**Petroleum engineers and technicians in colonial and postcolonialAlgeria*:* a contribution to social history of French oil industry (1944-1973)**

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At the end of World War II French government financed hydrocarbon prospection in colonial territories and in the Sahara desert in order to implement its energy self-sufficiency. As the exploration of remote and vast territories required specific knowledge and practical expertise, French government supported the creation of technical institutions in charge of scientific research and education as to supply the growing demand for engineers and technicians in oil industry. The training of this highly-qualified working class has been an essential condition for the rapid development of Saharan production between 1947 and 1962, attempting to reduce French technological dependence from Anglo-American oil companies. Finding reserves of “oil-paid-in-francs”[[1]](#footnote-1) was necessary for the development of a French industrial *savoir-faire*, in order to increase national oil production. Algerian oil deposits provided French companies with a learning environment asking to mobilize skills and creativity in order to develop oil production and to build a new industrial infrastructure. From 1962 to 1971, *Société Nationale de Recherche et d’Exploitation des Pétroles d’Algérie* (SNREPAL) and *Compagnie Française des Pétroles d’Algérie* (CFPA) implemented an Algerianisation policy, reversing the proportion of European and Algerian workforce and contributing to Algerian personnel training in Saharan oilfields. During this period Hassi Messaoud has become the most important training centre for several generations of French and Algerian petroleum engineers and technicians assuring the “transitional continuity” of French oil industry in Algeria after decolonization.

## Training institutions and the first generation of French petroleum engineers

After suffering fuel shortages during World War I, French government decided to implement a new energy policy based on oil self sufficiency in order to supply the growing demand of carburant for military and civilian use. The foundation of the *Compagnie Française des Pétroles* (CFP) in 1924 has been “the first attempt to develop production of oil under French control in different producing regions”[[2]](#footnote-2). Prime Minister Raymond Poincaré asked the Algerian born Politechnician engineer Ernest Mercier to supervise the creation of the new industry “increasing state regulation and closer collaboration between government and private enterprises” in oil sector[[3]](#footnote-3). CFP obtained 23,75% share in Turkish Petroleum Company (TPC) from French government, becoming an associated operator in Middle-East oilfields. In 1929, the creation of *Compagnie Française de Raffinage* supported the rationalization of French refining industry previously controlled by Anglo-American companies. In this first stage of national petroleum policy the main goal was to develop the French share in Middle-East oilfield in order to supply the national refining industry and distribution system. In this early phase of French petroleum industry “it was more profitable to negotiate 1 cent reduction on posted prices instead of investing millions of dollars in oil exploration in other regions”[[4]](#footnote-4). French *pétroliers* were negotiators and traders adopting an import-price-reduction business strategy and acting, as Ernest Mercier said, “as the defender of both state’s interests and those of the companies”[[5]](#footnote-5). In this period it was necessary to support training and education of French petroleum engineers and technicians in order to reduce the technological dependence from Anglo-American oil companies. The creation of the *Office National des Combustibles Liquides* (ONCL) in 1925 supported the technological development of petroleum industrial process[[6]](#footnote-6). In the same period the *Direction des Essences et des Pétroles*,the Ministry of Education and the University of Strasbourg founded the *Ecole Nationale Supérieure du Pétrole et des Combustibles Liquides*. The main goal of this institution was to train the first generation of French geologist, petroleum and chemical engineers[[7]](#footnote-7), providing technical education in Geology, Oil exploitation and Chemistry and proposing internships and training in oil industry in France (Péchelbronn), Poland and Romania[[8]](#footnote-8). The discovery of Saint-Marcet gas field in 1939 encouraged the creation of the *Régie Autonome des Pétroles* (1939), the *Société Nationale des Pétroles d’Aquitaine (SNPA)* and the *Société Nationale des Pétroles du Languedoc Méditerranéen (SNPLM)*. In 1944, French government founded the *Bureau de Recherche des Pétroles* (BRP) to coordinate national oil policy and, defining the first five-year oil and gas exploration program (1946-1950). As the new exploration program increased the demand for high skilled workforce and technicians, the foundation of *Institut Français du Pétrole* (IFP)completed the reform of educational and research institutes in oil sector. IFP main goal was to support Frenchengineers and technicians training, to develop scientific research in geology, drilling, refining and to create the first petroleum documentation center in France[[9]](#footnote-9). IFP was also in charge of the identification of French oil companies’ demands for high skilled workforce, organizing training and post-training courses[[10]](#footnote-10). The former *Ecole Nationale Supérieure du Pétrole et des Moteurs* of Strasbourg was integrated in IFP structure and centralized in Paris region in 1947[[11]](#footnote-11). During the same year 110 students attended 6 specialization courses divided in 2 sections “Prospection and Exploration” and “Physics, Chemistry and Refining process”[[12]](#footnote-12). IFP scholarship covered students training cost and financed their internship in oil companies. As Professor Weiss, the ENSPM director said, it was necessary to provide a strong incentive in order to convince young engineers to continue their specialization in oil industry one year after their graduation. IFP student’s scholarships amounted 21.000 francs for engineers and 17.500 for technicians for more than 29,5 million ancient francs in 1949 IFP budget[[13]](#footnote-13). In the same year IFP financed the training of 224 engineersand 15 *élèves-sondeurs* affected in the drilling school section in Toulouse and Sidi-Slimane in Morocco[[14]](#footnote-14). This educational policy provided French oil companies with engineers and technicians in charge of the implementation of national oil exploration program. IFP technical teaching was advised by American oil companies’ experts in the field of drilling and seismic prospection methods, drilling fluids, testing and production[[15]](#footnote-15). In IFP “Prospection” school class 1947-1948 most of the 44 students[[16]](#footnote-16) were affected to French companies exploration branches in the colonies and in mainland France such as: *Société Chérifienne des Pétroles* (SCP), *Société Nationale de Recherche et d’Exploitation de Pétrole en Algérie* (SNREPAL), *Syndicat d’Etudes et de Recherche Pétrolière au Gabon* (SERP Gabon), *Régie Autonome des Pétroles* and the *Société Nationale des Pétroles du Languedoc Méditerranéen (SNPLM)*. IFP training classes provided the first generation of French petroleum *cadres* with technical and scientific knowledge supporting oil exploration development in remote and vast areas such as the Sahara. Louis Barrabé, professor of applied geology at the University of Paris who participated in the discovery of Saint-Marcet oilfield, supported the adoption of a scientific approach in oil prospection criticizing the idea that “oil exists where it is found”[[17]](#footnote-17). This consideration resumes the opposition between “managers” and “technicians” in petroleum institutions. As highlighted by professor Weiss, the majority of IFP board members were not petroleum engineers but company managers with limited technical knowledge in petroleum field-work activities[[18]](#footnote-18).

## French petroleum engineers and technicians in Hassi Messaoud

Pioneering exploration of French Sahara was started by the geographer Capot-Rey and the geologist Conrad Kilian which supported the idea that desert underground was rich in hydrocarbons hidden at great depth. Despite the skepticism of French scientific community CFP mining engineers Jaques Bénézit and SNREPAL engineer Armand Colot agreed a joint exploration of 260.000 km2 surface in northern Sahara. SNREPAL and CFP signed a joint-venture agreement on 12 Saharan concessions sharing prospection costs and benefits at the rate 49 – 51%. This agreement engaged the companies for 1250 millions of ancient francs investment from 1951 to 1953 and for 2 billion investments during the two followings five years periods[[19]](#footnote-19). In January 27th, 1953 CFP Chairman and Chief Executive Officer Victor de Metz encouraged the creation of the *Compagnie Française des Pétroles d’Algérie* (CFPA), the company’s Algerian branch. With Jacques Bénézit named General Director CFPA became the CFP executive arm of in Algeria implementing the autonomization of the first Exploration-Production branch from the parent company. CFPA was provided with CFP concession in Algeria and 2 billions of ancient francs founding capital (with 35% share owned by French government). Saharan oil development program required an ever-growing number of highly qualified engineers and technicians, other than the support of contractor companies as the *Compagnie Générale de Géophysique,* which contributed to the technological developed of seismic reflection and refraction research method. In 1953 CFPA was composed by 153 workers (97 permanent workers and 56 auxiliary seasonal workers) including 17 engineers, 11 *agents de* maîtrise and technicians and 28 administrative employees[[20]](#footnote-20). The company started a first recruitment wave that will continue until Algerian independence in 1962. Engineers and technicians were recruited from other French exploration companies as the Moroccan *Société Chérifienne des Pétrole* and the *Régie Autonome du Pétrole.* Highly experienced engineers as Pierre Germes*,* (theancient Algiers Head Office General Director), Jean d’Herbès (Hassi Messaoud district chief), and Louis Ramette (Technical Department Director), composed the core group that started exploration activities in El Golea, Oued Naoumus and Northern Hoggar region, before focusing exploration effort in Touggourt and in Ouargla. Hassi Messaoud discovery in 1956 imposed to expand the CFPA recruitment in order to assure the rapid development of the Saharan production. This recruitment wave was economically supported by oil income. Since 1958 Saharan oil was transported with a provisional 8” pipeline connecting Hassi Messaoud to Touggourt then it was transferred by tank car on the ancient military railway until the port of Philippeville. The first oil shipping financed also the construction of a production center in Hassi Messaoud. In 1959 CFPA and SNREPAL joint-venture *Société Pétrolière de Gérance* (SOPEG) inaugurated a 24” pipeline connecting Haoud el Hamra to the port of Bougie. The number of productive drilling wells in Hassi Messaoud incremented from 8 to 24 in 1959[[21]](#footnote-21), and from 24 to 43 between 1960 and 1961[[22]](#footnote-22). Exploration drilling amounted 13.200 meters in 1959 compared with the 6600 meters in 1958. These rapid achievements have been possible thanks to exponential growth of CFPA personnel. At the end of 1958 the CFPA employed 1299 people, the number of engineers increased from 46 in 1956 to 144 in 1958 and the number of supervisors and technicians from 58 to 253. After the discovery of Hassi Messaoud the company workforce incremented by 118% in 1957[[23]](#footnote-23). CFPA administrative personnel incremented from 28 to 326 employees between 1953 and 1959 thanks to the expansion of Algiers direction and the creation of a new Technical department in Hassi Messaoud district. Hassi Messaoud district and Algiers direction became even more independent from the company from the parent company and CFP Chairman and Chief Executive Office and based in Paris. Despite the rapid increment of CFPA personnel the company reports attested that recruitment problems were due to the limited numbers of trained workforce in French oil industry labor market[[24]](#footnote-24). The competition with other French exploration-production companies made extremely difficult to hire high skilled workers from mainland France*.* Working in an extreme and inhospitable environment such as the Sahara desert imposed precise criteria for hiring: young age, perseverance and perfect health conditions. Employees had to be encouraged by “[…] a good pace on carrier advancement and financial benefits related with the working conditions in the Sahara”[[25]](#footnote-25). For this reason CFPA recruited most of its personnel among *Pieds-Noirs,* which counted for the majority of the administrative personnel before Algerian independence. As the number of graduated engineers and technicians was no sufficient to satisfy the growing need for labor CFPA decided to invest in corporate training. The company “core group” was completed with the recruitment of aviation engineers and colonial civil engineers with no previous experience in oil industry[[26]](#footnote-26). They were trained on the field through practical work experience, internship and specific courses held with IFP cooperation. Starting from July 1957 CFPA opened one drilling section school in the Sahara, participating in drilling technicians training and hosting different students from other French exploration production companies for six month internships. As to reduce dependence from the European personnel, the company trained local workers, promoting the integration of *Français Musulmans d’Algérie.* In 1953, two *indigènes* were recruited for the first time in El Goléa attending floorhand training[[27]](#footnote-27). Even if most of Algerians were recruited as seasonal workers, 308 *Français Musulmans d’Algérie* were employed by CFPA the end of 1957 among them 11 administrative employees and 10 specialized workers[[28]](#footnote-28).

*CFPA Engineers, technicians and Administrative personnel evolution (1953-1961)*

## Algerian independence, Algerianisation and nationalization of oil industry

The rapid development of French oil industry in the Sahara supplied France with “oil-paid-in-francs” while the country was facing the decolonization process. The control of Saharan natural resources was claimed by Algerian political movements such as the *Front de Libération Nationale* (FLN) and the *Mouvement National Algérien* (MNA) headed by Messali Hadj. The latter one published a monthly magazine called “The Sahara” campaigning against Algerian oil and gas pillage. Since the creation of the *Organisation Commune des Régions Sahariennes* (OCRS) in 1957 French government reshaped the territorial organization of the Saharan region, separating Algeria from its desert. During Algerian War peace talks, the *Front de Libération Nationale* (FLN) imposed the recognition of Algerian territorial integrity as a *condition sine qua non* for the end of hostilities*.* Evian Accords inaugurated a new Franco-Algerian interdependence on economic issues and hydrocarbon production[[29]](#footnote-29). After 1962, the Government of the Algerian Republic acquired former French Governorate participation in Algerian oil industry which corresponded to “5% of the research, 10% of the production, 9% of transport and 10 % of refining industry when the distribution system was owned by foreign companies”[[30]](#footnote-30). The Algerian independent government new economic policies encouraged the “massive departure of engineers and technicians (92,8% of *cadres supérieurs* and 82,4% of technicians and *agent des maîtrise* ) that were in charge of the colonial administration and French colonial companies”[[31]](#footnote-31) also in oil industry. A great number of CFPA expatriated employees and *Pieds-noirs* were obliged to be repatriated while the company had to take care of their insertion and accommodation in France[[32]](#footnote-32). After independence, Ben Bella government started new negotiations on oil sector leading to the signature of Algiers Agreement on 29th July 1965. Algiers Agreements imposed a priority option for Algerian government in gas market, a cooperative association (ASCOOP) between the new Algerian national oil company SONATRACH and other French companies. The treaty imposed also a technical and financial contribution to Algerian industrial development[[33]](#footnote-33). In 1965 Algerian government took 50% share in SNREPAL capital, replacing the French Chairman and Chief Executive Officer Roger Goetze with the Algerian engineer Belkacem Nabi, and naming the French geologist Michel Tenaille as vice-chairman[[34]](#footnote-34) for a five years transitional period”[[35]](#footnote-35). While SNAREPAL and other foreign companies’ branches were touched by restrictions and nationalization measures, CFPA continued the production activities until 1971, even if exploration drastically reduced between 1962 and 1966. As Jean D’Herbès said, Algiers Agreements and the Algerian government new attitude “were suggesting CFPA to continue taking care of Hassi Messaoud”[[36]](#footnote-36). In this period oil and gas production was a primary source of income for Algerian “industrializing industry” strategy. In order to invest in oil exploration and production Algerian government needed CFPA support in Hassi Messaoud. The First generation of Algerian engineers did not have technical knowledge to assure the continuity of oil production, being completely dependent from French *savoir-faire* in oil industrial process. During the colonial period technical education was not accessible for indigenous *Français Musulmans d’Algérie* and the “engineer as a socio-professional category was practically inexistent in Algeria”[[37]](#footnote-37). This category has appeared during the 1970s thanks to the creation of specific training institution[[38]](#footnote-38) such as the *Centre Africain des Hydrocarbures et du Textile* (founded in 1964 and supported by Algeria and Soviet Union technical cooperation agreements) and the *Institut Algerien du Pétrole* which offered post-graduation courses and supported the scientific research on oil and gas[[39]](#footnote-39). From 1962 to the early 1971, petroleum and gas production has been assured by Algerian petroleum engineers and technicians trained by French companies thanks to the Algerianisation policy adopted after independence. SNREPAL and CFPA implemented the Algerianisation of their personnel following two different models. While SNREPAL nationalization imposed an Algerianisation from above (top-down) staring from the board of directors, CFPA decided to implement an Algerianisation from below (bottom-up) replacing the European workforce with Algerian workers and technicians.

*Algerianisation of workforce in CFPA (1963-1970)*

From 1962 CFPA Personnel department studied a promotion system in order to “increase quantitatively and qualitatively”[[40]](#footnote-40) Algerian presence in the company structure. In 1970 the CFPA had 757 Algerian agents compared with 448 in 1964. Most of them were workers and laborers even if the company counted 8 Algerian engineers and 21 *agents de maîtrise*. Corporate training took place in Hassi Messaoud training center and was organized at different echelon permitting the promotion of agents from all levels. According to company records “Production operator assistants”[[41]](#footnote-41) training allowed 144 Algerian unskilled workers to acquire technical knowledge on oil and gas production. Since 1965 Algerian recruitment wave has supported the “deEuropeanization” of the company personnel with an exception for the highest levels. Discussions about Algerianisation policy were regularly taking place at the CFPA Works Council with the participation of company board’s directors, Algerian personnel and *Union Générale des Travailleurs Algériens* (UGTA) trade union representatives. Since the beginning of the negotiation, Algerian side claimed the extension of Algerianisation workforce policy to the “responsible position”[[42]](#footnote-42) asking CFPA to directly contribute to engineers and technicians training. Algerian personnel and trade union representative supported the adoption of an “Algerianisation from above” instead of the “Algerianisation from below” proposed by CFPA. If from Algerian side Algerianisation main goal was to reduce dependence from French *savoir-faire* in oil industry, from French side the implementation of this policy was necessary to continue CFPA exploration and production activities on the field. From 1966 to 1969 a massive recruitment of French engineers and technicians supported production development projects in Hassi Messaoud and the creation of a Liquefied Natural Gas plant production other than the implementation of secondary recovery oil program. This recruitment wave represents the second generation of French exploration and production engineers and technicians trained in Hassi Messaoud and in the Sahara. After 1971 nationalization and CFPA closing down, French personnel were repatriated and affected to other exploration and production project in North Sea, Indonesia Abu Dhabi. This generation of engineers and technicians has directly contributed to the creation of CFP-Total Exploration and Production branch.

**Conclusion**

Since its discovery in 1956, Hassi Messaoud has been the most important French oil production center as well as the main training field for French and Algerian petroleum engineers, technicians and workers. Hassi Messaoud has been the most important training center for the first generation of French exploration-production petroleum engineers, contributing to technological innovation and to the development of French savoir-faire in oil industial process. The nationalization of Algerian oil industry in 1971 marked the end of CFPA activity in Algerian Sahara, even if oil production was assured by the company for a transitional period. In 1972 SONATRACH personnel replaced the last French engineers in charge of the district. Algerianisation process and Franco-Algerian cooperation in education and training in Hassi Messaoud has permitted to postpone the nationalization for over a decade, contributing to the transitional continuity of Algerian oil industry.

1. cf Samir Saul, « SNREPAL, CFPA and "oil-paid-in-francs"» Alain Beltran, *A Comparative History of National Oil Companies*, Peter Lang, 2010. [↑](#footnote-ref-1)
2. André Nouschi, *La France et le pétrole: de 1924 à nos jours*, Paris, France, Picard, 2001, p. 31. [↑](#footnote-ref-2)
3. Richard F. Kuisel, *Ernest Mercier: French technocrat*, Berkeley, University of California Press, 1967, p. 25. [↑](#footnote-ref-3)
4. Interview with an ancient petroleum industry administrative cadre, Paris, April 22nd , 2017. [↑](#footnote-ref-4)
5. R. F. Kuisel, *Ernest Mercier*, *op. cit.*, p. 37. [↑](#footnote-ref-5)
6. Loi du 10 janvier 1925 relative au régime du pétrole et portant création de l’Office National des Combustibles Liquides. [↑](#footnote-ref-6)
7. Annales de l'Office national des combustibles liquides, Société d'éditions techniques (Paris), 1926 p. 229-230 [↑](#footnote-ref-7)
8. Ibid. [↑](#footnote-ref-8)
9. Procès verbal de la Séance du Conseil d’Administration de l’Institut Français du Pétrole, 18 Octobre 1946, AN 19800284-221. [↑](#footnote-ref-9)
10. Ibid. [↑](#footnote-ref-10)
11. After being displaced in Clermont-Ferrand (chemistry and refining sector) and Toulouse (geology, drilling and production sector) during Nazi occupation. [↑](#footnote-ref-11)
12. Procès verbal de la Séance du Conseil d’Administration de l’Institut Français du Pétrole, 28 Octobre 1948, AN 19800284-221. [↑](#footnote-ref-12)
13. Projet de Budget 1949 de l’Institut Français du Pétrole, 10 Novembre 1948, AN 19800284-221. [↑](#footnote-ref-13)
14. Ibid. [↑](#footnote-ref-14)
15. Projet de Budget 1947 de l’Institut Français du Pétrole, slnd, p. V, AN 19800284-221. [↑](#footnote-ref-15)
16. 37 of them were specialized in geological prospection and 7 in geophysical prospection. [↑](#footnote-ref-16)
17. Pierre ROUTHIER, "La première synthèse d’envergure sur les provinces pétrolifères par un grand maître méconnu : Louis Barrabé (1895-1961)", *Travaux du Comité français d’Histoire de la Géologie*, 2003, 3ème série (tome 17), p.142. [↑](#footnote-ref-17)
18. Note à l'attention de M. JOLIOT concernant l’Institut Français du Pétrole, 7 juin 1945, AN 19800284-221. [↑](#footnote-ref-18)
19. Compagnie Française des Pétroles, Documents sur l’exercice 1951, p.123, AHT Fonds Algérie-511. [↑](#footnote-ref-19)
20. Compagnie Française des Pétroles, Rapport annuel de direction 1954, p. 47, AHT Fonds Algérie-511. [↑](#footnote-ref-20)
21. Compagnie Française des Pétroles, Rapport Annuel de direction 1959 p. 3, AHT Fonds Algérie-511. [↑](#footnote-ref-21)
22. Compagnie Française des Pétroles, Rapport Annuel de direction 1961 p. 6, AHT Fonds Algérie-511. [↑](#footnote-ref-22)
23. Compagnie Française des Pétroles, Rapport annuel de direction 1957, p. 118 AHT Fonds Algérie-511. [↑](#footnote-ref-23)
24. Ibid. [↑](#footnote-ref-24)
25. Compagnie Française des Pétroles, Rapport annuel de direction 1954, p 26, AHT Fonds Algérie-511. [↑](#footnote-ref-25)
26. Interview with a former petroleum engineer in Hassi Messaoud, Paris, March 8th, 2017. [↑](#footnote-ref-26)
27. Compagnie Française des Pétroles, Rapport annuel de direction 1954, p. 51, AHT Fonds Algérie-511. [↑](#footnote-ref-27)
28. Compagnie Française des Pétroles, Rapport annuel de direction 1957, p. 120, AHT Fonds Algérie- 511. [↑](#footnote-ref-28)
29. Samir Saul, « Politique nationale du pétrole, sociétés nationales et « pétrole franc » », *Revue historique*, , no 638, p. 355‑388, p. 372. [↑](#footnote-ref-29)
30. Maurice Brogini, « Hydrocarbures et industrialisation en Algérie », *Cahiers de la Méditerranée*, 1972, vol. 4, no 1, p. 1‑22, p. 10. [↑](#footnote-ref-30)
31. Oumelkhir Touati, « Les ingénieurs en Algérie de l’époque coloniale à la crise des années 10990 : approche socio-historique d’un métier », *L’Année du Maghreb*, 2009, V, p. 589-611, p. 595. [↑](#footnote-ref-31)
32. Interview with a former petroleum engineer in Hassi Messaoud, Paris, March 8th, 2017. [↑](#footnote-ref-32)
33. Ibid. [↑](#footnote-ref-33)
34. S. Saul, « Politique nationale du pétrole, sociétés nationales et « pétrole franc » », *op. cit.*, p. 378. [↑](#footnote-ref-34)
35. Cf Roger Goetze, Florence Descamps et Agathe Georges-Picot, *Entretiens avec Roger Goetze, haut fonctionnaire des Finances. 1, Rivoli-Alger-Rivoli, 1937-1958*, Paris, France, Comité pour l’histoire économique et financière de la France, 1997. [↑](#footnote-ref-35)
36. Marie-Bénédicte Desjuzeur et Jacques Marseille, « La compagnie française des pétroles en Algérie (1950-1971) »Université Paris I, Paris, France, 1992, p. 84. [↑](#footnote-ref-36)
37. Anousheh KARVAR, « Polytechniciens algériens, tunisiens et marocains : des acteurs de l’histoire nationale aux témoins de la mondialisation » in Éric Gobe (dir.), *Les ingénieurs maghrébins dans les systèmes de formation*, Rabat, Institut de recherche sur le Maghreb contemporain, 2014, p. 201. [↑](#footnote-ref-37)
38. Ibid. [↑](#footnote-ref-38)
39. M. Brogini, « Hydrocarbures et industrialisation en Algérie », *op. cit.*, p. 10. [↑](#footnote-ref-39)
40. Compagnie Française des Pétroles, La promotion sociale en Algérie 1962 - 1970, p. 1, AHT Fonds Algérie-499. [↑](#footnote-ref-40)
41. Stage d’aide opérateur de production. [↑](#footnote-ref-41)
42. Compagnie Française des Pétroles, Procès Verbal de la réunion préparatoire tenue à Alger le 14 mai 1989 « Problèmes d’Algérianisation » p.6, AHT Fonds Algérie-499. [↑](#footnote-ref-42)