 2013).

5.2.1 Azerbaijan

5.2.1.1 Sustainable Development Initiatives in Azerbaijan

In 2013, BTC/SCP spent about US$566,392 on the implementation of SDIs in Azerbaijan.

Enterprise Development and Training Programme

Launched in 2007, the EDTP aims to support local companies in achieving international standards, to enhance their competitiveness in supplying the oil and gas sector of Azerbaijan and increase the local content of BTC contracts.

The programme covers a wide range of activities related to the development of the local supply chain such as market surveys and the identification of potential local suppliers, detailed gap analyses and implementation of tailored development plans as required. BTC/SCP spent US$391,392 for EDTP in 2013.

Key achievements since inception of the EDTP in 2007 are as follows:

- 149 companies have successfully completed the EDTP;
- 240 business development plans (action plans) and 236 gap analyses have been produced to support participating companies in delivering improvement activities;
- Local companies have invested approximately US$15.68 million in new capital equipment;
- EDTP clients have hired 1,952 new employees; and
- EDTP has assisted local companies to secure contracts with local and international companies valued at more than US$452.76 million. Highlights for 2013 include:
- 301 local companies engaged in EDTP activities;
- 30 gap analysis conducted and 30 tailored development plans produced;
- 28 companies completed the development process;
- 591 new employees hired by EDTP clients;
- EDTP clients have invested approximately US$4.51 million in new capital equipment; and
- EDTP has assisted local companies to secure contracts with local and international companies valued at US$115.18 million
-
- School of Project Management (SPM)

The SPM was established in Khazar University with the aim to develop the project management skills of individuals working in both the private and public sectors in Azerbaijan. The project offers access to a globally-recognised, comprehensive project management programme devised by the industry leader ESI International. In 2013 BTC/SCP spent US$175,000 for the implementation of the SPM. The project will continue until 2015.

Key achievements since inception of the project are:

- Since 2010, 229 representatives of some 96 private and public sector organisations enrolled at the School of Project Management. Of these, 129

qualified for the George Washington University Masters Certificate and 100 for Associate Certificates;

- To date, 2 graduation events have taken place (in June 2012 and June 2013) during which the graduates received their Masters Certificate in Project Management from the George Washington University. The graduates represented the various business sectors including oil and gas, government, engineering and construction, marine and geology, education, banking and finance, and telecoms;
- In 2013, the project was expanded and its budget increased to cover 4 additional streams of students. In total, 129 representatives from 47 private and public organisations participated in the SPM in 2013. Of those, 47 qualified for Masters and 82 for Associates Certificates from the George Washington University;
- Additionally, the SPM has been awarded a contract by the Ministry of Education of Azerbaijan to provide training to a group of 30 representatives of various ministries as part of their Public Investment in Capacity Building project; and
- Entire training curriculum and Project Management Term of Reference with over 800 PMI® Project Management Body of Knowledge (PMBoK®) terms were translated into Azerbaijani, enabling companies and organisations to provide the same, world-class training to their employees who do not speak English.

SDI initiatives are summarised in Table 5.6.

5.2.1.2 Community Development Initiatives in Azerbaijan

In 2013, we support a variety of CDIs and SDIs in Azerbaijan – including projects designed to improve local education, build community-based skills and capabilities, improve access to social infrastructure and provide training and finance that local enterprises need in order to grow.

With our co-venturers, we allocated US$67,620 to CDIs in 2013.

Youth Business Leadership project

One such CDI was the 2-year Youth Business Leadership project financed by BP and supported by the American Chamber of Commerce. This project is designed to support professional development of the next generation of business leaders in Azerbaijan. A total of US$30,000 was spent by BTC/SCP in 2013.

The primary purpose of the 2-year project is to empower young students to become entrepreneurs and future business leaders by providing them with opportunities to gain employment experience through internships at various private companies to develop their business management knowledge beyond the classroom. The project will provide internships to 120 third and fourth year university students from Baku and Ganja.

Other highlights for 2013 include:

- A series of Information sessions were held for students of Baku State University, Azerbaijan State Economic University, Qafqaz University, Azerbaijan State Oil Academy, Khazar University. Azerbaijan Diplomatic Academy, Ganja State University, Ganja Agrarian University and Ganja Technological University aimed to give detailed information about the programme and application process; and
- 75 students passed through Work-readiness training programme, Business Ethics, Personal Finance and then joined to internship/mentorship sessions in reputable local and foreign companies and banks.

The Local Governance, Youth Development and Environment Programme

The Local Governance, Youth Development and Environment Programme is aimed at enhancing the capacity of municipalities in identifying and addressing local problems as well as increasing awareness of environmental concerns and facilitating their resolution. Additionally, the Programme has established a mechanism of youth participation in local governance through the establishment of youth chambers within municipalities and by educating and engaging youth in addressing environmental problems within their communities. The Programme encompasses 9 municipalities in 9 villages along the BTC/SCP pipelines and targets community youth.

Highlights for 2013 include:

- Upon completion of local governance, project management and environmental awareness raising training Youth Chambers received small grant to solve environmental problems in their communities. In total 8 micro-projects were implemented and covered a wide range of activities such as public awareness campaign, cleaning of local territories from domestic wastes, cleaning and fencing the school sport ground, tree planting, installation of water cleaning (filtering) system; and
- Under municipalities 'capacity-building' component of the Programme, municipalities got a chance to apply theoretical knowledge acquired during the training on strategic planning, performance measurement and public participation in local governance into the practice. Small grants were awarded to the municipalities to support them implement socio-economic projects in communities. In total 7 micro-projects were implemented by municipalities in such areas as school roads paving, renovation of water pipe system, repair of cemetery fence and others.

Pre-school education and female entrepreneurship

In the Shamkir region in north-western Azerbaijan, BTC has been supporting a project that aims to improve the quality of pre-school education, increase the access of 5 to 6 year old children to kindergartens and create self-employment and income-generating opportunities for local women. The project began in 2012 and is being implemented by national NGO the Centre for Innovation in Education. A total of US$37,620 was spent in 2013.

Highlights for 2013 include:

- During the year, the project's child-centred pre-school methodology and step-by-step training were delivered to 25 teachers working for local public kindergartens and primary schools; and
- 4 unemployed teachers selected from local communities continued to conduct pre-school trainings for 5 to 6 year old children at the centre. To support the project's goals for female entrepreneurship, BTC commissioned a study to better understand the skills, capacities and expertise that would be most beneficial for women in 3 of the communities covered by the project.

Table 5.6: Summary of SDIs and CDIs

Project	Partners	BTC and SCP Grant[16] (US$)	Partner Contribution (US$)	Total Project Funds (US$)

[16] Budget of all SDI projects in Azerbaijan are divided equally between BTC, SD Ltd, AIOC and SCP Company.

Project	Partners	BTC and SCP Grant[16] (US$)	Partner Contribution (US$)	Total Project Funds (US$)
EDTP	Azerms Limited Liability Company	391,392	N/A	3,000,000
SPM	Khazar University, ESI International	175,000	N/A	2,015,705
Youth Business Leadership project	United States Agency for International Development, American Chamber of Commerce, Junior Achievement Azerbaijan	30,000	100,000	200,000
Pre-school education and female entrepreneurship	Centre for Innovation in Education	37,620	268,074	226,224
TOTAL		**634,012**	**N/A**	**5,441,929**

5.2.2 Georgia

CDI 4 is a component of the overall CDI programme that aims to deepen the positive relationship between BP and communities along the BTC and SCP pipeline routes by promoting sustainable forms of social co-operation, improving agricultural production, and developing regional agro-businesses. CDI 4 was initiated in May 2012 and will continue until May 2015. The total budget of the programme is US$318,975.

CDI 4 also supports the establishment of social enterprises, which help develop business ideas promoted by CBOs. The programme, which had previously helped people work together in associations, has begun to pilot the establishment of 6 co-operatives.

Progress within 2013 is as follows:

- 46 CBOs were created;
- 98 members of CBOs were trained on different topics within capacity building component;
- 11 rural infrastructure rehabilitation projects were completed during the reporting period; in total 30 rehabilitation projects implemented by CBOs benefited 4,760 households;
- 11 not-for-profit social enterprises were established and have already provided services to the communities;
- 3 financial and legal service groups were established, providing 166 services to the beneficiaries on financial and taxation issues;
- More than 190 agricultural demonstration plots were created, and about 2,000 households adopted new technologies;
- 2 agricultural co-operative farms were created;
- 81 small scale businesses, with 104 grant recipients, were established; in total 104 new jobs were created by the new businesses;

- During the reporting period 92 beneficiaries (equal to 185 people) were trained in business administration; and
- 190 agricultural subsidised loans were disbursed.

5.2.3 Turkey

The first phase of the CIP concluded in 2012. The second phase commenced in 2013 with a comprehensive nation-wide open tender for concept papers. These concept papers were reviewed with the assistance of external development experts. Grant agreements were signed for Ardahan, Erzurum, Kars, Kahramanmaraş and Osmaniye community development projects. Details are provided in the following sections.

5.2.3.1 Community Development Initiative

In general, new projects were based on:

- Achievements of the previous phase of the CIP;
- Lessons learnt and outcomes of previous projects/IPs;
- Exit and self-evaluations conducted by previous IPs;
- Outcomes/recommendations of stakeholders along the pipeline; and
- Internal discussions and evaluations by consultants with respect to achievements of previous projects.

Ardahan, Kars, Erzurum CDI Project

The Project, implemented by the Erzurum Ataturk University, focuses on supporting local self-development of community organisations through a small supports fund and technical assistance, entrepreneurship support for local entrepreneurs, vocational training and employment creation.

Highlights from 2013 include:

- A stakeholder analysis was conducted as part of an effort to strengthen collaboration and recognition in the regions. As a result 50 CBOs, 12 public bodies and 2 regional development agencies were identified and visited;
- The Small Support Fund initiative resulted in engagement with 30 CBOs and 20 entrepreneurs. Among 36 applications, 17 CBOs and 6 entrepreneurs were awarded grants. USD$ 650,000 has been leveraged in these granted projects against the BTC funding of USD$ 229,000 within SSF. Arrangements were made for community organisations to participate in various activities such as the Stock Breeding, Equipment and Dairy Industry Fair, technical visits to a milk collection centre in İzmir, and technical visits to Adana for vocational training. Technical assistance was also provided to CBOs on branding and marketing as well as business plan development support to entrepreneurs; and
- To attract external funding for community development projects, 9 projects were presented to regional development agencies and another 5 projects were presented to the SODES-Local) Social Support Fund.

East Mediterranean (Kahramanmaraş, Osmaniye, Adana) Sustainable Rural Development Project

The Project, implemented by Eduser Consultancy, aims to support local self-development of community organisations through a Small Support Fund and provide technical assistance, entrepreneurship support for local entrepreneurs, vocational training and employment creation.

Highlights from 2013 include:

- Construction of the Ceyhan Business Development Center (CEYGEM), which was 70% complete by end 2013;
- Development of a database for SMEs and entrepreneurs;
- Delivery of 16 technical assistance and related training courses (e.g. foreign trade, business law, production of aromatic plants, pruning for fruit growers, soil assessment);
- Soil Analysis Laboratory of Ceyhan Chamber of Agriculture was renewed and upgraded; and.
- Announcement of the Small Support Fund grant to all project settlements. As of the end of 2013, 4 projects out of 16 applications were approved.

5.2.3.2 Effective Governance and Enterprise Development

Ceyhan Fire and Natural Disaster Training Centre (CEYDEM) – Operation Phase: Building Fire Fighting Capacity along BTC Pipeline Project

The CEYDEM Project, implemented by the Search and Rescue Association – AKUT, aims at meeting capacity building needs to manage fire and natural disaster risks in terms of human resources and physical infrastructure in the heavily industrialised İskenderun Bay area, with a special focus on developing the capacity of fire departments of municipalities along the pipeline. As part of this Project, a fully equipped training centre for the fire departments is being constructed with simulators for hydrocarbon fires.

Highlights for 2013 include:

- Completion of construction of the facility;
- Completion of a gap assessment on competencies, skills and resources of all the fire departments along the pipeline;
- Development of a draft operating management plan and business plan; and
- Commissioning of the Urban Search and Rescue (USAR) simulator with the support of Ceyhan Municipality and the contribution of AKUT personnel, and completion of training for 129 people.

Industrial Symbiosis (IS) Project in Iskenderun Bay – Phase II

This Project, implemented by Technology Development Foundation of Turkey – TTGV, aims to increase the collaboration and solidarity between companies for achieving both environmental and economic improvement in the region. It is an important initiative in the region for mitigating cumulative business risks and impacts around the CMT. The Project was implemented by the Turkish Technology Development Foundation in co-operation with Industrial Synergies Limited, the National Industrial Programme in UK and the Environmental Engineering Department of Middle East Technical University.

Highlights for 2013 include:

- Successful completion of 8 pilot IS cases in Iskenderun bay.
- Influence on national programs: 19 regional agencies integrated IS in their development plans
- Active regional IS network bringing together more than 140 representatives from private sector, ministries, universities, development agencies and local NGOs.

Credit Guarantee Fund Project

This Project, implemented by Credit Guarantee Fund, was designed to support local Micro, Small and Medium Enterprises (MSMEs) and entrepreneurs along the pipeline route by providing loan guarantees to enable them to access bank financing. BTC signed a co-funding agreement with the Credit Guarantee Fund of Turkey in 2008. The Agricultural Bank (Ziraat Bank) and a İş Bankası, 2 of the largest country-wide banks, were then engaged in the Project. In 2012, the Turkish Economy Bank became one of the partners to provide further loans.

As of December 2013:

- 130 MSMEs requested US$4.5 million of guarantees. Credit Guarantee Fund approved 93 MSMEs applications;
- 74 SMEs from the BTC pipeline route received approximately US$3.417 million in bank credit, which corresponds to US$2.6 million guarantees;
- All beneficiary MSMEs are from the BTC Pipeline Project regions. 75% of these MSMEs are micro, 11% small and 9% medium enterprises, and all are established in small districts along the BTC pipeline route; and
- 45% of the beneficiaries are from agro-business, 18% are from manufacturing, 9% are from trade and 28 % are from the service sector.

Artist Kids of the BTC Pipeline Project

BTC has continuously been conducting pipeline safety awareness-raising activities for the communities and stakeholders along the pipeline route since the construction of the pipeline. One of the most important target groups of these awareness-raising activities are children. As of end 2013, 22,093 students from 222 schools have been reached. Following this activity a painting competition on “safe life with the pipeline” was held. A total of 80 out of 222 schools participated in the competition. 1,744 submissions were received. Winners were selected from each school and also at the province level.

Winners selected at the provincial level gathered in Ankara on 6-7 October 2013 for an arts and culture activity.

Budgets for all ongoing Effective Governance and Enterprise Development Projects are outlined in Table 5.7.

Table 5.7: Budget of Ongoing Effective Governance and Enterprise Development Projects

Project	Partners	BTC Grant (US$)	Partner Contribution (US$)	Total Project Funds (US$)
CEYDEM Project	Çukurova University Search and Rescue Association BIL	461,600	592,500	**1,054,100**
Building Fire Fighting Capacity along the BTC pipeline route in Turkey (CEYDEM - Phase II)	Çukurova University, Search and Rescue Association	800,000	496,000	**1,296,000**
Industrial Symbiosis	Turkish Technology	600,450	156,810	**757,260**

[17] *Total credit volume calculated in Turkish Liras is converted to USD using the average exchange rate of the reporting period.*

Project	Partners	BTC Grant (US$)	Partner Contribution (US$)	Total Project Funds (US$)
(IS) Project in Iskenderun Bay – Phase II	Development Foundation Middle East Technical University National IS Programme (UK)			
Credit Guarantee Fund Project	Credit Guarantee Fund Turkiye Cumhuriyyeti Ziraat Bank İs Bank	2,000,000	2,000,000	**4,000,000** (x5 leverage from Banks = 20,000,000)
Artist Kids of the BTC Pipeline Project	BIL	30,810	In-kind contribution – BIL	**30.810**
TOTAL		**3,892,860**	**3,248,310**	**7,138,170**

5.2.4 Community Development Initiative Expenditure 2013

CDI expenditure for the total operations phase and for the year 2013 is summarised in Tables 5.8 and 5.9.

Table 5.8: Operations Phase CDI Budget and Expenditure (US$), 2006-2013 (BTC/SCP only)

	Azerbaijan	Georgia	Turkey	TOTAL
CDI (BTC/SCP)	10,496,097	6,800,984	18,195,000	35,492,081
Total spend to the end 2013	10,252,598[18]	6,800,984	17,856,257	34,909,839

Table 5.9: Summary of BTC and SCP CDI Expenditure (US$) 2013

	Azerbaijan	Georgia	Turkey	TOTAL
Planned	660,000	833,862	1,800,000	3,293,862
Actual 2013	634,012	859,764	1,777,077	3,506,841

5.2.5 Community Development Initiative Budget 2014

The CDI budget for 2014 is presented in Table 5.10.

Table 5.10: BTC/SCP CDI Budget (US$) 2014

	Azerbaijan	Georgia	Turkey	TOTAL
Budget 2014	1,111,000[19]	642,850	1,800,000	3,553,850

[18] CDI is the part of Sustainable Development Initiative (SDI)
[19] This is the commitments -based amount.

6 ENVIRONMENTAL AND SOCIAL MONITORING PROGRAMME

6.1 INTERNAL MONITORING

Internal monitoring takes place on a daily basis, as required, 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 generally not raised. The status of all internal non-compliances raised is provided in the following sections.

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.

A detailed summary of internal ESMS monitoring commitments completed during the year is provided in Section 4.2 and monitoring results in Appendix 3.

6.2 EXTERNAL MONITORING

6.2.1 Host Government Monitoring

6.2.1.1 Azerbaijan

Participation of the Ministry of Ecology and Natural Resources, Azerbaijan (MENR) in monitoring programs is ongoing to ensure compliance with legal requirements. In 2013, MENR requested to participate in ground/surface water monitoring and visit various repaired river crossings.

In May and November 2013, MENR representatives participated in groundwater monitoring at Karayazi.

In March 2013, a representative of the Forest Protection and Restoration Department of MENR visited the Kura East riverbanks to inspect emergency erosion repair activities.

In July 2013, the relocation of the trees and shrubs at the river crossings of the Jeyrankechmaz riverbed, the Pirsaat riverbed, the Goychay riverbed, the Tovuz riverbed and at some other river crossings was provided. Transplated trees and shrubs were monitored by MENR. In total, 35 Poplar, 10 Willow, 3 Mulberry trees and 4 Oleasters, as well as numerous Tamarisk shrubs have been successfully relocated.

6.2.1.2 Georgia

BTC co-ordinated bi-weekly meetings with the Georgian Oil and Gas Corporation. Recurrent meetings were held with high-level officials of the various ministries such as the Ministry of Energy and Natural Resources, Environment, Economy and Sustainable Development, Infrastructure, Internal Affairs, GeoStandard, and different State departments and regulatory bodies. Permanent contacts and relationships with the Government has served for strictly following HGA requirements and obligations by all parties involved and timely addressing if any deviation.

6.2.1.3 Turkey

There was no Host Government Monitoring activity within 2013.

6.2.2 NGO Monitoring

6.2.2.1 Azerbaijan

The Azerbaijan Social Review Commission (ASRC), an independent external advisory group, was set up in 2007 to help BP-operated BTC/SCP facilities recognise and address challenges and long-term social performance activities that BP-operated BTC/SCP facilities undertakes on behalf of its joint venture partners. The ASRC issued its fifth and final annual report in 2011, which concluded its first 5-year round of work. All ASRC reports and BP-operated BTC/SCP facilities responses can be accessed at www.bp.com/caspian.

Discussions are ongoing to confirm how ASRC will operate in the future. Future plans for the ASRC are expected to be finalised in 2014.

6.2.2.2 Georgia

Due to limited interest from NGOs towards BTC operations in the country, formal NGO monitoring of BTC Georgia activities stopped in 2012. BTC continues to engage with the national NGOs through its SDI projects. Additional informal activities and engagement continued in order to keep NGOs and the public informed of BTC Georgia's operations in the form of face-to-face engagement efforts when requested and through various other forums. BTC Georgia also made its Sustainability Report available to the public on www.bpgeorgia.ge.

More information is provided in Section 8.3.2.

6.2.2.3 Turkey

There was no NGO monitoring in 2013 however, an external party from the University of Ankara conducted an annual review in September 2013 on BTC's social performance against social requirements, as stipulated in the ESAP. As part of the audit, 3 professors assessed the social management system of both BIL and BTC's contractor Tekfen. Several affected villages in the north east region between PT 1 and PT 2 were visited and assessments were made regarding the community relations performance of the Project by receiving feedback from the local communities. An assessment was conducted to identify solutions to some complaints regarding damage to land and damage to community assets. Recommendations were provided by the review team and are to be implemented during remediation works in 2014.

An Employment Standards Audit was conducted between October and November 2013 by Rina Denizcilik ve Belgelendirme Limited Şti. The aim of the Audit was to identify/address labour rights risks to the BTC Turkey and to analyse and verify the effectiveness of systems in place to ensure compliance with employment standards commitments. The audit covered BIL and BTC's contractors, and their subcontractors. Similar audits were conducted by an international company between 2006 and 2008.

6.3 TRAINING

6.3.1 Azerbaijan

Training for BTC operations continued to be delivered to both BTC and contractor staff through a variety of media including formal classroom training, toolbox talks and rollout sessions. Throughout the year, the following training was conducted:

- Health, Safety and Environment (HSE) compliance expectations awareness pack;

- Compliance Task Manager (CTM) user;
- Waste management;
- Environmental aspects and impacts;
- Material release reporting/non-conformance reporting procedure roll-out; and
- ISO 14001 awareness.
- The efficiency of trainings has been assessed by questionnaires.

In 2013, 292 people participated in training and awareness sessions.

6.3.2 Georgia

Training for BTC operations in 2013 focused on raising awareness on ISO 14001, marine and ROW ecological issues.

Training was delivered at sites through a series of formal classroom training sessions.

Other key focus areas were the rollout of an updated AGT region Waste Manual and Non-conformance Reporting Procedure.

6.3.3 Turkey

In Turkey, BIL continued to provide E&S training to operations and maintenance teams, subcontractors and the like.

Environmental training topics had a wide scope and have been tailored to the departmental teams according to their roles. The topics covered in 2013 included:

- Environmental awareness/refreshment;
- ISO 14001 EMS awareness;
- ECO Card System;
- Waste management (segregation, collection and storage); and
- WWTP operation and maintenance.

Basic Environmental Awareness Training was given to all new staff by BIL. Environmental Awareness Refreshment Training was also given to staff as required.

ISO 14001 EMS Lead Auditor Training was conducted for the Environmental core team together with the HSE Engineers.

In addition to the WWTP operation and maintenance training, other training activities relating the usage of chlorine kits and safety awareness for WWTP operation were also given in 2013.

A workshop was held with BIL HSE staff on environmental legal requirements in the last quarter of 2013.

TEKFEN, BTC's main contractor, also provided 720 hours of E&S training and 1,300 hours of E&S toolbox talks to workers.

The BTC Compliance and Environment (C&E) team also attended individual training sessions on following topics:

- First aid;
- Driving;
- Legal
- Root cause analysis;

- HSE Non-compliance and Non-Conformance Procedure; and
- ISO 14001

Within social trainings, BIL Public and Community Relations Experts (PCREs) provided trainings to all new employees and contractors of BIL as part of the orientation programme. During 2013, 6 BIL employees, 160 subcontractors and 74 interns were trained on the following topics:

- Community relations (organisation and responsibilities);
- Complaints and compensation;
- Employment;
- Procurement;
- Safety (traffic and pipeline safety);
- Land use/restrictions;
- Code of conduct;
- Audits (internal and external);
- Responding to media;
- CIPs;
- Refresher of Public and Community Relations (PCR) training; and
- Communication skills

In addition to training provided to employees, basic PCR induction training was also provided to 40 students from İstanbul Technical University Petrol and Natural Gas Engineering Department, 45 students from Osmaniye Korkutata University and 20 students from Ceyhan Private Burç Secondary School.

In 2013, the BIL PCR team (13 staff) received training on the following topics:

Defensive, anti-skid and off-road techniques

- Coping with life in winter conditions;
- Avalanche awareness.

BIL management attended BTC Co. annual team workshop held in June 2013 where risks culture, corporate social responsibility and continuous improvement approaches were discussed.

The main Category A contractor of BTC were given social requirements training by BTC Co. CSR Team. Detailed Social Requirements Guideline was prepared and distributed to construction teams. All employees of the contractors were given social awareness training and the guidelines were also used during the social awareness sessions of the contractor at sites.

In 2013, Implementing Partners of Sustainable Development Initiative projects received following trainings;

- Contractual management of grant projects
- Financial management of grant projects

- Effective monitoring and reporting
- Defensive, anti-skid and off-road driving techniques;

BTC personnel have attended individual training sessions on the following topics:

- First aid
- Defensive Driving and Anti-Skid Driving
- Legal college
- Continuous Improvement Champions
- Discover BP

7 PROJECT COMMUNICATION

7.1 CONSULTATION APPROACH

Consultation and communication with various BTC stakeholders, from communities to government organisations, was ongoing during 2013 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 in the following sections.

Across the BTC Pipeline 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 2013 is also provided in the following sections.

7.2 AZERBAIJAN

7.2.1 Project-Affected Communities

As part of the Community Consultation Programme in Azerbaijan, the Community Liaison Officers (CLOs) have organised delivery of a Community Awareness Folders Project in BTC/SCP affected communities. This initiative is being conducted together with Azerbaijan Export Pipelines Operations and Regional Security team members. The purpose of the Folder Project is to promote and raise residents' awareness on restrictions concerning Pipeline Safety and Consulting zones referring to Cabinet Minister's decrees of 166-19, 167 and 191. During 2013, the Social team has delivered about 2,332 Folders (out of 4,500) to landowners and other stakeholders across pipeline route. This Project will continue in 2014.

The CLOs have also conducted about 300 meetings with external stakeholders operating in BTC/SCP affected regions.

In 2013, BTC continued to conduct annual community liaison audits of BTC major contractors to monitor their social performance, including Briggs Marine, Texnoloji Avadanliq, Trade Industrial Company (TIC) and "Metal Qaynaq Sınaq" LLC (MQS).

In 2013, we received 265 requests from communities and other stakeholders on different types of activities, the majority of which related to infrastructure works on the pipeline ROW. Of those, 201 have received operator's feedback; the remainder will be considered in 2014.

7.2.1.1 Complaints

In 2013, 3 complaints were received from BTC/SCP-affected communities. One complaint has been closed, while the other 2 were found to be groundless.

Table 7.1 gives a breakdown of complaints by category.

Table 7.1: Summary of Complaints Received by BTC/SCP 2013 (Azerbaijan)

Complaint Category	Complaints Received	Complaints Closed (at end of 2013)
Land use	2	2
Compensation	1	1
Access roads	0	0
Recruitment	0	0
TOTAL	**0**	**3**

7.2.2 NGOs and Technical Organisations

In 2013, regular meetings were held by the SDI team with a range of national IPs such as the Centre for Innovation in Education, Eurasia Partnership Foundation and Junior Achievement Azerbaijan to discuss progress of CDIs.

7.2.3 Government

Communications with government during 2013 are discussed in Section 6.2.1.1.

7.2.4 Media

Media-related activity in Azerbaijan in 2013 can be summarised as follows:

- 8 site trips to BP-operated BTC/SCP facilities (1 with local media and 7 with international media outlets) with over 40 journalists involved;
- 2 workshops, on April 23 Energy Outlook with the participation of 15 local journalists, on 30 July the Sustainability Report with the participation of 14 local journalists; Link to BP Sustainability Report - <http://www.bp.com/en_az/caspian/sustainability/reports/sustreport.html>
- 10 BP-sponsored media events, attended by about 300 journalists, including:

1. A Meet the Buyer press conference that took place on the opening day of the Caspian Oil and Gas Show;
2. Speeches and presentation of certificates at the SPM graduation ceremony;
3. Speeches at the opening ceremony of the SD 2 European Pipeline Selection on 28 June 2013;
4. Charing of a press conference held at the conclusion of the SD 2 Gas Sales Agreement signing ceremony;
5. Launch of a new Office (BP Xazar Centre);
6. Speeches at the Migration and Nationalisation Agreement signing;
7. Final Investment Decision (FID) briefing for local media;
8. Launch of 11 new mechanical laboratories at the Qafqaz University sponsored by BP;

9. Signing of an extension of Olympic Partnership with BP agreement; and
10. Speeches at the paralympic festival.

7.3 GEORGIA

7.3.1 Project-Affected Communities

The Project continues to work with villages and communities near the pipeline on a regular basis. The Social team maintains regular contact with village communities and engages with village trustees and informal leaders, local residents, complainants, landowners, regional Governors and Gamgebelis. CLOs raise awareness of BTC Georgia and its activities, discuss safety issues, and address concerns relating to land use with respective communities. To reinforce messages about pipeline safety, a community calendar for 2014 was developed and circulated. In this calendar, information was provided about the measures taken to maintain pipeline safety and security.

In July 2013, a full-day workshop involving 20 contractors was held to increase contractor management awareness of social commitments and requirements. The need for businesses to demonstrate respect for human rights was discussed, as was BP's recently updated Business and Human Rights policy. Special focus was directed towards employment issues. Local community engagement continued with through 370 consultation meetings held with target groups in villages lying within Project affected communities. Target groups were village heads and trustees, local residents, complainants, and landowners.

7.3.1.1 Complaints

During 2013, 26 complaints were received; 23 of which have been closed. In addition, 4 historical complaints were closed: 1 from 2007 and 3 from 2012. Table 7.2 gives a breakdown of 2013 complaints by category.

Table 7.2: Complaints Log Statistics 2013

Complaint category	Total Number Received	Number of Complaints Resolved	Total % of Complaints Resolved	Number of Complaints Pending Resolution
Additional land	1	1	100	0
Land hand-back/reinstatement	2	2	100	0
Orphan land	0	0	100	0
Other land issues	5	4	80	1
Access restricted/abolished	0	0	100	0
Inventory/compensation disagreed	7	7	100	0
Parcel ownership or size	0	0	100	0
CBO compensation	0	0	100	0
Community infrastructure	1	1	100	0
Household infrastructure	1	1	100	0
Bee-related	2	2	100	0
Irrigation	1	0	0	1
Cracked house	0	0	100	0

Complaint category	Total Number Received	Number of Complaints Resolved	Total % of Complaints Resolved	Number of Complaints Pending Resolution
Employment	1	0	0	1
Other social issues	5	5	100	0
Miscellaneous	0	0	100	0
TOTAL	**26**	**23**	**89**	**3**

7.3.2 National NGOs and Technical Organisations

In 2013, BTC continued to engage with national NGOs through a range of different initiatives. These initiatives are:

- SDI projects;
- CDIs; and
- Different cultural heritage activities

BTC also actively participated in different conferences and forums organised by the United Nations Global Compact Georgia Network as well as the American Chamber of Commerce Corporate Social Responsibility (CSR) Committee. Government Ministries and Departments

Cultural Heritage Exploration Centre (technical organization) has been involved in the monitoring of Operations-related earth moving activities in the BTC ROW.

Close contacts were maintained with the Georgian Oil and Gas Corporation, the State Main Export Pipeline/WREP representative in BTC activities in the country, and various State stakeholders. Positive outcomes were achieved through an effective relationship with State bodies on a number of important issues including Secondary Containment Facilities acceptance into operations, major gas state pipeline projects in the BTC ROW, various regulatory, permitting and legal issues, and the SCP Expansion Project.

7.3.3 Media

During 2013, various media activities took place in Georgia. These included:

- Neil Dunn was interviewed by the American Times for the country report commissioned by the Government of Georgia. Neil has highlighted company activities in Georgia and the positive influence it has on the country's development;
- A literature competition for the best stories on the theme of energy efficiency was organised by the Energy Efficiency Center Georgia, BP's IP for the energy efficiency programme. Winning authors were presented with energy efficient appliances at the award ceremony;
- A workshop was conducted for the local media within the framework of the BP funded programme- "English language training for media", implemented in co-operation with the British Council. The aim of the workshop was to equip participants with new digital tools and skills;
- Neil Dunn and the members of the Georgian Leadership team hosted Minister and the deputy minister of Energy and Natural Resources of Georgia at PSG 1 in Gardabani. Minister was impressed with scale and quality of the operations. The visit was covered in the local media highlighting Shah Deniz developments and additional gas opportunities to Georgia;

- Neil Dunn delivered a speech at the twelfth Georgian International Oil, Gas, Energy and Infrastructure conference and showcase held on 26-27 March 2013 in Tbilisi. The speech highlighted SD 2 development and was received with great interest;
- Neil Dunn was interviewed by Minoils.com media for the Natural Gas Europe rubric as part of their coverage for the Georgian International Oil, Gas, Energy and Infrastructure conference held in Tbilisi. Neil has highlighted Shah Deniz stage 2 developments including benefits to Georgia;
- BP hosted Ministers of energy, environment and healthcare of Georgia at the energy efficiency project launch at Tbilisi Baby House;
- BP Georgia signed partnership agreement with Georgian National Paralympic Committee to support the country's national team and a group of selected athletes for the years 2013-2016. Official ceremony attended by the minister of sports, National Olympic Committee and National Paralympic Committee presidents and media representatives;
- BP signed partnership agreements with 2 Paralympics athlete-ambassadors within the framework of BP's 4-year partnership with Georgian National Paralympic Committee. The National Paralympic Committee and athlete-ambassadors recognised BP's support during 40 minute programme aired at local TV and dedicated to the National Paralympic Committee activities in Georgia;
- BP Georgia's contribution was recognised during the "Race for Cure" event dedicated to the breast cancer prevention. Event was attended by BP Georgia's key stakeholders including media; and
- BP Georgia was welcomed as a special friend of the Para Friends' Club launched in December. The event was attended by the President of Georgia among other stakeholders, and was covered by the local media.

7.3.4 Donor Organisations

BTC continued to meet with various development organisations in Georgia including the United Nations Development Programme, United States Agency for International Development, World Bank, International Finance Corporation, Millennium Challenge Commission Georgia and several national and international NGOs.

BTC and its co-venturers, in collaboration with a number of international organisations, continue to implement a number of projects in Georgia. These included the: Enabling Business Environment Project (International Finance Corporation); English Language Programme for Media (Open Society - Georgia Foundation, British Council); Road Safety Project (United States Agency for International Development, Government of Netherlands); and Support to International School of Economics (Open Society - Georgia Foundation, Swedish International Development Co-operation Agency, United States Agency for International Development, Government of Norway).

Regular talks with donor organisations and participation in different co-ordination meetings continue with the aim of defining potential areas for future engagement.

7.4 TURKEY

7.4.1 Project Affected Communities

For Turkish section of BTC Pipeline, BIL (BOTAŞ International Limited) is the designated state authority for the operation phase. In this regard, community relations activities are carried out by Public and Community Relations (PCR) team of BIL.

PCR team conducted various consultations and training sessions with local stakeholders. Introductory meetings were also held with public institutions and gendarmerie, as has been the case in previous years. In total, 744 stakeholder engagement meetings were held in 2013.

The awareness campaign "safe life with the pipeline" which had commenced in 2012 was completed in 2013. The main objective of this campaign was to train landowners/users, schoolchildren and local authorities (including security forces) on the land use restrictions, legal permits required for third-party crossing projects, the permit process for use of the ROW, H&S rules, emergency response action plans and expectations from local stakeholders and community safety risks and mitigation measures. Information about the complaints management process was also reinforced with stakeholders along the pipeline route. Refreshment training will continue in the upcoming years.

A painting competition was held for children as part of the "safe life with the pipeline" campaign, following the training sessions, as described in Section 5.2.3.2.

For an efficient and effective consultation, a better social data management is necessary. For this purpose, preparation studies have been initiated for the integration of social data into a Geographical Information System (GIS).

From 2006 to 2013, 249 third-party crossing activities were registered. In 2013, the total number of third-party crossing was 39. By end of 2013, 7 of them were under technical assessment. BIL PCR Team has an active role in conveying the necessary message to the applicants and following up the crossing procedure in terms of communication.

In 2013, 460 violations of land use restrictions were registered. Necessary actions were taken by BIL PCR team regarding these land use violations by conveying the land use restrictions to the third parties responsible for these violations. Further follow-up has been ongoing in order to close the open violations.

The distribution of the land use violations by their categories is shown in Table 7.3 while the number of land use violations and trends since 2009 are present in Table 7.4.

Table 7.3: Distribution Land Use Violations 2013

Type	Percentage
Tree plantation	52.40%
Crossing	3.60%
Digging	27.40%
Construction/mining	0.30%
Fence/stone	0.60%
Wrong cultivation	2.20%
Well and drilling	0.30%
Other	2.20%
Damaged line marker	10.90%

Table 7.4: Total Number of Land Use Violations (2009 to 2013)

Year	Total Number of Land Use Violations	Yearly Increase
2009 (June)	276	N/a
2010 (December)	651	375
2011 (December)	755	104
2012 (December)	919	164
2013 (December)	1,379	460*

*Due to re-organisation of BIL PCR team, 2013 data has not been verified and duplications have been detected. In 2014, a detailed work plan will be implemented in tracking and reporting of the violations parallel to field work.

The BTC Turkey CSR team closely monitored the relationship with communities around the PTs and on the pipeline route through direct site visits to villages either with PCREs or with CDI IPs.

During 2013, the BTC Turkey CSR team conducted monitoring visits with onsite BIL PCREs at 6 locations to verify activities and social requirements of the operations phase. Interviews were also conducted with BIL PCREs, affected villagers and other local stakeholders. These monitoring visits were carried out as part of the Social Compliance Review and the Employment Standards Review. The focus areas of the review were complaint management issues and the recruitment processes. The geographical scope of the review included all major AGIs and a selection of affected villages along the pipeline route.

In addition to the monthly social reports from BIL PCREs, the BTC CSR team organised regular meetings with BIL PCREs to discuss actions and issues on a regular basis.

Local employment Key Performance Indicators (KPIs) are being recorded and reported to BTC by both BIL PCREs (which includes employment status of all of BIL subcontractors) and BTC's direct contractors (such as the pipeline repair contractor).

In addition to a comprehensive CDI programme managed by BTC along the pipeline route, the BIL PCR team has responded to many community needs such as: clearance of village roads by Snow Fighting teams; provision of sewage truck services to some villages; provision of organic waste to villages for fertilizer production; and provision of materials such as scrap materials, electricity cables and stationery. Two junked snowcats belonging to BIL were donated to Turkish Scouting Federation. In emergency cases, health services were provided to local communities at the PTs during 2013.

7.4.1.1 Complaints

The action planned for 2013 regarding complaint management was site verification of registered complaints. For complaints registered between 2010 and 2012 via PCREs and the BTC Social team, site verification was completed prior to final approval. The purpose of site verification was to inform the scope of remediation works. Site verification was undertaken by subject matter specialists together with the BIL PCR team. During the site verification process, BIL PCR members acted as the bridge between the verification team and the complainants. Site verification was required to ascertain if the complaints were legitimate and if the claimed damage or incomplete reinstatement was a result of BTC Pipeline Project construction activities. Community meetings were also held at the villages to proactively engage with communities and determine if there are other potential issues that may be raised in the future, and to respond to these concerns wherever possible. Verification of newly registered

complaints was made during site verification. The verified complaints will be assessed and included in the scope of work for 2014 remediation activities, where appropriate.

At the commencement of 2013 the number of open complaints was 99. In 2013, 37 new complaints were received, bringing the total number of complaints recorded in BIL's tracker to 987* since 2005. At the end of 2013, 73 complaints remained open. 67 of the open complaints have been open more than 60 days. Table 7.5 provides a summary of those complaints that remained open more than 60 days at the end of the year.

A field survey study in 2008 identified a range of complaints by landowners/users related to reinstatement issues occurring after completion of construction and reinstatement activities along the Turkey section of the pipeline. Since then, the Project has been working to resolve these complaints.

Within the scope of the remediation works 2013, 27 reinstatement related complaints were closed and 2 of them were left to be completed in 2014.

BIL Public and Community Relation Experts (PCREs) continue to monitor the status of land on the ROW and take additional actions where valid complaints are raised or where any risks related to erosion or geo-hazards and the like are observed, as per the commitments outlined in the ESIA, the ESAP and the RAP.

Table 7.5: Open Complaints >60 days at year-end 2013 (Cumulative)

Subject	2013	Action Plan
Reinstatement*	32	Majority of the reinstatement complaints were closed within the scope of the remediation works of 2013. An action plan for the remaining open complaints has been made and will be implemented in 2014. All reinstatement complaints were related to the construction phase.
Damage	18	Site survey verification was made for the damage to land, crop and property complaints. The action plan was prepared and expert reports were made by local agricultural directorates.
Damage to infrastructure and community assets	11	A detailed action plan was prepared and will be implemented within 2014 remediation works.
Dust and noise	3	The main reason of the dust complaints was due to the low quality of the road. Necessary mitigation measures were assessed regarding dust control in the vicinity of IPT 1.
Access to land and resources	2	Both complaints related to geo-hazard works. Villagers complained that after rip-rap activities, access to the other side of the river had become risky for their animals and tractors.
Other	1	The water processed at the WWTP at PT 1 is discharged to the creek that reaches the Söğütlükaya village. They claim that their animals get ill because of this water discharge. During the meeting it was declared that the water would be monitored on an ongoing basis; however, they maintain the belief that many cases of illness in their animals was cause by the discharged water from the WWTP of PT 1. The complainant asked if the discharging point can be shifted, arguing that if the water discharge point was changed, this perception may change among the villagers.
TOTAL	**67**	

7.4.2 Government, NGOs and Other Institutions

7.4.2.1 BIL

Regular follow-up meetings were held with local communities and regional stakeholders including the local gendarmerie, provincial governors, district sub-governors, mayors, government utility providers, and other relevant government departments, to increase the awareness of landowners on land use restrictions and to resolve reinstatement complaints along the pipeline route.

In addition to regular meetings in 2013, within the scope of the awareness campaign, meetings were held in villages with related local authorities, public institutions and gendarmeries.

The BIL PCR team continued to host official visitors during 2013. These visits were held mainly at the CMT and other AGIs and included country representatives, government officials, media and NGO representatives. Briefings were provided about various aspects of the operation of the BTC Pipeline Project. A breakdown of official visitors is presented in Table 7.6.

Table 7.6: BIL Official Visitors

Official Visitors to CMT and other AGIs			
Years	**Number of Visitors**		
	National	**International**	**Total**
2006	133	30	163
2007	309	138	447
2008	487	119	606
2009	78	27	105
2010	68	60	128
2011	109	14	123
2012	176	25	201
2013	170	0	170
Total	**1,530**	**413**	**1,943**

7.4.2.2 BTC Co.

BTC undertook various stakeholder meetings as part of its assurance role in Turkey. Some of the meetings were related to SDI (EIP, CDI and Regional Development Initiative) projects. With the start of the new CDI projects in northern and southern parts of the pipeline, stakeholder consultation meetings were held. Technical consultants also visited CDI projects quarterly as part of their regular monitoring and evaluation activities. In these visits, various stakeholders as governors and sub-governors, public institutions, co-operatives and producer organisations, local NGOs, professional organisations were visited.

Social and environmental assurance issues were also covered by various departments in the Operations team. The External Affairs team also held various consultation meetings with stakeholders.

A summary of meetings and other formal communications held by BTC is presented in Table 7.7. The number of meetings held does not include meetings held by the IPs at the local level.

Table 7.7: BTC Stakeholder Meetings 2013

Type of Meeting	Number of Consultations*
Donor	-
Government	20
NGOs	15
Private companies	8
Universities	9
Media	-
TOTAL	**52**

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

7.4.3 Media

BTC is managing relations with media institutions in Turkey in line with the Operating Agreement with BIL. IPs announced project accomplishments via media in the context of their communication and visibility plans. During 2013:

- SDI and EIP projects were covered in 21 local/national media, 5 national inserts and over 244 web news media outlets[20]; and
- Several public events (protocol signature, certificate distribution ceremonies) were organised in the regions by SDI IPs to promote achievements in BTC financed projects.

8 LAND ACQUISITION AND COMPENSATION

The land acquisition, compensation, hand-back and livelihood restoration activities and processes are described in the RAP. This section summarises relevant activities conducted in 2013.

8.1 AZERBAIJAN

8.1.1 Land Acquisition and Compensation

The land acquisition, compensation, hand-back and livelihood restoration activities and processes are described in the RAP. This section summarises relevant activities conducted in 2013.

8.1.2 Programme for 6m Access Corridor for Interim Routine ROW Access Strategy

As part of the ESIA and RAP compliance, BTC acquired a 6m land strip alongside the ROW for the temporary driving of EPPD vehicles During 2013 there was just 1 payment for 6-m access Amrahova Khurma from Kurdamir which was done in 15/11/2013.

8.1.3 Others

The BTC Land team took responsibilities from the contractor Telco+ for completion of BTC and SCP BV electrification project's land acquisition. Land purchase/sale and

[20] These are the data of BTC provided by communications agency. It doesn't include data of SDI IPs.

land lease agreements were signed with 18 private landowners and compensation paid during a period of 2012-2013. Most of the state land parcels were obtained from district executive authority (ExCom) heads (confirmed by their decrees). The terms of compensation for Municipal lands will be finanlised once BP receives a response from Government.

The SCPX land team took responsibility for completing SCPX project's land acquisition activities. During 2013, 4668 MOUs were signed and the data land acquisition process completed.

Land Coordinators held consultation meetings in each affected village and with all available land owners/users. The meetings provided detailed information on SCPX land acquisition, land inventory, and MOUs. The principles associated with calculating compensation were also provided.

Temporary land acquisition was completed for three archaeological sites located within SCPX 36m Construction Corridor. Compensation payment to land owners of these land plots is in progress.

8.2 GEORGIA

8.2.1 Acquisition and Compensation

BTC and its contractor (APLR) have developed a GIS that includes a wide range of geospatial data such as land parcels (including ownership and/or limitation status) within the 500-meter buffer zone and limitation zones (for building, planning, agriculture, etc),. The GIS dataset has been provided to the National Agency of Public Registry of Georgia (NAPR). NAPR has the data displayed on its website.

8.2.2 Land Registration and Ownership

BTC obtained access or acquired the following land in 2013 to meet additional Operations' requirements:

- BTC provide additional land acquisition according to Operation requirements:
- Bought 23 parcels in district Tsalka for new helipad area nearby OSRB
- Bought 23 parcels in village Atskuri for new access road to BV
- Prolong lease agreements with 2 owners for existing Helipad area in village Bakuriani.
- Prolong lease agreement with 1 owner for PSG 2 (Pump station Georgia 2) camp area.

8.2.3 Resettlement Action Plan Fund

Total compensation in 2013 was USD 258,042.

8.2.4 Land Hand-back

Ten land exit agreements are still being signed with landowners and land users. As of December 2013, 88.8% of all Land Use and Servitude Agreements have been completed.

8.3 TURKEY

8.3.1 Acquisition and Compensation

- In total, 17,949 parcels of land in Turkey required expropriation. To date land use rights for 17,612 parcels have been transferred to BTC, leaving 337. Of these, 163 will be transferred to BTC by Boru Hatlari ile Petrol Taşima A.Ş (BOTAŞ)/Designated State Authority (DSA) in 2014. The land acquisition process for the remaining 174 parcels is still ongoing. More than half of these parcels belong to State authorities.
- .BTC Turkey continues to monitor the acquisition of land described above and additional parcels required for enhancement projects.

Court cases are ongoing for 25 private parcels due to:

- Disputed cases occurring after cadastral surveys were conducted by the Cadastral office as part of works that they were conducting in the vicinity of the pipeline. This had a negative impact on the resolution of the ongoing court cases, which in turn delayed the BOTAŞ acquisition process from the landowners due to land ownership disputes relating to the cadastral surveys;
- Multiple ownership and absentee owners, and old cadastral records, parties (heirs of deceased owners) cannot be defined by the court in a short period of time: Article 10 of the Expropriation Law 2010 requires all shares to be present at the title deed office to complete the acquisition with consent agreements or at court to complete the process through court; and
- Some parcels being sold during the court process, thereby requiring BOTAŞ/DSA to initiate the court process again with the new landowners.
- Particular attention is given to the management of additional land-take by contractors responsible for reinstatement, pipeline repair works and enhancement projects on behalf of BTC. The BTC CSR team and BIL PCREs are providing day-to-day support to the contractors to ensure that contractors sign Land Entry/Exit Protocols, rental agreements with the landowners/users and to ensure crop/land and asset compensation is made in line with RAP requirements prior to land entry. Where there is a need for permanent acquisition of these areas, the process is managed by BOTAŞ/DSA in line with the Host Government Agreement requirements.

8.3.2 Land Management during Operations

An Operating Agreement, in line with a Protocol signed between BOTAŞ/DSA and BIL, was developed and outlines roles and responsibilities of these parties during Operations. BTC ensures all additional land-take is managed in accordance with RAP principles through systematic monitoring activities. All additional land needs are approved by BTC Turkey prior to the acquisition of land plots.

Temporary land-take needed for reinstatement and enhancement projects are managed directly by the construction contractor under the supervision of BTC Turkey and BIL Social teams. BTC Site teams and BIL PCREs are involved in every land lease agreement (they also sign the Protocol between the contractor and the landowner/user as a witness).

BOTAŞ/DSA is involved in management of crop/land valuation studies, which is done by the district agricultural offices along the route.

In case of dispute, the University of Ankara is engaged as an expert to crosscheck the land/crop values provided by the district agricultural offices.

Camp Sites at Pump Stations:

Rental agreements with the landowners of the parcels where campsites are located at all PTs by BIL were extended until the end of 2014. Payments continue to be made in line with the market price as determined by BOTAŞ/DSA based on district agricultural office prices. For one of the parcels at the PT 3 camp site, the rental contract could not be completed due to an inheritance issue. In 2013, this inheritance issue was resolved and a payment was made to the landowner including all the previous years' rental payments.

Geo-hazard studies and reinstatement activities:

BTC Turkey initiated additional construction activities on the ROW to reinstate some parts of the pipeline route. Temporary land needs for reinstatement activities were managed in line with the RAP principles. Land Entry and Exit Protocols were signed under the supervision of the PCREs and rental payments were monitored by BTC Turkey staff directly.

Permanent land acquisition activities are managed by BOTAŞ/DSA in line with the Host Government Agreement. BOTAŞ/DSA prepared expropriation files and submitted them to the Provincial Cadastral Directorates for their approval. BOTAŞ/DSA conducted consultation and negotiation meetings with landowners/users as well as title deed and cadastral officers in the districts in line with the RAP requirements. In cases where there is no consent agreement or a multiple/absentee ownership issue, the court process is initiated to identify the shareholders and the price for the land plots.

Additional land acquisition needs in 2013:

A total of 68 parcels covering 291,280m^2 were rented from local landowners during 2013 to allow BTC temporary access to land in order to conduct various repair and maintenance works, as well as mitigate geohazard risks, along the pipeline.. The majority of these rental contracts were made for 1 year given that the crop valuation was done based on the crop amount in a single agricultural period. Within this 1-year timeframe, the construction contractor maintains a land entry permit in order to complete any reinstatement activity, if it is raised as a complaint. In 2013, reinstatement at 2 of the locations was completed, and no additional rental payment was made since the activities were carried out within the 1-year timeframe agreed to in the contract.

Management of third-party crossing projects in 2013:

BOTAŞ/DSA, BIL and BTC Turkey work closely to manage the third-party crossing projects along the BTC pipeline route in Turkey. BIL PCREs are co-ordinating dialogue between operations and other State authorities in line with the Third-Party Crossing Projects Procedure.

Third-party crossing projects submitted by other State institutions, such as the State Hydraulic Works and Turkish Highways, Turkish Electricity Distribution Company, local municipalities and the like, as well as private persons, are sent to BIL for their technical review and then to BOTAŞ/DSA to manage the land issues. After approval by both BIL and BOTAŞ/DSA, these requests are submitted to BTC for their final consent. In 2013, 39 third-party crossing project requests were received. Only 1 had not been finalised at the time of reporting. In total, 249 crossings have been registered since the start of BTC operations in 2006.

8.3.3 Transfer of Land Rights

Efforts to complete the transfer of land rights to BTC Turkey continued on a district basis using 2 official acts: private/customary owned land; and state/forest owned land.

OTAŞ/DSA is waiting for all land plots to be acquired in each district before they transfer all plots to BTC in those districts. The process will continue in 2014 for the remaining parcels. The process of transfer of land rights from BOTAŞ to BTC Turkey has no impact on communities.

8.3.4 RAP Monitoring

No external RAP monitoring activities were conducted in 2013 in Turkey. Internal monitoring activities did however continue. In addition to BTC's internal monitoring, the University of Ankara Real Estate Development Department conducted a review on behalf of BTC with the objective of assessing BTC's social performance against social requirements agreed in the ESAP. The valuation of rental land, other assets and crops affected by the BTC operational facilities has a crucial role in the compensation process. Land evaluation studies executed by the Provincial Agricultural Directorates throughout the route were assessed by the experts where necessary. The review report is due to be submitted in 2014.

9 SUMMARY OF KEY HEALTH AND SAFETY STATISTICS

The majority of targets and KPIs set at the beginning of 2013 for operations have been met. All operational activities were conducted in a safe manner without any major or high potential incidents.

Operational activities were conducted across the 3 countries with safety performance maintained at a very high standard. There were no significant incidents, such as major incidents or fatalities, and no significant process safety-related incidents recorded during 2013. One accident with a contractor employee resulted in Days Away From Work case at PSG 1.

Another priority for 2013 was the closure of the 2012 Safety and Operational Risk Audit action items. In 2013, all Safety and Operational Risk Audit actions were closed.

The following is a summary of the main health, safety and emergency response activities in 2013.

Safety:

- Closure of 2013 Safety and Operational Risk Audit action items;
- Quarterly review and update of midstream major risks and risk mitigation plans and barriers;
- Development and implementation of the 2013 annual assurance plan;
- Completion of the 2013 competency programme for site H&S Advisors (Azerbaijan and Georgia);
- Quarterly Azerbaijan and Georgia contractors safety leadership forums;
- Development of the BTC Pipeline Project HSE strategy, HSE plans and risk assessment;
- Annual Control of Work gap analysis in Azerbaijan and Georgia;
- Quarterly incident trend analysis and action plan development to address trends;
- Main contractor audits in Azerbaijan, Georgia and Turkey;
- Incident investigation quality review in Azerbaijan and Georgia;
- Monthly midstream lessons-learned development and communication;

- Midstream non-industrial facilities electrical inspection;
- Midstream Operations Management System 3.7 conformance verification;
- Midstream electrical safety campaign;
- Midstream Control of Work compliance campaign; and
- Midstream fire prevention plan developed and implemented.

Driving:

- Driving improvement plan for 2013 developed and implemented;
- Road risk assessments performed for main (and some access) roads across Azerbaijan, Georgia and Turkey;
- Self-driving standing instruction updated and reinforced for Azerbaijan, Georgia and Turkey;
- Annual transport safety audit for BTC core contractors conducted;
- Annual Driving Safety Standard audits carried out in Azerbaijan, Georgia and Turkey;
- Defensive driving training programme updated with a new training provider selected; and
- Midstream winterisation plan implementation.

Health:

- Midstream medical emergency response strategy revised;
- Personnel skin survey completed at pipeline facilities;
- BTC Turkey health audit;
- Quarterly food hygiene assessment;
- Midstream 2013 Health Plan developed, published and closed in the health map (99%);
- Multiple health campaigns/promotional programmes rolled-out. For example: summer risks, manual handling, Ramadan, hearing protection, winter risks, flu prevention and world heart days;
- Azerbaijan/Georgia pipelines stray animals control management strategy revised;
- Regular alcohol testing at midstream facilities; and
- Personnel fitness for task programme 2013 completed.

Emergency response:

- OSR capability review conducted;
- Firefighting plan implementation for Georgia operations;
- Ministry of Emergency Response/EPPD/State Oil Company of Azerbaijan Republic/BTC combined exercise conducted;
- Emergency response documentation structure re-modelled and issued;
- Emergency response and crisis management gap assessment against new Group Defined Practice 4.6;
- Group Defined Practice 4.6.2 OSR Gap Assessment completed and action plan developed;

- Group Defined Practice 4.6.1 Crisis Management and Emergency Response Conformance action plan Implemented; and
- Ministry of Emergency Situation has completed inspection on Azerbaijan Exports and Sangachal facilities.

A summary of H&S performance during 2013 for operations activities is presented in Table 9.1 (leading indicators) and Table 9.2 (lagging indicators).

Table 9.1: BTC Operations H&S Leading Indicators

Operations inputs	Target	2012 Performance		2013 Performance	
		BP	BIL	BP	BIL
Behavioural observation safety system	N/A	22,237	7,715	21,632	6,540
Safety observation and conversation	N/A	3,561	565	3,855	505
Safety training matrix compliance (%)	>95	98	96	NA	93

Table 9.2: BTC Operations H&S Lagging Indicators (Actual)

Operations Outputs	2012 Performance		2013 Performance	
	BP*	BIL	BP	BIL
Man-hours	2,593,548	2,159,076	3,063,111	2,201,330
Fatality	0	0	0	0
Days away from work cases	0	1	1	3
Recordable injury	1	3	1	6
First aid case	4	7	3	13
High potential incident	0	0	0	0
Traffic vehicle accident	6	6	4	16
Kilometres driven	8,755,855	4,621,834	9,231,010	4,446,767
Near miss	87	26	133	47

* BP operated section of BTC (Azerbaijan and Georgia) and the BTC Assurance team in Turkey.

10 AUDITS

10.1 INTERNAL REVIEWS

10.1.1 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 provided in Table 10.1[21].

Table 10.1: Summary of Internal Reviews/Audits 2013 (Azerbaijan)

Audit/Review	Auditor	Scope	Findings and/or Recommendations
Waste management audit	Audit team consisting of Environmental Advisors from Azerbaijan Export Pipelines	Compliance with requirements for waste management processes through the BTC, SCP and WREP pipelines Azerbaijan, including IPA 1, PSA 2 and PSA 2 camp, WREP PSA 5.	Incorrect filling of Waste Transfer Notes (WTNs). Paper and mineral bottle has been observed at plastic bin, which was without any label - improper segregation. Lifting certification of skips is not correct. **Good Practice:** Good housekeeping. WM updates are in place and personnel are good aware of its demonstration.
ISO 14001 Standard requirements 7.1 Regulatory Compliance AGT region internal procedures and guidance	Auditors from BP Audit team	Assess the compliance status of BTC (and SCP/WREP/ Sangachal terminal) against the Operations Management System.	2 findings were observed: delayed emergency exercises and absence of hazard sign. 5 areas of improvements have been identified including: • Liquid waste bins with incorrect waste labels; • Waste water samples management conducted by Environmental Field Advisors and all records/results kept by them. Not clear communication between environmentalists and site operation ; • At BV 4 security generator's diesel tank level gauge out of order; • Drip tray of generator in operation area at BV 4 is corrosive; and • Site induction at all sites not reflect new waste manual requirements (colour coding, new waste streams). **Good Practice:** High level of awareness of the site personnel on EMS practices. Excellent housekeeping at audited sites.
Regular environmental inspections	AGT region Environmental Advisors	Compliance to regulations and environment procedures and instructions at IPA 1, PSA 2, BVs.	Weekly and monthly environmental inspections were carried out at all AGIs throughout 2013. No major issues were identified, and all minor issues are closed-out as soon as practicable on an ongoing basis.

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

10.1.2 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 10.2.

Table 10.2: Summary of Internal Reviews/Audits 2013 (Georgia)

Audit/ Review	Auditor	Scope	Findings and/or Recommendations
Subject Matter Audit: ESAP Ecological Management Plan – rare species reintroductio n success	Ecology Subject Matter Expert from Georgia Exports C&E team	Assess conformance of rare species reintroduction success monitoring practices against Ecological Management Plan and Rare Species Evaluation procedure requirements.	The audit focused on assessment of adequacy of monitoring the survival and sustained growth of the largest affected populations of each rare species, following their translocation. The main recommendation was to carry out reintroduction of *Orchis coriophora*, *Fritillaria ophioglossifolia* and *Gentiana angulosa* into the wild and apply sufficient maintenance efforts to maintain survival success. Also, to link the GIS database with the 2013 rare species survival monitoring report.
Subject Matter Audit: ESAP Emission Management Plan – stack emission monitoring	Emission Subject Matter Expert from Georgia Exports C&E team	Assess conformance of stack emission monitoring practices against Emission Management Plan and Stack Emission monitoring procedure requirements.	The purpose of the audit was to understand the effectiveness and level of implementation of arrangements made to address impacts from pipeline activities related to air quality. Few areas for improvement identified, mostly relevant to field measurement practices. Corrective actions are tracked through Tr@ction.
Subject Matter Audit - Waste management	Waste Subject Matter Expert from Georgia Exports C&E team	Assess conformance of WM against Waste Management procedure requirements.	This audit focused on checking the conformance with maintaining Waste Transfer Note (WTN) system. All the site's records were thoroughly checked, no major gaps identified.
Contractors' Audit – "Sanitary" and "Mgroup"	EMS and Compliance Subject Matter Expert from Georgia Exports C&E team	Assess Contractor's EMS against contract's HSE requirements.	Audit focused on assessing contractors EMS' implementation, as required by the contract, and consisted of field visit and doc review components. Few gaps identified in both components. Findings and recommendations discussed with contractors and followed up accordingly.
Regular environment al site inspections	Georgia Exports C&E team	Regular Environmental Inspections of PSG 1 and 2; EDDF, Area 80; camps, ROW, OSRBs.	Regular environmental inspections were carried out at all AGIs and camps throughout 2013. Identified issues were tracked through inspection checklists and, where relevant, through Tr@ction, on ongoing basis.

10.1.3 Turkey

Internal monitoring takes place as required, 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 10.3.

Table 10.3: Summary of Internal Reviews/Audits 2013 (Turkey)

Audit/Review	Auditor	Auditee	Scope	Findings and/or Recommendations
Day to day field inspection (E&S assurance) and monitoring of reinstatement activities	BTC	Pipeline repair contractor	Monitoring of reinstatement/ geo-hazard works on an ongoing basis by BTC Environmental and CSR teams.	The pipeline repair contractor was monitored by BTC's Site Staff on a daily basis and central Environment and CSR teams on an ongoing ad-hoc basis to ensure conformance with ESIA and ESAP requirements. One non-conformance was raised for failing to dispose excavation material in line with BTC Pipeline Project standards. The practice was corrected as per the BTC Pipeline Project requirements.
Social compliance reviews	BTC	BIL and BTC's direct contractor	Social requirements.	The CSR team closely monitored the relationship with communities around the PTs and on the pipeline route through direct site visits to villages either with PCREs or with community investment IPs. The CSR team visited BIL PCREs on-site at 6 locations to monitor activities and social requirements of the operations phase and conducted interviews with BIL PCREs, affected villagers and other local stakeholders during 2013. These monitoring visits were carried during the Social Compliance Review and the Employment Standards Review. Complaint management issues and recruitment processes were reviewed. The geographical scope of the review included all major AGIs and a selection of affected villages along the pipeline route. In addition to the monthly social reports from BIL PCREs, the BTC CSR team organised regular meetings with BIL PCREs to discuss actions and issues on a regular basis.
Ongoing CDI and EGED Projects technical monitoring	BTC	CDI and EGED IPs (grantees)	CDI and EGED Project activities.	The CSR team and external consultants conducted several site visits in 2013. The new CIP projects were visited on site for regular quarterly monitoring and evaluation activities. In addition, the team monitored and participated in various certification ceremonies, exhibitions, performance and communication meetings as well as small support fund evaluation committee meetings on site. Engineering technical consultant also monitored CEYGEM and CEYDEM constructions regularly on field. CSR consultants spent 118 days in 2013 on-

Audit/Review	Auditor	Auditee	Scope	Findings and/or Recommendations
				site for monitoring activities.
Pre-IEC Audit and E&S Compliance Review (Facilities)	BTC C&E and CSR teams	BIL	Compliance with ESAP and ESIA.	An internal E&S audit was conducted for BTC operations in Turkey, which included documentation review, site visits, followed by interviews with BTC, BIL and contractor personnel and villagers. During the environmental review Level I non-conformances were identified at PT 1, CMT and BTC Management, respectively.
Pre-IEC Audit and E&S Compliance Review (ROW and Marine)	BTC C&E team	BIL	Compliance with ESAP and ESIA.	An internal E&S audit was conducted for BTC operations in Turkey, which included documentation review, site visits, followed by interviews with BTC, BIL and contractor personnel and villagers. During the environmental review, no new non-conformance was identified. Actions for 2 Level II outstanding non-conformances were observed to be not completed.
Financial and Contractual Audits for SDI projects	BTC	CDI and EGED IPs (grantees)	Financial and contractual compliance to grant agreements.	Annual financial and contractual audits have been initiated end of 2013 for ongoing CDI Projects. Audits have been conducted by a group composed of CSR, Finance and Procurement and Supply Chain Management team representatives.
Environmental Compliance Audit (MARPOL Project)	BTC C&E team	Verwater (Category A Contractor of BTC)	Compliance with BTC Statement Of E&S Requirements (BTC-SOR-ESM-GEN-001) and Contractor's E&S Plan.	An internal audit was conducted for the MARPOL Facility construction at the CMT, which included documentation review and interviews with contractor personnel. During the environmental review, no new non-conformance was identified. 3 recommendations recorded during the audit were all closed-out by the contractor within 2013.
NRC HSE Compliance Review	BTC Co C&E and H&S teams	NRC	Compliance with BTC Statement Of E&S Requirements (BTC-SOR-ESM-GEN-001).	The audit was conducted to review the EMS of NRC and to assess the H&S and environmental compliance status of all NRC OSRBs and their operations according to the commitments and potential H&S and environmental liabilities set out in the relevant plans and procedures. After conducting the audits at each OSRB and review of the current EMS and its day-to-day implementations, the issues that were raised and further recommendations and actions for these issues are detailed, accordingly.
HSE Compliance Review	BTC Co C&E team	Tekfen (Category A Contractor of BTC)	Compliance with BTC Statement Of E&S Requirements (BTC-SOR-ESM-GEN-001).	This was the third environmental compliance review of Tekfen that was focused on overall environmental compliance and EMS implementation. Tekfen Ceyhan office was visited and interviews were conducted with relevant contractor staff. The review included a management system review and implementation of Statement of E&S Requirements by

Audit/Review	Auditor	Auditee	Scope	Findings and/or Recommendations
				Tekfen during the execution of the projects. Further recommendations and room for improvements were discussed and implemented by Tekfen. The review is planned to be repeated in 2014.

Table 10.4: Audits Conducted by BIL

Audit/Review	Auditee	Scope	Findings and/or Recommendations
ISO 14001 Internal Audit of BIL facilities (Integrated Audit with OHSAS and QMS)	BIL AGIs	Compliance with ISO 14001 EMS Standard.	No major findings observed. Findings evaluated and Preventive and Corrective Actions (PCARs) were initiated by BIL as appropriate.
Environmental Compliance Audit of BIL facilities	BIL AGIs	Compliance with national legal requirements.	No major findings observed.
Environmental Compliance Audit of third-party waste facilities	Adana Municipality Landfill site	Compliance with BIL EMS.	No major findings observed.
Environmental Compliance Audit of third-party waste facilities	Konya Cement Factory	Compliance with BIL EMS.	No major findings observed.
Environmental Compliance Audit of third-party waste facilities	RDF Contaminated Waste Disposal Facility	Compliance with BIL EMS.	No major findings observed.

10.2 EXTERNAL REVIEWS

10.2.1 ISO 14001 Re-certification

BP continues to maintain ISO 14001 certification for all of its operations in Azerbaijan and Georgia. The certification body is Intertek.

Although the surveillance audit in May 2013 did not include visits to the pipelines, the closure of the corrective action request raised during the re-certification audit in Georgia in October 2012 was confirmed.

The Azerbaijani section of the pipeline hosted a surveillance audit in October 2013, with visits made to IPA 1 and PSA 2 (along with PS 5 of WREP). There were zero corrective action requests and only 2 observations made during the audit. General outcome of the audit was that EMS had a number of strengths, which enabled the company to ensure compliance and prevention pollution.

In Turkey, BIL obtained ISO 14001 certification in 2008 from the British Standard Institute (BSI). Surveillance/re-certification audits have been carried out by BSI since then. The last audit was conducted in December 2013. No major findings observed.

10.2.2 Independent Environmental Consultants

Between 9–19 September 2013, the IEC conducted their fifteenth post-financial visit to the AGT region to monitor compliance with BTC Pipeline Project E&S commitments.[22] The following text has been extracted from the Executive Summary of that report.

[22] Report of the post-financial close independent environmental consultant Baku-Tbilisi-Ceyhan pipeline project fifteenth site visit, September 2013- Executive Summary

"This site visit represented the seventh IEC operations audit, which is an annual verification process and is a continuation of an ongoing monitoring process initiated during the construction phase. The operations audits focus on the Operations team and ongoing operations activities. The reference documents for the operations audits are the Operations ESAP and relevant management plans.

This was the first site visit (since February 2004) where no non-compliances with Project commitments were identified. The main non-compliance with Project commitments identified over the past 2 years has been the lack of construction of a slops treatment facility at the CMT where the Turkish Ministry of the Environment has fined the Project in 2011 and 2012 for not undertaking this work. The facility is now under construction and as a result the IESC has deemed the issue to be closed".

Azerbaijan

"In Azerbaijan, BTC demonstrated considerable effort to ensure appropriate pipeline route reinstatement and prevent erosion, in particular at sensitive river crossings. Problem areas continue to be the same as previously reported, in particular, the sensitive Gobustan Desert area. In the Gobustan Desert, efforts made by BTC towards reinstatement have not been effective due to local adverse soil/climatic conditions and by EPPD driving over the ROW. Based on field observations, the status of reinstatement in the Gobustan Desert is not much different from what was observed in 2009. This situation is not considered a non-compliance, because it is evident that BTC is doing whatever they can to reinstate this area. The biggest concern is if the SCP Expansion Project were to decide to follow the BTC/SCP route through the Gobustan Desert. If the SCP Expansion Project were to cross the Gobustan Desert next to the BTC/SCP route, it would be a setback to years of effort to reinstate this sensitive area and would be an additional cumulative impact not anticipated in the BTC ESIA.

The NO_X offset projects are now completed whereby solar heating systems have been constructed at the Bashirli Secondary School, Gurbanzade School, and the Samukh District Kindergarten. The scope of the *Iris acutiloba* offset project was defined during the July 2012 site visit, but the planting of Red Book listed trees expected to start at IPA 1 and PSA 2 between September and November 2012 is still in the process of contractor procurement. This delay is somewhat tempered by actual success in replanting *Iris acutiloba* obtained from the Garadag Cement Plant".

Georgia

"There is significant progress to report for Georgia. NOx offset projects were complete at the time of the last IEC audit and are proving successful. A major accomplishment is that the Georgian Government has accepted the EDDF and secondary containment facilities as complete. These projects represent an unprecedented level of spill control even when compared to worldwide best practice. Pipeline surveillance and maintenance has been excellent – significant effort has been undertaken for erosion and sediment control at river crossings.

Decommissioning of the Crude Topping Units at PSG 1 and PSG 2 is a major accomplishment that positively affects air emissions. The access road at PSG 2 is now complete and undertaken with appropriate environmental and cultural heritage surveys completed and the new housing at PSG 2 is finally being constructed. An unfortunate situation with respect to the loss of the BTC/SCP archaeological museum at the Akhaltsikhe Castle has been rectified with the construction of a new museum where cultural heritage artefacts are back on display.

A cautionary note is with respect to biodiversity management. The rare floral species management programme has not yet had success with 3 species, of which 2 have significance: Fritillary and Gentian. Seedlings are planned for reintroduction in fall

2013. An alternative programme should be considered if this new effort is not successful".

Turkey

"Over the past year, BTC operations in Turkey undertaken through BIL and BTC have shown the greatest improvement among the 3 countries in terms of implementing their HSE programs. Major accomplishments over the past year include:

- The slops and bilge water reception and treatment facility at the MARPOL Facility, is under construction expected to be complete by March 2014. In November 2012 the Project was fined by the MoEU a second time for not building this facility and the situation was assigned as a Level II non-compliance in our report for the July 2012 site visit, so starting construction of this facility is a major accomplishment and the non-compliance is rescinded;
- BOTAŞ construction phase legacy chemicals have finally been removed from the PTs;
- Pipeline re-routing at KP 383 is complete; the re-route at KP 1,007 ongoing. Although a significant effort, these projects were not large enough to trigger the need for a Class III MOC under the definitions of the Operations ESAP and were assigned a Class II;
- Landslide maintenance projects at KP 387, KP 388, and KP 1,010 are complete. Their success will be based on comprehensive geotechnical monitoring;
- Numerous small ROW maintenance projects, in particular 23 river crossing stabilisation projects, have been completed;
- A new CWAA has been constructed at PT 1 – others are scheduled for completion at the other PTs; and
- Effective enhancements have been made to the PT 2 and PT 4 WWTPs, the OWSs, and Storm Water Ponds (SWPs) at all of the PTs.

Although there has been significant improvements made to the WWTPs in operation, there is still room for further improvement. Recommendations for some minor improvements to systems and operational procedures were communicated to responsible individuals in the field.

Turkey is the only country where social teams are dedicated exclusively to the BTC Pipeline Project. In general, the overall social performance has been excellent, although BIL was cautioned to make sure that their PCREs have the logistical resources they need to do their job. Employee rights standardisation, especially for subcontractors, to maintain the transfer of rights was identified as something that still needs to be addressed. A recommendation was also made for BIL to update and publish their Social Management Plans.

Tables of recommendations and actions taken are provided in Appendix 2".

10.2.3 Social and Resettlement Action Plan Panel

The final RAP completion audit reports for Azerbaijan and Georgia were received in December 2012. All recommendations provided in the draft report received in September 2010 were closed-out during the following months. In the final report for the BTC Georgia section, the Social and Resettlement Action Plan (SRAP) Panel stated "Ninety-five percent of AGI surveyed households (experiencing permanent loss of land) felt the project had caused no change or had been beneficial to their households. Eighty-eight percent of ROW survey respondents (those experiencing

temporary loss of use of land) considered that the BTC Pipeline Project had caused no change or had been beneficial for their community. Such findings represent an outstanding achievement by BP/BTC and its staff in Georgia. "The BTC Pipeline Project undoubtedly raised the bar for social performance on major private sector infrastructure projects. It is hoped that this is a sustainable achievement for both BP and the wider oil and gas industry."[23]

The SRAP Panel report on Turkey has not been submitted despite several inquiries to the Panel.

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

Tables of recommendations are also provided in Appendix 4.

10.2.4 Polaris

Polaris Applied Sciences, Inc. conducted the 2013 OSR readiness assurance review for the BTC Pipeline Project in Turkey between 13 and 17 May 2013. The review took place approximately 1 year following their previous review in Turkey, which had found a number of significant concerns due to a shift in oil spill response personnel and bases.

Key Findings:

A sustained response capability requires the maintenance of 3 essential elements: management, personnel and equipment. A decrease in the capability in any of these elements results in the reduction of response capability as a whole. The crucial elements of a sustained response are:

- Continued corporate level management commitment;
- Spill Management team and oil spill responder training;
- Response plan and strategy/tactics manual updates;
- Best Achievable Technology for equipment and maintenance; and
- Drill/exercise programme.

The May 2013 review saw an increase in these essential elements relative to the 2012 review. With respect to BTC's OSR readiness in Turkey, our key findings are:

- BTC remains committed to the planned response levels described in the project General OSRP and the Turkey OSRP for BIL operations;
- The OSR management structure and personnel, namely the Incident Management team, are in place and have completed basic training that would enable them to respond to Tier 1, 2 and 3 oil spills;
- The reinstated response capability provided through the NRC contract (personnel and facilities) provides BTC and BIL with a superior response capability;
- Tier 2 OSR equipment is in place, is properly warehoused and maintained, and readily available for deployment as planned;
- Tier 2 OSR personnel have completed an extensive and appropriate training programme and demonstrated competency during a series of field equipment deployment exercises that were observed by the OSR audit team; and

[23] RAP Completion Audit final report for BTC Georgia, Part C, Section 9. Conclusions; Page C-66

- Appropriate arrangements are in place to provide in-country equipment and trained responders in all 3 countries and international support for a Tier 3 oil spill.

The 2012 review recommended a prompt follow-up evaluation for BTC, to include: an open-water exercise at the CMT, which was achieved during this 2013 review; and field deployment exercises from each OSR base to containment sites to be selected by the BTC evaluators with the response teams advised of the location only on the day of the planned exercise. Exercises in relation to the latter recommendation were completed; however, the teams did have prior knowledge of the planned deployment locations.

10.2.5 Turkey External Reviews/Audits

A summary of audits conducted in Turkey by external parties is provided in Table 10.5.

Table 10.5: Audits Conducted by External Parties

Audit/ Review	Auditor	Auditee	Scope	Findings and/or Recommendations
ISO 14001 surveillance audits of facilities	British Standards Institution (certification body)	BIL	Compliance with ISO 14001	No major findings observed.
Environmental integrated inspection audit	Adana Provincial Directorate of MoEU	CMT	Compliance with national regulations	No non-compliance was recorded. There were some recommendations that were closed shortly thereafter.
Environmental integrated inspection audit	Kahramanmaras Provincial Directorate of MoEU	IPT 1	Environmental permit application requirements	No non-compliance was recorded.
Environmental integrated inspection audit	Erzurum Provincial Directorate of MoEU	PT 2	Compliance with national regulations	No non-compliance was recorded.
Ship waste reception facility audit by MoEU	MoEU and Adana Provincial Directorate of MoEU	CMT	Compliance with national regulations	A non-compliance was recorded as the construction of a ship waste reception facility was not started at the CMT. An environmental fine was incurred (refer to Section 4.1.3 for details).
Employment Standards Review	Rina Denizcilik ve Belgelendirme Ltd. Şti.	BIL and BTC Co. Contractors	Compliance with employment standards commitments.	An effective grievance system for the employees was recommended for BIL and BIL's subcontractors. The action tracker was established and necessary actions were determined by BIL to implement the recommendations.
Social Compliance Review	Ankara University	BIL and BTC Co. Contractors	Social Assurance, Risk Assessment, Employment and Land Review	Necessary action should be taken for the complaint in Akçataş village in Erzurum, which arouse at KP 222 due to pipeline repair works and have effect on the irrigation system of the village. Alternative solutions were studied. It has been put in the scope of the remediation works of 2014.

APPENDIX 1

ANNEX J OF THE CONSTRUCTION ESAP – OUTLINE OF PROJECT ENVIRONMENTAL AND SOCIAL ANNUAL REPORT[1]

Each E&S 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 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 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 AND BOTAŞ' INTERNAL ENVIRONMENTAL AND SOCIAL AUDIT PROGRAMMES.

[1] 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 ANNUAL REPORT

Each E&S 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 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 AND BIL'S INTERNAL ENVIRONMENTAL AND SOCIAL AUDIT PROGRAMMES.

APPENDIX 2: CLOSE-OUT STATUS OF ACTIONS RELATED TO NON-COMPLIANCES RAISED THROUGH IEC MONITORING

Appendix 2 contains BTC's responses and progress towards implementing and effectively closing out the non-compliances raised by the IEC. Items that remain open are reported in E&S Annual Reports until they have been closed. Items that have been closed do not appear in subsequent reports. In adopting this approach, the BTC Pipeline Project aims to provide transparency and assurance that measures are being taken to ensure follow-up and close-out of all actions to address non-compliances.

APPENDIX 2A – AZERBAIJAN ACTION STATUS AGAINST AUDIT NON-COMPLIANCES AND RECOMMENDATIONS

There were no non-compliances identified by the IEC audit in 2013.

APPENDIX 2B – GEORGIA ACTION STATUS AGAINST AUDIT NON-COMPLIANCES AND RECOMMENDATIONS

There were no non-compliances identified by the IEC audit in 2013.

APPENDIX 2C – 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	Responsible Party	Target Date	Closure Status
4.4.5	Sep 2013	Waste water management		Rec.	Consider adding aeration systems to SWPs to improve water quality and increase the time that discharges can be allowed. This type of simple system could reduce or eliminate the need for difficult and expensive off-site treatment.	MOC-BIL-ENV-2013-007 has been initiated for provision of aerators and under review of BTC Co	BIL	31 Dec 2015	OPEN
4.4.5	Sep 2013	Waste water management		Rec.	Care needs to be made that field technicians and the HSE engineers above them have the complete training to understand the significance of field test results and react to the results to improve effluent quality – consider cross-pollination of experience.	A workshop is planned for sharing experiences of WWTP operators.	BIL	30 Sep 2014	OPEN

Ref. No.	Date of Finding	Category	Description of Finding	Level of Non-Compliance	Recommendation for Improvement	Action Taken	Responsible Party	Target Date	Closure Status
4.4.5	Sep 2013	Waste water management	PT 1 has a 3-valve discharge system discharge whereby the operator can decide whether it is appropriate to discharge effluent to the environment, discharge to a pond or recycle the effluent through the plant.	Rec.	This set-up should be evaluated for application at other PTs.	An e-mail has been sent to all sites on the issue in order to ensure that all operators evaluate the application of this set-up where appropriate. The issue will also followed up during workshop for WWTP operators.	BIL	31 Dec 2014	OPEN
4.4.5	Sep 2013	Waste water management		Rec.	Go forward with the plan to line the bottoms SWPs and Primary Withholding Ponds (PWHPs). The difficulty of maintaining these ponds with gravel bottoms was recognised in Azerbaijan and Georgia and concrete lining was the solution there.	MOC-BIL-ENV-2013-004 for PWHPs and MOC-BIL-ENV-2013-006 for SWPs initiated; under review of BTC.	BIL	31 Dec 2015	OPEN
4.4.5	Sep 2013	Pollution prevention and environmental monitoring		Rec.	Interpret the groundwater monitoring results. The Project should determine, based on year-to-year comparisons, if there are deviations from standards as a result of Project-related activities, or whether the results appear to represent normal, natural conditions.	Groundwater analyses results were evaluated in annual reports. No deviations from standards were observed. Evaluation of results and comparison can be found under Section 4.2.3.5.	BIL	N/A	CLOSED
4.11.2	Sep 2013	H&S		Rec.	BIL should review its programme for driver's safety and reinforce it as appropriate.	BIL continued its road safety risk management actions in 2013.	BIL (H&S)	BIL to advise	OPEN
4.4.3	July 2012	Non-hazardous and hazardous waste		Rec.	IEC recommends that remaining BPEO studies for optimizing hazardous waste disposal and for the identifying sustainable options for the recycling and reuse of wastes be completed by the time of the 2013 audit.	BPEO study for domestic and hazardous wastes has been completed. Sustainable options for disposal facilities have been evaluated and implementation of the result has been started. Finalisatio study for the BPEO Study Report is ongoing. Number of new recycling facilities will be audited within 2014; a decision for a need of a new BPEO study will be done end 2014,	BIL	31 Dec 2014 BPEO report finalisation. Decision on whether a BPEO will be needed or alternative study will be carried out for recyclable/reusabl e wastes.	OPEN

Ref. No.	Date of Finding	Category	Description of Finding	Level of Non-Compliance	Recommendation for Improvement	Action Taken	Responsible Party	Target Date	Closure Status
						following the audits.			
4.4.7	July 2012	Waste water management		Rec.	A quick coliform analysis kit should be purchased for each WWTP facility.	Feasibility analysis carried out in 2013. Decision will be made in 2014.	BTC	31 Dec 2014	Original action completed. Follow-up action OPEN
4.4.7	July 2012	Waste water management		Rec.	It is recommended that repair works of the PWHP at PT 3, including replacement of the damaged High Density Polyethylene (HDPE) geo-membrane underlying the geo-textile coverage be carried out as soon as possible. At the same time, an ad-hoc monitoring of groundwater is also recommended (repeat recommendation).	A tender was announced but no proposal was obtained. This work will be carried out during the application of ponds pavement project in 2014. Groundwater at PT 3 is already monitored annually so far. Because of the PWHP leakage, groundwater at PT 3 is being monitored twice a year. No contamination was observed in 2013.	BIL	30 Dec 2014	OPEN
4.4.7	July 2012	Waste water management	The process of enhancing the performances of the WWTPs at PT 2 and PT 4 facilities as well as the implementation of the upgrade for SWPs, PWHPs and OWSs at all fixed facilities is progressing slowly.	Repeat Rec.	It is recommended that BIL and BTC take their own responsibility in order to speed up the implementation of the upgrading to be able to close this long-standing issue.	PT 2 and PT 4 WWTP enhancements, direct discharge lines of WWTPs, camp site canteen grit and grease trap units for WWTPs at PT 1 and PT 3, OWS enhancements were completed. Glycol and chlorine test kits were purchased for all PTs and CMT. PWHP pavement and SWP by-pass line are planned to be carried out in 2014. SWP will run dry. Pavement of SWP will be considered after experience with dry running.	BIL	31 Dec 2015	OPEN

Ref. No.	Date of Finding	Category	Description of Finding	Level of Non-Compliance	Recommendation for Improvement	Action Taken	Responsible Party	Target Date	Closure Status
4.11.2	July 2012	H&S		Rec.	IEC recommends that adequate and regular workplace monitoring systems be implemented again for Volatile Organic Compounds (VOCs) and Benzene, Toluene, Ethyl Benzene and Xylene (BTEX) at the CMT.	Within the context of environment permit of CMT, inner facility (outdoor) VOC measurements have been recently done via diffusion tubes at different locations. One of the measurement points is in the Process Area, which is close to Tank Farm Offices (workplace). The results are too much lower than the limits determined in Regulation on Control of Air Pollution Resourced from Industry (e.g. measured value of benzene is 0,5µg/m3 where limit value is 75). Therefore, no further industrial hygiene driven regular monitoring was felt necessary by BIL.	BIL (H&S)	N/A	CLOSED

APPENDIX 3: ENVIRONMENTAL MONITORING RESULTS

APPENDIX 3.1: AZERBAIJAN

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

Appendix 3.1a – Ambient Air Quality

Pollutant	Standard	Units	Averaging Period
NO_2	40	$\mu g/m^3$	Annual mean

PSA 2: 10 July to 13 August 2013

ID	Pollutant	Units
	NO_2	
PSA 2 S2	4.6	$\mu g/m^3$
PSA 2 S3	3.7	$\mu g/m^3$
PSA 2 S6	5.7	$\mu g/m^3$
PSA 2 S7	3.1	$\mu g/m^3$
PSA 2 S8	2.6	$\mu g/m^3$

S – Station

Appendix 3.1b – Stack Emissions Monitoring

Pollutant	ESAP Standard			Units
	Emission Stream Sources			
	MOL Turbines	WBH	Generators	
NO_x	70-75 at 15% O_2, dry	450	2,000	mg/Nm^3
CO	N/A	N/A	650	mg/Nm^3
SO_2	35	1,000	1,700	mg/Nm^3
PM_{10}	5	100	130	mg/Nm^3

PSA 2/IPA 1

Equipment	Date Tested	Load (kWth, Speed in % and Tempera-ture °C)	Fuel	Mean Stack Gas Concentrations				Mass Emissions			
				NOx	CO	SO_2	PM_{10}	NOx	CO	SO_2	PM_{10}
				mg/Nm^3, Corrected to 15% O_2				g/h			
PSA 2 Turbine 1	04 Feb 2014	87.7% kWth	Gas	110.2	2,761	0	6.2	672	16,859	0.0	37.8
PSA 2 Turbine 2	05 Apr 2014	88.8% kWth	Gas	72	4,188	0	6.2	1,670	97,233	0.0	144
PSA 2 Turbine 3	06 Feb 2014	90.7% kWth	Gas	73.8	4,185	0	6.2	1,808	102,532	0.0	152
PSA 2 Turbine 4	04 Feb 2014	86.4% kWth	Gas	136.8	83	190	6.2	82	50	114	3.7
PSA 2 Generator A	08 Feb 2014	46.6% kWth	Diesel	537	233	0	62	1,273	553	0	147
PSA 2 Generator B	06 Feb 2014	56.8% kWth	Diesel	224	0	0	62	9.2	0	0	2.6
PSA 2 Generator C	14 Feb 2014	51.5% kWth	Diesel	555	191	3.5	62	1,584	546	10	177
PSA 2 WBH	05 Feb 2014	75 °C	Diesel	181	37	0	58	3.9	0.8	0	1.2
IPA 1 Generator A	09 Feb 2014	32.3% kWth	Diesel	1,893	77	300	62	1,119	45	212	36
IPA 1 Generator B	09 Feb 2014	32 % kWth	Diesel	834	113	0	62	564	76	0.0	42

NOTE: Figures in red indicate exceedances with project standards

Appendix 3.1c – Environmental Noise

	Standard	Units	Period
PSA 2; IPA 1 and BVs	**55**	**dB(A)**	**Day time**

PSA 2

ID	Readings	Units	Date	Duration	Comments
PSA 2 NM 1p	43	dB(A)	Aug-2013	5 min	Day time
PSA 2 NM 2p	44	dB(A)	Aug-2013	5 min	Day time

NM – Noise Monitoring

IPA 1

ID	Readings	Units	Date	Duration	Comments
NM 1p	44	dB(A)	Aug 2013	5 min	Day time
NM 2p	43	dB(A)	Aug 2013	5 min	Day time
NM 3p	45	dB(A)	Aug 2013	5 min	Day time

BVs

ID	Readings	Units	Date	Duration	Comments
AB-4 NM 1p	43	dB(A)	Aug 2013	5 min	Day time
AB-7 NM 1p	44	dB(A)	Aug 2013	5 min	Day time
AB-10 NM 1p	45	dB (A)	Aug 2013	5 min	Day time
AB-11 NM 1p	45	dB(A)	Aug 2013	5 min	Day time
AB-13 NM 1p	44	dB(A)	Aug 2013	5 min	Day time
AB-14 NM 1p	44	dB(A)	Aug 2013	5 min	Day time
AB-14 NM 2p	45	dB(A)	Aug 2013	5 min	Day time

AB – Azerbaijan Block Valve

Appendix 3.1d – Effluent Discharge Monitoring Programme

Parameter	Standard	Units
Total coliform bacteria (per 100 ml)	<400	MPN/100 ml
pH	6-9	-
Total residual chlorine	0.2	mg/l
Biochemical Oxygen Demand (BOD)	25	mg/l
Chemical Oxygen Demand **(COD)**	125	mg/l
Total Suspended Solids (TSS)	35	mg/l
Ammonium (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
Silver (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
Nickel (Ni)	0.5	mg/l
Selenium (Se)	0.1	mg/l
Zn	2.0	mg/l

PSA 2 (Sample Location – PSA 2 Reed Bed)

Parameter	Units	Jan 2013 (average)	Feb 2013 (average)	Mar 2013 (average)	Apr 2013 (average)	May 2013 (average)	Jun 2013 (average)	Jul 2013 (average)	Aug 2013 (average)	Sep 2013 (average)	Oct 2013 (average)	Nov 2013 (average)	Dec 2013 (average)
Total coliform bacteria	per 100ml	590	170	<20	103	1,210	547	78	352	76	234	398	350
pH	-	7.2	6.7	7.2	6.9	7	7.	6.9	7	6.5	6.6	6.4	6.8
Total residual chlorine	mg/l	0.02	0.02	0.02	0.04	0.03	0.04	0.03	0.02	0.01	0.14	0.02	0.02
COD	mg/l	56	27	16	27	25	22	65	44	41	23	16	13
TSS	mg/l	5.6	4	7	4	4	16	12	7	4	4.6	5	4
Ammonia	mg/l	0.1	0.2	<0.02	0.23	0.33	<0.02	0.26	0.43	0.06	0.12	0.15	0.03
Sulphides	mg/l			<0.005			0.005			0.005			<4
Oil and grease	mg/l			<1.5			<1.5			<1.5			<1.5

Appendix 3.1 e – Groundwater and Surface Water Monitoring Programme

Groundwater Monitoring – Karayazi and PSA 2

Date of Sampling		May 2013								
Parameter	**Unit**	**Kar M2**	**Kar M3**	**Kar M5**	**Kar M6**	**Kar M7**	**Kar M8**	**Kar M10**	**PSA 2**	
									Aran	**Yaldili**
pH	-	6.9	7.2	7.4	7.0	7.3	7.3	6.9	8.8	9.5
Temperature	°C	16.8	18.3	20.1	18.8	15.9	15.8	17.2	25.5	24.8
Conductivity	mS/cm	4.37	2.3	8.6	1.18	0.91	2.17	11	1.93	0.58
Total Hydrocarbons (THC)	µg/L	<20	<20	<20	<20	<20	<20	<20	<20	<20
Polyaromatic Hydrocarbons (PAH)	µg/L	<0.01	<0.01	<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	<0.02	<0.02

Date of Sampling		Nov 2013								
Parameter	**Unit**	**Kar M2**	**Kar M3**	**Kar M5**	**Kar M6**	**Kar M7**	**Kar M8**	**Kar M10**	**PSA 2**	
									Aran	**Yaldili**
pH	-	6.9	7.0	7.3	7.1	7.1	7.0	6.9	8.3	8.9
Temperature	°C	15.4	16.7	16.9	14.5	16	16	17	21.9	21
Conductivity	ɱS/cm	4.74	2.7	8	1.22	0.89	2.78	10.4	2.0	0.54
THC	µg/L	<20	<20	<20	<20	<20	<20	<20	<20	<20
PAH	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BTEX	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

M – monitoring

Surface Water Monitoring PSA 2

Date of Sampling		May 2013		Nov 2013	
Parameter	**Unit**	**Upstream**	**Downstream**	**Upstream**	**Downstream**
pH	-	7.8	7.4	7.9	7.9
TPH	µg/L	<20	<20	<20	<20
PAH (sum of 16)	µg/L	<0.01	<0.01	<0.01	<0.01
Benzene	µg/L	<0.2	<0.2	<0.2	<0.2
Toluene	µg/L	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	µg/L	<0.2	<0.2	<0.2	<0.2
o-Xylenes	µg/L	<0.2	<0.2	<0.2	<0.2

Surface Water Monitoring IPA 1

Date of Sampling		May 2013		Nov 2013	
Parameter	**Unit**	**Upstream**	**Downstream**	**Upstream**	**Downstream**
pH	-	No water	7.9	7.6	7.7
TPH	µg/L		<20	<20	<20
PAH (sum of 4)	µg/L		<0.01	<0.01	<0.01
Benzene	µg/L		<0.2	<0.2	<0.2
Toluene	µg/L		<0.1	<0.1	<0.1
Ethylbenzene	µg/L		<0.2	<0.2	<0.2
o-Xylenes	µg/L		<0.2	<0.2	<0.2

Appendix 3.1f – Waste

BTC Waste Volumes: Summary 2013

Main Waste Streams	Unit	Value
Oily rags	t	5.6
Oily water	t	426.9
Oil fuel	t	2.04
Sewage sludge	t	29
Sewage untraeted	t	1,259.5
Antifreeze	t	1.8
Contaminated materials hazardous	t	1.9
Pigging wax	t	0.7
Lampes tubes	t	2
Paper	t	14.34
Plastic	t	4.96
Wood	t	13.76
Metal	t	45.85
Total hazardous wastes	t	1,823.4
Total non-hazardous wastes	t	312
Total non-hazardous waste recycled offsite	t	78.8

APPENDIX 3.2: GEORGIA

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

Appendix 3.2a – Ambient Air Quality

Pollutant	Standard	Units	Averaging Period
NO_2	**40** (Annual average will reduce by 2µg/m^3 every year, to reach 40µg/m^3 by 1 January 2010)	µg/m^3	Annual mean
SO_2	**20** (For the protection of vegetation and ecosystems)	µg/m^3	Annual mean
Benzene	**5** (Annual average will reduce by 1µg/m^3 every year from 2006, to reach 5µg/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

* No PM_{10} was measured in 2013 due to the system running on natural gas.

NOx, SOx and Benzene (µg/m^3)*

ID	NO_x	SO_x	Benzene
PSG 1-1	3.7	3.8	0.5
PSG 1-2	3.4	2.3	0.4
PSG 1-3	3.7	3.5	0.6
PSG 1-4	4.2	3.7	0.5
PSG 1-5	3.6	2.6	0.3
PSG 2-1	2.5	3.8	0.6
PSG 2-2	2.7	3.4	0.3
PSG 2-3	3.1	3.7	0.6
PSG 2-4	2.7	3.3	0.3
PSG 2-5	2.8	3.9	0.6
Trip blank	<0.5	<1.0	<0.1

* Between 12 November 2013 and 12 December 2013.

Appendix 3.2b – Stack Emissions

Annual monitoring results 2013

Equipment	Date	Load	Concentration at Reference Conditions				ESAP Standards			
			NO_x	CO	SO_2	PM	NO_x	CO	SO_2	PM
			mg/m³				*mg/m³*			
PSG 1										
MOL Turbine 1	14 Nov 2013	89%	122.09	1,054.05	0.00	5.00	75	N/A	35	5
MOL Turbine 2	13 Nov 2013	97%	150.93	495.15	0.00	5.00	75	N/A	35	5
MOL Turbine 3*							75	N/A	35	5
MOL Turbine 4	13 Nov 2013	97%	54.64	12.82	0.00	5.00	75	N/A	35	5
MOL Turbine 5	14 Nov 2013	89%	135.98	666.40	0.00	5.00	75	N/A	35	5
Generator 1	12 Nov 2013	45%	506.23	215.21	29.34	50.00	2000	650	1,700	130
Generator 2	12 Nov 2013	45%	491.47	202.90	33.63	50.00	2000	650	1,700	130
Generator 3	13 Nov 2013	45%	571.64	178.81	7.21	50.00	2000	650	1,700	130
WBH	14 Nov 2013	32%	207.08	0.00	90.33	77.49	460	N/A	1,000	100
PSG 2										
MOL Turbine 1	20 Nov 2013	93%	114.38	842.17	0.00	5.00	75	N/A	35	5
MOL Turbine 2	20 Nov 2013	93%	80.73	265.19	0.00	5.00	75	N/A	35	5
MOL Turbine 3	30 Apr 2013	95%	183.45	361.52	0.00	5.00	75	N/A	35	5
MOL Turbine 4	20 Nov 2013	93%	47.45	13.73	0.46	5.00	75	N/A	35	5
MOL Turbine 5	20 Nov 2013	TM	58.76	4,445.00	0.00	5.00	75	N/A	35	5
Generator 1	19 Nov 2013	45%	643.15	129.75	28.38	50.00	2000	650	1,700	130
Generator 2	21 Nov 2013	45%	518.75	209.22	8.37	50.00	2000	650	1,700	130
Generator 3	21 Nov 2013	45%	595.56	160.76	16.35	50.00	2000	650	1,700	130
WBH	09 Dec 2013	38%	214.07	0.61	76.56	67.03	460	N/A	1,000	100

* Equipment on maintenance

TM – Test Mode

Appendix 3.2c – Environmental Noise

Location Type	Georgia	Project Specifications
Residential, institutional, educational	55 dB(A) – day time 45 dB(A) – night time	55 dB(A) – day time 45 dB(A) – night time
Industrial, commercial	65 dB(A) – day time 55 dB(A) – night time	70 dB(A) – day time 70 dB(A) – night time

Environmental noise monitoring results 2013

Sampling Point	Global Positioning System Co-ordinates	Date and Time	Measurement	Comments
PSG 1 NMP 1 (including PSG 1 camp, PSG 1 OSRB)	8513308 4590138	09 Dec 2013 11:50	Leq – 49.8 Lmax – 72.1 Lmin – 30.1 L90 – 33.8	Wind 3.5m/s. 10ºC sunny. Site noise was not audible. Background noise: birds, people, cars.
PSG 2 NMP 1	8450375 4602555	21 Nov 2012 13:15	Leq – 46.2 Lmax – 61.2 Lmin – 33.8 L90 – 37.4	Monitoring point is located 20m south from site wall. Wind 1.2m/s. 5ºC cloudy. Site noise is audible (MOL turbines). Background noise: birds.
PSG 2 camp NMP 1	8452530 4600124	20 Nov 2013 17:50	Leq – 41.5 Lmax – 58.3 Lmin – 35.1 L90 – 38.4	Wind 2.1m/s. 3ºC Cloudy. Site noise was not audible. Background noise: people, cars.
Borjomi OSR NMP 1	8368373 4632313	06 Dec 2013 11:15	Leq – 51.2 Lmax – 70.7 Lmin – 37.1 L90 – 40.3	Wind 0.5m/s. 2ºC sunny. Site noise slightly audible (site generator). Background noise: people, traffic.
Tsalka OSR NMP 1	8421154 4607667	05 Dec 2013 15:25	Leq – 33.7 Lmax – 55.6 Lmin – 27.2 L90 – 30.4	South-west wind 0.5m/s. 1ºC cloudy. Site noise was not audible. Background noise: birds, people.
EDDF NMP 1	8370815 4621309	06 Dec 2013 13:15	Leq – 49.2 Lmax – 69.4 Lmin – 30.3 L90 – 34.7	Wind 0.9m/s. -3ºC sunny. Site noise was not audible. Background noise: people, cars.

NMP - Noise Monitoring Point

Appendix 3.2d – Effluent

PSG 1 Retention Pond

Parameters	Standards	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
Monthly	**Mg/l**											
Oil and grease	10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Quarterly												
TSS	35		13			23		18			14	
NH_4	10		1.5			0.27		0.62			0.45	
Sulphide	1		<0.005			0.012		0.014			0.025	
pH	6-9		7.94			8.05		8.18			7.66	
As	0.1		<0.001			<0.001		<0.001			<0.001	
Cd	0.1		<0.001			<0.001		<0.001			<0.001	
Cr (6)	0.1		<0.001			<0.001		<0.001			<0.001	
Cr total	0.5		<0.0007			<0.0007		<0.0007			<0.0007	
Cu	0.5		0.006			0.011		0.013			0.044	
Fe	3.5		0.008			0.016		0.024			0.062	
Pb	0.1		<0.003			<0.003		<0.003			<0.003	
Hg	0.01		<0.001			<0.001		<0.001			<0.001	
Ni	0.5		<0.001			<0.001		<0.001			<0.001	
Se	0.1		<0.008			<0.008		<0.008			<0.008	
Ag	0.5		<0.001			<0.001		<0.001			<0.001	
Zn	1		0.012			0.026		0.018			<0.038	
Chlorine	0.2		<0.02			0.04		<0.02			<0.02	
BOD	25		7			11		6			13	
COD	125		16			18		24			28	
Phenols	0.5		<0.001			0.007		<0.001			<0.001	

* No discharge from Retention Pond in June

PSG 2 Retention Pond

Parameters	Standards	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013
Monthly	**Mg/l**										
Oil and grease	10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Quarterly											
TSS	35	8			21			17			32
NH_4	10	<0.2			0.72			0.5			1.48
Sulphide	1	<0.005			<0.005			<0.005			<0.005
pH	6-9	7.64			7.83			7.49			7.94
As	0.1	<0.001			<0.001			<0.001			<0.001
Cd	0.1	<0.001			<0.001			<0.001			<0.001
Cr (6)	0.1	<0.001			<0.001			<0.001			<0.001
Cr total	0.5	<0.0007			<0.0007			<0.0007			<0.0007
Cu	0.5	0.008			0.009			0.005			0.038
Fe	3.5	0.013			0.019			0.024			0.092
Pb	0.1	<0.003			<0.003			<0.003			<0.003
Hg	0.01	<0.001			<0.001			<0.001			<0.001
Ni	0.5	<0.001			<0.001			<0.001			<0.001
Se	0.1	<0.008			<0.008			<0.008			<0.008
Ag	0.5	<0.001			<0.001			<0.001			<0.001
Zn	1	0.018			0.011			0.017			0.062
Chlorine	0.2	<0.02			<0.02			<0.02			<0.02
BOD	25	7			11			7			15
COD	125	18			16			26			25
Phenols	0.5	<0.001			<0.001			<0.001			<0.001

* Because water in retention pond in January and December 2013 was frozen, monitoring was not conducted.

PSG 1 Camp STP via Reed Bed

Parameters	Standards	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
pH	6-9	7.28	7.5	7.55	7.62	7.96	7.82	7.74	8.07	7.82	7.97	7.53	7.92
Oil and grease	10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
TSS	35	11	15	13	16	27	28	32	21	26	19	27	17
TDS	2,100	725	820	736	742	806	920	814	920	825	852	837	820
NH_4	10	<0.02	<0.02	0.13	0.15	0.19	0.63	0.24	0.83	1.15	1.28	1.03	1.44
Coliform	<400	2	7	2	5	<2	<2	5	13	8	17	17	5
COD	125	14	12	24	12	23	13	25	17	47	41	36	41
BOD	25	6	3	5	7	8	8	16	5	13	14	12	17

PSG 2 Camp STP via Reed Bed

Parameters	Standards	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
pH	6-9	7.42	7.24	7.83	7.52	7.91	7.95	8.02	8.35	8.38	8.18	7.92	7.44
Oil and grease	10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
TSS	35	5	19	8	15	15	25	33	25	19	25	25	15
TDS	2,100	840	960	944	910	810	n/a	837	920	956	905	881	920
NH_4	10	<0.02	<0.02	0.18	0.16	0.15	0.44	0.3	0.81	0.63	0.74	0.55	0.92
Coliform	<400	5	<2	5	49	5	<2	<2	8	<2	5	5	5
COD	125	17	13	21	26	28	17	26	41	31	38	24	38
BOD	25	5	3	10	14	16	8	11	14	17	22	15	14

PSG 2 STP via Reed Bed

Parameters	Standards	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
pH	6-9	n/a	7.86	n/a	n/a	7.8	n/a	n/a	8.04	n/a	n/a	8.44	n/a
Oil and grease	10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
TSS	35	13	14	10	14	24	22	16	18	28	24	25	26
TDS	2,100	n/a	855	n/a	n/a	792	n/a	n/a	620	n/a	n/a	794	n/a
NH_4	10	0.28	0.14	0.19	0.23	0.52	0.49	0.37	0.36	0.75	0.61	0.82	0.64
Coliform	<400	<2	5	2	<2	5	<2	17	2	<2	2	<2	<2
COD	125	16	15	n/a	n/a	15	n/a	n/a	23	n/a	n/a	37	n/a
BOD	25	4	6	6	9	8	14	11	14	17	16	18	14

Area 80 STP via Reed Bed

Monitoring results placed within this report because EDDF sewage water is being treated at Area 80 Permanent Accommodation STP.

Parameters	Standards	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
pH	6-9	n/a	7.35	n/a	n/a	7.94	n/a	n/a	7.46	n/a	n/a	7.92	n/a
Oil and grease	10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
TSS	35	16	16	8	13	2	27	20	27	24	20	18	16
TDS	2,100	n/a	932	n/a	n/a	926	n/a	n/a	820	n/a	n/a	814	n/a
NH_4	10	0.09	1.14	1.26	1.18	1.13	0.95	1.37	1.08	0.93	1.16	1.37	0.82
Coliform	<400	9	130	920	2	2	<2	70	22	11	22	11	23
COD	125	n/a	13	n/a	n/a	19	n/a	n/a	17	n/a	n/a	25	n/a
BOD	25	3	6	9	8	11	14	16	11	25	18	14	21

Borjomi OSRB

Samples from Borjomi and Tsalka OSRBs cannot be collected at the reed bed final discharge points. They are collected directly from the units' final chambers.

Parameters	Standards	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
pH	6-9	n/a	7.22	n/a	n/a	8.06	n/a	n/a	7.72	n/a	n/a	7.66	n/a
Oil and grease	10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	n/a	<1.5	<1.5	<1.5
TSS	35	17	11	15	20	17	26	21	12	n/a	14	17	24
TDS	2,100	n/a	740	n/a	n/a	610	n/a	n/a	897	n/a	n/a	840	n/a
NH_4	10	<0.02	0.07	0.12	0.72	0.56	0.75	<0.02	0.32	n/a	0.55	0.73	1.64
Coliform	<400	2	<2	n/a	n/a	13	n/a	n/a	<2	n/a	n/a	<2	n/a
COD	125	n/a	18	n/a	n/a	24	n/a	n/a	37	n/a	n/a	32	n/a
BOD	25	2	5	11	16	9	12	6	14	n/a	17	11	18

Tsalka OSRB

Samples from Borjomi and Tsalka OSRBs cannot be collected at the reed beds final discharge points. They are collected directly from the units' final chambers.

Parameters	Standards	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
pH	6-9	n/a	7.14	n/a	n/a	8.08	n/a	n/a	8.17	n/a	n/a	8.62	n/a
Oil and grease	10	n/a	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
TSS	35	n/a	12	10	16	18	18	13	27	22	25	20	22
TDS	2,100	n/a	782	n/a	n/a	850	n/a	n/a	730	n/a	n/a	910	n/a
NH_4	10	n/a	<0.02	0.15	0.15	0.53	0.44	0.25	0.42	0.96	0.76	0.93	1.03
Coliform	<400	n/a	<2	11	1,600	11,000	350	79	220	17	920	11	<2
COD	125	n/a	9	n/a	n/a	13	n/a	n/a	13	n/a	n/a	25	n/a
BOD	25	n/a	5	6	11	8	8	11	31	11	8	17	14

*No water was observed at STP final chamber in January 2013.

Oil and Grease in OWSs

Parameters	Standards	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
PSG 1 OSRB		<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
PSG 1 camp		<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
PSG 2 camp (1)		<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
PSG 2 camp (2)	10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
EDDF		<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Tsalka OSRB		8.2	7.4	9.3	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Borjomi OSRB		n/a	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5

Appendix 3.2e – Groundwater and Surface water

Seasonal Monitoring Round 15: May to June 2013

Parameters/Method Detection Limits/ Sampling Points	Date	Benzene 1µg/L	Toluene 1µg/L	Ethylbenzene 1µg/L	Xylenes 1µg/L	BTEX	C10-C12 10µg/L	C13-C22 10µg/L	C23-C30 10µg/L	C31-C40 10µg/L	C10-C40 10µg/L	Naphthalene 1µg/L
TMW10_R15_2013	29 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TMW11_R15_2013	29 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TMW13_R15_2013	29 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TMW20_R15_2013	29 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW6_R15_2013	29 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW7_R15_2013	29 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW12_R15_2013	29 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW13_R15_2013	29 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW16_R15_2013	29 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW19_R15_2013	29 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW21_R15_2013	29 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW22_R15_2013	29 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW23_R15_2013	29 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW24_R15_2013	29 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Dublicate1_R15_2013	N/A	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Dublicate2_R15_2013	N/A	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TMW8_R15_2013	30 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW20_R15_2013	30 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TMW6_R15_2013	30 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW5_R15_2013	30 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TMW17_R15_2013	30 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW15_R15_2013	30 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW2_R15_2013	30 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW4_R15_2013	30 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW3_R15_2013	30 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW18_R15_2013	30 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TMW1_R15_2013	30 May 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Dublicate3_R15_2013	N/A	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
PSG1MW4_R15	05 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
PSG1MW3_R15	05 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2

Parameters/Method Detection Limits/ Sampling Points	Date	Benzene 1µg/L	Toluene 1µg/L	Ethylbenzene 1µg/L	Xylenes 1µg/L	BTEX	C10-C12 10µg/L	C13-C22 10µg/L	C23-C30 10µg/L	C31-C40 10µg/L	C10-C40 10µg/L	Naphthalene 1µg/L
PSG1MW6_R15	05 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
PSG1MW2_R15	05 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
PSG1MW5_R15	05 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
PSG1SW1_R15	05 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
PSG2SW1_R15	06 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
PSG2SW3_R15	06 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
PSG2MW1_R15	07 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Dublicate4_R15	N/A	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW4_R15	12 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW5_R15	12 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW4_R15	10 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW5_R15	10 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW6_R15	10 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW7_R15	10 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW8_R15	10 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW9_R15	10 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW10_R15	12 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW1_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW2_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW3_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW4_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW5_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW7_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW9_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW10_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW11_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW12_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Dublicate5_R15	N/A	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW13_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW14_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW15_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW16a_R15	12 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW17_R15	12 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW1_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2

Parameters/Method Detection Limits/ Sampling Points	Date	Benzene 1µg/L	Toluene 1µg/L	Ethylbenzene 1µg/L	Xylenes 1µg/L	BTEX	C10-C12 10µg/L	C13-C22 10µg/L	C23-C30 10µg/L	C31-C40 10µg/L	C10-C40 10µg/L	Naphthalene 1µg/L
KTSW2_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW3_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW4_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW5_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW6_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW7_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW8_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW9_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW10_R15	12 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW11_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW12_R15	12 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW13_R15	12 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW14_R15	12 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Dublicate6_R15	N/A	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW15_R15	12 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW16_R15	12 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW17_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW18_R15	11 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW2_R15	24 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW3_R15	24 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW6_R15	24 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW7_R15	24 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW8_R15	25 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW9_R15	25 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW10_R15	25 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW11_R15	25 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW1_R15	24 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW2_R15	24 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW3_R15	24 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Dublicate7_R15	N/A	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Dublicate8_R15	N/A	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Rinsate1_R15	24 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Rinsate2_R15	24 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Rinsate3_R15	25 Jun 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2

Seasonal Monitoring Round 16: October to November 2013

Parameters/Method Detection Limits/ Sampling Points	Date	Benzene 1 µg/L	Toluene 1 µg/L	Ethylbenzene 1µg/L	Xylenes 1µg/L	BTEX	C10-C12 10 µg/L	C13-C22 10 µg/L	C23-C30 10 µg/L	C31-C40 10 µg/L	C10-C40 10 µg/L	Naphthalene 1µg/L
TSW21-R16	24 Sep 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW13-R16	24 Sep 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW16-R16	24 Sep 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW12-R16	24 Sep 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW24-R16	24 Sep 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW22-R16	24 Sep 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW19-R16	25 Sep 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW23-R16	25 Sep 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW7-R16	25 Sep 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW6-R16	25 Sep 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW20-R16	25 Sep 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW4-R16	25 Sep 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TSW2-R16	25 Sep 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TMW1-R16	03 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TMW6-R16	02 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TMW8-R16	02 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TMW10-R16	02 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TMW11-R16	02 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TMW13-R16	25 Sep 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TMW17-R16	02 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TMW18-R16	02 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
TMW20-R16	02 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
PSG2MW1-R16	08 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
PSG2SW2-R16	08 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
PSG2SW1-R16	08 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
PSG1MW2-R16	08 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
PSG1MW3-R16	08 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Duplicate 1-R16	NA	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Duplicate 2-R16	NA	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Duplicate 3-R16	NA	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
PSG1MW4-R16	08 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
PSG1MW5-R16	08 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2

Parameters/Method Detection Limits/ Sampling Points	Date	Benzene 1 µg/L	Toluene 1 µg/L	Ethylbenzene 1µg/L	Xylenes 1µg/L	BTEX	C10-C12 10 µg/L	C13-C22 10 µg/L	C23-C30 10 µg/L	C31-C40 10 µg/L	C10-C40 10 µg/L	Naphthalene 1µg/L
PSG1MW6-R16	08 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
PSG1SW1-R16	08 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW1-R16	17 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW1-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW2-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW3-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW4-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW5-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW7-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW10-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW11-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW12-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW13-R16	17 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW14-R16	17 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW15-R16	17 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW16a-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTMW17-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW1-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW2-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW8-R16	17 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW9-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW13-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW15-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW14-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW16-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
KTSW17-R16	16 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Duplicate 4-R16	NA	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Duplicate 5-R16	NA	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Duplicate 6-R16	NA	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW2-R16	23 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW3-R16	23 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW4-R16	23 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW5-R16	23 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW6-R16	23 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2

Parameters/Method Detection Limits/ Sampling Points	Date	Benzene 1 µg/L	Toluene 1 µg/L	Ethylbenzene 1µg/L	Xylenes 1µg/L	BTEX	C10-C12 10 µg/L	C13-C22 10 µg/L	C23-C30 10 µg/L	C31-C40 10 µg/L	C10-C40 10 µg/L	Naphthalene 1µg/L
BMW7-R16	23 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW8-R16	23 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW9-R16	23 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW10-R16	23 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BMW11-R16	23 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW2-R16	23 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW3-R16	23 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW4-R16	23 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW5-R16	23 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW6-R16	23 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW7-R16	24 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW8-R16	24 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW9-R16	24 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
BSW10-R16	23 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Duplicate 7-R16	NA	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Duplicate 8-R16	NA	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Rinsate1-R16	17 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Rinsate2-R16	24 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2
Rinsate3-R16	24 Oct 2013	<0.2	<0.2	<0.2	<0.5	<1	<10	<10	<10	<10	<50	<0.2

T - Tsalka

SW - Surface Water

MW - Monitoring Well (groundwater)

KT - Ktsia Tabatskuri

B - Borjomi

Non-Hazardous Landfill Groundwater Monitoring 2013

Parameters	Units	Area Background	MW 3 Q1	MW 4 Q1
General				
pH	-	7.3	7.25	7.18
Electrical conductivity	µS/cm	2,093	7,170	4,820
Bicarbonate	mg/L	173.2	352	210
Carbonate	mg/L	<0.1	<10	<10
SO_4	mg/L	7,800	3,280	2,490
Cl	mg/L	2,251	438	174
Na	mg/L	3,201	1,730	740
NH4	mg/L	<0.02	0.09	0.06
Total cyanide	mg/L	<0.03	<0.005	<0.005
Heavy metals				
As	µg/L	<5	<0.001	<0.001
B	µg/L	3,750	4,170	2,065
Cd	µg/L	<1	<0.001	<0.001
Cr	µg/L	<20	<0.001	<0.001
Cu	µg/L	30	<0.003	<0.003
Hg	µg/L	0.024	<0.002	<0.002
Pb	µg/L	<10	<0.003	<0.003
Zn	µg/L	48	0.016	0.008
Se	µg/L	28	0.011	0.014
Ni	µg/L	20	0.024	0.012
General organics				
Total organic carbon	mg/L	88.5	8	6
COD	mg/L	235.6	27	<4
BOD	mg/L	3.96	13	<1
Phenols	µg/L	<10	<1	<1
TPH				
Fraction C10-C12	µg/L	NA	<5	<5
Fraction C13-C22	µg/L	NA	<5	<5
Fraction C23-C30	µg/L	NA	<5	<5
Fraction C31-C40	µg/L	NA	<10	<10
Total C10-C40	µg/L	NA	<Method Detection Limit	<Method Detection Limit
Pesticides		<10		
Chlorinated				
p,p'- DDT	µg/L		<0.025	<0.025
p,p'- DDD	µg/L		<0.016	<0.016
p,p'- DDE	µg/L		<0.008	<0.008
a-BHC	µg/L		<0.005	<0.005
b-BHC	µg/L		<0.007	<0.007
g-BHC(Lindan)	µg/L		<0.005	<0.005
d-BHC	µg/L		<0.006	<0.006
Aldrin	µg/L		<0.005	<0.005
Endosulfan I	µg/L		<0.011	<0.011
Dieldrin	µg/L		<0.007	<0.007
Endrin	µg/L		<0.007	<0.007
Endosulfan II	µg/L		<0.010	<0.010
Endrin aldehyde	µg/L		<0.025	<0.025
Endosulfan sulphate	µg/L		<0.020	<0.020
Triazine Herbicides		<50		
Atrazine	µg/L		<5	<5
Desisopropyl atrazine	µg/L		<10	<10

Parameters	Units	Area Background	MW 3 Q1	MW 4 Q1
Desethyl atrazine	µg/L		<5	<5
Ametryn	µg/L		<10	<10
Prometon	µg/L		<5	<5
Simazine	µg/L		<5	<5
Propazine	µg/L		<5	<5
Simetryn	µg/L		<5	<5
Prometryn	µg/L		<5	<5
Terbutryn	µg/L		<5	<5
Cyanazine	µg/L		<5	<5
VOCs		<100		
Benzene	µg/L		<0.2	<0.2
Toluene	µg/L		<0.1	<0.1
Ethylbenzene	µg/L		<0.2	<0.2
p-Xylene	µg/L		<0.2	<0.2
o-Xylene	µg/L		<0.2	<0.2
m-Xylene	µg/L		<0.2	<0.2
Isopropylbenzene	µg/L		<0.2	<0.2
Dichloromethane	µg/L		<0.2	<0.2
Trichlorofluoromethane	µg/L		<0.2	<0.2
1,1-Dichlorethene	µg/L		<0.5	<0.5
Chloroform	µg/L		<0.1	<0.1
1,1,1-Trichloroethane	µg/L		<0.2	<0.2
1,2-Dichlorethane	µg/L		<0.2	<0.2
Trichloroethene	µg/L		<0.2	<0.2
1,2-Dichloropropane	µg/L		<0.2	<0.2
Bromodichloromethane	µg/L		<0.1	<0.1
trans-1,3-Dichloropropene	µg/L		<0.2	<0.2
cis-1,3-Dichloropropene	µg/L		<0.5	<0.5
Ethane, 1,1,2-trichloro-	µg/L		<0.3	<0.3
Tetrachloroethylene	µg/L		<0.1	<0.1
Benzene, chloro-	µg/L		<0.2	<0.2
Benzene, 1,2-dichloro-	µg/L		<0.1	<0.1
Benzene, 1,4-dichloro-	µg/L		<0.1	<0.1
Benzene, 1,3-dichloro-	µg/L		<0.1	<0.1
Epichlorohydrin	µg/L		<0.2	<0.2
Vinyl chloride	µg/L		<0.2	<0.2
Semi-VOCs		<100		
Acenaphthene	µg/L		<0.07	<0.07
Acenaphthylene	µg/L		<0.1	<0.1
Anthracene	µg/L		<0.02	<0.02
Benz[a]anthracene	µg/L		<0.01	<0.01
Benzo[a]pyrene	µg/L		<0.01	<0.01
Benzo[b]fluoranthene	µg/L		<0.02	<0.02
Benzo[k]fluoranthene	µg/L		<0.02	<0.02
Benzo[ghi]perylene	µg/L		<0.05	<0.05
Benzyl butyl phthalate	µg/L		<0.1	<0.1
Bis(2-ethylhexyl) phthalate	µg/L		<0.1	<0.1
Chrysene-d12	µg/L		<0.1	<0.1
Chrysene	µg/L		<0.04	<0.04
Di-n-butyl phthalate	µg/L		<0.1	<0.1
Di-n-octyl phthalate	µg/L		<0.1	<0.1
Dibenz[a,h]anthracene	µg/L		<0.03	<0.03
Diethyl phthalate	µg/L		<0.1	<0.1
Dimethyl phthalate	µg/L		<0.1	<0.1
Fluoranthrene	µg/L		<0.04	<0.04
Fluorene	µg/L		<0.1	<0.1
Indeno[1,2,3-cd]pyrene	µg/L		<0.03	<0.03

Parameters	Units	Area Background	MW 3 Q1	MW 4 Q1
Naphthalene	µg/L		<0.07	<0.07
Perylene-d12	µg/L		<0.1	<0.1
Phenanthrene-d10	µg/L		<0.1	<0.1
Phenanthrene	µg/L		<0.06	<0.06
Pyrene	µg/L		<0.1	<0.1

DDT - p,p'- dichlorodiphenyltrichloroethane

DDD - p,p'- Dichlorodiphenyldichloroethane

DDE - p,p'- Dichlorodiphenyldichloroethylene

BHC - a- Benzene hexachloride

Appendix 3.2f – GHG emissions

GHG Emissions (t)

GHG	BTC Actual	BTC Forecast
Jan 2013	19,284	
Feb 2013	18,079	
Mar 2013	18,008	
Q1-2013	**55,372**	**87,537**
Apr 2013	18,550	
May 2013	21,461	
Jun 2013	18,479	
Q2-2013	**58,490**	**88,441**
Jul 2013	15,866	
Aug 2013	15,697	
Sep 2013	13,957	
Q3-2013	**45,520**	**89,345**
Oct 13	18,493	
Nov 2013	18,633	
Dec 2013	20,292	
Q4-2013	**57,418**	**89,345**

Appendix 3.2g – Waste

Total Figures 2013

Type of Waste (m^3)	PSG 1 (Site and camp)	PSG 2 (Site and camp)	BVs	NRC		
				Tsalka	Borjomi	Rustavi and Tbilisi office
Hazardous waste disposed Off-site						
Oily solids	54.4	1.9	0	1.6	1.8	0.3
Oily liquids	9	12.2	0	0.6	0	0.7
Sewage sludge	248	147	0	0	8	0
Wax	1.6	0	0	0	0	0
Non-hazardous waste recycled/recovered off-site						
Plastic (recycled)	89	22	0	2.5	2.1	3.7
Paper (recycled)	140	21	0	4	2.8	114
Metal (recycled)	12	0	0.3	0	54.3	16
Wood	12	0	0	0	0.9	0
Organic wastes (food wastes)	35	11.3	0	0	0	0
Domestic/Office	268	410	3	4	5	303

APPENDIX 3.2: TURKEY

Please read this section in conjunction with the commentary in Section 4.2.3.

Appendix 3.2a – 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/m3 (100%) must be met on 13 December 2000, reducing on 1 January 2006 and every 12 months thereafter by 1 µg/m3 to reach 0% (5 µg/m3) by 1 January 2010.
Oxides of Nitrogen (NO_x)	40	Annual mean.
SO_2	20	24 hour average.

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

Ceyhan Marine Terminal Average Measurements 2013

No.	Monitoring Date	Average Ambient Concentrations (µg/m^3)						
		SO_2	NOx	Benzene	Toluene	Ethyl Benzene	mp-xylene	o- xylene
CMT 1	Mar-Jun-Sep-Dec 2013	n/a	n/a	2.38	15.27	2.31	3.75	1.76
CMT 2		6.17	5.15	1.62	3.41	0.60	1.22	0.67
CMT 3		4.75	6.83	2.50	10.74	1.46	2.84	1.40
CMT 3D		5.13	6.52	n/a	n/a	n/a	n/a	n/a
CMT 4		n/a	n/a	2.26	5.53	1.40	1.89	1.04
CMT 4D		n/a	n/a	1.82	3.17	0.27	0.94	0.51
CMT 5		3.65	7.59	1.09	2.76	0.63	1.27	0.72
CMT 7		n/a	n/a	1.09	9.84	1.97	2.87	1.46
CMT 8		3.77	6.03	1.69	3.60	1.70	2.00	0.32
CMT 10		n/a	n/a	1.61	2.57	0.71	1.3	0.77

Appendix 3.2b – Stack Emissions

Stack Emission Standards

Emission Stream Sources	Parameters	Project Specified Standard
5 MW Reciprocating engines (gas fired) (PTs 1, 2, 3 and 4)	NO_x SO_2 CO PM	500 mg/Nm^3 (5% Volumetric O_2) 60 mg/Nm^3 (5% Volumetric O_2) 650 mg/Nm^3 (5% Volumetric O_2) 130 mg/Nm^3 (5% Volumetric O_2)
Water Heaters (diesel fired) (Wax Handling Boilers at CMT, IPT 1 and IPT 2)	NOx SO_2 CO Soot	460 mg/Nm^3 (3% Volumetric O_2) 1.000 mg/Nm^3 (3% Volumetric O_2) 150 mg/Nm^3 (3% Volumetric O_2) 2
Water Heaters (gas and LPG fired) (CMT, PTs 1, 2, 3 and 4)	NO_x SO_2 CO PM	320 mg/Nm^3 (3% Volumetric O_2) 100 mg/Nm^3 (3% Volumetric O_2) 100 mg/Nm^3 (3% Volumetric O_2) 10 mg/Nm^3 (3% Volumetric O_2)
Generators/Fire pumps (diesel fired) (monitored only if the annual run time is < 500 hrs)	NO_x SO_2 Soot CO PM	460 mg/Nm^3 (3% Volumetric O_2) 1.000 mg/Nm^3 (3% Volumetric O_2) 2 250 mg/Nm^3 (15% Volumetric O_2) 75 mg/Nm^3 (15% Volumetric O_2)

Stack Emission Monitoring Results for Pump Stations

Facility	Parameter	Emission Source							
		Driver Engine 1	Driver Engine 2	Driver Engine 3	Driver Engine 4	Driver Engine 5	Water Heater 1	Water Heater 2	Water Heater 3
PT 1									
Date of monitoring					24-25 Oct 2013				
Monitoring result	NO_x	212.74	286.70	168.85	227.07	137.70	87.63	128.51	110.97
	SO_2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	PM	5.85	3.98	6.14	4.84	6.02	3.63	3.66	4.33
	CO	45.10	45.16	82.56	66.68	60.52	0.00	0.00	0.00
PT 2									
Date of monitoring					27-28 Oct 2013				
Monitoring result	NO_x	83.44	257.85	-	103.78	Not existing	118.03	125.28	133.83
	SO_2	2.39	0.00	-	0.00		2.51	2.45	0.00
	PM	8.24	7.11	-	7.24		6.63	7.64	9.97
	CO	72.16	12.24	-	51.72		0.00	0.00	0.00
PT 3									
Date of monitoring					29-30 Oct 2013				
Monitoring result	NO_x	406.17	370.82	402.83	384.91	393.53	125.00	124.00	-
	SO_2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
	PM	4.88	4.10	4.52	5.35	5.75	4.47	4.35	-
	CO	45.78	55.74	49.05	43.15	49.14	0.00	12.42	-
PT 4									
Date of monitoring					01-02 Nov 2013				
Monitoring result	NO_x	451.67	693.72	397.58	371.19	Not existing	-	-	127.93
	SO_2	0.00	0.00	0.00	0.00		-	-	0.00
	PM	6.15	3.67	4.44	7.74		-	-	3.54
	CO	0.00	0.00	0.00	0.00		-	-	0.00

Stack Emission Monitoring Results for Intermediate Pigging and Pressure Reduction Station

Facility	Parameter	Emission Source
		Wax Handling Water Heater
IPT 1		
Date of monitoring		04 Nov 2013
	NO_x	160.51
	SO_2	0.00
	soot	1.00
Monitoring result	CO	0.00
IPT 2		
Date of monitoring		26 Oct 2013
	NO_x	94.06
	SO_2	0.00
	soot	1.00
Monitoring result	CO	0.00

Stack Emission Monitoring Results for Ceyhan Marine Terminal

Facility	Parameter	Emission Source			
		General Facilities LPG Water Heater 1	General Facilities LPG Water Heater 2	Housing Compound LPG Water Heater	Process Area LPG Water Heater
CMT					
Date of monitoring			**05-06 Nov 2013**		
	NO_x	152.46	164.48	148.34	115.23
	SO_2	0.00	0.00	0.00	1.14
	PM	5.41	6.76	8.29	5.38
Monitoring result	CO	0.00	0.00	0.00	0.00

Appendix 3.2c – Aqueous Discharges

Aqueous Discharge Standards

Waste Stream Sources	Parameters	Project Specified Standard
Aqueous discharges to surface and marine waters from OWSs	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
	TSS	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 STPs	pH	6-9
	BOD	25 mg/l
	COD	120 mg/l
	Oil and grease	10 mg/l
	TSS	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 recycled 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 the Environmental Emissions Management Plan, for OWSs, metals, phenols and sulphur will be monitored on a quarterly basis for 1 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, 2010 and Q2-2011. Since they were compliant no further monitoring was planned for 2012 and future.

PT 1 Aqueous Discharges Monitoring Results

	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
Ops WWTP (new)												
pH	7.3	7.7	7.6	6.8	7.6		7.3	7.6	7.4		7.3	
BOD (mg/l)	12	4	4	6	4		4	12	7		14	
COD (mg/l)	41	50	20	36	57	No sampling	39	108	20	No sampling	50	
Oil and grease (mg/l)	5.0	10.0	6.8	5.0	5.0		5.0	5.0	5.0		9.6	No flow
TSS (mg/l)	10	4	5	2	4		2	2	4		6	
Total residual chlorine (mg/l)	0.10	0.19	0.16	0.09	0.06		0.19	0.09	0.09		0.13	
Coliform bacteria	30	70	20	1	4		1,100	0	0		4	
SWP												
pH		7.9		8.5		8.8	8.6	7.7	7.5	8.8	8.6	
BOD (mg/l)		27		13		37	9	4	7	37	9	
COD (mg/l)		122		50		89	25	20	53	89	25	
Oil and grease (mg/l)	No flow	5.0	No flow	5.0	No flow	21.0	31.0	5.0	5.0	21.0	31.0	No flow
TSS (mg/l)		16		8		13	5.3	2	4	13	5.3	
Total residual chlorine (mg/l)		0.10		0.19		0.10	0.11	0.03	0.08	0.10	0.11	
Coliform bacteria		240		3			0	3	0		0	
OWS												
pH			7.6			8.3					8.5	
Oil and grease (mg/l)	No flow	No sampling	12.2	No sampling		5.0	No sampling				5.0	No flow
TSS (mg/l)			11.6			2.8					2.0	

PT 2 Aqueous Discharges Monitoring Results

	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
Ops WWTP												
pH	7.7	7.8	7.85	7.13	8.04	7.96	7.86	7.84	7.58	7.90	7.34	
BOD (mg/l)	4	14.2	23	12	16.5	7.6	11.3	12.15	5.15	4.0	14	
COD (mg/l)	10	86.6	72.6	69	82.1	84	30.9	25.3	20.0	42.0	20.0	
Oil and grease (mg/l)	5	10	5	5	5	5	5	5	5	5	5.0	No flow
TSS (mg/l)	10	15	19	3	8	2	6	11	8	3.2	4.4	
Total residual chlorine (mg/l)	0.1	0.58	0.11	0.05	0.11	0.05	0.16	0.15	0.12	0.12	0.14	
Coliform bacteria	0	1,100	1,100	1,100	1,100	0	1,100	0	16			

	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
SWP												
pH				8.90	8.82	8.4	8.12	8.25	8.97	8.20	8.50	
BOD (mg/l)				6	17.4	22.3	18.3	24	8.9	7.2	12	
COD (mg/l)				56.6	83	108	66.9	106	55.8	20.0	36.4	
Oil and grease (mg/l)		No flow		5	5	5	5	6	5	5.0	5.0	No flow
TSS (mg/l)				8	54	23	18.0	26	20.0	9	33.0	
Total residual chlorine (mg/l)				0.24	0.10	0.19	0.13	0.19	0.10	0.04	0.08	
Coliform bacteria				3	23	0	3	0	2	0	0	
SWP upstream												
pH		8.49	8.5	7.92	8.34	8.29						
BOD (mg/l)		<4	4	16.4	4	20.3						
COD (mg/l)		<50	20	64.7	22.8	20						
Oil and grease (mg/l)	No flow	<10	5	21.8	5	5			No flow			
TSS (mg/l)		13.2	3.6	13	5.2	16.8						
Total residual chlorine (mg/l)		0.02	0.01	0.02	0.11	0.09						
Coliform bacteria		900	43	1,100	1,100	1,100						
SWP downstream												
pH		8.47	8.5	7.98	8.45	8.46						
BOD (mg/l)		<4	4	4	4	4						
COD (mg/l)		<50	20	33.3	28.5	20						
Oil and grease (mg/l)	No flow	<10	5	5	5	5			No flow			
TSS (mg/l)		<2	6.4	168	2.4	10						
Total residual chlorine (mg/l)		0.17	0.01	0.02	0.13	0.06						
Coliform bacteria		1,300	1,100	1,100	1,100	1,100						
OWS												
pH			7.8				8.8				8.3	
Oil and grease (mg/l)	Not in programme		5.0	Not in programme			5.0	Not in programme			5.0	Not in programme
TSS (mg/l)			18.0				28.0				10.4	

PT 3 Aqueous Discharges Monitoring Results

	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
Ops WWTP (new)												
pH	7.80	8	7.93	7.29	7.91	8	7.88	7.54	7.56	7.87	7.30	7.8
BOD (mg/l)	4	4	4	4	5.9	4	4	4	4	4.0	11	4
COD (mg/l)	10	50	20.0	24.7	74.5	50	20	23	20	20.0	39.2	20.0
Oil and grease (mg/l)	5	10	5	5	5	5	5	5	5	5	5	5
TSS (mg/l)	10.0	2.0	2	198	2	2	2	2	2	2	13.6	2.00
Total residual chlorine (mg/l)	0.10	2.20	0.16	0.12	0.15	0.17	0.18	0.18	0.15	0.14	0.12	0.14
Coliform bacteria	0	0	2	1,400	3	3	3	3	3	3	3	3
SWP												
pH				7.89	8.76	8	8.10					
BOD (mg/l)				13	20.7	17.3	6					
COD (mg/l)				97.3	194.5	106	20					
Oil and grease (mg/l)		No flow		5	5	5	5			No flow		
TSS (mg/l)				22	9	2	4					
Total residual chlorine (mg/l)				0.09	0.19	0.17	0.1					
Coliform bacteria				280	3	3	3					
OWS												
pH			8.2				8.9				8.38	
Oil and grease (mg/l)	Not in programme		5.0	Not in programme			5.0	Not in programme			5	Not in programme
TSS (mg/l)			15.2				59.3				2.4	

PT 4 Aqueous Discharges Monitoring Results

	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
Ops WWTP												
pH	7.8	7.5	8.0	7.30	7.98	8.72	8.47	7.94	8.80	7.87	8.10	7.95
BOD (mg/l)	4.0	4.0	8.7	15	12.2	4	4	13.8	4.0	4	4	4.0
COD (mg/l)	10.0	50.0	27.9	4	59.2	55.8	20.0	33.6	20.0	22.6	20.0	20.0
Oil and grease (mg/l)	5.0	10.0	5.0	20	5	5	5	5	5	5.0	5.0	5.0
TSS (mg/l)	10.0	18	2.8	-	8	5	5	13	3.2	14.4	2.0	7.6
Total residual chlorine (mg/l)	0.1	0.20	0.18	5.20	0.17	0.13	0.19	0.02	0.17	0.15	0.16	0.17
Coliform bacteria	0.0	0	1,100	0	0	0	240	3	150	3	3	3
SWP												
pH		8.5	8.4	8.40	8.54	8.58				8.24		8.87
BOD (mg/l)		4.0	17.0	8.9	16.8	4				7.0		34.8
COD (mg/l)		50.0	68.3	62.6	95.9	91.8				30.0		138.9
Oil and grease (mg/l)	No flow	10.0	5.0	-	5	5		No flow		5	No flow	13.40
TSS (mg/l)		3	23.3	20	3	5				22		69.0
Total residual chlorine (mg/l)		0.08	0.1	0.11	0.10	0.11				0.09		0.1
Coliform bacteria		200	1,100	4	0	98				3		1,100

	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
OWS												
pH	Not in programme		8.2	Not in programme			8.6	Not in programme			7.5	Not in programme
Oil and grease (mg/l)			5.0				5.0				5.0	
TSS (mg/l)			15.2				9.0				13.0	

IPT 1 Aqueous Discharges Monitoring Results

	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	July 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
Ops WWTP												
pH	7.80	8	7.34	7.05	7.51	7.51	7.47	7.59	7.49	7.44	7.82	7.23
BOD (mg/l)	4	4	4	4	4	11.6	4.3	4	4	4	4	5
COD (mg/l)	10	50	20.0	29.5	46.7	70	20	20	20	30.57	20.0	20
Oil and grease (mg/l)	5	10	5	14	5	5	5	5	5	5	5.0	5.00
TSS (mg/l)	10.0	2	2	2	6.8	16.8	2	5	8	2	2.0	3.60
Total residual chlorine (mg/l)	-	-	-	-	-	-	-	-	-	-	-	-
Coliform bacteria	40	10	20	0	280	43	3	23	>1,100	3	3	3
OWS												
pH	Not in programme		7.5	Not in programme			7.7	Not in programme			8.5	Not in programme
Oil and grease (mg/l)			5.0				5.0				5.6	
TSS (mg/l)			2.0				2.0				10	

IPT 2 Aqueous Discharges Monitoring Results

	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
OWS												
pH	Not in programme		8	Not in programme			7.3	Not in programme			7.8	Not in programme
Oil and grease (mg/l)			5				5.0				5.0	
TSS (mg/l)			12.4				2.0				2.0	

CMT Aqueous Discharges Monitoring Results

	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
Ops WWTP												
pH	8.2	8.3	7.6	7.6	8.2	8.2	8.0	7.6	8.31	7.81	8.41	7.5
BOD (mg/l)	10	4.0	15.7	5	15	4.9	6.10	10.3	4.0	10.5	4.0	4.0
COD (mg/l)	34	64.0	56.5	27.8	103.1	25	33.6	69.7	20.0	66.9	20.0	20.0
Oil and grease (mg/l)	5	10	<5	5	5	5	<5	<5	5.0	5.0	5.0	5.00
TSS (mg/l)	16.3	6	34	28	2	2	5	13	3	46	2.0	8.00
Total residual chlorine (mg/l)	0.1	2.2	0.2	0.2	0.2	0.0	0.2	0.1	0.1	0.16	0.13	0.18
Coliform bacteria	250	43	40	0	3	43	1,100	3	3	3	3	3
Construction WWTP												
pH	8.1	8.6	7.8	7.4	8.3	7.6	7.9	7.9	8.11	7.76	8.55	7.3
BOD (mg/l)	7	4	4	12	5	18	13	4	4.0	4.0	4	6.4

	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
COD (mg/l)	24	50	47	20	54	64	50	36	20.0	20.0	50.3	20.0
Oil and grease (mg/l)	5	10	5	5	5	5	<5	<5	5	5	5.0	5.00
TSS (mg/l)	10	2	2	5	2	15	<2.0	2	5	4	2.0	17.60
Total residual chlorine (mg/l)	0.1	0.6	0.2	0.2	0.2	0.2	0.1	0.1	0.11	0.10	0.11	0.12
Coliform bacteria	100	4	28	0	240	23	>1,100	3	3	3	3	3
SWP												
pH	8.2	9.6	8.7				8.1	8.4		8.56	9.62	8.56
BOD (mg/l)	6	15.5	36				34.00	24.4		45.6	6	25.2
COD (mg/l)	21	50.0	56.3				102.9	75.2		266.3	20.0	105.7
Oil and grease (mg/l)	5	10	18		No flow		5	<5		5.0	13.2	22.20
TSS (mg/l)	14	7	25				22	37		144	54.0	38
Total residual chlorine (mg/l)	0.1	0.2	0.1				0.2	0.2		0.02	0.12	0.09
Coliform bacteria	3,000	1,100	>1,100				43	>1,100		>1,100	>1,100	>1,100
pH	8.4	8.5	8.4	7.6	8.6	8.5		8.0		8.4	8.75	8.75
BOD (mg/l)	4	<4	<4	18	8	<4		5		10.30	<4.0	24
COD (mg/l)	10	63	23	<20	80	75		72		39.2	<20.0	20
Oil and grease (mg/l)	5	<10	<5	<5.0	5	<5	No flow	<5.0	No flow	<5	<5.0	5
TSS (mg/l)	14	<2	2	9	38	299		5		27.2	88	88
Total residual chlorine (mg/l)	0.1	0.0	0.3	0.1	0.1	0.1		<0.02		0.01	0.08	0.08
Coliform bacteria	1,000	240	>1,100	>1,100	1,100	>1,100		>1,100		>1,100	>1,100	>1,100
SWP downstream												
pH	8.2	8.5	8.5	7.7	8.5	9.0		8.2		8.16	8.64	8.64
BOD (mg/l)	4	<4	13.5	15.2	4	<4		18.1		10.5	<4.0	4
COD (mg/l)	10	<50	55.5	<20.0	68.3	50.3		80.7		58.57	<20.0	20
Oil and grease (mg/l)	5	<10	<5	<5.0	9	<5		<5.0		<5	<5.0	5
TSS (mg/l)	15	6	6	4	27	36		86		58.6	45	45
Total residual chlorine (mg/l)	0.1	0.16	0.2	<0.02	0.12	0.03		0.03		0.02	0.02	0.02
Coliform bacteria	1,000	>1,100	>1,100	>1,100	1,100	1,100		>1,100		>1,100	>1,100	>1,100
OWS 1 and 2 (office and housing compounds)												
pH						10.9						
Oil and grease (mg/l)			No flow			<5			No flow			
TSS (mg/l)						21.1						
OWS 3 (process area)												
pH												
Oil and grease (mg/l)						No flow						
TSS (mg/l)												
OWS 4 (tank farm)												
pH						8.1	9.26					
Oil and grease (mg/l)			No flow			<5	<5			No flow		
TSS (mg/l)						<2	4.0					
OWS 5 (metering area)												
pH			8.12									
Oil and grease (mg/l)		No flow	<2					No flow				
TSS (mg/l)			<5									

	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
OWS 6 (jetty 1)												
pH	8.2		7.4				8.3				8.05	
Oil and grease (mg/l)	5	No flow	2		No flow		<5.0		No flow		<5.0	No flow
TSS (mg/l)	10		<5				2.0				<2.0	
OWS 7 (jetty 2)												
pH	8.2		7.4				8.2				8	
Oil and grease (mg/l)	5	No flow	13.80		No flow		5.0		No flow		<5.0	No flow
TSS (mg/l)	10		<5				3.0				<2.0	

Appendix 3.2d – Ground Water Monitoring Data

2012 GW ANALYSIS RESULTS OF SAMPLES TAKEN FROM CMT AND AGI'S

Parameters 2012 May	PT1*	PT2	PT3	PT4				CMT
				Feb	May	Aug	Nov	
pH	7.2	7.85	7.46	7.75	7.71	7.27	7.53	7.22
Turbidity (NTU)	0.114	0.115	0.476	0.252	0.2	0.24	0.468	0.275
Electrical Conductivity (µS/cm)	120.7	385	968	342	346	494	333	550
Salinity	0.1	0.11	0.36	0.3	0.21	0.25	0.3	0.2
Total Dissolved Solids (mg/L)	91	122	339	154	200	221	60	267
Dissolved Oxygen (mg/L)	7.50	7.31	2.19	6.43	6.31	6.08	6.4	5.23
Total Coliforms (KOB/100 mL)	100	No Coliform	No Coliform	-	N.C.	-	-	100
Ammonia (mg/L)	0.42	0.544	0.366	-	0.897	-	-	<0.1
Nitrate (mg/L)	15.5	6.11	<0.45	-	45.17	-	-	34.54
Nitrite (mg/L)	<0.01	<0.01	<0.01	-	<0.01	-	-	<0.01
Arsenic (mg/L)	-	-	<0.002	-	-	-	-	-
Total Organic Carbon (mg/L)	<0.5	0.56	0.823	3.59	<0.05	1.3	3.63	6.5
Total Petrol Hydrocarbons (mg/L)	<0.1	0.102	<0.1	-	<0.1	-	-	<0.1

N.C.: NO COLIFORM

* PT1 Analyzed in June because of the pump problem

Appendix 3.2e – Waste

Total Waste Volumes 2013 (kg)

	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013	TOTAL
PT 1 and IPT 2													
Hazardous waste disposed offsite	0	0	60	726	6,403	5,731	42	0	6,881	0	0	0	**19,842**
Domestic waste disposed offsite	1,540	780	825	830	1,350	761	1,560	555	805	260	746	1,000	**11,012**
Waste water disposed in third-party WWTP	30,000	22,000	50,000	10,000	48,000	30,000	40,000	10,000	10,000	28,000	28,000	10,000	**316,000**
Non-hazardous waste recycled	843	697	540	808	988	755	1,098	18	2,384	583	801	765	**10,280**
Non-hazardous waste reused	622	602	998	570	914	483	1,299	1,335	1,240	991	506	938	**10,498**
PT 2													
Hazardous waste disposed offsite	0	0	0	0	2,336	0	2	0	10,630	17	0	0	**12,984**
Domestic waste disposed offsite	0	0	4,036	0	3,845	2,007	0	1,465	2,111	0	2,047	0	**15,511**
Waste water disposed in third-party WWTP	0	10,000	0	10,000	10,000	0	10,000	0	0	10,000	10,000	10,000	**70,000**
Non-hazardous waste recycled	1,295	0	1,097	0	1,249	784	2,920	1,727	2,335	711	0	869	**12,987**
Non-hazardous waste reused	3,630	1,558	1,703	1,742	1,901	1,925	738	1,718	1,670	1,798	1,978	5,281	**25,642**
PT 3													
Hazardous waste disposed offsite	0	0	0	30	6,678	0	25	63	1,200	810	0	0	**8,806**
Domestic waste disposed offsite	1,800	0	1,500	1,500	2,000	120	800	1,100	1,100	0	1,450	1,200	**12,570**
Waste water disposed in third-party WWTP	10,000	10,000	10,000	20,000	20,000	20,000	20,000	10,000	0	10,000	10,000	20,000	**160,000**
Non-hazardous waste recycled	1,950	0	350	1,600	2,550	0	1,400	1,100	1,650	550	500	800	**12,450**
Non-hazardous waste reused	50	975	400	0	0	1,335	0	0	400	50	0	30	**3,240**
PT 4													
Hazardous waste disposed offsite	0	1,964	0	0	7,808	19	0	0	113	0	0	0	**9,904**
Domestic waste disposed offsite	0	930	1,610	1,500	2,150	1,200	1,680	1,500	1,120	0	0	150	**11,840**
Waste water disposed in third-party WWTP	0	15,000	0	0	17,000	12,000	0	0	15,000	17,000	17,000	0	**93,000**
Non-hazardous waste recycled	10	40	1,391	0	0	3,163	0	0	1,275	0	0	0	**5,879**
Non-hazardous waste reused	500	600	0	0	615	1,000	250	890	710	1,230	860	1,040	**7,695**
IPT 1													
Hazardous waste disposed offsite	0	0	6	0	1,340	0	0	0	9	0	0	1,200	**2,455**

	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013	TOTAL
Domestic waste disposed offsite	3,315	0	3,750	2,500	2,250	1,400	1,050	1,150	1,500	1,300	2,120	15	**20,350**
Waste water disposed in third-party WWTP	15,000	0	42,000	14,000	14,000	14,000	14,000	14,000	28,000	14,000	45,000	0	**214,000**
Non-hazardous waste recycled	562	0	75	1,100	495	0	0	0	600	450	140	20	**3,442**
Non-hazardous waste reused	1,585	1,460	1,650	3,590	1,710	3,110	1,555	1,608	1,609	1,490	1,415	1,330	**22,112**
CMT													
Hazardous waste disposed offsite	25	20	27,017	4	7,530	25	15	6,039	8	25	18	12,185	**52,911**
Domestic waste disposed offsite	10,145	7,190	5,235	7,160	6,860	5,390	6,170	10,517	5,160	4,920	13,570	5,000	**87,407**
Waste water disposed in third-party WWTP	0	0	0	10,000	0	0	0	10,000	0	10,000	10,000	0	**40,000**
Non-hazardous waste recycled	0	0	0	13,140	0	0	0	0	0	15,300	0	0	**28,440**
Non-hazardous waste reused	3,710	6,015	45,790	3,490	3,935	13,363	3,199	6,898	6,250	5,050	3,360	14,985	**89,045**

TOTAL 2013 *t)*	
Hazardous waste disposed offsite	106.9
Domestic waste disposed offsite	158.7
Waste water disposed in third-party WWTP	893
Non-hazardous waste recycled	73.5
Non-hazardous waste reused	158.2
Incineration % for solid waste disposed offsite	8
Landfill % for solid waste disposed offsite	28
Recycle % for solid waste disposed offsite	19
Reuse % for solid waste disposed offsite	41

APPENDIX 4: STATUS OF RECOMMENDATIONS RAISED THROUGH SRAP MONITORING

Appendix 4 contains the following for the AGT regions:

- Status of key recommendations raised during previous SRAP Panel visits that were open at the time of the 2008 Annual E&S Report (see Table A4.1); and
- The tables provide a transparent mechanism to demonstrate follow-up and close-out of all actions to address recommendations. The table shows that all SRAP Panel recommendations have been closed and countries reported readiness for the SRAP Panel completion audit. In accordance with the audit scope, each country has selected a contractor to undertake the quantitative survey. After completion of the quantitative survey, the SRAP Panel undertook a qualitative survey as part of the completion audit in Q3-2009. The final report outlines performance against social commitments.

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

Table A4.1: Tracking of Recommendations from Previous Reviews

No	Date	Recommendation	Status as of year-end 2013
1	Apr 2008	BTC to compensate landowners interested by orphan land transactions against the cost of registering the remaining piece of their land (Azerbaijan only).	Azerbaijan – Ongoing
2	Apr 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	Apr 2008	Consider transferring responsibility for implementation of the Employment and Training Management Plan from the Social team to the human relations department.	Turkey – Open (BTC and BIL Social teams are monitoring the Employment and Training Management Plan KPIs as part of monthly social reports)
4	Apr 2008	BTC to commission a mid-term evaluation of CIP 2 no later than Spring 2009.	Azerbaijan – Completed Georgia – Completed
5	Apr 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

No	Date	Recommendation	Status as of year-end 2013
6	Apr 2008	BTC to undertake a survey of households affected by permanent loss of land in 2008 to verify whether each household has been able to restore its income or not. In the case of Georgia, a strategy should be in place by 2008.	Azerbaijan – Completed Georgia – Completed Turkey – Completed
7	Apr 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	Apr 2008	Continued vigilance is required by BTC in Georgia and Azerbaijan to ensure that the important role of the security of the pipeline is carried out in a manner that is appropriate and not antagonistic towards the communities.	Azerbaijan – Ongoing Georgia – Completed Turkey – Completed
9	Apr 2008	BTC 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).	Turkey – Completed
10	Apr 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).	Turkey – Completed
11	Apr 2008	Landowners/users whose names and second crop areas were assessed by BTC and BOTAŞ/DSA should be paid second crop compensation, unless third-party investigation by the Rural and Urban Development Foundation (now known as BNB) gives clear, reasoned alternative recommendations (Turkey only).	Turkey – Completed
12	Apr 2008	BTC 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).	Turkey – Completed
13	Apr 2008	BTC to ensure that reinstatement related issues are reflected adequately in the grievance mechanism (Turkey only).	Turkey – Completed
14	Apr 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).	Turkey – Completed
15	Apr 2008	BIL to complete introductory and follow-up meetings in all villages as soon as possible (Turkey only).	Turkey – Completed
16	Apr 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).	Turkey – Completed

No	Date	Recommendation	Status as of year-end 2013
17	Apr 2008	BIL to resolve current resource constraints (personnel and vehicle) in a perspective of increasing field presence and visibility (Turkey only).	Turkey – Completed
18	Apr 2008	BIL to refresh villagers' awareness about avenues available to lodge grievances (Turkey only).	Turkey – Completed
19	Apr 2008	BTC with BNB as independent monitors to ensure the quality assurance of the grievance management system (Turkey only).	Turkey – Completed
20	Apr 2008	BIL to place somewhere visible within the villages, the number of people employed in each village (Turkey only).	Turkey – Ongoing (BIL states that this will raise expectations. The data is shared in case of complaints or questions asked about local employees)
21	Apr 2008	BIL to train unskilled employees to take up semi-skilled jobs (Turkey only).	Turkey – Ongoing (BTC is providing vocational trainings to local people along the BTC as part of its social investment activities)
22	Apr 2008	BTC and BIL to explore and identify supply chain opportunities for local firms (Turkey only).	Turkey – Ongoing
23	Apr 2008	BTC and BIL to provide targeted support and capacity building to local firms to take up supply chain opportunities (BTC already doing this to a certain extent but should increase efforts) (Turkey only).	Turkey – Ongoing (BTC is implementing SDI projects to develop the capacity of SMEs along the BTC pipeline route- a business development centre is being established in Ceyhan to support start-up businesses and SMEs around the CMT)
24	Jun 2007	SRAP Panel to provide a cross-country framework for livelihood restoration surveys to assure a level of consistency in approach.	Azerbaijan – Completed Georgia – Completed Turkey – Completed
25	Jun 2007	BTC to undertake a survey of households affected by permanent loss of land in 2008 to verify whether each household has been able to restore its income or not. 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	Jun 2007	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

No	Date	Recommendation	Status as of year-end 2013
27	Jun 2007	In all 3 countries, BTC to develop action plans to address/manage situations in which the landowner refuses to sign the land hand-back agreements.	Azerbaijan – Ongoing Georgia – Completed Turkey – Completed
28	Jun 2007	In all 3 countries, BTC 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.	Azerbaijan – Completed Georgia – Completed Turkey – Completed
29	Jun 2007	Regular checks to be made on CIP 1 infrastructure to ensure that they are being properly managed and maintained.	Azerbaijan – Completed Georgia – Completed Turkey – Completed
30	Jun 2007	BTC 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).	Azerbaijan – Ongoing Georgia – Completed Turkey – Ongoing In Turkey each project has a special strategy for AGI affected villages and marine terminal affected villages.
31	Jun 2007	BTC 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 Georgia – Completed Turkey – Completed
32	Sep 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	Sep 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.	Azerbaijan – Completed Georgia – Completed Turkey – Completed Report is awaited from SRAP Panel (Action on SRAP)
34	Sep 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 – Completed Turkey – Completed

No	Date	Recommendation	Status as of year-end 2013
35	Sep 2005	To avoid ad-hoc or piecemeal development assistance, BTC 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 SDI strategy prepared for next 5 years (2012-2016).
36	Sep 2005	BTC to give consideration to adopting a labour standard based on an internationally recognised code or standard, to be applicable to all supply chain contracts with regular monitoring of compliance (carried over from previous review).	Turkey – Employment Standards Review was conducted. The actions will be implemented within 2014. Azerbaijan – Completed Georgia – Completed
37	Mar 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.	Azerbaijan – Completed Georgia – Completed
38	Feb 2004	BTC to continue to reinforce its anti-corruption stance with all levels of government.	Turkey – Completed Azerbaijan – Completed Georgia – Completed

Table A4.2: Recommendations (Azerbaijan and Georgia) and Initial Feedback (Turkey) of the RAP Completion Audit

These tables show recommendations from the RAP completion audit. Most recommended actions have been closed-out by BTC, although some are ongoing. The full status of these actions will be reported once the final audit reports have been received from the SRAP Panel auditors.

Recommendations are prioritised as follows:

High	Actions that are critical to ensure compliance with commitments contained in the RAP, ESAP or World Bank OD 4.30 principles
Medium	Actions desirable to comply with social or resettlement good practice or to address actual or potential areas of social risk
Low	Important actions that are less time critical

Azerbaijan

Issue	Project Principles	Performance	Recommendations	By	Priority	Status
Employees of State Livestock Enterprises	Highlighted in the RAP as a vulnerable group so need to be given care and attention to ensure that livelihoods are protected. Risks identified in RAP are: no direct right to compensation, yet reliant on grazing land for their livelihood (in lieu of wages). At risk of being displaced where there is a prospect of compensation. Often very poor.	According to the head s of the enterprises of Garadagh and Absheron Districts, compensation was received by the enterprises. In the case of Garadagh District this money was transferred to a bank and used to pay salaries of the employees, allocated to a pension fund and used to buy fodder crops. The employees of the State Livestock Enterprises were not included in the quantitative survey as many of the questions were not appropriate to their farming practices and type of impact. Nor was it possible to include them in the qualitative survey as during the time of the survey they were already in their summer pastures.	a. Undertake a qualitative survey of employees of State Livestock Enterprises to verify information from the Head of the Enterprises and assess the extent to which their livelihoods have been restored. The survey should take place in winter 2010.	BTC/SRAP Panel	Condition for RAP completion	Completed

Issue	Project Principles	Performance	Recommendations	By	Priority	Status
Reinstatement of ROW	Reinstate to pre-Project conditions or better before land hand-back. Landowners/users signing of land hand-back documents does not mean that.	Overall the reinstatement has been good and farmers are satisfied. There was an expectation that there would be some reduction in productivity in the first few years following reinstatement and this had been taken into account in the compensation. The land hand-back documents have been signed by almost all affected farmers. From the investigation for the completion audit, there are some areas where farmers are experiencing problems, related to issues such as irrigation and stones in the fields etc. It is also true to say that in some cases potential problems with reinstatement only emerge over time as the land is farmed and/or as weather conditions reveal gaps.	b. BTC should retain an experienced and respected local agricultural specialist to complete a review of reinstatement of Project affected arable land. The review should have 3 functions: (1) to identify those farms where reinstatement is incomplete or has left constraints on cultivation; (2) to assess the value of lost production or impaired yield for the period beyond 3 years after construction completion, payable to the farmer as compensation; and (3) to recommend and monitor BTC remedial measures. This is necessary because as recognised by the SRAP Panel as time passes it becomes difficult to attribute problems to construction of the ROW. Equally important however is that some problems related to reinstatement only emerge with time. c. A budget to be made available to carry out remedial works.	BTC	Priority	Completed
Access strategy	While driving on the ROW was to be prohibited per ESAP principles, a MOC has made it possible to occupy a 6m strip within the ROW, which is dedicated to driving by EPPD for the period January to December 2008. The Addendum to the RAP accompanying this applies the same principles as for the main land acquisition carried out for the ROW.	Land hand-back has been carried out without reinstatement. Recent communication from BTC states that 120 km are to be reinstated. BP now only using horse patrol. EPPD continues to use vehicle patrol. BP has developed a strategy to influence EPPD to change to horse patrol only. The period over which this is to be achieved is not stated. 29 sections of the access track have been identified as needing reinstatement. Some of these sections have been reinstated.	d. A comprehensive status report of the access strategy with a time-bound action plan for closure to be shared with the Lenders before developing a way forward. e. Check owner/user satisfaction with reinstatement of those sections of the access track that were reinstated.	BTC	High	Completed

Issue	Project Principles	Performance	Recommendations	By	Priority	Status
BTC Social team and CLOs	Positive community engagement is essential in not only mitigating negative impacts but also ensuring protection of the pipeline.	BTC Social team and the CLOs in the field have been doing an excellent job in understanding concerns and also building a good relationship with the community.	f. BTC operations should maintain a strong field and Baku based Social team that can continue to work closely with the community as it evolves.	BTC	Medium	Completed
AGI affected households	Livelihood restoration for all Project-affected people.	Quantitative survey showed that 3 households out of 10 surveyed said that BTC had a small negative impact on their livelihoods.	g. Check livelihood situation of AGI households that have experienced a negative impact.	BTC	Medium	Completed
Chobanabdali land boundary issue		Centre for Legal and Economic Education is carrying out some work on land certificate changes that were to be issued in March 2010.	h. The output of this work needs to be made available to the SRAP Panel as a part of RAP completion.	BTC	Medium	Completed

Georgia

Issue	Project Principles	Performance	Recommendations	By	Priority	Status
LAND						
Completion of land exit agreements	Use of land to be restored to former owners upon construction completion.	The Lands team has completed 83% of land use/servitude agreements. It is targeting 86% (all locatable owner/users) by mid 2010.	i. Complete outstanding land access and exit agreements with all locatable landowners by mid-2010.	BTC	High (by end of July 2010)	Completed
Compensation for absentees	Mechanisms for fair and transparent compensation for land acquired from private owners including for absentee owners are established. (RAP Part C, Section1.8).	BTC has made reasonable efforts to locate absentee owners, but it is likely that payments to about 480 unlocatable owner/users will be delayed until such owners/users come forward sometime in the future. See Section 2.1.6.	j. Establish a register of absentee owners to include (i) documentary evidence of the efforts that have been made to establish the whereabouts and make contact with each absentee; and, (ii) to define the compensation payable to them upon their signing of land use and servitude agreements.	BTC	High (by end of July 2010)	Completed
			k. Block funds to cover absentee payments into an interest-bearing Georgian bank account to be held in trust until such time as claimants come forward for agreement signing.	BTC	High (by end of July 2010)	Completed
Management of operations phase land acquisition		A satisfactory RAP completion audit will signify the ending of RAP commitments as defined in the Construction ESAP. Some minor ongoing land acquisition is likely. BTC Georgia has prepared a draft management plan to cover future operations phase land acquisition. This needs to be finalised and adopted.	l. Complete the Georgia Land Acquisition and Economic Displacement Management Plan to cover any incidental operations phase land acquisition activities and adopted as part of the BTC E&S management framework.	BTC	High (by end of July 2010)	Completed
LIVELIHOOD RESTORATION						
Soil reinstatement/crop yield impairment	To give Project-affected landowners and users the opportunity to fully restore or improve their livelihoods.	Agricultural expert monitoring indicates that most pipeline corridor users are close to achieving equivalent to without-project crop yields, but some cases of impaired crop yield persist. Land handed back within the last 2 years needs to continue to be monitored.	m. Extend agricultural expert monitoring for 2 more years (or not less than 3 years after latest land hand-back) and continue crop yield top-up payments as warranted by their findings.	BTC	High (Contract with experts in place by end of July 2010)	Completed

Issue	Project Principles	Performance	Recommendations	By	Priority	Status
		With a few exceptions, most active farmers have resumed cropping on their project affected arable lands. Some farmers have never utilised or derived livelihood from their affected land, but may choose to do so some time in the future.	n. Develop clear principles for eligibility for top-up payments, i.e. the payments need not be extended indefinitely for farmers who decide, say, in 5 years time, to start using their Project-affected land for the first time.	BTC	High (by end of July 2010)	Completed
INFRASTRUCTURE REINSTATEMENT						
Wear and tear on village infrastructure (especially roads/farm roads) caused by BTC activities	Mitigate damage caused to community infrastructure.	BTC makes regular use of some village roads and farm roads to access its facilities. Municipal governments often do not allocate budget or resources for maintenance of such roads. Their condition can be poor. BTC may potentially become a target for claims to reinstate roads it uses due to perceptions that it has resources.	o. Identify situations where the BTC use of land, village or farm roads might reasonably be linked to some obligation to contribute to maintenance - enter into a formal agreement (BTC, villages, municipality) specifying the extent of such roads, type of BTC use and roles and responsibilities (BTC vs. village vs. municipality) for ongoing maintenance.	BTC	High (by end of 2010)	Completed
PUBLIC CONSULTATION AND DISCLOSURE						
Effective community communications	Communities to be regularly consulted and kept fully informed about BTC activities.	There are a small number of villages where some residents cannot effectively communicate in Russian or Georgian. The Community Communications Plan does not explicitly address this situation.	p. Revise the Community Communications Plan to identify those villages where a translator (Armenian, Azeri) is necessary to effectively communicate with residents who do not speak Russian or Georgian.	BTC	High (by end of July 2010)	Completed
SOCIAL MANAGEMENT SYSTEMS AND RESOURCES						
Social team resources	The Community Liaison team established for (BTC/SCP) Operations will consist of at least a Social Team Leader and no less than 3 field CLOs in each country Community Liaison Management Plan (See Section 3.2.1)	The Social team for BTC/SCP operations had a Social Team Leader and 2 CLOs. One of the 2 CLOs has administrative responsibilities that reduce his field presence.	q. Appoint a third floating CLO for BTC to cover regular CLO downtime and as a potential successor if a CLO incumbent moves on.	BTC	High (by end of July 2010)	Completed

Northern Section, Turkey

Issue	Project Principles	Performance	Recommendations	By	Priority	Status
LAND						
Understanding of land technical issues	Clear and transparent procedures for acquiring land. Robust processes for consultation and information dissemination.	In some villages (e.g. Yeniköy) where there were complex ownership issues such as village claims over Treasury lands, or *zilyet* disputes, some landowners remain confused about the status of their land.	r. BIL CLOs to develop a short list of villages where there are ongoing landowner concerns about land status for follow-up visits by the DSA or Local Cadastral Office to assist understanding.	BTC/BIL	Moderate	**CLOSED:** BTC and BOTAŞ/DSA carried out a separate field study in 2006 and 2007 on misidentified zilyet owners, prepared list of villages and affected landowners together. Then closed-out all valid complaints related with misidentification of zilyet issues by making second payments for the same parcels to the right owners. The process has been monitored by the third-party NGO. This NGO's view on effective close-out of these complaints was stated in their readiness statement sent to the SRAP Panel earlier. There is no zilyet land in Yeniköy since cadastral survey was conducted long before BTC acquisition. Therefore, this comment is not understood by us. Land exit protocols signed for all parcels (in total 74) in Yeniköy during land exit process. In addition, BIL CLOs and BTC E&S team visited all villages along the BTC route including Yeniköy village to discuss open complaints in 2009. Most of the complaints were related to reinstatement issues, all of which were resolved as part of reinstatement activities carried out by BTC between 2009 and 2011. BTC's Social team conducted an internal audit in April and May 2010

Issue	Project Principles	Performance	Recommendations	By	Priority	Status
						and checked the status of complaints in all locations through the trackers. They confirmed these complaints through interviews with complainants. No outstanding land acquisition issue was observed during this audit.
Temporary land for camps (PT 1, PT 2)	Return land to owners for use to minimise impact on livelihood.	In each location where BTC was renting land for camps, there were requests from landowners to know how much longer their land would be required.	s. BIL/BTC to develop firm plans about the future of camp lands and provide clear information to affected landowners about when their land will be returned to them.	BTC/BIL	High (by end of March 2010)	**CLOSED:** BIL conducted a field study in late 2009 and identified locations where they can hand-back to original owners in all camp stations. 38% of the lands in all camp locations were handed back to original landowners and new agreements signed for those parcels that will be used for the operation. BIL made payments to all landowners living in the villages. BTC offered BIL to expropriate these locations permanently. BIL is carrying out a detailed study to identify the locations where they will build permanent buildings in the future. Then the land will be expropriated in line with the RAP standards.
LAND REINSTATEMENT						
Reinstatement	Restore land to pre-project condition upon construction completion.	Working ahead of the final reinstatement taskforce, it was clear that there were a significant number of complaints that had not been captured on the task force's defects list. There is a risk that the reinstatement task force will pass by leaving a significant number of unresolved reinstatement complaints.	t. BIL/BTC to make greater effort to notify project affected villages and landowners of the pending visit by the reinstatement task so that a complete defects list is developed prior to its arrival.	BTC/BIL	High (ongoing)	**CLOSED:** Another survey was conducted to identify additional complaints that were not in the list. A complete list was prepared by BTC and the scope was provided to the Contractor company. The company reinstated all areas in the pipeline route. In fact, the contractor completed many additional works as good will gestures when they were in the field.

Issue	Project Principles	Performance	Recommendations	By	Priority	Status
PT 1 SOGUTLUKAYA						
Disputes about landownership and entitlement for rental payments	Systematically identify landowners and determine their eligibility for compensation.	There is widespread confusion amongst Project-affected landowners about who are the rightful owners of the land under the PT 1 temporary camp. One set of landowners received rental payments from BOTAŞ during the construction period. Some different landowners are allegedly receiving rental payments for the same land from BTC, post-construction. Landowners have requested a cadastral plan to clearly show ownership.	u. Either DSA to provide a cadastral plan for land under the temporary camp and to meet with affected landowners to clarify ownership; or, the General Directorate of Title Deed and Cadastre should be approached to resurvey the area (Given the level of confusion and bitterness on the ground, the latter option is preferable).	BTC	High (by end of 2010)	**CLOSED: The** cadastral survey carried out in north-east Anatolia by the General Secretary of Cadastral office in 2008 and 2009 clarified the ownership status of the land in these villages (this is outside the scope of the BTC Pipeline Project). However, by the time of the SRAP audit there were rejections to the Cadastral survey results. Some of the landowners rejected the results at court. The court process completed. Meanwhile BIL stopped payments until resolution of court cases. When the process was completed, BIL signed the new rental agreements with the newly identified owners. This issue is resolved.
			v. Based on the outcome of the cadastral investigation, the rightful rental payment recipients should be identified and, where necessary, paid rental due. Landowners who incorrectly received rental payments should not be unduly penalised.	BTC	High (by end of 2010)	**CLOSED:** As stated above, all new landowners identified through cadastral survey received rental payment for 2010. Landowners who incorrectly received rental payments in the past are not penalised.
Loss of grazing land/impact on Söğütlükaya's herd carrying capacity.	Restore/improve livelihoods of Project-affected households.	Some villagers claim that BTC/the State alienated a large part of Söğütlükaya's prime grazing land for PT 1 and related works. There is limited alternative land available for lease. This has forced them to reduce their livestock herds. Others observe that active farmers are elderly. Young people are not interested in	w. BTC to obtain information on total Sogutlukaya village land resources from the Ministry of Agriculture and Rural Affairs and have a livestock expert assess the impact of the BTC Pipeline Project/PT 1 land-take on village land/grazing resources. If BTC land-take is found to be a significant factor in decline of village livestock	BTC	High (by end of July 2010)	**CLOSED:** Söğütlükaya village owns 316ha pasture lands in total. 13.4ha of land was permanently expropriated and an additional 11ha of land rented for the campsite. At PT 1 site location, 42% of the parcels is owned by the state and 58% of the parcels is owned by private people. That means not all parcels are commonly owned pasture

Issue	Project Principles	Performance	Recommendations	By	Priority	Status
		farming and are leaving for jobs in cities. The village population is rapidly declining. Static livestock prices and rising input costs mean returns from livestock farming are marginal. These factors also account for the villages diminishing livestock herds.	herds, an appropriate mitigation programme should be designed and implemented.			lands/state lands. Despite this fact, even if we consider all of these private lands as pasture land, in total 8% of the pasture land owned by Söğütlükaya is currently used for BTC operation (including camp site). Livelihood Impact assessment for all AGIs including PT 1 was already carried out by University of Ankara, Department of Agricultural Economy in 2003. In Söğütlükaya, loss of income arising from the damages for the common land owned by the Treasury but used by the villagers for grazing purposes was identified as 28.8 billion TL and this was paid to village budget from RAP Fund. In 2005, another impact assessment study was carried out for AGI affected villagers. The AGI survey report was shared with the SRAP Panel. They concluded in their report as "The overall analysis of the research results reveals that no significant impact is expected on owners or users of land expropriated, be it for land take to farmland ratio below 10% or above. The fact that there was not any significant change in agricultural and household income levels of owners and users from pre-expropriation period to post-expropriation and that the levels of the said income remained above the sufficient farm income indicate that taking any measures for impact alleviation is not necessary." In addition, in the last quantitative survey conducted by SRAP Panel

Issue	Project Principles	Performance	Recommendations	By	Priority	Status
						for RAP close-out audit in 2008, where AGIs affected landowners were given priority and according the statistical results there is no significant difference in the income levels of affected and unaffected households at PT 1. Finally, BTC through its CIP has been supporting animal husbandry and agricultural activities through providing qualified seeds, conducting animal vaccination, artificial insemination, etc. in every village. However, priority is given to AGI affected settlements. External audits proved that CIP helped to increase villagers' income level, in addition to compensation measures mentioned above.
Sogutlukaya concerns about contamination of the village water supply		Villagers expressed concern that their water supply is being contaminated by run-off/recycled water from PT 1. There were requests for water supply to be routed down an alternative stream bed upstream of PT 1. A new water pipe crossing of the BTC line was being installed by the villagers at the time of the audit.	x. BTC to monitor village concerns about water supply following completion of the new pipe installation. If warranted by continued high levels of concern, BTC to instigate regular testing of water as supplied at the village to address concerns.	BTC	High (by end of July 2010)	**CLOSED:** Building of a new domestic water pipeline was requested by the villagers of Söğütlükaya village. The reason was not the contamination of the water as reported here. It was actually because the physical life of the existing pipeline was completed. BTC delivered a new water pipeline outside the fences of PT 1. No remaining complaint regarding this issue is left. Necessary tests are conducted to the samples taken by a third-party environmental organisation on monthly basis. No issue has been raised by the third-party with regard to contamination of water supply in Söğütlükaya.

Issue	Project Principles	Performance	Recommendations	By	Priority	Status
Sogutlukaya concerns about contamination of the livestock water supply		Villagers reported that cattle drinking from the water trough below PT 1 sometimes made their animals sick. They were concerned.	y. BTC to determine whether or not there is a risk that run-off/recycled water from PT 1 is discharged into the water supplied to livestock troughs.	BTC	High (by end of July 2010)	**CLOSED:** BIL have conducted monitoring on 11.08.2010 from the trough, site perimeter channel and the downstream point of the stream. According to the results, the Total Coliform was measured as 23 MPN/100ml at the site perimeter channel inlet point (that can be considered as the upstream of the stream and the trough) whereas measured as 460 MPN/100ml at the trough and the stream (20 times greater). Ruling out any analytical errors, this can be attributed to the presence of another source of contamination affecting the trough and the stream itself which can be: • On the way from the perimeter channel inlet to the stream and the trough (in other words through the perimeter channel itself); or • Already existing on the stream bed and inside the trough naturally. However the source of contamination cannot be clearly identified as there is not enough evidence. In addition, BTC's environmental contractor (Golder) has conducted monitoring on 3 August 2010 from the trough and the site perimeter channel. No contamination was observed at both monitoring points according to the results. In summary, the evaluation of the BIL's and Golder's analysis results did not provide an evidence of any

Issue	Project Principles	Performance	Recommendations	By	Priority	Status
						PT 1 related discharge that would justify the community complaint.
PT 2 COGENDER VILLAGE						
Flood control	Avoid/minimise physical and economic displacement.	Following the March 2008 floods, the PT 2 access road has been raised and flood control measures installed for PT 2. No permanent measures have been designed or constructed to ameliorate flood risks and damage to up- and downstream landowners adversely affected by the BTC works. Landowners are concerned by risks and frustrated by lack of consultation and information they have received about corrective actions being taken.	z. In consultation with affected landowners, BIL/BTC to complete design and construction of permanent flood control measures to protect land, crops and structures of adjacent landowners to an immunity level equivalent to the 'without Project' condition. aa. BIL/BTC to pay particular attention to ensuring that owners are consulted and kept fully informed about progress throughout the design and implementation process.	BIL/BTC	High (by end of July 2010)	**CLOSED:** BTC conducted several meetings at PT 2 village, Çöğender and completed the detailed design of PT 2 Flood permanent mitigation measures. Concerns and suggestions of the landowners and village muhtar were also considered during the design phase. BIL has now finalised the construction of PT 2 flood permanent mitigation measures. **CLOSED:** Landowners participated in the site investigation on PT 2 flood permanent mitigation measures together with BTC, BIL, BOTAŞ/DSA, Gendarmerie commander. In addition, BOTAŞ/DSA informed that the expropriation of the required area for dam and main culvert construction was finalised. BIL CLOs were also involved in the consultation process. BTC monitored the potential impacts of the issue and take additional measures if the design will create any unexpected problems in future.
Reinstatement of off-ROW spoil disposal sites	Restoration of productive land to pre-Project condition.	4 Çöğender landowners (remote from the ROW) signed contracts with a BTC construction contractor to enable 50,000 m^3 of spoil to be placed on their land. Under the terms of the contract the land was to have been levelled and restored with topsoil cover. The land was not properly reinstated. It was observed to	bb. BTC to ensure that such off-ROW project affected lands are covered by the ROW Reinstatement team. The land of the 4 Cogender landowners (and any other owners who have experienced similar problems) should be restored to a fully productive condition. To the extent possible, owners should be	BTC	High (by end of July 2010)	**CLOSED:** BTC investigated the issue. Muhtar and other villagers stated that this area was rocky and dry before the BTC Pipeline Project. They stated that it was not productive and even the landowner used to cultivate the land every 3 years since he could get harvest on yearly basis. However, BTC still reinstated the land by bringing productive soil and cleaned up

Issue	Project Principles	Performance	Recommendations	By	Priority	Status
		be uneven, rocky with patchy topsoil cover leading to a stunted and uneven crop.	compensated for the impaired 2009 crop.			rocks on this land during remedial activities in 2009.
Pasture access and PT 2 road (livestock losses)	Adversely affected farmers to be compensated for any damage or losses incurred as a result of BTC Pipeline Project activities. Project affected farmers to be facilitated to restore their livelihoods.	PT 2 road has historically been used by 100 Cogender households to access village cow pastures for 7 months of the year. 100-120mm dia. crushed rock used to line PT 2 access road side drains has led to damage to calves' legs/trotters leading to stock being put down. The village has rented alternative pasture for calves to avoid using the road (1,500L/3 months) as a temporary solution.	cc. BTC/BIL, in consultation with the Cogender farmers, to investigate permanent solution to enable farmers to resume normal access of their pasture lands. dd. BTC to investigate extent of losses (calves, cost of temporary pasture) incurred by village and develop an appropriate compensation response.	BTC	High (by end of July 2010)	**CLOSED:** BTC built approximately 4 km road late 2009. It is much longer and wider than the initial path way, they used to use to access to their pasture lands. **CLOSED:** Damage to animals were investigated but could not be proved. Therefore it is difficult to justify this claim to consider compensation. About renting an alternative road and making payment about 1,500TL/3 months: The village Muhtar and other elders committee stated that it is the first time they heard this issue. They did not rent an alternative road to access to their fields. The villagers signed a compliant close-out letter. BTC has a special CIP strategy for AGI affected villages including Çöğender. BTC has supported several projects in the village (including drinking water, village road, multi-purpose village common house, shepherd house, animal husbandry and agricultural trainings, vaccination and artificial insemination of several animals) and will continue to support these villages.

Southern Section, Turkey

Issue	Project Principles	Performance	Recommendation	By	Priority	Status

Issue	Project Principles	Performance	Recommendation	By	Priority	Status
LAND						
Payment of compensation for land affected households, where land is in multiple ownership.	Payment of compensation before land entry.	There are still a number of outstanding cases on title deeds transfer for land in multiple ownership. Thus compensation cannot be paid. Reasons vary, in some cases title deeds cannot be transferred because not everyone is available, in others some people may be unwilling or unable to pay the administrative costs. Often the amount of compensation due is very limited and the urgency to receive the compensation varies between shareholders.	ee. BIL CLOs and DSA to develop a short list of villages where there are ongoing compensation issues and to develop a time-bound strategy for resolving these.	BTC/BIL	Moderate	**CLOSED:** The list of villages where the land acquisition process is not completed is being prepared and submitted to BTC on regular basis by BOTAŞ/DSA. 98.12% of the acquisition is now completed. The remaining ones are due to ongoing court cases. However, we would like to underline the point that in all court cases (Art 27) BOTAŞ paid the value of the parcel to the bank account prior to access and shareholders will receive their parts when the shares are identified by the court. BTC even accepted to pay the legal cost of administrative tasks, transportation costs, etc from RAP fund if the multiple shareholders can come together for transfer of ownership right; however, the remaining cases are generally related with absentee owners. The issue cannot be resolved without a court decision. All shareholders will receive their shares with interest at the end of the court case.

Issue	Project Principles	Performance	Recommendation	By	Priority	Status
LAND REINSTATEMENT						
Reinstatement	Restore land to pre-Project condition upon construction completion.	Working ahead of the final reinstatement taskforce, it was clear that there were a significant number of complaints that had not been captured on the task force's defects list. There is a risk that the reinstatement task force will pass by leaving a significant number of unresolved reinstatement complaints.	ff. BIL/BTC to make greater effort to notify project affected villages and landowners of the pending visit by the reinstatement task so that a complete defects list is developed prior to its arrival.	BTC/BIL	High (ongoing)	**CLOSED:** Another survey was conducted to identify additional complaints that were not in the list. A complete list was prepared by BTC and the scope was provided to the Contractor company. The company reinstated all areas successfully. In fact, the contractor completed many additional works as good will gestures when they were in the field.
Productivity problems due to problems with reinstatement	Restore land to pre-Project condition upon construction completion.	There are a number of areas where productivity has reduced substantially or farmers have not been able to farm at all. Some are enquiring whether they will be compensated further for this loss.	gg. BTC and BIL to develop a clear strategy for productivity loss due to reinstatement problems with the use of an agricultural expert.	BTC/BIL	High	**CLOSED:** BTC identified areas that needed to be reinstated though external agricultural experts and the reinstatement of those areas were completed between 2009 and 2011.
Reinstatement of village infrastructure	Affected village infrastructure to be restored to at least pre-Project level if not better.	There are still a number of outstanding grievances related to village infrastructure impacted during construction. For instance in Çığcık village where roads damaged during construction were reinstated but problems remain due to subsidence.	hh. A systematic appraisal should be carried out of the status of village infrastructure impacted through review of the grievance log and CLO knowledge of the area.	BTC/BIL	High	**CLOSED:** During construction, BOTAŞ Project directorate and its contractors used entry and exit protocols for village roads. All roads used by the project were reinstated however, even after 6 years, villagers expect BTC to continue reinstatement when the roads are damaged naturally. This is an issue in some other parts of the pipeline as well. BTC cannot be responsible for any damages caused after reinstatement of these roads. With regard to the complaint in Çığcık village: In complaints' tracker, complaints no: 597, 605, 625, 630 related to the same issue in

Issue	Project Principles	Performance	Recommendation	By	Priority	Status
						Yukarıçıyanlı, Yenigün, Topraktepe and Cığcık villages were defined as not legitimate. Because these roads are village roads and should be repaired by District Special Administration. However, there were other complaints No: 621, 622, 623, and 624 in Topraktepe and Cığcık villages. Complaints were assed in Lot C reinstatement Scope during the reinstatement activities in 2011. Most of these complaints were related to land roads defined as not affected by BTC.
COMMUNITY LIAISON, GRIEVANCE MANAGEMENT						
Grievance log management	Timely acknowledgement and corrective action to address grievances	Entries in grievance log are not always correct. For example, in Akifye village a complaint checked by the SRAP Panel was found to have not only been recorded under the wrong name, but also wrongly recorded as being closed-out.	ii. A mechanism should be developed to check the grievance log. This could be a combination of	BTC/BIL	Moderate	**CLOSED:** BTC and BIL PCREs went through all of the complaints in 2009 and corrected/clarified these complaints prior to reinstatement activities. BTC also checks the list of complaints on quarterly basis through grievance log and through site visits. Moreover, monitoring of the complaints is also done through internal audits of BTC both 3-country audit and BTC Turkey internal social audit on yearly basis.
Information Dissemination in particular to vulnerable groups	Communities to be kept informed about project and avenues for lodging a complaint.	There are still instances of grievances from the construction phase. Some were not reported. Vulnerable groups in particular are either reluctant to make a grievance or are unclear of the avenues	jj. BIL CLOs to have clear systematic procedures in place for regular community engagement and information dissemination, paying particular attention to vulnerable groups	BTC/BIL	Moderate	**CLOSED:** BTC prepared community leaflets and distributed the CLOs contact details to every single village. In addition, village information boards were established in the villages where contact details

Issue	Project Principles	Performance	Recommendation	By	Priority	Status
		available. Communities also need to be aware of avenues for lodging a complaint during the operations phase.				are presented. BIL PCREs are regularly visiting the villages as part of their daily work. ROW Monitoring and Maintenance teams who are working closely with PCREs are at site every day. Villagers can access to BIL if they want to. The number of complaints from various villages proves that the system is working. In 2011, BTC and BIL refreshed land use restriction and third-party crossing procedures through an awareness campaign in all villages along the route. A film was produced and new brochures were distributed to landowners in all villages again. In addition to complaint management mechanism, vulnerable groups are dealt within the CIP scope. Priority is given to vulnerable people in all CIP projects such as beekeeping, greenhouse, animal husbandry, etc. In case of any complaint raised by vulnerable groups to CIP IPs, these are transferred to BIL.
LONG-TERM PIPELINE PROTECTION						
Application for third-party crossing		The qualitative survey showed that there are very few farmers who know the procedure for making an application for a third-party crossing.	kk. BIL CLOs to develop a system of continued information refreshment and update.	BIL	Moderate	**CLOSED:** BIL PCRE's are giving information and training to all public institutions and villagers about these procedures periodically and when it is needed refreshment trainings are delivered. BIL Technical team is now managing the third-party

Issue	Project Principles	Performance	Recommendation	By	Priority	Status
						crossings issue together with the ROW Monitoring and Maintenance team. This team is at site all the time monitoring the land use on the ROW. The decrease in the violations indicates that there is more systematic approach to third-party crossings issue. In addition, BIL and BTC initiated another awareness campaign on land use restrictions and third-party crossings in 2011. Training materials were prepared by BTC (films and brochures etc.).
CAMP IPT 1						
Rental price for land	Landowners/users to be appropriately compensated for Project use of land	Affected farmers complained that the yearly rental price had been negotiated 5 years ago. Moreover at the time of the negotiation they had been told that the land would be rented for 1 year only.	ll. BTC/BIL to review rental agreements on land used for camp and at the same time to give clear information on duration of future use.	BTC/BIL	High	**CLOSED:** BIL have conducted a field study in late 2009 and identified locations where they can hand-back to original owners in all camp stations. 38% of the lands in all camp locations were handed back to original landowners and new agreements signed for those parcels that will be used for the operation. BIL made payments to all landowners living in the villages. BTC offered BIL to expropriate these locations permanently. BIL is carrying out a detailed study to identify the locations where they will build permanent buildings in the future. Then the land will be expropriated in line with RAP standards.

CASE STUDY 1

EROSION CONTROL ACTIVITIES
at RIVER CROSSINGS (RVXs) along AzEXPORT PIPELINES

Goal:

The main goals of erosion control activities at river and canal crossings (RVXs) along the Az Export Pipelines (BTC, SCP, WREP) are to maintain the integrity of oil and gas pipelines, prevent loss of primary containment, stabilize river and canal banks, and minimize water pollution from soil erosion and hydrocarbon leaks (should any of these events occur).

Achievements/status:

A number of successful erosion control activities have been completed at such river crossings as Asrikchay, Kurekchay, Kura East, Goshgarchay since the beginning of 2013.

Erosion control activities included:

- ✓ -Different techniques of bank and river bed reinforcement. Some examples of these techniques are installation of gabions, Reno- mattresses, dams from riprap stones.
- ✓ -Demonstration of 'one team' spirit and collaborated effort by all involved disciplines/teams in delivery of erosion remediation projects.
- ✓ -Agreement reached with MENR regarding all major river crossings and relocation of plants from banks and riverbeds.

Currently, erosion control activities are underway at Ganjachay and Tovuzchay River Crossings

Before: Turbid water entering the main watercourse

After: Straw bales installed to filter out turbid water before mixing with the river flow

Challenges:

The issue with River crossings is:

- ✓ Identification of suitable access roads which meet HSE requirements as well as well as take into account social aspects of driving through adjacent villages
- ✓ -Contractor management and compliance with applicable BP environmental procedures

CASE STUDY 2

FIRST TEST OF THE WILDLIFE RESPONSE PREPAREDNESS FOR READINESS, RESOURCE AND COMPETENCY AT KP11+709

Wildlife Response Preparedness for Readiness, Resource and Competency is an initiative developed to ensure that BP has procedures/processes in place to respond in an efficient manner to incidents that may threaten or lead to oiled wildlife.

In Georgia, a key element of this initiative was the establishment of the Wildlife Response Center, located adjacent to the PSG 1. The Center is managed by NRC, the major oil spill response vendor.

Bird handling techniques

Blood testing

On on 27 September 2013 the first regional Wildlife Response Level 3 exercise was conducted to test the level of preparedness and response.

Focus areas covered during planning of the Wildlife Response exercise were:

- ✓ A review of high conservation areas, such as Jandari Lake, which is located near the BTC ROW ;
- ✓ Re-evaluation resource sensitivities using recent monitoring data and comparing this against previously baseline data sets collected as part of the original EIA;
- ✓ A review of the tiered response system to ensure compatibility with response needs; and
- ✓ Review of system tools such as protocols, equipment, facilities, personnel (including training), communication (for example with NGOs, State institutions, external and internal observers), de-contamination/waste management scheme, record-keeping, and post incident evaluation.

Prior to the exercise, multiple training and awareness-level raising sessions were conducted with all 3 OSRB NRC personnel. In addition, a table-top exercise at was conducted at the PSG 1 OSRB in August with internal and external resources. Familiarisation with the Level 3 exercise scenario processes/tools, modern wildlife response appliances, the BP wildlife response strategy and testing of the communication plan was also undertaken.

Exercise activities consisted of 2 phases:

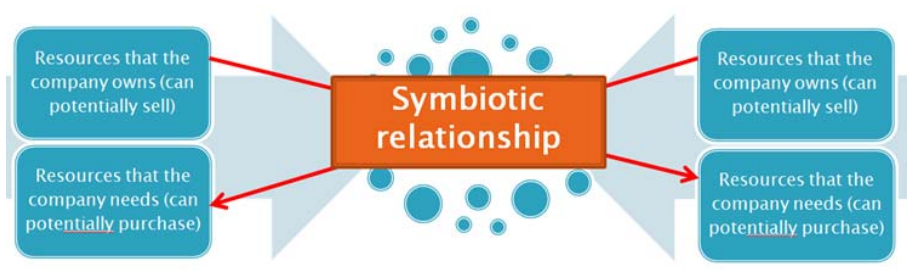
- ✓ Phase 1included testing of wildlife conditioning tools around Jandari Lake, tagging, testing hazing guns, conditioning of birds and turtles, and preparation for transportation to Wildlife Response Center; and
- ✓ Phase 2 involved testing of wildlife stabilisation tools/processes at Wildlife Response Center PSG 1 including veterinarian treatments, feeding, water hardness, detergents, pet dryers, swimming pools. Sharing of lessons learnt from both the table-top and in-situ exercises, communication of findings/recommendations, and agreement with parties involved also formed part of Phase 2 activities.

CASE STUDY 3

INDUSTRIAL SYMBIOSIS IN ISKENDERUN BAY (TURKEY)

Industrial symbiosis (IS) refers to the gathering of two or more industrial enterprises that usually operate independently of each other, and establishing a long-term partnership between them to increase environmental performance, competitive power, and their operation in solidarity. This co-operation involves the sharing of any kind of assets, logistics and know-how sources, including materials, energy, water or by-products.

Inspired by this concept, BTC started a symbiosis project in Iskenderun Bay to contribute to the management of cumulative risks in an area that is rapidly industrialising and that accommodates the Ceyhan Marine Terminal.



This project has been one of the best examples of a corporate responsibility project of BTC leading the effort to bring companies in the region together with universities, public institutions and other relevant stakeholders to initiate very first examples of IS in the region. The project has been implemented by the Turkish Technology Development Foundation in co-operation with Industrial Synergies Limited, the National Industrial Programme in UK and the Environmental Engineering Department of Middle East Technical University.

Various feasibility and networking activities have been held in Turkey since 2009 to introduce the idea to the 27 participating companies, with the direct support of five universities. Through these activities, over 400 IS possibilities were identified in the region with the project selecting eight of them to support as a pilot venture. These eight exemplary projects have shown that 330,000t of waste, on average, could be handled per year. This is equal to the amount of domestic waste produced by a city with a population of 1.5 million. It is also reported that net earnings of US$6 million could be provided by manufacturing 280,000t of 'product' per year. This 'product' would otherwise constitute either waste or material or very little commercial value or re-use potential. The project has been proven to reduce carbon emissions by 37,000t per year and provide water consumption savings of 6,500m3.

An R&D brokerage event in collaboration with Adana Trade Chamber, Adana Trade and University Joint Research Center (ÜSAM) and Çukurova University was also held. This event provided a forum for discussions around sustainable production activities and featured more than 40 projects presented by 15 universities/research centers and 14 private sector organisations. The bilateral negotiations were also held to improve co-operation between the researchers, industrial organisations and other stakeholders.

A regional IS network was developed to bring stakeholders together to foster further IS initiatives in the region. During 2013, the network expanded to include 90 companies, four ministries, five universities, 18 development agencies, and 32 local organisations, including NGO's. The network is expected to expand further on a continuous basis.

Sustainability of IS has gathered very promising opportunities. The Ministry of Development held a meeting and invited project partners to talk about their experiences with the project to 26 regional development agencies in Turkey. After the meeting, 19 agencies integrated IS in their regional plans. This means they will be providing funding to IS initiatives in the next funding period. It was also reported that these 19 agencies cover over 90% of the industry of Turkey. Further initiatives were taken to ensure sustainability. Meetings were held with Çukurova Development Agency (ÇKA) and ÜSAM in order to discuss options for the sustainability of IS in the region. ÜSAM was considered as a candidate for a local interface and a project concept was submitted to British Embassy to get support for further activities in the region. Additionally, EU's new R&D and innovation support programme, Horizon 2020, was also evaluated in a general framework with the same purpose. These are expected to be materialising in the next reporting period. The results of the project are planned to be shared with a wide range of stakeholders in the region. For more information, please visit: http://www.endustriyelsimbiyoz.org/.