Part One THE CONTEXTUAL BACKGROUND

The various chapters of this study are grouped into three separate parts. In Part One the focus is on the contextual background related to Iraqi oil and gas. Part Two deals with the complications associated with the various Iraqi legislative measures that are designed to shape the future of that nation's oil and gas regime. Part Three, on the other hand, examines some of the principal current legal issues that bedevil lawyers and policymakers working hard to stabilize and move the hydrocarbons sector of the economy forward at a rapid pace.

Part One's attention to the contextual background concentrates on a variety of subjects and is reflected in two distinct chapters. The operative premise is that a complete and nuanced understanding of the developing Iraqi oil and gas law depends upon an appreciation of at least the bare essentials concerning both the factual setting regarding Iraqi oil and gas and the legal situation that antedated the growth of Iraqi self-governance following Gulf War II. Even beyond these two matters, however, any such understanding would also seem to depend upon a basic familiarity with the fundamental terms of the Iraqi Constitution that impact oil and gas activity and the revenues associated therewith, as well as some of the important disputes and controversies generated by the language of the Iraqi Constitution.

Chapter 1 takes up both the matter of factual setting and that of the legal situation confronting international oil and gas companies interested in engaging in petroleum development activities up to the time of Saddam Hussein's ouster and the beginning of a new political era in Iraq. By way of factual setting, both Iraqi oil and Iraqi natural gas reserves are reviewed and discussed, as well as the evolution of the industry and its involvement with foreign entrepreneurs, concessionaires, and developers. Additionally, the chapter provides basic information regarding both the main pipeline systems connecting Iraqi oil and gas fields to export terminals and background about the growth of the nation's refinery network. Concluding Chapter 1 is a survey of the status of legal relations with foreign oil and gas operators, spanning the time concerning the commencement of nationalization of the industry in the 1960s, rule under Saddam's regime, and the imposition and eventual removal of United Nations sanctions under a series of Security Council resolutions.

In Chapter 2, attention is turned to a description and analysis of provisions of the Iraqi Constitution that bear on the matters of oil and gas exploration, development, and production. This is cast against the backdrop of an overall understanding of the Iraqi Constitution, and then elaborated by focus on the specific and extremely controversial issues of the role of subcentral governmental units in Iraqi oil and gas activity; the distribution and sharing of revenues between the federal and subcentral levels; and the question of whether exploration, development, and exploitation rights differ when it comes to oil and gas fields denominated as "present" or "current" fields, as opposed to "future" fields. Later chapters in other parts of the book expand on various detailed and technical aspects of both the differing perspectives of the federal government in Baghdad and the regional or provincial governments in Erbil and elsewhere on both the distribution of oil and gas and other revenues, and the role of central versus subcentral governments in the matter of oil and gas activities.

1 FACTS REGARDING IRAQI OIL AND GAS RESERVES AND THEIR LEGAL STATUS PRIOR TO SELF-GOVERNANCE

I. INTRODUCTION

It is standard fare to note that several thousand years ago the ancient Greek historian Plutarch called attention to the eternal fires of the hydrocarbon fields of Baba Gurgur near Kirkuk in what is now northern Iraq.[1] After the first major drilling of oil in the Baku area of Azerbaijan in the 1870s,[2] and with the intense interest of the world's major naval powers at the end of the nineteenth and the beginning of the twentieth centuries in moving from coal to oil as their fuel of choice, the gaze of acquisition was cast toward the Middle East by both oil companies and the governments of their home countries.[3] By 1901, the British entrepreneur William Knox D'Arcy, who made his fortune in the Australian gold fields, had successfully landed an oil and gas concession from what is now Iran.[4] After fruitless prospecting efforts that drained his resources, D'Arcy in 1905 enlisted the assistance of Glasgow-based Burmah Oil Company, and in 1908 substantially reduced his own debilitating financial commitment to the concession. By 1909, Burmah, which had operational control of the concession, formed the Anglo-Persian Oil Company (APOC) (predecessor to the Anglo-Iranian Oil Company, or BP), which shortly thereafter managed to find substantial crude oil deposits.[5]

[1] See Mirella Galletti, Kirkuk: The Pivot of Balance in Iraq Past and Present, 19 Journal of Assyrian Academic Studies (No. 2) 21 at 23 (2005).
[2] See generally Mir Yusif Mir-Babayev, Azerbaijan's Oil History, 10 Azerbaijan International (No. 2) 34–40 (Summer 2002), available at www.azer.com/aiweb/categories/Magazine/ai102_folder/102_articles/102_oil_chronology.html (accessed June 25, 2008).
[3] See Rashid Khalidi, Resurrecting Empire: Western Footprints and America's Perilous Path in the Middle East 83–7 (2004); John A. DeNovo, Petroleum and the United States Navy before World War I, 41 The Mississippi Valley Historical Review (No. 4) 641–56 (1955).
[4] See R. W. Ferrier & J. H. Bamberg, The History of the British Petroleum Company: The Developing Years 1901–1932 at 27–42 (1982) (hereinafter The Developing Years).
[5] See Jennifer Siegel, Endgame: Britain, Russia and the Final Struggle for Central Asia at 179 (2002).

In 1911, British financial interests controlling the National Bank of Turkey collaborated with Deutsche Bank to form African & Eastern Concessions, Ltd., with the aim of seeking oil and gas concessions from the Ottoman Empire in what is now Iraq, but was then known as Mesopotamia.[6] In 1912, that venture reorganized itself as the Turkish Petroleum Company (TPC), bringing in the Dutch-British venture Royal Dutch Shell that earlier, through the efforts of oil entrepreneur Calouste Gulbenkian, had joined together the oilman Henri Deterding's Royal Dutch company and Marcus Samuel's British Shell Transport & Trading Company.[7] The year 1914 saw the Turkish-born Armenian entrepreneur Gulbenkian, a King's College London–trained engineer and a British citizen since 1902, successfully pair up TPC and the rulers of the Ottoman Empire in a putative oil and gas concession covering much of Iraq.[8] According to TPC organizational rules, the concession was held by the British-controlled National Bank of Turkey at a 50% share, with Deutsche Bank and Royal Dutch Shell both holding 22.5% shares and Gulbenkian a 5% nonvoting share.[9] That same year, the National Bank of Turkey's British interest had been purchased by APOC,[10] in which the British government by then held the controlling interest.[11]

World War I broke out in August 1914. The Ottoman Empire's alignment with Germany prevented rights under the concession from being exercised and resulted in British sequestration of Deutsche Bank's share in TPC.[12] The secret Sykes-Picot wartime agreement of 1916 between the British and the French suggested that the postwar period would place much of Iraq, and especially the northern portion suspected to contain rich oil and gas deposits, within France's postwar sphere of influence.[13] Under the prodding of, among others, Winston Churchill, who had served as First Lord of the Admiralty until the naval disaster at Gallipoli and then later as Secretary of War and as Minister for Munitions, British forces ensured that at the conclusion of military operations they would confront France with a fait accompli by controlling Iraq's northern territories. The situation resulted in extremely tense and heated discussions between

6 See George P. Nowell, Mercantile States and the World Oil Cartel, 1900–1932 at 65–8 (1994).
7 See The Developing Years, supra note 4 at 165. On the Royal Dutch/Shell merger, see Toyin Falola & Ann Genova, The Politics of the Global Oil Industry 30–1 (2005).
8 The 1914 document has been styled as a Letter of Intent by some. See Michael A. G. Bunter, Early Concessions in Iraq and the Middle East, 1 Oil, Gas and Energy Law Intelligence (No. 1) (Jan. 2003), available at www.gasandoil.com/ogel/samples/freearticles/roundup_01.htm (accessed Aug. 20, 2008).
9 See David Styan, France & Iraq: Oil, Arms and French Policy Making in the Middle East at 13 (2006).
10 See Helen Chapin Metz, Iraq: A Country Study, The Turkish Petroleum Company (1988), available at http://countrystudies.us/iraq/53.htm (accessed July 15, 2008).
11 See Marian Kent, Moguls and Mandarins: Oil, Imperialism, and the Middle East in British Foreign Policy, 1900–1940 at 36 (1993).
12 On sequestration, see David Styan, supra note 9 at 14.
13 See Edward P. Fitzgerald, France's Middle Eastern Ambitions, the Sykes-Picot Negotiations, and the Oil Fields of Mosul, 1915–1918, 66 Journal of Modern History 697 (Dec. 1994).

French Prime Minister Georges Clemenceau and British Prime Minister David Lloyd George during the Versailles peace talks.[14] The British, though, were extremely concerned with forging a counterweight to the large American oil companies that controlled much of the international market and sought to guarantee reliable sources of supply from the Middle East, and they ultimately settled upon the notion of accommodating French consternation over Iraq by bringing France into TPC through transfer of Deutsche Bank's share.[15] This was effected through the San Remo Agreement of 1920, which also legitimated British control over Iraq and promised to provide the Iraqis with 20% participation in TPC operations.[16] The Americans objected that the war had nullified the earlier 1914 putative concession with the Ottoman Empire.[17] In 1921, the League of Nations' British Mandate over Iraq evolved to the establishment of the Iraqi Hashimite monarchy with the British-sponsored ascendancy of King Faisal.[18]

From 1921 to 1925, TPC, as well as the governments of the relevant companies' home countries, engaged in extensive negotiations with each other and with Turkey and Iraq regarding the conclusion of a new, indisputable concession agreement.[19] During that same time, France formally established Compaigne Francais de Petroles (CFP),[20] the predecessor to TotalFinaElf, with its objective being to hold and manage France's share in TPC. By the mid-1920s, and under diplomatic and other pressures from the United States, TPC acceded to the efforts of major American oil companies to gain a share in its operations.[21] The American companies were to participate through a company they called the Near Eastern Development Company,[22] headed by Walter Teagle, chairman of what was then Standard Oil of New Jersey, the modern-day Exxon.[23] The accommodation of the Americans readjusted the shares in TPC so that the four principal partners – the British, the Dutch, the French, and the newly taken-on Americans – each held 23.75%, with Gulbenkian the remaining 5% nonvoting beneficial interest.[24] In 1925, a new concession was concluded with Iraq, having a term of 75 years, with royalties to be paid on the basis of profits

[14] See James A. Paul, Great Power Conflict over Iraqi Oil: The World War I Era, Global Policy Forum (Oct. 2002), available at www.globalpolicy.org/security/oil/2002/1000history.htm (accessed Aug. 20, 2008).

[15] See The Developing Years, supra note 4 at 257–9.

[16] See, for example, Edward M. Earle, The Turkish Petroleum Company – A Study in Oleaginous Diplomacy, 39 Political Science Quarterly 265 at 273–5 (June 1924); Ferruh Demirmen, Oil in Iraq: The Byzantine Beginnings, Global Policy Forum (Apr. 25, 2003), available at www.globalpolicy.org/security/oil/2003/0425byzantine.htm (accessed June 28, 2008).

[17] See James A. Paul, supra note 14.

[18] See Charles R. H. Tripp, The Middle East Online; Series 2: Iraq, 1914–1974 at 1, available at www.galeuk.com/iraq/pdfs/Introductory%20Essay.pdf (accessed Aug. 20, 2008).

[19] See Brian S. MacBeth, British Oil Policy, 1919–1939 at 65–75 (1985).

[20] See History of TOTAL, available at www.total-ural.ru/total_eng.html (accessed Aug. 21, 2008).

[21] See Brian S. MacBeth, supra note 19.

[22] See David Styan, supra note 9 at 26.

[23] See Ferruh Demirmen, supra note 16.

[24] See Helen Metz, supra note 10.

earned by TPC.[25] By 1927, TPC made a major oil discovery at Baba Gurgur, just outside of Kirkuk, and in 1928 entered into the so-called Red Line Agreement, designed to prevent competition for concessions between participants in the area of the old Ottoman Empire.[26] TPC then reorganized itself as the Iraq Petroleum Company (IPC) in 1929.[27]

As indicated in the Prologue, the modern history of oil and gas in Iraq begins with the 1925 concession agreement between Iraq and TPC,[28] an agreement supplemented on several occasions in the 1930s with subsidiaries and affiliates to cover essentially all of Iraq. Though interest in and geological investigations regarding Iraqi oil and gas had been ongoing for some time, TPC's 1927 Kirkuk discovery served to consolidate earlier efforts.[29] Beginning in 1934, the crude available as a consequence of that discovery was shipped by pipeline to the Iraqi town of Al-Hadithah, where the pipeline then split and sent it on for export from Iraq to either the Lebanese port city of Tripoli or what was then the British League of Nations' Palestine mandate city and is now the Israeli city of Haifa.[30] The latter route took the oil across British-controlled Jordanian territory, and the former across French-controlled Syrian territory.

As expected, early export levels on the Al-Hadithah pipeline were not great. By 1938, however, Iraq began exporting markedly greater amounts of crude over the route, with levels of roughly 550,000 barrels reached annually, lasting from 1938 until the commencement of major hostilities associated with World War II and the closing of the Mediterranean to commercial shipping.[31] Despite the expectations of the Iraqi government, TPC and its successor, IPC, delayed wide-scale crude oil production until 1940. Presumably, the objective in doing so was to provide TPC and its successor with a means to better regulate total Mideast production and consequent price levels, because the reach of the company throughout the entire region was substantial.[32] The delay in wide-scale

25 See Ferruh Demirmen, supra note 16.
26 See The Developing Years, supra note 4 at 158–60 (on Kirkuk discovery), and The Red Line Agreement, U.S. Department of State, available at www.state.gov/r/pa/ho/time/id/88104.htm (accessed Aug. 10, 2008) (on Red Line Agreement).
27 See The International Petroleum Cartel, Staff Report to the Federal Trade Comm'n, U.S. Senate, 83d Cong., 2d Sess. at 47–55 (1952), available at www.mtholyoke.edu/acad/intrel/Petroleum/ftc4.html (accessed June 15, 2008).
28 See The International Petroleum Cartel, Staff Report to the U.S. Federal Trade Comm'n, "Turkish Petroleum Company, Limited Convention with the Government of Iraq, March 14, 1925," pp. 84–112 (1952), available at www.mtholyoke.edu/acad/intrel/Petroleum/ftc5.html (accessed June 15, 2008) (hereinafter The International Petroleum Cartel).
29 See The Turkish Petroleum Company, available at http://countrystudies.us/iraq/53.htm (accessed June 16, 2008).
30 See id.
31 See id., reporting exports of 4 million tons per year. As there are approximately 7.3 barrels in 1 ton of oil, 4 million tons is the equivalent of roughly 550,000 barrels per year.
32 See Ferruh Demirmen, supra note 16 (discussing, among other things, the so-called "Red Line" agreement, settled upon at Ostend, Belgium, in 1928, and forbidding the British, French, Dutch, and American oil companies forming TPC/IPC from individually seeking concessions within the territories of the former Ottoman Empire).

production, as well as the revenue structure of TPC/IPC concession agreements, the building of refineries, and Iraqi participation in IPC, proved to be sources of constant irritation with the government of Iraq.[33] From various analyses, the matter of the revenue structure proved problematic for two reasons. The first was that IPC and its predecessor were never envisioned as profit-making entities, but rather as simple production and transportation enterprises that would deliver crude oil to their organizers (companies that would eventually become BP, Royal-Dutch Shell, TotalFinaElf, Exxon, and Mobil), which would themselves sell the crude on the international market and rake in whatever profit was available to be made.[34] And second, those who had negotiated the 1925 concession for TPC were careful to avoid agreeing to terms that would set forth a clear and transparent formula for ensuring that the host country of Iraq would receive substantial royalties, taxes, and profits for the granting of the right to produce oil and gas.[35] In fact, some have suggested that, until the time of nationalization of the Iraqi oil and gas fields in the 1960s and 1970s, IPC and its subsidiaries and affiliates not only limited production but also flared all gas and remained uninterested in the construction of Iraqi refineries.[36]

With the onset of World War II, exports of oil through Tripoli and Haifa were stopped. As a result, IPC was instrumental in the construction of crude oil refineries in Tripoli in 1939 and in Haifa in 1940.[37] Their product was apparently for use in the region, because seagoing commerce in the Mediterranean was quite perilous, and exports were therefore extremely unlikely. Following the conclusion of World War II, exports of both crude and some refined products resumed. At the outbreak of the 1948 war in Palestine between Arabs and would-be Israelis, shipments of crude by pipeline to Haifa were interrupted[38] and eventually ended altogether, the pipeline being mothballed. By the 1950s, the combination of increasing post–World War II global economic development and the absence of opportunity to export through Haifa resulted in a push to produce crude from fields in the southern portion of Iraq, fields explored extensively following World War II, with discoveries in Zubair in 1948, Rumaila and Bai Hassan in 1953, and Jambur in 1954.[39] From these fields, crude could be exported directly from Iraq, through the Persian Gulf port city of Basra, rather than having to pass initially through intermediaries such as Syria in order to reach the export point of Tripoli.[40]

33 See id.
34 See The International Petroleum Cartel, supra note 28.
35 See id.
36 See Kamil Mahdi, Iraq's Oil Law: Parsing the Fine Print, World Policy Journal at 12 (Summer 2007).
37 See The International Petroleum Cartel, supra note 28.
38 See Ferruh Demirmen, supra note 16.
39 See Mohammad Al-Bailani, Assessing Iraq's Oil Potential (Oct. 2003), available at www.geotimes.org/oct03/feature_oil.html (accessed June 19, 2008).
40 See generally, Phebe Marr, The Modern History of Iraq (Westview Press, 1985); Edith T. Penrose, The Large International Firm in Developing Countries: The International Petroleum Industry (MIT Press, 1969).

The many sources of long-standing Iraqi discontent with IPC, coupled with the growing assertiveness around the world of former colonial nations and the rise of pan-Arab nationalism, resulted in December 1961 in the adoption of Law No. 80 nationalizing all nonproducing fields held by IPC under the 1925 and all subsequent concessions.[41] Within the space of a couple of years, the Iraq National Oil Company (INOC) was established and vested with the right to control and produce those untapped fields, amounting to roughly 99.5% of lands formerly under IPC concession. INOC pursued this course through cooperative arrangements with other international oil companies. In response to the 1961 nationalization, IPC threatened to institute lawsuits against anyone found to have purchased product from the Iraqi government or its operating company, INOC. Circumventing the IPC threat, INOC made sure its transactions were barter in nature.[42] The tensions between Iraq and IPC following the 1961 nationalization may have suggested to some the wisdom of backtracking on Law No. 80 and attempting to improve relations. The 1967 Arab-Israeli War and the way it served to enhance the standing of the pan-nationalist Baath Party in Iraq and elsewhere virtually ended the viability of such thoughts, wherever they might have previously existed.[43] And by the 1971–1972 period, Iraq moved forward to complete the total nationalization of all IPC operations within the country with the adoption in June 1972 of Law No. 69.[44] Law No. 69, however, did not apply to IPC's subsidiaries and affiliates, the Basra Petroleum Company (BPC) and the Mosul Petroleum Company (MPC). Following the start of the 1973 Arab-Israeli War, American and Dutch interests in BPC were nationalized, and by 1975 all remaining foreign interests in BPC and MPC were taken.[45]

Just to put the effects of full nationalization in context, it has been suggested by some authorities of the Iraqi oil and gas industry that in 1973, the first year following the completion of IPC nationalization, crude oil production in Iraq ran in the neighborhood of about 2 million barrels per day (mbpd). By 1979, crude oil production had jumped substantially to 3.5 mbpd, with a 1995 target production level of 6 mbpd.[46] Focusing not on actual production but rather on additions to proven reserve figures, levels had increased substantially as well, growing from roughly 33 billion barrels of proven reserves in 1973 to 74 billion barrels of reserves in 1979.[47] The same authorities have also noted that IPC's meager investment commitment to Iraqi-based refineries was reversed

41 See id.
42 See id.
43 See id.
44 See id.
45 See An-Najah National University – Zajel, The Iraq Petroleum Company 1914–1982 (Feb. 1, 2005), available at www.zajel.org/article_view.asp?newsID=4519&cat=15 (accessed June 19, 2008) (hereinafter The Iraq Petroleum Company 1914–1982).
46 See Kamil Mahdi, supra note 36 at 12–13.
47 See id.

through a heavy commitment by INOC to add refinery capacity.[48] Despite the comparative success of INOC, rivalries, suspicions, and power struggles within the Saddam Hussein regime eventuated in INOC's abolition in 1987 and the transfer of authority over Iraqi oil and gas matters to the Ministry of Oil.[49] The Ministry exercised that authority until Iraq was subjected to United Nations–established sanctions and, in the end, the oil-for-food program, in the wake of Gulf War I.

II. IRAQI OIL AND GAS PRODUCTION

No one disputes that Iraq's oil and gas reserves are substantial. Before getting into some of the specifics regarding the production of those reserves, it seems appropriate to note that the great bulk of the nation's export earnings comes from the export of oil, with essentially none coming from natural gas trade, except for a very small amount generated by liquefied natural and propane gas shipments. In fact, the historical record suggests that approximately 60% of the natural gas produced in Iraq is flared in conjunction with the production of crude oil, and a substantial portion of that not flared is then reinjected to assist in the recovery of crude.[50] Some of the gas produced in conjunction with the production of crude and other so-called nonassociated gas, is captured and made available for use, almost exclusively domestic in nature. In 2007, for instance, it was estimated that Iraq produced around 124 billion cubic feet (bcf) of gas, with approximately 52 bcf being flared and only 30 bcf being consumed by end users.[51]

Overall, Iraqi natural gas production has fallen substantially since 1990. Information suggests that total natural gas production in Iraq in 1989 ran at about 215 bcf for the year.[52] By 2005, with both associated and nonassociated gas activity affected as a result of Gulf War I in 1991 and Gulf War II in 2003, annual production had dropped to 87 bcf.[53] In terms of exports, before Iraq's invasion of its southern neighbor, Kuwait, there had been some natural gas export activity to Kuwait over a 105-mile-long pipeline that had the capacity to carry up to 400 million cubic feet (mcf) per day between sources of supply in

48 See id.
49 See www.revenuewatch.org/our-work/countries/iraq-extractive.php (accessed June 16, 2008).
50 See Energy Information Administration, Official Energy Statistics from the U.S. Government, Iraq: Natural Gas (Aug. 2007), available at www.eia.doe.gov/emeu/cabs/Iraq/NaturalGas.html (accessed June 19, 2008) (hereinafter EIA: Natural Gas).
51 See CIA, The World Factbook: Iraq, available at www.cia.gov/library/publications/the-world-factbook/print/12.html (accessed June 19, 2008) (reporting 3.5 billion cubic meters (bcm) produced, 1.48 bcm flared, and 980 million cubic meters consumed; there are approximately 35.3 cubic feet in 1 cubic meter).
52 See EIA: Natural Gas, supra note 50.
53 See id.

Iraq's Rumaila hydrocarbon fields and Kuwaiti receiving facilities at Ahmadi.[54] More recently, consideration has been given to restarting gas exports between the two and commencing development of a natural gas pipeline into Turkey capable of joining with other trans-Turkey gas lines going into the international market.[55] However, one of the complications seems to be concern on the part of Iraqis that there exist substantial deficiencies in the domestic electric power generation area, and Iraqi natural gas could serve as feedstocks for such electric power.[56]

Iraq has generated virtually all of its export earnings through its production of crude oil. Over the many years of production, the trend line has moved in one direction and then another. For purposes of placing production in the immediate pre–Gulf War I period in context, it should be noted that informed authorities report production, essentially by IPC, in 1954 to have run at a rate of approximately 30 million tons annually, or 600,000 bpd.[57] In 1955, that number increased to 32.7 million tons for the year, or 650,000 bpd.[58] The 1956 Suez Crisis and Arab-Israeli War affected production negatively for both that year and the next. The year 1956 saw production of 30.6 million tons, or the equivalent of basically 600,000+ bpd,[59] and 1957 registered a serious decline to 21.36 million tons, or 427,200 bpd.[60] By 1958 the upward production trend had resumed, with 34.93 million tons, or 698,000 bpd, produced.[61] In 1959 there were 40.9 million tons of crude produced by IPC in Iraq, the equivalent of 818,000 bpd.[62] Obviously, improved recovery technology, increased production activity, and the sense within IPC that pressure on various fronts was building from the Iraqi government resulted in production jumping in 1960 to 47.5 million tons, or 950,000 bpd.[63] With the adoption of Law No. 80 in 1961, production over the preceding year increased only marginally to about 49 million tons, or 980,000 bpd, with the same being the case for 1962.[64]

If one compares the 980,000 bpd production rate in the immediate wake of the 1961 nationalization with the production rate generated by the activities of IPC and INOC and its international oil company collaborators at the time of the

[54] See id.
[55] See id.
[56] See id.
[57] See The Iraq Petroleum Company 1914–1982, supra note 45. It should be noted that the 600,000-bpd figure, and subsequent bpd figures associated with reports of millions of tons of crude oil, was arrived at by multiplying each ton of oil by 7.3, the number of barrels per ton of oil, and then dividing the product by 365 days.
[58] See id.
[59] See id.
[60] See id.
[61] See id.
[62] See id.
[63] See id.
[64] See id.