

OIL EXPLORATION IN COLONIAL NIGERIA, c.1903-1958

Phia Steyn¹

University of Stirling

Since A.G. Hopkins called on Africanists in 1976 to return to the study of imperial business, both as an extension of European and American business history and as an important facet of European colonial rule,² a number of studies have been published that address aspects of imperial business history.³ An area that has remained largely unexplored by Africanists, however, is the history of oil exploration in colonial Africa, notwithstanding the extensive oil exploration activities during this period.⁴ This is not only true of the history of colonies with no known oil deposits such as Nyasaland, where British Petroleum, for example, spent £33,334 on a futile search for oil between 1918 and 1928;⁵ the history of oil exploration in many of the African oil producing and exporting states seems to be remarkably brief.⁶

Nigeria is no exception and the published oil historiography includes no article or book devoted exclusively to the topic. Only two authors, Carland and Njeze, have addressed oil exploration in colonial Nigeria in any depth, with Carland limiting his focus to the relationship between the Nigeria Bitumen Corporation and the Colonial Office between 1906 and 1914.⁷ Njeze, on the other hand, concentrated upon the case of Captain Edward Algernon Barnett in 1907 and the development of oil legislation in 1907, 1914 and 1916 and dealt with other oil exploration activities between 1906 and 1958 rather

briefly.⁸ Consequently their accounts of oil exploration in colonial Nigeria are incomplete and leave out more than they include. Apart from these two authors, no standard monograph on the Nigerian oil industry has attempted a detailed examination of the exploration for oil there before the 1950s.⁹

This article aims to make a contribution to Nigerian oil historiography by focusing exclusively on the exploration for oil in the colonial era between c.1903 and 1958 when the first shipment of Nigerian crude oil arrived in Rotterdam. It integrates for the first time information in the archival collections found in the British National Archives, the Nigerian National Archives, the British Petroleum Archives, the Shell Group Archives, and the private family archives of the oil pioneer, Frank Drader, supplemented by published contemporary sources, in particular *The Times* and the *West African Pilot*.

The article suggests that, despite the anxiety over Britain's reliance on foreign oil for most of the period, the British government did very little to encourage the exploration of the oil possibilities of Nigeria. Consequently the initiative to start exploratory work in the colony resided exclusively with private British oil ventures that set out to discover the proverbial Spindletop in Nigeria between 1903 and 1914. Small oil companies simply lacked the financial and technological resources to successfully explore for oil in the challenging Nigerian environment, and in the future only the major oil companies would be able to afford the huge financial and technological outlays that were required. Even then, it would take the Shell/D'Arcy joint venture fifteen years and millions of pounds

before discovering commercially exploitable oil resources in Nigeria in 1956. This dominance by the major oil companies would remain a characteristic of the Nigerian oil industry until the 1990s. Colonial oil exploration further established two additional trends that would characterise the Nigerian oil industry in the independent era: firstly, that oil was a national priority for the country regardless of its local impacts. Secondly, that the oil industry, from the outset, formed an enclave in the broader Nigerian economy with limited interaction beyond the utilisation of local labour between the general Nigerian economy and the emerging oil industry.

Bitumen and oil exploration in the early years, c.1903-1914

The onset of colonial rule in Africa coincided with the expansion of oil exploration to many areas of the globe. Although supply far outstripped demand for crude oil at that stage, technological innovations such as the development of the internal-combustion engine in the 1890s opened-up new uses for crude oil beyond its initial use mainly as an illuminating fuel and lubricant. These developments became crucial when the market for kerosene drastically declined after the introduction of natural gas as the main fuel for illumination. By 1914 kerosene constituted only 24.9 per cent of all refined crude oil products, while petroleum and fuel oil made up 63.7 per cent. The latter figure greatly increased in the decades that followed as motor cars, oil-burning steam locomotives, oil-fired industries and oil-based naval and merchant vessels became more popular.¹⁰

The advent of the global oil industry placed Britain in a rather precarious position: it only had a small indigenous shale oil industry based in Scotland which could not meet the demands for refined oil products in the country. Consequently British needs had to be met by foreign oil supplies which had to be transported over long distances at sea. The dependence on foreign oil supplies was especially problematic for the Admiralty who toyed with the idea of switching the Royal Navy vessels from coal to oil-burning for many years prior to 1912 when Winston Churchill, in his capacity as First Lord of the Admiralty, committed the Royal Navy permanently to oil. The Admiralty's interest in fuel oil in the first decade of the twentieth century had two important repercussions: firstly, it meant that they took the lead in the development of an oil policy for Britain, which process began in 1904 when the decision was taken to limit oil concessions in British colonies to British-controlled companies. Secondly, it created interest in the oil possibilities of the vast unexplored regions of the British Empire. Though this empire stretched to all corners of the world at the turn of the century, oil was only produced in Burma and Canada by 1900, comprising a mere 1.2 per cent of global production. This increased marginally to 3.8 per cent by 1914 with oil being produced in India (including Burma), Trinidad, Canada, Egypt and Brunei.¹¹ The search for a secure supply of oil within the British Empire resulted in the investigation of the oil possibilities of many African colonies, especially along the West Coast where it was known that the Atlantic Ocean often washed pieces of bitumen onshore and where oil seepages occurred over a wide area.¹²

While Standard Oil and the Shell Transport and Trading Company played important roles in expanding the oil industry in Europe and the Far East, global exploration in the period leading up to the First World War was largely driven by smaller oil companies, in particular from the United States and Britain, with varying degrees of success. The promise of vast returns on investments captured the imagination of British investors and attracted substantial British investment abroad which amounted to over £14.3 million by 1907, increasing to over £40 million by 1913. Jones points out that no less than 592 companies were registered in Britain by 1912 which were involved in either downstream or upstream oil-related activities. Many of these companies were small, speculative ventures which set out to discover the next Spindletop in Eastern Europe and the colonial world, with dismal results.¹³ The first companies to explore for oil in colonial Nigeria emerged from this section of the British oil industry, which controlled the first phase of oil exploration in the colony lasting from c.1903 to about 1914.

The search for oil in Nigeria officially started in 1903 when two companies, Nigeria Properties (Limited) and the Nigeria and West African Development Syndicate (Limited) commenced exploration for bitumen, coal and oil.¹⁴ Their two concessions covered a territory of 400 m² in the Agbabu-Mulekangbo area in the Lekki Lagoon region of Southern Nigeria. Geological investigations by Bernard A. Collins (1903-4, and 1904-5) and A.H. Harrison (1904-5) confirmed the existence of vast bitumen deposits as well as the possibility of petroleum. They reported on their findings noting that

Notwithstanding the shallow depth at which the deposits occur and the tropical heat of the territory, the bituminous deposits so far located are in a plastic condition; this seems to show that there is still

a flow of liquid from the original source, and gives the expectation that oil exists in considerable quantity.¹⁵

The activities of Nigeria Properties, the Nigeria and West African Development Syndicate and a third concession holder, the Northern Nigeria Exploration Syndicate were very limited. This changed after 1905 when the British businessman John Simon Bergheim became interested in the oil possibilities of the colony. Bergheim had extensive experience in the European oil industry, in particular in Galicia and Romania, and was also the co-founder and co-owner of the Galizische Karpathen-Petroleum-Actiengesellschaft.¹⁶ He became interested in Nigeria in 1905, at a time when the vast majority of British oil investments were made in Eastern Europe and the Americas, and established the first oil company that would undertake a serious exploration for bitumen and crude oil in Southern Nigeria. The Nigeria Bitumen Corporation was founded in November 1905 with the aim to acquire and work the exploration concessions of Nigeria Properties and the Nigeria and West African Development Syndicate. The concessionary area was expanded in November 1906 when the company bought the concession of the Northern Nigeria Syndicate which was situated adjacent to that of Nigeria Bitumen in the Lekki Lagoon area. Contrary to the view promoted by Njeze, Frynas and many other authors, Nigeria Bitumen was not a German company; it was a British-registered company and its shares were traded on the West African Market of the stock exchange in London.¹⁷

Like many other smaller British oil companies prior to 1914, Bergheim actively worked towards establishing closer co-operation between the British government and

Nigeria Bitumen. His request for state financial assistance in 1906 was not out of the ordinary. Indeed Jones notes several requests from oil companies for financial assistance from the state, such as the request for a government loan of £10,000 made by the West Indian Petroleum Company in 1903. These requests increased greatly after the failure of many British oil investments in Maikop in Russia made money markets less enthusiastic about the funding of speculative oil ventures after 1910. In return for governmental financial assistance, many oil companies offered the Admiralty the right of pre-emption, which would have ensured a secure outlet for any oil that the companies might find. They were also not averse to offering the British government stakes in their companies because, as Jones points out, governmental involvement would ensure financial assistance, protection in foreign countries in the form of diplomatic support, and sought-after Naval fuel oil contracts. The British government, however, was not only reluctant to grant requests for financial assistance, but was further unwilling to become directly involved in a British oil company, regardless of the attractiveness of the offer. This state of affairs would only change in 1914 when the government, at the urging of the Admiralty, became a majority stakeholder in the Anglo-Persian Oil Company (later renamed the British Petroleum Company) with 51 per cent of the shares.¹⁸

In 1906 Bergheim entered into lengthy discussions with the Admiralty and the Colonial Office in an attempt to secure governmental financial assistance to explore for oil in Southern Nigeria. The British government only approved the loan of £25,000 towards the end of 1907 and the first instalment was paid in February 1908.¹⁹ Bergheim's success in securing the loan was in no small part due to his own persistent nature and the

fact that his request was enthusiastically supported by the Governor of Southern Nigeria, Sir Walter Egerton. According to Carland, Egerton held strong views on the role of the government in economic development and believed Southern Nigeria would only develop economically with financial assistance from the colonial government. To this end he embarked on development projects that greatly improved the infrastructure, encouraged the exploitation of known mineral resources, and sought expansion of existing agricultural exports and the development of new agricultural exports.²⁰ It was within this context that he supported the granting of the loan to Nigeria Bitumen, though it is clear from the consulted sources that oil did not figure in his development planning for the colony.²¹ Oil of commercial quantity and quality had to be discovered first before the colonial government would start to factor this sector into their development plans for Nigeria.

Nigeria Bitumen's operations commenced in 1906 under the guidance of their manager Frank Drader (he was a Canadian of German descent with practical oil experience in Canada and Galicia, from where most of the crew also came). Its operations had an enormous impact on the local environment in Lekki Lagoon as vast tracts of land were cleared to make room for houses, a tram way and drilling sites, not to mention the pollution that resulted from oil discoveries and spillages. This site also served as the company's headquarters in Nigeria and it had limited involvement in the colony beyond the utilisation of local labour.²² It originally intended to search for both bitumen and crude oil, but the search for oil became their main focus from 1908 onwards. Between 1908 and 1912 Nigeria Bitumen drilled about 15 wells in their Lekki Lagoon concession

under the supervision of a Mr Van Sickle. Oil was struck in November 1908 at well no. 5, which was drilled with their new oil rig purchased with their government loan.²³ As Drader explained in a letter to his wife on 24 September 1909, however, well no. 5 did not turn into the anticipated active oil field, and had a significant environmental impact:

We got No 5 Well on oil again and it started to flow at the rate of about 2000 bbls per day but after it had flowed a few hours at this rate it came on hot water and we are only getting about 50 bbls of oil from it now. I expect there was great excitement in London when they got the news that Suiogu was flowing so much oil. The lagoon is at present all covered with oil... and there was so much oil at our wharf here that the Doctor got all covered last night when he went in swimming, which he does every evening...²⁴

The company's most successful discovery was from well no. 12 which yielded oil of good quality, without gas,²⁵ and which was described by the foremost petroleum expert in Britain, Sir Boverton Redwood as 'by far the most important event which has occurred during the company's operations'.²⁶ Redwood's favourable report helped increase the value of Nigeria Bitumen shares in 1911, but the company ultimately proved unable to exploit its find profitably. They struggled in particular with water intrusion and did not possess the necessary equipment to separate out the water that flowed continuously into some of its most promising wells. In addition, they found the Nigerian environment challenging with their Lekki Lagoon concession often inundated with water during the rainy season, they were also limited in their choice of drilling sites by the swampy nature of the terrain and the lack of infrastructure, and found the local communities unwilling to share information on the location of the most promising bitumen outcrops.²⁷

Financial difficulties impeded the expansion of exploratory work, and by July 1912 Nigeria Bitumen had only enough capital to continue its operations for another six months. Bergheim consequently appealed to the Colonial Office for another loan, but died shortly thereafter, in December 1912, in an automobile accident. Despite the support of the Admiralty the loan was not approved mainly because of three factors: firstly, Bergheim's death meant that the crucial link between Nigeria Bitumen and the Colonial Office was removed and the Company simply had no other proponent of Bergheim's calibre and persistence. Secondly, in the departure of Governor Egerton (replaced in 1912 by Sir Frederick Lugard), Nigeria Bitumen lost another of its most enthusiastic supporters, and the only person who could convince the rather tight-fisted officials in the Colonial Office to approve the loan. Egerton had been 'rewarded' by the Colonial Office for his development work in Southern Nigeria by being demoted to the post of Governor of British Guiana.²⁸ Thirdly, as mentioned above, the failure of most British oil investments in Russia made not only the money markets, but also the British government very reluctant to invest in speculative oil ventures after 1910. Due to a lack of capital Nigeria Bitumen ceased all operations in Nigeria by the end of 1913 and the company was liquidated in 1914.²⁹ It was its liquidation rather than the outbreak of World War One, as Njeze and Frynas argue,³⁰ that led to the termination of the activities of Nigeria Bitumen in the colony.

Nigeria Bitumen was not the only company to explore for oil in Nigeria before 1914, although its competitors were even less successful and less is known of their

operations. Colonial Office correspondence with the Southern Nigeria government lists enquiries about oil exploration licences received from the British Colonial Petroleum Corporation (Limited), Captain Edward Algeron Barnett and Rosewarne (Limited).³¹ Njeze discuss the case of Barnett in detail, calling it, rather dramatically, a ‘protracted and disgusting incident of oil concession and tussle’.³² Barnett was an oil speculator who, despite paying a deposit and rent on an oil concession covering about 100 m² in Southern Nigeria in 1907, was never granted the concession by the colonial government. This minor detail did not stop Barnett from attempting to sell his concession in Britain at an inflated price, which in turn incurred the wrath of the Southern Nigeria government, the Colonial Office and Nigeria Bitumen. Barnett’s activities ensured that the colonial government included measures to discourage oil speculation in the colony in its 1907 Mining Regulation (Oil) Ordinance.³³ This affair did not adversely affect the relationship between Barnett and the Colonial Office, whose officials were of the opinion that future applications from Barnett would receive ‘very sympathetic consideration’.³⁴

In the end, only the British Colonial Petroleum Corporation proceeded in searching for oil in the colony. The company was incorporated in London in December 1908 and emerged out of the Nigerian Investment Company, which had been granted an oil exploration licence over an area of 225 m² in Southern Nigeria in January 1906. The Nigerian Investment Company started exploratory and development work in its concession in October 1906, under the supervision of Bernard A. Collins. In this process 13 shallow boreholes, with an average depth of 100 ft., were sunk in order to prove

whether the oil line was satisfactory. In each case the drill passed through or finished in oil sand.³⁵

Collins' positive findings led to the creation of the British Colonial Petroleum Corporation which was tasked with exploring for oil in the Nigerian Investment Company concession. Both the board of the new corporation and their financial arrangements clearly illustrated the close relations among the many small British oil companies, in particular those with West African interests. Its first chairman, until December 1908, was Bergman from Nigeria Bitumen, while George Wellington Statham, a director of the Nigeria Investment Company, was appointed a director. Statham along with the former chairman of the Nigeria Investment Company were also on the board of the Société Française de Pétrole, Limited (incorporated in London in February 1907 to explore in the Tano Lagoon region in the Ivory Coast), a company chaired by Bergheim of Nigeria Bitumen. The Nigerian Investment Company, in turn, held a considerable share in the Société Française de Pétrole, as it did in the Gold Coast Oil and Bitumen Corporation, Limited (floated in London in December 1908 to search for oil in the Apollonia district). According to its chairman, H.J. Brown, the Nigerian Investment Company had in 1907 a shareholding in every company that explored for oil and bitumen in West Africa. In many of these companies they cooperated, in one way or another, with the Nigeria Bitumen Corporation.³⁶ The latter also became involved in the newly incorporated British Colonial Petroleum Corporation through a financial and operational agreement in which Nigeria Bitumen was contracted to act as agents and managers for

the new company for a period of two years. As compensation, Nigeria Bitumen received shares and 10 per cent of the net profits.³⁷

The Nigerian Investment Company provided British Colonial Petroleum with a cash capital of £35,000 to explore for oil in its concession situated in the Benin district close to the Benin River and the coast. Under the direction of its oil engineer, D.P. Brown, the company explored unsuccessfully for oil for four years. In its last operating year in Nigeria, 1913, the company spend just over £5,052 before ceasing operations in the colony. By 1916 the company focused exclusively on its Romania concession in a joint venture with Shinx Petroleum Company (Limited). In 1924 the Company went into voluntary liquidation and was finally wound up in 1930.³⁸

Even though Nigeria Bitumen never managed to set up commercial oil operations in Nigeria, its chairman, Bergheim, made a lasting contribution to the colonial oil industry through his involvement in the development of oil legislation. From the start Bergheim maintained that the general mining legislation was not adequate to regulate the oil industry. Consequently he lobbied the Colonial Office and Southern Nigeria government for the development of specific oil regulations. Modelled mostly on the Trinidad oil mining law, the Southern Nigeria Mining Regulation (Oil) Ordinance of 1907 was drafted by Frederick Butler and Charles Strachey, clerks in the Nigeria Department in the Colonial Office, and an unnamed governmental legal adviser.³⁹

In line with general British oil policy, which determined in 1904 that oil exploration concessions in the British Empire should preferably only be granted to companies registered in Britain or its colonies,⁴⁰ the 1907 Ordinance made the search for oil in Nigeria a British monopoly. Section 15 of the Ordinance further specified that all members of the directorate of these companies be British subjects.⁴¹ This principle was retained in the 1914 Mineral Oils Ordinance, which applied to all areas in the newly amalgamated Nigeria, and its 1925, 1950 and 1958 amendments. These versions, however, allowed for the inclusion of non-British directors provided that the director, the chairperson and the majority of other directors were British subjects.⁴² Section 7(2) of the 1907 Ordinance also limited the size of concessions to 500 m², which was considerably larger than the 5 m² that was considered early in the drafting process. While the colonial government strictly enforced this limit, the whole Section 7 was omitted from the 1914 Ordinance because the colonial government felt that the discovery of oil by Nigerian Bitumen had rendered this clause a 'dead letter'. In future the colonial government would only enforce Rule 1 of Schedule II of the 1907 Ordinance, which stipulated that applicants must provide full details on the size, location and boundaries of the concessionary areas in their applications.⁴³

The 1907 Ordinance was drafted without consultation with the Lagosian elite and Native Authorities. The unofficial African members of the Legislative Council found section 5 of the new ordinance unacceptable because it gave the governor the right to enter into agreements with Native Authorities over the purchase of both surface and sub-surface mineral rights on their lands without the payment of royalties on oil. One of the

unofficial members of the Legislative Council, C.S. Sapara Williams, proposed an amendment to section 5 during the discussion of the ordinance in the Council, suggesting the section should be expanded to guarantee Native Authorities ‘a fare and reasonable proportion of the royalties received from the minerals oils obtained’ from their land.⁴⁴ This proposed amendment was supported by all the unofficial African members of the Council, but was rejected by the official members and the Governor, who held the majority of votes. *The Lagos Standard* commented on this ordinance and the rejection of the amendment that

If the ordinance become law, or rather when [it] *does* become law, it will give to the Government and the European prospector the kernel of the oil mining business, leaving to the Native the shell in other words giving him the doubtful privilege of working to enrich the white man.⁴⁵

By 1914 no commercial corporation was actively searching for oil in the colony. Even the Mineral Survey of Southern Nigeria, which was established in 1903 to explore for and collect minerals in the region with the aim of finding economically viable resources, showed limited interest in the oil possibilities of the colony. During the course of their work in 1913 the Mineral Survey did find traces of oil at Abagama, 13 miles east of Onitsha, in the Awka district. The Survey was at that time, however, focused on developing the black bituminous coal deposits that were discovered in 1909 along the Enugu-Udi escarpment.⁴⁶ It is clear from their reports that the Mineral Survey opted at an early stage to leave oil exploration to private oil companies, preferring instead to frequently visit and inspect the exploration sites of the various companies that operated in Nigeria between 1903 and 1914, and to co-operate closely with these companies through

the sharing of scientific and geological information and specimens.⁴⁷ This trend would continue after the Geological Survey of Nigeria was established in 1919, and none of its annual reports, bulletins or occasional papers makes any reference to the Geological Survey being actively involved in any oil exploration activities throughout the colonial era. It therefore seems that the traces of oil discovered by the Mineral Survey in 1914 and the Geological Survey in 1928 were incidental to the real focus of their investigations, and were consequently not acted upon. Real oil exploration in colonial Nigeria was left to be conducted by oil companies.⁴⁸

Revival of interest, 1918-1923

The central role played by refined crude oil products in World War One ensured the massive expansion of the global oil industry after the war as oil companies sought to increase the global supply of oil to meet shortfalls experienced immediately after the war, and to prepare for the projected explosion in the demand for crude oil products in the years ahead. The search for oil in the British Empire was prioritised by the British government in their quest to lessen the country's dependence on American oil which supplied around 80 per cent of Britain's total crude oil needs by the end World War One. At that stage, imperial oil production only made up 2.5 per cent of global production, and this decreased to 1.6 per cent by 1927, of which only an estimated one-tenth reached the British home market. Despite Britain's anxiety over the dependence on foreign oil supplies, the government did very little to promote the actual exploration for oil in the Empire and offered no special subsidies or inducements to oil companies if they

undertook oil explorations in the colonies. In addition, the British government continued to exclude non-British oil companies from Empire oil, despite regular demands made by the American government that the British open-up their colonies to oil companies that were wholly owned and controlled by American interests. Against this background, the key problem for the British government was to convince British oil concerns to take up oil exploration in the Empire.⁴⁹

Only two companies were interested in the oil possibilities of Nigeria in the post-1918 period, namely the D'Arcy Exploration Corporation and the Whitehall Petroleum Corporation. For both, their Nigerian operations formed part of deliberate attempts to expand their operations to other parts of the world and it was undertaken more in the hope than the belief that commercially exploitable oil resources would be found in the colony. Their operations would not last long and by 1923 both companies gave up on their hopes of finding oil in Nigeria, thereby ending the very short second phase in the search for oil in the colony, and consequently strengthening the view that the challenging Nigerian environment compromised the search for oil resources, if indeed they existed.

The D'Arcy Exploration Corporation, a wholly owned subsidiary of the Anglo-Persian Oil Company, became interested in Nigeria in 1918 as part of a wider strategy by the company to extend their interests beyond Persia. According to Ferrier, the chairman of Anglo-Persian, Sir Walter Greenway, was determined to develop his company in such a way that it could compete with Royal Dutch/Shell and Standard Oil. The massive expansion of the company's concessionary interests formed an integral part of

Greenway's plans and these interests took the company to areas such as Kuwait, Colombia, Venezuela, Papua, New Brunswick in Canada, the Gold Coast, Nigeria, Borneo and Timor. In most of these regions Anglo-Persian relinquished its concessions in the 1920s, mainly because of unsatisfactory geological evidence, but also because of unacceptable terms and conditions imposed by some host governments. After John Cadman (Greenway's successor as chairman in 1927) formed the Fields, Refinery and Geological Department in 1922, the company became more discerning in choosing its concessions around the globe and now had the necessary geological expertise to make more informed decisions.⁵⁰

It is in this context that Greenway approached the Crown Agents and the Nigerian colonial government on behalf of the D'Arcy Exploration Company in January 1918 with the aim of obtaining an oil exploration licence.⁵¹ Showing good business sense, Fred G. Watson from D'Arcy pointed out in his correspondence with the Crown Agents that the company would have no objections to providing oil that conformed to the latest Admiralty specifications. D'Arcy's exploration licence was granted after protracted negotiations on 28 February 1921 and covered the area extending from the border with Dahomey (Bénin) in the west to the Niger River, at the Akassa Mouth, in the east, extending 50 miles inland from the sea.⁵² D'Arcy's choice of concession area was directly influenced by Nigeria Bitumen's oil discoveries in previous years and it obtained detailed information on its concession from Mr Van Sickle, who had headed Nigeria Bitumen's drilling operations.⁵³ Limited documentary evidence was found of D'Arcy oil exploration activities in the sources consulted. Two men from D'Arcy visited the region

in March 1922 to explore for oil, while the company also contacted Dr J.D. Falconer, the Director of the Geological Survey, in 1923 to request that he undertake geological investigations on its behalf. This request came too late in the dry season to allow for geological work during 1923.⁵⁴ A company publication claimed in 1970 that ‘the team embarked upon extensive reconnaissance work and geological survey, which by oil industry standards, was said to be tough and arduous’.⁵⁵ This claim is rather excessive since D’Arcy spent only £1,290 exploring for oil in its Nigerian concession. In Africa alone the company spent more money on oil explorations in Nyasaland (£33,334), Somaliland (£6,935), the Sudan (£2,265), South West Africa (£2,056) and Uganda (£1,761) between 1918 and 1928.⁵⁶ Beyond 1923 no reference is made to D’Arcy and it is therefore assumed that it allowed its exploration licence to lapse when it came up for renewal in February 1924. Whether this action was influenced by the views of the well-known British geologist, E.H. Cunningham Craig’s advisors opinion in November 1922 is open to debate. Craig declared to the company’s Chief Geologist that ‘the report [on Southern Nigeria] adds nothing to what I knew in 1906. It is not worth spending another cent on the Concession’.⁵⁷

By that time the Whitehall Petroleum Corporation had also given up all hope of finding oil of commercial quantities in Nigeria. Whitehall formed part of Lord Cowdray’s companies (S. Pearson and Son) that also included the successful Mexican oil company El Aguila, and the United States incorporated Amerada Petroleum Corporation. El Aguila was sold to Royal Dutch/Shell in 1919, generating profits that enabled Whitehall to widen the geographical scope of its exploration activities to include India, Argentina,

Bolivia and Nigeria, and to expand its exploratory work in Algeria and Trinidad.⁵⁸ Whitehall became interested in Nigeria in 1920 and approached the Crown Agents about an oil exploration licence on 8 June. An exploration concession was granted on 13 June 1921 and covered the territory from the boundary of British Cameroons in the east, to the Niger River at the Akassa Mouth in the west, stretching from the shoreline to the seventh degree of the northern latitude. Whitehall's geological party, headed by L.D. Burling, spent much of 1921 investigating the concession. After submitting their report, Whitehall's board decided to relinquish all their rights under the concession in March 1922 because the conditions did not justify test drilling.⁵⁹

Shell/D'Arcy in colonial Nigeria, 1936-1958

The D'Arcy Exploration Company revived their interest in Nigeria in the 1930s, which started the third and final phase of oil exploration in colonial Nigeria. This interest ran against a wider trend observed by Bamberg who claims that the Anglo-Iranian Oil Company was less interested in pursuing concessionary interests outside the Middle East and South America in the 1930s than it was in the 1920s. In his view this was mainly due to the size of the Iranian oil deposits and the fact that there was excess productive capacity on a global level during the decade.⁶⁰ D'Arcy's renewed interest was sparked by a promising report written by one of their geologists, B.K.N. Wyllie in 1933, which once again focused attention on the widespread occurrence of oil and bitumen seepages along the Nigerian coastline. This and subsequent geological reports persuaded D'Arcy to return to Nigeria even though the company's geologists had to admit that most oil

indications along the West Coast consisted of so-called dead oil (i.e. bituminous sands, viscous oil and pitch lakes).⁶¹

This time D’Arcy did not go into Nigeria alone, but did so in partnership with Royal Dutch/Shell (hereafter Shell). It is unclear why D’Arcy opted for a joint venture with Shell. By the mid-1930s Shell and Anglo-Iranian were already cooperating in marketing petroleum products in the Middle East and Africa through their co-owned Consolidated Petroleum Company (created in 1928). They also merged their British marketing subsidiaries in the early 1930s, and agreed on a joint venture in exploring for oil in New Zealand in 1938.⁶² In the absence of documentary evidence a plausible explanation for D’Arcy and Shell’s decision to cooperate in Nigeria in the 1930s might be found in the British control clause of the colony’s Mineral Oils Ordinance which barred Dutch-controlled Shell from exploring for oil in the colony.⁶³ The plausibility of this suggestion is strengthened by correspondence between D’Arcy and the Colonial Office in which the latter advised D’Arcy to delay applying for an oil exploration licence until 1938. According to the Colonial Office the government was in the process of changing the model mining licences and leases to reflect announcements made in Parliament in June 1936, that foreigners and foreign controlled companies would be allowed to operate in the colonial empire from 1938 onwards. It was pointed out that, should D’Arcy choose to apply before these new regulations were in place, then the company would have to conform to the British control clause in existing mineral oil regulations.⁶⁴ In the end, however, this clause was not removed from the Nigerian Mineral Oil Ordinance, which in turn created problems for the joint venture in the 1948

when the directorate of the Shell Overseas Exploration Company had a majority Dutch membership. Consequently the company was forced to change the composition of its directorate to satisfy the British control clause in the Nigerian legislation.⁶⁵

On 10 August 1936 a joint application was submitted to the Colonial Office in the names of the Anglo-Iranian Oil Company and the Anglo-Saxon Petroleum Company (a wholly owned subsidiary of the Royal Dutch/Shell group of companies) for exclusive permission to explore for oil over the whole of Nigeria, Kenya and Tanganyika. In Nigeria a complication arose in the form of Major Seaborne Marks who resubmitted an oil exploration application in May 1936. Marks had applied for an oil exploration licence in 1931 for an area covering about 30,000 m² in Southern Nigeria. After the colonial government informed him of the conditions under which they were prepared to grant the concession, he opted not to pursue the application. His 1936 application covered much of the same territory as his original application, and was turned down by the Colonial Office in favour of that from Anglo-Saxon/D'Arcy which the Colonial Office believed would take its oil exploration activities more seriously and who were more likely to succeed.⁶⁶ In December 1936 the Colonial Office informed Anglo-Saxon/D'Arcy of their decision to grant the joint venture an exclusive exploration licence covering the whole mainland Nigeria. This licence was issued in 1937, and in December 1937 the name Anglo-Saxon Petroleum Company was replaced by that of the Shell Overseas Exploration Company Limited on the official licence.⁶⁷

Shell/D'Arcy started geological surveying in early 1937 under the direction of a Dr Irving, the head of their geological party, and a Dr Carr, a geophysicist. From their headquarters in Enugu, geological and geophysical surveys were carried out in Southern Nigeria around Enugu, Port Harcourt, the Nsukka-Okigwi-Afikpo escarpment, along the Niger and Cross rivers, and over Benin City and Forcados. Geological core drillings were also undertaken, starting near Uge Emme in June 1938.⁶⁸ By the end of 1939, Shell/D'Arcy had spent about £70,000 exploring for oil in Nigeria. Their exploration activities in Kenya and Tanganyika, on the other hand, had proven unsuccessful and the joint venture suspended work in these colonies to focus exclusively on Nigeria. The outbreak of the Second World War complicated matters. At the urging of the Petroleum Department of the British Ministry of Fuel and Power, geological, geophysical and topographical survey work was continued in 1940, costing the joint venture a total of £72,313.⁶⁹ By 1941, however, it no longer seemed feasible to continue with oil exploration in Nigeria, and in February 1941 the Colonial Office informed the companies that the Governor of Nigeria had agreed to the suspension of operations.⁷⁰

Shell/D'Arcy resumed its Nigerian operations only in 1946 owing to the difficulty of obtaining suitable staff and equipment in the immediate aftermath of the war. Their initial exploratory work had showed that the most favourable oil-yielding structures lay in Eastern Nigeria, where they started work in 1946 in the Owerri, Okigwi and Umuahia regions. Two large camps were developed on Crown Land at Owerri and Okigwi after the war, which were connected with exploration sites by helicopters. The Owerri camp, in particular, expanded very quickly and developed into the operational headquarters of

Shell/D'Arcy and remained so until the headquarters were moved to Port Harcourt in 1961.⁷¹

Oil exploration in the post World War Two era took place within the context of Britain's post-war recovery and attempts to strengthen the generally weak sterling against the American dollar, and the commencement of development projects in the British colonies after the passing of the 1945 Colonial Development and Welfare Act. Oil exports from Nigeria did not feature in the British government's plans to increase exports from the colonies in order to earn much-needed dollars, nor did it feature in the 1946 Nigerian Ten-Year Plan for Development and its 1951 revisions. This was because oil of commercial quality and quality had not yet been discovered in Nigeria. Consequently, like previous administrations, the post-war Nigerian colonial government could not make any definite development plans within the oil sector nor plan any expenditure based on expected oil revenues.⁷²

While the emerging oil industry did not make it onto the colonial government's official development agenda, Shell/D'Arcy did receive greater support from the Nigerian government than any oil company had in the pre-1945 period. This support found expression in the charging of very low fees for temporary occupation licences such as the initial £1 per annum fee charged for the leasing of 175,000 square yards on Crown Land in Okigwi in 1948 (which increased to £5 per acre in 1949) and in making available more land in Owerri for the company as its operations expanded.⁷³ More importantly, the

government openly supported the joint venture and its exploration activities in the face of strong local opposition in some districts at the end of the 1940s.

The open support for Shell/D'Arcy by the colonial government should not only be viewed within the narrow confines of governmental support for economic development, but also within the context of Nigerian decolonization and the conflict between the Nigerian administration and the well-organised nationalist movement in Eastern Nigeria led by Dr Nnamdi Azikiwe and the National Council for Nigeria and the Cameroons (NCNC). As was the case in many African colonies, World War Two greatly influenced the Nigerian nationalist movement, and after the war Azikiwe and the NCNC became vocal opponents of most of the initiatives implemented by the unpopular governor, Sir Arthur Richards. The passing of the so-called 'Obnoxious Ordinances' in 1945 was no exception and Azikiwe and the NCNC rallied popular support in much of Southern Nigeria in opposition to these ordinances.⁷⁴ One of these was the Mineral Ordinance which restated the claim that mineral rights were vested in the Crown.⁷⁵ According to Coleman the nationalist movement interpreted this to mean the confiscation of Nigeria's minerals by the British government (along with their land through two other 'obnoxious ordinances'). These ordinances translated into renewed control by the British government at a time when nationalist leaders expected that controls would be relaxed, and consequently they were passionately opposed by the people in Southern Nigeria under the guidance of Azikiwe and the NCNC.⁷⁶

The mobilization of public support by Azikiwe, along with his willingness to publicize and actively support all grievances of local communities against the colonial government and European interests in his newspapers, brought local opposition to Shell/D'Arcy's exploration activities into the open.⁷⁷ The secretive nature of the joint venture's activities, and its unwillingness to inform local communities of what exactly it was doing in their territories, had already led to questions being asked in the Legislative Council in March 1940 by land owners in the Okigwi and Afikpo areas regarding the nature of their operations, their claims to land, and the size of their concession.⁷⁸ Shell/D'Arcy's lack of communication with local communities stemmed mainly from the legislative context in which they operated in Nigeria: the Mineral Oils Ordinance did not require the joint venture to obtain permission from any land owners to conduct exploratory work, but it did guarantee the oil exploration parties protection from any person who might interfere with their work, who was liable on conviction to be fined or imprisoned. The only protection the ordinance provided for local communities was the offer of compensation (payable to local communities) for the destruction of economic trees and crops by oil exploration parties at rates set by the District Officer.⁷⁹

As mentioned earlier, Shell/D'Arcy's exploration work after 1946 focused initially on the Owerri, Okigwi and Umuahia regions which were already densely populated and where Azikiwe and the NCNC enjoyed strong support by that time. Consequently, when the Ikeduru people rose up in opposition to the joint venture's exploration party headed by a Mr H.S. Marchant in late 1948, Azikiwe's paper the *West African Pilot* was quick to publicize this opposition and to lend strong support to the

Ikeduru people in a number of editorials. The Ikeduru people firmly rejected governmental claims to the rights over all minerals on their land, and refused to grant permission to the government or any company to mine these minerals. They therefore requested the colonial government to order both the Owerri District Officer and Shell/D'Arcy 'to stop meddling with their inalienable mineral rights'.⁸⁰ Opposition also spread to other parts of the region: in February 1949 the Shell/D'Arcy exploration party clashed with the local community in Orodo which led to the summoning of the Umuhia police by the Owerri District Officer to provide protection for it. This act was strongly condemned by the *West African Pilot* which wrote that the District Officer should have sided with the people and not the joint venture.⁸¹ Opposition to Shell/D'Arcy was not confined to communities in which the joint venture was engaged in exploration work. The Mbama Clan in the Okigwi district, for example, drew up a petition against the joint venture in August 1949, which stated that they did not want the joint venture to enter their land, nor explore it or drill for oil. This petition predated activities by Shell/D'Arcy in the Mbama Clan territory.⁸²

Azikiwe not only publicized local opposition to Shell/D'Arcy in his newspapers, but further raised the issue at the Legislative Council in April 1949 when he asked the governor to explain the joint venture's activities and position in the Ikeduru area in the Owerri district.⁸³ The joint venture and the colonial government initially responded to this opposition in two ways: firstly, they were quick to attribute much of the agitation to the nationalist movement in Eastern Nigeria and to Azikiwe in particular. Azikiwe was accused of 'always [being] ready to take up the cudgels in his newspaper on behalf of any

cause, regardless of its merits, out of which he thinks political capital can be made'.⁸⁴ In this way local protests became tainted by their association with Azikiwe in the eyes of the colonial authorities and Shell/D'Arcy. Secondly, the colonial government did not hesitate to use force or the threat thereof against communities, and willingly sent police to protect the exploration parties in the Ikeduru and Orodo areas.

From the consulted sources it is clear that the colonial government and Shell/D'Arcy decided to explore less confrontational methods in its handling of local opposition to oil exploration in the second half of 1949. In a widely published public statement issued on 4 August 1949 the colonial government expressed its concerns regarding what it termed the 'misunderstanding over the activities of the Shell Company' and clearly stated the terms under which the joint venture operated. Land owners were assured that the joint venture had no right to acquire any land, and that compensation would be paid for all damages. The government also made it clear that they would continue its support for Shell/D'Arcy given the enormous benefits to the future of Nigeria if the joint venture were to discover oil of commercial quantity and quality.⁸⁵ Shell/D'Arcy also experimented with this less confrontational approach when they informed the residents of Onitsha on 22 October 1949 of their intention to start exploration work in the area one week later. In a remarkable statement the joint venture provided full details of exactly what their work would entail (e.g. the clearing of a straight strip of land, six feet wide and about two miles long) and the objectives of the work. The statement also assured the land owners that the joint venture would not be acquiring any land, and that the owners should make all claims for damages to the

District Officer.⁸⁶ These actions by the colonial government and Shell/D'Arcy seemingly satisfied nationalist leaders and local communities, since after October 1949 there is no mention in the consulted sources of any local opposition to the oil exploration in general and Shell/D'Arcy in particular in the period that falls within the scope of this article.⁸⁷

Support from nationalist leaders for anti-Shell/D'Arcy protests also greatly diminished in the second half of 1949 as these leaders finally came to realise the potential of oil in securing financial viability for a future independent Nigeria. This change in position was clearly expressed by the stance of the Executive Council in the disagreement between the governor, Sir John Macpherson, and Shell/D'Arcy that dominated relations between August and November 1949. When the joint venture applied for a prospecting licence in August 1949 to embark on more extensive exploratory work, Macpherson saw this as the perfect opportunity to negotiate with the joint venture on a number of issues he considered crucial to the future development of Nigeria and to obtain popular support for oil developments. In a number of meetings in Lagos and London between representatives from Shell/D'Arcy, the Colonial Office, the Ministry of Fuel and Power, and the Nigerian colonial government, Macpherson repeatedly made four demands, namely

- (1) The formation of a new local Company for the special purpose of developing Nigeria's oil resources.
- (2) Some system whereby the Nigerian Government would share in the profits earned by the Company.
- (3) Government to have the right to appoint one director to the Board of the Company.
- (4) The Nigerian public to have the opportunity of subscribing a certain proportion of the share capital of the Company.⁸⁸

Macpherson's proposals were very progressive for the time and were resisted by the joint venture on many grounds, but most importantly because it would 'constitute an undesirable precedent' which would complicate the negotiations between oil companies and governments in other parts of the world.⁸⁹ Protracted negotiations could not convince Shell/D'Arcy to change its position, and it insisted that there was no real justification to depart from the Colonial Model Oil Mining Regulations on which the Nigerian Mineral Oils Ordinance was based.⁹⁰ Much to the annoyance and disappointment of the governor, the other members of the Executive Council agreed with Shell/D'Arcy and voted on 19 November 1949 to retain the existing legislative framework for the joint venture's prospecting work, which made allowance only for the then standard payment of rents, royalties and taxes once oil exploitation and exportation commenced. The Council based their decision on the fact that it was 'of vital interest to Nigeria that the search for oil continued' and that any 'discovery should be exploited without delay'.⁹¹ This decision by the Executive Council elevated oil permanently to the level of a national interest and as the involvement of nationalist leaders in the governing of Nigeria grew in the course of the 1950s, local interests became even more subordinate when they clashed with national interests.

In due course the joint venture did agree to form a locally incorporated company, which was called the Shell/D'Arcy Petroleum Development Company of Nigeria, Limited. The company was registered on 10 September 1951 in Lagos.⁹² Shortly thereafter Shell/D'Arcy also adopted a limited policy of Nigerianisation. This policy was first implemented by the colonial government in the civil service in 1948 to prepare the

country for independence in the long term. Though extremely important to and popular with nationalist leaders, the tempo of Nigerianisation was too slow for most Nigerians and this issue became a regular point of conflict between the colonial government and the nationalist leaders. Though European enterprises were encouraged to adopt Nigerianisation policies, there was no official governmental policy to guide this process in the private sector. Consequently the Nigerianisation of European companies tended to proceed at a snail's pace. Shell/D'Arcy was no exception and by 1954 the company listed only three Nigerians as occupying senior level positions out of a total workforce of 2,088. The slow tempo of the company's Nigerianisation seem to have stemmed from a deliberate decision made by it to train only a few senior grade Nigerians for integration with their senior grade European staff. Very little is known of this process in Shell/D'Arcy since the consulted sources make almost no reference to it. The only other occasion when this issue came up was in March 1958 when the *West African Pilot* published a front page article on the promotion of five more Nigerians to senior positions in the joint venture.⁹³

Shell/D'Arcy's concessionary area expanded directly after the war when their application to explore for oil in Nigeria's territorial waters was approved in 1949.⁹⁴ From 1952 onwards, however, their concessionary territory was gradually reduced. In January 1952 the joint venture reduced their oil exploration licence to an area in Southern Nigeria covering 56,000 m² and stretching from the eastern border with Dahomey into the British Cameroons. This concession was reduced to 13,800 m² on 19 January 1954.⁹⁵ The reduction of Shell/D'Arcy's concession territory resulted from their extensive exploratory

work that enabled them to relinquish control over areas that they were confident held limited or no oil possibilities. Between 1951 and 1957 the company gradually applied for twenty oil prospecting licences, covering about 40,000 m², that enabled them to commence with more detailed geological and geophysical investigations, to drill and to start with test production. Their oil prospecting concessions were situated, *inter alia*, in the Orlu, Okigwi, Owerri and Bende Divisions of the Owerri Province, the Akwa, Awgu, Onitsha and Nkussa Divisions of the Onitsha Province, the Igala Division of the Kabba Province, Akata in the Calabar Province, and the Ashan and Asaba Divisions of the Benin Province.⁹⁶ It conducted extensive gravity surveys in their concession between April 1948 and May 1953, and aerial photographic surveys between 1951 and 1954.⁹⁷

In 1951 the joint venture drilled its first deep exploration well at Ihuo, near Owerri, which turned out to be a dry well. Between 1951-1956 it drilled eighteen exploration, appraisal and development wells. Oil and gas were discovered at Akata in the Calabar Province in 1953, but the oil resources were very limited at this source.⁹⁸ In January 1956 oil of commercial quantity and quality was finally discovered by Shell/D'Arcy at Oloibiri, situated 72 km west of Port Harcourt (at a depth of 12,008 ft). This was followed by the discovery of oil at Afam shortly thereafter (40 km east of Port Harcourt). By 1958 Shell/D'Arcy had discovered oil in 12 areas, of which Oloibiri, Afam and Bomu were the most promising. After increasing the Oilibiri-1 well depth to 131,000 ft in 1957, the Oilibiri field was put into production. By then the company had begun with the development of the necessary infrastructure to transport the crude oil from its source to the company's terminal in Port Harcourt. To this end, 6" and 10" diameter

welded steel oil pipelines were laid from the Umualogu Village (Ahoada Division), Egbema Village (Degema Division) and Obeakpu Village (Aba Division) to Port Harcourt.⁹⁹ Oil production started at Oloibiri in early 1958 at 3,000 barrels per day, while the Afam field was also put into production in the same year. The first shipment of Nigerian crude oil exports (8,500 tons of crude oil) arrived at Rotterdam on 8 March 1958. Bringing that first shipment to Rotterdam represented an investment of £27 million between 1936 and 1958 for Shell/D'Arcy.¹⁰⁰

The first shipment of Nigerian crude oil ushered in a new era in the Nigerian oil industry, which would over time see this industry develop into the dominant sector of the Nigerian economy. The successes of Shell/D'Arcy also attracted the attention of other multinational oil companies. Even before the discovery of oil at Oloibiri the process of opening up the Nigerian oil industry to other competitors was well under way. This process started in 1955 when the first non-Shell/D'Arcy oil exploration licence was granted to the Mobil Exploration Company of Nigeria Limited (a locally incorporated subsidiary of the Socony-Mobil Oil Company). Mobil's concession covered most of Northern Nigeria, and the company very soon discovered why Shell/D'Arcy had relinquished their concession in this territory. By 1957 Mobil had relinquished most of the Northern Nigeria concession, apart from three small areas, and had applied for an exploration licence covering about 4,000 m² in the Western Region, stretching from the border with Dahomey along the coast to the east of Lagos.¹⁰¹ The discovery of commercially viable oil deposits in Nigeria also coincided with the 1956 Suez Crisis, which ensured multinational oil company interest in Nigeria because this country was

situated on what was perceived to be the ‘right side’ of the Suez Canal.¹⁰² The commencement of crude oil exports in 1958 ensured the interest of other multinational oil companies, such as Gulf Oil, Tennessee Gas Transmission, the Italian firm ENI, and the Société Anonyme Française des Recherches et d’Exploration de Pétroles (SAFRAP), who all obtained oil exploration concessions between 1960 and 1962.¹⁰³

Conclusion

The history of oil exploration in Nigeria clearly illustrates the fact that the discovery of commercially viable oil resources was a long, drawn-out process. Much to the disappointment of early oil ventures the Nigerian environment proved to be their most challenging obstacle which required greater technology than the petroleum industry possessed at the time. Consequently the early exploration work was plagued by failure. Nigeria, like many other tropical zones, greatly benefitted from the professionalization of the petroleum industry from the 1920s onwards which would in future provide oil companies with the necessary trained scientists and equipment to conduct successful exploratory work in challenging environments.

In addition to the challenging environment, the British government did very little to promote oil exploration in colonial Nigeria. Negotiations for oil concessions were often protracted and no special incentives were offered to oil companies to retain their interest in Nigeria when initial investments were exhausted. As a consequence, the exploration for oil in colonial Nigeria became the domain of the large, integrated oil

companies, represented by Royal Dutch/Shell and the Anglo-Persian Oil Company, who had the financial resources to fund the expensive search for oil in the colony and the technological expertise and equipment to achieve success over the long term. Even after the industry started to open-up to other competitors from 1955 onwards, it was only large oil companies who became involved in Nigerian oil. This dominance did not diminish after the Nigerian government obtained a majority share in all the oil companies active in the country in the 1970s, and this state of affairs ensured that Nigerian investors had limited opportunities to directly participate in their country's largest industry up till the 1990s when the government deliberately opened the industry up to smaller Nigerian oil companies. In part, this process of foreign domination and lack of local participation ensured that the oil industry retained its enclave character within the Nigerian economy during the independent era. It also ensured the alienation of local oil producing communities from this important resource, who were given limited opportunities to participate in the industry beyond their main role as semi-skilled and unskilled labour.

This process of alienation was further enhanced by active government support for the oil industry in their often conflicting relations with local communities. This trend was firmly established in the 1940s when the colonial government gave their full support to Shell/D'Arcy in their dealings with local communities, and was further enhanced by the 1949 decision by the Executive Council to allow the company to continue work along lines dictated by the company because oil was of national interest to Nigeria. Oil would remain a national interest in the country, to the detriment of local problems and concerns, until local oil producing communities forced the oil industry, the Nigerian government

and the world in the 1990s to take note of their grievances against oil production in their local environments.

¹ I would like to thank Robin Law and Ben Marsh for their comments on the paper, and Denise Rosenfeldt for sharing information on Frank Drader.

2. Hopkins, 'Imperial Business', 30.

3. See, for example, Fieldhouse, *Unilever Overseas; Merchant Capital and Economic Decolonization*; Munro, *Maritime Enterprise and Empire*.

4. A search of Africanist journals and publications did not produce a single publication on oil exploration in colonial Africa. Even Lord Hailey failed to mention oil in his famous survey. See Hailey, *An African Survey*, 1484-1536.

5. Ferrier, *The History of the British Petroleum Company*, 544. A discussion of Nyasaland's resources in 1924 does not explicitly mention this search for oil, but merely states that 'oil has not yet been found'. Smith, 'Nyasaland', 18.

6. The most extensive treatment of oil exploration in some African colonies is in the seminal work of Owen on the history of oil geology and geologists. Owen pays most attention to North Africa and Angola, and addresses some of the more recent history of oil in Gabon, the Congo, Senegal and Nigeria. Owen, *Trek of the Oil Finders*, 429-30, 1416-90. Ferrier also briefly addresses British Petroleum oil exploration in colonial Africa in volume 1 of the company's official history. Volume 2, written by Bamberg, is notable for its neglect of Africa. See Ferrier, *The History of the British Petroleum Company*, 543-44, 548; Bamberg, *The History of British Petroleum*, 143, 172.

⁷ Carland, *The Colonial Office and Nigeria*.

⁸ Njeze, 'Oil Concessions and Land Acquisition in Nigeria'.

⁹ See, for example, Schätzl, *Petroleum in Nigeria*; Pearson, *Petroleum and the Nigerian Economy*; Khan, *Nigeria*; Ikein, *The Impact of Oil on a Developing Country*; Frynas, *Oil in Nigeria*.

¹⁰ Clark, *The Oil Century*, 125-127.

¹¹ Jones, *The State and the Emergence of the British Oil Industry*, 27-28, 85-88; McBeth, *British Oil Policy 1919-1939*, 1; Sampson, *The Seven Sisters*, 61-62.

¹² Parkinson, 'The Geological Structure of West Africa', 20-1; Jeffreys, 'The Search for Oil in Nigeria', 26.

¹³ Jones, *The State and the Emergence of the British Oil Industry*, 47-48.

¹⁴ According to the American Association of Petroleum Geologists petroleum is 'an extremely complex mixture of hydrocarbon ... compounds, with minor amounts of nitrogen, oxygen, and sulphur impurities'. It can occur as a 'gas, liquid, semisolid, or solid' state. Liquid petroleum is called crude oil, petroleum gas is called natural gas, while semisolid and solid petroleum are called by various names depending on the location and use and these names include bitumen, asphalt and tar. Bitumen in this article refers to semisolid and solid petroleum that is used mainly for road paving and water proofing, while oil refers to crude oil. Association of American Petroleum Geologists, 'Introduction and Summary'.

15. *The Times*, 8 Nov 1905, 15a. No reference is made in Nigerian newspapers on these two ventures beyond the *Lagos Standard* of 4 Nov 1903 and 24 Feb 1904 noting the arrival of B.A. Collins and his departure for Liverpool. One should point out that the possibilities and successes of the colonial oil ventures were extensively reported in *The Times* and *The Petroleum Review*, both to reassure current investors and to convince prospective investors of the profitability of investing in colonial oil exploration ventures.

¹⁶ *The Times*, 11 Dec 1912, 9; *The Petroleum Review*, 26 Sept 1908, v.

¹⁷ *The Times*, 8 Nov 1905, 15a; *The Times*, 28 May 1906, 16a; 14 Nov 1906, 3c; *The Times*, 11 Dec 1912, 9; Jones, *The State and the Emergence of the British Oil Industry*, 48

¹⁸ Jones, *The State and the Emergence of the British Oil Industry*, 62-63, 73-74, 144-155.

¹⁹ Crown Agents – The Under Secretary of State, Colonial Office, 21 Feb 1908 (letter no Sec.S.Nigeria 31), CO 520/69, National Archives (London, hereafter NA); Carland, *The Colonial Office and Nigeria*, 191-2.

²⁰ Carland, *The Colonial Office and Nigeria*, 101-117, 191-192.

²¹ See, for example, Carland, *The Colonial Office and Nigeria*, 101-117; *The Lagos Standard*, 8 Nov 1905, 16 Jun 1909.

²² Frank Drader was an enthusiastic amateur photographer who even set up a dark room in his house on the concession of Nigeria Bitumen. He left many photos behind that detail the exploration activities of the company, and the impact it had in the natural environment in the Lekki Lagoon region. These are in the private collection of his granddaughter, Denise Rosenfeldt, in Auckland, New Zealand.

-
- ²³ Confidential letter from the Petroleum Department, 12 Nov 1936, BP 44063, British Petroleum Archives (Coventry, England, hereafter BPA); *The Petroleum Review*, 19 Dec 1908, 337-338; *The Times*, 7 Jun 1910, 15e; 10 Oct 1911, 15e.
- ²⁴ F. Drader – Mrs Drader, 26 Sept 1909, Denise Rosenfeldt, Private Family Archives, Auckland, New Zealand (hereafter DRPFA).
25. Confidential letter from the Petroleum Department, 12 Nov 1936, BP 44063, BPA; *The Times*, 10 Oct 1911, 15e.
26. *The Times*, 16 Oct 1911, 18c.
- ²⁷ F. Drader – J. Rachael, 5 Nov 1909; F. Drader – Mrs. Drader, 4 Jun 1909, J.C. McLaren – F. Drader, 6 Sep 1909, DRPFA.
- ²⁸ Carland, *The Colonial Office and Nigeria*, 116, 193-6.
29. *The Times*, 16 Oct 1911, 19e., 11 Dec 1912, 9; 24 June 1913, 17c; Confidential letter from the Petroleum Department, 12 Nov 1936, BP 44063, BPA; Carland, *The Colonial Office and Nigeria*, 193-6.
30. Njeze, 'Oil Concessions and Land Acquisition in Nigeria', 166; Frynas, *Oil in Nigeria*, 9, footnote 5.
31. Mr Crewe – Sir W. Egerton, Governor of Nigeria, 30 Aug 1909 (confidential letter), CSE 8/4/59 – CSO 368/09, Nigerian National Archives, Enugu Branch (hereafter NNAE).
32. Njeze, 'Oil Concessions and Land Acquisition in Nigeria', 157.
33. *Ibid.*, 157-64.
34. Mr Crewe – Sir W. Egerton, Governor of Nigeria, 30 Aug 1909 (confidential letter), CSE 8/4/59 – CSO 368/09, NNAE.
35. *The Times*, 1 Jan 1907, 13d; 26 Aug 1907, 15f; Memorandum of Association of the British Colonial Petroleum Corporation Limited, 20 Dec 1906, BT 31/17953/91326, NA; *The Times*, 12 Dec 1908, 16a.
36. *The Times*, 1 Jan 1907, 13d; 18 Feb 1907, 13a; 11 Dec 1908, 16a; 2 Dec 1908, 16e; *The Petroleum Review*, 19 Dec 1908, 349.
37. *The Times*, 23 Oct 1907, 15f.
38. The British Colonial Petroleum Corporation Balance sheet, 30 Nov 1913 and 31 July 1916; Special resolution of the Extraordinary General Meeting of the Members of the British Colonial Petroleum Corporation Limited, 5 May 1924, BT 31/17953/91326, NA; *The Times*, 12 Dec 1908, 16d.

39. Nigeria Bitumen Corporation – The Governor, Southern Nigeria, Dec 1906 (letter), CSE 8/1/41 – CSO 318/06, NNAE; Carland, *The Colonial Office and Nigeria*, 189-90.

40. McBeth, *British Oil Policy 1919-1939*, 1.

41. Speed, ed., *Laws of the Colony of Southern Nigeria*, 1367.

42. Kingdom, *The Laws of Nigeria*, 967; Kingdom, *The Laws of the Federation of Nigeria and Lagos*, 2422.

43. Mr Crewe – Sir W. Egerton, Governor of Nigeria, 30 Aug 1909 (confidential letter), CSE 8/4/59 – CSO 368/09, NNAE; Speed, *Laws of the Colony of Southern Nigeria*, 1365, 1374; Kingdom, *The Laws of Nigeria*, 966-967.

⁴⁴ *The Lagos Standard*, 10 Apr 1907.

⁴⁵ *Ibid.* Curiously this was one of only two occasions in which the *The Lagos Standard* made any comment on oil exploration activities in Southern Nigeria. From the consulted sources, as well as a fruitless search in the contemporary Nigerian newspapers, it does not seem that the African elite in Lagos paid much attention to oil exploration beyond their opposition to section 5 of the 1907 Ordinance. It also does not seem that oil exploration activities had much impact on the economy of Lagos since Hopkins makes no mention of this industry in his seminal PhD thesis on Lagos. See Hopkins, 'An Economic History of Lagos'.

46. Kitson, 'Southern Nigeria', 16-34; Confidential letter from the Petroleum Department, 12 Nov 1936, BP 44063, BPA.

⁴⁷ For a report of a visit by the Mineral Survey to the oil exploration sites, see for example Dunston, *Southern Nigeria*, 4-6.

⁴⁸ After the Geological Survey of Nigeria was established in 1919, it focused mainly on mineral and geological surveys, geophysical investigations, and the development and maintenance of water supplies. In 1947 the Geological Survey was reorganised and the responsibility for the construction and maintenance of rural water supplies was transferred to the Department of Public Works. While close relations were maintained with oil company exploration parties, the Geological Survey never adopted oil exploration as one of its aims and never became closely involved in any serious exploration for oil between 1903 and 1956. For the annual reports, bulletins and occasional papers of the Mineral and Geological Surveys, see Dorward, *Annual Departmental Reports Relating to Nigeria and British Cameroons*, reels 82-87.

⁴⁹ McBeth, *British Oil Policy 1919-1939*, 15-46, 88-91.

50. Ferrier, *The History of the British Petroleum Company*, 540, 543-4.

⁵¹ As was the case during the first phase of oil exploration in colonial Nigeria, negotiations between the interested oil companies and the British government during the second phase also took place in London. During this phase, however, the Crown Agents for the Colonies took the lead in the negotiations and not the Colonial Office, as was the case between 1903 and 1914. In this process the Nigerian governor played a rather limited role – once he had accepted the proposal by an oil company to explore for oil in Nigeria, all the finer details were worked out by the Crown Agents and the oil companies, with final approval resting with the Secretary of State for the Colonies.

52. C. Greenway, Chairman, D’Arcy Exploration Company – Secretary of the Governor General of Southern Nigeria, 3 Jan 1918 (letter no FGW/DE); Licence to Explore for Oil: Deed between the Governor and Commander-in-Chief of the Colony and Protectorate of Nigeria and the D’Arcy Exploration Company, Ltd, 28 Feb 1921, BP 72275; F.G. Watson, D’Arcy Exploration Company – Crown Agents for the Colonies, 9 Dec 1919 (letter no FGW/DE), BP 71179, BPA.

53. Confidential letter from the Petroleum Department, 12 Nov 1936, BP 44063, BPA.

54. F. Jenkins, Secretary, Southern Provinces – The Residents, S.P., Cameroons & Colony, 2 March 1922 (circular no B. 706/1921); F.G. Watson, D’Arcy Exploration Company – J.D. Falconer, Director, The Geological Department (Jos), 28 March 1923 (letter no GEO/DC/G NIG), CSE 3/13/6 – B 706/1921, NNAE.

55. Shell-BP Petroleum Development Company of Nigeria, *Shell-BP in Nigeria* (Lagos, 1970), 5, as quoted in Njeze, ‘Oil Concessions and Land Acquisition in Nigeria’, 169.

56. Ferrier, *The History of the British Petroleum Company*, 544, 549.

57. Note from the Chief Geologists to Messrs. D’Arcy Exploration Co. Ltd, Southern Nigerian Concession: Advisors’ Opinions, 23 Nov 1922 (Ref no GEO/DC/MAN), BP 72275, BPA.

58. Owen, *Trek of the Oil Finders*, 388, 405, 418, 425-6, 1451-2, 1519, 1523.

59. Chief Secretary to the Government – Secretary, Southern Provinces, 31 March 1922 (letter no 0662/133); Letter from the Crown Agents, 8 June 1920 (letter no Nigeria 830), CSE 3/13/6 – B 706/1921;

Memorandum from C.T. Laurence, Acting Secretary, Southern Provinces – The Resident, Owerri Province, 10 Oct 1921 (Memorandum no B 906/1921), ABADIST 13/5/87 – 114/21, NNAE.

60. Bamberg, *The History British Petroleum*, 172-3.

61. B.K.N. Wyllie – D’Arcy Exploration Company, 10 July 1933 (letter), BP 44063; Memorandum on the oil prospects of Nigeria, The Hague, 7 July 1936; Note of the meeting held at Britannic House, 14 July 1936; G.M. Lees – Mr. Hearn, 17 July 1936 (letter), BP 44063, BPA.

62. Bamberg, *The History British Petroleum*, 172, 184, 279.

63. Royal Dutch/Shell was created in 1907 and consisted of two parent companies, the Dutch Koninklijke Nederlandsche Petroleum Maatschappij (Royal Dutch Petroleum Company) and the Shell Transport and Trading Company. The Dutch held a 60 per cent and the British a 40 per cent interest in Royal Dutch/Shell.

64. Economic Department – A.C. Hearn, Anglo-Iranian Oil Company, 22 Aug 1936 (letter), CO 852/34/7, NA.

65. Sir A. Macpherson, Governor of Nigeria – A. Creech-Jones, Secretary of State for the Colonies, 22 Oct 1948 (letter no Nigeria No 257); Dr W.L.F. Nuttall, Ministry of Fuel and Power, Petroleum Division – R.H. Burt, Colonial Office, 6 Dec 1948 (letter no PD 424/5 Pt.2), CO 852/982/4; Sir A. Macpherson, Governor of Nigeria – Secretary of State, 31 Jan 1949 (Saving no 233), CO 852/982/5, NA.

66. E. Melville – Secretary of State for the Colonies, 15 Dec 1936 (minute), CO 852/34/7, NA.

67. Anglo-Saxon Petroleum Company – Under Secretary of State, Colonial Office, 31 Dec 1937 (letter no 15024/9/38), CO 852/141/3.

68. The Anglo-Iranian Oil Company Limited and the Anglo-Saxon Petroleum Company – G.E.J. Gent, Under Secretary of State, Colonial Office, 31 Dec 1936 (letter), CO 852/34/7; Anglo-Saxon Petroleum Company – Under Secretary of State, Colonial Office, 11 Feb 1938 (letter no T); Anglo-Saxon Petroleum Company – Under Secretary of State, Colonial Office, 17 June 1938 (letter no T), CO 852/141/3, NA.

69.F. Godber, Shell Overseas Exploration Company – F.C. Starling, Petroleum Department, 6 Oct 1939; F.C. Starling, Petroleum Department – F. Godber, Shell Overseas Exploration Company, 14 Oct 1939 (letter); J.E.J. Taylor, D’Arcy Exploration Company – Hon. T.G. Cochrane, 18 Oct 1939 (letter), BP 8241; D’Arcy Exploration Company, Limited, Summary of Drilling and Survey Expenditures to December 31st 1940, BP 121887, BPA.

70. J.B. Williams, Under Secretary of State, Colonial Office – The Anglo-Saxon Petroleum Company, 14 Feb 1941 (letter no 18079/3/41), BP 60555, BPA.

71. T.G. Cochrane, Anglo-Saxon Petroleum Company – General Manager, The Shell Company of West Africa, Lagos, 6 June 1945 (Airletter no 4), BP 60555, BPA; Shell-BP Petroleum Development Company of Nigeria Limited, *The Shell-BP Story*, 3.

⁷² For more details see Falola, *Development Planning and Decolonization in Nigeria*; International Bank for Reconstruction and Development, *The Economic Development of Nigeria*; Shenton, 'Nigerian Agriculture in Historical Perspective', 34-57.

⁷³ Shell D'Arcy Exploration Parties, Occupation of land – camp site (on Crown Land) at Okigwi and Owerri, OKIDIST 9/1/268 – OW 7915, NNAE.

⁷⁴ The four 'Obnoxious Ordinances' were: the Crown Land (Amendment) Ordinance, the Public Lands Acquisition (Amendment) Ordinance, the Mineral Ordinance, and the Appointment and Deposition of Chiefs Ordinance.

⁷⁵ One should point out that mineral rights were already nationalised by the colonial government back in 1900. This position was restated in the 1916 Mineral Ordinance and its subsequent amendments.

⁷⁶ Coleman, *Nigeria*, 271-295.

⁷⁷ *Ibid.*, 289.

⁷⁸ Legislative Council, March 1940: Question no 52 by the Hon. the Member for Egba Division regarding owners of mining land at Okigwi and Afikpo areas and the export of minerals extracted there from, CSE 1/85/8834 – EP 18247/3, NNAE.

⁷⁹ Kingdom, *The Laws of the Federation of Nigeria and Lagos*, 2421-2424.

⁸⁰ *West African Pilot*, 1 Apr 1949. See also *West African Pilot*, 3 Jan 1949, 27 Apr 1949, 21 May 1949, 18 Jul 1949, 19 Jul 1949.

⁸¹ *West African Pilot*, 24 Feb 1949, 25 Feb 1949.

⁸² Petition from the Council Members of the Mbama Clan, Okigwi District, 29 Aug 1949, OKIDIST 9/1/268 – OW 7915, NNAE.

⁸³ *West African Pilot*, 27 Apr 1949.

⁸⁴ Nigerian Secretariat – L.H. Gorsuch, 18 July 1949 (letter no 31766/Vol VI/160), CO 852/982/5, NA.

⁸⁵ *Daily Times*, 5 Aug 1949; *West African Pilot*, 5 Aug 1949.

⁸⁶ *West African Pilot*, 22 Oct 1949.

⁸⁷ One should also mention that discussions for the new constitution got underway in 1949 and it is possible that problems with oil exploration were pushed to the background to make room for what were perceived to be more pressing political matters in the constitutional negotiations. These negotiations led to the adoption of a new constitution which was implemented in 1951. No evidence was found in the *West African Pilot* and the *Daily Times* that Shell/D'Arcy again informed local communities of planned exploration work in their territories after the statement of 22 October 1949.

⁸⁸ Brief record of a discussion held at Government House, Lagos, on Thursday, 15th Sept, 1949, CO 852/982/5, NA.

⁸⁹ Note of meeting held in S.718 at 3 p.m. on Friday, 12th Aug, 1949; Shell Overseas Exploration Company – The Under Secretary of State, Colonial Office, 17 Aug 1949 (letter no P.D.2/B); Sir A. Macpherson – Sir Henry Poynton, Colonial Office, 25 Oct 1949 (letter), CO 852/982/5, NA.

⁹⁰ Personal letter to Sir John Macpherson (no 19860/12/49), 24 Oct 1949, CO 852/982/5, NA.

⁹¹ Sir A. Macpherson – The Secretary of State for the Colonies, 14 Dec 1949 (Top Secret Saving no 2957), CO 852/982/5, NA.

⁹² Registration certificate of the Shell/D'Arcy Petroleum Development Company of Nigeria Limited, formed 10 Sept 1951 in Lagos, BP 119293, BPA. Though an important step at the time, the creation of the company in 1951 could also be viewed as merely an early step by Shell/D'Arcy to comply with those sections in the Mineral Oils Ordinance that required the formation of a locally incorporated oil company within five years of the commencement of oil exports.

⁹³ K.R. Henshaw, Some notes on the Administrative Departments of the Shell D'Arcy Petroleum Development Company of Nigeria, 2-3, BP 52584, BPA; *West African Pilot*, 11 Mar 1958.

⁹⁴ F.W. Richards – F.W. Farrel, Ministry of Fuel and Power, Petroleum Division, 21 Aug 1946 (letter), BP 60555, BPA; Governor of Nigeria – A. Creech-Jones, Secretary of State for the Colonies, 22 Oct 1948, CO 852/982/4, NA.

⁹⁵ Shell D'Arcy Petroleum Development Company of Nigeria Ltd. – Oil exploration licences, ONDIST 12/1/1782 – OP 2662/2, NNAE.

⁹⁶ *Ibid.*; A.C.F. Armstrong, Permanent Secretary, Ministry of Lands, Mines and Power, Lagos – J.M. Kisch, Colonial Office, 25 June 1957 (Secret letter no SMO 1347/7), CO 1029/255, NA; Schätzl, *Petroleum in Nigeria*, 1, 7, 79.

⁹⁷ Owen, *Trek of the Oil Finders*, 1486.

⁹⁸ Schätzl, *Petroleum in Nigeria*, 14; Webb, 'Nigeria as an Oil Producer', 716.

⁹⁹ Application for an Oil Pipeline Licence, 16 May 1957; Application for Oil Pipeline Licence – Egbema/Umualogu, Degema and Ahoada Divisions, 11 June 1957; Application for Oil Pipeline Licence from Obeakpu near Afam to mile 3½ from Port Harcourt on Aba/Port Harcourt Railway, Aba and Ahoada Divisions, 11 July 1957, PHMCO 6/1/152 – 346A, NNAE.

¹⁰⁰ Shell-BP Petroleum Development Company of Nigeria Limited, *Shell-BP*, 3; National Economic Council, *Economic Survey of Nigeria, 1959*, 58; *Financial Times*, 10 March 1958 (cutting no DNS no 49/1958), Group History Series (2B/11), Shell Group Archives (London); *West African Pilot*, 11 Mar 1958.

¹⁰¹ A.C.F. Armstrong, Permanent Secretary, Ministry of Lands, Mines and Power, Lagos – J.M. Kisch, Colonial Office, 25 June 1957 (Secret letter no SMO 1347/7); Oil Prospecting in Nigeria, 1957 (memorandum); J.M. Kisch, Colonial Office – A.C.F. Armstrong, Ministry of Lands, Mines and Power, Lagos, 4 July 1957 (letter no PMD 138/14/06). CO 1029/255, NA; Schätzl, *Petroleum in Nigeria*, 3-4.

¹⁰² A.C.F. Armstrong, Permanent Secretary, Ministry of Lands, Mines and Power, Lagos – J.M. Kisch, Colonial Office, 25 June 1957 (Secret letter no SMO 1347/7), CO 1029/255, NA.

¹⁰³ Schätzl, *Petroleum in Nigeria*, 4.

Published references

American Association of Petroleum, 'Introduction and Summary'. 2008. Available at http://www.aapg.org/eseries/StaticContent/AAPG_files/html/intro517.html

Bamberg, J.H. *The History of British Petroleum 2: The Anglo-Iranian years, 1928-1954*. Cambridge: Cambridge University Press, 1994.

-
- Carland, John M. *The Colonial Office and Nigeria, 1898-1914*. Basingstoke: Macmillan, 1985.
- Clark, J.S. *The Oil Century: From the Drake Well to the Conservation Era*. Norman: University of Oklahoma Press, 1958.
- Coleman, James S. *Nigeria: Background to Nationalism*. Berkeley: University of California, 1958.
- Dorward, D.C. *Annual Departmental Reports Relating to Nigeria and British Cameroons, 1878-1960*. Wakefield: Microfilm Academic Publishers, 1979.
- Dunston, Wyndham R. *Southern Nigeria: Report on the Results of the Mineral Survey 1908-9*. Colonial Reports – Miscellaneous no 81. London: Imperial Institute, 1911.
- Falola, Toyin. *Development Planning and Decolonization in Nigeria*. Gainesville: University Press of Florida, 1996.
- Ferrier, R.W. *The History of the British Petroleum Company 1: The Developing Years 1901-1932*. Cambridge: Cambridge University Press, 1982.
- Fieldhouse, D.K. *Merchant Capital and Economic Decolonization: The United Africa Company, 1929-1987*. Oxford: Clarendon Press, 1994.
- Fieldhouse, D.K. *Unilever Overseas: The Anatomy of a Multinational 1895-1955*. London: Croom Helm, 1978.
- Frynas, Jędrzej Georg. *Oil in Nigeria: Conflict and Litigation Between Oil Companies and Village Communities*. Hamburg: LIT Verlag, 2000.
- Hailey, William M. *An African Survey: A Study of Problems Arising in Africa South of the Sahara*. London: Oxford University Press, 1938.

Hopkins, A.G. 'An Economic History of Lagos, 1880-1914'. Ph.D. thesis. University of London, 1964.

Hopkins, A.G. 'Imperial Business in Africa. Part 1: Sources'. *Journal of African History* 17, 1 (1976): 29-48.

Ikein, A.A. *The Impact of Oil on a Developing Country: The Case of Nigeria*. New York: Praeger, 1990.

International Bank for Reconstruction and Development, *The Economic Development of Nigeria*. Lagos: John Hopkins Press, 1954.

Jeffreys, M.D.W. 'The Search for Oil in Nigeria'. *West Africa* (Sept 1953): 26.

Jones, Geoffrey. *The State and the Emergence of the British Oil Industry*. Basingstoke: Macmillan, 1981.

Khan, S.A. *Nigeria: The Political Economy of Oil*. Oxford: Oxford University Press, 1994.

McBeth, B.C. *British Oil Policy 1919-1939*. London: Routledge, 1985.

Kingdom, Donald. *The Laws of Nigeria Containing the Ordinances of Nigeria in Force on the 1st Day of January, 1923*. Vol. I. Lagos: Government Printer, 1923.

Kingdom, Donald. *The Laws of the Federation of Nigeria and Lagos in Force on the 1st Day of June 1958*. Vol. IV. Lagos: Eyre and Spottiswoode, 1958.

Kitson, A.E. 'Southern Nigeria: Some Considerations of its Structure, People, and Natural History'. *The Geographical Journal* 41, 1 (Jan 1913), 16-34.

Munro, J. Forbes. *Maritime Enterprise and Empire: William Mackinnon and His Business Network, 1823-1893*. Woodbridge: Boydell and Brewer, 2003.

National Economic Council. *Economic Survey of Nigeria, 1959*. Lagos; Federal Government Printer, 1959.

Njeze, Cally C.O. 'Oil Concessions and Land Acquisition in Nigeria'. PhD thesis, University of Cambridge, 1978.

Owen, Edgar Wesley. *Trek of the Oil Finders: A History of Exploration for Petroleum*. Tulsa: American Association of Petroleum Geologists, 1975.

Parkinson, John. 'The Geological Structure of West Africa'. *Journal of the Royal African Society* 13, 49 (1913): 14-22.

Pearson, S.R. *Petroleum and the Nigerian Economy*. Stanford: Stanford University Press, 1970.

Sampson, Anthony. *The Seven Sisters: The Great Oil Companies and the World They Made*. New edition. London: Hodder and Stoughton, 1988.

Schätzl, L.H. *Petroleum in Nigeria*. Ibadan: Oxford University Press, 1969.

Shell-BP Petroleum Development Company of Nigeria Limited. *The Shell-BP Story*. Port Harcourt: Shell-BP, 1965.

Shenton, Robert. 'Nigerian Agriculture in Historical Perspective: Development and Crisis, 1900-60'. In *State, Oil and Agriculture in Nigeria*, edited by Michael Watts. Berkeley: University of California, 1987.

Smith, George. 'Nyasaland'. *Journal of the Royal African Society* 24, 93 (1924): 14-24.

Speed, Edwin Arney. ed. *Laws of the Colony of Southern Nigeria Being the Schedule to the Statute Laws Revision Ordinance, 1908*. Vol. II. London: Stevens, 1908.

Webb, S.J. 'Nigeria as an Oil Producer'. *New Commonwealth* 38 (1960): 716-717.