

MICROFILMED

TO

HERE

June 1979

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76 11 15.

Omega Hydrocarbons Limited,
630 - 330 Fifth Avenue S.W.,
Calgary, Alberta.
T2P 0L4

ATTENTION: Mr. T. J. Hall,
President.

Dear Sir:

Re: Waskada Commingling Application.

In reply to your letter of 76 10 27 to Mr. Moster and pursuant to subsection (2) of Section 2 under Pressure Maintenance Rules, Order No. PM30, pertaining to Waskada Unit No. 1, Omega Hydrocarbons Ltd. is hereby granted approval to:

1. Commingle water and oil production from the well Omega Waskada Prov. 1-30-1-25 WPM, License No. 2560 into the production battery located on Lsd. 11-30-1-25 WPM.
2. Inject the water being produced from the subject well, along with any water produced from Waskada Unit No. 1 wells, into the water injection system for Waskada Unit No. 1, subject to the following conditions:
 1. That volumes and sources of waters being injected be reported monthly to the Petroleum Branch on the monthly water injection reports.
 2. That production of oil and water from the well Omega Waskada Prov. 1-30-1-25 be monitored at all times through the test treater before commingling it into the said battery, except when the test treater is used to establish the productivities of individual Unit wells, and only in such cases is Omega allowed to divert the production directly from the said well to the said group treater without separate measurement, and provided that production from the said well be monitored no less than twenty days each month commencing December 1, 1976.

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3. That results of such monitoring be recorded and submitted to the Petroleum Branch each month along with the monthly production reports for the well 1-30-1-25.
4. That Omega Hydrocarbons Ltd. submit samples of the waters to be commingled to an appropriate organization which is equipped to carry out compatibility testing of the waters for the volumetric ratios anticipated. The results of this testing are to be submitted to the Petroleum Branch upon completion.
5. That Omega Hydrocarbons Ltd. shall immediately report to the Petroleum Branch any indication of incompatibility problems between the waters used for injection purposes, and that Omega Hydrocarbons shall immediately carry out the necessary steps to correct such problems.

Yours sincerely,



J. S. Roper,
Deputy Chairman.

c.c.: Petroleum Branch. ✓
Virden Office.

November 3, 1976

Omega Hydrocarbons Ltd.
630 - 330 Fifth Avenue S. W.
Calgary, Alberta
T2P 0L4

Attention: Mr. T. J. Hall,
President

Dear Sir:

Re: Waskada Commingling Application

Pursuant to Subsection (2) of Section 2 under Pressure Maintenance Rules, Order No. PM30 pertaining to Waskada Unit No. 1, Omega Hydrocarbons Ltd. is hereby granted approval to:

1. Commingle water and oil production from the well Omega Waskada Prov. 1-30-1-25 WPM, Licence No. 2560 into the production battery located on Lsd. 11-30-1-25 WPM.
2. Inject the water being produced from the subject well, along with any water produced from Waskada Unit No. 1 wells, ^{or other non-Producing wells} into the water injection system for Waskada Unit No. 1, subject to the following conditions:
 1. That volumes and sources of waters being injected be reported monthly to the Petroleum Branch on the monthly water injection reports.
 2. That production of oil and water from the well Omega Waskada Prov. 1-30-1-25 be monitored at all times through the test treater before commingling it into the said battery, except when the test treater is used to establish the productivities of individual Unit wells, and only in such cases is Omega allowed to divert the production directly from the said well to the said group ^{red} ~~test~~er without separate measurement, and provided that production from the said well be monitored no less than twenty days each month commencing November 1, 1976.

3. That results of such monitoring be recorded and submitted to the Petroleum Branch each month along with the monthly production reports for the well 1-30-1-25.
5. ~~*~~ That Omega Hydrocarbons Ltd. shall immediately report to the Petroleum Branch any indication of incompatibility problems between the waters used for injection purposes, and that Omega Hydrocarbons shall immediately carry out the necessary steps to correct such problems.

Yours sincerely,

J. S. Roper,
Deputy Chairman

HCM/cf

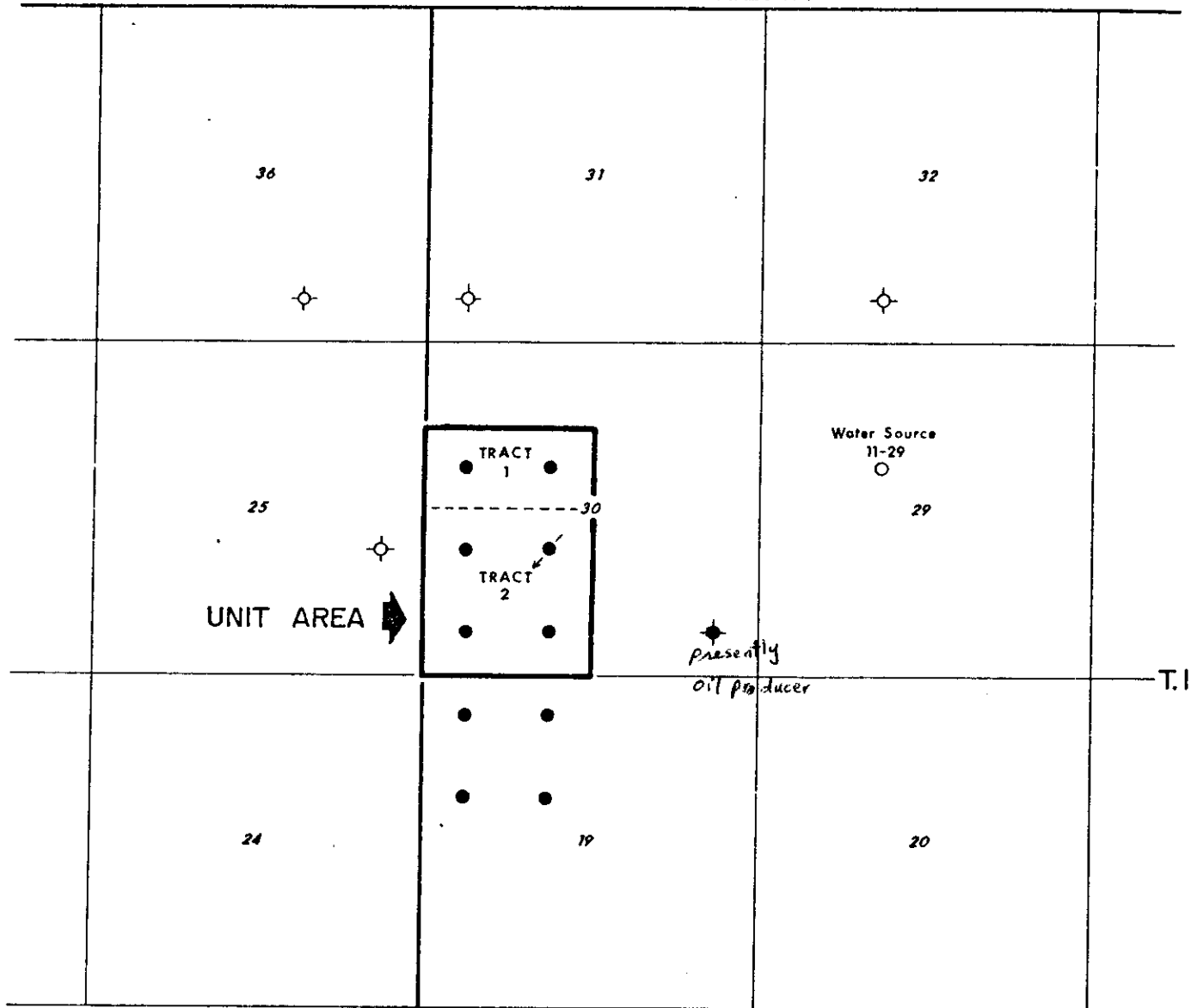
c.c. Petroleum Branch
Virden Office

4. That Omega Hydrocarbons Ltd. shall carry out such tests as are required to determine the compatibilities of the waters to be commingled for injection and shall submit the results of such tests to the Petroleum Branch.

EXHIBIT "B"

ATTACHED TO AND MADE PART OF AN AGREEMENT ENTITLED
"UNIT AGREEMENT - WASKADA UNIT No. 1"

R.25W1



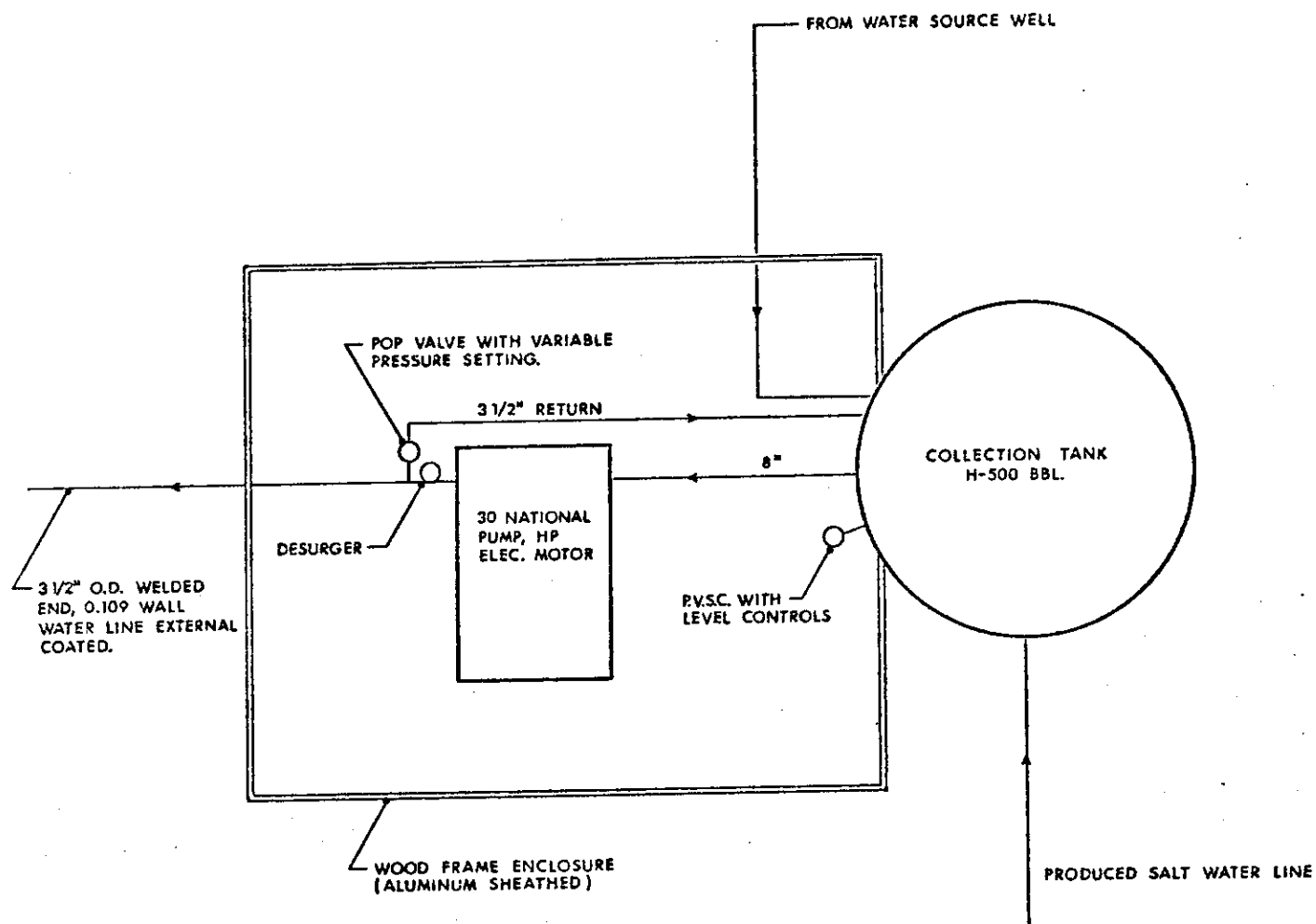
LEGEND

- PROPOSED INJECTION WELL
- WATER SOURCE WELL
- PRODUCING OIL WELLS
- ⊕ ABANDONED

WASKADA UNIT NO. 1

SCALE: 2" = 1 MILE

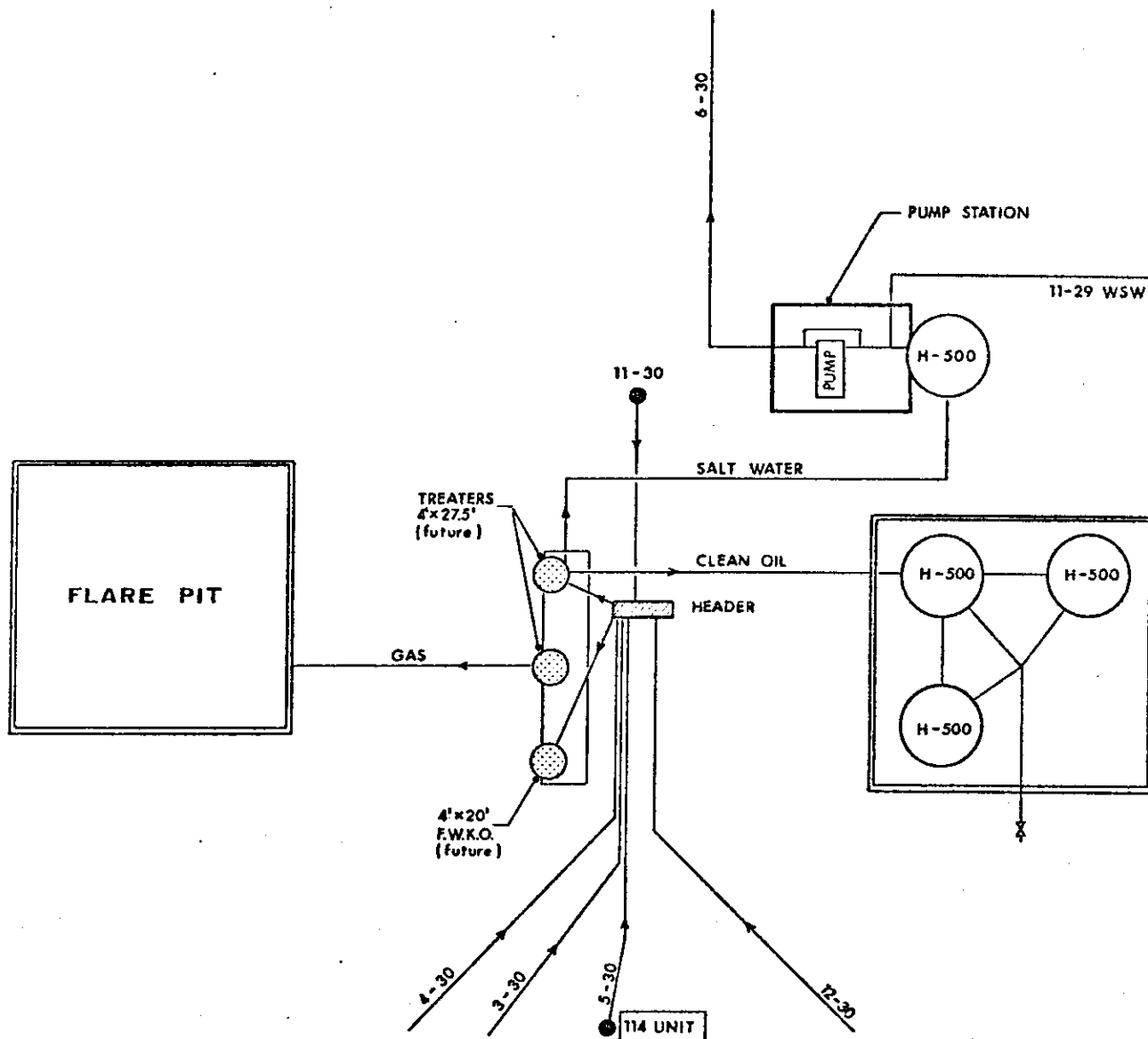
Nov. 76
DATE: DEC. 1975



~~PROPOSED~~
WASKADA UNIT NO. 1
FIGURE NO. 1

~~PROPOSED~~ WATER STATION
(SCHEMATIC)

DATE: Nov. 20, 1975



WASKADA UNIT NO. 1

FIGURE NO. 2

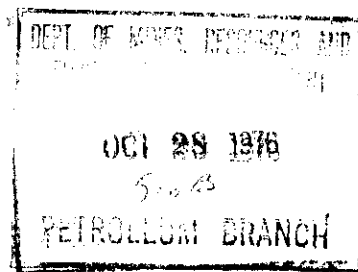
EXISTING AND PROPOSED
BATTERY SITE
(SCHEMATIC)

DATE: Nov. 20, 1975

October 27, 1976

Department of Mines, Resources
and Environmental Management
Mineral Resources Division
Petroleum Branch
993 Century Street
Winnipeg, Manitoba R3H 0W4

Attention: H. C. Moster
Director, Petroleum Branch



Dear Sir:


Re: Omega Waskada Prov. 1-30-1-25
(Lsd. 1-30-1-25-W1M)

Omega Hydrocarbons Ltd. is currently testing the above well and has experienced water production in the range of 45 - 50 barrels per day. In order to properly dispose of this water, Omega requests approval to inject the produced water directly into the water injection system which would amount to commingling produced water from 1-30 and produced water from the unit wells with injection water from the water source well located in 11-29-1-25.

Omega sees no particular reason why water from the water source well would be incompatible with water from the MC3 zone and MC1 zone. However, if any problem should appear, we would take immediate steps to correct same.

Your early approval will be appreciated.

Yours very truly,
OMEGA HYDROCARBONS LTD.


T. J. Hall
President

TJH:bef

inter-departmental memo

To:

H. C. Moster,
Director,
Petroleum Branch,
993 Century Street.


Date 76 11 15.

From J. S. Roper,
Policy Advisor,
302 Legislative Building.

Subject: WASKADA COMMINGLING APPLICATION, OMEGA HYDROCARBONS LTD. -
YOUR MEMO 76 11 03.

It is suggested that item 4 of your draft letter to Omega Hydrocarbons Ltd. be made item 5 and that the following be inserted as item 4:

"4. That Omega Hydrocarbons Ltd. submit samples of the waters to be commingled to an appropriate organization which is equipped to carry out compatability testing of the waters for the volumetric ratios anticipated. The results of this testing are to be submitted to the Petroleum Branch upon completion."


J. S. Roper.

JSR/dw

Attachment.

c.c.: Jas. T. Cawley.
I. Haugh.

10-11-76

The Oil and Natural Gas Conservation
Board:
Jas. T. Cawley, P. Eng., Chairman
J. S. Roper, Deputy Chairman
I. Haugh, Member

76 11 03
H. C. Moster,
Director
Petroleum Branch

XXXXXX

SUBJECT:

Waskada Commingling Application
Omega Hydrocarbons Ltd.

BACKGROUND:

Omega Hydrocarbons Ltd. in a letter dated October 27, 1976 requested approval to commingle the produced water from the well located on Lsd. 1-30-1-25 WPM directly into the water injection system of Waskada Unit No. 1 and use it for injection purposes.

The Waskada oil field was discovered in 1967. The field presently contains eleven active wells. Field production is obtained from the Mississippian Mc-3 beds, except for the well 1-30-1-25, which produces from the Mississippian Mc-1. A portion of the field (6 wells) was unitized earlier this year (Waskada Unit No. 1, see attached sketch) with Omega being the Unit Operator, and a pilot waterflood scheme was initiated in Waskada Unit No. 1 after unitization.

The well located in Lsd. 11-29-1-25 was taken over by Omega Hydrocarbons from Manitoba Mineral Resources in September, 1975 and completed as a water source well for injection in Waskada Unit No. 1.

The well Omega Waskada Prov. 1-30-1-25 WPM was drilled by Imperial Oil Ltd. in July, 1956 and completed as a Mississippian Mc-1 oil producer in August, 1956. The well was abandoned by Imperial Oil on July 19, 1957. As this well is located on Crown land, Omega acquired a Crown lease on the SE $\frac{1}{4}$ of Section 30-1-25 on September 2, 1976 (No. 2395). The well was re-entered by Omega on October 15, 1976 and completed as an oil producer.

Initial testing of this well indicates water production in the range of 45 to 50 barrels per day. Omega has requested approval to commingle this produced water from 1-30-1-25 well with produced water from the Waskada Unit wells and injection water from the 11-29 water source well.

Current and Proposed Battery Facilities:

Presently, there is a battery with a test treater and a satellite separator (with sampler) located on LSD. 11-30-1-25 serving the Waskada Unit. On a monthly basis, production from each of the five producing wells in the Unit area is tested through the test treater for a 5 to 6 day period to establish the productivity of individual wells.

Omega is currently installing a group treater to serve the Waskada Unit wells. They are planning, however, to use the test treater to determine the production from the Unit wells as before through shorter test periods (probably 1 day/well/month instead of 5 to 6 days). For the rest of the month, production from the well 1-30-1-25 will be monitored through the test treater, thus enabling Omega to differentiate between production from this well and the Unit wells.

DISCUSSION:

Subsection (2) of Section 2 of Pressure Maintenance Rules, Order No. PM 30 pertaining to the above Unit states:

(2) "Before any change is made in the source of water being injected, the Unit Operator shall satisfy the Board as to the suitability of the water being injected."

Water injection commenced on April 1, 1976 using the water source well. As response to the injection started to be felt, water production was experienced in August, 1976 for the first time on the well 5-30-1-25 (directly offsetting the water injection well). Omega is currently using both waters for injection. To date, no incompatibility problems have been experienced. According to Omega, waters from the Blairmore Formation (water source well), and from the Mississippian Formation Mc-3 beds (Unit wells), and from the Mississippian Formation Mc-1 beds (1-30-1-25) will be compatible when commingling same for injection purposes.

The advantage of using Waskada Unit facilities for disposing of water produced from Unit wells and the 1-30 well is purely economical at this point and time. Having to install separate battery facilities at the 1-30 location, and dispose of the water produced in the Unit by other means will require additional capital funds, and will undoubtedly increase the operating costs, thus, reducing the efficiency of Unit operation and the life of the wells. Approval of this application will prove beneficial in the future as Omega will need not apply to the Board to use the water produced from Unit wells and from the well 1-30-1-25, in the event that the Unit area and/or the waterflood scheme is expanded.

This Branch's main concern however, with respect to this application are as follows:

1. To carry out accurate monthly measurements of well productivities to prorate production equitably between 1-30-1-25 (Crown) and Unit wells. This will be accomplished by using the test treater to measure the production from the 1-30 well approximately 25 days each month.
2. That waters from Blairmore, Mississippian Mc-1 and Mc-3 Formations are competentable.

As accurate measurements of productions will be maintained by Omega, this Branch sees no reason why the mineral owners' consents (including Crown) to the application should be required.

RECOMMENDATIONS:

That the application by Omega be approved subject to certain conditions set forth in the attached draft letter.

H. C. Noster

SE/cf
Attach.