Stogner, Michael

From: Thomas Kellahin [kellahin@earthlink.net]
Sent: Wednesday, July 14, 2004 11:30 AM
To: Michael E. Stogner
Subject: Fw: OCD 13199(Melrose)

Dear Mike:

Attached are the draft order and the suggested exhibits for the order that I thought I had send to you on February 16th-- Please let me know if you get this.

Regards, Tom

----- Original Message -----
From: Thomas Kellahin
To: Michael E. Stogner
Cc: Robert Lee
Sent: Monday, February 16, 2004 10:32 AM
Subject: OCD 13199(Melrose)

Re: OCD Case 13199
Melrose's application to re-instate
Order R-11720

Dear Mr. Stogner:

In accordance with your direction at the conclusion of the hearing held on January 22, 2004, attached are a draft order and 3 exhibits prepared by Robert Lee and myself for your consideration in entering an order in this case.

Regards, Tom Kellahin

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSES OF CONSIDERING:

APPLICATION OF MELROSE OPERATING COMPANY TO RE-INSTATE AND AMEND DIVISION ORDER R-11720 FOR ITS ARTESIA UNIT WATERFLOOD PROJECT, EDDY COUNTY, NEW MEXICO

CASE 13199

MELROSE OPERATING COMPANY'S
PROPOSED
ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on January 22, 2004, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this ___day of February, 2004, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) Melrose is the current operator of the Artesia Unit Waterflood Project which is approved by the Division for water injection into the Queen, Grayburg and San Andres formations of the Artesia Queen-Grayburg-San Andres Pool.

(3) The Project Area contains approximately 2240 acres with approximately 16 injection wells and approximately 35 producing wells within portions of Sections 25, 26 34, 35, 36 of Township 17 South, Range 28 East and Sections 2 and 3 of Township 18 South, Range 28 East, NMPM.

(4) On February 5, 2002, the Division entered Order R-11720, in Case 12709, approving the Melrose application that sought to expand its Artesia Unit Waterflood project and amend Division Administrative Order WFX-768, Eddy County, New Mexico. Applicant, pursuant to Division Rule 701(G) sought authority to expand its waterflood project by injection of water into the Queen, Grayburg and San Andres formations of the Artesia Queen-Grayburg-San Andres Pool into 14 additonal injection wells:

Unit Well No. 2. 330 feet FSL & 330 feet FWL, Section 26, T17S, R28E
Unit Well No. 3. 330 feet FSL & 1750 feet FWL, Section 26, T17S, R28E
Unit Well No. 10. 330 feet FNL & 1950 feet FWL, Section 35, T17S, R28E
Unit Well No. 11. 360 feet FNL & 360 feet FWL, Section 35, T17S, R28E
Unit Well No. 12. 1980 feet FNL & 660 feet FWL, Section 35, T17S, R28E
Unit Well No. 13. 1980 feet FNL & 1980 feet FWL, Section 35, T17S, R28E
Unit Well No. 16. 1980 feet FNL & 660 feet FWL, Section 36, T17S, R28E
Unit Well No. 17. 1980 feet FNL & 1980 feet FWL, Section 36, T17S, R28E
Unit Well No. 18. 1980 feet FSL & 1980 feet FWL, Section 36, T17S, R28E
Unit Well No. 19. 1980 feet FSL & 660 feet FWL, Section 36, T17S, R28E
Unit Well No. 44. 1980 feet FNL & 1070 feet FWL, Section 3, T17S, R28E
Unit Well No. 46. 2310 feet FNL & 2267 feet FWL, Section 3, T18S, R28E
Unit Well No. 54. 1654 feet FSL & 2272 feet FWL, Section 3, T18S, R28E
Unit Well No. 57. 1570 feet FSL & 1070 feet FWL, Section 3, T18S, R28E

(5) Previously the Division had issued orders applicable in the project area as follows:

~~OCD Order R-2869 dated February 11, 1965~~
OCD Order R-2876 dated March 5, 1965
OCD Order R-3311 dated September 11, 1967
~~OCD Order R-3494 dated September 12, 1968~~
~~OCD Order R-4027 dated September 10, 1970~~
OCD Administrative Order WFX-733 dated March 4, 1998
OCD Administrative Order WFX-768 dated November 28, 2000
OCD OrderR-11720 dated February 5, 2002

(6) On Division Order R-11720, the Division required Melrose to complete within one year from the date of the order remedial action on 38 wellbores within the one-half mile

"Area of Review" where there are approximately 215 wells which have penetrated to or through the Queen, Grayburg and San Andres formations of the Artesia Queen-Grayburg-San Andres Pool including 35 plugged and abandoned wells, 19 open hole completion wells, 79 wells with production casing, 76 wells with deep producing casing, well with deep production liner with intermediate casing, and 5 wells with no Division data available. **(See Melrose Exhibit 3 for tabulation of 38 remedial wellbores)**

(7) Being unable to complete the required remedial action by February 5, 2003, Melrose allowed Order R-11720 to expire.

(8) Now, Melrose seek to have Division Order R-11720 re-instated and amended as follows:

(a) Alter the injection pattern in Section 3 by temporarily deleting injection wells 44 and 57 and adding its Artesia Unit Well No. 53 (Unit J of Section 3) as an injection well.

(b) Adding Artesia Unit Well No. 21 (Unit J of Section 35) as a new injection well;

(c) Temporarily postponing injection into the Penrose interval and thereby postpone remedial action for 9 wellbores as listed on Melrose Exhibit 11;

(d) Apply the "radius of endangering calculation" to delete remedial action on the plugged and abandoned Donnelly wellbore in Unit N of Section 36;

(e) Increase of surface injection pressures to not less than 1263 psi.

(f) Allow Melrose 2 additional years in which to complete remedial action for the remaining 18 wellbores listed on Melrose Exhibit 10 (Exhibit B of this order) prior to commencing injection within ½ mile of any of the 14 injection wells that are approved by this case. (Exhibit "A" to this order)

(9) At the time of the hearing, Melrose advised the Hearing Examiner that it did not believe it had at this time sufficient evidence to justify the requested 1263-psi surface injection pressure, and requested that the Division re-instate the surface pressure limitation requirements of Order R-11720.

(10) As a result of additional injection wells, Artesia Unit Wells 21 and 53, Melrose

submitted a supplemental C-108 that included wellbores within the revised "area of review" that had not already been submitted. (See Melrose Exhibit 9)

(11) Melrose have submitted substantial evidence that demonstrates that:

(a) By using the same method of calculation of cemented tops used in Case 12709 and approved by Order R-11720, Melrose has determined that there are 18 problem wellbores (See Exhibit B attached to this order) that require remedial action before injection, excluding the Penrose formation, can commence in any injection well located within ½ mile of any of these 18 problem wellbores.

(b) By using the radius of endangerment calculation the Division can authorize injection into Artesia Unit Well 18 without requiring the re-plugging of the Donnelly wellbore in Unit N of Section 36;

(c) Injection into the Penrose interval can be postponed without adversely affecting ultimate oil recovery from the Penrose interval until such time as remedial work have been completed at the wellbores listed on Exhibit C attached to this order.

(12) In Case 12709 (Order R-11720) Melrose demonstrated that it has satisfied the conditions of Division Administrative Order WFX-768 by satisfactory remedial work on the Artesia Unit Well No. 12, Unit E Section 35, T17S, R28E and on the Artesia Unit Well No. 13, Unit F Section 35, T17S, R28E and by in Supplemental C-108 (Melrose Exhibit 9) demonstrating that the Empire Abo Unit G Well No. 38, Unit K, Section 35, T17S, R28E has been plugged such that no further remedial work required on this wellbore.

IT IS THEREFORE ORDERED THAT:

(1) Division Order R-11720 is re-instated and superseded by this order.

(2) The applicant, Melrose Operating Company is hereby granted authority to expand its Artesia Unit Waterflood project and to inject water into the Queen, Grayburg and San Andres formations of the Artesia Queen-Grayburg-San Andres Pool through the gross interval from approximately 1,897 feet to 2,750 feet within these 14 injection

wells SUBJECT TO THE FOLLOWING AMENDMENTS:

(A) Injection can commence injection into any injection wells listed in Exhibit "A" when Melrose has completed remedial action for any problem wellbores (See Exhibit "B") located within ½ mile of an approved injection well.

(B) The required remedial action for the problem wellbore listed in Exhibit "B" is shown on that exhibit and evidence of completion of that work shall to submitted by Melrose to the Division;

(C) Any injecting into the Penrose interval shall be postponed until the operator has completed the remedial work on the wellbores listed in Exhibit "C" attached to this order that is within ½ mile of any Penrose interval injection well.

(D) Division Administrative Order WFX-768 is hereby amended to conform to this order.

(E) Prior to commencing injection operations within one-half mile of any well listed on **Exhibit "A"** Melrose shall, for those wells that do not calculate sufficient height of cement to cover the injection interval plus 100 feet, obtain a cement bond log and determine the actual top of cement in each such well and if the cement does not cover the injection interval, the well will be squeezed with sufficient cement to cover the injection interval.

(F) Injection shall be accomplished through 2 3/8 inch internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforations in each well. The casing-tubing annulus shall be filled with an inert fluid, and a gauge or approved leak-detection device should be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(G) The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface from injection, producing or plugged and abandoned wells.

(H)The injection wells or pressurization system shall be equipped with a pressure control device or acceptable substitute that will limit the surface injection pressure to

0.2 psi/foot of depth to the uppermost injection perforations, all as shown of Exhibit "A"

(I) The operator shall give advance notification to the supervisor of the Artesia District Office of the Division of the date and time of the installation of injection equipment, the conductance of remedial cement operations, and of the mechanical integrity pressure tests, in order that the same may be witnessed.

(J) The applicant shall immediately notify the supervisor of the Artesia District Office of the Division of the failure of the tubing, casing or packer in any of the injection wells, the leakage of water or oil from or around any producing well, or the leakage of water or oil from any plugged and abandoned well within the project area, and shall take such steps as may be timely and necessary to correct such failure or leakage

(3) The injection authority granted herein for any of the wells shown on Exhibit "A" shall terminate two (2) years after the date of this order if the operator has not commenced injection operations into that well, provided, however, the Division, upon written request by the operator, may grant an extension for good cause.

(4) Jurisdiction of this case is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year designated above.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

LORI WROTENBERY
Director

SEAL

Exhibit "A"
Division Order No. R-11720
Artesia Unit Waterflood Project
Approved Injection Wells

Well Name Number	API #	Well Location	Injection Interval	Packer Depth	Max Inj Press.
Artesia Unit # 2	30-015-01563	330' FSL & 330' FWL, Unit M, Section 26, T-17-S, R-28-E	1,897'-2,135'	1830'	379 PSIG
Artesia Unit # 3	30-015-01565	330' FSL & 1750' FWL, Unit N ,Section 26 ,T-17-S, R-28-E	1,932,-2,142'	1850'	386 PSIG
Artesia Unit #10	30-015-01749	360' FNL & 1952' FWL, Unit C, Section 35, T-17-S, R-28-E	1,959,-2,173'	1880'	392 PSIG
Artesia Unit #11	30-015-02654	360' FNL & 360' FWL, Unit D, Section 35, T-17-S, R-28-E	1,914,-2,140'	1850'	383 PSIG
Artesia Unit #12	30-015-01745	1980' FNL & 660' FWL, Unit E, Section 35,T-17-S, R-28-E	1,998,-2,290'	1940'	400 PSIG
Artesia Unit #13	30-015-01754	1980' FNL & 1980' FWL, Unit F, Section 35,T-17-S, R-28-E	2,040,-2,300'	1990'	408 PSIG
Artesia Unit #16	30-015-01759	1980' FNL & 660' FWL, Unit E, Section 36,T-17-S, R-28-E	2,236,-2,654'	2156'	447 PSIG
Artesia Unit #17	30-015-01761	1980' FNL & 1980' FWL, Unit F, Section 36,T-17-S, R-28-E	2,306'-2,685'	2260'	461 PSIG
Artesia Unit #18	30-015-01762	1980' FSL & 1980' FWL, Unit K, Section 36, T-17-S, R-28-E	2,356'-2,750'	2290'	471 PSIG
Artesia Unit #19	30-015-01760	1980' FSL & 660 'FWL, Unit L, Section 36,T-17-S, R-28-E	2,296,-2,584'	2240'	459 PSIG
Artesia Unit #21	30-015-01748	1980' FEL & 1980 'FSL, Unit J, Section 35,T-17-S, R-28-E	2200'-2510'	2150'	440 PSIG
Artesia Unit #46	30-015-02541	2310' FNL & 2267 'FWL, Unit F, Section 3, T-18-S, R-28-E	2,125,-2,419'	2075'	425 PSIG
Artesia Unit #53	30-015-07880	1650' FSL & 1650 'FEL, Unit F, Section 3,T-18-S, R-28-E	2180'-2500'	2150'	436 PSIG
Artesia Unit #54	30-015-01801	1654' FSL & 2272' FWL, Unit K, Section 3,T-18-S, R-28-E	2,170'-2,406'	2120'	434 PSIG

Exhibit "B"
Division Order No. R-11720
Artesia Unit Waterflood Project

Artesia Unit Wells with Issues

Melrose AU Rem Problem Wells

Item #	Well # and requirement	TOC	M/C	TOP OF LH	PROB?	CURRENT PLANS
Inj. 1	Cmt from TOC to Surface AU #46 (If used)	1512	Calc	2120	Yes	Inj. Well- Squeeze Cement to Surf.
Inj. 2	Cmt from TOC to Surface AU #54 (If used)	2169	Calc	2170 est	Yes	Inj. Well- Squeeze Cement to Surf.
3	Re-plug or Justify Sinclair ST B-3 O-36	P&A'ed		2230	Press frt.	Present Pressure Front Calculation
B 4	Re-plug or Justify Welch St #1 E-35	P&A'ed		Replug	Yes	Re Plug
C 5	Run CBL in AU #40	No Data		2050 est	Yes	Run CBL and determine TOC
C 6	Run CBL in AU #45	No Data		2100 est	Yes	Run CBL and determine TOC
C 7	Run CBL in AU #58	No Data		2130 est	Yes	Run CBL and determine TOC
C 8	Run CBL in Levers #4 Csg on log 2146'	No Data		2100	Yes	Run CBL and determine TOC
D 9	Dig out WH & CBL AU #43	No Data		2060 est	Yes	Determine Surf. Csg. and TOC
D 10	Dig out WH & CBL AU #55	No Data		2150 est	Yes	Determine Surf. Csg. and TOC
D 11	Dig out WH & CBL AU #56	No Data		2140	Yes	Determine Surf. Csg. and TOC
E 12	Show Adequate cmt or repair A U #33	2302	Meas	2320 est	Yes	Squeeze cement.
E 13	Show Adequate cmt or repair A U #35	2194	Calc	2220	Yes	Run CBL and determine TOC
E 14	Show Adequate cmt or repair A U #37	2134	Calc	2160	Yes	Run CBL and determine TOC
E 15	Show Adequate cmt or repair EAU #E-39 B-35	1939	Calc	1980 est	Yes	Approach BP America to work over
E 16	Show Adequate cmt or repair A U #42	2195	Calc	2030	Yes	Run CBL and determine TOC
E 17	Show Adequate cmt or repair A U #53	1966	Calc	2180	Yes	Run CBL and determine TOC
E 18	Show Adequate cmt or repair A U #54	2169	Calc	2170 est	Yes	Inj. Well- Squeeze Cement to Surf.

Exhibit "C"
Division Order No. R-11720
Artesia Unit Waterflood Project

INCREMENTAL PENROSE PROBLEM WELLS

Malcom AU TOC of Wells

Item #	OCD Para. #	Well # and requirement	TOC	M/C	LH PROB?	Penrose Prob?	CURRENT PLANS
1	9	Show Adequate cmt or repair A U #27 E	1793	Calc	No	Yes	No Plans
2	9	Show Adequate cmt or repair A U #15 E	1760	Meas	No	Yes	No Plans
3	9	Show Adequate cmt or repair A U #31 E	1952	Meas	No	Yes	No Plans
4	9	Show Adequate cmt or repair A U #7 E	1949	Calc	No	Yes	No Plans
5	9	Show Adequate cmt or repair A U #32 E	1960	Calc	No	Yes	No Plans
6	9	Show Adequate cmt or repair 5-J #2 G-36 E	2154	Calc	No	Yes	No Plans
7	9	Show Adequate cmt or repair A U #39 E	1912	Calc	No	Yes	No Plans
8	9	Show Adequate cmt or repair A U #47 E	1897	Calc	No	Yes	No Plans
9	9	Show Adequate cmt or repair A U #48 E	1962	Calc	No	Yes	No Plans