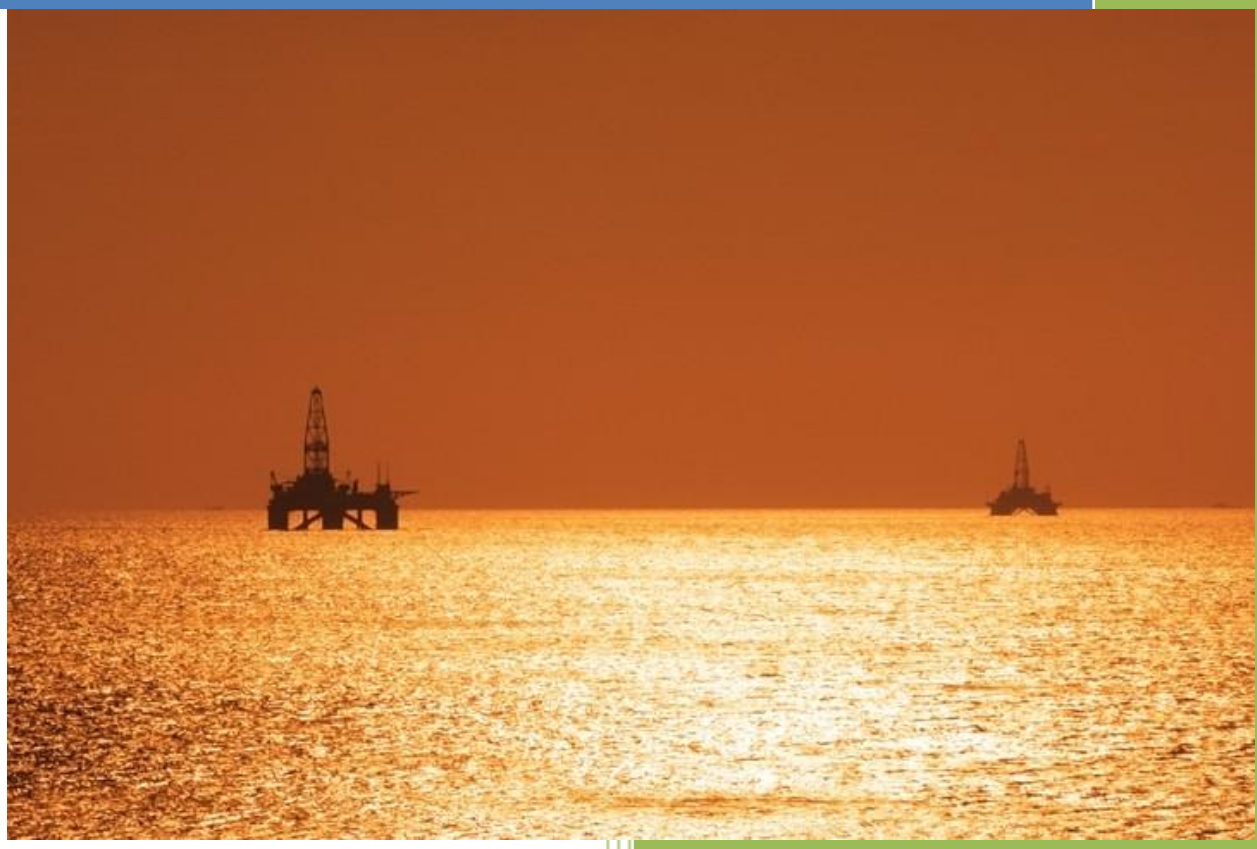
Hidden in Plain Sight: Environmental and Human Rights Violations in the Turkmen Section of the Caspian Sea



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CRUDE ACCOUNTABILITY

This report was produced by Crude Accountability, with assistance from the Turkmen Initiative for Human Rights. Crude Accountability is an environmental and human rights organization working with local communities in the Caspian Sea and Black Sea basins that are impacted by oil and gas development.

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Hidden in Plain Sight:
Environmental and Human Rights Violations in the Turkmen Sector of the Caspian Sea

Introduction

International and state oil companies and authoritarian governments, believing that they can successfully conceal information from the public, have a long history of failing to disclose environmentally and socially relevant data to the communities where they work. They fail to share information about emissions and toxins and omit long term impacts; they tend to focus on the present, on the possible, and on the potential benefits of the projects they fund. They look at revenue streams, engineering solutions and employment statistics, but they often hide the information most relevant to communities impacted by their projects—the direct environmental and social costs of what they do and the costs to the environment in the places where they work.

This approach, however, is becoming increasingly difficult to maintain. Contemporary technology makes it harder and harder to keep secrets, particularly when it comes to the physical world around us, and especially when an active civil society is working to access the information to which it is entitled. Most countries have laws that guarantee citizens at least a certain amount of access to information. Many countries, including those in Central Asia, have signed on to the UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, commonly known as the Aarhus Convention.

Turkmenistan is one of those countries. This means that citizens of Turkmenistan have the right to information about environmental matters, they have the right to participate in decision-making about environmental matters, and they have the right to access to justice when those rights have been violated.[1] In spite of this, the Turkmen government and the companies developing oil and gas in Turkmenistan, including in the offshore blocks in the Caspian Sea, have been exceedingly closed about oil and gas projects. They have failed to be transparent and accountable with regard to the revenues obtained from oil and gas concessions, and they have failed to properly inform and consult with the public with regard to environmental projects.[2]

This report demonstrates that scientists and civil society activists, working together, can obtain publicly available information, which governments and corporations attempt to conceal.

In 2012-2013, Crude Accountability, the Turkmen Initiative for Human Rights (TIHR) and the Geospatial Technologies and Human Rights Project of the Scientific Responsibility, Human Rights and Law Program at the American Association for the Advancement of Science (AAAS) cooperated on a joint project to look for evidence of possible oil spills in the Caspian Sea off the coast of Turkmenistan. We also looked for evidence of demolitions in communities in the area around Avaza, the luxury resort the Turkmen government has built on the Caspian coast north of Turkmenbashi. Crude Accountability provided information about where oil companies are exploring and extracting oil off the coast, and AAAS used

[1] http://ec.europa.eu/environment/aarhus/, accessed April 29, 2013.
[2] A notable exception to this trend is the public consultation process conducted by Dragon Oil in 1999 when they sought lending from the EBRD.

available technology and expertise to research the area. TIHR provided information about Avaza, and, based on this information, AAAS was able to look for evidence of demolitions and other destruction.

AAAS published its own report, "Satellite Imagery Analysis for Environmental Pollution Documentation: Turkmenbashi, Turkmenistan," which describes their findings in detail. The main results of the AAAS report indicate that, using a variety of satellite images and methodologies, their scientists located numerous incidences of possible oil spills in Turkmenistan's waters of the Caspian Sea. They located a semi-continuous oil leak in Turkmen waters, which has shown up on images consistently since 2000. They located areas around the Soimonov Bay, west of Turkmenbashi, where effluent appears to be spilling into the larger Turkmenbashi Bay. They located areas near the East and West Ports in the Turkmenbashi Bay, where oil and oil products are on and offloaded from tankers and potentially via pipeline. They also located areas south of Turkmenbashi, near Cheleken, where oil appears to be leaking into the sea. In addition, they identified the demolition of numerous structures in both Avaza and Tarta, a small community approximately four kilometers from Avaza. The full AAAS report is available here: srhrl.aaas.org/geotech/turkmenistan.shtml

Our report provides environmental and human rights context to the findings in the AAAS report and raises numerous questions that require responses from the Turkmen government, oil companies and international financial institutions about the current state of the environment in the area around the city and port of Turkmenbashi. The report addresses the specific findings in the AAAS report and provides context, clarifying the environmental and human rights significance of the information identified therein. We break our report into two main sections: one on the oil and gas findings and the other on the findings of the Avaza images.

Background

Located on the eastern shore of the Caspian Sea between Kazakhstan and Iran, Turkmenistan is one of the world's most closed and repressive countries. It was listed among Freedom House's "Worst of the Worst" for 2012[3] and the country has no independent media, a civil society forced to essentially work underground for fear of reprisals, and a total lack of transparency in government revenues. The country boasts enormous hydrocarbon reserves, primarily in the form of natural gas; it ranks 6th in the world for natural gas reserves.[4] Oil reserves are smaller, but are actively being extracted both on and offshore.

Turkmenistan's President Berdymukhamedov has enacted a number of increasingly repressive laws in recent years, which create concern about growing opacity around government revenues, and even more limited ability by civil society to address these concerns. With a cult of personality around the President, institutionalized governmental corruption, a lack of free media, and draconian laws against civil society, Turkmenistan is one of the most authoritarian and isolated countries in the world.

[3] http://www.freedomhouse.org/report/special-reports/worst-worst-2012-worlds-most-repressive-societies, accessed April 30, 2013.
[4] http://www.eia.gov/countries/cab.cfm?fips=TX, accessed April 30 2013.

In January 2013, President Berdymukhamedov published a decree limiting access to foreign grants for civil society organizations and individuals, which creates a filter for obtaining foreign grants through a commission comprising deputy ministers of various government ministries. These ministers will review any foreign grant that could be received by a civil society organization and determine whether the organization may receive the grant. Any organization that fails to apply for grants through this mechanism will be subject to court proceedings.

Since 2003, when the government passed a repressive NGO law requiring all existing organizations to re-register, civil society organizations have been under grave pressure from the government. This latest addition to the law increases the pressure considerably.[5]

Many environmental activists, independent journalists and other civil society representatives have been forced to work underground, have been arrested or forced to leave the country because of the country's repressive legal and penal system.

In 2008 and then again in 2011, President Berdymukhamedov updated the Law on Hydrocarbon Resources, and legally codified a system that allows 80 percent of oil and gas revenues not to be placed in the state budget, but, rather, to be managed by the Agency for Hydrocarbon Resources, which is solely controlled by the president. Because of this law, only 20 percent of hydrocarbon resources go into the state budget, and there is no transparency about where this money goes.[6]

In a country where 30 percent of the population lives under the poverty line,[7] this lack of transparency has significant implications for the population.

Extensive corruption marks government and economic structures, and, in the absence of a vibrant civil society and transparent legal system, shedding light on this corruption is extremely difficult.

In this context, this project, which analyzes potential oil spills in the Turkmen section of the Caspian Sea and captures images of widespread building destruction around the Avaza resort north of Turkmenbashi, raises critical questions, which require answers on behalf of the Turkmen people. The financial investments made and the revenues obtained from the projects investigated in the report should benefit the Turkmen people, and, unfortunately, to date, it appears that they are, instead, the cause of severe environmental and human rights violations.

Overview

Between February 2000 and December 2012, imagery obtained and analyzed by AAAS identified 701 oil spill candidates in the Turkmen section of the Caspian Sea, 147 instances of which were "strong" oil spill

[5] Presidential Decree, January 18, 2013 № 12792 Ashgabat On state registration of foreign projects and programs of gratuitous technical, financial, humanitarian assistance and grants.

[6] The Private Pocket of the President (Berdymukhamedov): Oil, Gas and the Law, http://crudeaccountability.org/wp-content/uploads/2012/04/20111016-PrivatePocketPresidentBerdymukhamedov.pdf

[7] https://www.cia.gov/library/publications/the-world-factbook/geos/tx.html, accessed April 30, 2013.

candidates in the region of the sea from Avaza, south to Cheleken, including the Turkmenbashi Bay.[8] Of the 147 instances identified, over 65 percent of the "strong" candidate spill images were of a feature, named the "Squiggle" by AAAS researchers, which appeared approximately 55 kilometers west-northwest of the Cheleken Peninsula. [9] Other candidates included potential spills in the Turkmenbashi Gulf and in the Turkmenbashi Bay.

Figure 1:

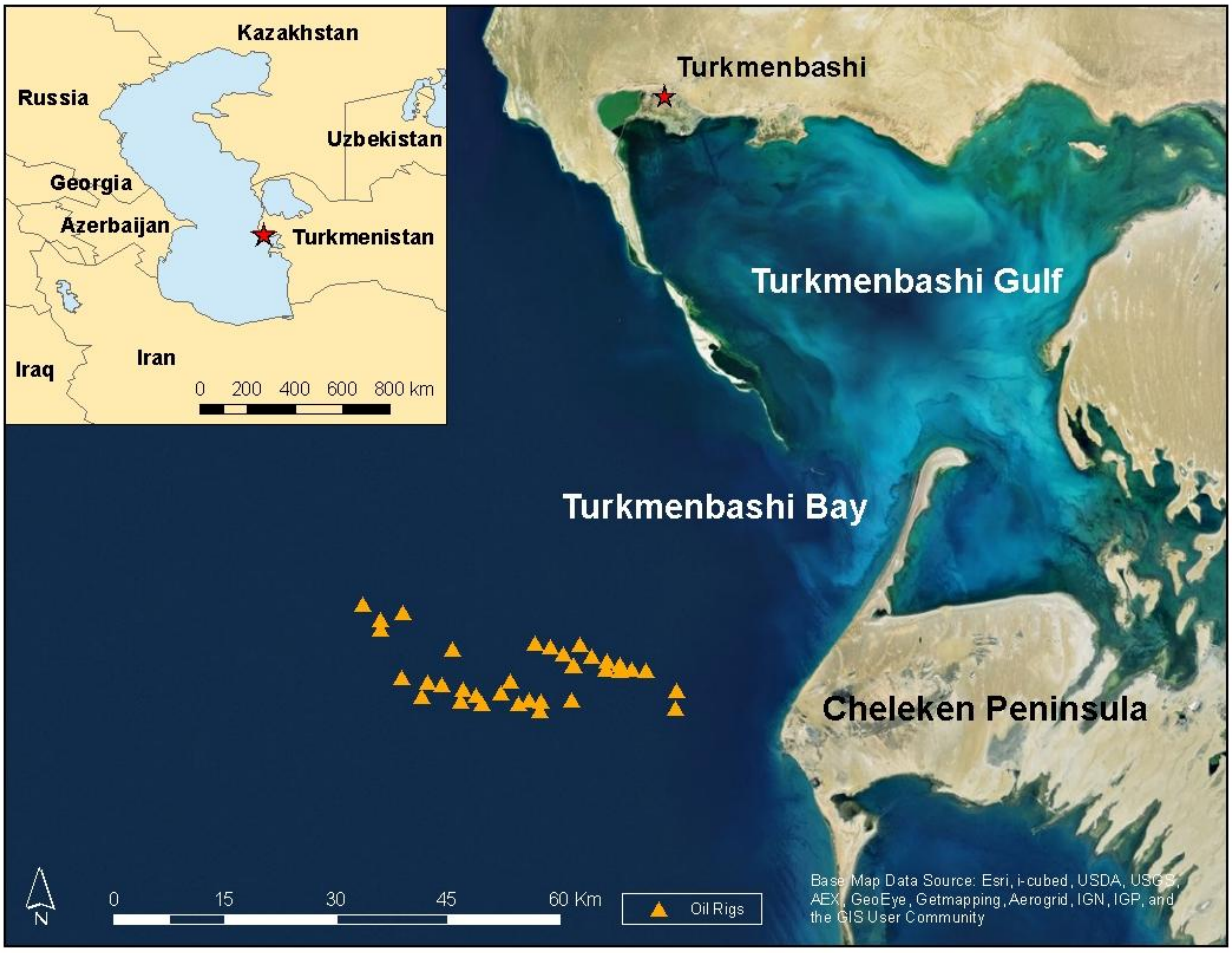


Image provided by AAAS.

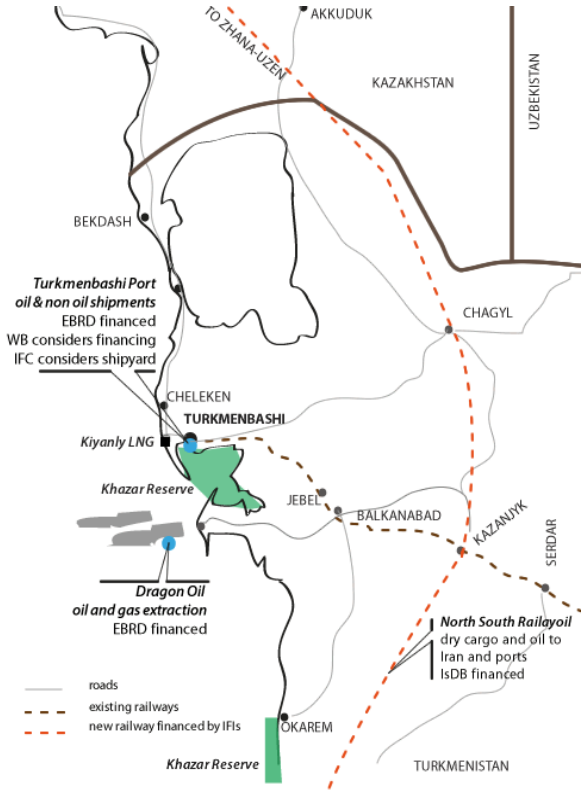
A review of news sources by Crude Accountability for the period 2000 to 2012 found three articles from 2002 describing a tanker explosion, which occurred in the Turkmenbashi Bay.[10] No other published information about oil spills in the Turkmen portion of the Caspian Sea was found. Thus, it appears that

[8] Geospatial Technologies and Human Rights Project, Satellite Imagery Analysis for Environmental Pollution Documentation: Turkmenbashi, Turkmenistan, May 2013, American Association for the Advancement of Science, page 8.
[9] Ibid.
[10] http://www.caspinfo.ru/2002n/028.htm, accessed April 28, 2013.

the AAAS findings about the oil slicks in the Turkmen section of the Caspian Sea, with the three exceptions above, are the only published mention of these incidents.

Between 2000 and 2012, the Turkmen government, international companies, and international financial institutions have explored expansion of the Turkmenbashi Port, which is located in the heart of the area researched by AAAS. The World Bank and the European Bank for Reconstruction and Development have considered financing projects that would redevelop the Turkmenbashi Port. The international financial institutions state that the projects would transform the port to facilitate greater trade between Europe and Asia. However, according to the European Commission, in 2011 88.7 percent of Turkmenistan's exports to Europe were mineral fuels and related products.[11] Although none of these projects has come to fruition, they have been extensively explored, and, if seriously considered, would require environmental and social impact assessments addressing the concerns raised in the AAAS report.

Figure 2:



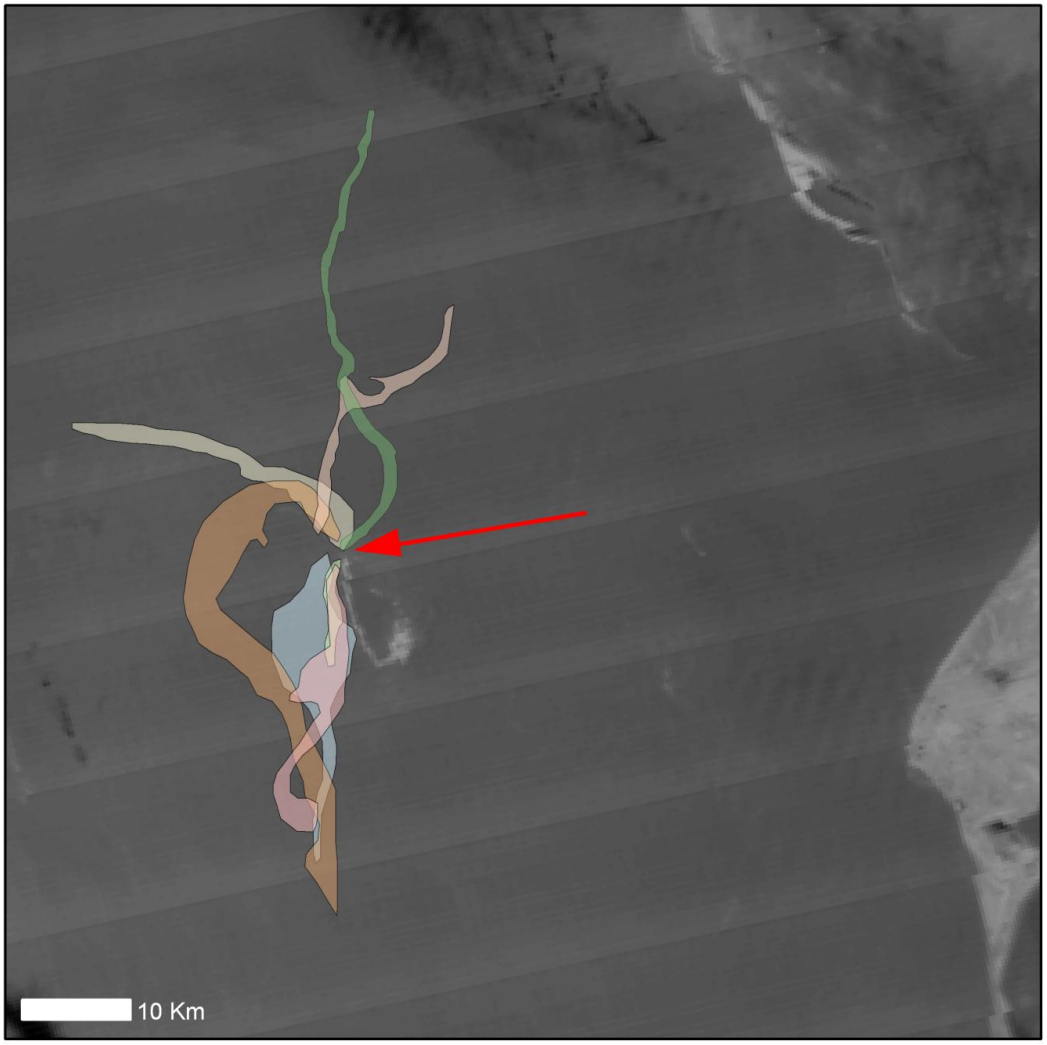
As demonstrated in the illustration above, the Khazar Nature Reserve is located very close to the Port, and, essentially, all of the areas of concern described below, have the potential to impact the ecology and biodiversity of the reserve itself, as well as the surrounding territories, including human settlements.

[11] European Commission. (2011) Trade Statistics: Turkmenistan.

The "Squiggle," An Oil Spill in the Turkmen Section of the Caspian Sea

AAAS's research identified a nearly continuous oil spill, which researchers nicknamed the "Squiggle" in the area of Blocks One and Two, where the oil companies Petronas and Dragon Oil are operating. The spill identified in the AAAS report is located at 39.548N, 52.616E. As the AAAS report states, the direction and size of the spill vary depending which images were taken, but it was identified over 400 times between 2000 and 2012.[12]

Figure 3:



Imagery: NASA. Image and analysis provided by AAAS.

[12] Geospatial Technologies and Human Rights Project, Satellite Imagery Analysis for Environmental Pollution Documentation: Turkmenbashi, Turkmenistan, May 2013, American Association for the Advancement of Science, page 16.

Figure 3 shows AAAS's comparison of multiple spill candidates at the site of the "Squiggle." As AAAS reported, "By overlaying the outlines of eight observed spill candidates, a plausible source point (red arrow) was identified at 39.5N, 52.6E, which was confirmed by subsequent observations."[13]

As one can observe in Figure 4 below, this location is right on the border between Block 1 and Block 2, in which gas and oil extraction is being developed, respectively, by Petronas and Dragon Oil. Both companies boast significant yields from these fields.

According to AAAS, the source of the leak is located near oil rigs—both those that appear to be active and those that appear to be derelict—at a distance of only a few kilometers. At times as large as nearly 150 square kilometers, the oil slick changes direction and size depending on the wind and other factors.[14] It is also located in close proximity to trunk lines,[15] which have the ability to transport oil to the shore—presumably to holding tanks located on the Cheleken Peninsula, and then on to Turkmenbashi Port, for transport to Azerbaijan and ports in Iran and Russia.

The oil spill is in an area of the Caspian Sea in which Dragon Oil and Petronas are operating offshore fields. Dragon has been operating since 2000, when it signed a 25 year production sharing agreement with the government of Turkmenistan; Petronas has been operating since 1996, when it signed a 25 year production sharing agreement with the government of Turkmenistan.

[13] Ibid, page 12.
[14] Ibid.
[15] Dragon Oil EIA, 1999.

Figure 4:

http://prodimages.vertmarkets.com/image/606fe662/606fe662-054b-11d4-8c2f-009027de0829/original/map.jpg

Block 1 (Petronas)

In 1996, Petronas Carigali, a subsidiary of Petronas, the Malaysian national petroleum company, signed a 25-year production sharing agreement for the exploration, development and production of offshore Block 1, including the Garagel-Deniz (Gubkin), Dyarbeki)Barinov) and Magtuymguly (East Livanov) Fields. Since 2002, Petronas has drilled and tested at least four wells, and since 2003, has a signed memorandum of cooperation with Dragon Oil to explore areas for potential cooperation, including gas development, transmission, marketing and sales of gas, drilling services, field operations and logistics.[16]

In 2011, Petronas achieved its first gas production and signed a gas sales agreement for Block 1.[17] "With these achievements, the Onshore Gas Terminal (OGT) in Kiyanly is now commissioned and fully operational to support the future gas production increase from Block 1 at the capacity of 500 mmscfd."[18] Turkmenistan's Garagyol Deniz West-1 discovery in Turkmenistan Block 1 assures the promise of further oil resource potential of over 80 mmboe.[19]

Block 2 (Dragon Oil)

Dragon Oil signed a 25-year production sharing agreement with the government of Turkmenistan in 2000, and since then has been operating at the Cheleken Field, which is in Block 2 approximately 20-40 kilometers west of the Cheleken peninsula in a shallow water depth of about 10-30 meters.[20] The Cheleken contract area includes the Dzheitune (Lam) field and the Dzhygalybeg (Zhdanov) field, which together comprise 950 square kilometers.[21] Dragon Oil has invested over $1.5 billion in expanding oil production at the Cheleken contract area and is one of the largest foreign investors in Turkmenistan. Dragon is producing from over 60 wells and continues to drill new wells.

In 1999, Dragon Oil received $75 million in loans from the European Bank for Reconstruction and Development to operate the Cheleken Field. Specifically, the funding supported "the phased commercial upgrade of the Lam and Zhdanov oilfields…."[22] The Lam Field is located to the southwest of the Zhdanov Field. By 2010, 60 wells were producing in Block 1, and the company continues to drill new ones. Dragon Oil's 2011 Annual Report states that as of February 20, 2012, the company has drilled 65 new wells, constructed and installed three new platforms, and plans to install at least four additional platforms between 2012-2105 on the Lam Field. The company has also refurbished and upgraded

[16] Reform in Turkmenistan: A Convenient Façade: An Analysis of President Berdymukhammedov's First Four Years in Power, April 2011, p. 48, http://crudeaccountability.org/wp-content/uploads/2012/04/201104-ReformInTurkmenistan.pdf, accessed April 17, 2013.
[17] Petronas Annual Report, 2011, p. 41.
[18] Petronas Annual Report, 2011, p. 45. (Mmscfd stands for million standard cubic feet per day.)
[19] Petronas Annual report, 2011, page 46. (Mmboe stands for million barrels of oil equivalent.)
[20] http://www.ebrd.com/pages/project/psd/1999/4287.shtml, accessed April 17, 2013.
[21] Reform in Turkmenistan: A Convenient Façade: An Analysis of President Berdymukhammedov's First Four Years in Power, April 2011, p. 48, http://crudeaccountability.org/wp-content/uploads/2012/04/201104-ReformInTurkmenistan.pdf, accessed April 17, 2013.
[22] http://www.ebrd.com/pages/project/psd/1999/4287.shtml, accessed April 17, 2013.

existing platforms and "performed many successful workovers."[23] The Zhdanov Field is located to the northeast of the Lam field, and Dragon Oil has completed a number of successful workovers in the Zhdanov field and, in its 2011 report, stated it was installing its first new platforms, Zhdanov A and B, in 2012 and 2013.[24] Average daily gross field production has increased from approximately 7,000 bopd in 2000 to over 57,000 bopd at the turn of 2010-2011.[25]

At the time of EBRD financing, oil was "transferred via sub-sea pipelines to an oil gas separation plant (OGS) and, subsequently, to an oil water separation plant (OWSP), the latter being operated by Turkmenneft.[26] It is unknown if the sub-sea pipelines are still the primary source of transfer at the present time.

The EBRD reported that the existing oilfield infrastructure "required substantial upgrade."[27] The environmental impact of the project also reported that there were "inadequacies in terms of health, safety and environment, presenting higher risks than faced by similar operations in the North Sea or the Gulf of Mexico, for example."[28]

Key elements of Dragon Oil's integrated Development Plan for the field included "the improvement of structural stability of selected existing platforms, further appraisal and development drilling from these existing platforms, seismic surveys, implementation of an oil-spill preparedness and response plan, and the introduction of a health, safety and environmental (HSE) management system."[29]

The EBRD project description also states the "PSA requires that the company conduct a survey of the status of all structures within its contract area and develop an Abandonment Plan for all facilities to be abandoned by Dragon during the first five years of its operations. This plan has to be satisfactory to the Government of Turkmenistan's competent body. The plan is to be financed through the establishment of an Abandonment Fund and implemented in accordance with good oilfield practice and standard environmental practice."[30] Dragon Oil repaid in full its loan from the EBRD early in 2006[31] because its investment at the Cheleken Field was so lucrative.

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[23] http://www.rns-pdf.londonstockexchange.com/rns/5348Z_-2012-3-16.pdf, p. 7, accessed April 17, 2013.
[24] http://www.rns-pdf.londonstockexchange.com/rns/5348Z_-2012-3-16.pdf, accessed April 17, 2013.
[25] Reform in Turkmenistan: A Convenient Façade: An Analysis of President Berdymukhammedov's First Four Years in Power, April 2011, p. 48, http://crudeaccountability.org/wp-content/uploads/2012/04/201104-ReformInTurkmenistan.pdf, accessed April 17, 2013.
[26] http://www.ebrd.com/pages/project/psd/1999/4287.shtml, accessed April 17, 2013.
[27] Ibid.
[28] http://www.ebrd.com/pages/project/psd/1999/4287.shtml, accessed April 17, 2013.
[29] http://www.ebrd.com/pages/project/psd/1999/4287.shtml, accessed April 17, 2013
[30] http://www.ebrd.com/pages/project/psd/1999/4287.shtml, accessed April 17, 2013
[31] "Dragon Oil Repays EBRD Loan Early," *Rigzone*, February 8, 2006, http://www.rigzone.com/news/article.asp?a_id=29249, accessed April 30, 2013.

According to *Offshore* magazine, in 2011, Dragon Oil initiated a plan to plug, abandon and decommission old wells in the Cheleken Contract Area.[32] By 2013, Dragon had plugged and abandoned two old and non-producing wells in the Cheleken area, and continues to develop additional rigs.[33]

Figure 5, below, illustrates the proximity of both functioning and apparently abandoned oil rigs to the "Squiggle," as identified by AAAS. One can see in the inset images that some of the rigs appear to be intact, while others look derelict.

[32] http://www.offshore-mag.com/articles/2011/08/dragon-oil-starts. saveArticle.html, accessed April 17, 2013.
[3333] "Dragon offshore Caspian Turkmen well program extended to injection, abandonment," *Offshore*, February 12, 2013, http://www.offshore-mag.com/content/os/en/articles/2013/02/dragon-offshore-caspian-turkmen-wellprogram-extended-to-injecti.html, accessed April 30, 2013.

Figure 5:

Image: © 2013 DigitalGlobe, Inc. Image and analysis provided by AAAS.

Considering the amount of activity at Block 1 and Block 2, it is curious that there has been no public information from Dragon or Petronas about the "Squiggle." Crude Accountability and its partners raise the following questions to Dragon, Petronas and the Government of Turkmenistan:

1) Do you have information about the almost continuous oil leak at 39.5N/52.6E?
2) What is its source?
3) Who is responsible to clean it up?
4) Has there been any environmental research into the impact of the oil leak on the surrounding environment?
5) When can the public expect that the spill be addressed and cleaned up?

Soimonov Bay

According to a 2005 report by TACIS, the Soimonov Bay is loaded with pollutants, many of which come from the nearby Turkmenbashi refinery. The report states that since 1942 the Turkmenbashi refinery has used the Soimonov Bay as a "point of final discharge of industrial liquid wastes and sewage."[34] According to the report, the Soimonov Bay "contains more than 16 million m3 of a mixture of brine, sludges, hydrocarbons including most dangerous polycyclic aromatic hydrocarbons, bitumen, asphaltens, gums, synthetic organic compounds, sulfur-organic and chlorine-organic compounds, heavy metals, phenols, detergents, feces, virulent bacteria, etc."[35] The report continues that in Soimonov Bay, "the streams of liquid oil waste discharge directly at the coast. Currently at the eastern coast of the Saimonov Bay many cases of oil waste seepage are observed, about 2 km of the coastline is strongly polluted with heavy oil."[36]

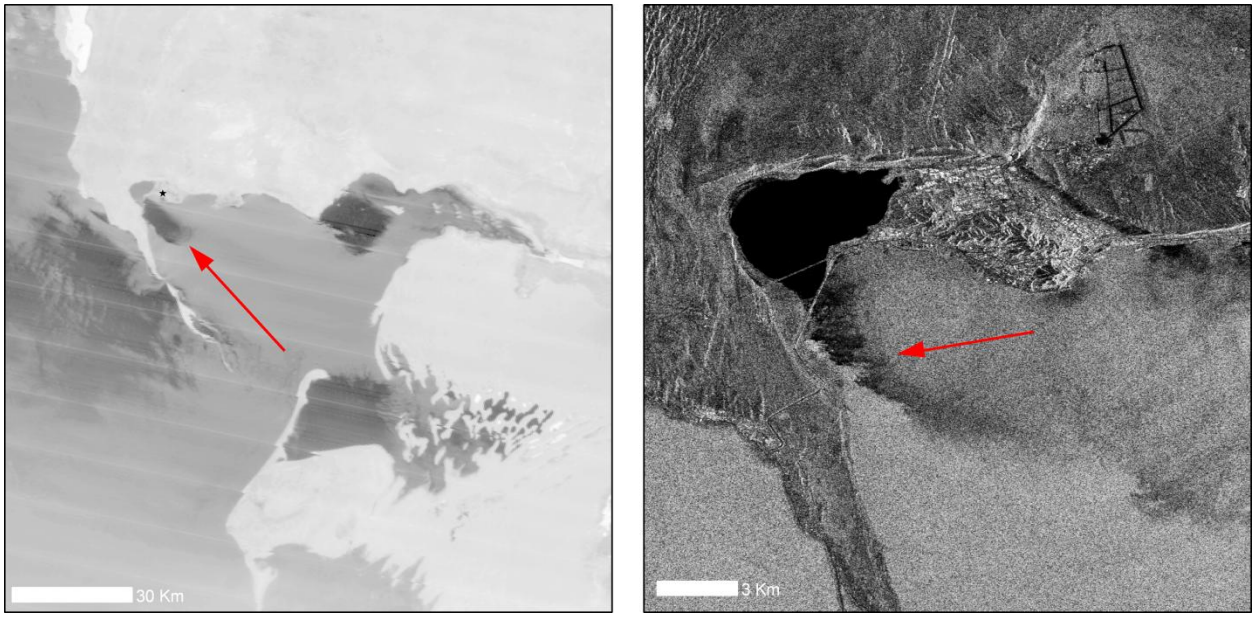
AAAS indicates in its report that there is evidence of leakage from Soimonov Bay into the greater Turkmenbashi Gulf;[37] the toxins listed above provide grave danger to the environmental health of the Gulf, and to the species living in it. Figure 6, below, provides two probable examples of pollution from Soimonov Bay seeping into Turkmenbashi Gulf.

This pollution presents grave concerns to residents of Turkmenbashi city as well as to fishermen, oil workers, port workers, and to the environment itself. According to sources in Turkmenistan, there are currently no plans to clean up the Soimonov Bay—how the larger body of water will continue to absorb this pollution, and what environmental and health impacts it will have on the community are serious concerns.

[34] Caspian Water Quality Monitoring and Action Plan for Areas of Pollution Concern, TACIS/2005/109244, Annex G Regional and National Dialogue, page 11.
[35] Ibid, page 11.
[36] Ibid, page 11.
[37] Geospatial Technologies and Human Rights Project, Satellite Imagery Analysis for Environmental Pollution Documentation: Turkmenbashi, Turkmenistan, May 2013, American Association for the Advancement of Science, page 19.

Turkmenbashi city is located at the base of a plateau, and has limited water supplies. In the summer, especially, residents can find themselves without water for days at a time, causing grave violations of sanitary norms. The increased pollution of the Turkmenbashi Gulf from Soimonov Bay exacerbates an already difficult public health situation.[38]

Figure 6:



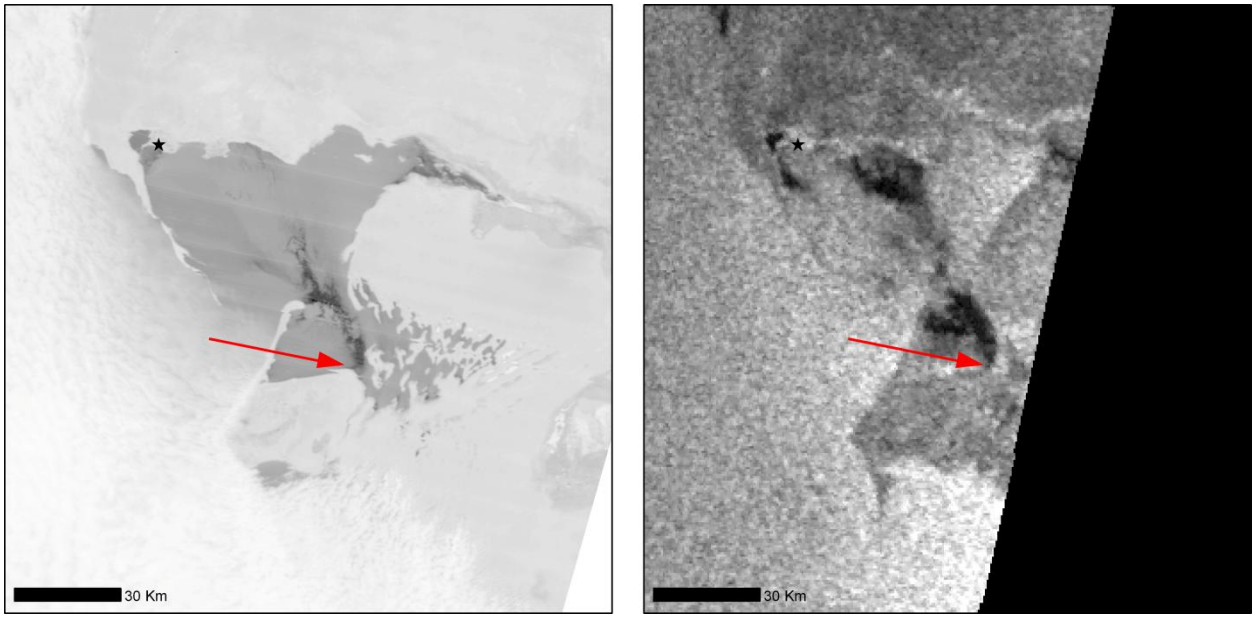
EVISAT imagery © 2013 ESA. Imagery provided by AAAS

Additional potential spills were identified in the southern part of the Turkmenbashi Gulf, which is in close proximity to the Khazar Nature reserve, which is described in detail below. Figure 7, below, provides images of the potential spills located by AAAS. As AAAS states in its report, "On 14 May 2006, both MODIS and ENVISAT detected a slick in the southern portion of Turkmenbashi Gulf. Subsequent investigation revealed an oil field adjacent to its apparent source point on the Cheleken peninsula."[39]

[38] Anonymous source. Conversation with the author 2013.

[39] Geospatial Technologies and Human Rights Project, Satellite Imagery Analysis for Environmental Pollution Documentation: Turkmenbashi, Turkmenistan, March 2013, American Association for the Advancement of Science, page 19.

Figure 7:



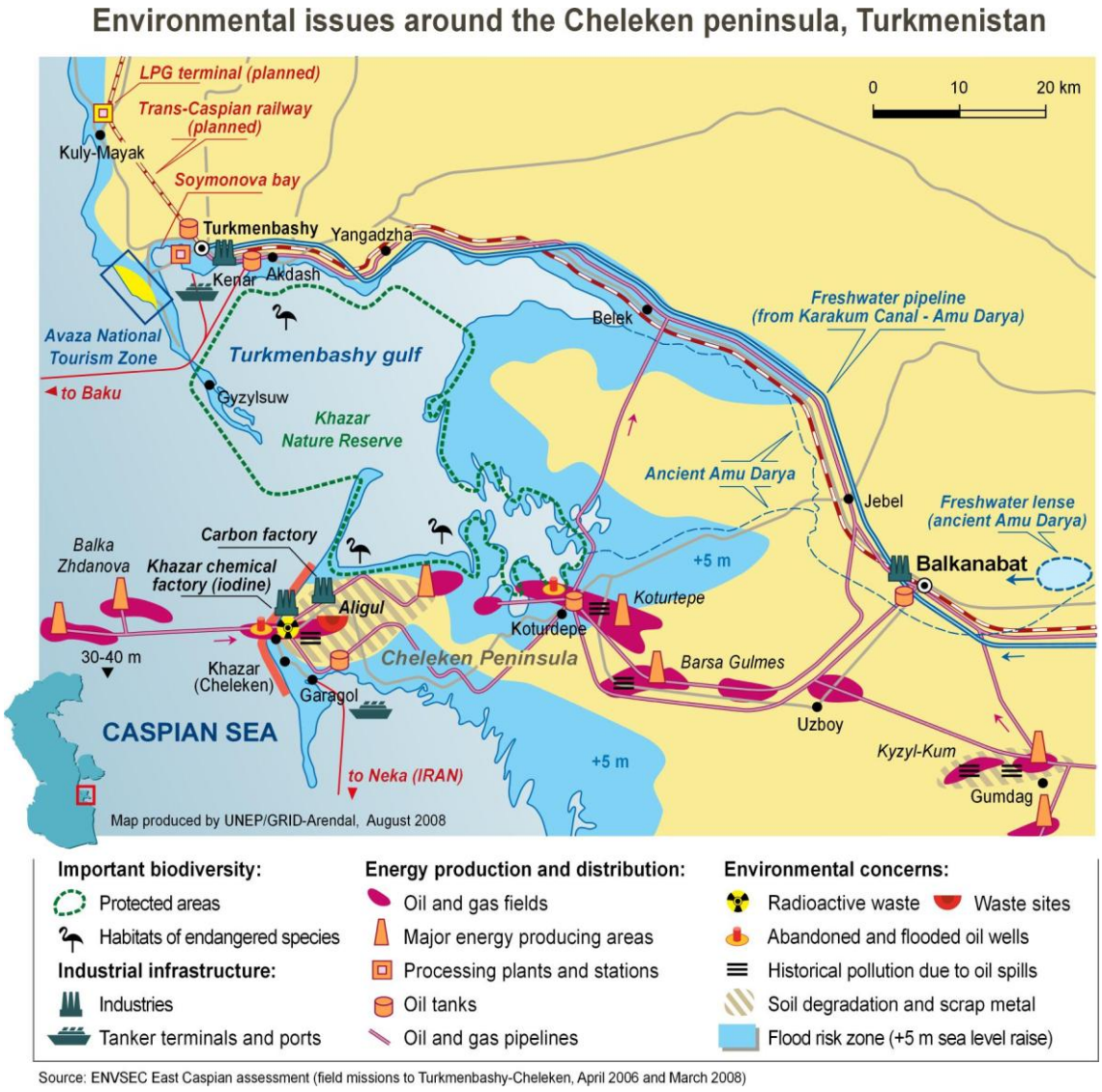
EVISAT imagery © 2013 ESA. Imagery provided by AAAS.

This area appears to be the site either of abandoned and flooded oil wells, or the site of oil tanks. It appears to be right along the edge of the Khazar Reserve, and could cause grave environmental threats to the animals living there. See Figure 8, below, for a map of environmental threats around Cheleken Peninsula, including the area shown above.

Environmental Threats from the Spills Detected by AAAS

Approximately 50 kilometers southeast of the "Squiggle" is the Khazar Nature Reserve, a unique and valuable natural resource. The Khazar Nature Reserve is particularly important to migrating birds, which use the reserve as a stopover on their migration route. The Reserve is also home to over 50 species of fish, including five species of sturgeon, three types of kilka (sprat), carp and others. Kilka is an important food source for Caspian Seals and larger fish in the Caspian, and it is an important food source for people living on the shores of the Caspian Sea. An inexpensive source of protein, it feeds fishermen and local residents.

Figure 8:[40]



Source: ENVSEC East Caspian assessment (field missions to Turkmenbashy-Cheleken, April 2006 and March 2008)

Caspian sturgeon are the source of approximately 90 percent of the world's caviar;[41] threats to sturgeon from oil pollution have serious economic, as well as environmental, consequences. Sturgeon in the Caspian Sea, including the highly prized Beluga (huso huso) are endangered and in the IUCN Red Book.[42] Oil pollution is one of the contributing factors to their demise.

[40] http://thewatchers.adorraeli.com/wp-content/uploads/2011/07/024.jpg, accessed April 30, 2013.
[41] http://www.seaweb.org/resources/documents/reports_roe-to-ruin.pdf, accessed April 29, 2013.
[42] http://www.iucnredlist.org/news/sturgeons-highly-threatened, accessed April 29, 2013.

Millions of birds fly along the migration route that passes over the Khazar Reserve, and hundreds of thousands of birds over-winter in the reserve. Twenty eight species are found in the Turkmenistan red book, 14 in the IUCN Red Book, and 20 are on the CITES endangered species list.[43]

Forty-seven species of mammals—land and sea—live in the Khazar Reserve; six of them are found in Turkmenistan's red book, 4 in the IUCN Red Book, and 2 on the CITES endangered species list. The Caspian Seal, which is endemic to the Caspian Sea, is widely found in the south-eastern Caspian including in the area of the Khazar Reserve. Large numbers of seals are found in the area of the Ogurchinsky Islands, Osushny and in the North Cheleken and Krasnovodsk spits in the Turkmenbashi Bay.[44]

The seasonal migration of the Caspian Seal to the north Caspian and back to the Khazar Reserve area is a biologically critical phenomenon, and in September, seals can been seen migrating in the areas of Karshi, Aim, and Karabogazgol. In some cases, they are recorded on the edges of small islands at a distance of 1.0-3.5 km from the coast and coastal cliffs. Single animals regularly swim in coastal waters in the northern and north-eastern parts of the Turkmenbashi Bay and North Cheleken Bay.[45]

Each year in winter, between 7-11 thousand individuals, sometimes with their young, cluster in this area. This phenomenon is very important in the preservation of the entire population of Caspian seals.[46]

Thus, the spills in the sea and in the areas along the coast near the Khazar Reserve pose serious threats to biodiversity in the area. The Khazar Reserve is a Ramsar Convention Protected Site, and as such, should receive special protections. Turkmenistan signed on to the Ramsar Convention in 2009,[47] and according to the Khazar Project website, "The Khazar State Reserve…is the only place of wetlands in the country, which are included into Ramsar convention list."[48]

International Financial Institution Interest in Turkmenbashi Port and Surrounding Area

The European Bank for Reconstruction and Development and the World Bank Group have expressed interest in financing development of the Turkmenbashi Port. This investment is not being publicly discussed at the present, but it has been on the radar of both institutions, which have, in the past, publicly discussed the potential of financing the redevelopment of the Port.

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[43] http://krasnovodsk.net/publ/statja/priroda/khazarskij_zapovednik/3-1-0-130, accessed April 22, 2013.
[44] Ibid., accessed April 22, 2013.
[45] Ibid., accessed April 22, 2013.
[46] Ibid., accessed April 22, 2013.
[47] http://www.ramsar.org/cda/en/ramsar-about-parties-parties/main/ramsar/1-36-123%5E23808_4000_0__, accessed April 30, 2013.
[48] "Turkmenistan Joins Ramsar Convention," http://hazarwetlands.com/component/content/category/45.html?layout=blog&b7e281646df868ef3f=cf56dcdbe195548a846afe1f8be92f5a&e4528ff5f9b98bb7e281646df868ef3f=eb03a99a188480aa930536610e08f009&start=45, accessed April 30, 2013.

Any such project would run the risk of violating environmental standards at each of the institutions. Given the proximity of the port to the Khazar Reserve and its international significance due to the Ramsar Convention, the number of environmental problems related to oil and gas development and the existing threats to the environment, it is difficult to understand how either bank could justify financing the reconstruction of the port. And, to date, none of the documents released to the public by either the World Bank Group or the European Bank for Reconstruction and Development have made significant reference to the risks to the Khazar Reserve, particularly from oil and gas development.

Avaza

President Berdymukhamedov, like President Niyazov before him, has spent Turkmenistan's oil and gas revenues to build the luxury resort, Avaza, located on the shores of the Caspian Sea just northwest of Turkmenbashi. According to news reports, The Turkmen State Committee for Tourism and Sport boasted that construction of the resort has cost over $2 billion.[49] The resort, which Berdymukhamedov claims will have a casino and numerous first class hotels, is approximately 20 miles from the industrial city of Turkmenbashi. According to reports, offshore oil rigs are visible from the resort beaches.[50]

Despite Turkmenistan's best efforts to attract international tourists, the Avaza resort is mostly empty, with few visitors. In some cases, Turkmen workers are forced to take their vacations at Avaza. The Turkmen Initiative for Human Rights reported in 2009 that employees from a Turkmenbashi oil refinery were told they must vacation there, and if they did not, the "cost of the holiday would be deducted from their wages regardless."[51]

For years, Turkmen families owned small summer cottages in Avaza, which they would rent out to tourists during the summer months; they were able to earn money this way, which supplemented their meager salaries. However, first Niyazov, and then Berdymukhamedov, put a stop to the development of the local economy.

In 2006, the existing town of Avaza was completely demolished when construction of the resort began. Local residents were forced to relocate in order to make way for the lavish hotels, fountains and swimming pools built at Avaza. Homes were bulldozed and residents received no compensation.[52] Then, in 2010, the village of Tarta, approximately four kilometers from Avaza, was also slated for destruction. Residents were told that their town ruined the view from the windows of the multi-storied Avaza hotels, and that they would have to dismantle their homes. According to witnesses, residents of

[49]Dmitry Solovyev, "Turkmenistan constructs facilities worth $2 bln within Avaza tourism project," *Trend*, August 19, 2011, http://en.trend.az/capital/business/1920284.html, accessed April 30, 2013.

[50]"Turkmenistan's all-powerful leader promises that, one day soon, he will build a Las Vegas on the windswept shores of the Caspian Sea," June, 16, 2011, http://www.reuters.com/article/2011/06/16/uk-turkmenistan-vegas-idUSLNE75F02R20110616, accessed April 30, 2013.

[51] Turkmenistan: Tourist Resort Turns into Forced Holiday Camp, December 7, 2009, http://www.eurasianet.org/departments/news/articles/eav120809a.shtml, accessed April 30, 2013.

[52] Ibid.

Tarta took their homes apart and sold the materials at an impromptu bazaar, which was nicknamed the Market of Tears. According to reports, no-one in Tarta was compensated for the loss of their home.[53]

AAAS's research into the demolition of Avaza and Tarta confirms that homes and structures were indeed demolished, beginning in 2006. Their research shows that in 2002, the village of Avaza contained 1992 structures, mostly small homes or cottages. In 2007, 1839 of those structures had been demolished, and by 2010, an additional 107 were gone, leaving only 46 buildings remaining in the village of Avaza. According to AAAS, "nineteen are part of the Presidential complex, 11 are part of the Avaza and Serdar hotels, and the remaining 16 are a cluster of small houses or bungalows in the northern part of the resort."[54]

Figure 9, Avaza in 2002:

Image: © 2013 DigitalGlobe, Inc. Imagery provided by AAAS.

[53] Tarta to be demolished, February 12, 2010, Chronicles of Turkmenistan, http://archive.chrono-tm.org/en/?id=1286, accessed April 30, 2013.

[54] Geospatial Technologies and Human Rights Project, Satellite Imagery Analysis for Environmental Pollution Documentation: Turkmenbashi, Turkmenistan, May 2013, American Association for the Advancement of Science.

Figure 10, Avaza in 2007:

Image: © 2013 DigitalGlobe, Inc. Imagery provided by AAAS.

Figure 11, Avaza in 2010:

Image: © 2013 DigitalGlobe, Inc. Imagery provided by AAAS.

The significant changes to the landscape and community are evident in these three images; by 2010, Avaza Resort is located on its own man-made island, isolated from the rest of the area by a man-made canal.

According to the AAAS report, in 2002, Tarta held 442 unique structures that were primarily cottages and small homes. "Between 2002 and 2009, 144 of these structures were destroyed with no observable pattern to the demolition, but 214 new buildings were constructed."[55] In 2010, only 186 structures remained; there had been 512 present in 2009. Of the 186 structures, 142 are clustered together and the others are scattered among the demolished buildings.

[55] Ibid.

Figure 12, Tarta in 2002:

Image: © 2013 DigitalGlobe, Inc. Imagery provided by AAAS.

Figure 13, Tarta in 2009:

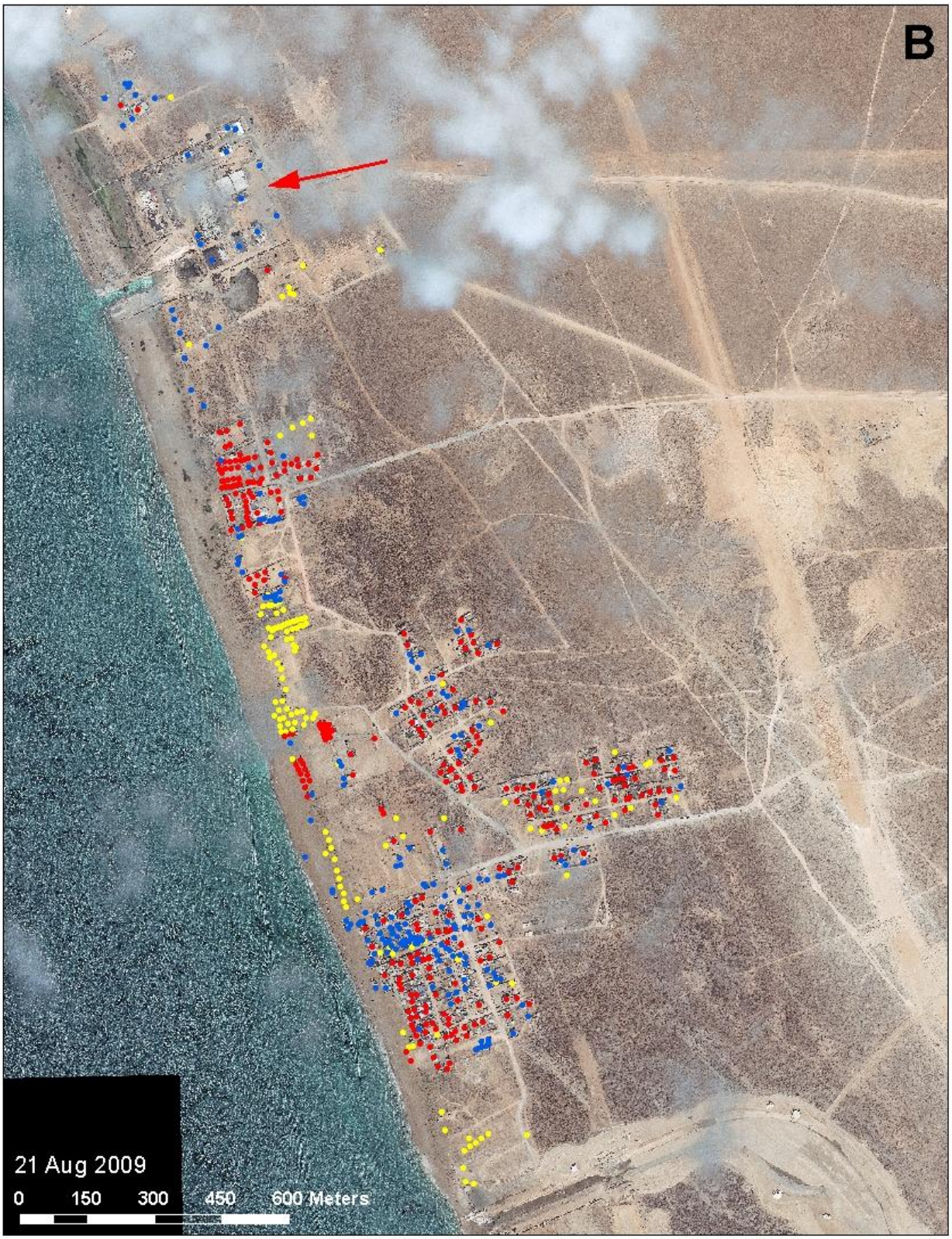

Image: © 2013 DigitalGlobe, Inc. Imagery provided by AAAS.

Figure 14, Tarta in 2010:

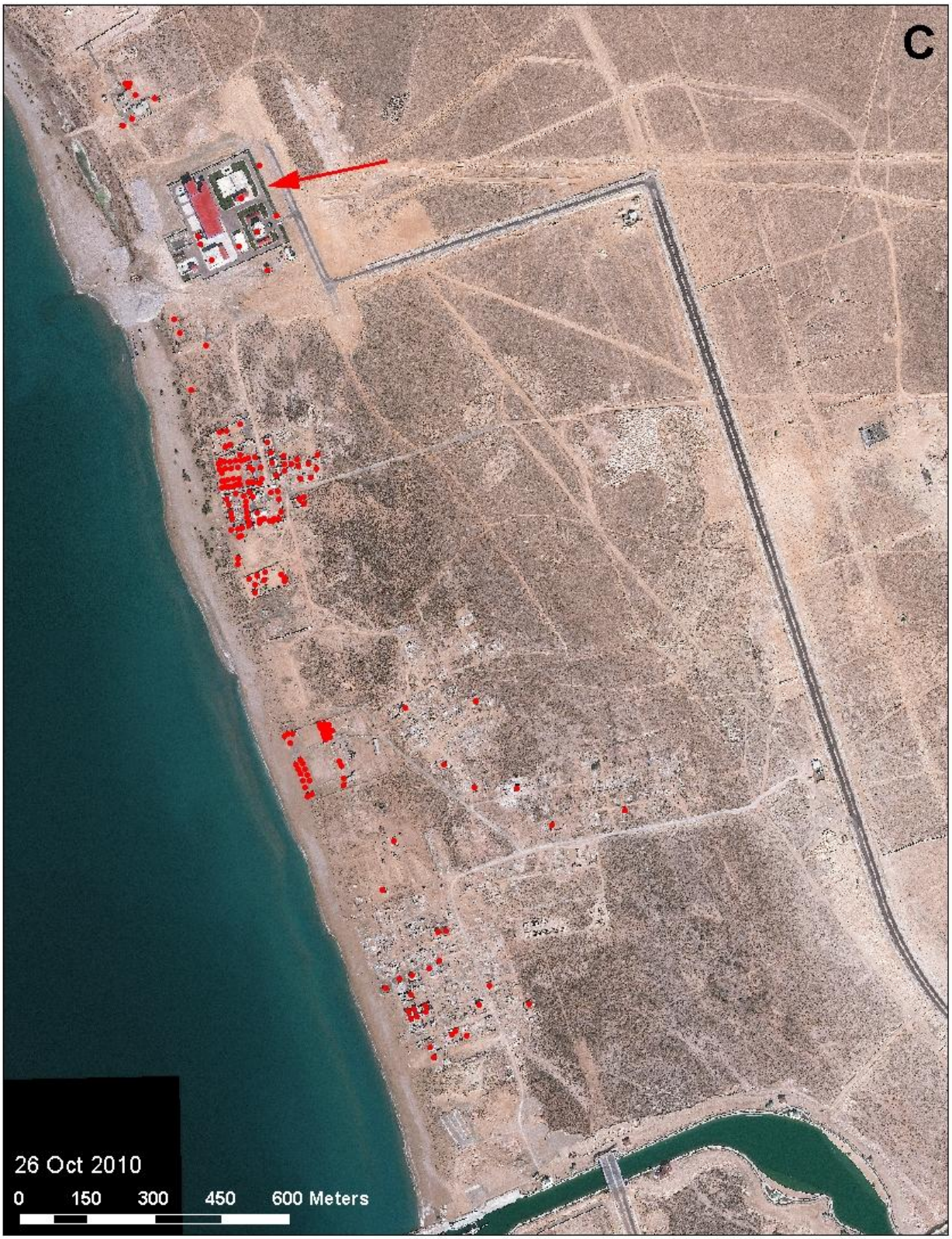

Image: © 2013 DigitalGlobe, Inc. Imagery provided by AAAS.

While there is little information about the demolition of Avaza and Tarta, a key question raised by the increase in size of Tarta between 2002 and 2009 is whether former residents of Avaza moved to Tarta, only to be forced to relocate again. The question of compensation for residents of both communities is one of grave concern, and one that should be addressed immediately by the government of Turkmenistan. Additionally, the area around Avaza is highly seismic, and, according to one source, an international seismologist who traveled to Avaza at the invitation of President Berdymukhamedov told him that nothing higher than a two story building should be built in the area because of the potential of damage from earthquakes.[56]

Conclusion

From the images reported by AAAS and the additional information we have been able to obtain about the state of the environment in the area around the Turkmenbashi Port, it appears that the local population and the environment are at great risk from oil and gas development. Environmental risks to the Caspian Sea itself and the volume of oil and gas products being produced and transported through the region raise concerns about safety, environmental protection and preparedness. The fact that the information in this report is being seen for the first time also raises concerns since the environmental and human rights violations have been ongoing for over ten years. Because the government is so secretive about how operations are going forward, the risks are greater, since the population is unaware of the risks they are facing.

According to the Constitution of Turkmenistan, "everyone has the right to a favorable environment….The State supervises the management of natural resources in order to protect and improve living conditions, as well as environmental protection and regeneration.[57]" Furthermore, "The state is responsible for safeguarding the national historical and cultural heritage, natural environment, ensuring equality between social and ethnic communities. The state encourages scientific and artistic creativity and distribution of its positive results, promotes development of international relations in the fields of science, culture, education and training, sports and tourism."[58]

The state appears to be failing to fulfill its responsibilities before its citizens by concealing the ongoing and consistent environmental degradation in the Turkmen section of the Caspian Sea.

For, the way it appears now, oil companies are polluting—or failing to mitigate oil spills—in the Caspian Sea; the government, also failing to clean up these spills, receives considerable revenues from the oil companies, which it uses to build resorts such as Avaza. In the process of the construction of Avaza,

[56] Interview with the author, 2013.
[57] Article 6, The Constitution of Turkmenistan, 2008, http://www.ctbto.org/fileadmin/user_upload/pdf/Legal_documents/national_provisions/Turkmenistan_Constitution_260908.PDF, accessed April 29, 2013.
[58] Article 11, The Constitution of Turkmenistan, 2008, http://www.ctbto.org/fileadmin/user_upload/pdf/Legal_documents/national_provisions/Turkmenistan_Constitution_260908.PDF, accessed April 29, 2013.

Turkmen citizens are displaced, losing their homes and their property in the process, and without compensation. The expectation of the Turkmen government is that tourists will then come and spend their money to vacation at Avaza, swimming in the sea, which is polluted by the oil rigs they see from the beaches.

Crude Accountability and our partners make the following recommendations with the hope of improving the environmental and human rights situation for citizens of Turkmenistan.

Recommendations to the Government of Turkmenistan:

1. Identify the source of the ongoing leaks in the Turkmen section of the Caspian Sea and work to resolve them, whether that is requiring oil companies to meet the obligations of their existing PSAs or hiring additional experts to cap old wells, repair pipelines, and maintain existing infrastructure.
2. Clean up the Soimonov Bay so that it no longer leaks toxins into the Turkmenbashi Gulf.
3. Provide the public with access to environmental information as stipulated in the Aarhus Convention.
4. Require that international oil and gas companies and international financial institutions honor Turkmenistan's environmental laws, including with regard to protecting the Khazar Reserve.
5. Compensate the villagers of Avaza and Tarta, who were forcibly relocated, for the loss of their homes and their livelihoods.
6. Provide increased transparency with regard to oil and gas revenues, and increase the percentage of revenues that go into the state budget.
7. Improve oil spill preparedness in the Caspian Sea.

Recommendations to the International Financial Institutions Engaging with Turkmenistan

1. Honor the Ramsar Convention and refrain from financing oil and gas operations, and transportation and infrastructure projects that will negatively impact the Caspian Sea and the surrounding territory.
2. Require that environmental impact assessments be conducted for all such projects and ensure that no harm will come to the environment and local communities as a result of IFI financing.
3. Engage with civil society in Turkmenistan in a real, transparent and committed way.

Recommendations to the Oil and Gas Companies Operating in Turkmenistan

1. Determine who is responsible for the ongoing oil slick near Blocks 1 and 2 and resolve it as soon as possible.
2. Operate in accordance with international best practices, including mitigating and correcting existing environmental problems in the areas where companies are operating.
3. Publish monies paid to the government of Turkmenistan in an effort at greater transparency.