

# MCARTHUR RIVER FIELD

**\*No Pool\***

## Current Orders

| Order No. | AA    | Operator       | Date      | Description  | Current |
|-----------|-------|----------------|-----------|--|---------|
| CO        | 234 A | 1 UNION OIL CO | 11-Jul-95 | Waiver of the production logging requirements of CO 234A Rule 3 for TBU wells K-3RD and K-19RD.  | Y       |
| CO        | 351   | 0 UNION OIL CO | 29-Dec-94 | Exempts field from requirements of 20 AAC 25.280(a) & (b).   | Y       |
| CO        | 350   | 0 UNION OIL CO | 23-Dec-94 | Permit commingling of production from Middle Kenai "G" Hemlock/W Foreland/undefined Jurassic Oil Pools, in TBU M-32 wellbore.                        | Y       |
| CO        | 234 A | 0 UNION OIL CO | 21-Dec-93 | Commingling of produced fluids from Hemlock, Middle Kenai "G" & West Foreland oil Pools. Repeals CO 234.   | Y       |
| CO        | 234   | 1 UNION OIL CO | 18-Jun-92 | Waiver prod logging requirements for Trading Bay Unit wells M-25, M-27, M-28, M-29, G-32 & K-30RD.   | Y       |
| CO        | 284   | 0 UNION OIL CO | 23-Dec-91 | Commingling produced fluids from Middle Kenai "G" and W Foreland Oil Pools w/those from an unidentified pool in the TBU State M-28 wellbore. 3 POOLS | Y       |
| CO        | 226   | 0 Union        | 23-Jan-87 | Amends Rule 4 CO 080 to authorize underground injection for enhanced recovery oprns in the McArthur Riv West Forelands Oil Pool.                     | Y       |
| AIO       | 5     | 1 Union        | 10-Oct-86 | Amends Rule 6 of A10 #5.   | Y       |
| AIO       | 5     | 0 Union        | 25-Jul-86 | Underground injection of fluids for enhanced recovery in McArthur Riv Middle Kenai G, Hemlock and West Forland oil pools in the Trading Bay Unit.    | Y       |
| CO        | 80 A  | 0 Union        | 30-Apr-74 | Amends Rule 4, CO 080 to allow injection for pressure maintenance in McArthur Riv Middle Kenai "G" Oil Pool.   | Y       |
| CO        | 107   | 0 Union        | 14-Sep-71 | Authorize commingling of production from Middle Kenai G and the Hemlock Oil Pools in the TBU K-10 well.  | Y       |
| CO        | 80    | 0 Union        | 30-Sep-69 | Pool rules for McArthur Riv Middle Kenai Gas Pool, McArthur Riv Middle Kenai "G", Hemlock & West Forelands Oil Pools.                                | Y       |

# MCARTHUR RIVER FIELD

**\*No Pool\***

## Spacing Exception Orders

| Order No. | AA  | Operator | Date         | Description | Current  |   |
|-----------|-----|----------|--------------|-------------|--|---|
| CO        | 80  | 86       | UNION OIL CO | 22-May-02   | SPACING EXCEPTION to drill and complete TBF A-29RD, an injector well that wil be drilled to the northwestern flank of the hemlock structure to support take-off from A-15RD and K-13RD2. | Y |
| CO        | 80  | 84       | UNION OIL CO | 08-Mar-02   | Spacing exception TBF well A-15RDST1L1DP.  | Y |
| CO        | 80  | 83       | UNION OIL CO | 01-Mar-02   | Spacing Exception TBF A-29RD.  | Y |
| CO        | 80  | 82       | UNION OIL CO | 16-Jul-01   | Spacing exception for TBU K-24RD2 well.  | Y |
| CO        | 80  | 81       | UNION OIL CO | 04-Apr-01   | Spacing Exception for TBU K-13RD2 well.  | Y |
| CO        | 80  | 80       | UNION OIL CO | 09-Feb-01   | Spacing exception for TBU K-1RD2   | Y |
| CO        | 80  | 79       | UNION OIL CO | 14-Jul-00   | spacing exception for TBU G-26RD   | Y |
| CO        | 80  | 78       | UNION OIL CO | 13-Apr-00   | Spacing Exception for TBU G-28 RD.   | N |
| CO        | 80  | 77       | UNION OIL CO | 02-Nov-99   | Spacing exception for TBU M-32RD well.   | Y |
| CO        | 80  | 75       | UNION OIL CO | 12-Jul-99   | Spacing exception for TBU D-31 L1 well.  | Y |
| CO        | 80  | 76       | UNION OIL CO | 12-Jul-99   | Spacing exception for TBU D-48 L1 well.  | Y |
| CO        | 80  | 74       | UNION OIL CO | 02-Jul-98   | Spacing Exception for TBU D-26RD oil well.   | Y |
| CO        | 80  | 73       | UNION OIL CO | 17-Jun-98   | Spacing Exception for TBU G-5RD oil well.  | Y |
| CO        | 80  | 72       | UNION OIL CO | 29-May-98   | Spacing exception for TBU G-15RD oil well.   | Y |
| CO        | 80  | 71       | UNION OIL CO | 02-Apr-98   | Spacing exception for TBU G-21RD oil well.   | Y |
| CO        | 80  | 70       | UNION OIL CO | 16-Jun-95   | Spacing Exception for TBU D-26RD well.   | Y |
| CO        | 344 | 0        | UNION OIL CO | 21-Nov-94   | Spacing exception for Trading Bay Unit M-32 development oil well.  | Y |
| CO        | 80  | 69       | UNION OIL CO | 20-Oct-94   | Spacing Exception for TBU M-32 well.   | Y |
| CO        | 80  | 68       | UNION OIL CO | 06-Dec-93   | Spacing exception for TBU M-31 well.   | Y |
| CO        | 80  | 67       | UNION OIL CO | 20-Oct-93   | Spacing exception for TBU K-26 well.   | Y |
| CO        | 80  | 66       | UNION OIL CO | 30-Aug-93   | Spacing Exception for TBU K-24RD well.   | Y |
| CO        | 80  | 64       | UNION OIL CO | 29-Dec-92   | Spacing Exception for TBU D-7RD #2 well.   | Y |
| CO        | 80  | 65       | UNION OIL CO | 29-Dec-92   | Spacing Exception for TBU D-48 well.   | Y |
| CO        | 80  | 63       | UNION OIL CO | 14-May-92   | Spacing Exception for TBU G-29RD well.   | N |
| CO        | 80  | 62       | UNION OIL CO | 02-Dec-91   | Spacing Exception for TBU G-01RD.  | Y |
| CO        | 80  | 61       | UNION OIL CO | 18-Jul-91   | Spacing exception for TBU M-20.  | Y |
| CO        | 80  | 60       | UNION OIL CO | 15-Jul-91   | Spacing exception for TBU G-14A-RD.  | Y |
| CO        | 80  | 59       | UNION OIL CO | 12-Jun-91   | Spacing Exception for TBU K-8RD2.  | Y |
| CO        | 80  | 58       | UNION OIL CO | 20-Feb-91   | Spacing exception for TBU M-29.  | Y |
| CO        | 80  | 57       | UNION OIL CO | 28-Jan-91   | Spacing Exception for TBU D-47.  | Y |
| CO        | 80  | 56       | UNION OIL CO | 29-Jan-90   | Spacing exception for TBU M-28.  | Y |
| CO        | 80  | 55       | UNION OIL CO | 03-Jan-90   | Spacing Exception for TBU G-40.  | Y |
| CO        | 80  | 54       | UNION OIL CO | 30-Jun-89   | Spacing Exception for TBU D-46.  | Y |
| CO        | 80  | 53       | Union        | 04-Nov-87   | spacing exception for TBU M-26.  | Y |
| CO        | 80  | 52       | Union        | 26-Aug-87   | Spacing exception for TBU M-25.  | Y |
| CO        | 80  | 51       | Union        | 23-Dec-85   | Spacing Exception for TBU D-43RD.  | Y |
| CO        | 80  | 50       | Union        | 12-Jun-85   | Spacing exception for TBU D-44.  | Y |
| CO        | 80  | 49       | Union        | 09-Jan-85   | Spacing exception for TBU D-29RD.  | Y |

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## Spacing Exception Orders

| Order No. | AA | Operator        | Date      | Description   | Current |
|-----------|----|-----------------|-----------|---|---------|
| CO        | 80 | 48 Union        | 12-Oct-84 | Spacing exception for wells TBU K-8RD, G-29 & D-43. | Y       |
| CO        | 80 | 47 Union        | 27-May-83 | Spacing Exception for TBU D-35.                     | Y       |
| CO        | 80 | 46 Union        | 20-May-83 | Spacing Exception for TBU D-3RD2.                   | Y       |
| CO        | 80 | 45 Union        | 29-Mar-83 | Spacing Exception for TBU D-42.                     | Y       |
| CO        | 80 | 44 Union        | 13-Jan-83 | Spacing Exception for TBU G-3RD #2.                 | Y       |
| CO        | 80 | 43 Union        | 01-Jun-82 | Spacing Exception for TBU D-40RD.                   | Y       |
| CO        | 80 | 42 Union        | 22-Apr-82 | Spacing exception for TBU G-2RD.                    | Y       |
| CO        | 80 | 41 Union        | 31-Mar-82 | Spacing exception TBU D-4RD.                        | Y       |
| CO        | 80 | 40 Union        | 18-Mar-82 | Spacing Exception for TBU G-6RD.                    | Y       |
| CO        | 80 | 39 Union        | 11-Dec-81 | Spacing Exception for TBU G-4RD.                    | Y       |
| CO        | 80 | 38 Union        | 19-Feb-81 | Spacing Exception for TBU D-17RD.                   | Y       |
| CO        | 80 | 37 Union        | 04-Dec-80 | Spacing Exception for TBU K-3RD.                    | Y       |
| CO        | 80 | 36 Union        | 01-Oct-80 | Spacing exception for TBU D-16RD.                   | Y       |
| CO        | 80 | 35 Union        | 18-Jul-80 | Spacing Exception for TBU D-12RD.                   | Y       |
| CO        | 80 | 34 Union        | 06-Jun-80 | Spacing exception for TBU D-5RD.                    | Y       |
| CO        | 80 | 33 Union        | 17-Sep-79 | Spacing Exception for TBU D-41.                     | Y       |
| CO        | 80 | 32 Union        | 09-Aug-79 | Spacing Exception for TBU K-24.                     | Y       |
| CO        | 80 | 31 Union        | 11-Jun-79 | Spacing Exception for TBU D-29RD.                   | Y       |
| CO        | 80 | 30 Union        | 19-Apr-79 | Spacing exception for TBU D-3RD.                    | Y       |
| CO        | 80 | 28 Union        | 21-Mar-79 | Spacing Exception for TBU G-23RD.                   | Y       |
| CO        | 80 | 27 UNION OIL CO | 21-Mar-79 | Spacing exception for TBU K-21RD.                   | Y       |
| CO        | 80 | 29 Union        | 21-Mar-79 | Spacing exception for TBU G-34RD.                   | Y       |
| CO        | 80 | 27 UNION OIL CO | 27-Feb-79 | Spacing Exception for TBU D-34A.                    | Y       |
| CO        | 80 | 26 Union        | 18-Jan-79 | Spacing exception for TBU G-28 well.                | Y       |
| CO        | 80 | 25 Union        | 31-Oct-78 | Spacing Exception for TBU No. D-25RD.               | Y       |
| CO        | 80 | 24 Union        | 11-Jul-78 | Spacing Exception for TBU No. K-12RD.               | Y       |
| CO        | 80 | 23 Union        | 11-May-78 | Spacing exception for TBU G-8RD                     | Y       |
| CO        | 80 | 22 Union        | 04-Apr-78 | Spacing Exception for TBU #K-2RD.                   | Y       |
| CO        | 80 | 21 Union        | 27-Dec-77 | Spacing exception for TBU D-7RD.                    | Y       |
| CO        | 80 | 20 Union        | 01-Dec-77 | Spacing Exception for TBU G-30.                     | Y       |
| CO        | 80 | 19 Union        | 12-Jul-76 | Spacing exception for TBU G-26 well.                | Y       |
| CO        | 80 | 18 Union        | 15-Jun-76 | Spacing Exception for TBU D-29 well.                | Y       |
| CO        | 80 | 17 Union        | 25-Mar-76 | Spacing exception for TBU D-28.                     | Y       |
| CO        | 80 | 14 Union        | 08-Mar-76 | Spacing Exception for TBU K-23.                     | Y       |
| CO        | 80 | 16 Union        | 08-Mar-76 | Spacing Exception for TBU K-24.                     | Y       |
| CO        | 80 | 15 Union        | 08-Mar-76 | Spacing Exception for TBU G-24.                     | Y       |
| CO        | 80 | 13 Union        | 21-Jul-75 | Spacing exception for TBU D-2ARD.                   | Y       |
| CO        | 80 | 12 Union        | 15-May-75 | Spacing exception for TBU K-21.                     | Y       |
| CO        | 80 | 11 Union        | 15-Apr-75 | Spacing Exception for TBU D-27.                     | Y       |

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## Spacing Exception Orders

| <b>Order No.</b> | <b>AA</b> | <b>Operator</b> | <b>Date</b> | <b>Description</b> | <b>Current</b>                           |   |
|------------------|-----------|-----------------|-------------|--------------------|--|---|
| CO               | 80        | 10              | Union       | 31-Jan-75          | Spacing Exception for TBU K-22.          | Y |
| CO               | 80        | 9               | Union       | 23-Dec-74          | Spacing Exception for TBU G-23.          | Y |
| CO               | 80        | 8               | Union       | 11-Oct-74          | Spacing exception for TBU K-10RD.        | Y |
| CO               | 80        | 7               | Union       | 03-Jun-74          | Spacing exception for TBU D-8RD.         | Y |
| CO               | 80        | 6               | Union       | 10-May-74          | Spacing Exception for TBU G-21.          | Y |
| CO               | 80        | 5               | Union       | 02-May-74          | Spacing exception for TBU G-31.          | Y |
| CO               | 80        | 3               | Union       | 06-Feb-74          | Spacing exception for TBU K-19.          | Y |
| CO               | 80        | 4               | Union       | 06-Feb-74          | Spacing Exception for TBU D-26.          | Y |
| CO               | 80        | 2               | Union       | 22-Jan-74          | Spacing Exception for TBU G-21.          | Y |
| CO               | 80        | 1               | Union       | 11-May-73          | Spacing Exception for TBU K-18.          | Y |
| CO               | 79        | 0               | Union       | 20-Aug-69          | Spacing exception for TBU K-20 well. MRF | Y |
| CO               | 24        | 0               | ARCO ALASKA | 28-Jun-66          | Spacing exception for McArthur Rv St #1. | N |

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**\*No Pool\***

## Obsolete Orders

| Order No. | AA  | Operator | Date         | Description | Current   |   |
|-----------|-----|----------|--------------|-------------|---|---|
| CO        | 120 | 41       | UNION OIL CO | 31-Aug-90   | Flaring excess gas from Grayling Pltfm until 09/10/90.  | N |
| CO        | 95  | 20       | UNION OIL CO | 12-Jun-90   | Flaring extended CO 095 to 07/01/91.  | N |
| CO        | 95  | 19       | UNION OIL CO | 21-Jun-89   | Flaring extended CO 095 to 07/01/90.  | N |
| CO        | 120 | 40       | UNION OIL CO | 22-Feb-89   | Flaring addl 45 excess flare days 1st qtr 1989 TB Prod Fac. If further excess required 1st qtr, AOGCC must meet w/parties to discuss probelm/solution.            | N |
| CO        | 120 | 39       | UNION OIL CO | 22-Nov-88   | Flaring addl 51 excess flare days 4th qtr '88 TB Prod Fac.  | N |
| CO        | 120 | 38       | UNION OIL CO | 24-Oct-88   | Flaring addl 30 excess flare days 4th qtr '88 King Salmon Pltfm.  | N |
| CO        | 120 | 37       | UNION OIL CO | 24-Oct-88   | Flaring addl 26 excess flare days 4th qtr '88 TB Prod Fac.  | N |
| CO        | 120 | 36       | UNION OIL CO | 14-Oct-88   | Flaring addl 26 excess flare days - Grayling Pltfm.   | N |
| CO        | 120 | 35       | UNION OIL CO | 10-Sep-88   | Flaring additional 25 excess flare days 3rd cal qtr,'88 King Salmon Pltfm.  | N |
| CO        | 120 | 34       | UNION OIL CO | 19-Aug-88   | Flaring additional 15 excess flare days 3rd cal qtr,'88 King Salmon Pltfm.  | N |
| CO        | 95  | 18       | UNION OIL CO | 03-Jun-88   | Flaring entended CO 095 to 07/01/89.  | N |
| CO        | 114 | 5        | UNION OIL CO | 26-Feb-88   | Flaring to amend Item 9 to read "2500 MCF per day."   | N |
| CO        | 120 | 33       | MARATHON OIL | 18-Feb-88   | Flaring additional 10 excess flare days 1st cal qtr,'88 Dolly Vrdn Pltfm.   | N |
| CO        | 120 | 32       | MARATHON OIL | 04-Feb-88   | Flaring additional 10 excess flare days 1st cal qtr,'88 Dolly Vrdn Pltfm.   | N |
| CO        | 120 | 31       | MARATHON OIL | 29-Jan-88   | Flaring additional 10 excess flare days 1st cal qtr, Dolly Vrdn Pltfm.  | N |
| CO        | 234 | 0        | UNION OIL CO | 30-Oct-87   | Permits commingling fm Middle Kenai "G" & W Foreland Oil Pools. See CO 234A.  | N |
| CO        | 120 | 30       | MARATHON OIL | 14-Aug-87   | Flaring up to 15 MMSCF per day 08/11/87 to 09/25/87.  | N |
| CO        | 114 | 4        | UNION OIL CO | 14-Jul-87   | Flaring daily avg gas vol 1000 MCF flared on Steelhead Pltfm.   | N |
| CO        | 95  | 17       | UNION OIL CO | 16-Jun-87   | Flaring entended CO 095 to 07/01/88.  | N |
| CO        | 95  | 16       | Union        | 05-Jun-86   | Flaring entended CO 095 to 07/01/87.  | N |
| CO        | 95  | 15       | Union        | 01-Jul-85   | Flaring entended CO 095 to 07/01/86.  | N |
| CO        | 120 | 29       | ARCO ALASKA  | 05-Dec-84   | Flaring requested for extension pursuant to CO 120 Rule 2, casinghead gas from McArthur Rv Oil Field, King Salmon Pltfm for more than 15 days per calendar qtr.   | N |
| CO        | 120 | 28       | ARCO ALASKA  | 01-Oct-84   | Flaring requested for extension pursuant to CO 120 Rule 2,of casinghead gas from McArthur Rv Oil Field, King Salmon Pltfm for more than 15 days per canendar qtr. | N |
| CO        | 120 | 27       | MARATHON OIL | 28-Jun-84   | Flaring requested pursuant to CO 120 Rule 2, of casinghead gas from Dolly Varden Platform for more than 15 days per calendar qtr.                                 | N |
| CO        | 120 | 26       | ARCO ALASKA  | 26-Jun-84   | Flaring extended CO 120 Rule 2 of casinghead gas from King Salmon Platform for more then 15 days per calendar qtr.  | N |
| CO        | 95  | 14       | Union        | 06-Jun-84   | Flaring entended CO 095 to 07/01/85.  | N |
| CO        | 95  | 13       | Union        | 20-Jun-83   | Flaring 15 days per calendar 1/4. Mid-Kenai Gas Pool.   | N |
| CO        | 95  | 12       | Union        | 23-Jun-82   | Flaring up to 15 days per calendar 1/4 operating.   | N |
| CO        | 120 | 25       | ARCO ALASKA  | 16-Mar-82   | Flaring one day extension at King Salmon Platform.  | N |
| CO        | 120 | 24       | ARCO ALASKA  | 09-Mar-82   | Flaring one day overflare at King Salmon Platform commpressor.  | N |
| CO        | 120 | 23       | ARCO ALASKA  | 04-Mar-82   | Flaring two days overflare at King Salmon Platform for motor repair.  | N |

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**\*No Pool\***

## Obsolete Orders

| Order No. | AA  | Operator | Date         | Description | Current   |   |
|-----------|-----|----------|--------------|-------------|---|---|
| CO        | 120 | 22       | ARCO ALASKA  | 03-Feb-82   | Flaring an extra 15 days for King Salmon Platform. Production of 18742 39 well.   | N |
| CO        | 120 | 21       | ARCO ALASKA  | 08-Dec-81   | King Salmon Platform - Flaring extends CO 120 Rule 2, 5 days or until compressor is repaired.   | N |
| CO        | 120 | 20       | ARCO ALASKA  | 01-Dec-81   | King Salmon Platform - Flaring extends CO 120 Rule 2, 6 days or until compressor is repaired.   | N |
| CO        | 120 | 19       | Union        | 27-Nov-81   | Grayling Platform - Flaring extends CO 120 Rule 2, 6 days or until compressor is repaired.  | N |
| CO        | 120 | 18       | ARCO ALASKA  | 23-Nov-81   | Flaring extends CO 120 Rule 2 for 5 days or until compressor is repaired, whichever is first, King Salmon Platform.                   | N |
| CO        | 120 | 17       | ARCO ALASKA  | 21-Aug-81   | Flaring an extra 7 days, King Salmon Platform for compressor repair.  | N |
| CO        | 120 | 16       | ARCO ALASKA  | 17-Aug-81   | Flaring an extra 6 days, King Salmon Platform for compressor repair.  | N |
| CO        | 95  | 11       | Union        | 10-Jun-81   | Flaring up to 15 days per calendar 1/4 UNTIL 07/01/81.  | N |
| CO        | 95  | 10       | Union        | 06-Jun-80   | Flaring gas up to 15 days per calendar 1/4 until 07/01/81.  | N |
| CO        | 120 | 15       | ARCO ALASKA  | 27-Mar-80   | Flaring 5 extra days in 1st qtr King Salmon Platform, compressor repairs.   | N |
| CO        | 120 | 14       | ARCO ALASKA  | 26-Sep-79   | Flaring excess for 5 days, King Salmon Platform   | N |
| CO        | 120 | 13       | ARCO ALASKA  | 19-Sep-79   | Flaring excess permitted for 5 days.  | N |
| CO        | 95  | 9        | Union        | 20-Aug-79   | Flaring gas up to 15 days per calendar 1/4 until 07/01/80.  | N |
| CO        | 120 | 12       | ARCO ALASKA  | 19-Mar-79   | Flaring for remaining of qtr King Salmon Platform for longer than 15 days.  | N |
| CO        | 120 | 11       | ARCO ALASKA  | 28-Feb-79   | Flaring extended on King Salmon Platform due to overhaul compressor for longer than 15 days per calendar qtr.                         | N |
| CO        | 120 | 10       | MARATHON OIL | 30-Jun-78   | Flaring excess casinghead gas more than 15 days per calendar qtr Dolly Varden Platform  | N |
| CO        | 120 | 9        | MARATHON OIL | 29-Jun-78   | Flaring excess casinghead gas more than 15 days per calendar qtr Dolly Varden Platform  | N |
| CO        | 95  | 8        | Union        | 27-Jun-78   | Flaring gas up to 15 days per calendar 1/4 until 07/01/79.  | N |
| CO        | 120 | 8        | MARATHON OIL | 08-May-78   | Flaring for 25 days in 2nd qtr, Dolly Varden Platform.  | N |
| CO        | 120 | 7        | MARATHON OIL | 01-May-78   | Flaring gas longer than 15 days per calendar qtr - Dolly Varden Platform.   | N |
| CO        | 120 | 6        | ARCO ALASKA  | 15-Feb-78   | King Salmon compressor - Flaring until 03/01/78 for longer than 15 days per calendar qtr.   | N |
| CO        | 120 | 5        | MARATHON OIL | 06-Feb-78   | Flaring more than 15 days per calendar qtr, Dolly Varden Platform.  | N |
| CO        | 120 | 4        | ARCO ALASKA  | 28-Dec-77   | Flaring more than 15 days per calendar 1/4 King Salmon Platform.  | N |
| CO        | 95  | 7        | Union        | 01-Jul-77   | Flaring gas well gas for up to 15 days per calendar 1/4 until 07/01/78.   | N |
| CO        | 95  | 6        | Union        | 28-Jan-76   | Flaring extended CO 095 until 07/01/77.   | N |
| CO        | 95  | 5        | Union        | 17-Jun-74   | Flaring extended CO 095 until 07/01/75.   | N |
| CO        | 120 | 0        | UNION OIL CO | 22-Aug-73   | Flaring until 09/01/73. Amends CO 103, permits up to 15 days flaring per calendar qtr; requires reports & gives admin powers. 3 POOLS | N |
| CO        | 95  | 4        | Union        | 29-Jun-73   | Flaring extended CO 095 until 07/01/74.   | N |
| CO        | 120 | 3        | Union        | 31-May-73   | Flaring until 09/01/73.   | N |
| CO        | 120 | 2        | Union        | 30-Apr-73   | Flaring extended until 06/01/73.  | N |
| CO        | 120 | 1        | Union        | 23-Mar-73   | Flaring until 05/01/73.   | N |

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**\*No Pool\***

## Obsolete Orders

| Order No. | AA    | Operator       | Date      | Description  | Current |
|-----------|-------|----------------|-----------|--|---------|
| CO        | 104 A | 1 Union        | 10-Oct-72 | Extends CO 104A to 11/01/72.   | N       |
| CO        | 95 A  | 0 Union        | 19-Jul-72 | Flaring extended CO 095 to 07/01/73.   | N       |
| CO        | 114   | 0 Various      | 09-Jun-72 | Flaring restrictions Cook Inlet pltfms & shore facilities. Granite Pt, Trading Bay, McArthur River & MGS Fields. Flaring volume of gas established for safety flares at each pltfm & each shore site. 4 FIELDS | N       |
| CO        | 104 A | 0 Union        | 08-Jun-72 | Flaring until 11/01/72. Restricts flaring after 11/02/72.  | N       |
| CO        | 95    | 3 Union        | 24-Feb-72 | Flaring extended CO 095 for five days.   | N       |
| CO        | 95    | 1 Union        | 19-Oct-71 | Flaring extended CO 095 until 07/01/72.  | N       |
| CO        | 104   | 0 Various      | 30-Jun-71 | Flaring restricted after 07/01/72 except for safety & emergencies.   | N       |
| CO        | 100   | 0 UNION OIL CO | 21-Apr-71 | Flaring permitted until 06/30/71. 4 FIELDS   | N       |
| CO        | 95    | 0 Union        | 08-Oct-70 | Flaring gas lift gas permitted for 30 days in cases of operational necessity. Amends CO 080.   | N       |
| CO        | 94    | 0 Union        | 27-Aug-70 | Flaring from TBU St K-20 until compressor repaired or 09/11/70. Amends CO 080. Two emergency orders also issued.   | N       |
| CO        | 90    | 0 Union        | 12-Mar-70 | Emergency order permitting commingling of production.  | N       |
| CO        | 71    | 0 Union        | 28-Mar-69 | REVOKED by CO 80. Defined Middle Kenai & Hemlock pools.  | N       |
| CO        | 61    | 0 Union-Mobil  | 10-May-68 | Flaring be permitted on 120 day extension basis. Flaring be permitted on 120 day extension basis. Flaring permitted on 120-day extension basis. 3 FIELDS   | N       |

# MCARTHUR RIVER FIELD HEMLOCK OIL POOL

## Current Orders

| Order No. | AA | Operator       | Date      | Description                                  | Current |
|-----------|----|----------------|-----------|--|---------|
| AIO       | 5  | 2 UNION OIL CO | 29-Mar-05 | Spacing Exception Grayling 40 (PTD 190-003). | Y       |
| AIO       | 6  | 3 UNION OIL CO | 29-Mar-05 | Spacing exception Anna #5 (PTD 167-014).     | Y       |
| AIO       | 5  | 3 UNION OIL CO | 20-Mar-05 | Spacing Exception Grayling 40 (PTD 190-003). | Y       |

## MCARTHUR RIVER FIELD MIDDLE KENAI GAS POOL

### Current Orders

| Order No. | AA  | Operator | Date         | Description | Current  |   |
|-----------|-----|----------|--------------|-------------|--|---|
| CO        | 228 | 2        | UNION OIL CO | 02-Apr-90   | Repeals Rule 1b CO 080 as amended by CO 228; reenacts rule to define McArthur Rv Middle Kenai Gas Pool as equivalent to TBU K-2 btwn 1780' & 10128'. | Y |
| CO        | 228 | 1        | UNION OIL CO | 12-May-88   | Amends CO 228 to add Rule 4 re auxiliary csg, cementing & blowout prev equipment. (This rule not in lieu of Rule 2a CO 080.)                         | Y |
| CO        | 228 | 0        | Union        | 17-Apr-87   | Amends CO 080 rule 1(b) Middle Kenai Gas Pool.   | Y |

# MCARTHUR RIVER FIELD MIDDLE KENAI GAS POOL

## Spacing Exception Orders

| Order No. | AA  | Operator | Date         | Description | Current   |   |
|-----------|-----|----------|--------------|-------------|---|---|
| CO        | 228 | 6        | UNION OIL CO | 28-Oct-03   | Spacing Exception to drill and complete the TBU M-16RD Middle Kenai Gas Pool. | Y |
| CO        | 228 | 5        | UNION OIL CO | 07-Sep-01   | Spacing exception for well TBU M-12.  | Y |
| CO        | 228 | 4        | UNION OIL CO | 11-Sep-97   | Spacing exception for well Trading Bay Unit M-16.                             | Y |
| CO        | 228 | 3        | UNION OIL CO | 22-Jul-96   | Spacing exception for well TBU M-3.   | Y |
| CO        | 228 | 3        | UNION OIL CO | 26-Sep-90   | Spacing exception for well TBU M-9.   | Y |

# McArthur River, Middle Kenai Gas Pool

## Pool Summary

Production from the Middle Kenai Gas Pool began in December 1968 from the Grayling Platform, followed shortly thereafter by production from the Dolly Varden and King Salmon Platforms.<sup>1</sup> The initial production consisted of "wet" gas, which contains appreciable amounts of natural gas liquids produced in association with oil from the West Foreland, Hemlock and Middle Kenai G oil pools. Most of the associated gas produced from McArthur River prior to 1988 was not sold commercially; it was used to fuel lease operations and provide gas lift.<sup>2</sup> In 1988, the Steelhead Platform was constructed to produce "dry" gas (methane) from the Grayling Gas Sands.<sup>3</sup> Production from the pool peaked at 225 billion cubic feet per day in November 1997. During December 2004, production from the platform averaged 92.5 million cubic feet per day.<sup>4</sup> About 4% of the gas from this pool is now used for lease operations,<sup>5</sup> and the remainder is sold commercially.<sup>6</sup>

The Middle Kenai Gas Pool is defined as the accumulation of gas common to, and correlative with, the accumulation found in the Marathon Trading Bay Unit wells between the measured depths of 1,518' in well M-1 to 8,982' in well M-14.<sup>7</sup> The Middle Kenai Gas Pool (also known as Grayling Gas Sands) is located within the Upper Middle Miocene Chuitna and Middle Ground Shoal members of the Tyonek Formation, which are part of the Kenai Group.<sup>8</sup> The reservoir sands occur in a continuous sequence that contains the gas accumulations.<sup>9</sup> As currently defined, the Middle Kenai Gas Pool consists of the Upper A series, Zones A through F, and the G-O series, which lies above the G Zone Oil Pool.<sup>10</sup>

In the vicinity of the Steelhead Platform, the non-marine sediments of the Middle Kenai Gas Pool were deposited in fluvial-alluvial meander belts. The sand/shale sequences within this portion of the Tyonek Formation are interbedded with distinctive coal layers, suggesting low energy, swamp-like conditions. Sand units are often conglomeratic, generally thin (20 to 50 feet thick), and may not persist laterally. Porosity ranges from 12 to 32 percent. The McArthur River Field structure is an asymmetric anticline that is oriented approximately north 20° east. The structure is cut by two normal faults that do not affect the limits of the hydrocarbon reservoirs.<sup>11</sup>

McArthur River original gas in place is estimated to be 1.35 TCF, with ultimate recovery placed at 1.15 TCF.<sup>12</sup> As of January 2004, proven, unproduced reserves were forecast at 173 billion cubic feet.<sup>13</sup>

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<sup>1</sup> Alaska Oil and Gas Conservation Commission, 2005, Well and Production Information Database

<sup>2</sup> State of Alaska Department of Administration, Office of Tax Appeals, 1991, Marathon Oil Company, Oil Production Tax, Amended Findings of Fact, Conclusions of Law and Order 1, online at <http://www.state.ak.us/admin/ota/marathon.htm>

<sup>3</sup> State of Alaska Department of Administration, Office of Tax Appeals, 1991, Marathon Oil Company, Oil Production Tax, Amended Findings of Fact, Conclusions of Law and Order 1, online at <http://www.state.ak.us/admin/ota/marathon.htm>

<sup>4</sup> Alaska Oil and Gas Conservation Commission, 2005, Well and Production Information Database

<sup>5</sup> Thomas, C.P., Doughty, T.C., Faulder, D.D., and Hite, D.M., 2004, South-Central Alaska Natural Gas Study, U.S. Department of Energy, National Energy Technology Laboratory, Arctic Energy Office, Contract DE-AM26-99FT40575, p. 160.

<sup>6</sup> State of Alaska Department of Administration, Office of Tax Appeals, 1991, Marathon Oil Company, Oil Production Tax, Amended Findings of Fact, Conclusions of Law and Order 1, online at <http://www.state.ak.us/admin/ota/marathon.htm>

<sup>7</sup> Anderson, R.T., 1990, Trading Bay Unit, State of Alaska, Revised Conservation Orders Nos. 80 and 228; in Alaska Oil and Gas Conservation Commission, 1987, Conservation Order No. 228 File

<sup>8</sup> UNOCAL, 1990, Engineering and Geologic Report, Exhibit A submitted in support of in expanding the Middle Kenai Gas Pool, Conservation Order No. 228

<sup>9</sup> UNOCAL, 1990, Engineering and Geologic Report, Exhibit A submitted in support of in expanding the Middle Kenai Gas Pool, Conservation Order No. 228

<sup>10</sup> UNOCAL, 1990, Engineering and Geologic Report, Exhibit A submitted in support of in expanding the Middle Kenai Gas Pool, Conservation Order No. 228

<sup>11</sup> UNOCAL, 1990, Engineering and Geologic Report, Exhibit A submitted in support of in expanding the Middle Kenai Gas Pool, Conservation Order No. 228

<sup>12</sup> Thomas, C.P., Doughty, T.C., Faulder, D.D., and Hite, D.M., 2004, South-Central Alaska Natural Gas Study, U.S. Department of Energy, National Energy Technology Laboratory, Arctic Energy Office, Contract DE-AM26-99FT40575, p. 166.

<sup>13</sup> Thomas, C.P., Doughty, T.C., Faulder, D.D., and Hite, D.M., 2004, South-Central Alaska Natural Gas Study, U.S. Department of Energy, National Energy Technology Laboratory, Arctic Energy Office, Contract DE-AM26-99FT40575, p. 62.