

APPLICATION FOR CERTIFICATE OF AUTHORITY

To the Secretary of State of Idaho.

Pursuant to Section 30-1-110, Idaho Code, the undersigned Corporation hereby ~~applies~~ ^{applies for a Certificate} of Authority to transact business in your State, and for that purpose submits the following statement:

1. The name of the corporation is SEFEL GEOPHYSICAL LTD.
2. *The name which it shall use in Idaho is SEFEL GEOPHYSICAL LTD.
3. It is incorporated under the laws of the Province of Alberta, Canada
4. The date of its incorporation is May 12, 1971 and the period of its duration is Perpetual
5. The address of its principal office in the state or country under the laws of which it is incorporated is #500, 205 - 5 Avenue S.W., Calgary, Alberta. T2P 2V7.
6. The address of its proposed registered office in Idaho is 300 North 6th Street
Boise, Idaho 83701, and the name of its proposed registered agent in Idaho at that address is C T CORPORATION SYSTEM
7. The purpose or purposes which it proposes to pursue in the transaction of business in Idaho are:
Seismic geophysical work and data processing

8. The names and respective addresses of its directors and officers are:

Name	Office	Address
<u>See attached Schedules 'A' and 'B'</u>		

9. The aggregate number of shares which it has authority to issue, itemized by classes, par value of shares, and shares without par value, is:

Number of Shares	Class	Par Value Per Share or Statement That Shares Are Without Par Value
<u>500,000</u>	<u>Common</u>	<u>No Par Value</u>

(continued on reverse)

10. The aggregate number of its issued shares, itemized by classes, par value of shares, and shares without par value, is:

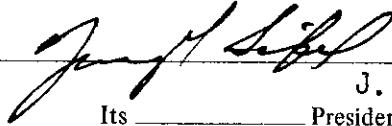
Number of Shares	Class	Par Value Per Share or Statement That Shares Are Without Par Value
101,004	Common	No Par Value

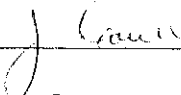
11. The corporation accepts and shall comply with the provisions of the Constitution and the laws of the State of Idaho.

12. This Application is accompanied by a copy of its articles of incorporation and amendments thereto, duly authenticated by the proper officer of the state or country under the laws of which it is incorporated.

Dated August 24, 19 82

SEFEL GEOPHYSICAL LTD.

By  J. Sefel
Its _____ President

and  J. Coull
Its _____ Secretary

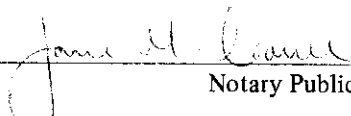
Province

~~STATE~~ OF ALBERTA)
Country) ss:
~~COUNTRY~~ OF CANADA)

I, Jane M. Coull, a notary public, do hereby certify that on
this 24 day of August, 19 82, personally appeared before
me Joseph Sefel, who being by me first duly sworn, declared that he
is the President of SEFEL GEOPHYSICAL LTD.

that he signed the foregoing document as President of the corporation and that the
statements therein contained are true.

JANE M. COULL
Commissioner for Oaths and Notary Public
in and for the Province of Alberta
My Commission does not expire


Notary Public

*Pursuant to section 30-1-108(b)(1), Idaho Code, if the corporation assumes a name other than its true name, this application must be accompanied by a resolution of the Board of Directors to that effect.

August 5, 1982

SCHEDULE 'A'

SEFEL GEOPHYSICAL LTD.

OFFICERS

Chairman of the Board/ President	Joseph Sefel	2102 - 8 Street S.W., Calgary, Alberta. T2T 2Z6
Executive Vice President	Ken MacDonald	432 Ranchridge Bay N.W. Calgary, Alberta. T3G 1V6
Vice President	Theodore Popilchak	5319 Carney Road N.W. Calgary, Alberta. T2L 1G4
Vice President Finance	David Freeman	200 Edgeland Drive N.W. Calgary, Alberta. T3A 2Z1
Vice President	Rodney Graves	2012 - 52 Street N.W. Calgary, Alberta. T3B 1C3
Vice President	Chris Thomas	319 Canter Place S.W. Calgary, Alberta. T2W 3Z3
Vice President	Robert Gray	17017 East Davies Avenue, Aurora, Colorado
Vice President	Larry Watt	6372 South Geneva Circle, Englewood, Colorado 80111
Vice President	Paul Blundell	1 Queens Terrace, Queens Drive, Thames Ditton, Surrey, England
Vice President	Owen Stephenson	1926 - 13 Street S.W. Calgary, Alberta. T2T 3N3
Secretary	Jane Coull	#615, 300 Meredith Road N.E. Calgary, Alberta. T2E 7A8

August 5, 1982

SCHEDULE 'B'

SEFEL GEOPHYSICAL LTD.

DIRECTORS

Joseph Sefel

2102 - 8 Street S.W.
Calgary, Alberta. T2T 2Z6

J. David Carlson

6732 Silver Ridge Way N.W.
Calgary, Alberta. T3B 4R4



Certificate

Canada
Province of Alberta

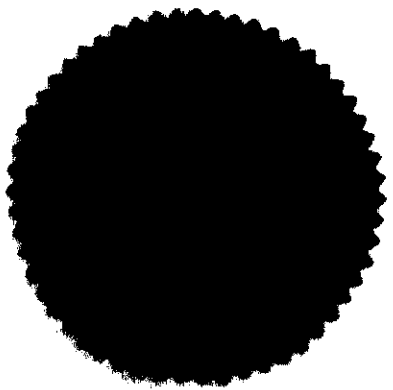
D. J. Campbell

I Hereby Certify

that J. SEFEL & ASSOCIATES LTD.,
incorporated on the 12th day of May,
1971, has this day, pursuant to the
provisions of The Companies Act,
changed its name to Sefel J. & Associates
Ltd.

Given *under my hand and seal at Edmonton*

this nineteenth day of
February one thousand
nine hundred and seventy-three



[Signature]
(Harold J. Thomas)
Deputy Registrar of Companies

John

57857

No.

PROVINCE OF ALBERTA



CANADA

Certificate of Incorporation

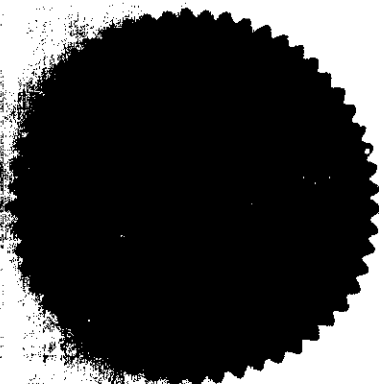
I hereby Certify that

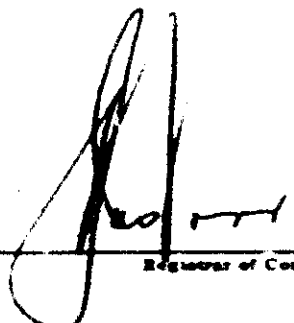
- J. SEFEL & ASSOCIATES LTD. -

has been incorporated under The Companies Act of the Province of Alberta as a Limited Company.

Given under my hand and seal of office at Edmonton this twelfth

day of May A.D. 19 71.




(Jas. Warr)
Registrar of Companies



20216691

Corporate Access No.

CONSUMER AND CORPORATE AFFAIRS

FORM 34

CERTIFICATE

THE REGISTRAR OF CORPORATIONS FOR THE PROVINCE OF ALBERTA,
CANADA, HEREBY CERTIFIES THAT THE DOCUMENTS ANNEXED TO THIS
CERTIFICATE, AND RELATING TO

- SEFEL GEOPHYSICAL LTD. -

ARE TRUE AND ACCURATE PHOTOCOPIES OF DOCUMENTS WHICH ARE
ON THE FILE MAINTAINED IN THIS OFFICE, WHEREOF THEY PURPORT TO
BE COPIES.

GIVEN UNDER HIS SEAL OF OFFICE IN THE PROVINCE OF ALBERTA, THIS

- NINTH - DAY OF - AUGUST - 19 82



Donna J. Campbell
Office of the Registrar of Corporations

No. 20216691

CERTIFICATE

I HEREBY CERTIFY that pursuant to The Companies Act,

SEFEL J. & ASSOCIATES LTD., and

CENTRAL DEVELOPMENT EXPLORATION LTD.,

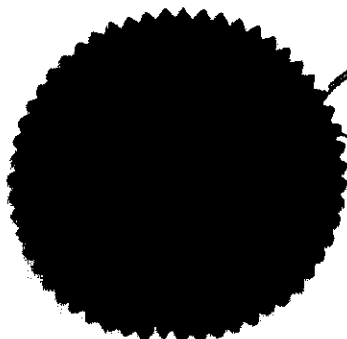
are this day amalgamated as one com-

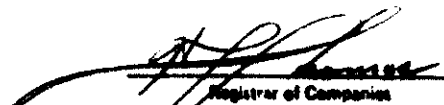
pany under the name of SEFEL J. &

ASSOCIATES LTD.

GIVEN UNDER MY HAND AND SEAL OF OFFICE AT EDMONTON, ALBERTA

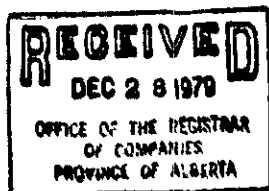
THIS twenty-eighth DAY OF December A. D. 19 79




Registrar of Companies

Alberta
COMMISSIONER AND
CORPORATE AFFAIRS

30316641 PRIVATE CO.



THIS AGREEMENT made in writing this 22nd
day of November A.D., 1979

BETWEEN:

SEFEL J. & ASSOCIATES LTD., a body corporate
incorporated under the laws of the Province of
Alberta.
(hereinafter called "SEFEL")

OF THE FIRST PART

-and-

CENTRAL DEVELOPMENT EXPLORATION LTD.,
a body corporate incorporated under
the laws of the Province of Alberta,
(hereinafter called "CDX")

OF THE SECOND PART

(the parties hereto being collectively
called "the companies" and individually
called "a company").

WHEREAS each of the companies is a company incorporated
pursuant to the laws of the Province of Alberta;

AND WHEREAS the companies wish to amalgamate pursuant
to Section 156 of the Companies Act, being revised Statutes of Alberta
1970, Chapter 60 and Amendments thereto;

NOW THEREFORE THIS AGREEMENT WITNESSETH that the
parties hereto agree as follows:

1. Definitions

In this Agreement certain terms shall be defined
as follows:

- (a) The Amalgamated Company means the company resulting from the amalgamation of SEFEL and CDX.
- (b) The Registrar means the Registrar of Companies for the Province of Alberta.
2. The Companies hereby agree to amalgamate pursuant to the provisions of Section 156 of the Companies Act of the Province of Alberta, being revised Statutes of Alberta 1970, Chapter 60, and Amendments thereto, and to continue as one company limited by shares in accordance with the terms and conditions hereinafter set out.
3. The name of the Amalgamated Company shall be SEFEL J. & ASSOCIATES LTD.
4. The Memorandum of Association of the Amalgamated Company shall be the Memorandum set out as Schedule "A" attached hereto and made part hereof and the said Memorandum is hereby adopted as the Memorandum of Association of the Amalgamated Company.
5. The Articles of Association of the Amalgamated Company shall be the Articles set out in Schedule "B" attached hereto and made part hereof and the said Articles are hereby adopted as the Articles of Association of the Amalgamated Company.
6. The names, occupation and residences of the first directors of the Amalgamated Company are as follows:

Joseph Sefel
19 Maryland Pl. S.W.,
Calgary

BUSINESSMAN

Frank Schwaiger
235 Varsity Estates Link N.W.
Calgary, Alberta

BUSINESSMAN

David Carlson
6733 Silverridge Way, N.W.,
Calgary

BUSINESSMAN

David Freeman
6103 Thornaby Way N.W.,
Calgary

BUSINESSMAN

Kenneth Maier
268 Pinegrove Cl. N.E.
Calgary, Alberta

BUSINESSMAN

Allan Weiler
9332 Academy Dr. S.E.
Calgary

BUSINESSMAN

Jane Coull
515 Crescent Boulevard S.W.
Calgary, Alberta

LAWYER

7. The said first directors shall hold office until the first annual meeting of the Amalgamated Company or until their successors are elected or appointed. The subsequent directors shall be elected each year thereafter as provided for in the Articles of Association of the Amalgamated Company.

8. (a) The authorized capital of SEFEL is FIVE THOUSAND THOUSAND (500,000) Common Shares without nominal or par value having a maximum price or consideration not exceeding the aggregate sum of FIVE THOUSAND THOUSAND (\$500,000.00) DOLLARS of which ONE HUNDRED AND ONE THOUSAND (101,000) Common Shares are issued and outstanding, fully paid and non-assessable;
- (b) The authorized capital of CDM is FOURTEEN THOUSAND EIGHT HUNDRED (14,800) Class A Common Shares without nominal or par value and THREE THOUSAND TWO HUNDRED (3,200) Class B Common Shares without nominal or par value all of which Shares may be issued for a maximum price or consideration not exceeding in the aggregate the sum of SEVENTY THOUSAND (\$70,000.00) DOLLARS and TWO THOUSAND (\$2,000) Class C Common Shares with a nominal or par value of FIFTEEN (\$15.00) DOLLARS per Share which may be issued for a maximum price or consideration not exceeding in the aggregate the sum of THIRTY THOUSAND (\$30,000.00) DOLLARS of which FOURTEEN THOUSAND EIGHT HUNDRED (14,800) Class

A Common Shares and THREE THOUSAND TWO HUNDRED (3,200) Class "B" Common Shares and TWO THOUSAND (2,000) Class C Common Shares are issued and outstanding, fully paid and non-assessable.

9. Upon the amalgamation becoming effective, the share capital of SEFEL and CDX shall be deemed to have been converted into share capital of the Amalgamated Company in the following manner:

- (a) The issued and outstanding Common Shares without nominal or par value of SEFEL shall be converted into an equal number of Common Shares without nominal or par value of the Amalgamated Company;
- (b) The FOURTEEN THOUSAND EIGHT HUNDRED (14,800) issued and outstanding Class A Common Shares without nominal or par value of CDX shall be cancelled and no share certificates of the Amalgamated Company shall be issued in respect thereof as all such shares are beneficially held by SEFEL;
- (c) The THREE THOUSAND TWO HUNDRED (3,200) Class B Common Shares without nominal or par value of CDX shall be cancelled and no share certificates of the Amalgamated Company shall be issued in respect thereof, as all such shares are beneficially held by SEFEL;
- (d) The TWO THOUSAND (2,000) Class C Common Shares having a nominal or par value of FIFTEEN (\$15.00) DOLLARS per share of CDX shall be cancelled and no share certificates of the Amalgamated Company shall be issued in respect thereof, as all such shares are beneficially held by SEFEL;
- (e) The authorized but unissued share capital of SEFEL shall be converted into authorized but unissued share capital of the Amalgamated Company.

10. Upon the issuance by the Registrar of a Certificate of Amalgamation, the shares of SEFEL and CDX shall be deemed to be converted into shares of the Amalgamated Company on the basis specified in Clause 9 hereof, and upon surrender by the shareholders of each of the companies of the certificates representing the shares of the company held by them, shares of the Amalgamated Company shall be allocated on the basis and to the shareholders set out in Clause 9 hereof.

11. The Amalgamated Company shall possess all the property, rights, privileges and franchises and shall be subject to all of the liabilities and obligations of the respective companies.

12. No action or proceedings by or against any of the companies shall abate or be affected by the amalgamation, but for all purposes of such action or proceeding, the name of the Amalgamated Company shall be substituted in such an action or proceeding in the place of the company or companies concerned.

13. Upon the shareholders of each of the companies adopting this Agreement, as required by the Companies Act, this Agreement shall be certified under the Corporate Seal by the Secretary of each of the companies and the parties hereto by their joint application shall, after obtaining the approval in writing of the Registrar, apply to the Court of Queen's Bench of the Province of Alberta for an Order approving the amalgamation of the companies and the parties hereto by their joint application shall, after obtaining the approval in writing of the Registrar apply to the Court of Queen's Bench of the Province of Alberta for an Order approving the amalgamation.

14. The liability of the members of the Amalgamated Company shall be limited.

15. All schedules hereto are incorporated into and form part of this Agreement as it fully set forth herein.

16. The Directors of each of the companies are hereby authorized to assent to any provisions made for a dissenting creditor by the Court, and to assent to any modification of this Agreement which the shareholders of any of the companies at meetings, or which the Court pursuant to the provisions of The Companies Act, may think fit to direct or approve.

17. This Agreement may be terminated by the Directors of either of the companies without cause or reason notwithstanding the approval of this Agreement by the shareholders of either of the companies at any time prior to the issue of a Certificate of Amalgamation by the Registrar.

IN WITNESS WHEREOF THE PARTIES HERETO have executed the within Agreement by the hands of their respective proper officers duly authorized in that behalf, as of the day and year first above written.

SEPEL J. & ASSOCIATES LTD.

Per:

Ken Maier
Vice President Finance

Per:

James H. Lense
Secretary

CENTRAL DEVELOPMENT EXPLORATION LTD.

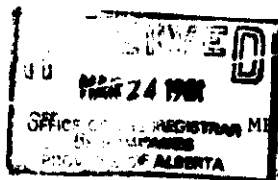
Per:

Ken Maier
Vice President Finance

Per:

James H. Lense
Secretary

20216671



REGISTERED

MAR 24 1981

MEMORANDUM OF ASSOCIATION
OF

SEFEL GEOPHYSICAL LTD.

1. The name of the Company is SEFEL J. & ASSOCIATES LTD.
2. The objects for which the Company is established are:
 - (a) To carry on the business of geophysical and geological data processing (including but not limited to acting as geophysical data processing consultants), and to do any and all matters necessarily or incidentally related thereto.
 - (b) To develop, manufacture and produce equipment and goods related to data processing activities.
 - (c) To acquire, own and hold shares in other corporations or business ventures of whatsoever kind or nature.
 - (d) To consolidate or amalgamate with any other company or companies having objects altogether or in part similar to those herein enumerated or any of them and to take shares therein.
 - (e) To buy, sell, lease or mortgage real estate and do any and all such other acts as may be necessary or incidental to the objects and purposes of the Company as herein set forth.
 - (f) To purchase or otherwise acquire and to sell and dispose of and deal with oil, gas and other mineral leases or claims, lands and rights, mines and mining rights and

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to prospect for, produce, mine, refine, manufacture, pipe or otherwise deal in petroleum and natural gas, minerals or other valuable materials and work, exercise, develop and turn to account all such claims, properties, mines and mining rights and any undertakings in connection therewith.

- (g) To carry on generally the business of merchants and dealers (either wholesale or retail or both) in and to buy, sell, exchange, distribute, import, export, supply, dispose of and otherwise howsoever deal in and with goods, wares and merchandise of every kind, nature and description.
- (h) To invest the moneys of the Company not immediately required in such manner as the Directors of the Company from time to time determine.
- (i) To pay the expenses of and preliminary and incidental to the formation, establishment and registration of the Company.
- (j) To carry on business as geologists and geophysicists and to do any and all matters necessarily or incidentally related thereto;
- (k) To produce, manufacture, buy, sell, both at wholesale and retail, rent, lease, let on hire, install, service, develop and otherwise deal in and with devices for data entry, data output, data communications, data capture, storage and retrieval and any other devices, components and/or parts of any nature or kind whatsoever related or incidental to data processing systems, and for such

purposes to appoint and pay systems analysts, computer programmers and other personnel managers, accountants, experts and agents to manage property and operate franchises;

- (l) to undertake and engage in technical, statistical, academic and scientific research in all commercial, industrial, cultural and scientific fields;
- (m) to engage in the investigation and development of products, methods of manufacture and distribution;
- (n) to purchase, lease, take in exchange or otherwise acquire and hold lands or interests therein, whether vacant, improved or otherwise, together with any buildings or structures that may be on such lands or any of them and to erect thereon houses, dwellings, flats, offices, factories, warehouses and other buildings;
- (o) to buy, sell, exchange, lease or otherwise deal in real estate and interests therein;
- (p) to take or hold mortgages or other security for any unpaid balance of the sale price of any of the lands, buildings or structures so sold, and to

sell, mortgage or otherwise dispose of and deal with the same;

- (q) to engage in and carry on in all of their respective branches the businesses of general contractors and builders for the construction, erection, repair, alteration, maintenance and/or operation of public and private works of whatsoever nature or kind, and to carry on the general business of engineering;
- (r) to build, erect, construct, design, lay out, repair, equip, alter, improve and maintain houses, dwellings, apartment houses, offices, schools, stores, shops, factories, warehouses, service stations and all kinds of buildings, structures or erections whatsoever;
- (s) to plan and develop subdivisions and sites, prepare and file plans, dedicate lands for streets, roads and other purposes, to improve, grade and surface lands and to construct, alter, improve and maintain roads, streets, watermains, sewers, sidewalks and other utilities and services;
- (t) to develop and construct parks, playgrounds and recreational areas and to erect, construct, equip and maintain recreational facilities thereon;

- (u) to solicit, obtain, make, perform, carry out, sub-contract and sub-let contracts, agreements and concessions for or in relation to the business of general contractors, builders and land developers;
- (v) to carry on the business of real estate agents for the sale and purchase of real estate and all interests therein and for reward to procure real estate investments for any person, firm, or corporation; to act as selling agents for the owners of any real estate, subdivisions, building sites, town sites or lands of any kind or any interests therein; to take over and acquire from any person, firm or corporation any agency exclusive or otherwise for the sale of any such lands, sites or interests therein, and to accept assignments of and perform any contracts made by any such person, firm or corporation with any other person, firm or corporation for the sale of any such lands, sites or interests therein as agents or otherwise; and generally to act as real estate, house and rental agents and to carry on the business of general insurance agents and brokers;
- (w) to act as agent and representative in respect of the rental, leasing, operation and management of

lands or interests therein, together with any apartments, stores, shops, houses, dwellings, flats, offices, factories, warehouses or any other buildings and structures that may be on any such lands;

- (x) to act as a consultant, advisor and supervisor in the field of structural and internal design of all mechanical, electrical and other components of buildings of every nature and kind;
- (y) to establish, promote, organize, manage, develop or act as consultants, advisor, supervisor to or to assist in the establishment, promotion, organization, management or development of any corporation, company, syndicate, firm, partnership, enterprise or undertaking engaged in the business of constructing, reconstructing, repairing, altering, improving, decorating, furnishing, equipping, maintaining and/or operating any apartments, stores, shops, houses, dwellings, offices, factories, warehouses or other buildings and to take over and manage and operate any such corporation, company, syndicate, firm, partnership, enterprise or undertaking;
- (z) to act as agents and brokers for the investment,

loan, payment, transmission and collection of money for the purchase, sale, improvement, development and management of any property, real or personal, business or undertakings, and the management, direction, re-organization or control of syndicates, partnerships, associations, firms or companies; and to finance, administer and promote or to assist in financing, administering and promoting syndicates, partnerships, associations, firms or companies;

- (aa) to carry on business as a general financial agent, broker, stockbroker and promoter and generally to carry on in all its branches an agency, promotion and brokerage business;
- (bb) to subscribe for, underwrite, purchase, invest in or otherwise acquire, offer for public subscription, sell, assign or otherwise deal in stocks, bonds, debentures, shares and other securities of any corporation or company, public or private, incorporated or unincorporated;
- (cc) to apply for, obtain, register, purchase, lease, license or otherwise acquire and to hold, use, own, operate and introduce and to sell, assign,

or otherwise dispose of any logos, trade marks, trade names, patents, inventions, improvements and processes used in connection with or secured under Letters Patent of Canada or elsewhere or otherwise; and to use, exercise, develop, grant licenses in respect of or otherwise turn to account any such logos, trade marks, trade names, patents, licenses, inventions, improvements, processes and the like or any such property or rights;

- (dd) to carry on the business of show producers and packagers, film makers, motion picture and recording producers and directors of those activities generally and to acquire, own and operate recording stations, movie theatres, halls, auditoria and other places;
- (ee) to carry on the businesses of advertising and publicity and of furnishing amusement, information and instruction to the public whether by radio, television or other means including, but without limiting the generality of the foregoing, broadcasting, transmitting and publishing news and advertising, concerts, musicals, theatricals, operas or any other form of entertainment or other works or performances of all kinds;

- (ff) to contract for, erect and construct and to acquire, by purchase, lease, license or otherwise, and to hold, sell, lease or otherwise dispose of and operate motion picture theatres or other theatres and places of amusement, entertainment or instruction of every kind, character and description;
- (gg) to carry on the business of management consultants, industrial consultants and advisors, and consultants in the operation of all kinds of businesses, operations and undertakings and to organize, reorganize and develop business enterprises;
- (hh) to render managerial, consulting, supervisory or other services to and to advise with respect to the business or operations of and to take part in the promotion, organization, formation, development, management, supervision, control or liquidation of the business or operations of any company, corporation, firm, syndicate, partnership, enterprise, business or undertaking whatsoever and to receive in payment therefor fees, royalties and commissions, either in cash, securities or other property;
- (ii) to investigate, examine and report on the standing, prospects, business, affairs, and conditions of

any person, partnership, firm or corporation, and to investigate, examine and report on the value of property, real or personal, private or public, and to investigate and report on real estate, lands or tenements or chattels or on any issue of bonds, debentures or other security of any person, partnership, firm or corporation or the circumstances of any business concern or undertaking and generally on any assets, property or rights;

- (jj) to purchase, acquire, lease, hire, hold, maintain, manage, administer, develop, transfer, exchange, improve and otherwise deal with or dispose of any real or personal property, or any part thereof or interest or right therein, of every kind or description no matter where such property may be situate;
- (kk) to acquire by purchase, lease or otherwise, and to own, maintain, operate, manage, and conduct restaurants, hotels, motels and taverns;
- (ll) to deal in food, liquor, wine, beer and other alcoholic beverages, and cigars, cigarettes and tobacconists' supplies and all kinds of goods, wares, merchandise and services;

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- (mm) to carry on generally the business of trucking and transporting goods, wares and merchandise; to act as forwarders, general carriers, customhouse brokers, storage and warehousemen, transfer and express agents; and to carry on any business similar to the foregoing which may be carried on advantageously therewith;
- (nn) to carry on the business of warehousemen;
- (oo) to maintain and operate warehouses and other buildings or constructions for the storage and care of goods, wares and merchandise of all kinds;
- (pp) to employ any individual, firm or corporation to manage, in whole or in part, the affairs of the Company and to employ experts to investigate and examine the conditions, prospects, value, character and circumstances of any businesses or undertaking and generally of any assets, property or rights;
- (qq) to procure capital, credit and other assistance for establishing, extending or reorganising any enterprise or industry carried on or intended to be carried on

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by any person, firm, corporation, or company or enterprise thereof;

(rr) to enter into partnership or into any arrangement for sharing of profits, unions of interest, cooperation, joint venture, reciprocal concession or otherwise with any person or company wheresoever incorporated, carrying on or engaged in, or about to carry on or engage in, any business or transaction capable of being conducted so as, directly or indirectly, to benefit the Company;

(ss) to employ any individual, firm or corporation to manage, in whole or in part, the affairs of the Company and to employ experts to investigate and examine the conditions, prospects, value, character and circumstances of any businesses or undertakings and generally of any assets, property or rights;

(tt) to deal in goods and services;

(uu) to do any and all acts tending to increase the value of any property or assets of any kind held or controlled by the Company;

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- (vv) to buy, sell, either at wholesale or retail, manufacture, import, export, trade and otherwise deal in and with goods, wares, products and merchandise of every kind and description and to carry on a general manufacturing, trading and commercial business;
- (ww) to borrow and raise or secure the payment of money in such manner as the Company thinks fit;
- (xx) to guarantee the contracts, debts, securities, debentures, promissory notes and other obligations of any person, firm or corporation whatsoever, whether or not the Company has dealings with or business relations with any such person, firm or corporation, and to grant any and all types of security for the performance of any such guarantee;
- (yy) to carry on any trade or business whatsoever which can, in the opinion of the Board of Directors, be advantageously carried on by the Company in connection with or as ancillary to any of the above businesses or the general business of the Company.

AND IT IS HEREBY DECLARED that the objects specified in each of the paragraphs of this clause shall be regarded

as independent objects and, accordingly, shall in no way be limited or restricted (except where otherwise expressed in such paragraphs) by reference to or inference from the terms of any other paragraphs or the name of the Company, but may be carried out in as full and ample a manner and construed in as wide a sense as if each of the said paragraphs defined the objects of a separate and distinct company.

3. The liability of the members is limited.
4. The Company is authorized to issue 500,000 Common Shares without nominal or par value.
5. The maximum price or consideration at or for which the Common Shares without nominal or par value may be sold is \$500,000.00 in the aggregate.
6. The Company shall employ a member of the Association of Professional Engineers, Geologists and Geophysicists of Alberta on a full-time basis to be in charge of the operations of the Company which relate to engineering, geology or geophysics, or responsibility for such operations shall be assumed by a shareholder of the Company who is also a member of APEGGA.
7. PROVIDED HOWEVER while the name of the Company includes the word "Engineering", "Geology" or "Geophysics" or variations thereof, the Company will employ a member of the Association

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of Professional Engineers, Geologists and Geophysicists of Alberta on a full time basis to be in charge of the engineering, geological or geophysical operations of the said Company; unless one or more shareholders of the Company are also members of APEGGA.

WE, the several persons whose names and addresses are subscribed hereunder, are desirous of being formed into a Company pursuant to this Memorandum of Association, and we respectively agree to take the number of Shares in the Company set opposite our respective names.

NAME, ADDRESS
& OCCUPATION

NO. OF SHARES TAKEN
BY EACH SUBSCRIBER

DATED at the City of Calgary, in the Province of Alberta
this day of , A.D. 1979.

WITNESS:
ADDRESS: _____

OCCUPATION: _____

This is Schedule "B" to an Amalgamation Agreement between HUMPHRIES PRINTING LTD
SEFEL J. & ASSOCIATES LTD. AND CENTRAL DEVELOPMENT EXPLORATION LTD.
dated November 22, 1979.

Articles of Association

OF

SEFEL J. & ASSOCIATES LTD.

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Articles of Association

OF

SEFEL J. & ASSOCIATES LTD.

TABLE A

1. The regulations contained in Table "A" in the First Schedule to The Companies Act shall not apply to this Company.

INTERPRETATION

2. The headings used throughout these Articles shall not affect the construction hereof. In these articles, unless the context otherwise requires, expressions defined in The Companies Act or any statutory amendment or modification thereof shall have the meaning so defined, and

"the Company" means the above-named Company;

"debenture" shall include bond and vice versa;

"the directors," "Board" and "Board of Directors" mean the directors of the Company for the time being;

"member" shall include a shareholder and vice versa;

"month" means calendar month;

"the office" means the registered office of the Company for the time being;

"secretary" includes any person appointed to perform the duties of secretary temporarily;

"these presents" means and includes these Articles of Association, and any modification or alteration thereof for the time being in force;

"in writing" and "written" includes printing, typewriting, lithographing and other modes of representing or reproducing words in visible form;

words importing the singular number include the plural number and vice versa;

words importing the masculine gender shall include the feminine and words importing persons include corporations and companies.

"The Companies Act" means the Companies Act of the Province of Alberta for the time being in force.

SHARES

3. Subject to the provisions of the Company's Memorandum of Association and of these presents, the shares shall be under the control of the directors, who may allot or otherwise dispose of the same to such persons on such terms and conditions and at such times and for such consideration as the directors may think fit.

INSTALMENTS OF PURCHASE PRICE

4. If, by the conditions of allotment of any share, the whole or part of the amount or issue price thereof shall be payable by instalments, every such instalment shall, when due, be paid to the Company by the person who, for the time being, and from time to time, shall be the registered holder of the share or his legal personal representative.

TRUSTS

5. Save as herein otherwise provided, the Company shall be entitled to treat the registered holder of any share as the absolute owner thereof, and accordingly shall not, except as by statute required, be bound to recognize any equitable or other claim to or interest in such share on the part of any other person.

CERTIFICATES

6. The certificate for shares shall be signed by the president and the secretary or such other person or persons appointed by the directors for that purpose. A certificate of shares registered in the names of two or more persons may be delivered to any one of such persons.

CALLS

7. The directors may, from time to time, make such calls as they think fit upon the members in respect of all moneys unpaid on the shares held by them respectively, and not by the conditions of allotment thereof made payable at fixed times, and each member shall pay the amount of every call so made on him to the persons and at the times and places appointed by the directors. A call may be made payable by instalments.
8. A call shall be deemed to have been made at the time when the resolution of the directors authorizing such call was passed.
9. The joint holders of a share shall be jointly and severally liable to pay all calls in respect thereof.
10. At least fourteen days' notice of any call shall be given specifying the time and place of payment at which such calls shall be paid.
11. If by the terms of issue of any share or otherwise any amount is made payable at any fixed times or by instalments at fixed times, whether on account of the amount of the share or by way of premium, every such amount or instalment shall be payable as if it were a call duly made by the directors and of which due notice had been given, and all the provisions herein contained in respect of calls shall relate to such amount or instalment accordingly.
12. If the sum payable in respect of any call or instalment be not paid on or before the day appointed for payment thereof, the holder for the time being of the share in respect of which the call shall have been made, or the instalment shall be due, shall pay interest for the same at the rate of six per cent (6%) per annum from the day appointed for the payment thereof to the time of the actual payment, or at such other rate as the directors may determine.
13. The Directors may do any one or more of the following things, namely:
 - (a) Make arrangements on the issue of shares for a difference between the shareholders in the amounts and times of payment of calls on their shares;
 - (b) Accept from any member who assents thereto the whole or part of the amount remaining unpaid on any shares held by him, although no part of that amount has been called up;
 - (c) Pay dividends in proportion to the amount paid up on each share where a larger amount is paid on some shares than on others.

FORFEITURE AND LIEN

14. If any member fail to pay any call or instalment on or before the day appointed for the payment of the same, the directors may at any time thereafter, during such time as the call or instalment remains unpaid, serve a notice on such member, requiring him to pay the same, together with any interest that may have accrued, and all expenses that may have been incurred by the Company by reason of such non-payment.
15. The notice shall name a day, being not less than fourteen (14) days from the date of the notice, and a place or places on and at which any call or instalment in respect of which the notice has been given and such interest and expenses aforesaid are to be paid. The notice shall also state that in the event of non-payment at or before the time and at the place appointed the shares in respect of which the call was made or the instalment is payable, will be liable to be forfeited.
16. If the requisitions of any such notice as aforesaid are not complied with, any shares in respect of which such notice has been given may, at any time thereafter before payment of all calls or instalments, interest and expenses due in respect thereof be forfeited by a resolution of the directors to that effect. Such forfeiture shall include all dividends declared in respect of the forfeited shares and not actually paid before the forfeiture.
17. When any shares shall have been so forfeited, notice of the resolution shall be given to the members in whose name it stood immediately prior to the forfeiture, and an entry of the forfeiture, with the date thereof, shall forthwith be made in the register.

18. Any share so forfeited shall be deemed to be the property of the Company and the directors may sell, reallot and otherwise dispose of the same in such manner as they think fit.

19. A person whose shares have been forfeited shall cease to be a member in respect of the forfeited shares.

20. A statutory declaration in writing that the declarant is a director of the Company and that a share in the Company has been duly forfeited on the date stated in the declaration shall be conclusive evidence of the facts therein stated as against all persons claiming to be entitled to such share; and that declaration and the receipt of the Company for the consideration (if any) given for such share on the sale or disposition thereof, shall constitute a good title to such share, and the person to whom such share is sold or disposed of shall be registered as the holder of such share and shall not be bound to see to the application of the purchase money (if any), nor shall his title to such share be affected by any irregularity or invalidity in the proceedings in reference to the forfeiture, sale or disposal of such share.

21. The directors may, at any time before any share so forfeited shall have been sold, re-allotted or otherwise disposed of, annul the forfeiture thereof upon such conditions as they think fit.

22. Any member whose shares have been forfeited shall, notwithstanding, be liable to pay, and shall forthwith pay to the Company all calls, instalments, interest and expenses owing upon or in respect of such shares at the time of the forfeiture, together with interest thereon from the time of forfeiture until payment, at six per cent (6%) per annum, and the directors may enforce the payment of such moneys or any part thereof if they think fit but shall not be under any obligation to do so.

23. The Company shall have a first and paramount lien upon all the shares other than fully paid-up shares registered in the name of each member, whether solely or jointly with others, and upon the proceeds of sale thereof, for his debts, liabilities and engagements, solely or jointly with any other person, to or with the Company, whether the period for payment, fulfilment or discharge thereof shall have actually arrived or not, and no equitable interest in any share shall be created except upon the footing or condition that clause 5 hereof is to have full effect. Such lien shall extend to all dividends from time to time declared in respect of such shares. Unless otherwise agreed, the registration of a transfer of shares shall not operate as a waiver of the company's lien, if any, on such shares.

24. For the purpose of enforcing such lien, the directors may sell the shares subject thereto in such manner as they think fit, but no sale shall be made until such period as aforesaid shall have arrived and until notice in writing of the intention to sell shall have been served on such member, his executors or administrators, and default shall have been made by him or them in the payment, fulfilment or discharge of such debts, liabilities or engagements for seven days after such notice. Such service may be effected as provided by clause 108 hereof.

25. The net proceeds of any such sale after the payment of the costs of such sale shall be applied in or towards satisfaction of the debts, liabilities or engagements of, and the residue, if any, paid to such member, his executors, administrators or assigns.

26. Upon any sale after forfeiture or for enforcing a lien in purported exercise of the powers hereinbefore given, the directors may appoint some person to execute an instrument of transfer of the shares sold and cause the purchaser's name to be entered in the register in respect of the shares sold, and the Purchaser shall not be bound to see to the regularity of the proceedings, or to the application of the purchase money, and after his name has been entered in the register in respect of such shares, the validity of the sale shall not be impeached by any person, and the remedy of any person aggrieved by the sale shall be in damages only and against the Company exclusively.

TRANSFER OF SHARES

27. Shares of the Company shall be transferred in any usual or common form, and every instrument of transfer delivered to the Company before registration shall be accompanied by the certificate for the share or shares to be transferred. The instrument of transfer of any share shall be signed by the transferor and shall be accompanied by such evidence as the Company may reasonably require to show the right of the transferor to make the transfer and the right of the transferee to receive the same. The transferor shall be deemed to remain the holder of such share until the name of the transferee is entered in the register in respect thereof. No transfer shall be registered if the provisions (if any) contained in the Memorandum or Articles of Association and/or these presents have not been complied with and unless such fee (if any) as has been set by the directors has been paid.

CHANGES OF CAPITAL

28. Subject to the provisions of The Companies Act, the Company may, by special or ordinary resolution or by resolution of the directors, as the directors may decide:

- (a) Increase the maximum price or consideration for which shares without nominal or par value may be issued, where such maximum price or consideration has been stated in the Memorandum or Articles;
- (b) Cancel shares which, at the date of the passing of the resolution in that behalf, have not been taken or agreed to be taken by any person, and diminish the amount of its share capital by the amount of the shares cancelled or, in the case of the cancellation of shares without nominal or par value, by the number of shares cancelled;
- (c) Cancel paid-up shares which are surrendered to the Company by way of gift and, if the resolution so provides, diminish the amount of its share capital by the amount of the shares, or in the case of shares without nominal or par value by the number of shares cancelled.

29. Subject to the provisions of The Companies Act, the Company may by special resolution alter the conditions of its Memorandum as follows, that is, it may:

- (a) Increase its share capital by the creation of new shares of such amount or of such number of new shares without nominal or par value as it thinks expedient;
- (b) Consolidate and divide all or any of its share capital having a par value into shares of larger amount than its existing shares;
- (c) Convert all or any of its paid-up shares into stock and reconvert that stock into paid-up shares of any denomination or without nominal or par value;
- (d) Subdivide its shares having a par value, or any of them, into shares of smaller amount than its existing shares, so, however, that in the subdivision the proportion between the amount paid and the amount (if any) unpaid on each reduced share shall be the same as it was in the case of the share from which the reduced share is derived.

30. The new shares shall be issued upon such terms and conditions, and with such rights and privileges annexed thereto (if any) as the general meeting which resolves upon the creation thereof shall direct, and if no direction be given, as the directors shall determine; except so far as otherwise provided by the conditions of issue any capital raised by the creation of new shares shall be considered part of the original ordinary capital and shall be subject to the provisions herein contained.

SHAREHOLDERS' MEETINGS

31. The first annual general meeting of the Company shall be held at such time, within sixteen (16) months from the date on which the Company is entitled to commence business and at such place, as the directors may determine. Subsequent annual general meetings shall be held at least once in every calendar year and not more than sixteen months after the holding of the last preceding general meeting, at such time and place as may be determined by the directors.

32. The general meetings referred to in the next preceding clause shall be called annual general meetings, and all other meetings of the Company shall be called special general meetings. All meetings of shareholders may be held either within or without the Province of Alberta.

33. The directors may, whenever they think fit, proceed to convene a special general meeting of the Company.

34. Where it is proposed to pass a special resolution, such notice as is required to be given by The Companies Act, and in all other cases at least ten (10) days' notice specifying the day, hour and place of every shareholders' meeting, and in case of special business the general nature of such business, shall be served in the manner as provided by Clause 106 hereof on the members registered in the shareholders' register at the time such notice is served or if a record date has been fixed by the directors, on the members registered in the shareholders' register at the record date as so fixed. PROVIDED ALWAYS that a meeting of shareholders may be held for any purpose, at any time and at any place without notice, if all the shareholders entitled to notice of such meeting are present in person or represented thereat by proxy or if the absent shareholders shall have signified their assent in writing to such meeting being held. Notice of any meeting or any irregularity in any meeting or in the notice thereof, may be waived by any shareholders or the duly appointed proxies of any shareholders. It shall not be necessary to give notice of any adjourned meeting.

35. Irregularities in the notice of any meeting or in the giving thereof or the accidental omission to give notice of any meeting or the non-receipt of any notice by any shareholder or shareholders, shall not invalidate any resolution passed or any proceedings taken at any meeting or shall not prevent the holding of such meeting.

PROCEEDINGS AT SHAREHOLDERS' MEETINGS

36. All business shall be deemed special that is transacted at a special general meeting and all that is transacted at an annual general meeting, with the exception of consideration and approval of the financial statements and the ordinary report of the directors, auditors and other officers, the election of directors, the appointment of auditors, the fixing of the remuneration of the auditors and the transaction of any business which under these presents ought to be transacted at a general meeting. Special business or a special resolution may be passed at an annual general meeting provided the requisite notice has been given.

37. No business shall be transacted at a general meeting unless a quorum is present at the time the meeting proceeds to business. Save as herein otherwise provided, two members personally present and representing in person or by proxy not less than 25% of the issued capital of the Company entitling the holders to vote shall be a quorum. For the purpose of reckoning a quorum, a representative of an incorporated company shall be counted as a member.

38. The president, or in his absence the vice-president (if any), shall be entitled to take the chair at every general meeting, or if there be no president or vice-president, or if at any meeting he shall not be present within fifteen (15) minutes after the time appointed for holding such meeting, the members present shall choose a director as chairman, and if no director be present, or if all the directors present decline to take the chair, then the members present shall choose one of their number to be chairman. The chairman at any meeting of shareholders may appoint one or more persons (who need not be shareholders) to act as scrutineers.

39. If within half an hour from the time appointed for the meeting a quorum is not present, the meeting, if convened upon the requisition of members, shall be dissolved; in any other case it shall stand adjourned to the same day in the next week, at the same time and place; and if at such adjourned meeting a quorum is not present, the members present, if at least two, shall be a quorum.

40. Every question submitted to a meeting shall be decided in the first instance by a show of hands, and in the case of an equality of votes the chairman shall, both on a show of hands and on a poll, have a casting vote in addition to the vote or votes to which he may be entitled as a member.

41. At any general meeting, unless a poll is demanded by the chairman, or by a member or members holding or representing by proxy at least one-tenth of the shares represented at such meeting, a declaration of the chairman that a resolution has been carried, or carried by a particular majority, or lost, or not carried by a particular majority, and an entry to that effect in the book of proceedings of the Company shall be conclusive evidence of the fact without proof of the number or proportion of the votes recorded in favour of or against such resolution.

42. If a poll is demanded, as aforesaid, it shall be taken in such manner and at such time and place as the chairman of the meeting directs and either at once or after an interval or adjournment, and the result of the poll shall be deemed to be the resolution of the meeting at which the poll was demanded. The demand of a poll may be withdrawn. In case of any dispute as to the admission or rejection of a vote the chairman shall determine the same and such determination made in good faith shall be final and conclusive.

43. The chairman of a general meeting may, with the consent of the meeting, adjourn the same from time to time and from place to place, but no business shall be transacted at any adjourned meeting other than the business left unfinished at the meeting from which the adjournment took place.

44. Any poll duly demanded on the election of a chairman of a meeting or on any question of adjournment, shall be taken at the meeting and without adjournment.

45. The demand of a poll shall not prevent the continuance of a meeting for the transaction of any business other than the question on which a poll has been demanded.

VOTES OF MEMBERS

46. On a show of hands every member, being the holder of an ordinary or common share, present in person, including the proxy, or the representative of a member being an incorporated company, shall have one vote unless it is otherwise provided in the Memorandum of Association and/or these presents or the resolution creating them. On a poll every member shall have one vote for each ordinary or common share of which he is the holder. Preference shares shall confer the voting power (if any) provided for in the Memorandum of Association and/or these presents or the resolution creating them.

47. The directors may allow any person or persons upon being satisfied that such person or persons is or will be entitled to become registered as executor or executors or administrator or administrators of any deceased persons, to vote any shares registered in the name of such deceased person at any meeting.

48. When there are joint registered holders of any share, any one of such persons may vote at any meeting, either personally or by proxy, in respect of such share as if he were solely entitled thereto, and if more than one of such joint holders be present at any meeting, personally or by proxy, any one of such joint holders may vote in respect of such shares unless any other of such joint holders is present at the meeting at which such a vote is tendered and objects to the vote. Where there are several executors or administrators of a deceased member in whose sole name any share stands, any one of such executors or administrators may vote in respect of such shares unless any other of such executors or administrators is present at the meeting at which such a vote is tendered and objects to the vote.

49. Votes may be given either personally or by proxy and, in the case of a company by a representative duly authorized.

50. The instrument appointing a proxy shall be in writing in any effectual form under the hand of the appointer or of his attorney duly authorized in writing, and need not be attested. A person may be appointed a proxy although not a member.

51. No instrument appointing a proxy shall be valid after the expiration of twelve (12) months from the date of its execution unless it is otherwise specified in the instrument.

52. The instrument appointing a proxy shall be deposited at the registered office of the Company or such other place as may be specified in the notice of meeting not less than 24 hours before the time for holding the meeting at which the person named in the instrument proposes to vote. In any default of such deposit the instrument of proxy shall not be treated as valid.

53. A vote given in accordance with the terms of an instrument of proxy shall be valid notwithstanding the previous death of the principal or revocation of the proxy, or transfer of the share with respect to which the vote is given, provided no intimation in writing of the death, revocation or transfer shall have been received before the meeting at the place where the proxies are to be deposited.

54. No member shall be entitled to be present or to vote on any question, either personally or by proxy, or as proxy for another member at any general meeting, or upon a poll, or to be reckoned in a quorum whilst any call or other sum shall be due or payable to the Company in respect of any of the shares of the Company held by such member.

55. A resolution in writing signed by all the shareholders of the Company entitled to vote thereon shall be as valid and effectual as if it had been passed at a meeting of the shareholders duly called and constituted, and shall be held to relate back to any date therein stated to be the effective date thereof.

DIRECTORS

56. Until otherwise determined by a general meeting, the number of directors shall be not less than two or more than seven.

57. The subscribers hereto shall be the first directors of the Company unless the Company has been incorporated and directors elected prior to the adoption of these Articles.

58. A director need not hold a share in the Company.

59. The directors shall have power from time to time and at any time, to appoint any other person as a director, either to fill a casual vacancy or as an addition to the Board, but so that the total number of directors shall at any time exceed the maximum number fixed by these presents or by a general meeting.

60. A director being absent either temporarily or permanently (from the Province of Alberta) may appoint and authorize for a period not exceeding one (1) year from the date of such appointment, any person to attend and vote as fully and effectively as if such director were personally present at any meeting of the directors of the company, and to accept any such notice of such meeting. A person so appointed shall be known as and referred to as a "substitute director." For the purpose of computing a quorum of the Board for any meeting a substitute director attending thereat shall be deemed to be a director. The appointment of a substitute director shall be executed by the director making the appointment. Any person holding a Power of Attorney of the director shall be deemed to be a substitute director. Such appointment may be revoked at any time upon notice to the company. All the foregoing shall, however, be subject to the consent of the other directors of the company or a majority thereof.

61. The directors shall be paid out of the funds of the Company by way of remuneration for their services as directors, such sums as the directors may determine.

62. A director may retire from office upon giving five days' notice in writing to the Company of his intention to do so, and such resignation shall take effect upon the expiration of such notice or its earlier acceptance.

63. The office of a director shall ipso facto be vacated:

- (1) If he is found a lunatic or becomes of unsound mind;
- (2) If by notice in writing to the Company he resigns his office upon the time hereinbefore fixed for the resignation to take effect or the previous acceptance of the same;
- (3) If he be removed by resolution of the Company, as hereinafter provided;
- (4) If he shall personally cease to be a shareholder in the Company or if the incorporated Company of which he is a representative shall cease to be a member of the Company.

64. No director shall be disqualified by his office from holding any office or place of profit, or from being employed by or under any Company in which the Company shall be a shareholder, or from being interested, or from contracting with the Company either as a vendor or purchaser or otherwise; but nevertheless, nor shall any such contract or any contract or arrangement entered into by or on behalf of the Company in which any director shall be in any way interested either personally or as a member of a firm or syndicate or any other association whatsoever, or as a shareholder or director of a company or in any manner whatsoever, be avoided, nor shall any director be liable to account to the Company for any profit arising from any such office or place of profit, or realized by any such contract or arrangement by reason of such director holding that office or of the fiduciary relation thereby established, but the director must declare that he has an interest, and the nature thereof, at the meeting of the directors at which the contract or arrangement is determined on, if his interest then exists, or in any case at the first meeting of the directors at which he is present after the acquisition of his interest, and a director may, as a director, vote in respect of any contract or arrangement in which he is interested as aforesaid. (A general notice that a director is a member of any specified firm, syndicate or company or any other association whatsoever, and is to be regarded as interested in all transactions with that firm, syndicate or company or other association shall be sufficient disclosure under this clause as regards such director and the said transactions, and after such general notice it shall not be necessary for such director to give a special notice relating to any particular transaction with that firm, syndicate, company or other association.)

65. At the first annual general meeting and at every succeeding annual general meeting, all of the directors, howsoever appointed or elected, shall retire from office. A retiring director shall retain office until the dissolution of the meeting at which his successor is elected. If at any general meeting at which an election of directors ought to take place, no such election takes place, the retiring directors shall continue in office until the annual general meeting in the next year, and so on from year to year until their places are filled up, unless it shall be determined at such meeting to reduce the number of directors.

66. A retiring director shall be eligible for re-election.

67. The Company at every annual general meeting shall fill up the vacated offices by electing a like number of persons to be directors, or in case any change in the number of directors is made at any such meeting by electing the number of persons to be directors as may be fixed by the meeting.

68. The Company may, by special resolution, at any time remove any or all of the directors before the expiration of his or their period of office and by ordinary resolution appoint another or other qualified person or persons in his or their stead; and the person or persons so appointed shall hold office during such time only as the director or directors in whose place he is or they are appointed would have held the same if he or they had not been removed.

69. Any director or executive officer of the Company shall be entitled to attend any shareholders' meeting.

REGISTER OF DIRECTORS, MANAGERS AND MORTGAGES

70. The directors shall duly comply with the provisions of the Companies Act, or any statutory modification thereof for the time being in force, and in particular with the provisions in regard to the registration of mortgages, and to keeping the registers of directors and managers, and their addresses and occupations, and to filing with the Registrar of Companies an annual report and copies of special and other resolutions, returns of allotment of shares, and of any change in the registered office or of directors.

PROCEEDINGS OF DIRECTORS

71. The directors may meet together for the despatch of business, adjourn and otherwise regulate their meetings and proceedings, and may declare the quorum necessary for the transaction of business, but until the directors make such determination, one half of the directors shall be a quorum.

72. Meetings of the Board of directors may be held either with or without the presence of Alberta. The directors may make regulations in regard to the manner and time that notice shall be given of such meetings. Until such regulations are made, meetings of the Board may be held at any time without formal notice if all the directors are present or those absent have signified their consent in writing to the meeting being held in their absence; and notice of any meeting where notice has not been dispensed with, delivered or mailed or telegraphed to each director at his ordinary address two (2) days prior to such meeting, shall be sufficient notice of any meeting of the directors. In computing such period of two (2) days the day on which such notice is delivered, mailed or telegraphed shall be included, and the day for which notice is given shall be excluded. Notice of any meeting, or irregularity in any meeting or in the notice thereof, may be waived by any director. The directors may by resolution appoint a regular time and place for meetings, and no further or other notice of such time and place than the entry of such resolution upon the minutes of the meeting at which it was passed shall be necessary. Immediately upon the conclusion of the annual general meeting a meeting of the directors shall be held and no notice of such meeting shall be necessary.

73. The president may, or the secretary shall at the request of a director, at any time convene a meeting of directors.

74. Questions arising at any meeting of directors shall be decided by a majority of votes, and in case of an equality of votes, the chairman shall have a second or casting vote.

75. The continuing directors may act notwithstanding any vacancy in their number; but if and so long as their number is reduced below the number fixed by or pursuant to the regulations of the Company as the necessary quorum of directors, the continuing directors may act only for the purpose of increasing the number of directors to that number or of summoning a general meeting of the Company, but for no other purpose.

76. The directors may appoint one of their number to be chairman of the board of directors, and in the absence of such appointment the president for the time being of the Company shall be chairman of the board. If the chairman is not present at any meeting at the time appointed for holding the same, the directors present shall choose some one of their number to be chairman of such meeting.

77. A meeting of the directors for the time being at which a quorum is present shall be competent to exercise all or any of the authorities, powers and discretions by or under the regulations of the Company for the time being vested in or exercisable by the directors generally.

78. All acts done at any meeting of the directors, or by any person acting as a director shall, notwithstanding that it shall afterwards be discovered that there was some defect in the appointment of such directors, or that they or any of them were disqualified, be as valid as if every such person had been duly appointed and was qualified to be a director.

79. A resolution in writing, signed by all the directors without their meeting together, shall be as valid and effectual as if it had been passed at a meeting of the directors duly called and constituted, and shall be held to relate back to any date therein stated to be the effective date thereof.

80. If any director is called upon to perform extra service or to make any special exertions for any of the purposes of the Company, the Company may remunerate the director so doing either by a fixed sum or by a percentage of profits or otherwise, as may be determined by the directors, and such remuneration may be either in addition to or in substitution for his or her share in the remuneration above provided.

MINUTES

81. The directors shall cause minutes to be duly entered in books provided for the purpose:

- (a) Of all appointments of officers;
- (b) Of the names of directors present at each meeting of the directors and of any committee of directors;
- (c) Of all resolutions made by the directors;
- (d) Of all resolutions and proceedings of general meetings.

And any such minutes of any meeting of the directors of the Company, if purporting to be signed by the chairman of such meeting, or by the chairman of the next succeeding meeting, shall be received as prima facie evidence of the matters stated in such minutes.

POWERS OF DIRECTORS

82. The management of the business of the Company shall be vested in the directors who, in addition to the powers and authorities by these presents or otherwise expressly conferred upon them, may exercise all such powers and do all such acts and things as may be exercised or done by the Company and are not hereby or by statute expressly directed or required to be exercised or done by the shareholders in general meeting.

OFFICERS

83. The officers of the Company shall consist of a president and a secretary and such other officers as the directors may from time to time appoint. Any one person may fill more than one office. Such persons holding such offices, besides fulfilling any duties assigned to them by the directors, shall have such powers as are usually incidental to such offices.

84. The officers shall be elected by the board from amongst their number. The directors may appoint a temporary substitute for any of the above officers, who shall for the purposes of these presents be deemed to be the officer the position of whom he occupies.

MANAGING DIRECTOR

85. The directors may, from time to time, appoint one or more of their body to be managing director or managing directors of the Company, either for a fixed term or without any limitation as to the period for which he is or they are to hold such office, and may from time to time, subject to the provisions of any contract between him or them and the Company, remove or dismiss him or them from office and appoint another or others in his or their place or places.

86. A managing director shall, subject to the provisions of any contract between him and the Company, be subject to the same provisions as to resignation and removal as the other directors of the Company, and if he cease to hold the office of director from any cause he shall ipso facto and immediately cease to be a managing director.

87. The remuneration of a managing director shall, subject to the provisions of any contract between him and the Company, from time to time be fixed by the directors, and may be by way of salary, or commission or participation in profits, or by any or all of these modes.

SEAL

88. The Company shall have a corporate seal which shall be of such form and device as may be adopted by the directors, and the directors may make such provisions as they see fit with respect to the affixing of the said seal and the appointment of a director or directors or other persons, to attest by their signatures that such seal was duly affixed.

DIVIDENDS

89. Subject to the right of persons, if any, entitled to shares with special rights as to dividends, all dividends shall be paid to the members in proportion to the number of shares held by them, and if any part value shares have been issued and not paid for in full, in proportion to the percentage amounts paid up on such shares.

90. The directors may declare a dividend and shall fix a date as the record date for the determination of the shareholders entitled to such dividend and as against the Company a transfer of shares shall not pass the right to any dividend unless it be registered before such record date.

91. The directors declaring a dividend may direct payment of such dividend wholly or in part by the distribution of specific assets and in particular of paid-up shares, debentures or debenture stock of the company or of any other company or in any one or more of such ways, and the directors after declaring a dividend may direct that such dividend be applied in paying up shares of the capital of the Company

and that such paid-up shares be issued to the shareholders of the Company. The directors may settle any difficulty which may arise in regard to such distribution in such manner as they think expedient and may fix the value for distribution of such specific assets or any part thereof and may determine that cash payments shall be made to any members upon the footing of the value so fixed in order to adjust the rights of all parties and may vest any specific assets in trustees upon such trusts for the persons entitled to the dividend as may seem expedient to the directors.

92. The Company may deduct from the dividends payable to any member all such sums of money as may be due from him to the Company on account of debts, obligations or otherwise.

93. The Company may retain any dividends on which the Company has a lien and may apply the same in or towards satisfaction of the debts, liabilities or engagements in respect of which the lien exists.

94. Unless otherwise directed, any dividend or other payment required to be made to a shareholder may be paid by cheque on the bank of the Company sent through the post to the registered address of the member entitled to it, or in case of joint holders, to the registered address of that one whose name stands first on the register in respect of the joint holding; and every cheque or warrant so sent shall be made payable to the order of the person to whom it is sent, and in case of joint holders it may be made payable to the order of all such joint holders.

95. No dividend shall bear interest as against the Company.

96. All dividends unclaimed for one year after having been declared may be invested or otherwise made use of by the directors for the benefit of the Company.

RESERVES AND FUNDS

97. Before the declaration of a dividend, the directors may set aside any of the profits of the Company to create a reserve or reserves to provide for maintaining the property of the Company, replacing the wasting assets, meeting contingencies, forming an insurance reserve or equalizing dividends or for any other purposes whatsoever for which the profits of the Company may be lawfully used. The directors may also carry forward to the accounts of the succeeding year or years any profit or balance of profit which they shall not think fit to divide or to place to reserve.

98. The directors may create a fund or funds out of the assets of the Company not greater in amount than the reserve or reserves as hereinbefore provided for and may apply the fund or funds either by employing them in the business of the Company or by investing them in such manner (not being the purchase of, or by way of a loan upon, the shares of the Company) as they shall think fit, and the income arising from such fund or funds shall be treated as part of the profits of the Company for the year in which such income arose. Such fund or funds may be applied for the purpose of maintaining the property of the Company, replacing the wasting assets, meeting contingencies, forming an insurance fund or equalizing dividends or for any other purpose for which the profits of the Company may lawfully be used.

99. The directors may from time to time increase, reduce or abolish any reserve or reserve fund in whole or in part and may transfer the whole or any part to surplus.

ACCOUNTS

100. The directors shall cause true accounts to be kept of the sums of money received and expended by the Company and the matter in respect of which said receipts and expenditures take place, of all sales and purchases of goods by the Company and of the assets and liabilities of the Company.

101. The books of account shall be kept at the registered office of the Company or at such other place or places as the directors think fit, and shall always be open to the inspection of the directors.

102. The directors shall from time to time determine whether and to what extent and at what times and place and under what conditions or regulations the accounts and books of the Company, or any of them, shall be open to the inspection of members not being directors, and no member (not being a director) shall have any right of inspecting any account or book or document of the Company except as conferred by law or authorized by the directors or by the Company in general meeting.

103. At every annual general meeting the directors shall lay before the Company:

- (a) A profit and loss account for the period, in the case of the first account, since the incorporation of the Company, and in any other case, since the preceding account, made up to date not more than four months or, in the case of the Company carrying on business or having interests without the Province, six months, before such annual meeting;
- (b) A balance sheet signed on behalf of the board by two of the directors as at the date to which the profit and loss account is made up, and there shall be attached to such balance sheet a report by the directors with respect to the state of the Company's affairs, the amount, if any, which they recommend should be paid by way of dividend, and the amount, if any, which they propose to carry to the reserve fund, general reserve or reserve account shown specifically on the balance sheet or to be shown specifically on a subsequent balance sheet;
- (c) The report of the auditors of the Company (which shall be read before the meeting) and a reference to the report shall be inserted at the foot of the balance sheet.

104. A copy of every such account, balance sheet and report shall at least five days previous to the meeting be served on each of the registered holders of shares in the manner in which notices are hereafter directed to be served.

NOTICES

105. Any notice may be served by the Company on any shareholders either personally or by sending it through the post in a prepaid envelope or wrapper addressed to such shareholder, or by telegraphing it prepaid to such shareholder at his address as the same appears in the books of the Company, or if no address is given therein, to the last address of such shareholder known to the secretary. If no address is known to the secretary a notice posted up in the registered office of the Company shall be deemed to be well served on such shareholder upon it being so posted up, and any notice sent by post shall be deemed to have been served on the day on which the envelope or wrapper containing the same is posted. With respect to every notice sent by post, it shall be sufficient to prove that the envelope or wrapper containing the notice was properly addressed and put into the post office or into one of Her Majesty's letter boxes.

106. All notices with respect to any shares to which two or more persons are jointly entitled shall be addressed to all such persons and served upon any one of such persons, and notice so given shall be sufficient notice to all holders of such shares.

107. Every person who by operation of law, transfer or by any other means whatsoever shall become entitled to any share or shares shall be bound by every notice in respect of such share or shares which previously to his name and address being entered on the books of the Company shall have been duly served upon the person from whom he derives his title to such share or shares.

108. Any notice or document delivered or sent by post or left at the address of any shareholder as the same appears on the books of the Company or posted in the registered office of the Company as hereinbefore provided, shall, notwithstanding such shareholder be then deceased and whether or not the Company have notice of his decease, be deemed to have been duly served in respect of the shares whether held solely or jointly with other persons by such shareholder until some other person is entered in his stead in the books of the Company as the holder or joint holder thereof, and such services shall for all purposes be deemed a sufficient service of such notice or document on his heirs, executors or administrators and on all persons, if any, jointly interested with him in such shares.

109. The signature to any notice to be given by the Company may be written, stamped, typewritten or printed or partly written, stamped, typewritten or printed.

110. Where a given number of days' notice or a notice extending over any other period is required to be given, the day of service of the notice and the day for which notice is given shall, unless it is otherwise provided be counted in such number of days or other period.

111. A certificate of the secretary or other duly authorized officer of the Company in office at the time of the making of the certificate as to the facts in relation to the mailing or telegraphing or delivery or posting up of any notice to any shareholder, director or officer or publication of any notice, shall be prima facie evidence thereof and shall be binding on every shareholder, director or officer of the Company, as the case may be.

112. It shall not be necessary for any notice to set out the nature of the business which is to come before a meeting of the directors and it shall not be necessary for any notice to set out the business which is to come before a meeting of the shareholders unless the same is special business.

113. A special general meeting and the annual general meeting may be convened by one and the same notice, and it shall be no objection to the said notice that it only convenes the second meeting contingently on any resolution being passed by the requisite majority at the first meeting.

RECORD DATE

114. The directors may fix a time in the future not exceeding thirty days preceding the date of any meeting of shareholders or the date fixed for the payment of any dividend or the making of any distribution or the delivery of evidence of any interests, or for the allotment of any subscription or other rights, or when any change or conversion or exchange of shares shall go into effect, as a record date for the determination of the shareholders entitled to notice of, and to vote at, any such meeting, or entitled to receive any such dividend or distribution or interests, or any such allotment of rights, or to exercise the rights in respect to any change, conversion or exchange of shares and only the members of record in the Company's registry books at the close of business on that date so fixed shall be entitled to such notice of, and to vote at, such meeting, or to receive such dividend, distribution, interests or allotment of rights, or to exercise such rights in respect to any such change, conversion or exchange of shares as the case may be notwithstanding any transfer of any shares on the registry books of the Company after any such record date fixed as aforesaid.

INDEMNITY

115. Except as otherwise hereinafter provided every director, manager, secretary and other officer or servant of the Company shall be indemnified by the Company against and it shall be the duty of the directors, out of the funds of the Company, to pay, all losses and expenses which any such director, manager, secretary, officer or servant shall incur or become liable to by reason of any contract entered into or act or thing done by him as such director, manager, secretary, officer or servant, or in any way in discharge of his duties including travelling expenses.

116. Any person made a party to any action, suit or proceedings by reason of the fact that he, his testator or intestate, is or was a director, manager, secretary, or other officer, agent or servant of the Company, or of any corporation which he served as such at the request of the Company, shall be indemnified by the Company against the reasonable expenses, including attorneys' fees, actually and necessarily incurred by him in connection with the defense of such action, suit or proceeding, or in connection with any appeal therein, except in relation to matters as to which it shall be adjudged in such action, suit or proceeding that such director, manager, secretary, or other officer, agent or servant is liable for negligence or misconduct in the performance of his duties. Such right of indemnification shall not be deemed exclusive of any other rights to which such director, officer or employee may be entitled. None of the provisions hereof shall be construed as a limitation upon the right of the Company to exercise its general power to enter into a contract or undertaking, of indemnity with or for the benefit of any director, manager, secretary, or other officer, agent or servant in any proper case not provided for herein.

117. No director or other officer of the Company shall be liable for the acts, receipts, neglects or defaults of any other director or officer or for joining in any receipt or other act for conformity, or for any loss or expense happening to the Company through the insufficiency or deficiency of title to any property acquired by order of the directors for or on behalf of the Company or for the insufficiency or deficiency of any security in or upon which any of the moneys of the Company shall be invested, or for the loss or damage arising from the bankruptcy or insolvency or tortious act of any person with whom any moneys, securities or effects shall be deposited or for any loss occasioned by an error of judgment or oversight on his part or for any other loss, damage or misfortune whatever which shall happen in the execution of the duties of his office or in relation thereto, unless the same happen through his own dishonesty, unless it is otherwise provided in a contract of service with such director or officer.

MISCELLANEOUS

118. Notwithstanding anything to the contrary, either expressly or impliedly, contained in these presents, the Company shall be a "private Company" within the meaning of the Statutes and the following provisions shall have effect and be applicable thereto, namely:

- (a) The number of members for the time being of the Company shall be restricted to fifty (50) exclusive of persons who are in the employment of the Company and persons who, having been formerly in the employment of the Company were, (while in such employment, and shall have continued after the termination of such employment, to be shareholders of the Company), provided that where two (2) or more persons hold one or more shares in the Company jointly they shall for the purpose of this Article, be treated as a single shareholder.
- (b) No invitation shall be made to the public to subscribe for any shares or debentures of the Company.
- (c) The right of shareholders to transfer or dispose of their shares shall be subject to the following restriction, that is to say: That a share may not be transferred except if such transfer be approved or consented to by resolution of the Board of Directors.

119. The Directors may by ordinary Resolution from time to time change the registered office of the Company and shall, upon doing so, give to the Registrar of Companies notice thereof within fifteen days.

NAME, ADDRESS AND DESCRIPTIONS OF SUBSCRIBERS

DATED at the City of Calgary, in the Province of Alberta, this _____ day
of _____, A. D. 19 ____
WITNESS:

of _____

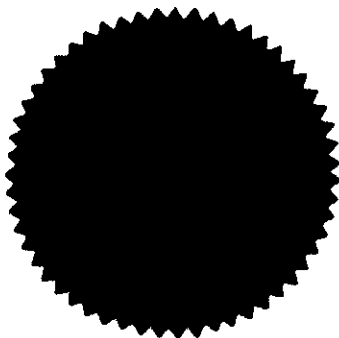
No 20216691

CERTIFICATE

I HEREBY CERTIFY that SEFEL J. & ASSOCIATES LTD., amalgamated
on the twenty-eighth day of September, 1979,
has this day, pursuant to the provisions of
The Companies Act, changed its name to
SEFEL GEOPHYSICAL LTD.

GIVEN UNDER HIS SEAL OF OFFICE AT EDMONTON, ALBERTA

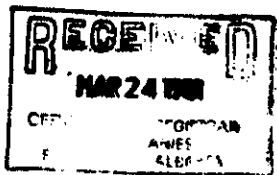
THIS twenty-fourth DAY OF March A.D. 19 81



G. H. Macdonald
Office of Registrar of Companies

Alberta
CONSUMER AND
CORPORATE AFFAIRS

/s/



C O N S E N T

REGISTERED
MAR 24 1981
THE REGISTRAR OF COMPANIES
PROVINCE OF ALBERTA

TO: THE REGISTRAR OF COMPANIES
FOR THE PROVINCE OF ALBERTA

SEFEL MINING & MINERALS LTD., incorporated under the laws of the Province of Alberta, pursuant to a Certificate of Incorporation dated the 25th day of November, 1977, hereby consents to the use of the name SEFEL GEOPHYSICAL LTD. for the change of name of SEFEL J. & ASSOCIATES LTD.

IN WITNESS WHEREOF SEFEL MINING & MINERALS LTD. has hereunto affixed its corporate seal under the hands of its duly authorized officer(s) in that behalf.

DATED at the City of Calgary, in the Province of Alberta, this 2nd day of March, A.D. 1981.

SEFEL MINING & MINERALS LTD.

Per: JOSEPH SEFEL

Per: _____

IN THE COURT OF QUEEN'S BENCH OF ALBERTA
JUDICIAL DISTRICT OF CALGARY

IN THE MATTER OF Section 156 of The Companies Act, being Chapter 60 of the Revised Statutes of Alberta, 1970, as amended;

AND IN THE MATTER OF the proposed amalgamation of SEFEL J. & ASSOCIATES LTD. and CENTRAL DEVELOPMENT EXPLORATION LTD.

BEFORE THE HONOURABLE)	At the Court House, in
)	the City of Calgary, in
MASTER W. H. DALGLEISH)	the Province of Alberta,
)	on the 20 day, the
IN CHAMBERS)	day of Dec., 1979.

Certified a true copy.

this 20 day of Dec 1979
W. H. Dalgleish
Clerk of the Court, Calgary

ORDER

UPON the Petition of SEFEL J. & ASSOCIATES LTD. and CENTRAL DEVELOPMENT EXPLORATION LTD. and UPON READING the amalgamation agreement attached thereto and UPON READING the Affidavit of KENNETH MAIER and UPON HEARING Counsel for the Petitioners.

RECEIVED
DEC 27 1979

IT IS HEREBY ORDERED AS FOLLOWS:

1. That the amalgamation agreement dated November 22, 1979, and entered into by SEFEL J. & ASSOCIATES LTD. and CENTRAL DEVELOPMENT EXPLORATION LTD. be and the same is hereby approved as presented pursuant to the provisions of Section 156 of The Companies Act, being Chapter 60 of the Revised Statutes of Alberta, 1970, as amended.

- 2 -

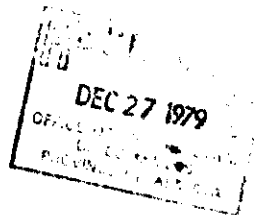
2. That the necessity of giving notice to the creditors and dissentient shareholders of SEFEL J. & ASSOCIATES LTD. and CENTRAL DEVELOPMENT EXPLORATION LTD. of the time and place of this application be and the same is hereby dispensed with.

"W. H. Dorellish"
M. C. Q. B. A.

ENTERED this 20 day of
Dec, A.D. 1979.

[Signature]
Clerk of the Court

AJ



No.

7701-10641

A.D. 1979

IN THE COURT OF QUEEN'S BENCH OF ALBERTA
JUDICIAL DISTRICT OF CALGARY

IN THE MATTER OF Section 156 of The
Companies Act, being Chapter 60 of the
Revised Statutes of Alberta, 1970, as
amended;

AND IN THE MATTER OF the proposed
amalgamation of SEFEL J. & ASSOCIATES
LTD. and CENTRAL DEVELOPMENT EXPLORATION
LTD.

O R D E R

MASON AND COMPANY

Barristers and Solicitors
1110, 205 - 5th Avenue SW
Calgary, Alberta
T2P 2W4

Solicitor's File No. 24-21645-12

20516691

2ED

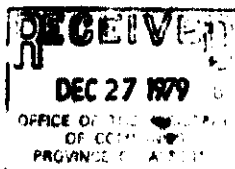
1979

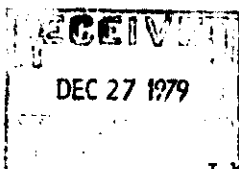
CERTIFICATE

I hereby certify that at a general meeting of the Shareholders of CENTRAL DEVELOPMENT EXPLORATION LTD., duly called and held on November 22, 1979 for the purpose of considering an Agreement dated as of November 22, 1979 providing for the amalgamation of the said Company with SEFEL J. & ASSOCIATES LTD., pursuant to the Companies Act of the Province of Alberta, being revised statutes of Alberta (1970) Chapter 60 and amendments thereto, and that all of the Shareholders of the said Company were present at such meeting, either personally or by proxy or by representative and that all of such Shareholders voted with respect to a motion for a resolution for the approval and adoption of the said Amalgamation Agreement, and that all of the votes so cast were in favour of such approval and adoption.

WITNESS MY HAND and the Corporate Seal of the Company,
this 22nd day of November, 1979.

Jane Leane
Secretary





CERTIFICATE

I hereby certify that at a general meeting of the Shareholders of SEFEL J. & ASSOCIATES LTD., duly called and held on November 22, 1979 for the purpose of considering an Agreement dated as of November 22, 1979 providing for the amalgamation of the said Company with CENTRAL DEVELOPMENT EXPLORATION LTD. pursuant to the Companies Act of the Province of Alberta being revised Statutes of Alberta (1970) Chapter 60 and amendments thereto, and that Shareholders of the Company holding more than three-fourths of the issued and outstanding shares of the Company were present at such meeting, either personally or by proxy or by representative and that all of such Shareholders present voted with respect to a motion for a resolution for the approval and adoption of the said Amalgamation Agreement, and that all of the votes so cast were in favour of such approval and adoption.

WITNESS MY HAND and the Corporate Seal of the Company,
this 22nd day of November, 1979.

James Leavelle
Secretary

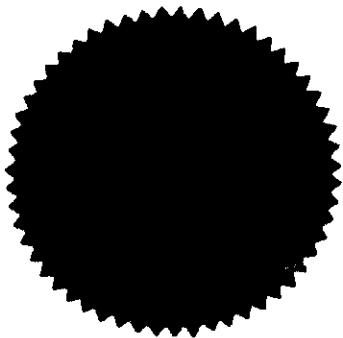
No. 20216691

CERTIFICATE

I HEREBY CERTIFY the registration this day of an Order of The Honourable Mr. Justice P.C. Powers, dated the 23rd day of March, A.D. 1981, confirming a Special Resolution of SEFEL GEOPHYSICAL LTD. (formerly SEFEL J. & ASSOCIATES LTD.), altering the Memorandum of Association with respect to the objects of the Company and a copy of the Memorandum of Association as altered.

GIVEN UNDER HIS SEAL OF OFFICE AT EDMONTON, ALBERTA

THIS twenty-fourth DAY OF March A.D. 19 81



Ed H. Leung
Office of Registrar of Companies

Alberta
CONSUMER AND
CORPORATE AFFAIRS

/cc

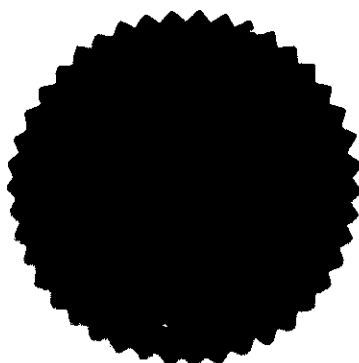
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STATEMENT

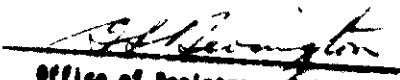
TAKE NOTICE that The Honourable Mr. Justice P.C. Powers, by an Order dated the 23rd day of March, A.D. 1981, has confirmed a Special Resolution of SEFEL GEOPHYSICAL LTD. (formerly SEFEL J. & ASSOCIATES LTD.), altering the Memorandum of Association with respect to the objects of the Company by adding after Clause 5 thereof, new Clauses 6 and 7 as follows:-

"6. The Company shall employ a member of the Association of Professional Engineers, Geologists and Geophysicists of Alberta on a full-time basis to be in charge of the operations of the Company which relate to engineering, geology or geophysics, or responsibility for such operations shall be assumed by a shareholder of the Company who is also a member of APEGGA;

7. PROVIDED HOWEVER while the name of the Company includes the word "Engineering", "Geology" or "Geophysics" or variations thereof, the Company will employ a member of the Association of Professional Engineers, Geologists and Geophysicists of Alberta on a full time basis to be in charge of the engineering, geological or geophysical operations of the said Company; unless one or more shareholders of the Company are also members of APEGGA."



GIVEN under my hand and seal
at Edmonton, this twenty-fourth
day of March, one thousand nine
hundred and eighty-one.


Office of Registrar of Companies

30.4.81
SCHEDULE "A"

Special Resolution in Writing of All
of the Shareholders of SEFEL J. &
ASSOCIATES LTD., passed pursuant to
Article 55 of the Articles of Association
of the Company

BE IT RESOLVED as a Special Resolution that:

1. In order to enable the Company to change its name, the
Memorandum of Association of the Company be amended by adding the
following paragraph as Clause 6:

" 6. The Company shall employ a member of the Association
of Professional Engineers, Geologists and Geophysicists of
Alberta on a full-time basis to be in charge of the
operations of the Company which relate to engineering,
geology or geophysics, or responsibility for such operations
shall be assumed by a shareholder of the Company who is
also a member of APEGGA."

2. The following paragraph be added as Clause 7 of the Memorandum
of Association of the Company:

" 7. PROVIDED HOWEVER while the name of the Company includes
the word "Engineering", "Geology" or "Geophysics" or variations
thereof, the Company will employ a member of the Association
of Professional Engineers, Geologists and Geophysicists of
Alberta on a full time basis to be in charge of the engineering,
geological or geophysical operations of the said Company;
unless one or more shareholders of the Company are also members
of APEGGA."

3. The name of the Company be changed from SEFEL J. & ASSOCIATES LTD.
to SEFEL GEOPHYSICAL LTD.

We, the undersigned, being all of the Shareholders of
Sefel J. & Associates Ltd., hereby consent to, approve and adopt the
foregoing resolutions as special resolutions of the Shareholders of
Sefel J. & Associates Ltd., effective the 9th day of March , 1981.

Joseph Sefel

SEFEL PROPERTIES AND DEVELOPMENT LTD.

I, Jane M. Coull, Secretary of Sefel J. & Associates Ltd., hereby certify
that the foregoing is a true and correct copy of a Special Resolution of
all of the Shareholders of Sefel J. & Associates Ltd., dated March 9, 1981
and that the same is in full force and effect. Dated at the City of
Calgary, Province of Alberta, this 16th day of March, 1981.

J. M. COULL

Y. H. H. H.
 MAR 24 1981
 Certified a true copy
 this day of 1981
 Clerk of the Court
 IN THE COURT OF QUEEN'S BENCH
 OF ALBERTA
 JUDICIAL DISTRICT OF CALGARY
 REG-1000
 MAR 24 1981

IN THE MATTER of The Companies Act, being Revised Statutes of Alberta, 1970, Chapter 60; and

IN THE MATTER of the alteration of the objects and Memorandum of Association of SEFEL J. & ASSOCIATES LTD.

BEFORE THE HONOURABLE)	At the Court House, in the City
)	of Calgary, in the Province of
MR. JUSTICE POWERS)	Alberta, on <u>Monday</u> the <u>23</u>
)	day of <u>March</u> , 1981.
IN CHAMBERS)	

O R D E R

UPON the Petition of the above-named SEFEL J. & ASSOCIATES LTD., whose registered office is situated at 1100, 205 - 5th Avenue S.W., Calgary, Alberta, and UPON HEARING what was alleged by Counsel for the Company and UPON READING the said Petition and Affidavit of JANE M. COULL.

THIS COURT DOETH ORDER that:

1. The alterations in the objects and Memorandum of Association of the said Company proposed by the Special Resolution of the said Company consented to in writing by all the members who would have been entitled at a general meeting to vote on the Resolution in

- 2 -

person or by proxy, a Certified Copy of which Special Resolution is hereunto annexed as Schedule "A" to this Order, be and the same is hereby confirmed in accordance with Section 34 of The Companies Act;

2. The said Company shall within Fifteen (15) days of the date of this Order file with the Registrar of Companies an office copy of this Order together with a copy of the Memorandum of Association of the Company, as altered;

3. The requirement of serving the Petition upon any person is hereby dispensed with.

" P. C. POWERS "
J. C. Q. B. A.

ENTERED this 23 day of
March, 1981.

James M. Lee
CLERK OF THE COURT



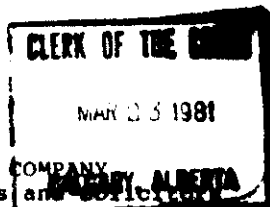
NO. 2100 09852 1981

IN THE COURT OF QUEEN'S BENCH
OF ALBERTA
JUDICIAL DISTRICT OF CALGARY

IN THE MATTER OF The Companies Act,
being Revised Statutes of Alberta,
1970, Chapter 60; and

IN THE MATTER OF the alteration of
the objects and Memorandum of Association
of SEFEL J. & ASSOCIATES LTD.

O R D E R



MASON AND COMPANY
Barristers and Solicitors
1100, 205-5th Avenue S.W.
Calgary, Alberta
T2P 2V7

Solicitor's File: 24-20193-14