DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Water Quality Control Commission

REGULATION NO. 42

SITE-SPECIFIC WATER QUALITY CLASSIFICATIONS AND STANDARDS FOR GROUND WATER

5 CCR 1002-42

42.1 AUTHORITY

These regulations are promulgated pursuant to section 25-8-202, 25-8-203, and 25-8-204 of the Colorado Water Quality Control Act, and the provisions of "The Basic Standards for Ground Water Regulation No. 41 (5 CCR 1002-41)."

42.2 PURPOSE

The purpose of these regulations is to apply the framework for ground water classifications and water quality standards, as set forth in "The Basic Standards for Ground Water, Regulation No. 41 (5 CCR 1002-41)" to specific ground waters in the state, and to adopt an interim narrative standards to protect these ground waters prior to the adoption of use classifications and numerical standards for specific areas.

42.3 INDEX OF CLASSIFIED AREAS

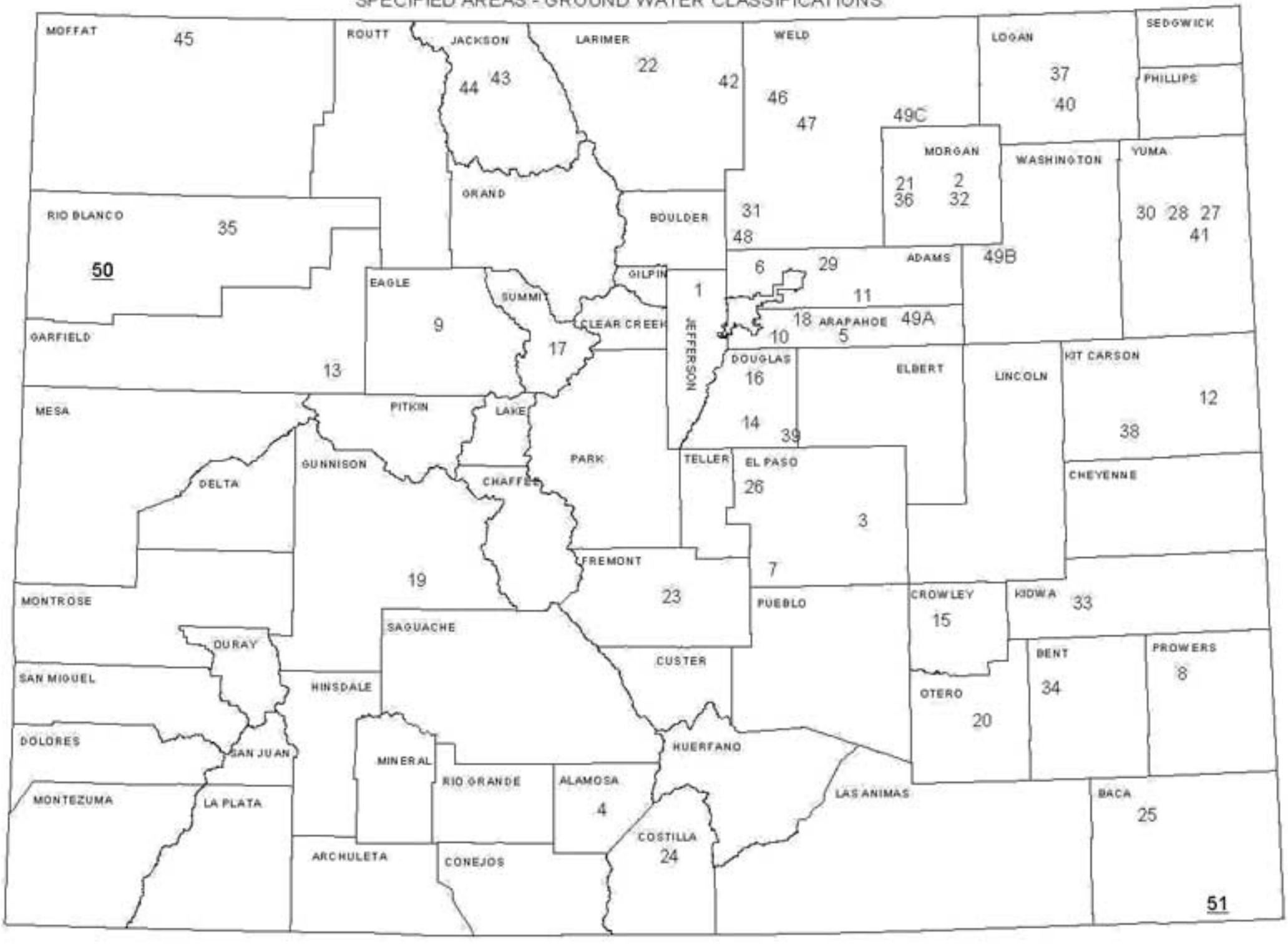
GROUND WATER TO WHICH THE WATER QUALITY CONTROL COMMISSION HAS ASSIGNED USE CLASSIFICATIONS AND WATER QUALITY STANDARDS

LOCATION	COUNTY	DATE ADOPTED	FIGURE #	NARRATIVE PAGE #	FIGURE PAGE #
Alamosa	Alamosa	05/93	4	11	14
Bennett	Adams	06/94	11	22	24
Brighton	Adams	11/94	29	45	48
Brush	Morgan	05/91	2	11	12
Burlington	Kit Carson	06/94	12	25	26
Carbondale	Garfield	06/94	13	25	27
Castle Rock	Douglas	06/94	14	25	28
Co. Oil & Gas Fields	Logan, N Washington & NE Morgan	09/97	40	61	63
Crowley County	Crowley	06/94	15	29	30
Denver SE Suburban W & SD	Douglas	06/94	16	29	31
E. Cherry Creek Valley W & SD	Arapahoe	05/93	5	15	16
E. Dillon WD	Summit	06/94	17	29	32

LOCATION	COUNTY	DATE ADOPTED	FIGURE #	NARRATIVE PAGE #	FIGURE PAGE #
Eckley	Yuma	11/94	30	49	50
Federal Heights WD	Adams	05/93	6	15	17
Fort Lupton	Weld	11/94	31	49	51
Fort Morgan	Morgan	11/94	32	49	52
Fountain/Security/Stratmoor Hills/Widefield	El Paso	05/93	7	18	19
Glendale/Cherry Creek Valley W & SD	Arapahoe	06/94	18	33	34
Gunnison	Gunnison	06/94	19	33	35
Haswell	Kiowa	11/94	33	53	54
Lamar	Prowers	05/93	8	18	20
La Junta	Otero	06/94	20	33	36
Las Animas	Bent	11/94	34	53	55
Meeker	Rio Blanco	11/94	35	53	56
Morgan County Qual WD	Morgan	06/94	21	37	38
“ “ “ “	“	11/94	36	57	58
No CO Water Assn	Larimer	06/94	22	37	39
Park Center WD	Fremont	06/94	23	37	40
Oil & Gas Fields	Larimer	12/99	42	64	66
Oil & Gas Fields East-Central Jackson County	Jackson	12/99	43	67	68
Oil & Gas Fields West-Central Jackson County	Jackson	12/99	44	67	69
Oil & Gas Fields Northern Moffat County	Moffat	12/99	45	70	71
Oil & Gas Fields Weld County	Weld	12/00	46	70	72
Oil & Gas Fields Weld County	Weld	12/00	47	73	74
Oil & Gas Fields Weld County	Weld	12/00	48	73	75
Oil & Gas Fields Adams, Arapahoe	Adams, Arapahoe	12/00	49A	76	77
Morgan, Washington	Morgan, Washington	12/00	49B	76	78
Weld Counties	Weld	12/00	49C	76	79
Oil & Gas Fields Rio Blanco County	Rio Blanco	12/01	50	76	80

LOCATION	COUNTY	DATE ADOPTED	FIGURE #	NARRATIVE PAGE #	FIGURE PAGE #
Oil & Gas Fields Baca County	Baca	09/02	51	81	82
Oil & Gas Fields Cheyenne and	Cheyenne	12/03	52A	83	84
Kit Carson Counties	Kit Carson	12/03	52B	83	85
Rangely Oil & Gas Field	Rio Blanco	04/98	41	64	65
Rocky Flats	Jeff/Boulder	02/91	1	7	9
San Luis W & SD	Costilla	06/94	24	41	42
SW Protection Area	Kit Carson	10/95	38	57	60
Springfield	Baca	06/94	25	41	43
Sterling	Logan	11/94	37	57	59
Upper Black Squirrel	El Paso	05/91	3	11	13
Upper Cherry Crk & Denver Basins	El Paso/Douglas/ Arapahoe	01/96	39	61	62
Vail Valley	Eagle	05/93	9	18	21
Willows/Centennial Class Area	Arapahoe & Douglas	05/93	10	22	23
Woodmore W&S	El Paso	06/94	26	41	44
Wray	Yuma	06/94	27	45	46
Yuma	Yuma	06/94	28	45	47

INDEX MAP
SPECIFIED AREAS - GROUND WATER CLASSIFICATIONS



42.4 LEGEND

SPECIFIED AREAS FOR WELLFIELDS IN THE STATE OF COLORADO

Legend

Cultural Features

- Specified Wellfield Area
- State Boundary
- County Boundary
- Interstate Highway (Controlled Access) (I-70)
- Federal Highway (40)
- Colorado State Highway (72)
- County Road and City Street
- Four Wheel Drive Trail
- Railroad
- Oil Pipeline
- Gravel Pit or Quarry
- Cemetery
- Campground

Physical Features

- Elevation Contour (5000)
- River
- Stream or Creek
- Intermittent Stream
- Ditch or Canal
- Spring
- Well
- Sewage Treatment Ponds
- Lake or Reservoir
- Dry Lake
- Built Up Area Within City Limits
- Recreational Area

Coordinate Grid: Public Land Survey System

Projection UTM Zone 13

Compiled from U. S. Census Bureau TIGER Files
By Lew Hyer and Douglas Steinshouer

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42.5 DEFINITIONS

The following definitions are applicable to these regulations:

(1) "Alluvium" is clay, silt, sand or gravel, or similar unconsolidated detrital material deposited during comparatively recent geologic time by a stream or other body of running water as a sorted or semisorted sediment in the bed of the stream or on its flood plain or delta, or as a cone or fan at the base of a mountain slope.

(2) "Confined Ground Water" is ground water under greater than atmospheric pressure beneath or between layers of relatively impermeable material; the static water level rises above the bottom of the confining layer.

(3) "River Alluvium and Terrace Gravel System" are aquifers located within those alluvium formations mapped on the "Geologic Map of Colorado" (Ogden Tweto, 1979) as "Qa-Modern Alluvium." (includes Piney Creek Alluvium and younger deposits) and "Qg-Pinedale and Bull Lake Age Gravels and Alluvium." (includes Broadway and Louviers Alluvium).

(4) "Saturated Zone" is a subsurface zone in which all of the interstices are filled with water under pressure greater than that of the atmosphere. This zone is separated from the zone of aeration by the water table.

(5) "State" is defined in the Constitution of the State of Colorado, article 1 as commencing on the thirty-seventh parallel of north latitude, where the twenty-fifth meridian of longitude west from Washington crosses the same; thence north, on said meridian to the forty-first parallel of north latitude; thence along said parallel, west, to the thirty-second meridian of longitude west from Washington; thence south, on said meridian, to the thirty-seventh parallel of north latitude; thence along said thirty-seventh parallel of north latitude to the place of beginning.

(6) "Unconfined Ground Water" is ground water that has a free water table; i.e., water not confined under pressure beneath relatively impermeable rocks.

(7) "Upper Hydro-Stratigraphic Unit" is the uppermost layer of ground water incorporating any aquifer or other zone of ground water occurrence which is the first encountered beneath the ground surface and includes all saturated geologic formations, unconsolidated alluvium and colluvium, and hydraulically connected zones in bedrock.

42.6 (RESERVED)

42.7 SITE-SPECIFIC GROUND WATER CLASSIFICATIONS AND WATER QUALITY STANDARDS

The statewide standards for organic chemicals and radioactive materials set forth in section 41.5 C of The Basic Standards for Ground Water apply to all ground water for which site specific classifications and standards have been adopted, unless the Commission specifies otherwise in the site-specific standards for a particular specified area.

The following classifications and standards shall not be interpreted so as to cause material injury to water rights in accordance with 25-8-104 C.R.S. (1989):

(1) ROCKY FLATS AREA, JEFFERSON AND BOULDER COUNTIES

(a) Specified Area: All unconfined ground waters within i) the Upper Hydro-Stratigraphic Unit (UHSU), including the unconsolidated Quaternary and Rocky Flats alluvium, colluvium and valley fill alluvium, and weathered claystone and hydraulically connected sandstone

bedrock of the Arapahoe and Upper Laramie formations; ii) the Arapahoe and Upper Laramie aquifers not hydraulically connected to the UHSU; and iii) the Laramie-Fox Hill aquifer, within the area shown on Figure 1.

(b) Classification: The classification of the ground waters within the specified area is:

1. Upper Hydro-Stratigraphic Unit:

- Surface Water Protection

(c) Water Quality Standards:

(i) The water quality standards included in section 31.11(2) (statewide surface water radioactive materials standards), section 31.11(3) (statewide surface water interim organic pollutant standards), and the site-specific surface water quality standards for segments 4a, 4b and 5 of Big Dry Creek (in section 38.6 of the South Platte Basin Classifications and Standards) are assigned to UHSU ground water described in 42.7(1)(a).

(ii) An agency implementing the standards may, if it has authority, set a compliance standard different from the listed standard and equal to the background level if the implementing agency has the authority to exceed that standard.

(iii) Where a toxic substance for which no numerical standard has been established is found in a detectable amount, notification shall be given as soon as possible to the operator of the Rocky Flats Environmental Technology Site; the United States Department of Energy; the United States Environmental Protection Agency; and the Water Quality Control Division, which will consult as necessary with other components of the Colorado Department of Public Health and Environment. Those entities will meet and attempt to reach a consensus concerning the appropriate numerical protection level for that substance. If consensus is a numerical protection level. Where consensus cannot be reached, the Division will determine the appropriate numerical protection level.

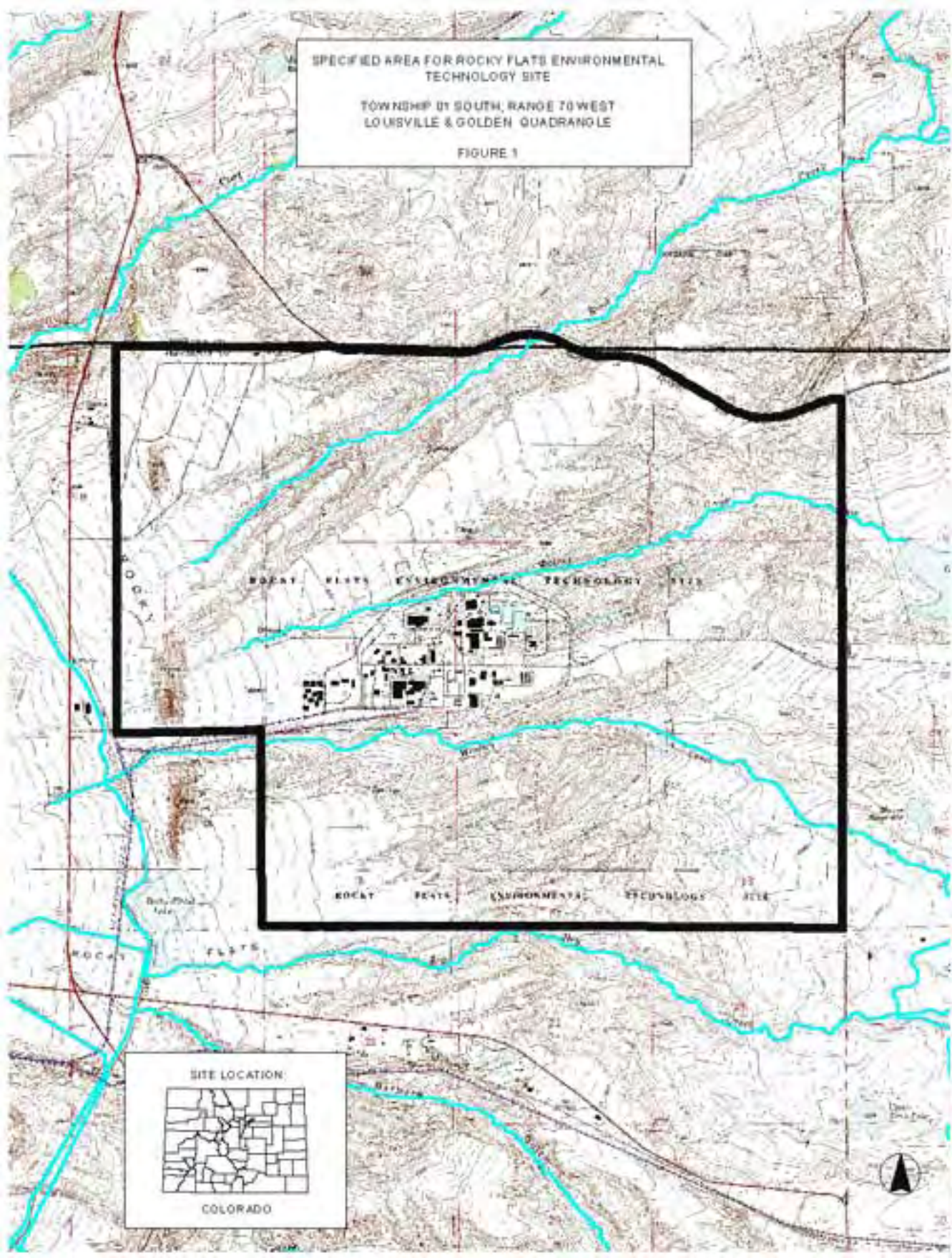
In setting a numerical protection level, the entities listed above will consider the existing and any reasonably probable future beneficial uses of ground water that need to be protected in the vicinity of the discharge, and establish the appropriate corresponding numerical protection levels for specific contaminants, based on those beneficial uses, as outlined in section 41.5(b) of “The Basic Standards for Ground Water.” The entities will take into account reasonably available information.

A determination made by these entities or the Division in accordance with the procedure described above will not be deemed to constitute a ground water quality standard and will not be applicable outside the specified area for this hearing.

If numerical protection levels are established by agreement of the entities, they will jointly petition the Commission for rulemaking to set a standard at the numerical protection level. If the Division establishes a numerical protection level without agreement of all entities, the Division shall ask the Commission to set a standard consistent with the numerical protection level.

If any interested person disagrees with a determination made by the Division in accordance with the procedure described above, it may petition the Commission

to adopt a site-specific standard different from the numerical protection level. Any determination made by the Commission during the hearing process would then become binding on the Division, the Department of Energy, and the operator of the Rocky Flats Environmental Technology Site. At the request of the Department of Energy or the operator of the Rocky Flats Site or an interested person, the Commission will consider such a hearing to be mandatory and de novo.


SPECIFIED AREA FOR ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
TOWNSHIP 01 SOUTH, RANGE 70 WEST
LOUISVILLE & GOLDEN QUADRANGLE
FIGURE 1
SITE LOCATION
COLORADO

SITE-SPECIFIC RADIONUCLIDE STANDARDS* (in Picocuries/Liter)

A. Ambient based site-specific standards for ground waters in the UHSU hydraulically connected to the surface streams shown:

.	Segment 4 Segment 5 Woman Creek	Segment 4 Segment 5 Walnut Creek
Gross alpha	7	11
Gross Beta	8	19
Tritium	500	500
Uranium	11	10

* Statewide Standards also apply for radionuclides not listed above.

(2) CITY OF BRUSH WELLFIELD, MORGAN COUNTY

(a) Specified Area: All unconfined ground waters within the saturated zone underlying that area as illustrated in Figure 2.

(b) Classification: The classifications of the unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all unconfined ground water in the specified area.

(3) UPPER BLACK SQUIRREL CREEK ALLUVIAL AQUIFER, EL PASO COUNTY

(a) Specified Area: All unconfined ground waters within the saturated zone underlying that area of El Paso County shown on Figure 3.

(b) Classification: The classifications of the unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all unconfined ground water in the specified area.

(4) CITY OF ALAMOSA WELLFIELD, ALAMOSA COUNTY

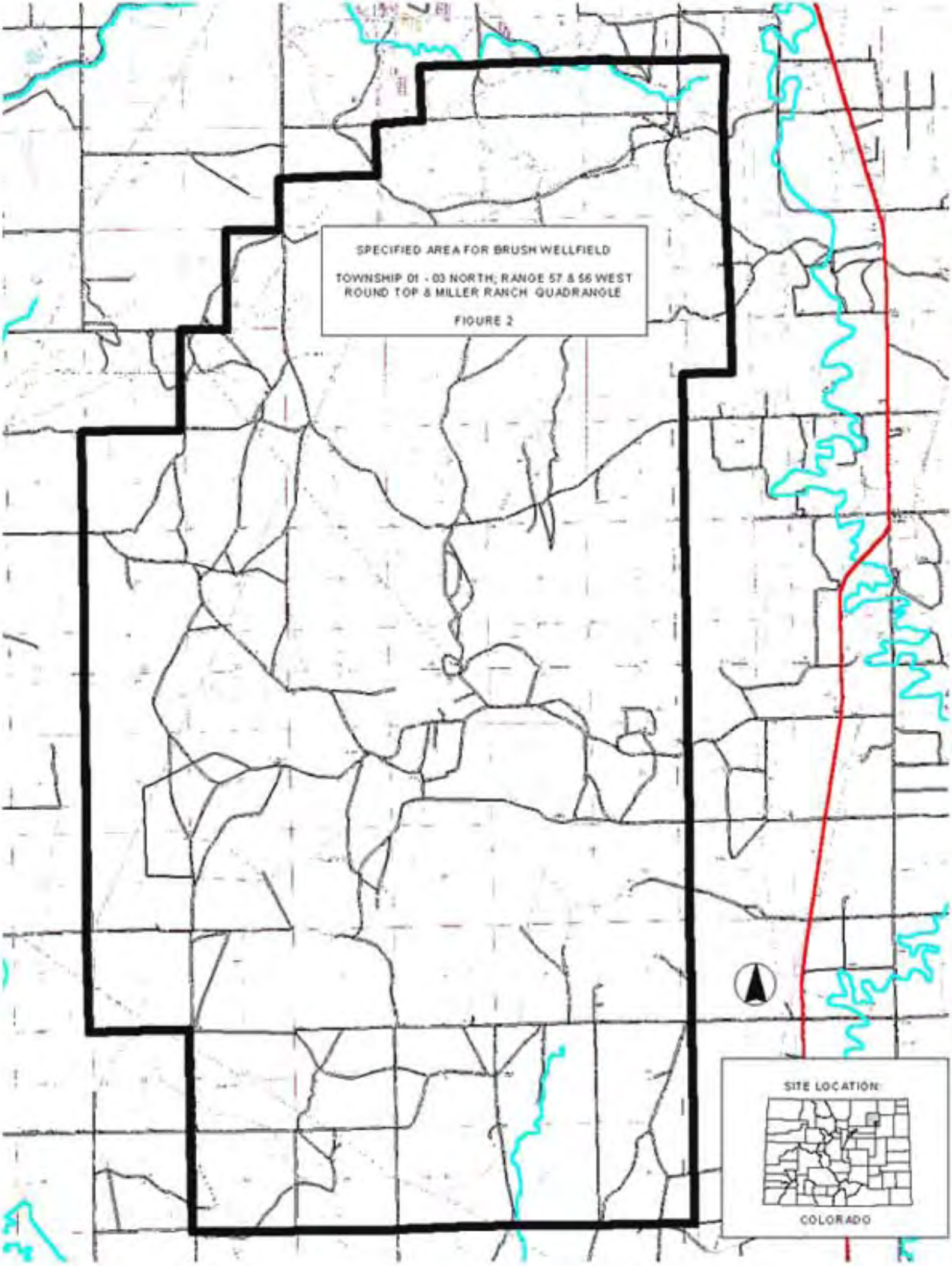
(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 4. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

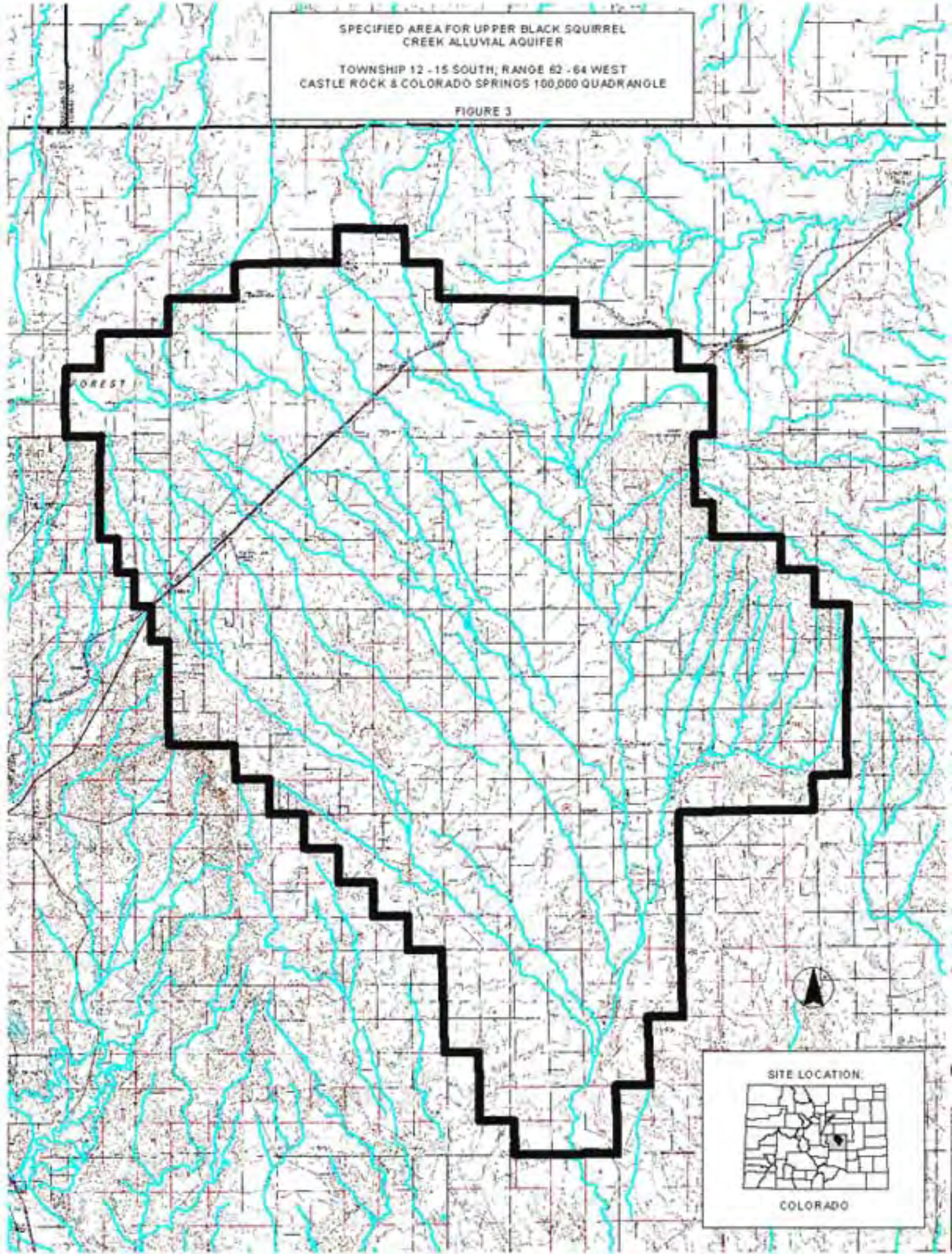
(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

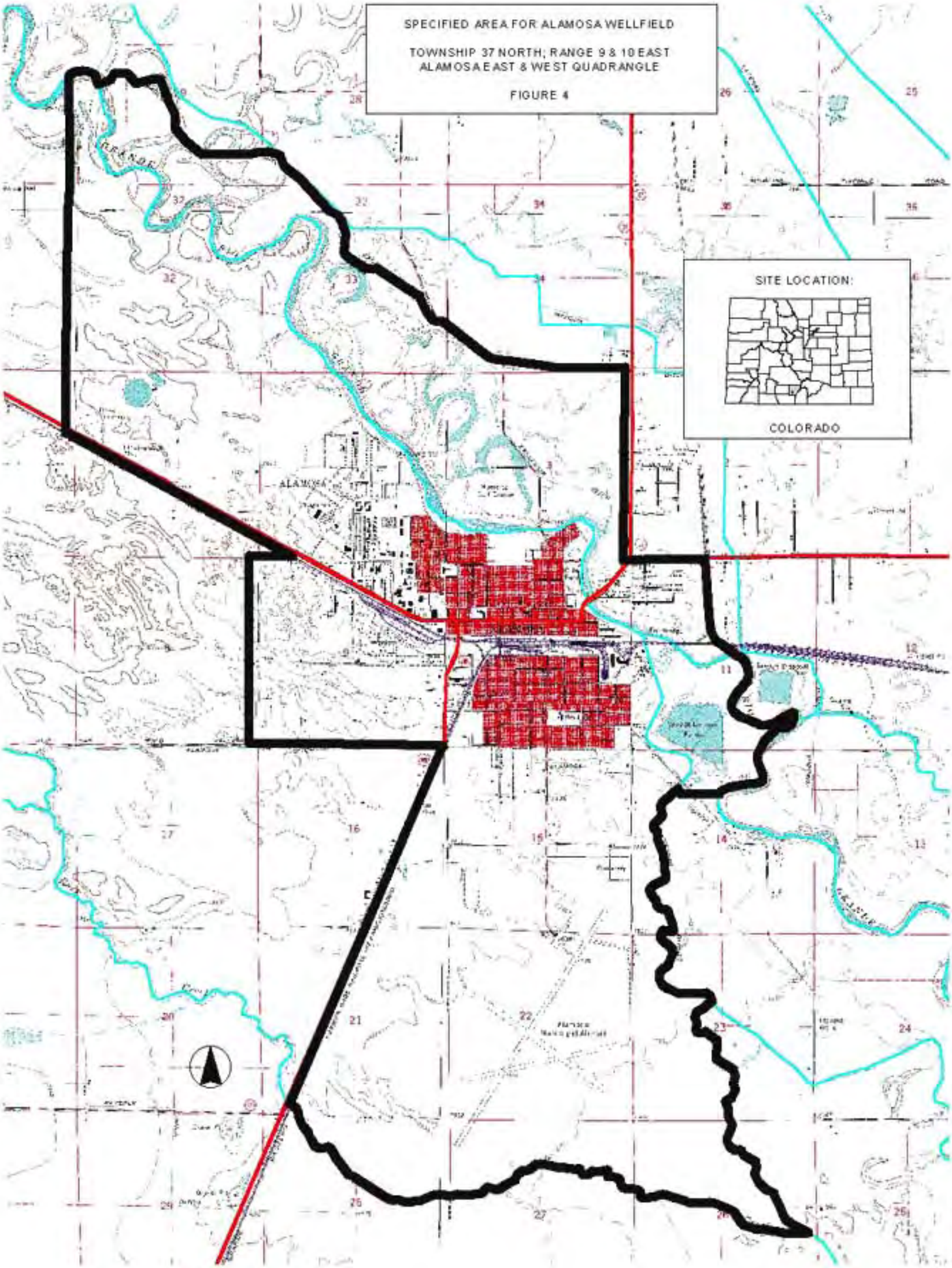

SPECIFIED AREA FOR BRUSH WELLFIELD
TOWNSHIP 01 - 03 NORTH; RANGE 57 & 56 WEST
ROUND TOP & MILLER RANCH QUADRANGLE
FIGURE 2
SITE LOCATION:
COLORADO

SPECIFIED AREA FOR UPPER BLACK SQUIRREL CREEK ALLUVIAL AQUIFER

TOWNSHIP 12 - 15 SOUTH; RANGE 62 - 64 WEST
CASTLE ROCK & COLORADO SPRINGS 100,000 QUADRANGLE

FIGURE 3




SPECIFIED AREA FOR ALAMOSA WELLFIELD
TOWNSHIP 37 NORTH; RANGE 9 & 10 EAST
ALAMOSA EAST & WEST QUADRANGLE
FIGURE 4
SITE LOCATION:
COLORADO
ALAMOSA

(5) EAST CHERRY CREEK VALLEY WATER & SANITATION DISTRICT, ARAPAHOE COUNTY

(a) Specified Area: All ground water underlying the area illustrated in Figure 5 within the saturated zone of the Denver Basin aquifers to include the Denver, Arapahoe, and Laramie-Fox Hills aquifers as defined by the Colorado Division of Water Resources' Denver Basin Rules (2 CCR 402-6); also the Dawson aquifer as defined by the Colorado Division of Water Resources' Denver Basin Rules (2 CCR 402-6), and all of the alluvial and unconfined ground water overlying the Denver Basin aquifers and underlying the area illustrated in Figure 5. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the ground water in the Denver, Arapahoe, and Laramie-Fox Hills aquifers within the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all ground water in the Denver, Arapahoe, and Laramie-Fox Hills aquifers within the specified area.

The interim narrative standard, as specified in the "Classifications and Water Quality Standards for Ground Water" 42.0 (5 CCR 1002-42), shall be applicable to the ground water in the Dawson aquifer and all of the alluvial and unconfined ground water overlying the Denver Basin Aquifers within the specified area:

(6) FEDERAL HEIGHTS WATER DISTRICT WELLFIELD, ADAMS COUNTY

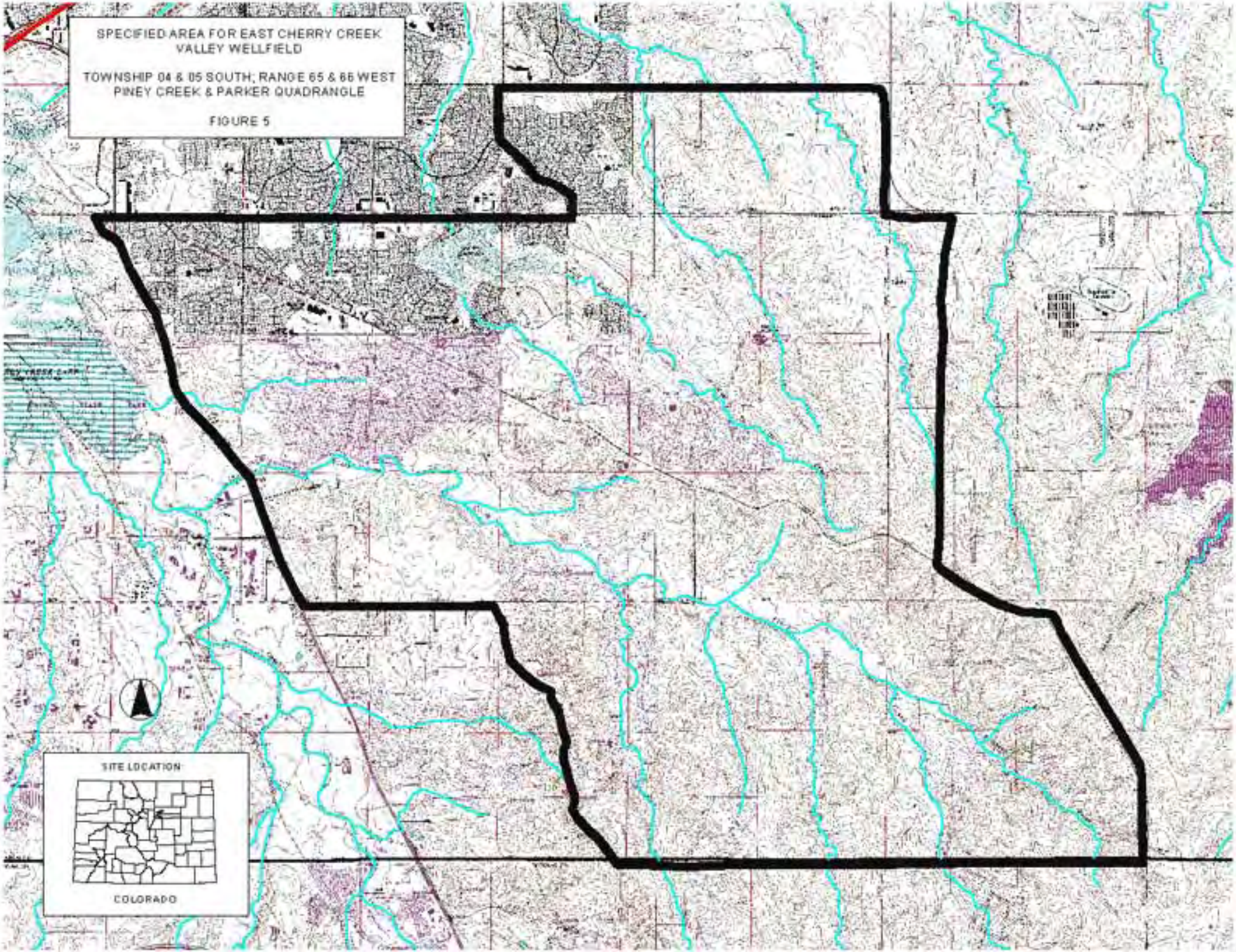
(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 6. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.


SPECIFIED AREA FOR EAST CHERRY CREEK VALLEY WELLFIELD
TOWNSHIP 04 & 05 SOUTH; RANGE 65 & 66 WEST
PINEY CREEK & PARKER QUADRANGLE
FIGURE 5
SITE LOCATION
COLORADO

SPECIFIED AREA FOR FEDERAL HEIGHTS WELLFIELD

TOWNSHIP 02 SOUTH; RANGE 68 WEST
ARVADA & LAFAYETTE QUADRANGLE

FIGURE 6

(7) CITY OF FOUNTAIN, SECURITY WATER & SANITATION DISTRICT, STRATMOOR HILLS WATER DISTRICT, AND WIDEFIELD HOMES WATER COMPANY WELLFIELDS, EL PASO COUNTY

(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 7. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(8) CITY OF LAMAR WELLFIELD, PROWERS COUNTY

(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 8. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(9) VAIL VALLEY CONSOLIDATED WATER DISTRICT WELLFIELDS, EAGLE COUNTY

(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 9. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

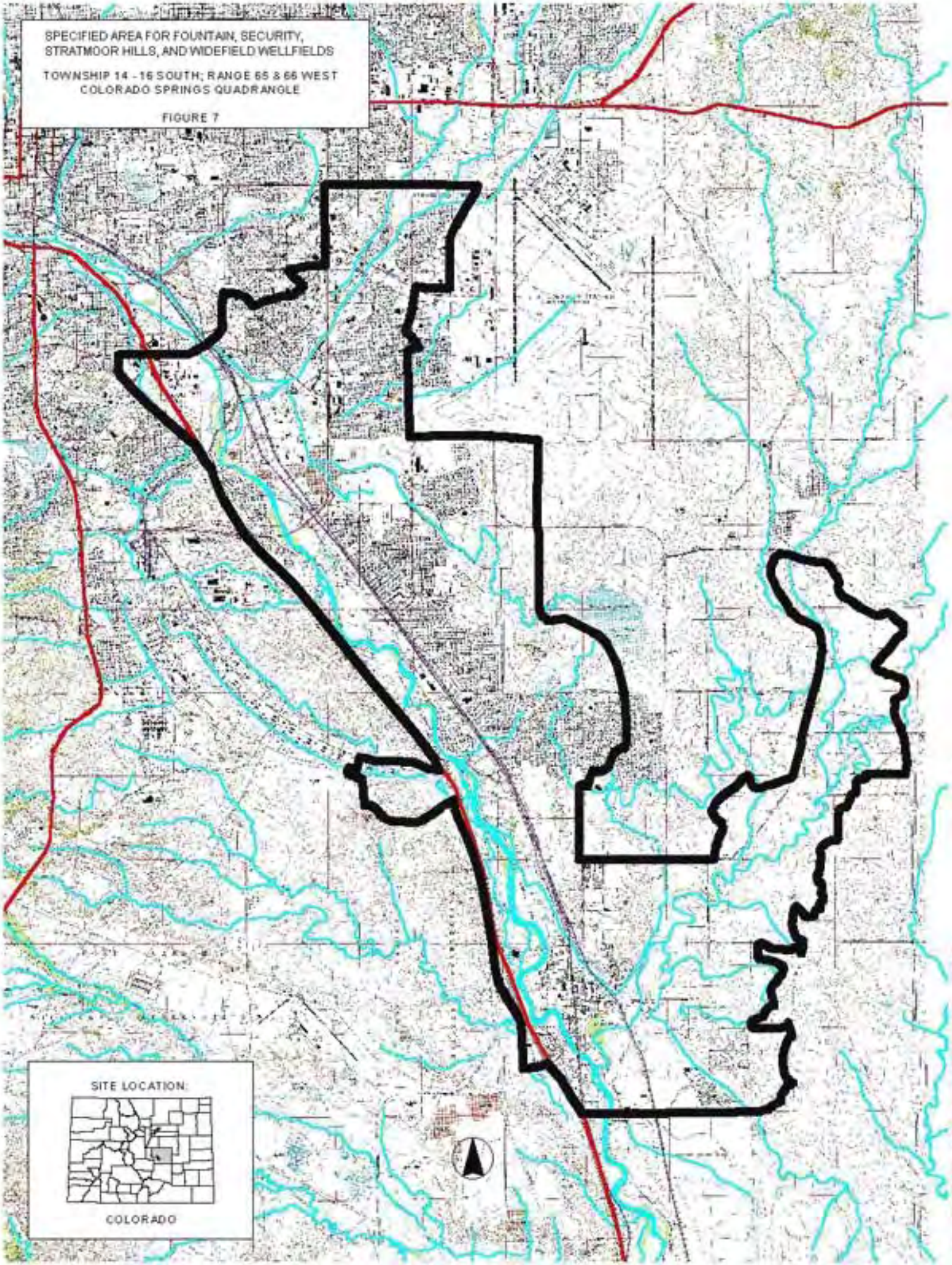
- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Table 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

SPECIFIED AREA FOR FOUNTAIN, SECURITY, STRATMOOR HILLS, AND WIDEFIELD WELLFIELDS

TOWNSHIP 14 - 16 SOUTH; RANGE 65 & 66 WEST
COLORADO SPRINGS QUADRANGLE

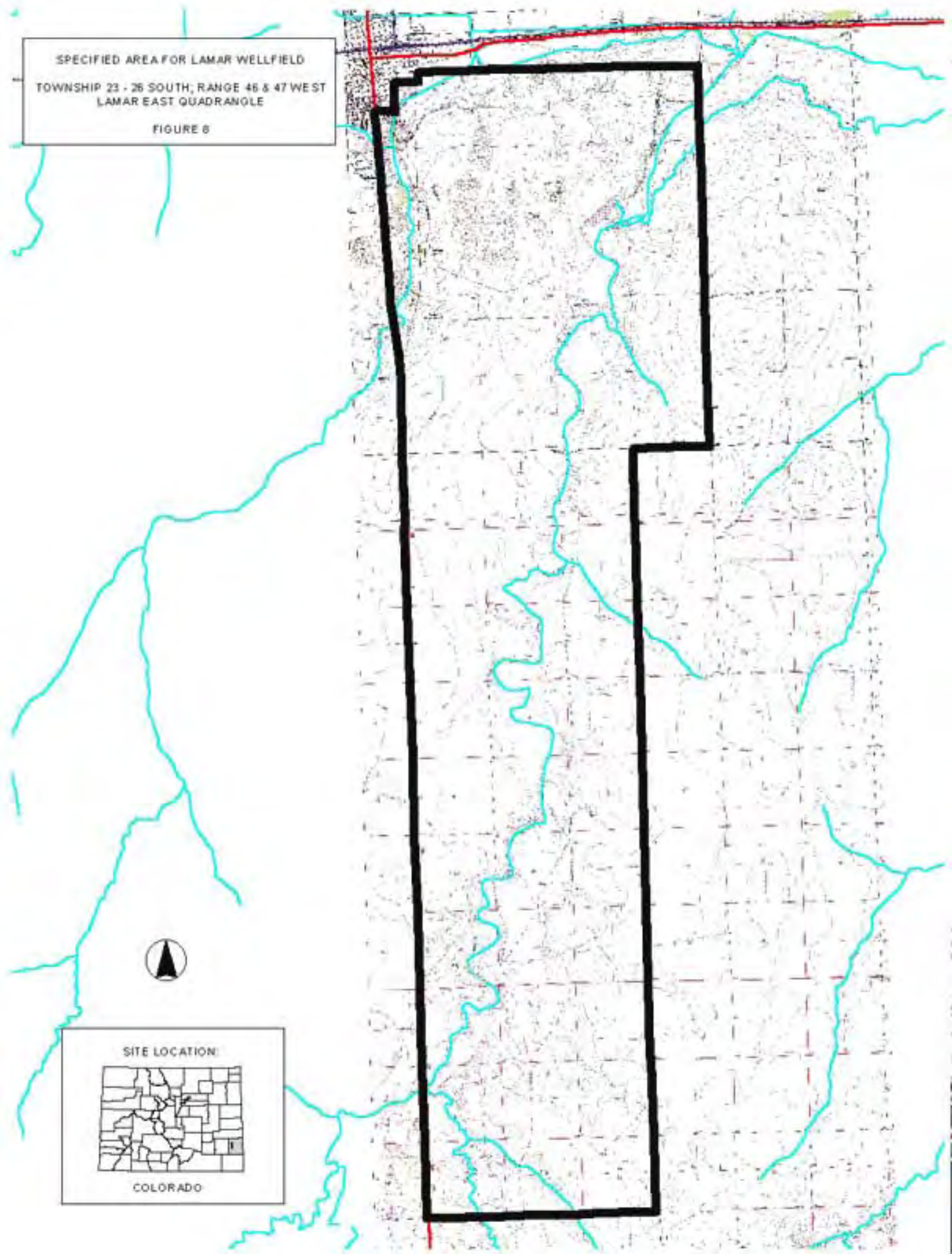
FIGURE 7

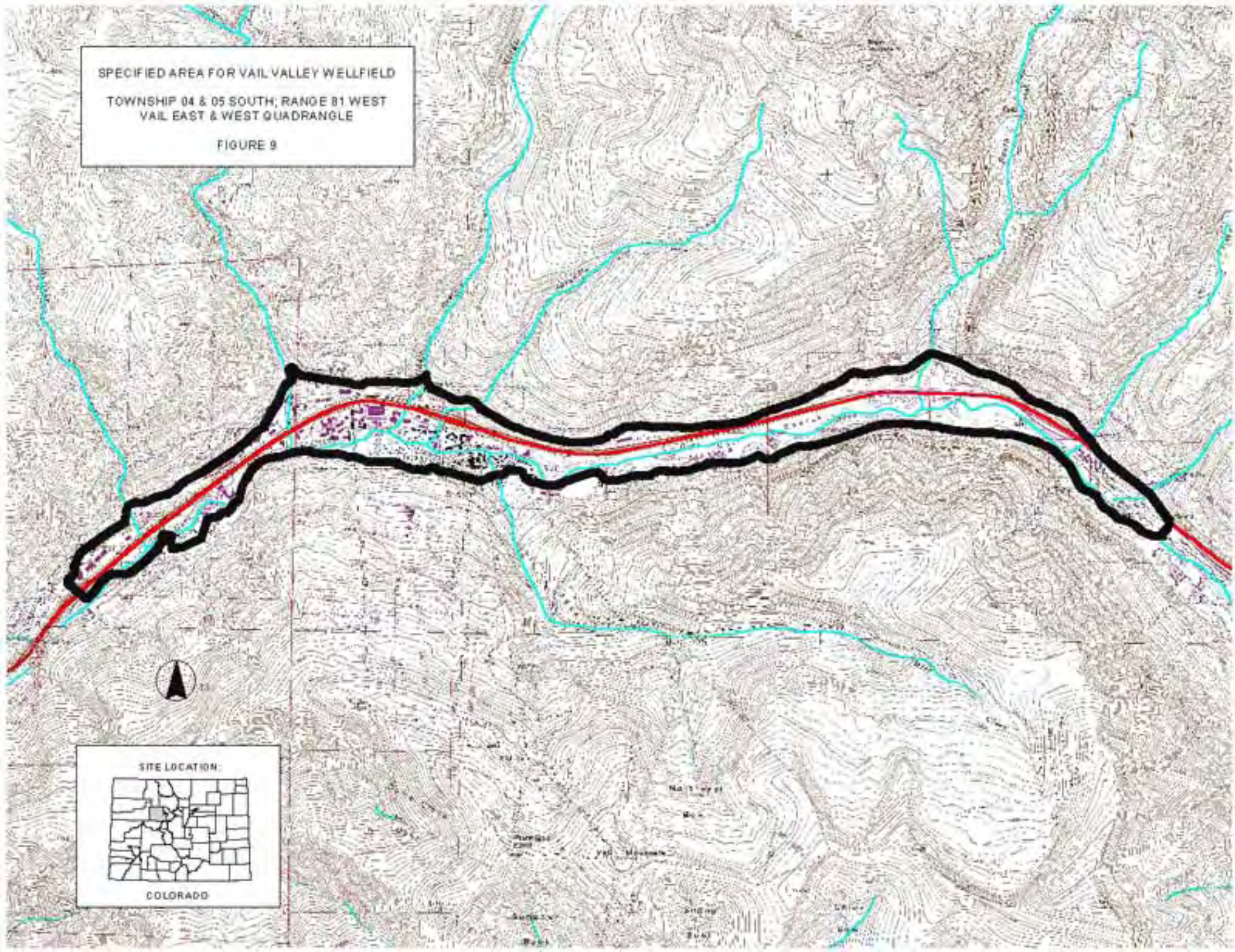


SPECIFIED AREA FOR LAMAR WELLFIELD

TOWNSHIP 23 - 26 SOUTH; RANGE 46 & 47 WEST
LAMAR EAST QUADRANGLE

FIGURE 6




SPECIFIED AREA FOR VAIL VALLEY WELLFIELD
TOWNSHIP 04 & 05 SOUTH; RANGE 81 WEST
VAIL EAST & WEST QUADRANGLE
FIGURE 9
SITE LOCATION
COLORADO

(10) WILLOWS, AND CENTENNIAL GROUND WATER CLASSIFICATION AREA, ARAPAHOE AND DOUGLAS COUNTIES

(a) Specified Area: All ground waters underlying the area illustrated in Figure 10 and within the saturated zone of the Denver Basin aquifer system as defined by the Colorado Division of Water Resources' Denver Basin Rules (2 CCR 402-6) to include the Dawson, Denver, Arapahoe, and Laramie-Fox Hills aquifers and all the alluvial and unconfined ground water overlying the Denver Basin aquifers. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the ground water in the Dawson, Denver, Arapahoe, and Laramie-Fox Hills aquifers in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

The classification of the alluvial and unconfined ground water overlying the Denver Basin aquifers in the specified area is:

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all ground water in the Dawson, Denver, Arapahoe, and Laramie-Fox Hills aquifers in the specified area.

The ground water quality standards included in the Tables 3 and 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all alluvial and unconfined ground water overlying the Denver Basin aquifers in the specified area.

(11) TOWN OF BENNETT WELLFIELD, ADAMS COUNTY

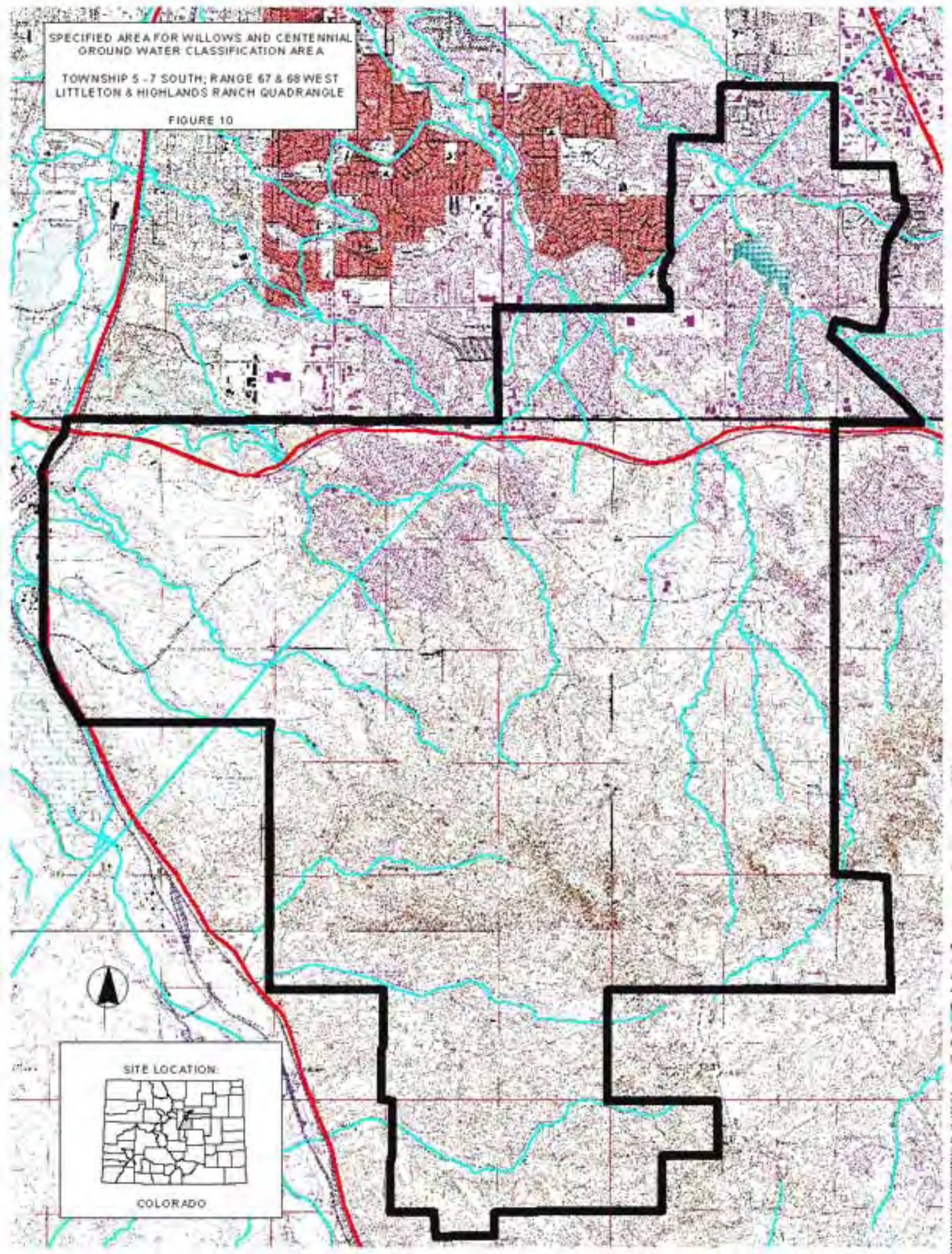
(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 11. Maps depicting each specified area on a larger scale are available in the Commission Office.

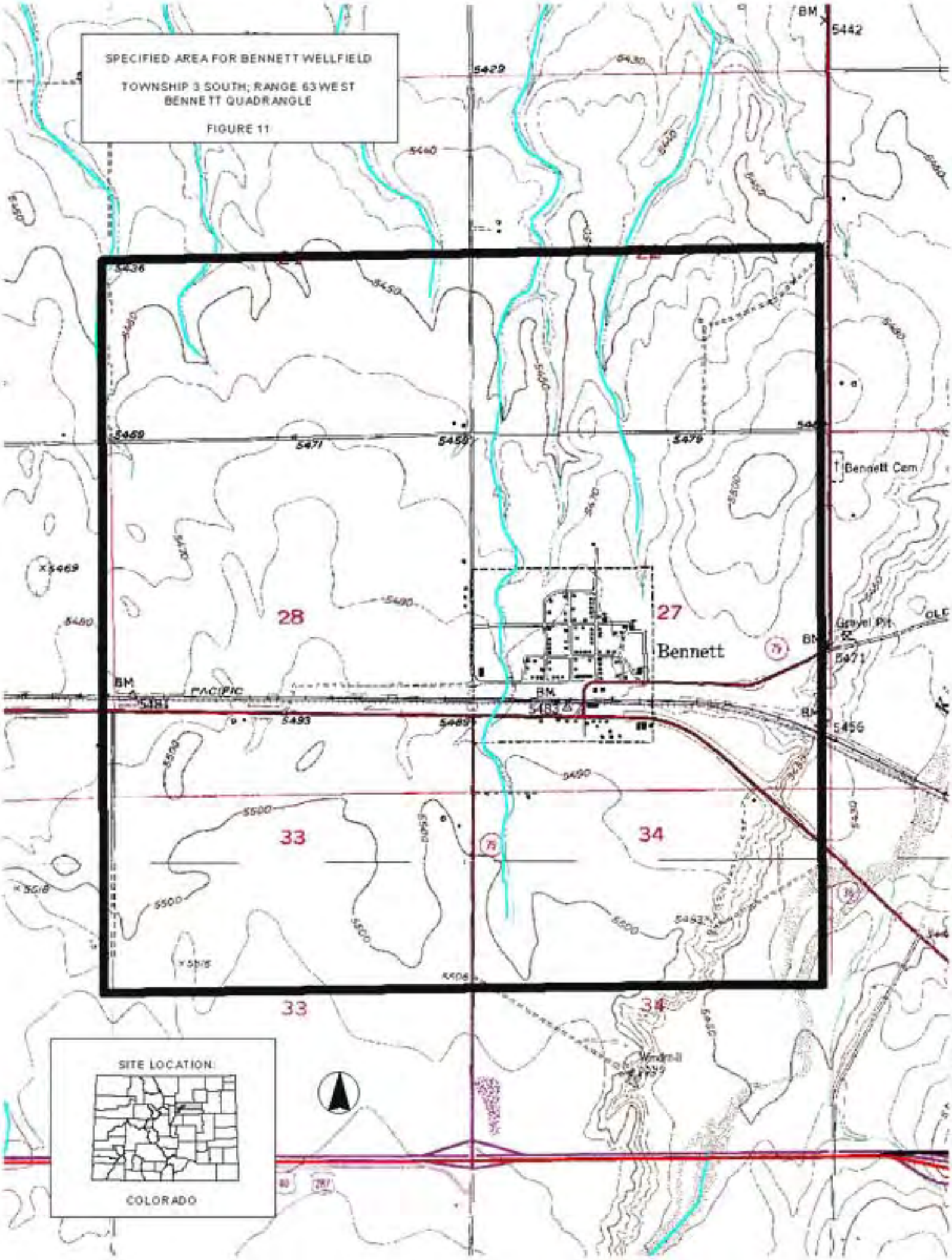
(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.


SPECIFIED AREA FOR WILLOWS AND CENTENNIAL
GROUND WATER CLASSIFICATION AREA
TOWNSHIP 5 - 7 SOUTH; RANGE 67 & 68 WEST
LITTLETON & HIGHLANDS RANCH QUADRANGLE
FIGURE 10
SITE LOCATION:
COLORADO


SPECIFIED AREA FOR BENNETT WELLFIELD
TOWNSHIP 3 SOUTH; RANGE 63 WEST
BENNETT QUADRANGLE
FIGURE 11
Bennett
Bennett Cem
Gravel Pit
28
27
33
34
SITE LOCATION:
COLORADO

(12) CITY OF BURLINGTON WELLFIELD, KIT CARSON COUNTY

(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 12. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(13) TOWN OF CARBONDALE WELLFIELD, GARFIELD COUNTY

(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 13. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(14) TOWN OF CASTLE ROCK WELLFIELD, DOUGLAS COUNTY

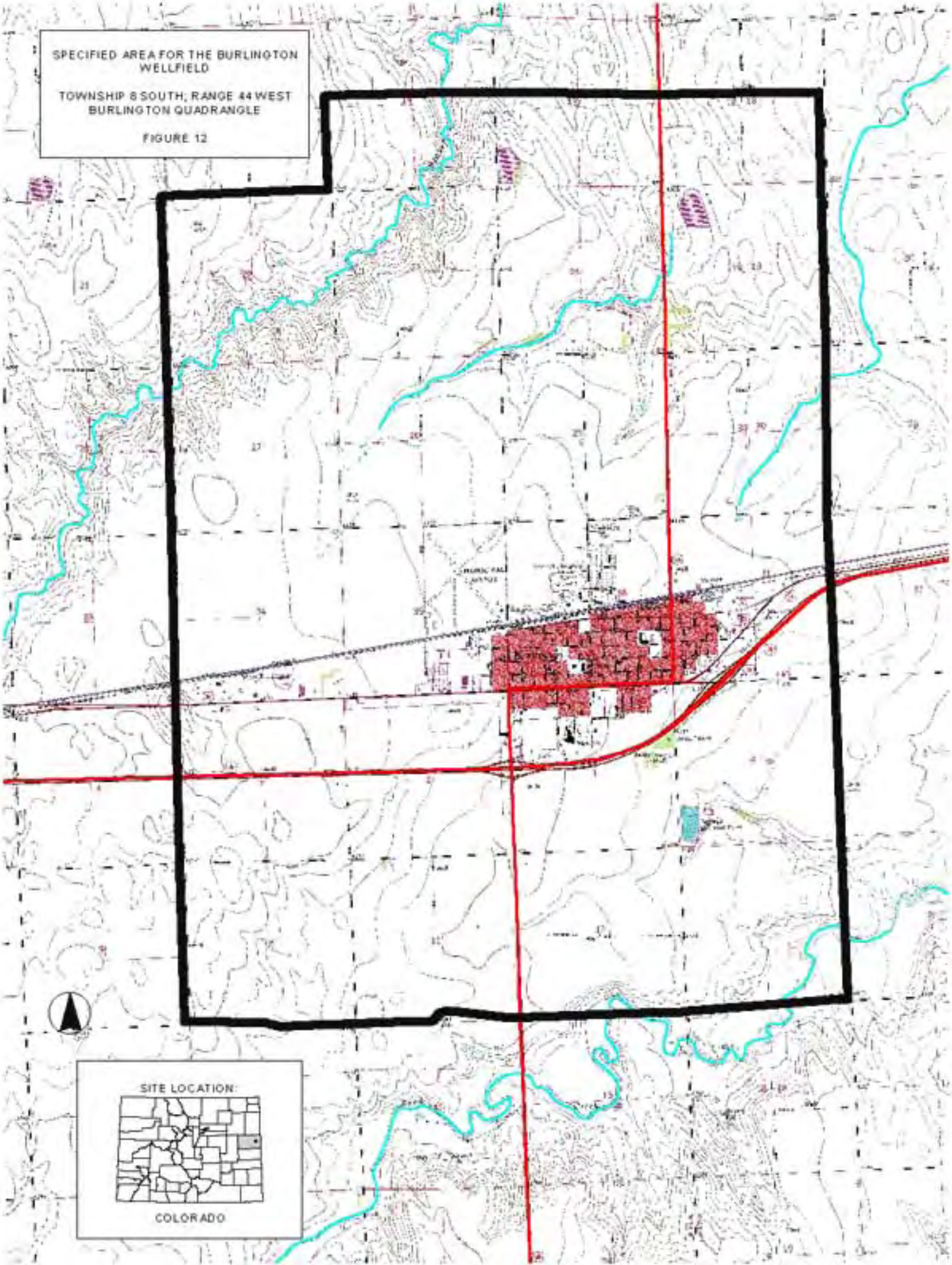
(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 14. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

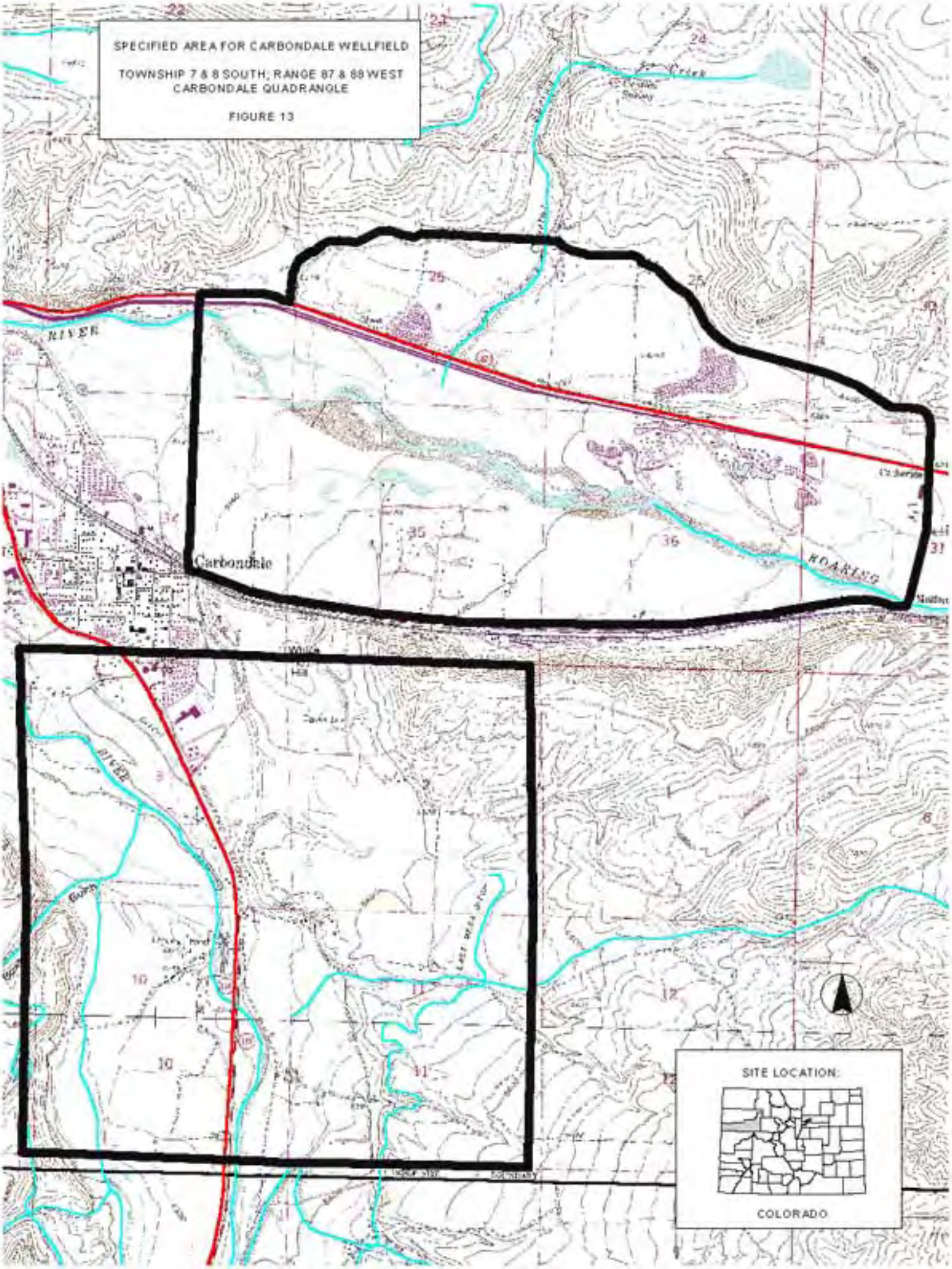
(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

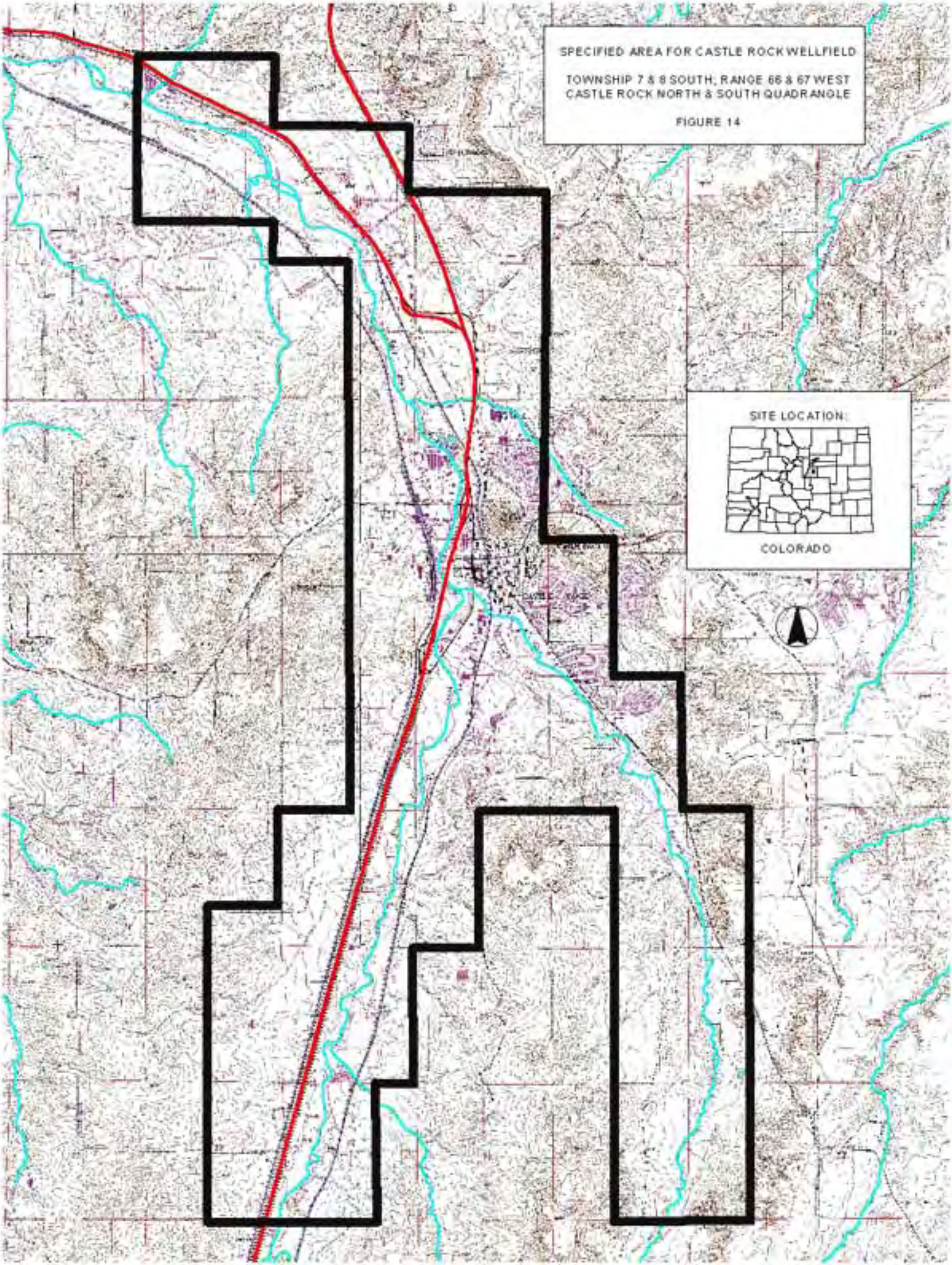

SPECIFIED AREA FOR THE BURLINGTON WELLFIELD
TOWNSHIP 8 SOUTH; RANGE 44 WEST
BURLINGTON QUADRANGLE
FIGURE 12
SITE LOCATION:
COLORADO

SPECIFIED AREA FOR CARBONDALE WELLFIELD

TOWNSHIP 7 & 8 SOUTH; RANGE 87 & 88 WEST
CARBONDALE QUADRANGLE

FIGURE 13




SPECIFIED AREA FOR CASTLE ROCK WELLFIELD
TOWNSHIP 7 & 8 SOUTH, RANGE 66 & 67 WEST
CASTLE ROCK NORTH & SOUTH QUADRANGLE
FIGURE 14
SITE LOCATION:
COLORADO

(15) CROWLEY COUNTY WATER SYSTEM WELLFIELD, CROWLEY COUNTY

(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 15. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1-4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(16) DENVER SOUTHEAST SUBURBAN WATER & SANITATION DISTRICT WELLFIELD, DOUGLAS COUNTY

(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 16. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1-4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(17) EAST DILLON WATER DISTRICT WELLFIELD, SUMMIT COUNTY

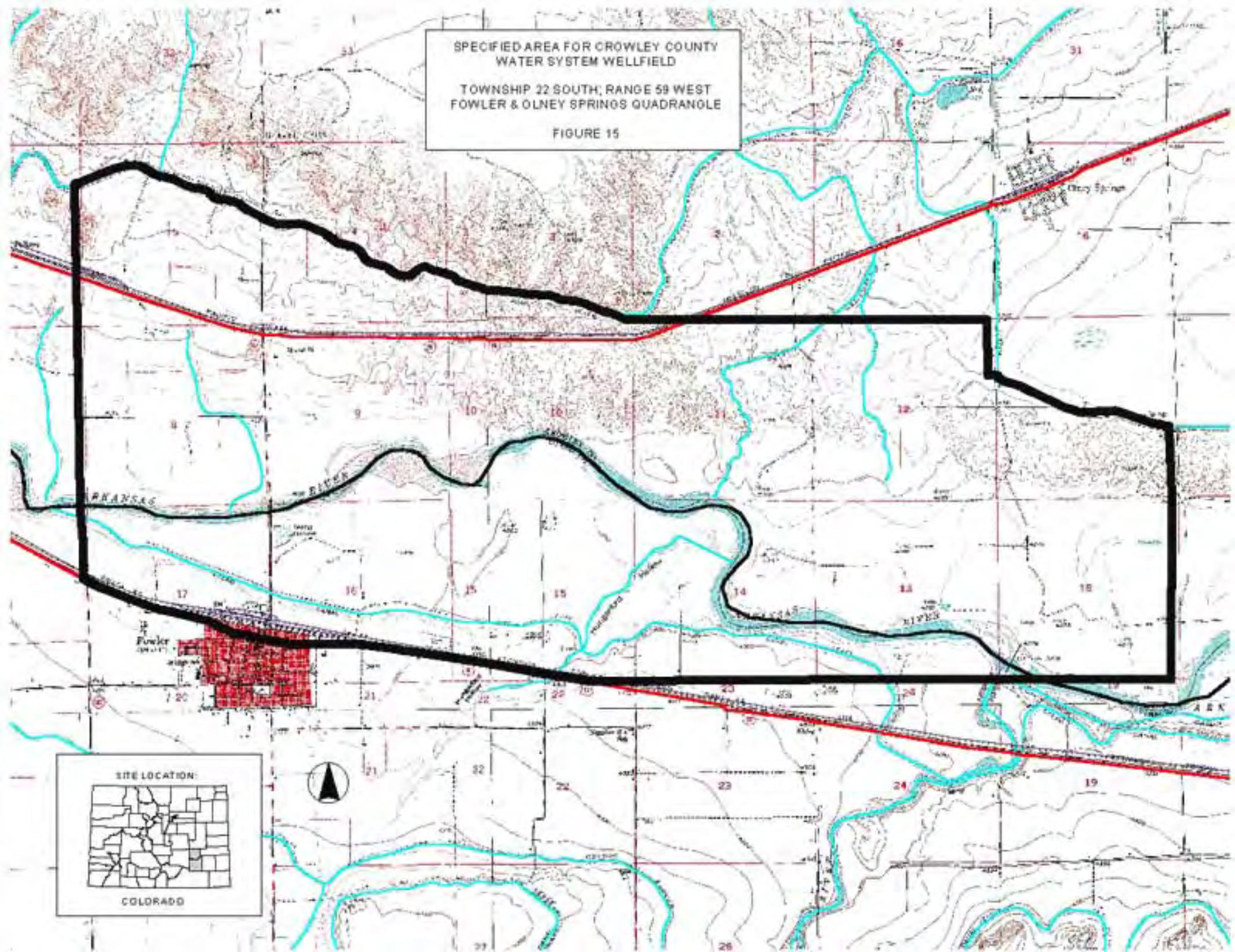
(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 17. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

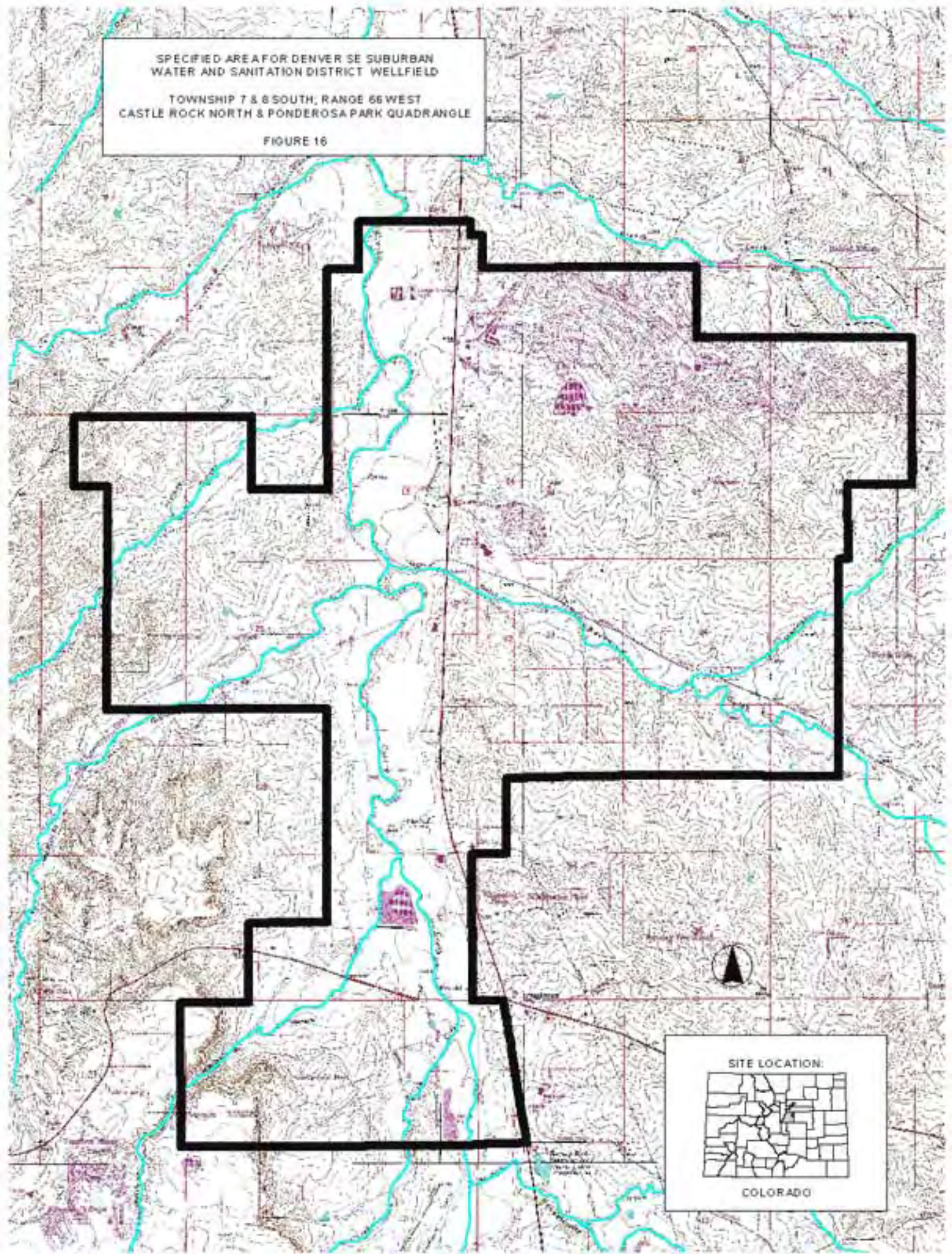
(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

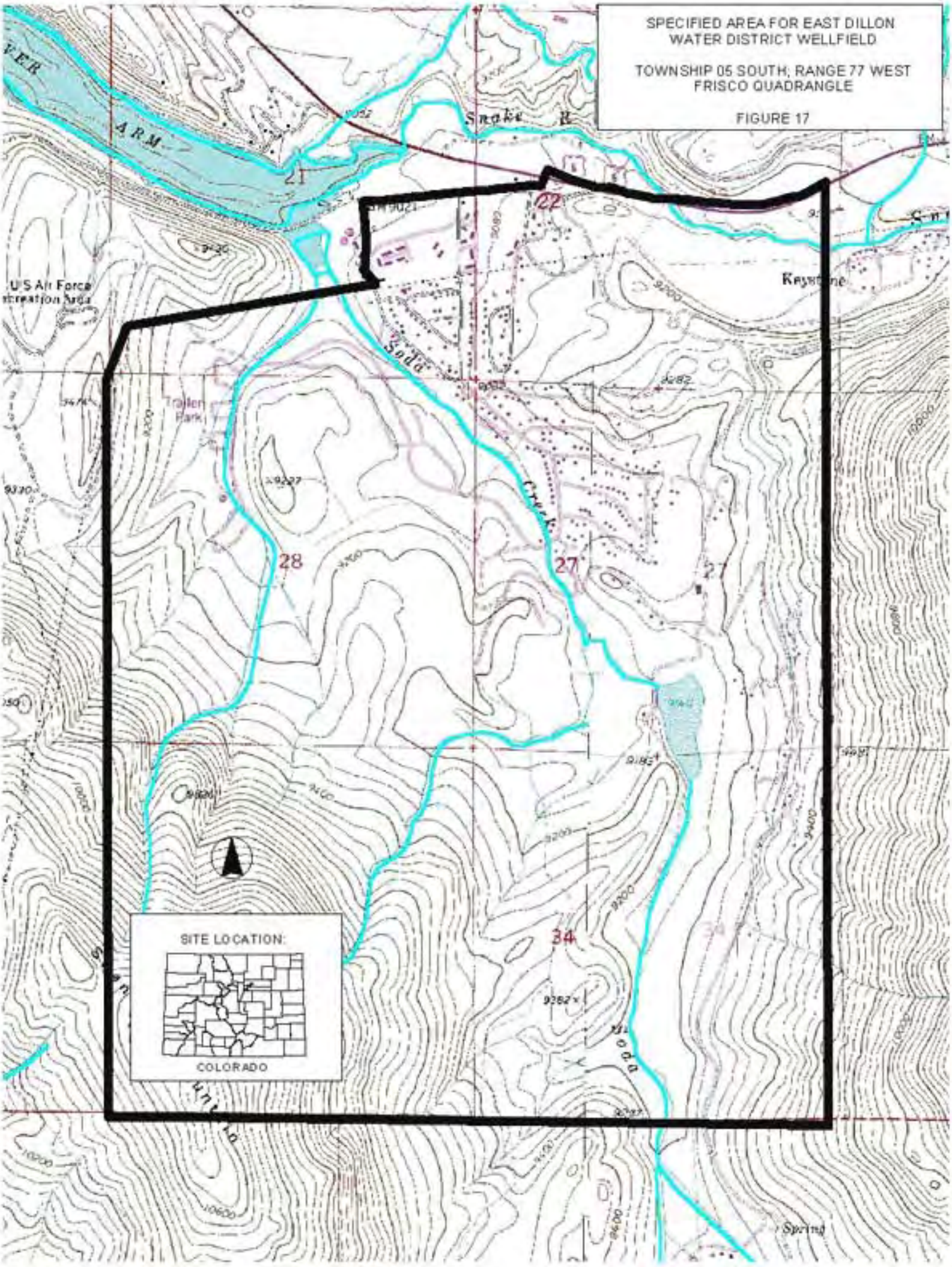

SPECIFIED AREA FOR CROWLEY COUNTY
WATER SYSTEM WELLFIELD
TOWNSHIP 22 SOUTH, RANGE 59 WEST
FOWLER & OLNEY SPRINGS QUADRANGLE
FIGURE 15
Fowler
Olney Springs
SITE LOCATION
COLORADO

SPECIFIED AREA FOR DENVER SE SUBURBAN
WATER AND SANITATION DISTRICT WELLFIELD

TOWNSHIP 7 & 8 SOUTH; RANGE 66 WEST
CASTLE ROCK NORTH & PONDEROSA PARK QUADRANGLE

FIGURE 16




SPECIFIED AREA FOR EAST DILLON WATER DISTRICT WELLFIELD
TOWNSHIP 05 SOUTH; RANGE 77 WEST
FRISCO QUADRANGLE
FIGURE 17
Snake R
ARM
21
22
U S Air Force
Recreation Area
Keystone
Soda
Creek
Trailer Park
28
27
34
Spring
SITE LOCATION:
COLORADO

(18) CITY OF GLENDALE AND CHERRY CREEK VALLEY WATER AND SANITATION DISTRICT GROUND WATER CLASSIFICATION AREA, ARAPAHOE COUNTY

(a) Specified Area: All confined and unconfined ground water within the saturated zone underlying the area as illustrated in Figure 18. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(19) CITY OF GUNNISON WELLFIELD, GUNNISON COUNTY

(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 19. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(20) CITY OF LA JUNTA WELLFIELD, OTERO COUNTY

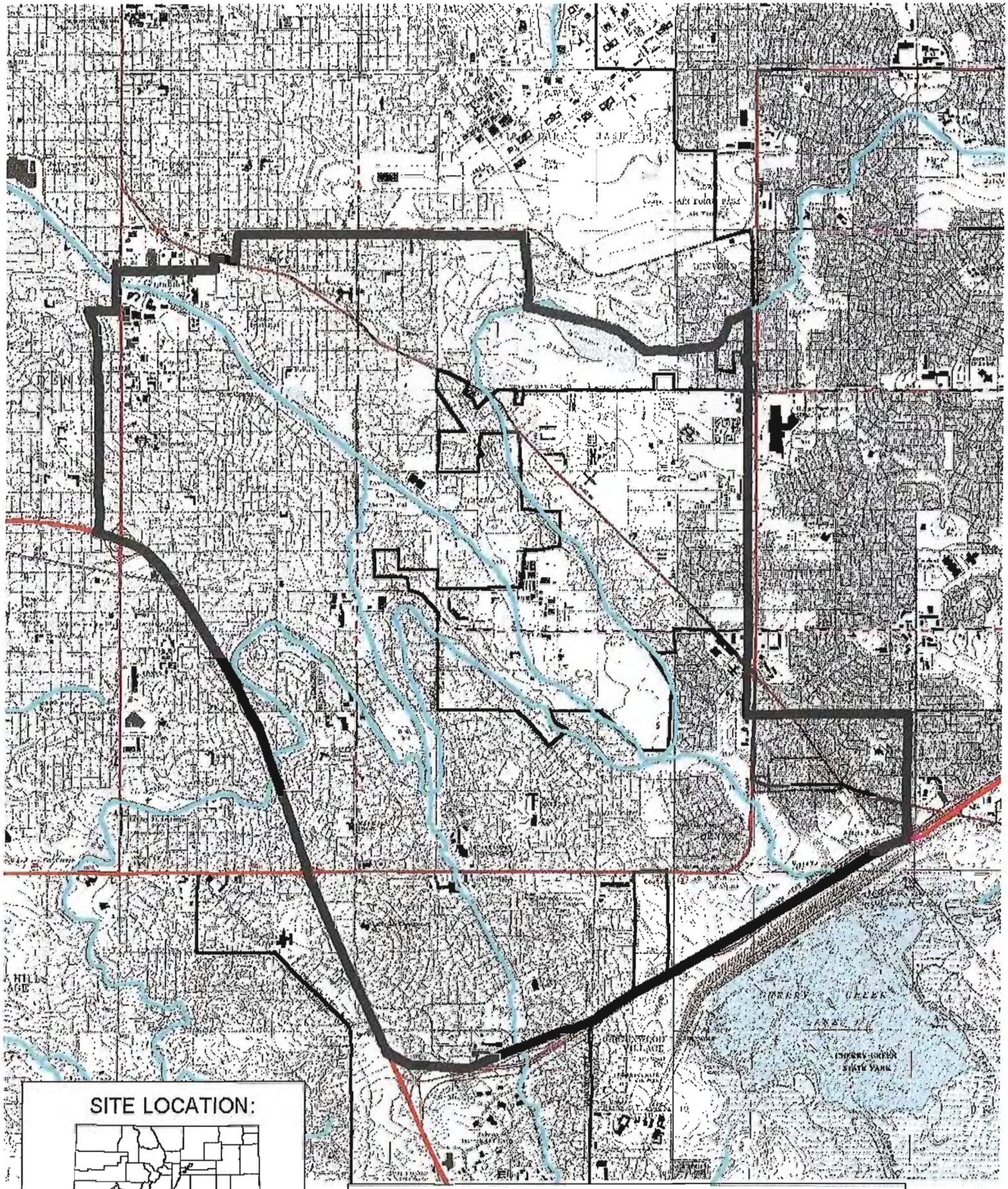
(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 20. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

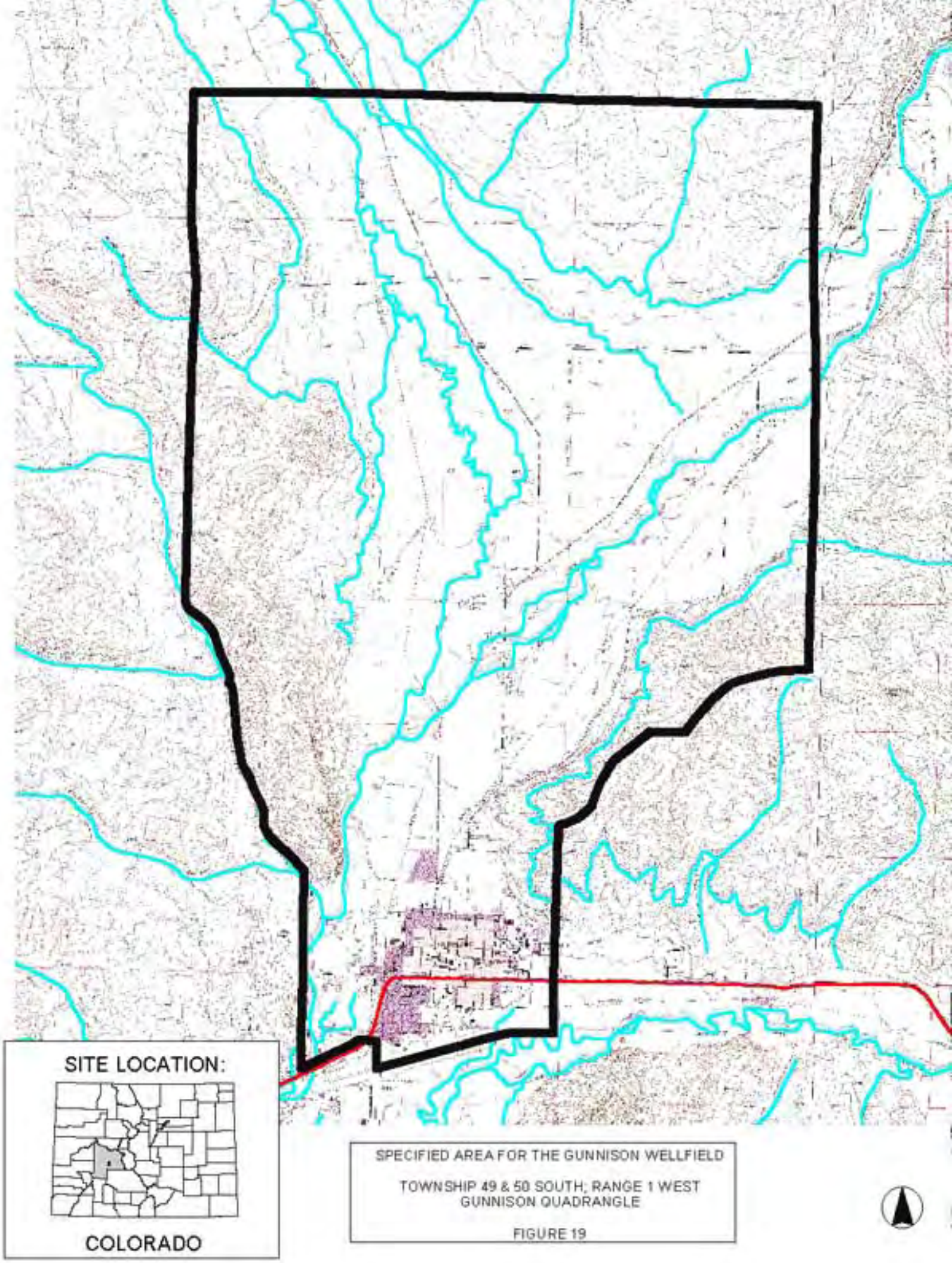
(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.



CITY OF GLENDALE AND CHERRY CREEK VALLEY
WATER & SANITATION DISTRICT GROUND WATER CLASSIFICATION AREA

TOWNSHIP 4 SOUTH; RANGE 67 WEST
ENGLEWOOD & FITZSIMONS QUADRANGLE

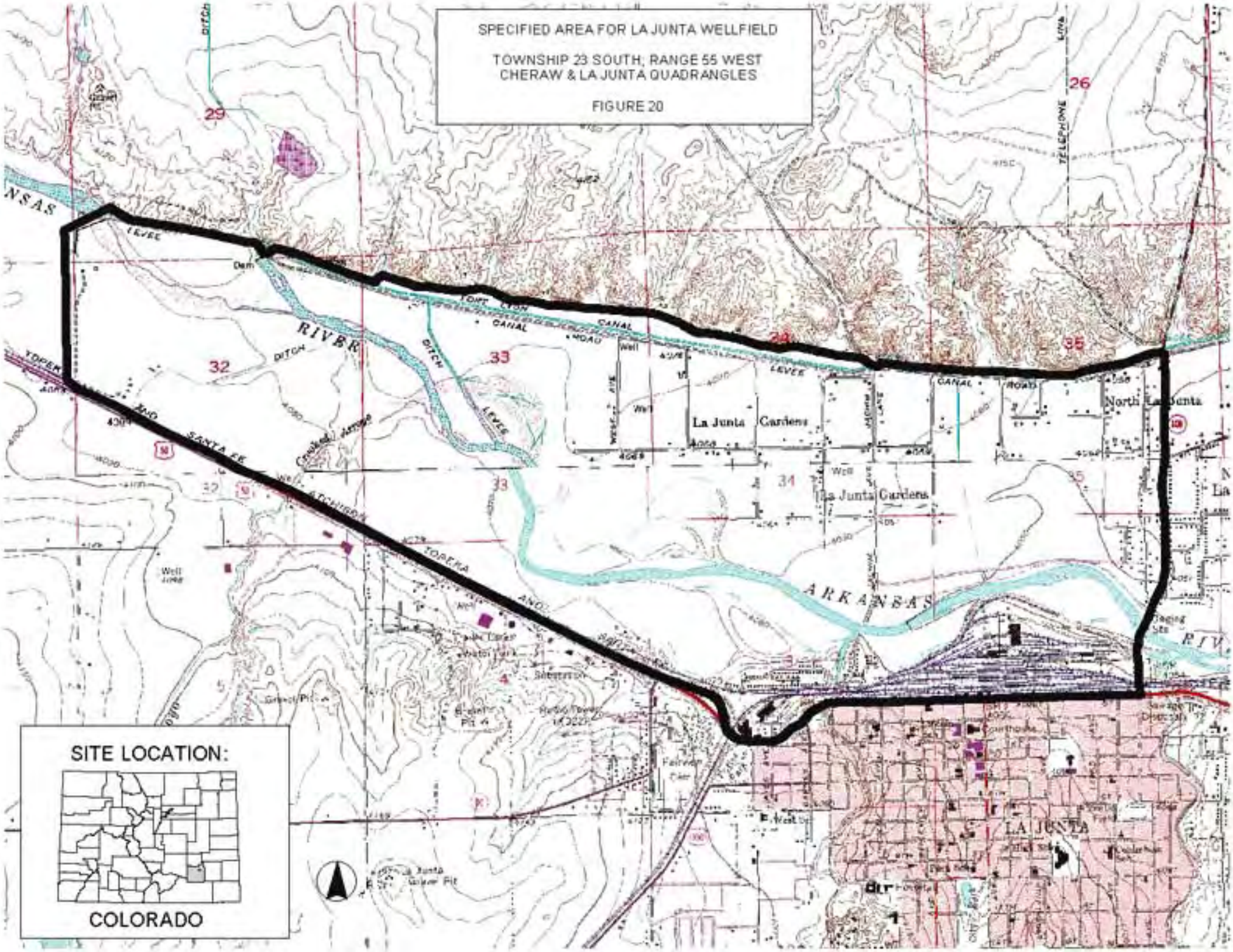
FIGURE 18


SITE LOCATION:
COLORADO
SPECIFIED AREA FOR THE GUNNISON WELLFIELD
TOWNSHIP 49 & 50 SOUTH; RANGE 1 WEST
GUNNISON QUADRANGLE
FIGURE 19

SPECIFIED AREA FOR LA JUNTA WELLFIELD

TOWNSHIP 23 SOUTH; RANGE 55 WEST
CHERAW & LA JUNTA QUADRANGLES

FIGURE 20



(21) MORGAN COUNTY QUALITY WATER DISTRICT WELLFIELD, MORGAN COUNTY

(a) Specified Area: All confined and unconfined ground water within the saturated zone underlying the area as illustrated in Figure 21. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(22) NORTHERN COLORADO WATER ASSOCIATION WELLFIELD, LARIMER COUNTY

(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 22. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

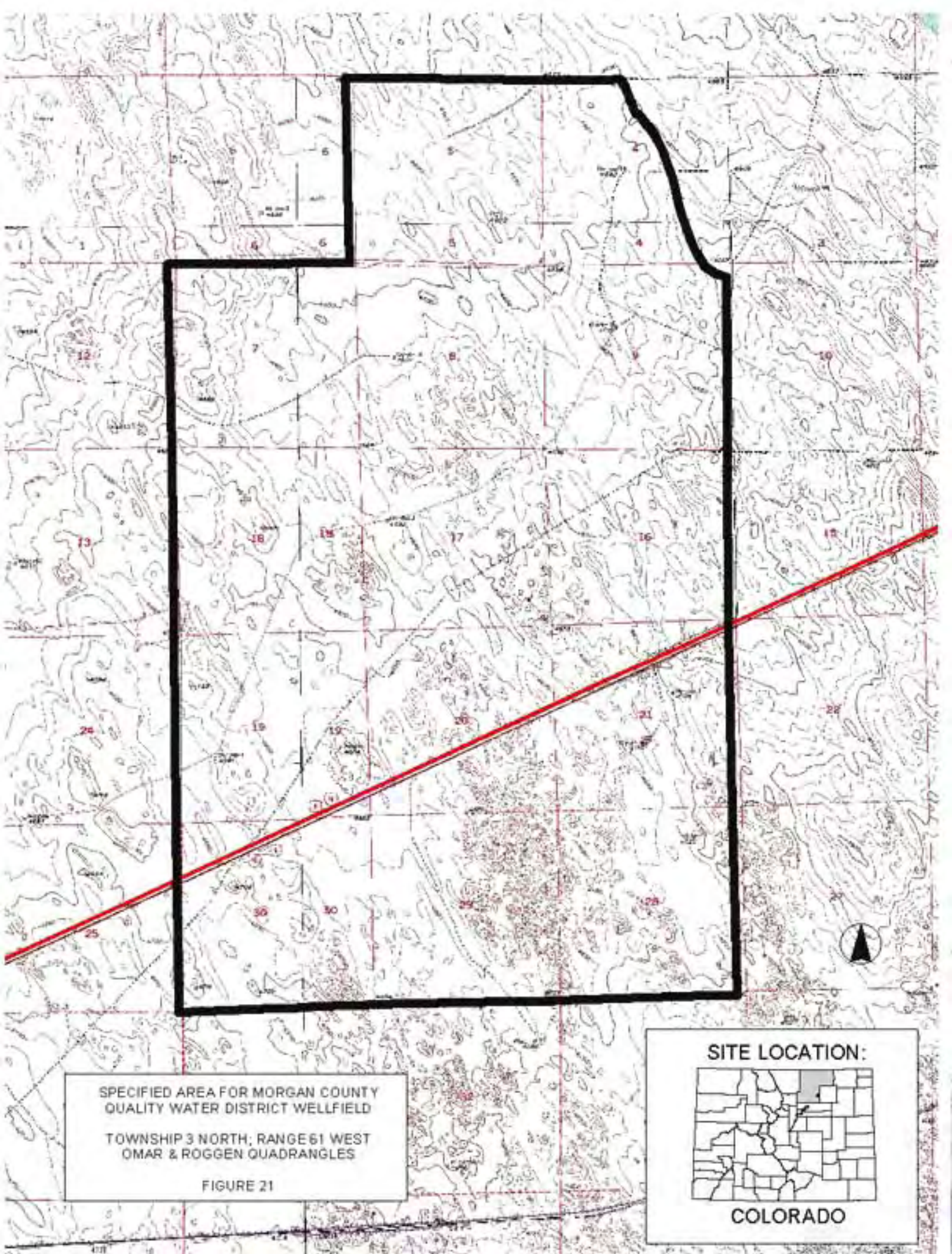
(23) PARK CENTER WATER DISTRICT WELLFIELD, FREMONT COUNTY

(a) Specified Area: All confined and unconfined ground water within the saturated zone underlying the area as illustrated in Figure 23. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classification: The classification of the confined and unconfined ground water in the specified area is:

- Domestic Use-Quality

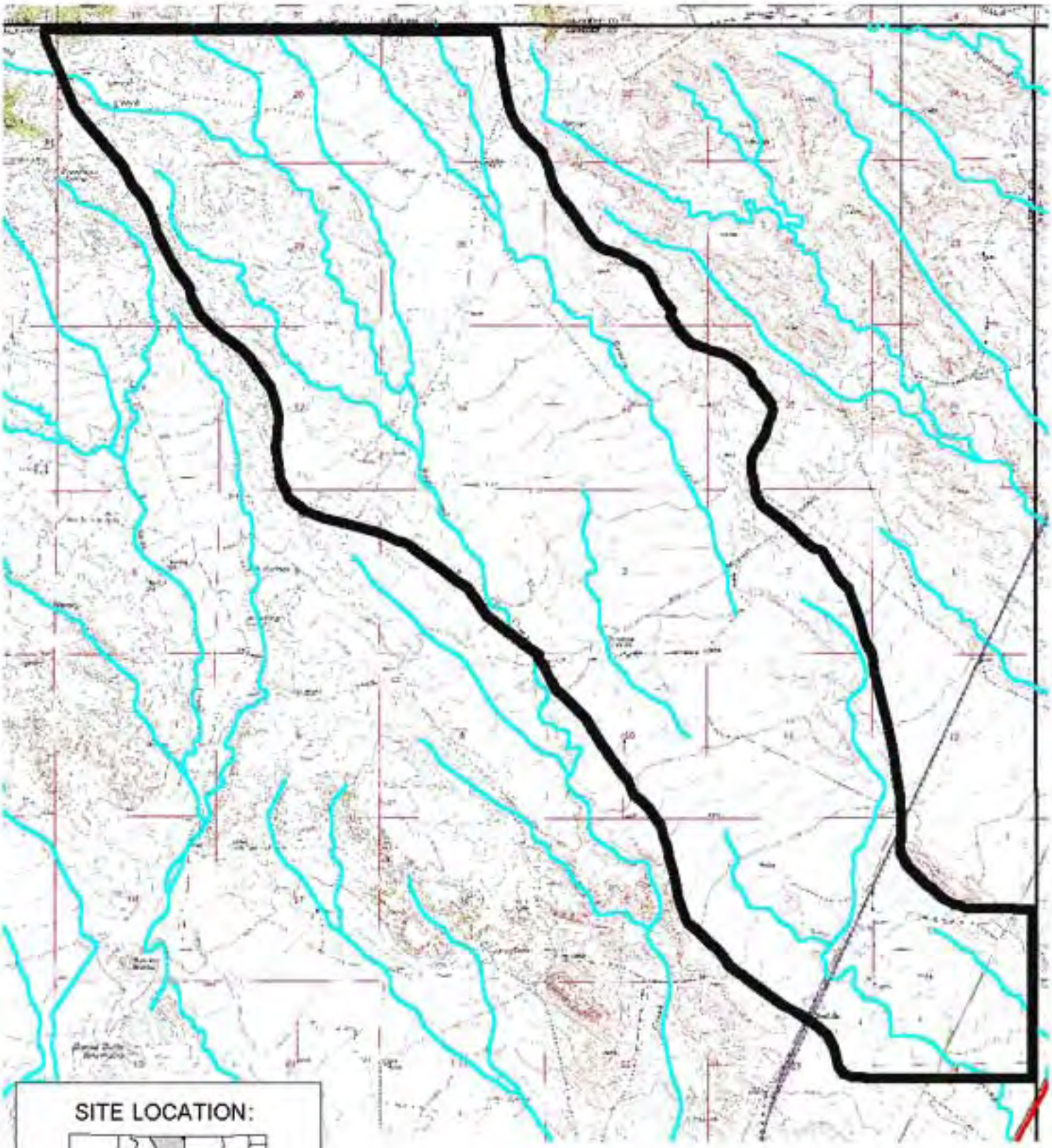
(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.



SPECIFIED AREA FOR MORGAN COUNTY QUALITY WATER DISTRICT WELLFIELD

TOWNSHIP 3 NORTH; RANGE 61 WEST
OMAR & ROGGEN QUADRANGLES

FIGURE 21



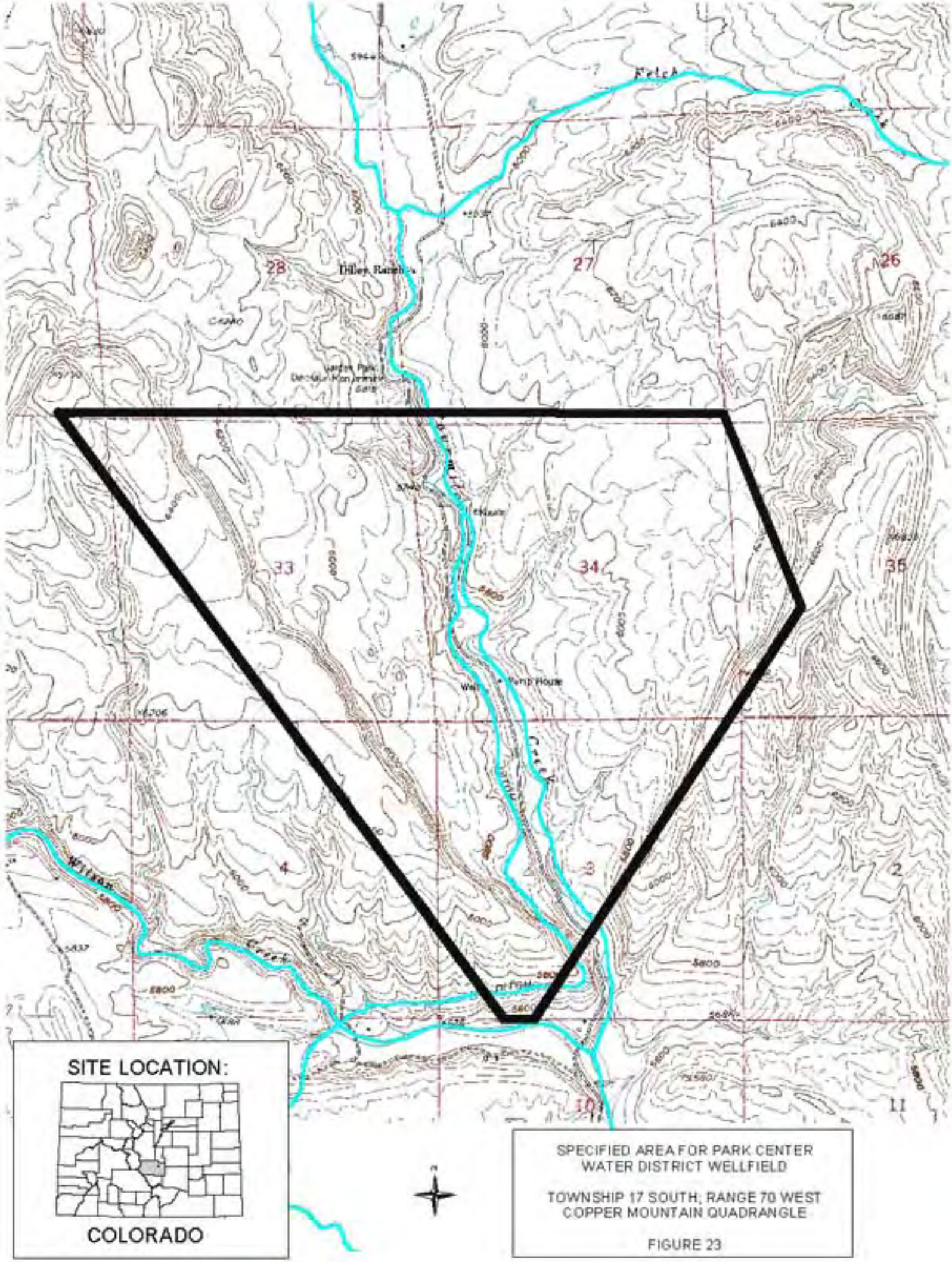
SITE LOCATION:

COLORADO

SPECIFIED AREA FOR NORTHERN COLORADO WATER ASSOCIATION WELLFIELD

TOWNSHIP 11 NORTH, RANGE 68 WEST
CARR WEST & ROUND BUTTE QUADRANGLES

FIGURE 22


SITE LOCATION:
COLORADO
SPECIFIED AREA FOR PARK CENTER WATER DISTRICT WELLFIELD
TOWNSHIP 17 SOUTH, RANGE 70 WEST
COPPER MOUNTAIN QUADRANGLE
FIGURE 23

(24) SAN LUIS WATER & SANITATION DISTRICT WELLFIELD, COSTILLA COUNTY

(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 24. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(25) TOWN OF SPRINGFIELD WELLFIELD, BACA COUNTY

(a) Specified Area: All confined and unconfined ground water within the saturated zone underlying the area as illustrated in Figure 25. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(26) WOODMOOR WATER AND SANITATION DISTRICT WELLFIELD, EL PASO COUNTY

(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 26.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

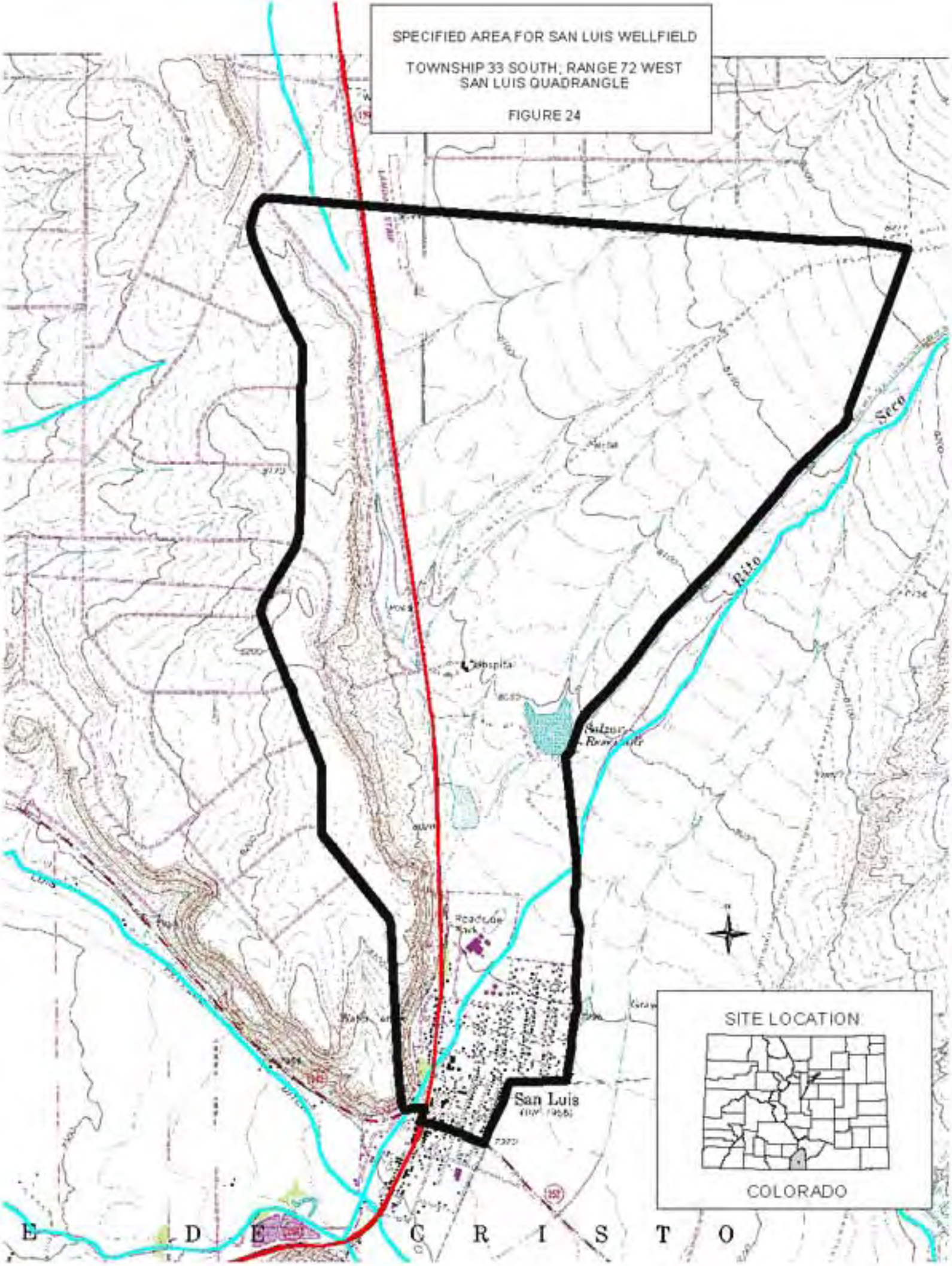
- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

SPECIFIED AREA FOR SAN LUIS WELLFIELD

TOWNSHIP 33 SOUTH, RANGE 72 WEST
SAN LUIS QUADRANGLE

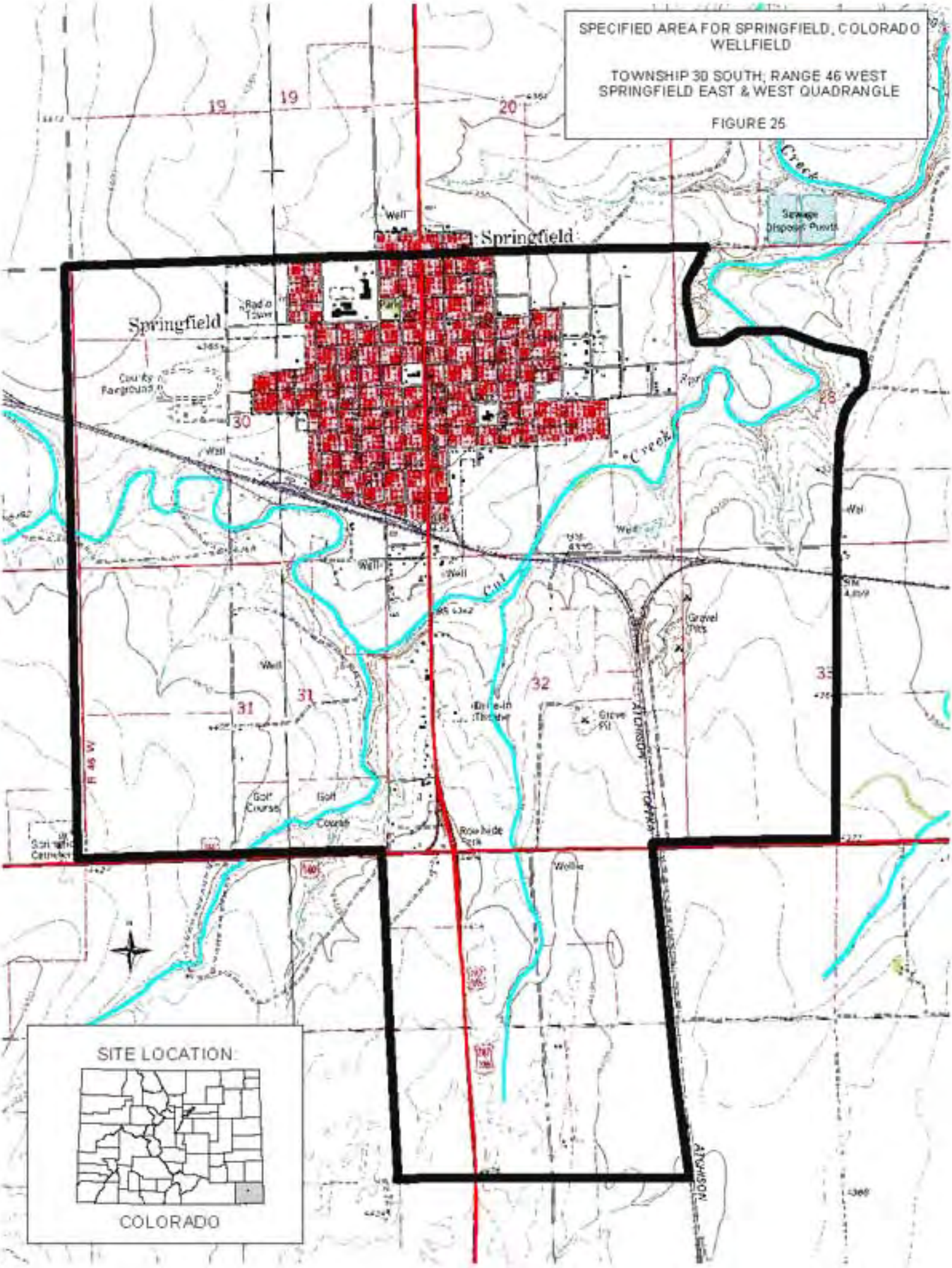
FIGURE 24

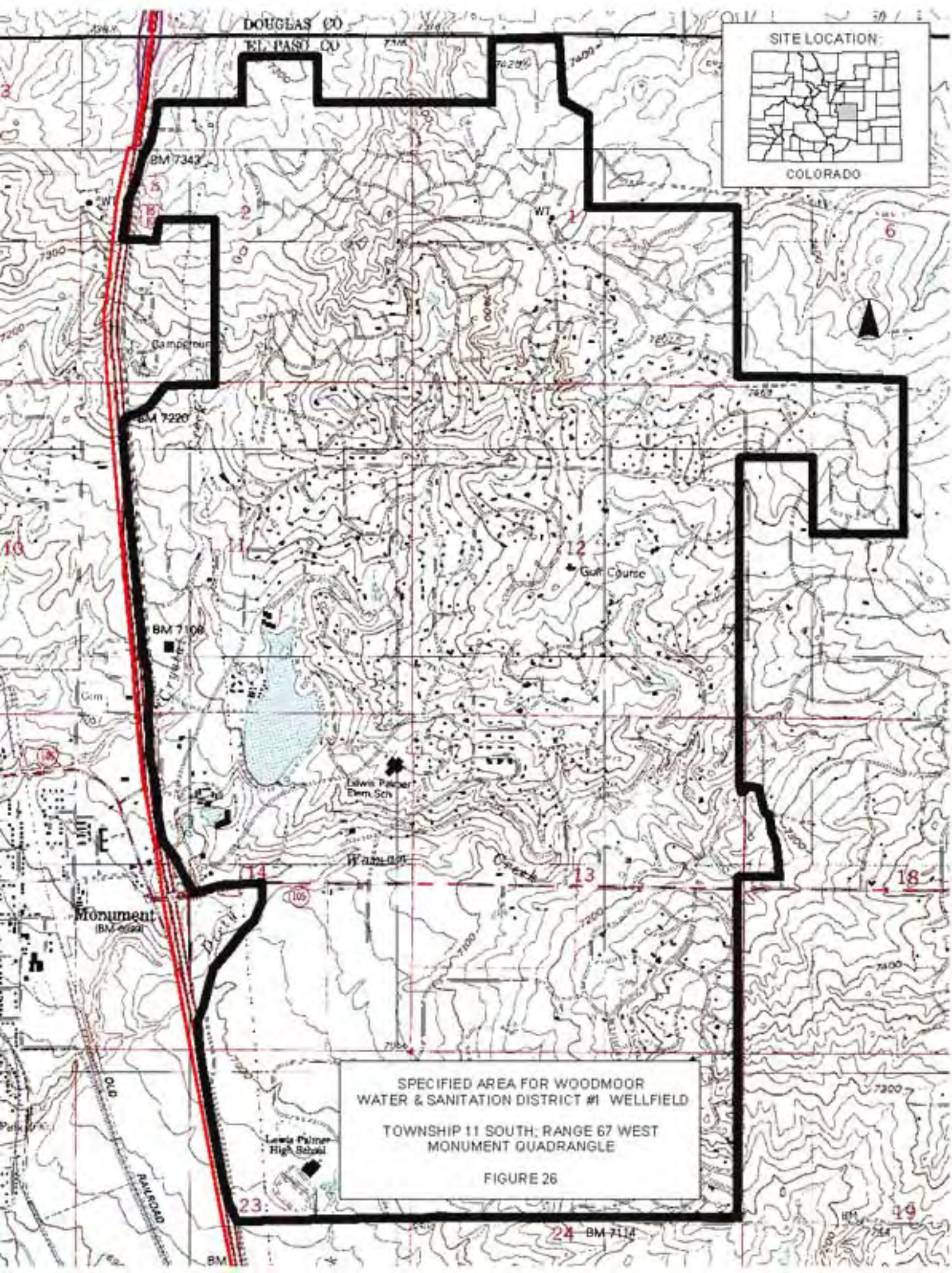


SPECIFIED AREA FOR SPRINGFIELD, COLORADO WELLFIELD

TOWNSHIP 30 SOUTH, RANGE 46 WEST
SPRINGFIELD EAST & WEST QUADRANGLE

FIGURE 25




DOUGLAS CO
EL PASO CO
SITE LOCATION
COLORADO
BM 7343
Campground
BM 7220
BM 7108
Gun Course
Lewis Palmer Elem. Sch
Monument
Lewis Palmer High School
OLD
RAILROAD
BM 7114
SPECIFIED AREA FOR WOODMOOR
WATER & SANITATION DISTRICT #1 WELLFIELD
TOWNSHIP 11 SOUTH; RANGE 67 WEST
MONUMENT QUADRANGLE
FIGURE 26

(27) CITY OF WRAY WELLFIELD, YUMA COUNTY

(a) Specified Area: All confined and unconfined ground water within the saturated zone underlying the area as illustrated in Figure 27.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(28) CITY OF YUMA WELLFIELD, YUMA COUNTY

(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 28. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(29) CITY OF BRIGHTON WELLFIELD, ADAMS COUNTY

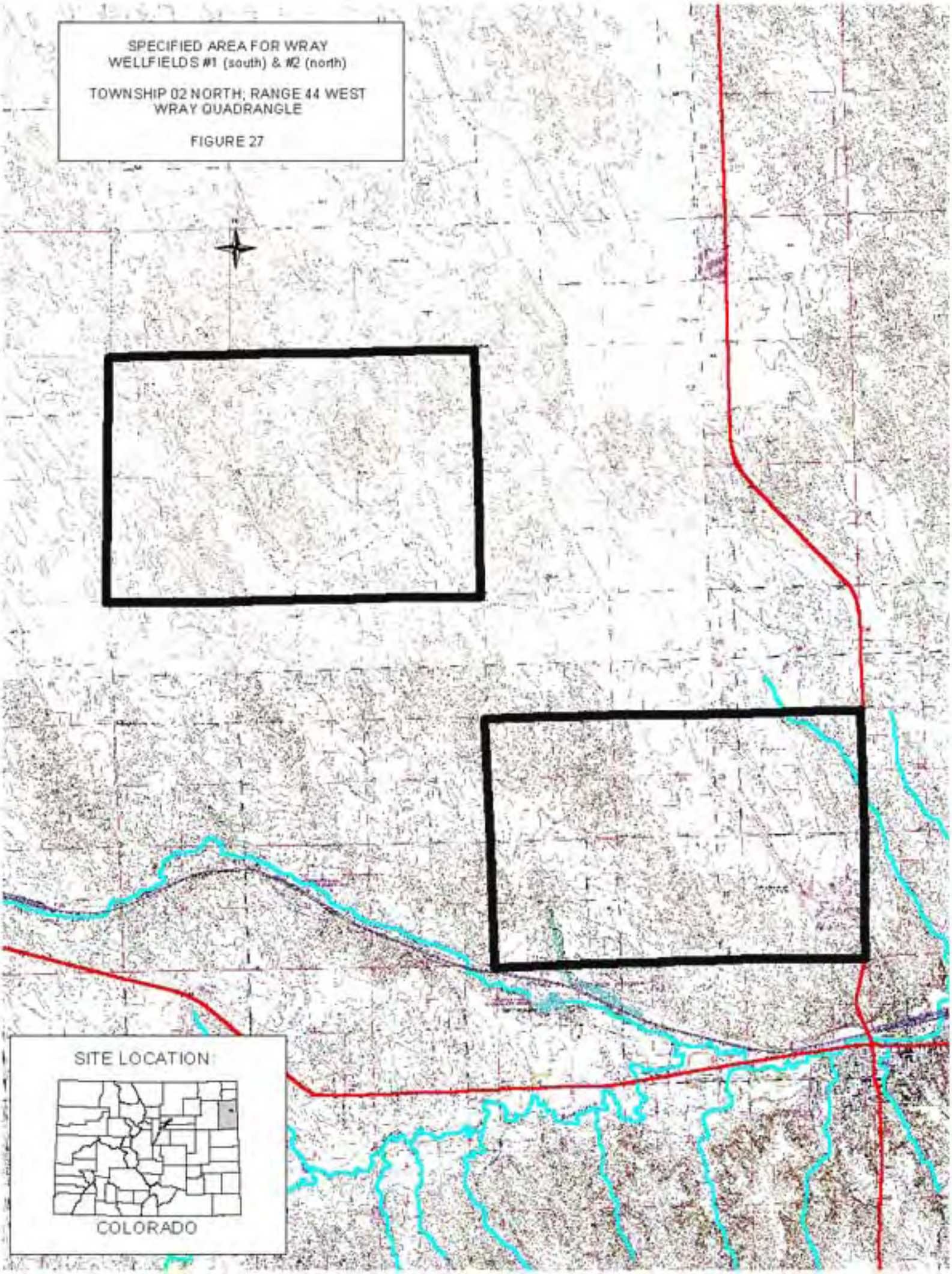
(a) Specified Area: All confined and unconfined ground water within the saturated zone underlying the area as illustrated in Figure 29. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

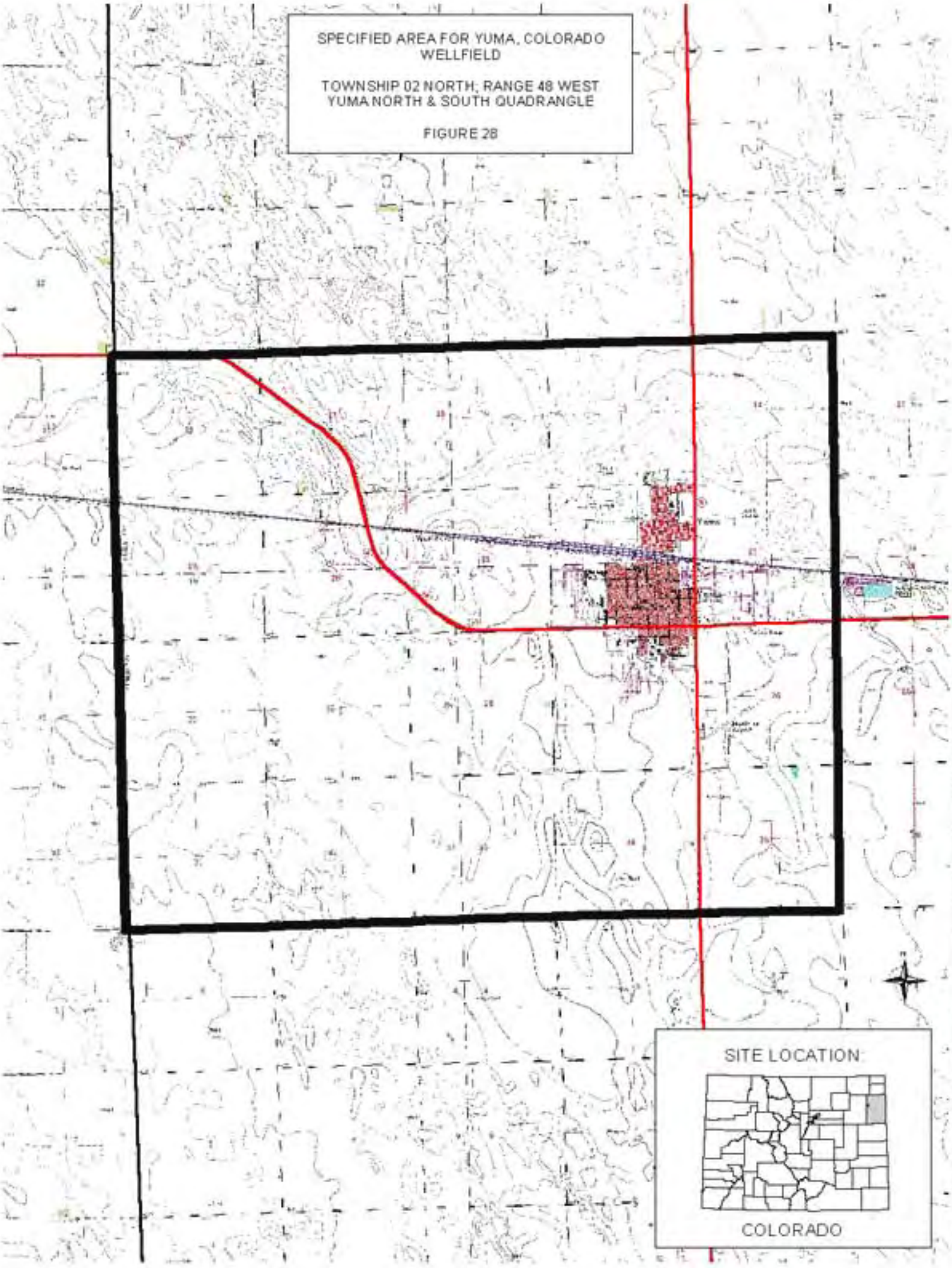
(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

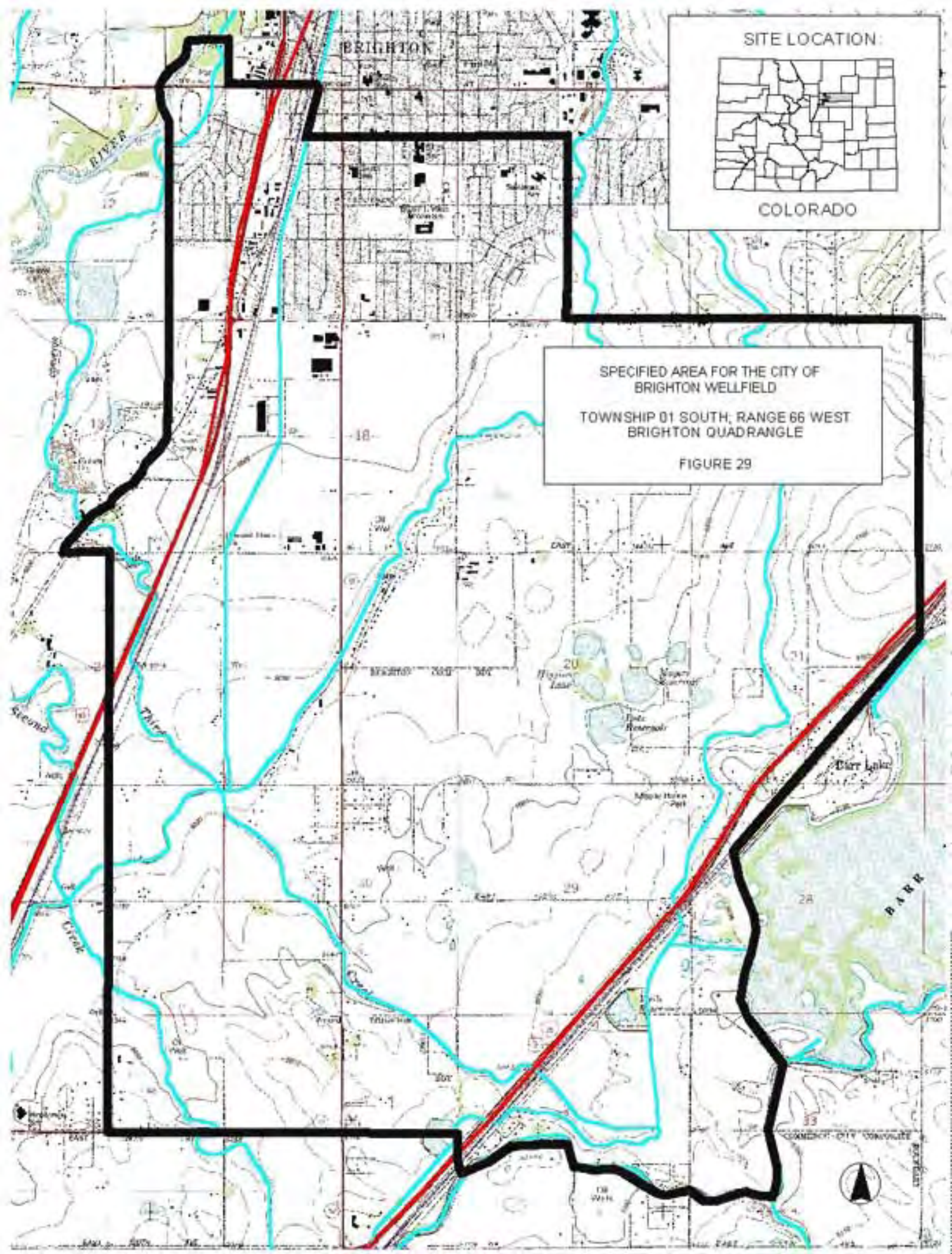

SPECIFIED AREA FOR WRAY
WELLFIELDS #1 (south) & #2 (north)
TOWNSHIP 02 NORTH; RANGE 44 WEST
WRAY QUADRANGLE
FIGURE 27
SITE LOCATION:
COLORADO

SPECIFIED AREA FOR YUMA, COLORADO WELLFIELD

TOWNSHIP 02 NORTH; RANGE 48 WEST
YUMA NORTH & SOUTH QUADRANGLE

FIGURE 28




SITE LOCATION:
COLORADO
BRIGHTON
SPECIFIED AREA FOR THE CITY OF
BRIGHTON WELLFIELD
TOWNSHIP 01 SOUTH; RANGE 66 WEST
BRIGHTON QUADRANGLE
FIGURE 29
Barr Lake

(30) TOWN OF ECKLEY WELLFIELD, YUMA COUNTY

(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 30. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(31) CITY OF FORT LUPTON WELLFIELD, WELD COUNTY

(a) Specified Area: All confined and unconfined ground water within the saturated zone underlying the area as illustrated in Figure 31. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(32) CITY OF FORT MORGAN WELLFIELD, MORGAN COUNTY

(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 32. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

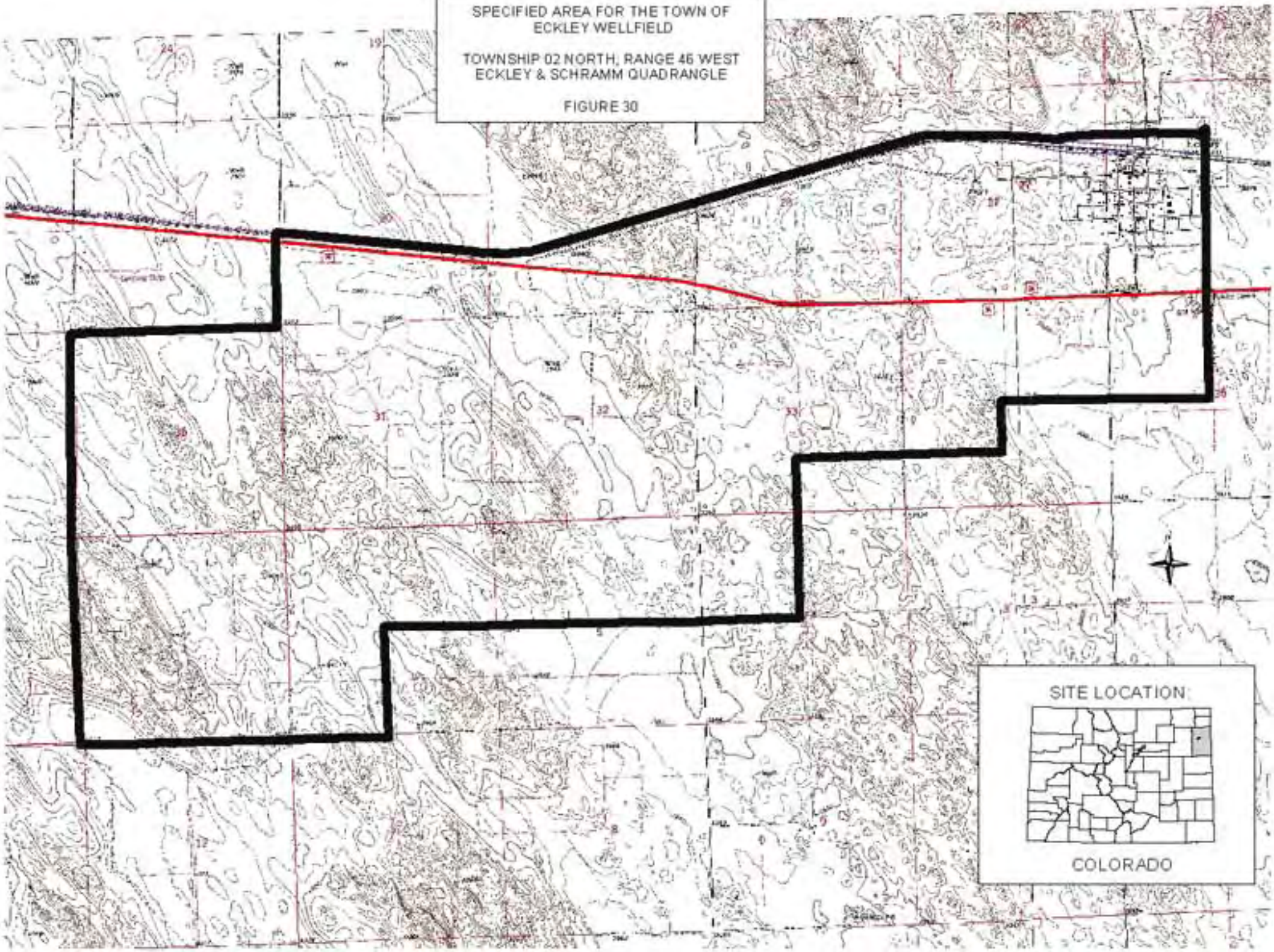
- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

SPECIFIED AREA FOR THE TOWN OF ECKLEY WELLFIELD

TOWNSHIP 02 NORTH, RANGE 46 WEST
ECKLEY & SCHRAMM QUADRANGLE

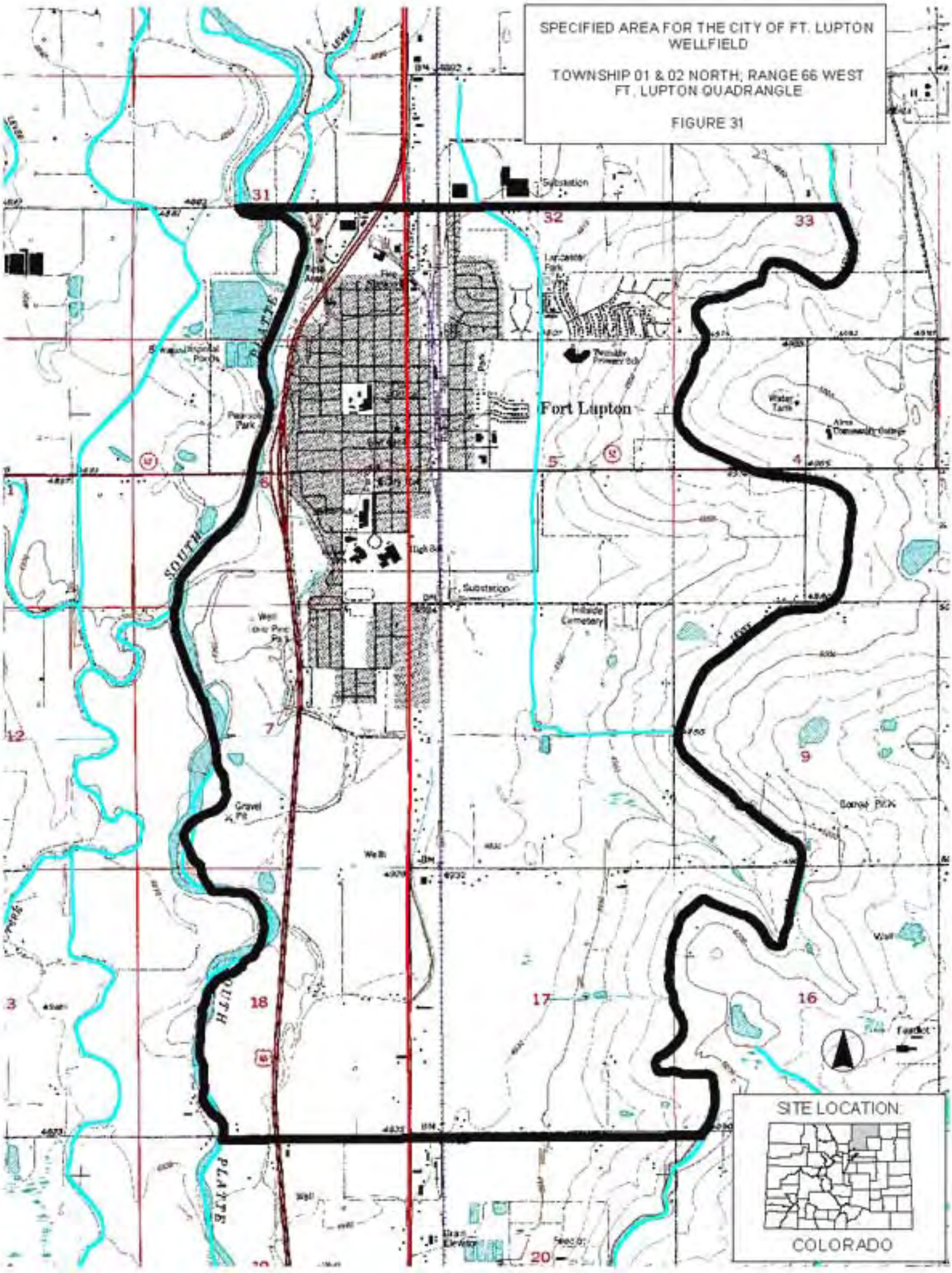
FIGURE 30

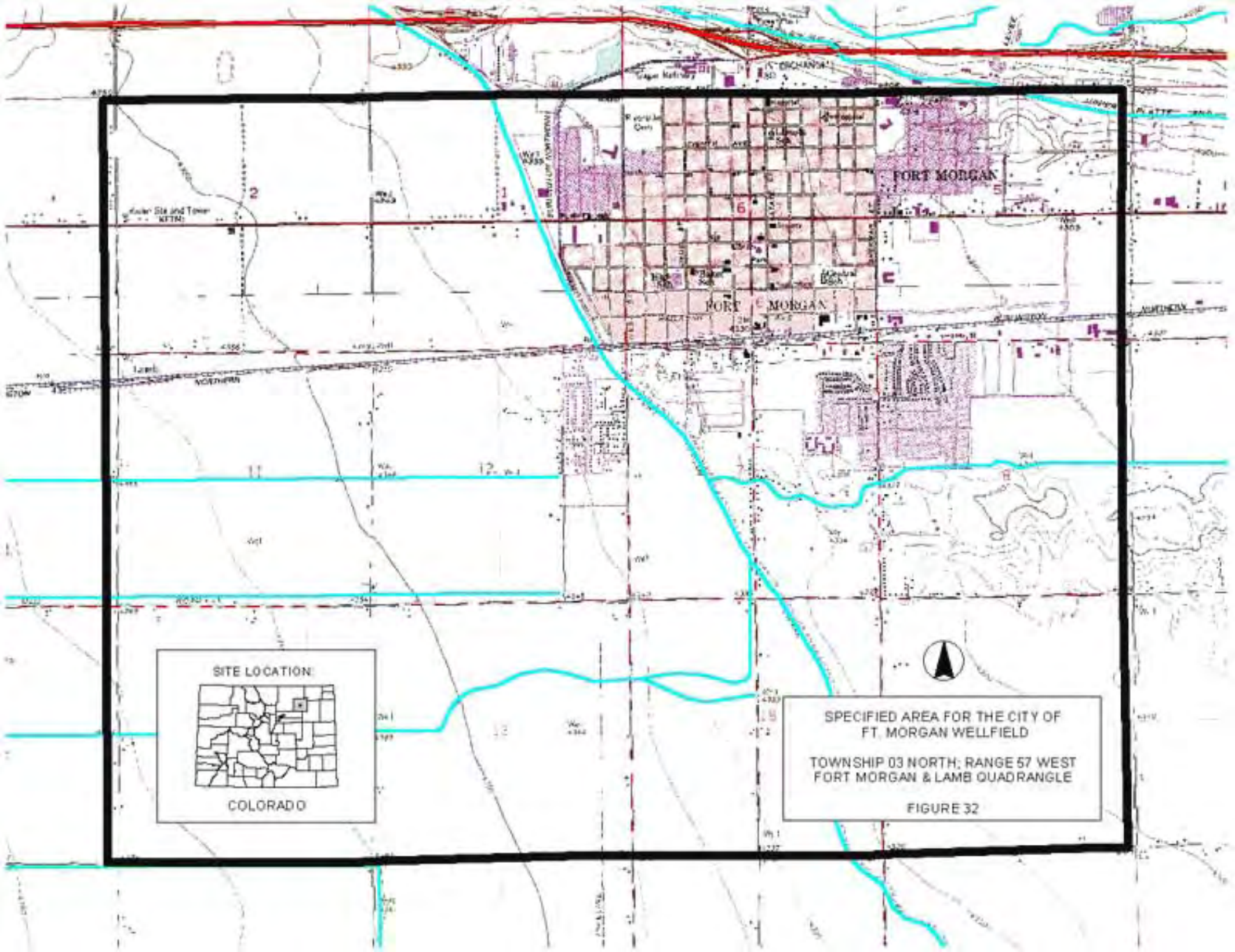


SPECIFIED AREA FOR THE CITY OF FT. LUPTON WELLFIELD

TOWNSHIP 01 & 02 NORTH; RANGE 66 WEST
FT. LUPTON QUADRANGLE

FIGURE 31




FORT MORGAN
FORT MORGAN
SITE LOCATION
COLORADO
SPECIFIED AREA FOR THE CITY OF
FT. MORGAN WELLFIELD
TOWNSHIP 03 NORTH; RANGE 57 WEST
FORT MORGAN & LAMB QUADRANGLE
FIGURE 32

(33) TOWN OF HASWELL WELLFIELD, KIOWA COUNTY

(a) Specified Area: All confined and unconfined ground water within the saturated zone underlying the area as illustrated in Figure 33. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(34) TOWN OF LAS ANIMAS WELLFIELD, BENT COUNTY

(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 34. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(35) TOWN OF MEEKER WELLFIELD, RIO BLANCO COUNTY

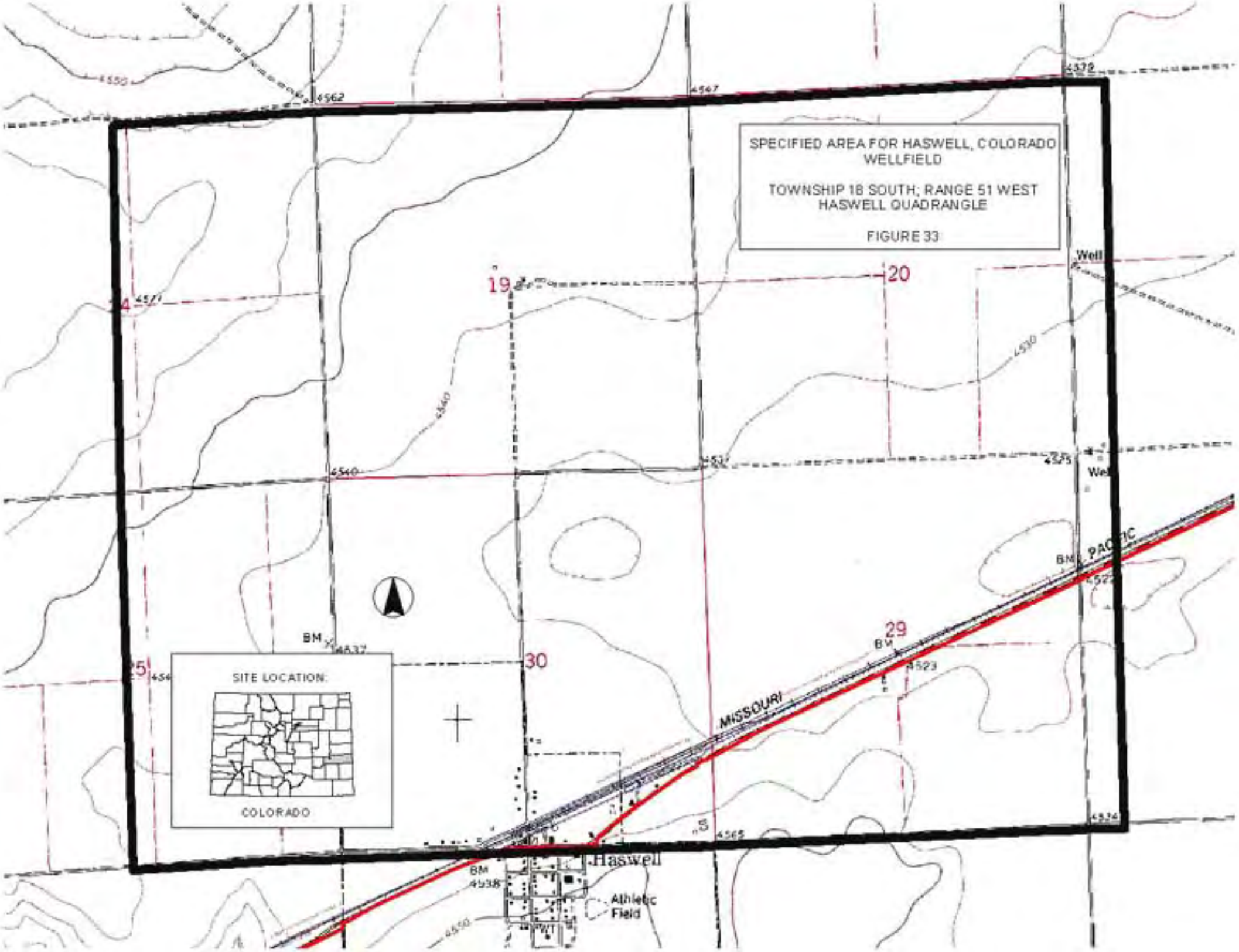
(a) Specified Area: All confined and unconfined ground water within the saturated zone underlying the area as illustrated in Figure 35. Maps depicting each specified area on a larger scale are available in the Commission Office.

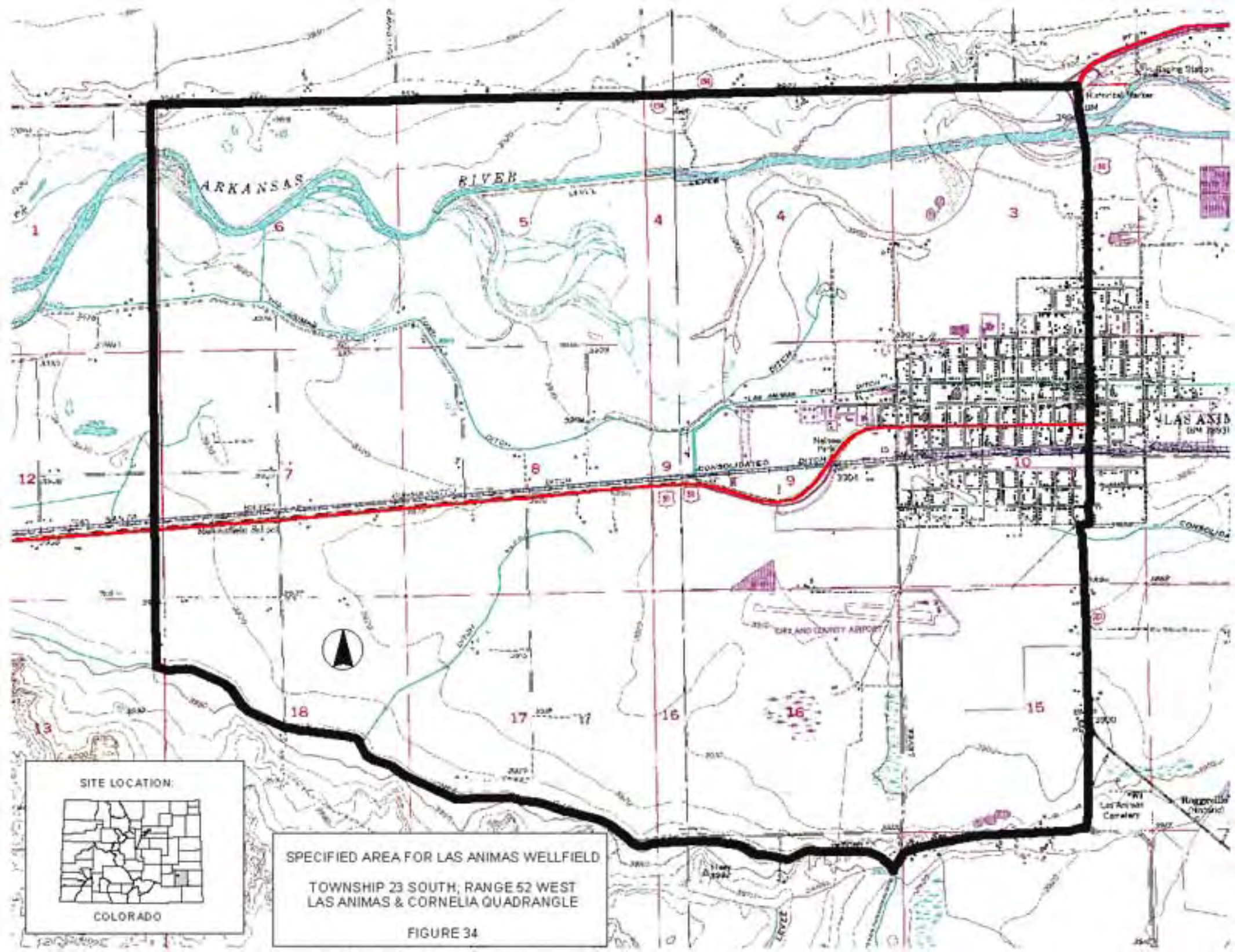
(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

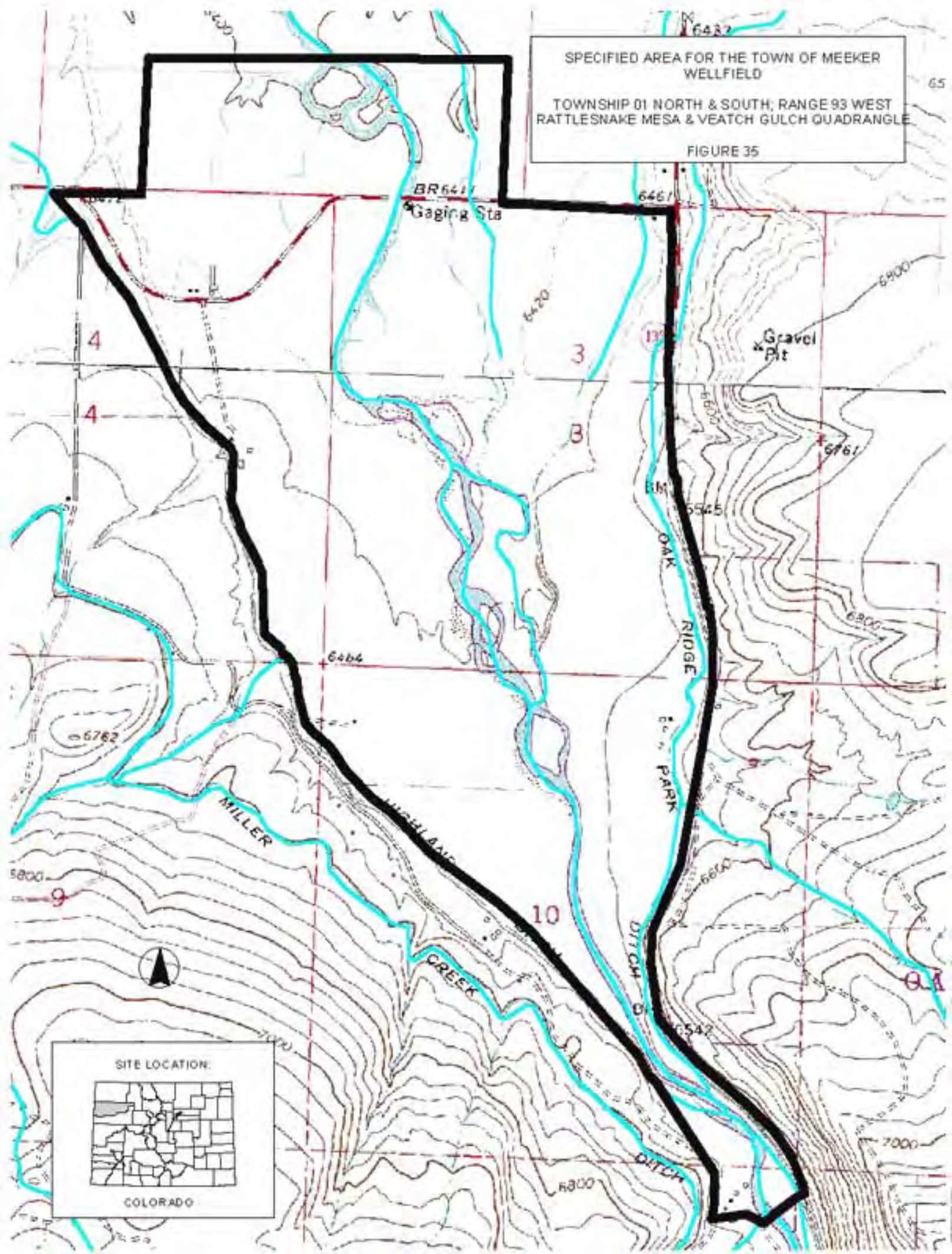

SPECIFIED AREA FOR HASWELL, COLORADO WELLFIELD
TOWNSHIP 18 SOUTH; RANGE 51 WEST
HASWELL QUADRANGLE
FIGURE 33
SITE LOCATION:
COLORADO
19
20
29
30
Well
MISSOURI
PACIFIC
Haswell
Athletic Field
BM
4537
4523
4565
4538
4550
4540
4530
4562
4547
4572
4534



SPECIFIED AREA FOR LAS ANIMAS WELLFIELD

TOWNSHIP 23 SOUTH; RANGE 52 WEST
LAS ANIMAS & CORNELIA QUADRANGLE

FIGURE 34


SPECIFIED AREA FOR THE TOWN OF MEEKER WELLFIELD
TOWNSHIP 01 NORTH & SOUTH; RANGE 93 WEST
RATTLESNAKE MESA & VEATCH GULCH QUADRANGLE
FIGURE 35
Gaging Sta
Gravel Pit
OAK RIDGE
PARK
DITCH
MILLER
CREEK
SITE LOCATION:
COLORADO

(36) MORGAN COUNTY QUALITY WATER DISTRICT, (SAN ARROYO CREEK BASIN), MORGAN COUNTY

(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 36. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(37) CITY OF STERLING WELLFIELD, LOGAN COUNTY

(a) Specified Area: All confined and unconfined ground water within the saturated zone underlying the area, EXCEPT FOR THE GROUND WATER CONTAINED WITHIN THE LOWER CRETACEOUS DAKOTA GROUP D, J, AND O SANDSTONES, as illustrated in Figure 37. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(38) SOUTHWEST WATER PROTECTION AREA, KIT CARSON COUNTY

(a) Specified Area: All confined and unconfined ground water within the saturated zone underlying the area as illustrated in Figure 38. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

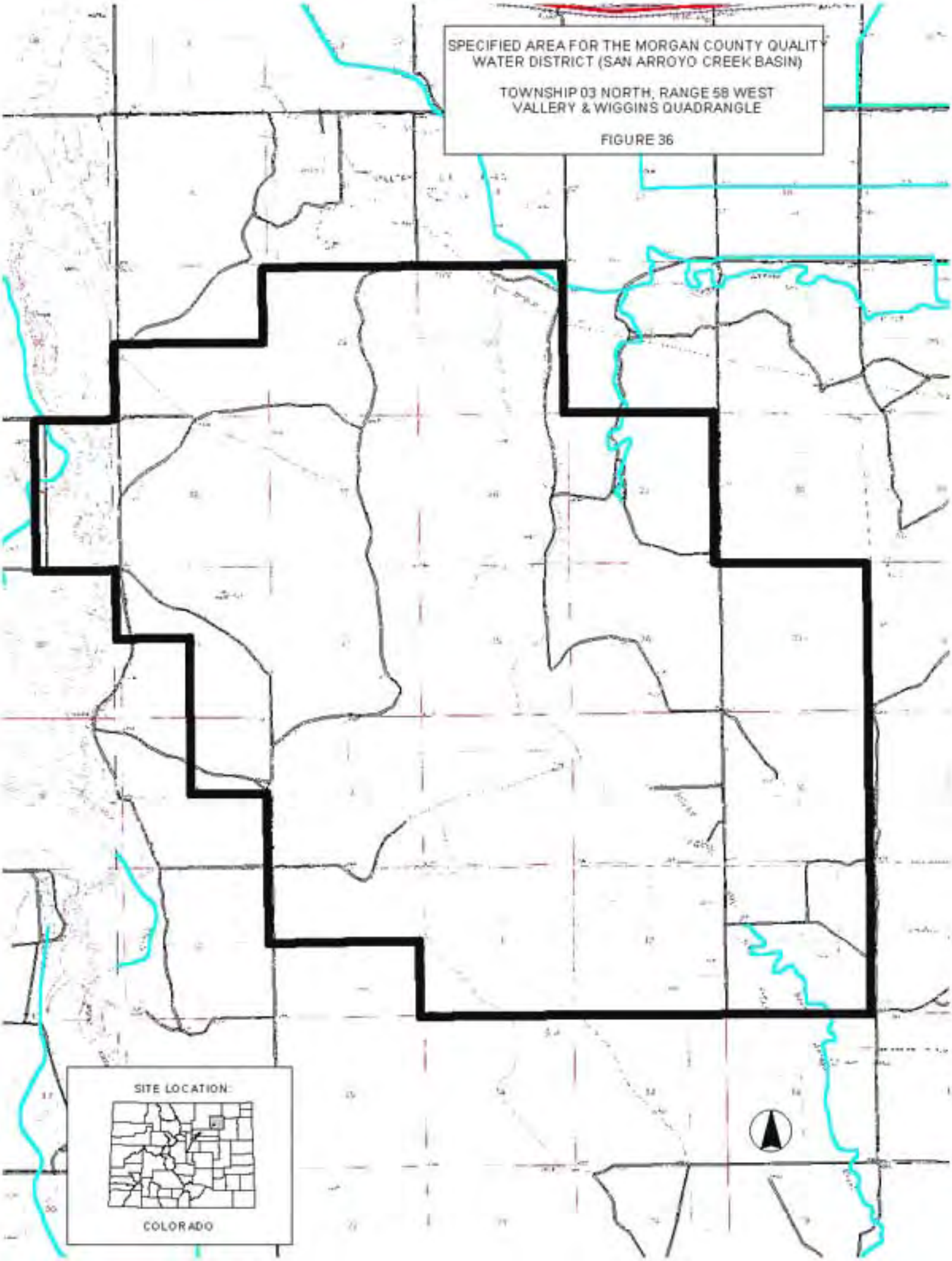
- Agricultural Use-Quality

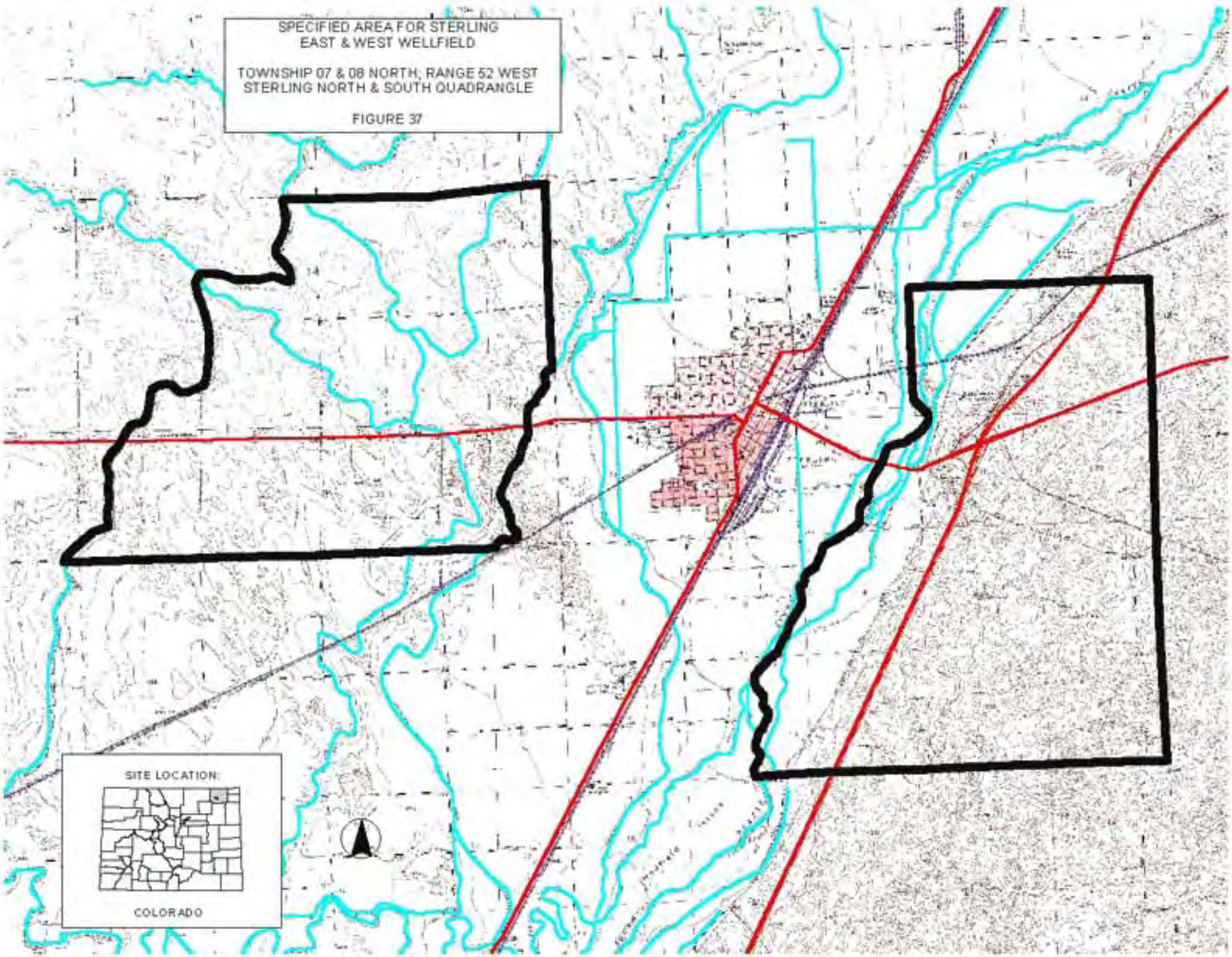
(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

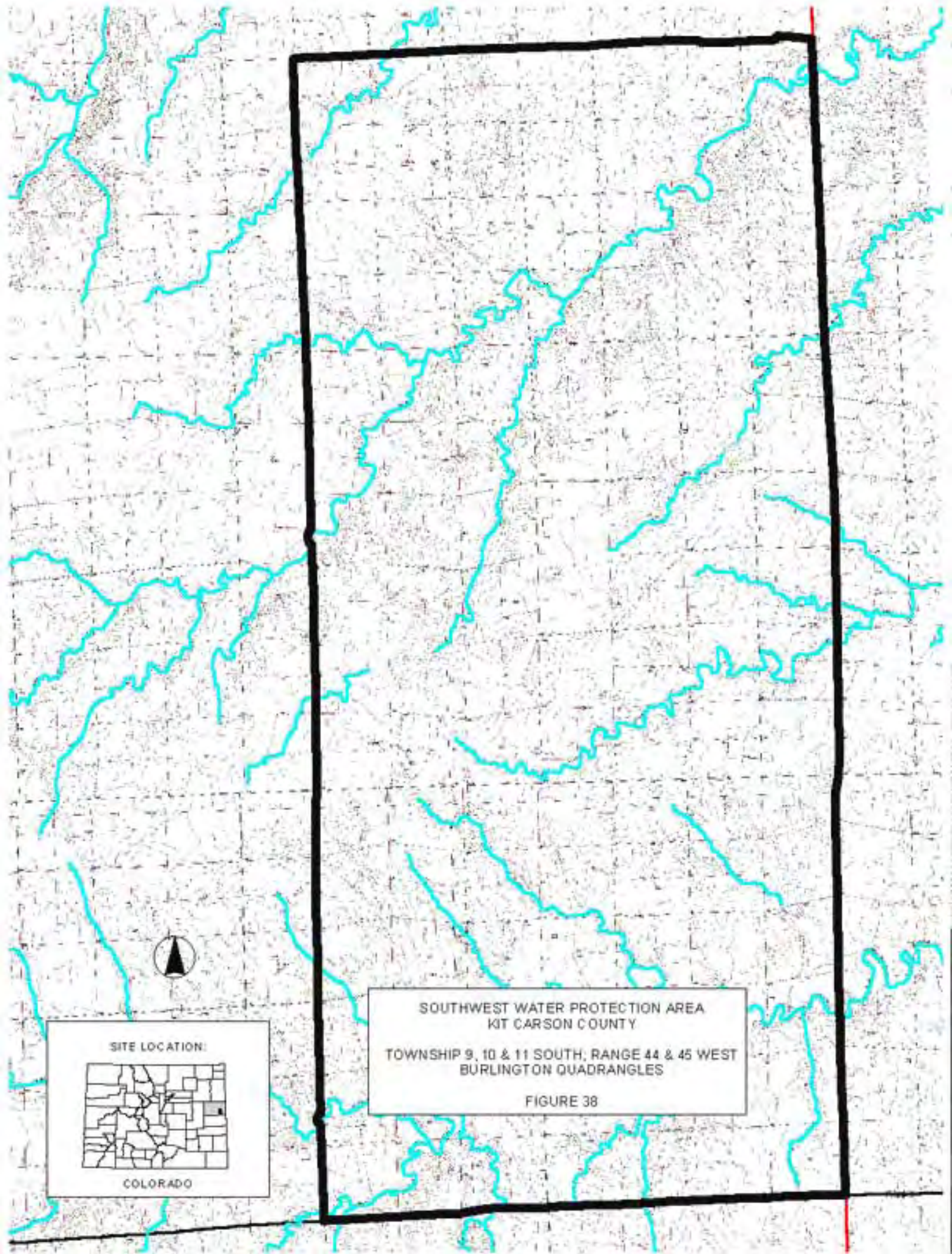
SPECIFIED AREA FOR THE MORGAN COUNTY QUALITY WATER DISTRICT (SAN ARROYO CREEK BASIN)

TOWNSHIP 03 NORTH, RANGE 58 WEST
VALLERY & WIGGINS QUADRANGLE

FIGURE 36




SPECIFIED AREA FOR STERLING
EAST & WEST WELLFIELD
TOWNSHIP 07 & 08 NORTH, RANGE 52 WEST
STERLING NORTH & SOUTH QUADRANGLE
FIGURE 37
SITE LOCATION:
COLORADO



SOUTHWEST WATER PROTECTION AREA
KIT CARSON COUNTY

TOWNSHIP 9, 10 & 11 SOUTH, RANGE 44 & 45 WEST
BURLINGTON QUADRANGLES

FIGURE 38

(39) UPPER CHERRY CREEK BASIN AND DENVER BASIN ALLUVIAL AQUIFERS AND TRIBUTARIES, PORTIONS OF EL PASO, DOUGLAS AND ARAPAHOE COUNTIES

(a) Specified Area: All confined and unconfined ground waters within the saturated zone underlying the area as illustrated in Figure 39. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classifications of the confined and unconfined ground water in the specified area are:

- Domestic Use-Quality

- Agricultural Use-Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Tables 1 - 4 of the "Basic Standards for Ground Water" 41.0 (5 CCR 1002-41) are assigned to all confined and unconfined ground water in the specified area.

(40) COLORADO OIL AND GAS FIELDS OF LOGAN, NORTHERN WASHINGTON, AND NORTHEASTERN MORGAN COUNTIES, COLORADO

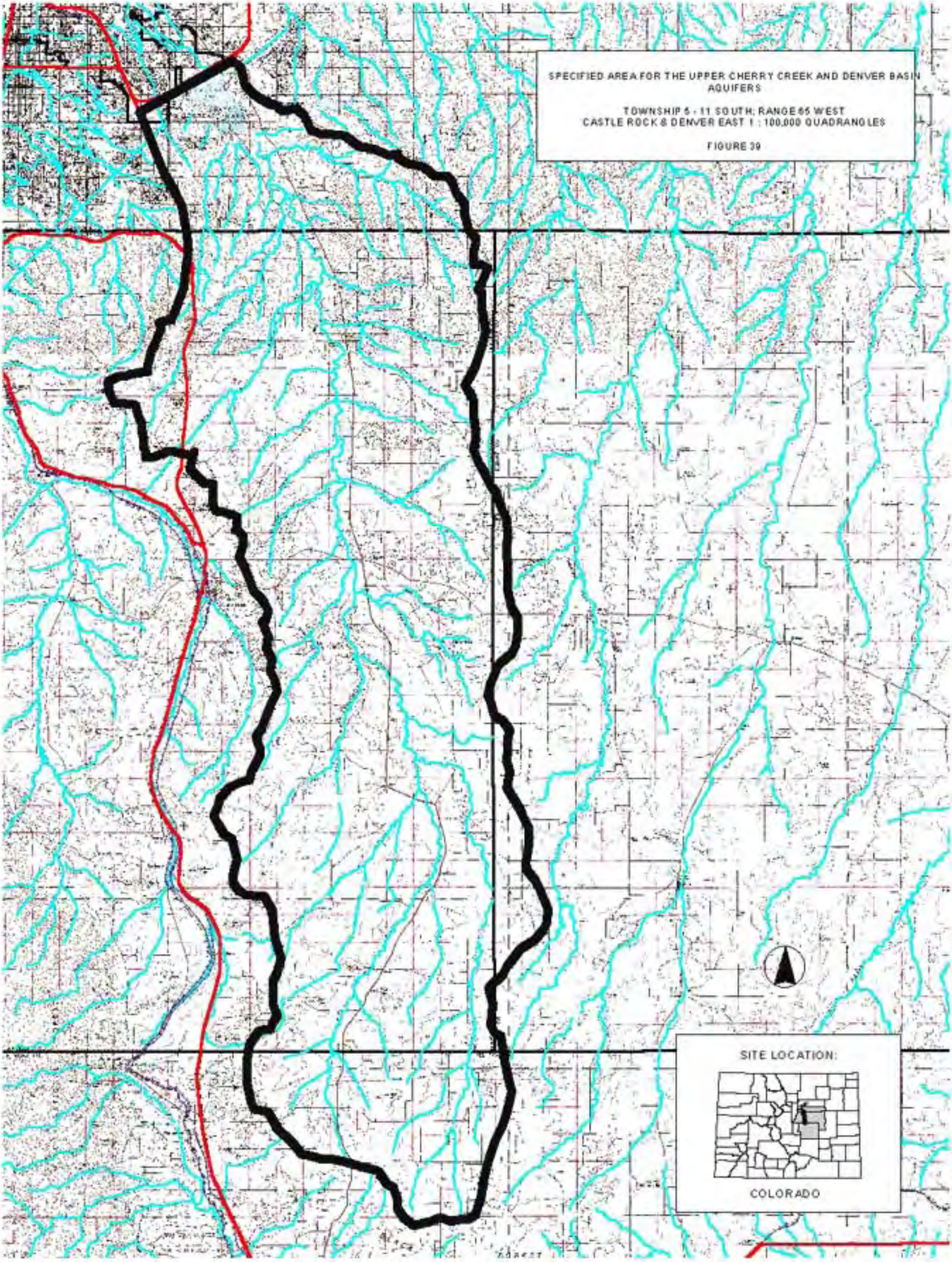
(a) Specified Area: The confined ground waters within the Lower Cretaceous aged Dakota Group including the D, J, and O Sandstones underlying the area illustrated in Figure 40. Maps depicting each specified area on a larger scale are available in the Commission Office.

(b) Classifications: The classification of the ground water in the D, J, and O Sandstones is:

- Limited Use and Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Table 1 through 4 of the Basic Standards for Ground Water Regulation No. 41 (5 CCR 1002-41) will not apply to the confined ground water of the D, J, and O Sandstones in the specified area.

The ground water organic chemical standards included in Table A of the section 41.5.C.3 of the Basic Standards for Ground Water (5 CCR 1002-41) for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene will not apply to the ground water of the D, J, and O Sandstones in the specified area. This exception applies to these compounds only when their source is crude oil, condensate, or produced water, or wastes that are intrinsically derived from primary field operations associated with the exploration, development, or production of crude oil and natural gas.


SPECIFIED AREA FOR THE UPPER CHERRY CREEK AND DENVER BASIN AQUIFERS
TOWNSHIP 5 - 11 SOUTH; RANGE 65 WEST
CASTLE ROCK & DENVER EAST 1 : 100,000 QUADRANGLES
FIGURE 39
SITE LOCATION:
COLORADO

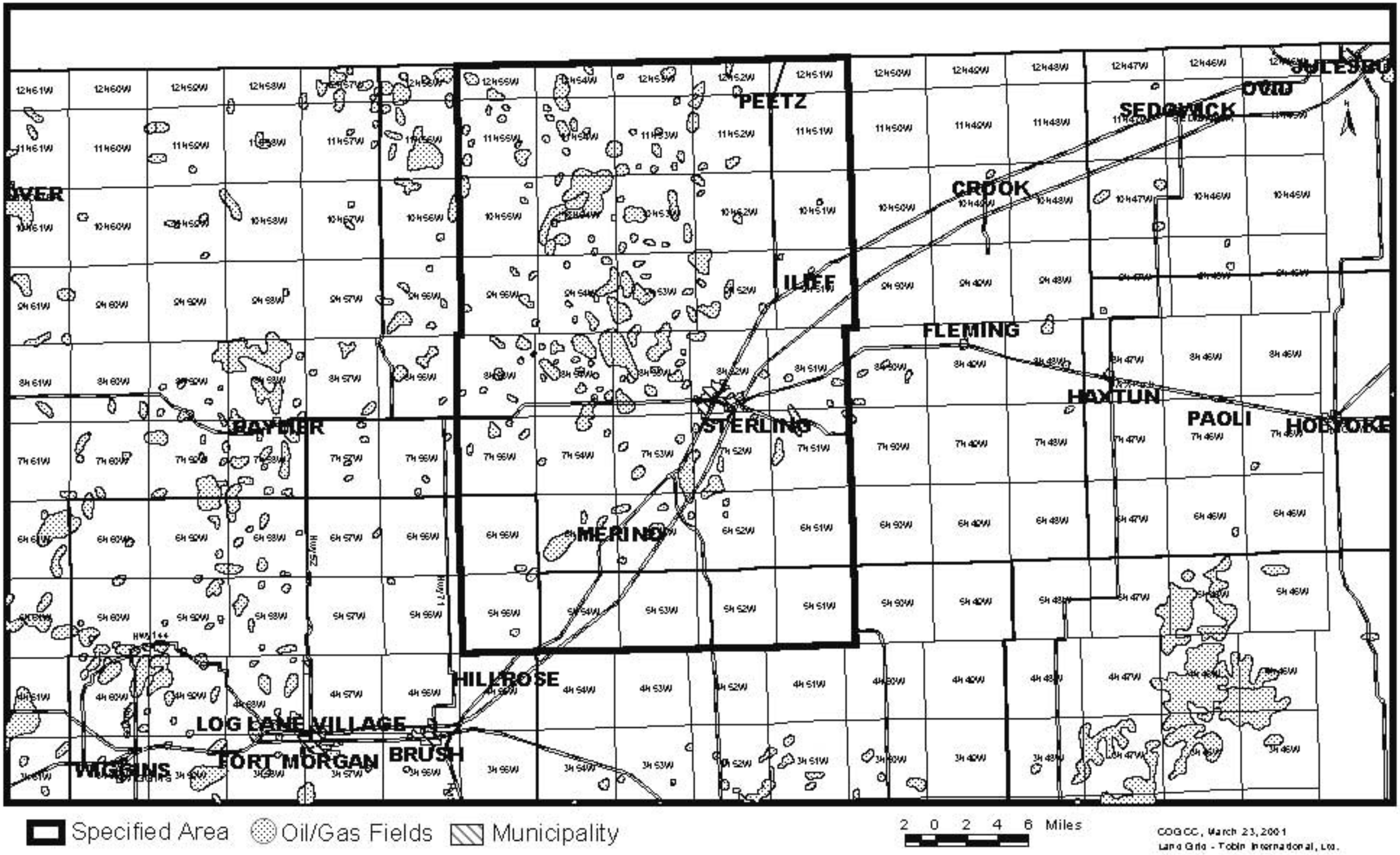


FIGURE 40
SPECIFIED AREA FOR COLORADO OIL AND GAS FIELDS
LOGAN, N WASHINGTON, AND NE MORGAN COUNTIES, CO

ALL OF T5N THROUGH T12N AND R51W THROUGH R55W

(41) RANGLEY OIL AND GAS FILED OF RIO BLANCO COUNTY

(a) Specified Area: The confined ground waters within the Weber Formation and the Navajo Sandstone underlying the area illustrated in Figure 41.

(b) Classifications: The classification of the ground water in the Weber Formation and the Navajo Sandstone is:

- Limited Use and Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Table 1 through 4 of the Basic Standards for Ground Water Regulation No. 41 (5 CCR 1002-41) will not apply to the confined ground water of the Weber Formation and the Navajo Sandstone within the specified area.

The ground water organic chemical standards included in Table A of the section 41.5.C.3 of the Basic Standards for Ground Water (5 CCR 1002-41) for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene will not apply to the ground water in the Weber Formation and the Navajo Sandstone within the specified area. This exception applies to these compounds only when their source is crude oil, condensate, or produced water, or wastes that are intrinsically derived from primary field operations associated with the exploration, development, or production of crude oil and natural gas.

(42) OIL AND GAS FIELDS OF EASTERN LARIMER COUNTY, COLORADO

(a) Specified Area: The confined ground water in the Entrada Sandstone and Muddy Sandstone (J Sand) underlying the area illustrated in Figure 42.

(b) Classifications: The classification of the ground water in the Entrada Sandstone and Muddy Sandstone (J Sand) is:

- Limited Use and Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Table 1 through 4 of the Basic Standards for Ground Water 41.0 (5 CCR 1002-41) will not apply to the confined ground water of the Entrada Sandstone and Muddy Sandstone (J Sand) within the specified area.

The ground water organic chemical standards included in Table A of the Section 41.5.C.3 of the Basic Standards for Ground Water (5 CCR 1002-41) for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene will not apply to the ground water in the Entrada Sandstone and Muddy Sandstone (J Sand) within the specified area. This exception applies to these compounds only when their source is crude oil, condensate, or produced water, or wastes that are intrinsically derived from primary field operations associated with the exploration, development, or production of crude oil and natural gas.

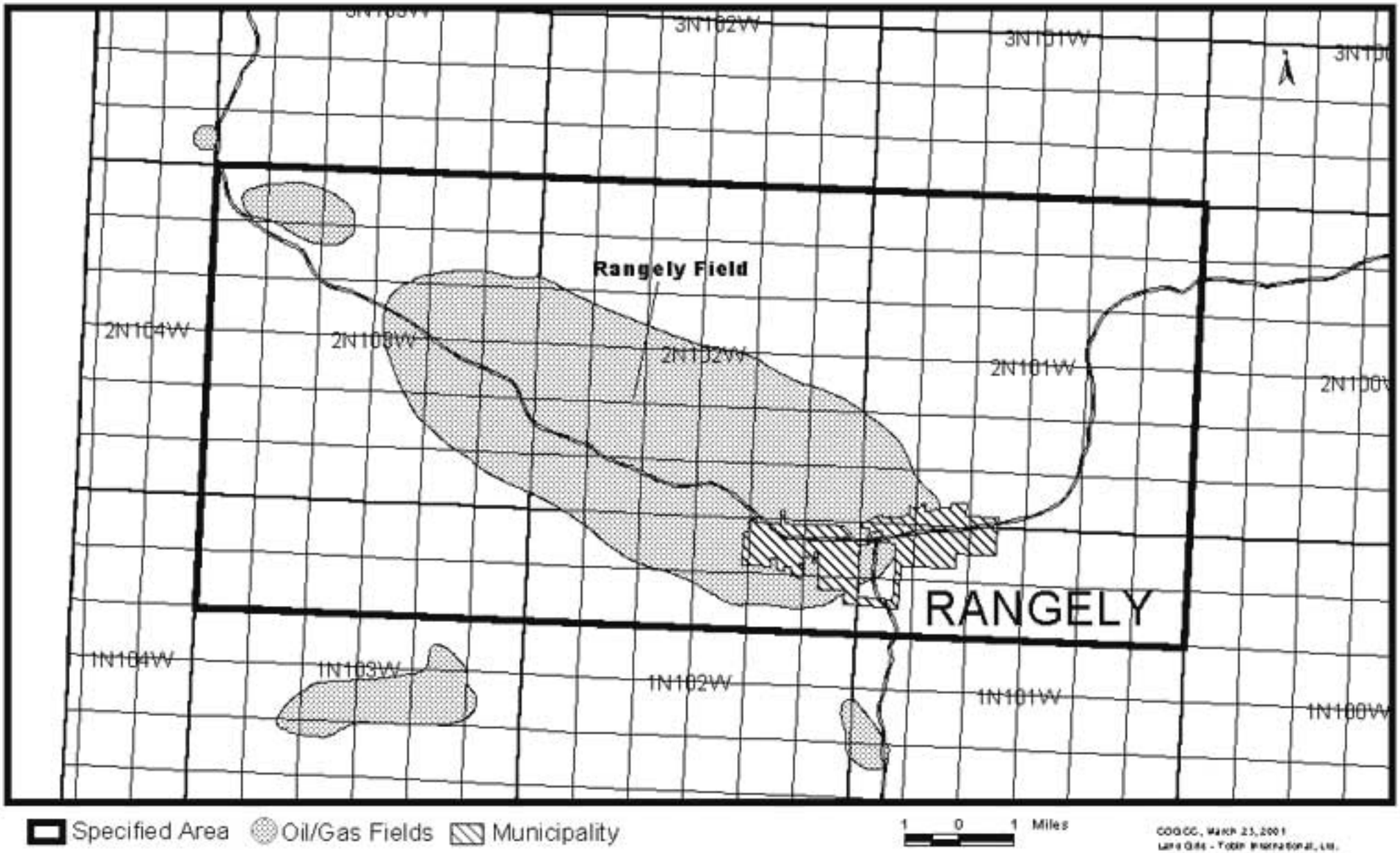


FIGURE 41

SPECIFIED AREA FOR COLORADO OIL AND GAS FIELDS, RIO BLANCO COUNTY, COLORADO

SEC 1 THROUGH SEC 12 OF T1N, R101W;
SEC 1 THROUGH SEC 12 OF T1N, R102W;
SEC 1 THROUGH SEC 12 OF T1N, R103W;
ALL OF T2N, R101W THROUGH T2N, R103W

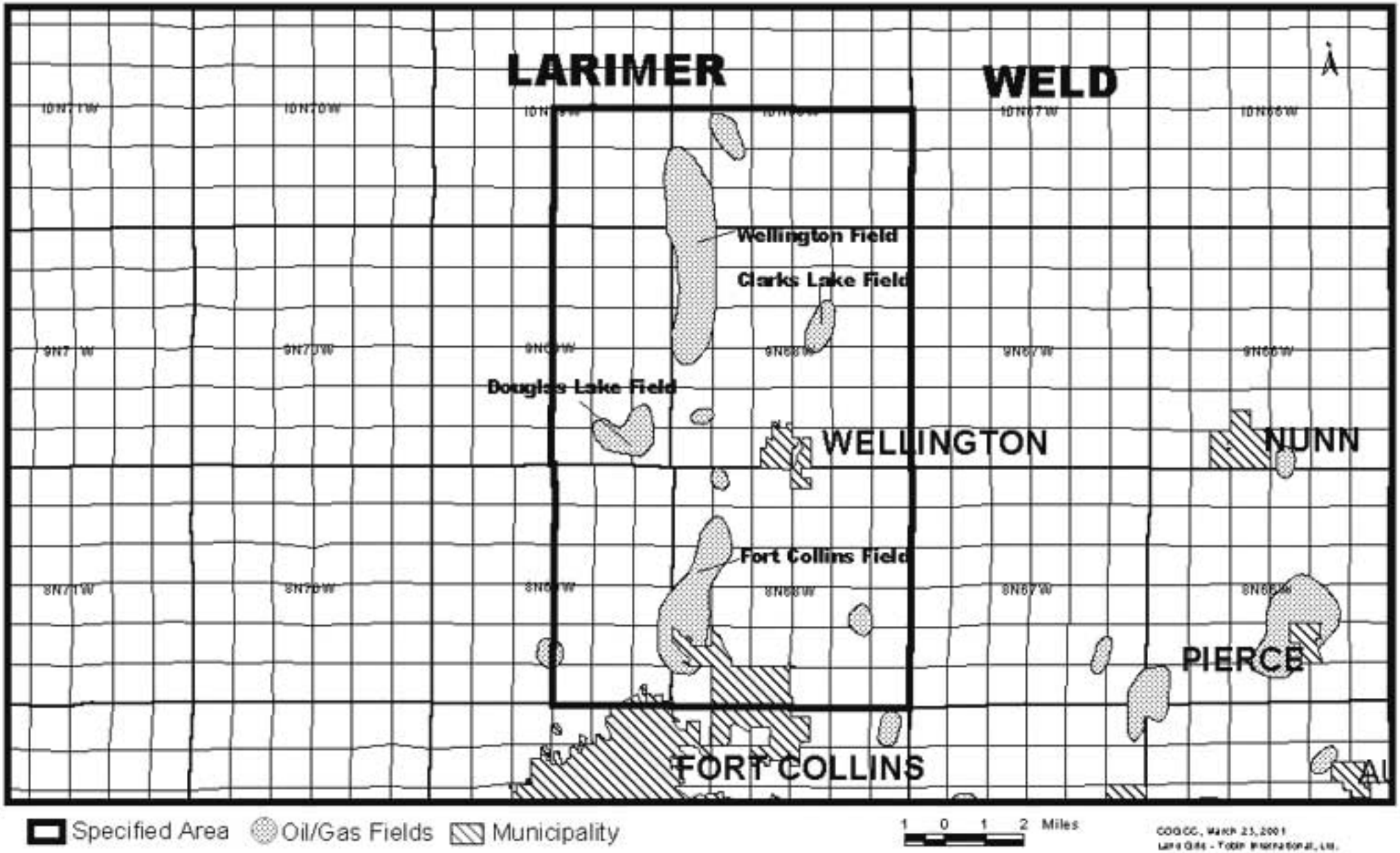


FIGURE 42

SPECIFIED AREA FOR COLORADO OIL AND GAS FIELDS, LARIMER COUNTY, COLORADO

ALL OF T8N, R68W; E/2 OF T8N, R69W;
ALL OF T9N, R68W; E/2 OF T9N, R69W;
S/2 OF T10N, R68W; SE/4 OF T10N, R69W

(43) OIL AND GAS FIELDS OF EAST-CENTRAL JACKSON COUNTY, COLORADO

(a) Specified Area: The confined ground water in the Dakota and Lakota Sandstones and the Pierre B Sandstone Member of the Pierre Shale underlying the area illustrated in Figure 43.

(b) Classifications: The classification of the ground water in the Dakota and Lakota Sandstones and the Pierre B Sandstone Member of the Pierre Shale is:

- Limited Use and Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Table 1 through 4 of the Basic Standards for Ground Water 41.0 (5 CCR 1002-41) will not apply to the confined ground water of the Dakota and Lakota Sandstones and the Pierre B Sandstone Member of the Pierre Shale within the specified area.

The ground water organic chemical standards included in Table A of the Section 41.5.C.3 of the Basic Standards for Ground Water (5 CCR 1002-41) for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene will not apply to the ground water in the Dakota and Lakota Sandstones and the Pierre B Sandstone Member of the Pierre Shale within the specified area. This exception applies to these compounds only when their source is crude oil, condensate, or produced water, or wastes that are intrinsically derived from primary field operations associated with the exploration, development, or production of crude oil and natural gas.

(44) OIL AND GAS FIELD OF WEST-CENTRAL JACKSON COUNTY, COLORADO

(a) Specified Area: The confined ground water in the Dakota and Lakota Sandstones underlying the area illustrated in Figure 44.

(b) Classifications: The classification of the ground water in the Dakota and Lakota Sandstones is:

- Limited Use and Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Table 1 through 4 of the Basic Standards for Ground Water 41.0 (5 CCR 1002-41) will not apply to the confined ground water of the Dakota and Lakota Sandstones within the specified area.

The ground water organic chemical standards included in Table A of the Section 41.5.C.3 of the Basic Standards for Ground Water (5 CCR 1002-41) for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene will not apply to the ground water in the Dakota and Lakota Sandstones within the specified area. This exception applies to these compounds only when their source is crude oil, condensate, or produced water, or wastes that are intrinsically derived from primary field operations associated with the exploration, development, or production of crude oil and natural gas.

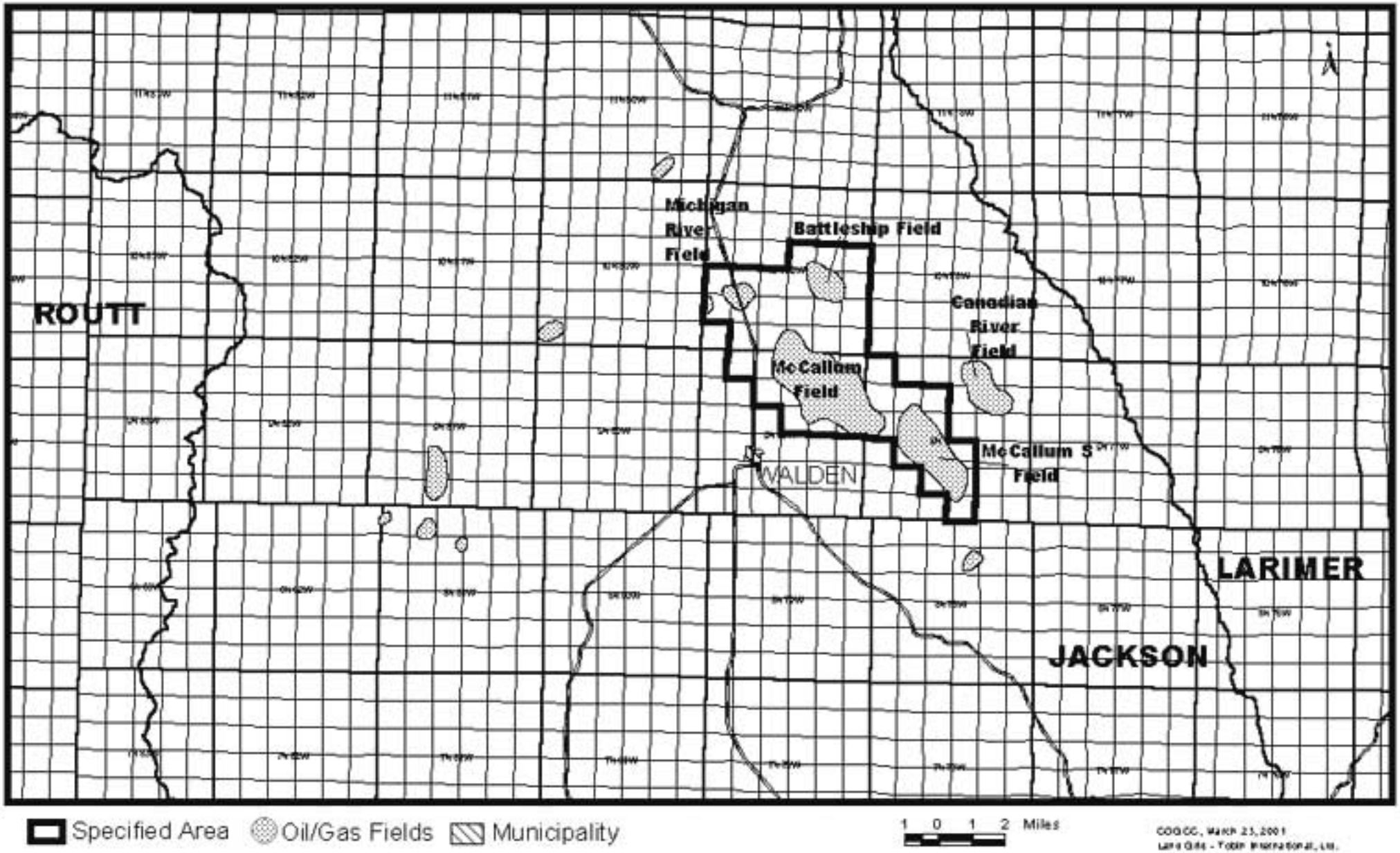


FIGURE 43

SPECIFIED AREA FOR COLORADO OIL AND GAS FIELDS, JACKSON COUNTY, COLORADO

SECTIONS 6-9, 16-18, 20-22, 27-28, AND 34, T9N, R78W;
SECTIONS 1-5, 9-15, T9N, R79W;
SECTIONS 13-15, 19-30, 32-36, T10N, R79W

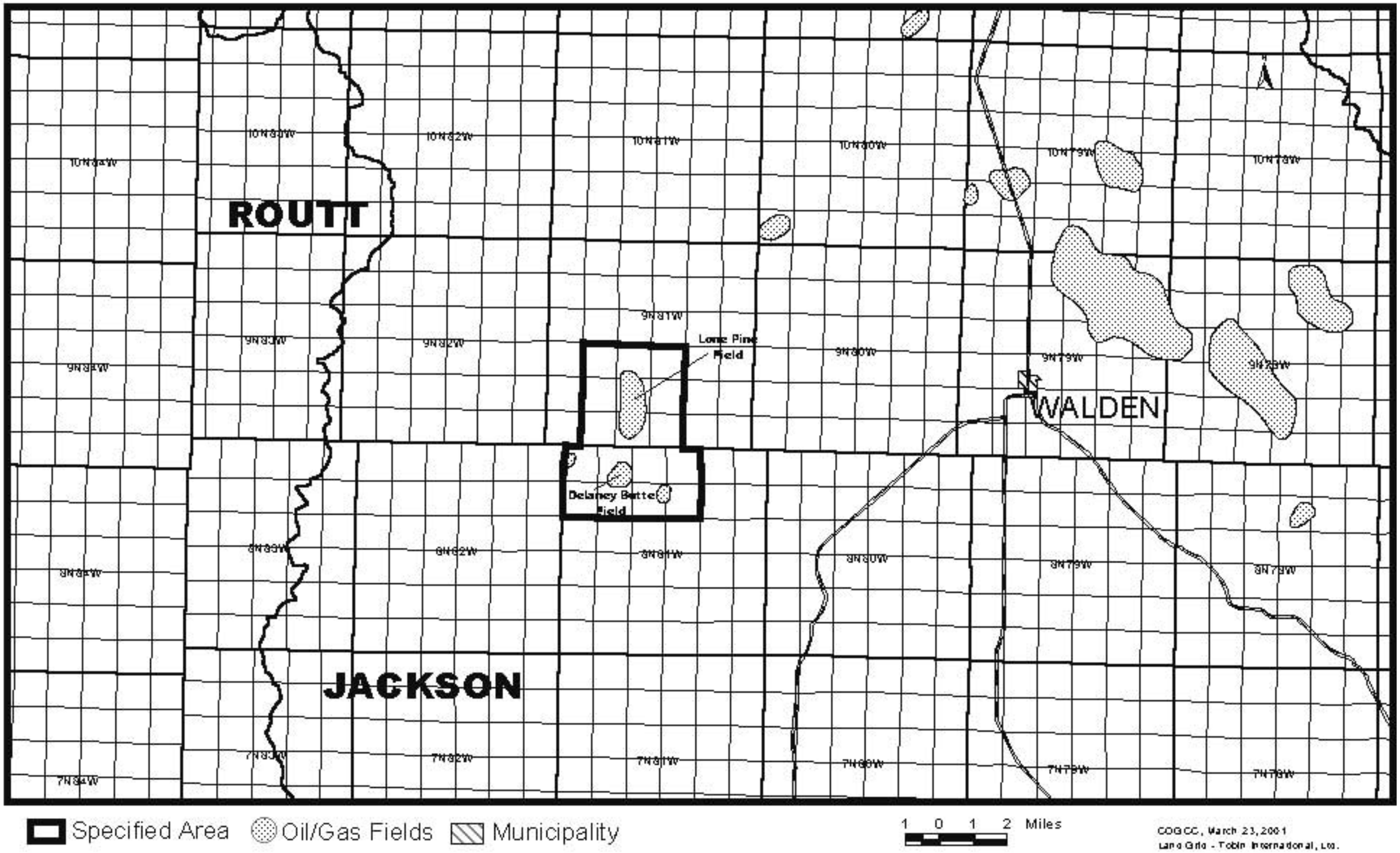


FIGURE 44

SPECIFIED AREA FOR COLORADO OIL AND GAS FIELDS, JACKSON COUNTY, COLORADO

SECTIONS 3-10, T8N, R81W;
SECTIONS 20-22, 27-29, 32-34, T9N, R81W

(45) OIL AND GAS FIELDS OF NORTHERN MOFFAT COUNTY, COLORADO

(a) Specified Area: The confined ground water within the Fort Union Formation underlying the area illustrated in Figure 45.

(b) Classifications: The classification of the ground water in the Fort Union Formation is:

- Limited Use and Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Table 1 through 4 of the Basic Standards for Ground Water 41.0 (5 CCR 1002-41) will not apply to the confined ground water of the Fort Union Formation within the specified area.

The ground water organic chemical standards included in Table A of the Section 41.5.C.3 of the Basic Standards for Ground Water (5 CCR 1002-41) for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene will not apply to the ground water in the Fort Union Formation within the specified area. This exception applies to these compounds only when their source is crude oil, condensate, or produced water, or wastes that are intrinsically derived from primary field operations associated with the exploration, development, or production of crude oil and natural gas.

(46) OIL AND GAS FIELDS OF WELD COUNTY, COLORADO

(a) Specified Area: The confined ground water in the Lyons Sandstone underlying the area illustrated in Figure 46.

(b) Classifications: The classification of the ground water in the Lyons Sandstone is:

- Limited Use and Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Table 1 through 4 of the Basic Standards for Ground Water 41.0 (5 CCR 1002-41) will not apply to the confined ground water of the Lyons Sandstone within the specified area.

The ground water organic chemical standards included in Table A of the Section 41.5.C.3 of the Basic Standards for Ground Water (5 CCR 1002-41) for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene will not apply to the ground water in the Lyons Sandstone within the specified area. This exception applies to these compounds only when their source is crude oil, condensate, or produced water, or wastes that are intrinsically derived from primary field operations associated with the exploration, development, or production of crude oil and natural gas.

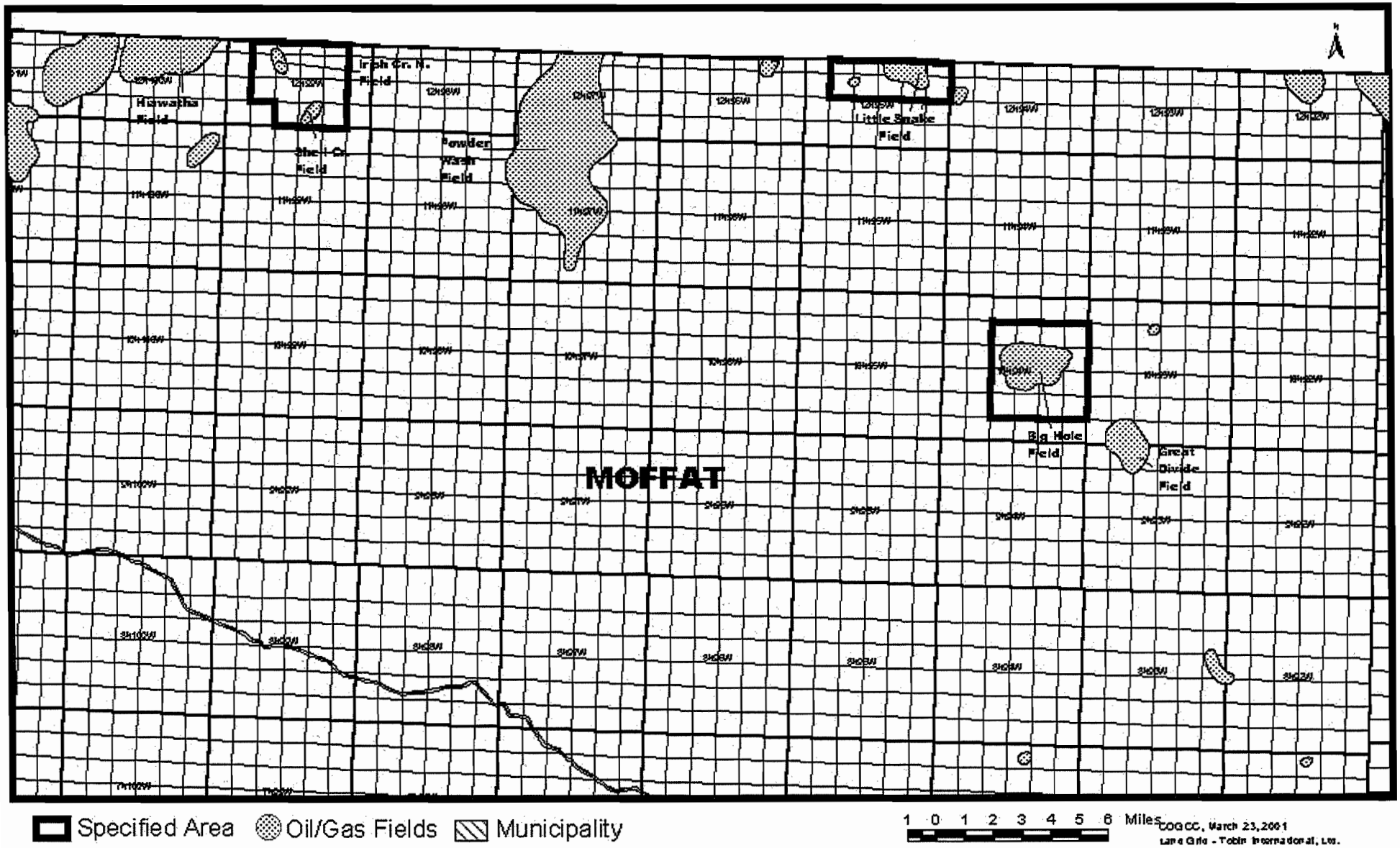


FIGURE 45

SPECIFIED AREA FOR COLORADO OIL AND GAS FIELDS, MOFFAT COUNTY, COLORADO

SECTIONS 9-16, 21-28 T10N, R94W;
SECTIONS 13-17, 20-24 T12N, R95W;
SECTIONS 14-17, 20-23, 26-29, 33-35, T12N, R99W

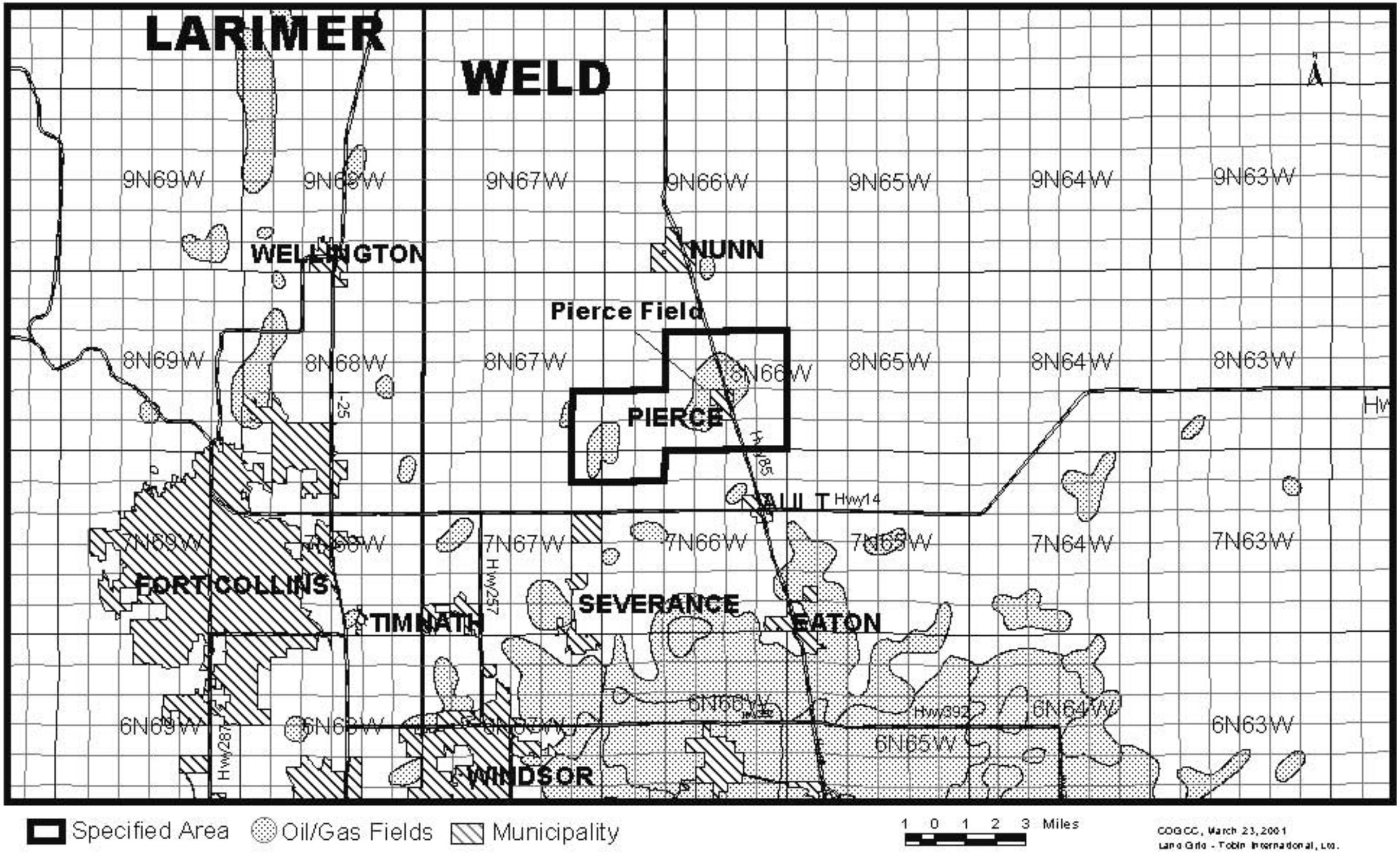


FIGURE 46

SPECIFIED AREA FOR COLORADO OIL AND GAS FIELDS, WELD CO.

Sections 5-6, T7N, R66W;
Section 1, T7N, R67W;
Sections 13-16 and 21-36, T8N, R66W;
Sections 25 and 36, T8N, R67W

(47) OIL AND GAS FIELDS OF WELD COUNTY, COLORADO

(a) Specified Area: The confined ground water in the Parkman Sandstone underlying the area illustrated in Figure 47.

(b) Classifications: The classification of the ground water in the Parkman Sandstone is:

- Limited Use and Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Table 1 through 4 of the Basic Standards for Ground Water 41.0 (5 CCR 1002-41) will not apply to the confined ground water of the Parkman Sandstone within the specified area.

The ground water organic chemical standards included in Table A of the Section 41.5.C.3 of the Basic Standards for Ground Water (5 CCR 1002-41) for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene will not apply to the ground water in the Parkman Sandstone within the specified area. This exception applies to these compounds only when their source is crude oil, condensate, or produced water, or wastes that are intrinsically derived from primary field operations associated with the exploration, development, or production of crude oil and natural gas.

(48) OIL AND GAS FIELDS OF WELD COUNTY, COLORADO

(a) Specified Area: The confined ground water in the Sussex Sandstone underlying the area illustrated in Figure 48.

(b) Classifications: The classification of the ground water in the Sussex Sandstone is:

- Limited Use and Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Table 1 through 4 of the Basic Standards for Ground Water 41.0 (5 CCR 1002-41) will not apply to the confined ground water of the Sussex Sandstone within the specified area.

The ground water organic chemical standards included in Table A of the Section 41.5.C.3 of the Basic Standards for Ground Water (5 CCR 1002-41) for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene will not apply to the ground water in the Sussex Sandstone within the specified area. This exception applies to these compounds only when their source is crude oil, condensate, or produced water, or wastes that are intrinsically derived from primary field operations associated with the exploration, development, or production of crude oil and natural gas.

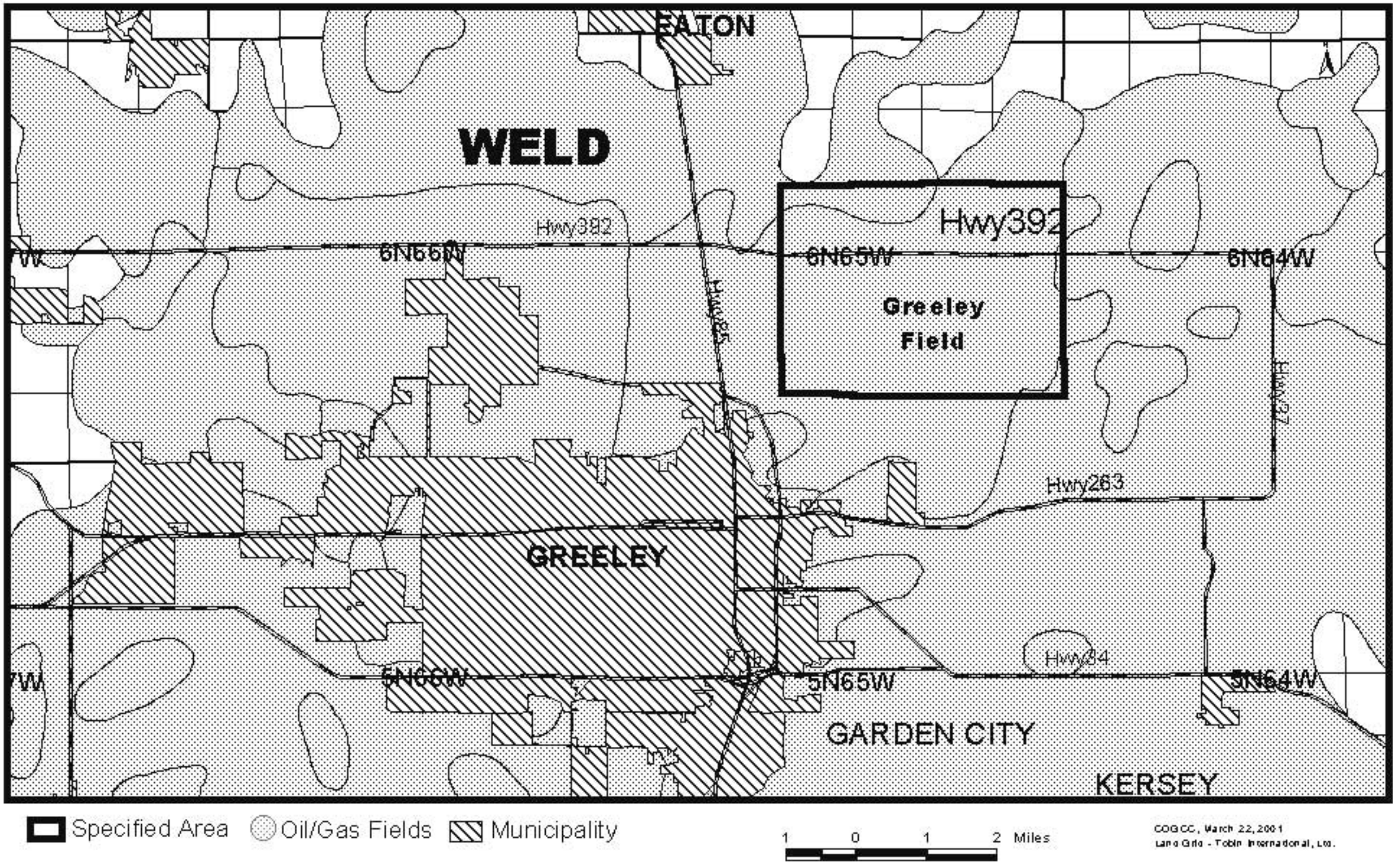


FIGURE 47

SPECIFIED AREA FOR COLORADO OIL AND GAS FIELDS, WELD CO.

Sections 13-16 and 21-28, T6N, R65W

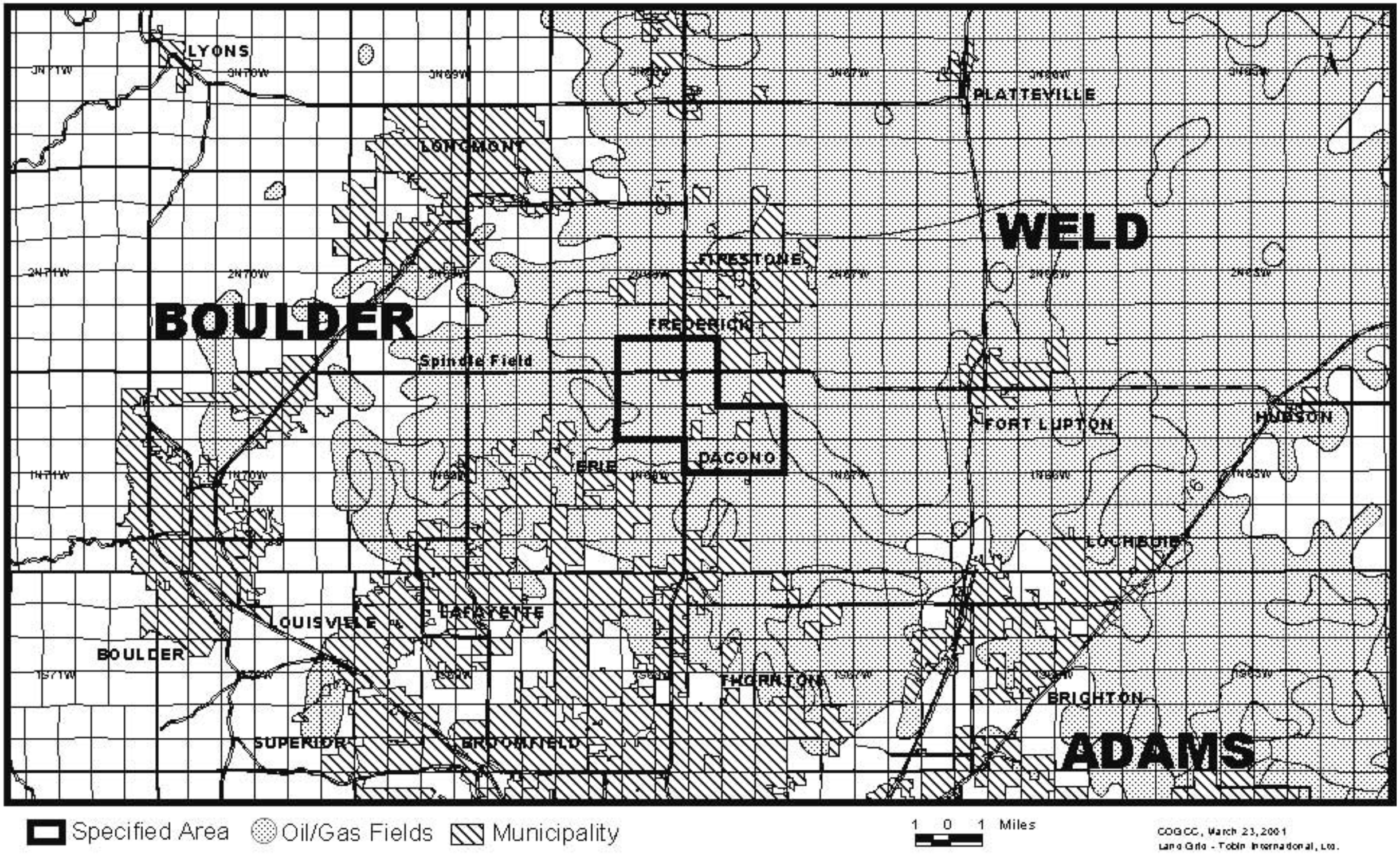


FIGURE 48

SPECIFIED AREA FOR COLORADO OIL AND GAS FIELDS, WELD CO.

Sections 7 and 18, T1N, 67W;
Sections 2-4 and 9-14, T1N, R68W;
Sections 33-35, T2N, R68W

(49) OIL AND GAS FIELDS OF ADAMS, ARAPAHOE, MORGAN, WASHINGTON, AND WELD COUNTIES, COLORADO

(1) Specified Area: The confined ground water in the D and J Sandstones underlying the areas illustrated in Figures 49A, 49B, 49C.

(2) Classifications: The classification of the ground water in the D and J Sandstones is:

- Limited Use and Quality

(3) Ground Water Quality Standards: The ground water quality standards included in Table 1 through 4 of the Basic Standards for Ground Water 41.0 (5 CCR 1002-41 will not apply to the confined ground water of the D and J Sandstones within the specified areas.

The ground water organic chemical standards included in Table A of the Section 41.5.C.3 of the Basic Standards for Ground Water (5 CCR 1002-41) for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene will not apply to the ground water in the D and J Sandstones within the specified areas. This exception applies to these compounds only when their source is crude oil, condensate, or produced water, or wastes that are intrinsically derived from primary field operations associated with the exploration, development, or production of crude oil and natural gas.

(50) OIL AND GAS FIELD OF RIO BLANCO COUNTY, COLORADO

(1) Specified Area: The confined ground water in the Morrison and Sundance Formations underlying the area illustrated in Figure 50.

(2) Classifications: The classification of the ground water in the Morrison and Sundance Formations are:

- Limited Use and Quality

(3) Ground Water Quality Standards: The ground water quality standards included in Table 1 through 4 of the Basic Standards for Ground Water 41.0 (5 CCR 1002-41) will not apply to the confined ground water of the Morrison and Sundance Formations within the specified area.

The ground water organic chemical standards included in Table A of the Section 41.5.C.3 of the Basic Standards for Ground Water (5CCR 1002-41) for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene will not apply to the ground water in the Morrison and Sundance Formations within the specified area. This exception applies to these compounds only when their source is crude oil, condensate, or produced water, or wastes that are intrinsically derived from primary field operations associated with the exploration, development, or production of crude oil and natural gas.

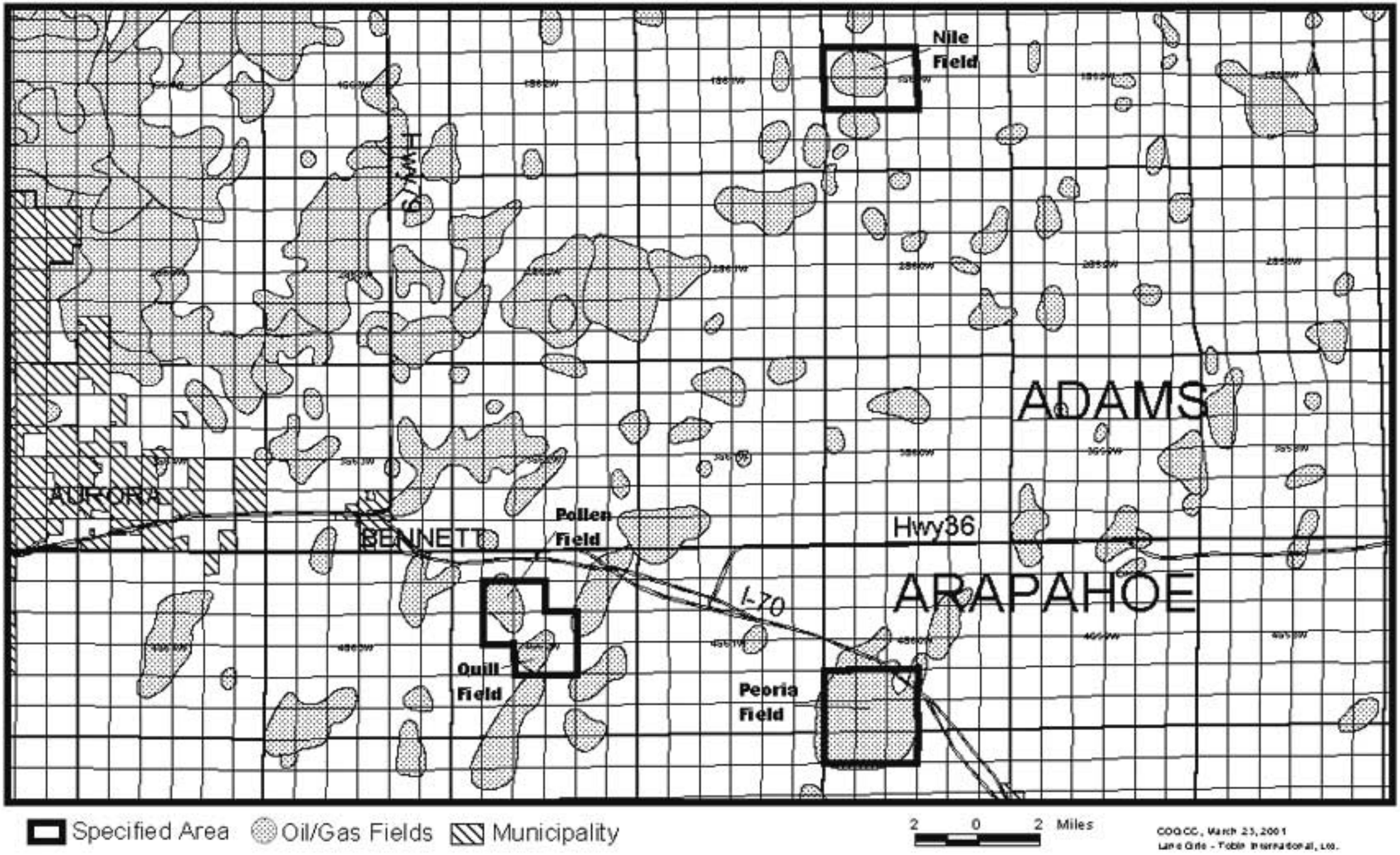


FIGURE 49A

SPECIFIED AREA FOR COLORADO OIL AND GAS FIELDS, ADAMS CO.

Sections 16-21, T1S, R60W

SPECIFIED AREA FOR COLORADO OIL AND GAS FIELDS, ARAPAHOE CO.

Sections 27-29 and 32-34, T4S, R60W;
Sections 4-6, T5S, R60W;
Sections 8-9, 15-17, and 21-22, T4S, R62W

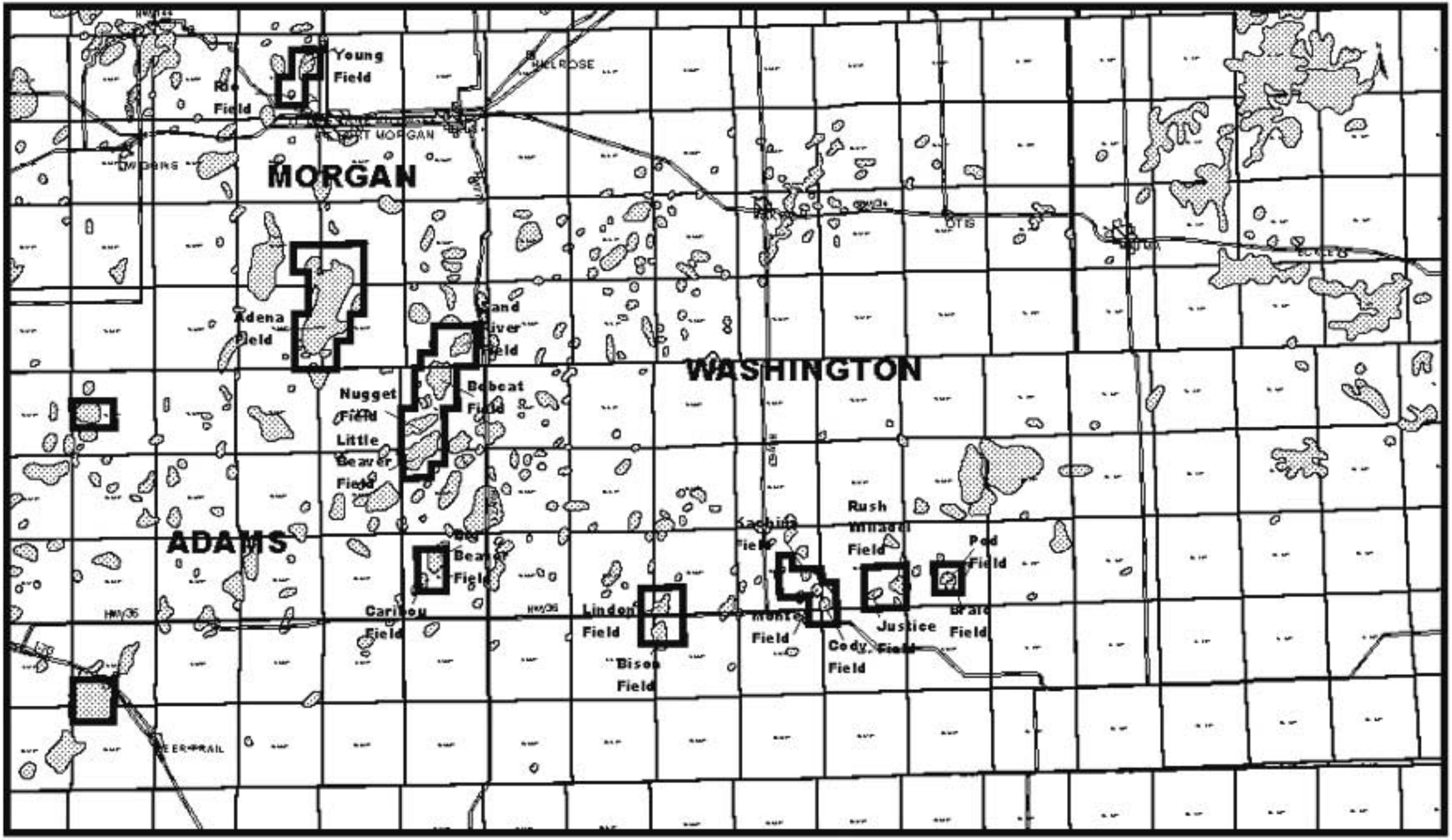


FIGURE 49B

SPECIFIED AREA FOR COLORADO OIL AND GAS FIELDS, MORGAN CO.

Sections 21-23, 26-28, and 32-35, T1N, R56W;
Sections 4-9, 17-20, and 30-31, T1N, R57W;
Sections 1, 12-14, 23-26, and 35-36, T1N, R58W;
Sections 19-21, and 28-33, T2N, R57W;
Sections 23-26, and 36, T2N, R58W;
Sections 11-14, 22-23, and 26-27, T4N, R58W

SPECIFIED AREA FOR COLORADO OIL AND GAS FIELDS, WASHINGTON CO.

Sections 3-5, 8-10, 15-17, 19-21, and 28-33, T1S, R56W;
Sections 4-8, T2S, R56W;
Sections 21-22 and 27-28, T3S, R50W;
Sections 22-27, and 34-36, T3S, R51W;
Sections 30-31, T3S, R51W;
Sections 15, 22-27, and 36 , T3S, R52W
Sections 29-32, T3S, R53W;
Sections 25 and 36, T3S, R54W;
Sections 8-9, 16-17, and 20-21, T3S, R56W;
Section 6, T4S, R51W;
Section 1, T4S, R52W;
Sections 5-8, T4S, R53W;
Sections 1 and 12, T4S, R54W

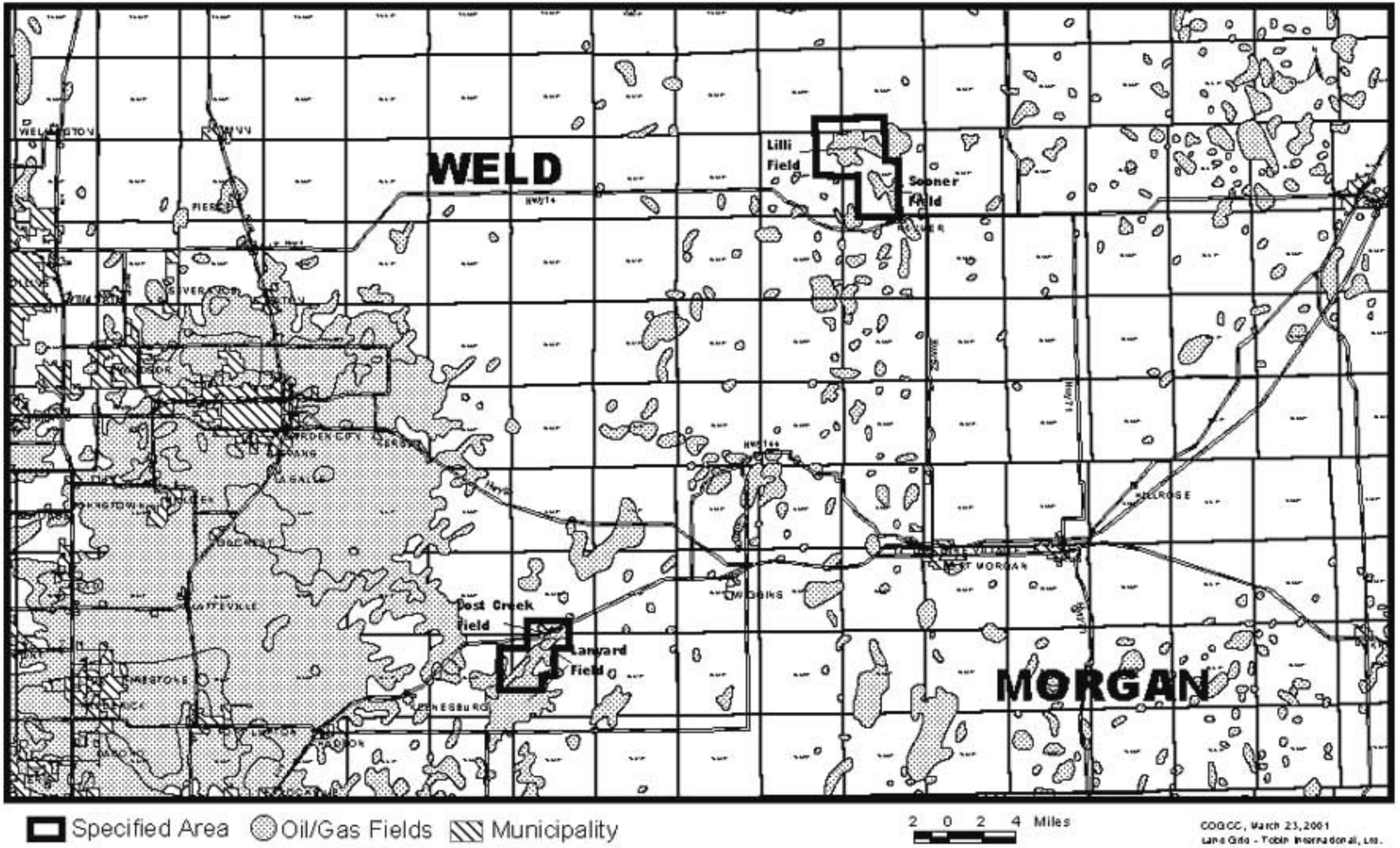


FIGURE 49C

SPECIFIED AREA FOR COLORADO OIL AND GAS FIELDS, WELD COUNTY

Sections 3-5, 7-9, and 16-20, T2N, R62W;
Sections 12-13 and 24, T2N, R63W;
Sections 32-34, T3N, R62W;
Sections 4-9, 15-18, 20-22, 27-29, and 32-34, T8N, R58W
Sections 1-2 and 11-14, T8N, R59W;
Sections 31-33, T9N, R58W;
Sections 35-36, T9N, R59W

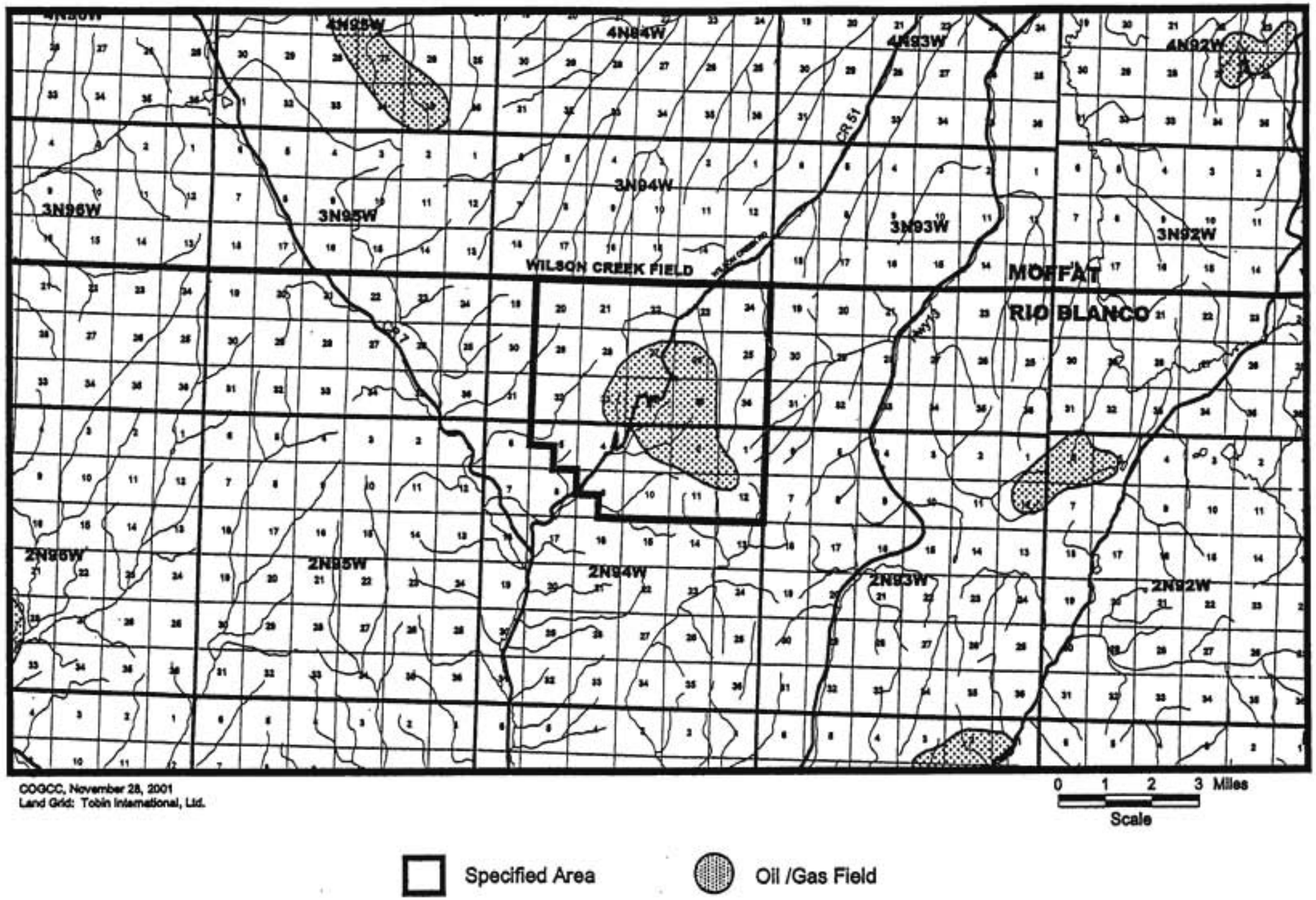


FIGURE 50
SPECIFIED AREA FOR THE WILSON CREEK OIL AND GAS FIELD, RIO BLANCO CO., COLORADO
(Sections 1-5, 9-12, T2N R94W and Sections 20-29, 32-36, T3N R94W)

(51) OIL AND GAS FIELD OF BACA COUNTY, COLORADO

(a) Specified Area: The confined ground water in the Lansing Formation underlying the area illustrated in Figure 51.

(b) Classifications: The classification of the ground water in the Lansing Formation are:

- Limited Use and Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Table 1 through 4 of the Basic Standards for Ground Water 41.0 (5CCR1002-41) will not apply to the confined ground water of the Lansing Formation within the specified area.

The ground water organic chemical standards included in Table A of the Section 41.5.C.3 of the Basic Standards for Ground Water (5CCR 1002-41) for benzene, toluene, ethyibenzene, xylenes, and benzo(a)pyrene will not apply to the ground water in the. Lansing Formation within the specified area. This exception applies to these compounds only when their source is crude oil, condensate, or produced water, or wastes that are intrinsically derived from primary field operations associated with the exploration, development, or production of crude oil and natural gas.

(52) OIL AND GAS FIELD OF CHEYENNE COUNTY AND KIT CARSON COUNTIES, COLORADO

(a) Specified Area: The confined ground water in the Morrow Formation underlying the area illustrated in Figures 52A AND 52B.

(b) Classifications: The classification of the ground water in the Morrow Formation are:

- Limited Use and Quality

(c) Ground Water Quality Standards: The ground water quality standards included in Table 1 through 4 of the Basic Standards for Ground Water 41.0 (5CCR 1002-41) will not apply to the confined ground water of the Morrow Formation within the specified area.

The ground water organic chemical standards included in Table A of the Section 41.5.C.3 of the Basic Standards for Ground Water (5CCR1002-41) for benzene, toluene, ethyibenzene, xylenes, and benzo(a)pyrene will not apply to the ground water in the Morrow Formation within the specified area. This exception applies to these compounds only when their source is crude oil, condensate, or produced water, or wastes that are intrinsically derived from primary field operations associated with the exploration, development, or production of crude oil and natural gas.

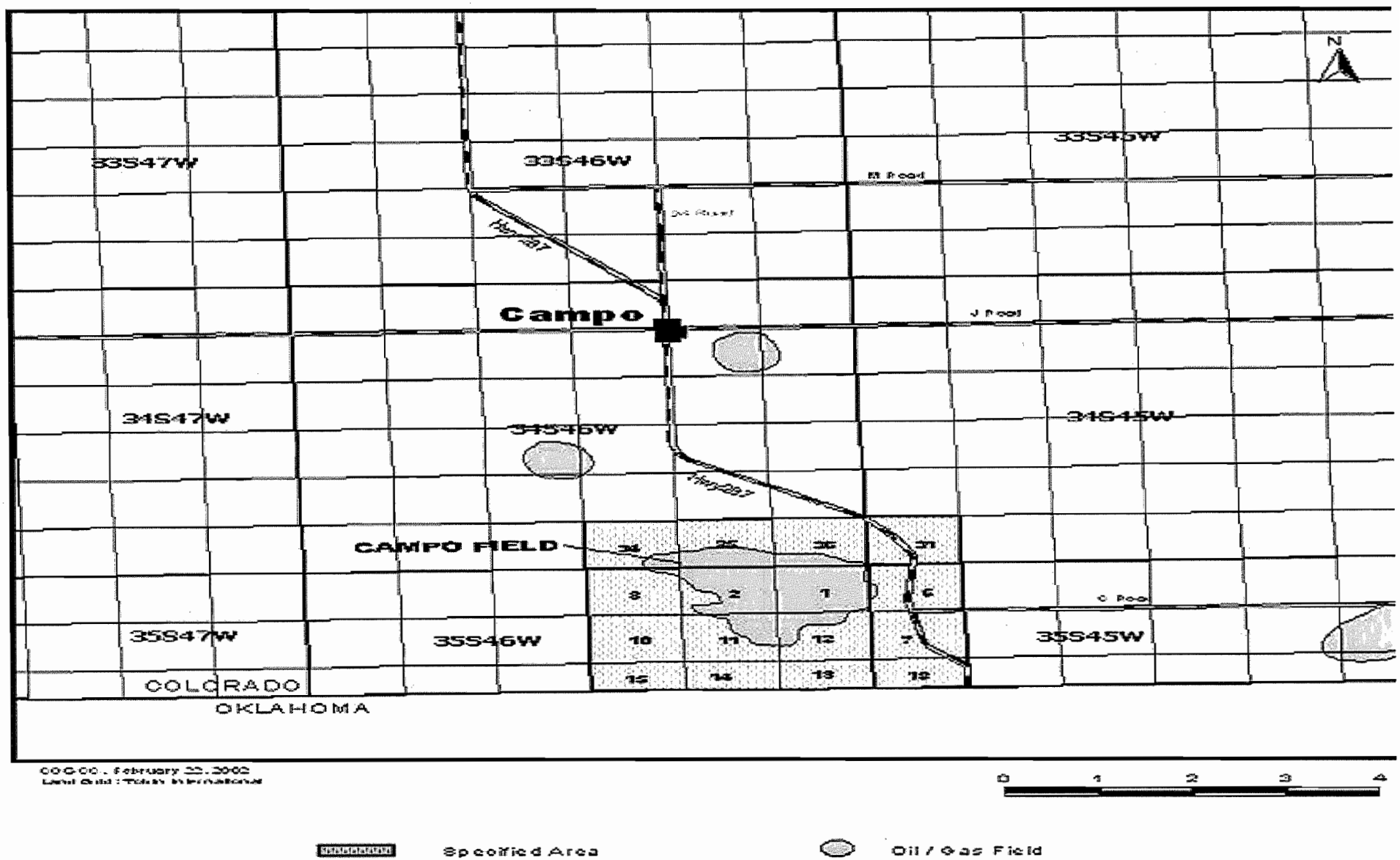
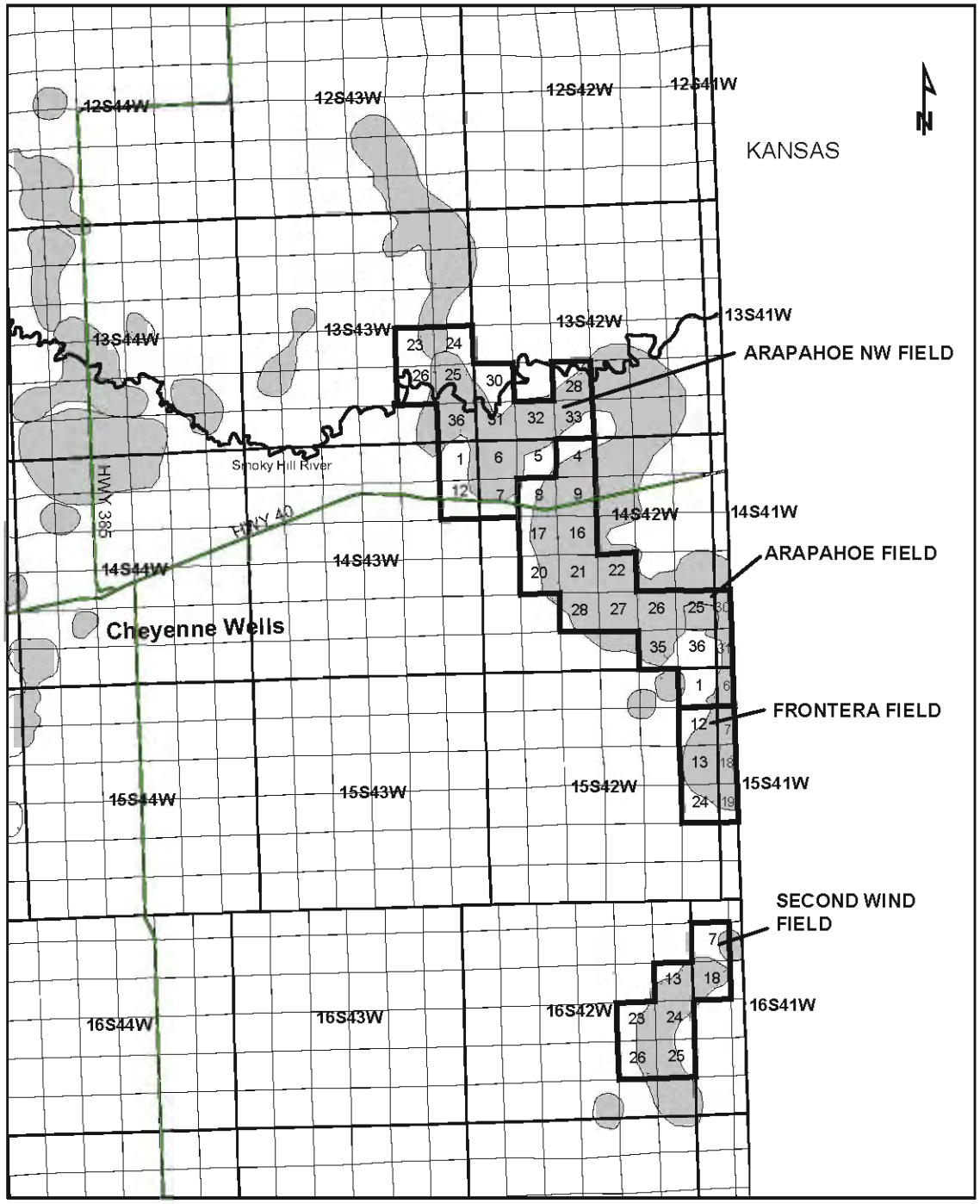


FIGURE 51
SPECIFIED AREA FOR THE
CAMPO OIL AND GAS FIELD, BACA COUNTY, COLORADO

(Sections 34,35,36 of T34S R46W; Section 31 of T34S R45W;
Sections 1,2,3,10,11,12,13,14,15 of T35S R46W; and Sections 6,7,18 of T35S R45W)



COGCC, May 1, 2003
Land Grid: Tobin International
O&G Fields: CGS

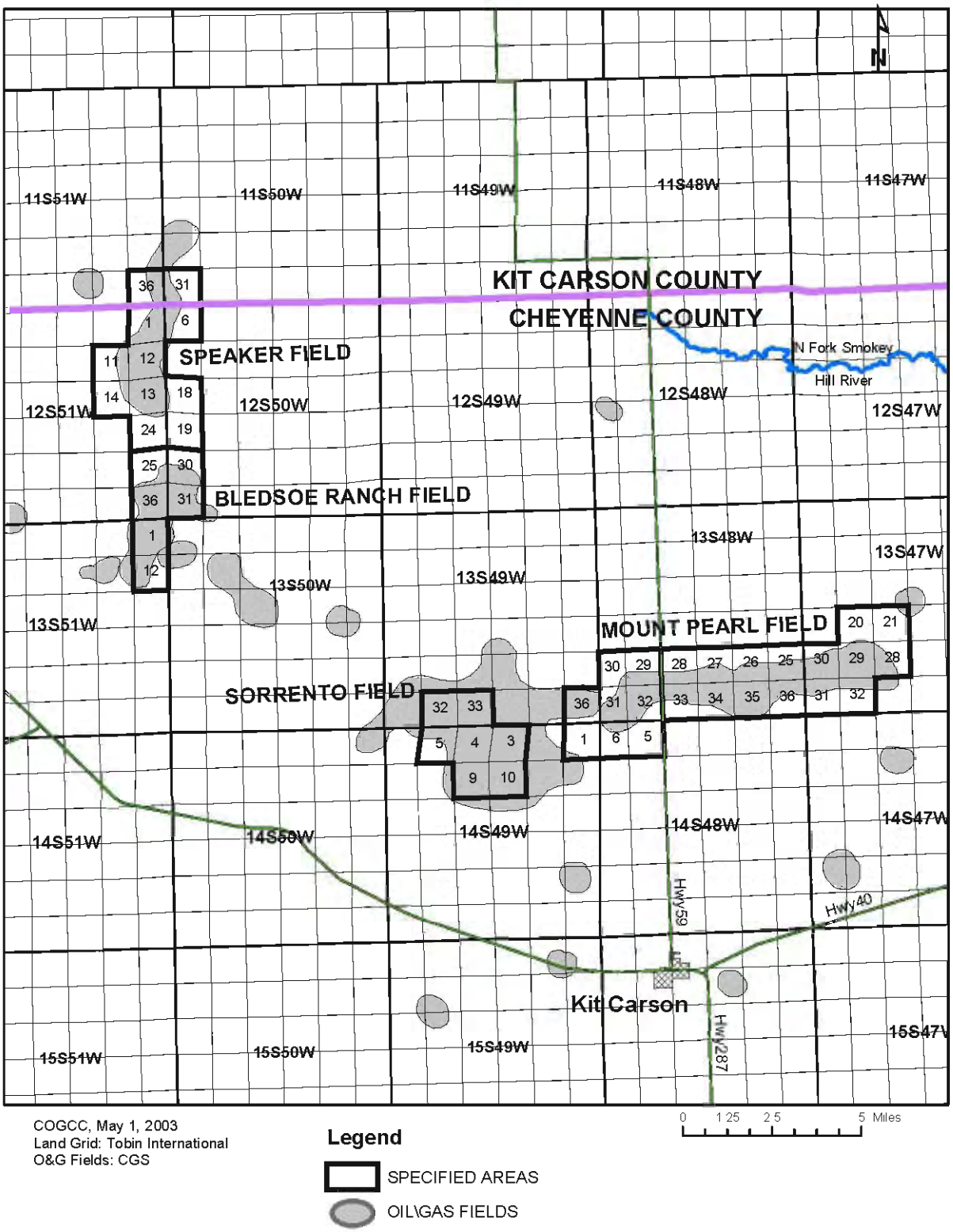
Legend

SPECIFIED AREAS

OIL\GAS FIELDS

MAP 52A
SPECIFIED AREAS FOR THE ARAPAHOE NW, ARAPAHOE, FRONTERA, & SECOND WIND FIELDS CHEYENNE COUNTY, COLORADO

(Secions 23-26, & 36 of 13S43W; Sections 1 & 12 of 14S43W; Sections 4-9,16,17,20-22, 25-28,35 & 36 of 14S42W; Sections 30 & 31 of 14S41W; Sections 1,12,13,& 24 of 15S42W; 6,7,18, & 19 0f 15S41W; Sections 13, 23-26 of 16S42W; Sections 7 & 18 of 16S41W)



COGCC, May 1, 2003
Land Grid: Tobin International
O&G Fields: CGS

Legend

SPECIFIED AREAS

OIL\GAS FIELDS

MAP 52B
SPECIFIED AREAS FOR THE SPEAKER, BLEDSOE RANCH, SORRENTO, AND MOUNT PEARL FIELDS
KIT CARSON AND CHEYENNE COUNTIES, COLORADO

(Section 36 of 11S51W; Section 31 of 11S50W; Sections 1, 11-14, 24, 25, & 36 of 12S51W; Sections 6,18,19,30,& 31 of 12S50W; Sections 1 & 12 of 13S51W; Sections 32,33, & 36 of 13S49W; Sections 1,3-5, 9 & 10 of 14S49W; Sections 25-36 of 13S48W; Sections 5 & 6 of 14S48W; Sections 20,21, & 28-32 of 13S47W)

(53) HIAWATHA OIL AND GAS FIELD OF MOFFAT COUNTY, COLORADO

(a) Specified Area : The confined ground water in a portion of the Tertiary Wasatch Formation (Middle Oil Sand Zone) underlying the area illustrated in Figure 53.

(b) Classifications: The classification of the confined ground water in the Middle Oil Sand portion of the Tertiary Wasatch Formation is: Limited Use and Quality

(c) Ground Water Quality Standards : The ground water quality standards included in Table 1 through 4 of the Basic Standards for Ground Water 41.0 (5CCR 1002-41) will not apply to the confined ground water of the Middle Oil Sand zone of the Tertiary Wasatch Formation within the specified area.

The ground water organic chemical standards included in Table A of the Section 41.5.C.3 of the Basic Standards for Ground Water (5CCR 1002-41) for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene will not apply to the ground water in the Middle Oil Sand portion of the Tertiary Wasatch Formation within the specified area. This exception applies to these compounds only when their source is crude oil, condensate, or produced water, or wastes that are intrinsically derived from primary field operations associated with the exploration, development, or production of crude oil and natural gas.

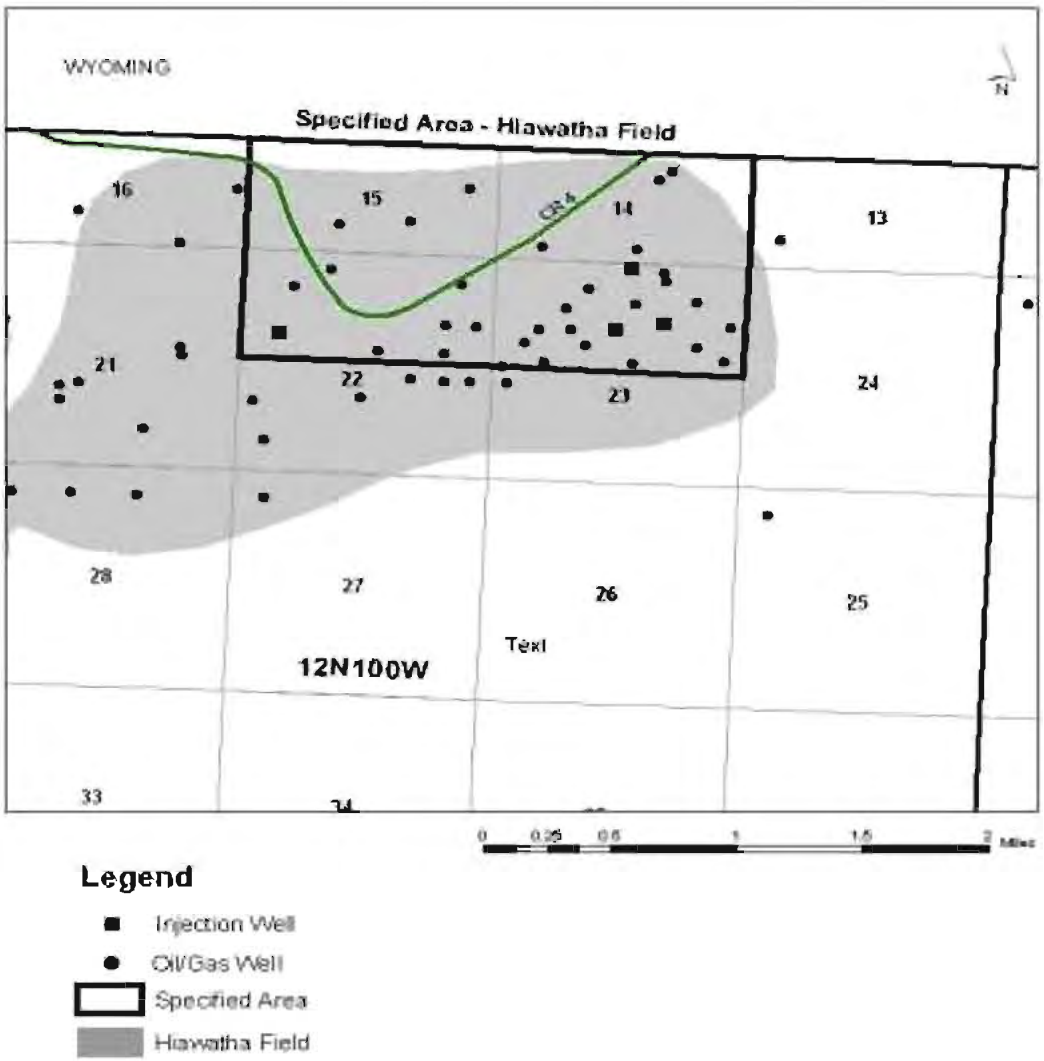


FIGURE 53
SPECIFIED AREA FOR THE
HIAWATHA OIL AND GAS FIELD
MOFFAT COUNTY, COLORADO
(Sections 14,15,22,and 23, T12N, R100W)

42.8 Reserved.

42.9 Reserved.

42.10 Statement of Basis, Specific Statutory Authority, and Purpose (1991 Rocky Flats Hearing)

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2) and 25-8-203; and 25-8-204 provide the specific statutory authority for adoption of these regulatory provisions. The Commission has also adopted, in compliance with C.R.S. 24-4-103(4), the following statement of basis and purpose.

BASIS AND PURPOSE:

EG&G and DOE jointly raised 2 issues which questioned the Commission's jurisdictional authority to promulgate the ground water standards and classifications in this proceeding. These parties argues that the Commission has no authority to regulate the Rocky Rats facility as there has been no waiver of sovereign immunity for the application of ground water standards and classifications at federal facilities. EG&G and DOE asserted that the waiver of sovereign immunity found in the federal Clean Water Act did not provide dear and unambiguous authority for states to regulate ground water at federal facilities because the provisions of the Act were not intended to apply to ground water. Secondly, EG&G and DOE argued that the Commission has no authority to regulate the discharge of radionuclides in particular plutonium, as the Atomic Energy Act preempts such regulation.

Briefs were submitted on these issues by interested parties, and, after careful consideration, the Commission has determined that it has jurisdiction to promulgate the regulation pursuant to its authority under the Colorado Water Quality Control Act The Commission's decision is based, in part, on the knowledge that standards and classifications are not self-implementing, but are used as appropriate, by the Division and other agencies through their own water pollution control programs. The promulgation of standards and classifications alone does nor confer any authority to regulate any particular discharger, and it is not the Commission's intention to attempt through this rulemaking to override any preemption of the Atomic Energy Act This decision is consistent with the Commission's promulgation in 1990 of surface water quality standards and classifications for Walnut Creek and Woman Creek.

Classifications

The basis for classifying specific ground waters of the state is set forth in the Basic Standards for Ground Water Section 3.11.10. Classification of the ground waters at the Rocky Flats site was requested by the City of Westminster. The intent of this classification is to protect specified ground water from uncontrolled degradation and thereby protect existing and future uses of that water.

The classifications of Domestic Use-Quality and Surface Water Quality Protection are appropriate for the Rocky Flats alluvium and Quaternary deposits which discharge into classified surface water segments. Classified segments of Walnut and Woman Creeks contribute to drinking water for 180,000 residents of Broomfield, Westminster, Thornton and Northglenn through Great Western Reservoir and Standley Lake. These segments also have Recreational Class 2, Aquatic Life Class 2 and Agricultural classifications through the “Classifications and Numeric Standards South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin” 3.8.0.

Numerical Standards

The water quality standards in Tables 1–4 of the Basic Standards for Ground Water are appropriately assigned to all aquifers in the specified area because these standards are set to fully protect the classified uses and because ambient quality is generally better than these standards. It is not necessary to establish standards for pollutants not currently found in the list of statewide standards for organic

chemicals since current information indicates that techniques for remediation of the site to the level of established standards will also reduce those contaminants without standards to acceptable levels.

It is appropriate to apply the surface water quality standards for Woman Creek and portions of Walnut Creek (Segment 4, Big Dry Creek) to the shallow aquifers at Rocky Flats because they contribute water to those streams which the Commission recently protected with more stringent standards.

The Commission has decided not to set standards equal to background levels at this hearing. The characterization of background in the vicinity of the Rocky Flats Plant is an ongoing process, and the Commission believes that the agencies charged with implementing the remedial action at the plant under RCRA and CERLA — the Colorado Hazardous Materials and Waste Management Division and the United States Environmental Protection Agency — may have an opportunity to determine background levels as part of the overall remedial action at Rocky Flats. The implementing agencies may also have authority to set compliance standards on constituent-specific basis for constituents where background levels exceed the standards, or the Commission may set standards at background when sufficient evidence is available to it.

Similarly, if the Water Quality Control Division has regulatory jurisdiction over an activity at the Rocky Flats Plant, the Division may consider background levels when enforcing permit conditions, if consistent with Division enforcement authority and policy then in effect.

Plutonium Standard

There was considerable debate in this hearing regarding the appropriate basis for and numerical level of a plutonium standard for ground water in the vicinity of Rocky Flats. A standard of 0.05 picocuries per liter has been adopted, based on the existing surface water standard for Walnut and Woman Creeks. This surface water standard was based on existing ambient levels of plutonium measured in these two streams, and therefore serves as a nondegradation standard that should prevent any increase in contamination. The site-specific plutonium ground water standard now adopted supercedes the statewide standard of 15 picocuries per liter, for ground water within this specified area.

It was also argued in this hearing that the Commission should adopt a health-based standard for plutonium, and that the appropriate health-based level is lower than 0.05 picocuries per liter. Based on the evidence submitted, the Commission has determined that it would be premature to set a different, health-based standard for plutonium at this time. Although some preliminary analysis has been done based on a 1 X 10-6 risk level, further internal and external peer review of the preliminary calculations needs to occur in order to determine an appropriate long-term, health-based standard.

Because the Basis Standards for Ground Water provide, at section 3.11.7 E, that the Commission will not consider changes in ground water standards more than once in any twelve month period, the Commission plans to hold a new rulemaking to reassess an appropriate plutonium standard in February, 1992. The Commission anticipates that the hearing will address radionuclide standards generally, for surface water and ground water, statewide and in the vicinity of Rocky Flats.

Specified Area

The specified area adopted by the Commission generally tracks the boundaries of the federal reservation on which the Rocky Flats Plant is located. All of the parties to this hearing indicated that they agreed with or were not opposed to this specified area.

Points of Compliance

The Commission has decided not to set any points of compliance for the water quality classifications and standards being adopted in this proceeding. A point of compliance would be established by whatever agency or agencies may have regulatory authority to implement these classifications and standards in the

future. The Commission is not attempting in this proceeding to prejudge or second guess what agency or agencies that may be. If these classifications and standards are implemented by the Water Quality Control Division in accordance with its authority, points of compliance shall be established in accordance with its authority. In such circumstances, the Commission believes that points of compliance developed by the Division should at a minimum assure compliance with surface water classifications and standards established for the affected segments.

Although it appears from the evidence that potential exists for preventing Walnut and Woman Creek water from reaching the drinking water supplies in Standley Reservoir and Great Western Reservoir, the Commission's preceding direction to the Division concerning ground water points of compliance is currently appropriate. Until and unless the drinking water supplies are physically isolated, those reservoir should be protected by strict standards. As the Commission similarly stated in the Statement of Basis and Purpose for the surface water standards in Woman and Walnut Creek, if in the future the cities' water supplies are adequately isolated, the Commission can reconsider at that time the appropriateness of both surface and ground water classifications and standards and its direction to the Division concerning points of compliance.

PARTIES TO THE RULEMAKING HEARING FEBRUARY 4, 1991

1. Department of Energy

2. EG&G Rocky Flats

3. City of Broomfield

4. City of Arvada

5. Jefferson Center Metropolitan District No. 1

6. City of Westminster

42.11 Statement of Basis, Specific Statutory Authority, and Purpose (1991 Regional Ground Water Standards Hearing)

The provisions of C.R.S. 25-8-202(1)(a, (b) (2) and (7); and 25-8-203; and 25-8-204 provide the specific statutory authority for adoption of these regulatory provisions. The Commission has also adopted, in compliance with C.R.S. 24-4-103(4), the following statement of basis and purpose.

BASIS AND PURPOSE

A. Overview

The goal of the Water Quality Control Commission is to prevent ground water contamination and to protect existing uses while providing for maximum potential future beneficial uses of ground water resources. The Commission has identified ground water quality protection as one of its major priorities. Over the past 18 months the Division developed a proposal for establishing classifications and standards from ground water on a broad regional basis, based on a number of discussions with the Commission about the advantages and disadvantages of various approaches, ranging from conducting multiple site-specific rulemaking hearings, to a single hearing to establish classifications and standards statewide.

The goal of comprehensive ground water quality protection is viewed as a long-term objective. There are many local, state, and federal programs currently involved in activities aimed at preventing ground water contamination. Some programs are concerned with preventing or eliminating sources of ground water pollution and a few are providing for remediation of existing contamination. Senate Bill 181 created a framework wherein the Commission is solely responsible for establishing classifications and standards,

and certain implementing agencies are responsible for implementing them through their own programs. Senate Bill 126 follows this model with respect to the Department of Agriculture and its regulation of the use of agricultural chemicals. The establishment of classifications and standards by the Commission has been viewed by some as a prerequisite for implementing agencies to begin fully carrying out their ground water protection responsibilities. Therefore, the Commission has felt the need to move forward expeditiously in this area.

The May ground water quality classification and standard-setting hearing revealed several concerns with the broad regional approach suggested in the Division's proposal. The foremost concern was with the blunt results of regional classifications for parties with complex site-specific issues. This concern was strongest where existing quality does not meet the standards associated with the proposed classifications. However, the Division, guided by the Basic Standards for Ground Water, focused upon the evidence of widespread use of potential use of the ground water for both domestic and agricultural purposes as the basis for establishing regional classifications and standards.

Since the hearing, the Division and Commission have attempted to explore a full range of options to address the concerns raised by parties with respect to the existing proposal, while keeping the long-term goal of ground water quality protection in focus. Although the Commission believes that the proposal addressed at the hearing remains viable, it also believes that the alternative set forth here constitutes an important and positive step forward in Colorado ground water quality protection efforts. The new alternative proposal provides an interim narrative standard for protection of existing ground water quality on a regional basis, to be supplemented in the near term with site-specific rulemaking hearings to adopt standards and classifications for wellhead protection areas of public water supply systems and for other areas of significant interest.

This approach will allow implementation efforts of other agencies to proceed, based on Commission-adopted standards. In addition, it envisions a major new effort to coordinate and integrate existing ground water quality data acquisition efforts and to expand those efforts as necessary. Finally, it calls for additional efforts to determine how to proceed toward the goal of ground water quality improvement in currently contaminated areas.

Over time, the experience gained through initial program implementation, the additional knowledge acquired through increasingly better data, and further examination of the ground water quality improvement issue may indicate that other approaches to ground water quality classifications and standards should be considered.

B. Interim Narrative Standard

1. Summary

The purpose and effect of the interim standard is to assure that: (1) in clean areas, quality adequate to protect all potential uses is preserved; and (2) in contaminated areas, quality is not allowed to get any worse. This interim standard defines the protection provided unless and until overridden by use classifications and numerical standards adopted at a later date. The major issue left open by the interim standard is the determination as to what level of remediation may be appropriate in the variety of circumstances where existing quality does not meet table value standards.

As addressed in subsection 3.12.5(2)(b), this narrative standard is not intended to discourage improvement of water quality or indicate that existing quality is adequate where contamination exists. Rather, the approach recommended reflects a decision that the determination of potential remediation requirements in the wide range of circumstances potentially at issue—e.g. agricultural use impacts, CERCLA sites, naturally elevated pollutants—would be more appropriately addressed in separate proceedings or separate forums. Subsection (2)(b) states an ambitious long-term cleanup goal. Neither this goal or the interim narrative standard are intended to prejudice the outcome of any subsequent classification and numerical standard-setting proceedings. In any such hearing, classifications and standards would be considered in accordance with the Commission's statutory and regulatory authority.

The purpose of subsection 3.12.5(2)(c) is to provide some guidance as to the determination of existing ambient quality, including a “fallback” definition if existing data is deemed to be inadequate. The appropriate agency will need to exercise its best professional judgment in reviewing the available data. In some circumstances, data collected either prior to or subsequent to the adoption of this interim narrative standard may still legitimately be considered to be representative of “existing ambient quality as of the effective date of this regulation” . This approach should provide for flexibility in the use of existing data and create an incentive to generate additional data. Additional data collection efforts by the Division are addressed below.

At a subsequent time, it may be appropriate to consider adoption of this same interim narrative standard for ground water elsewhere in Colorado. To remain with the scope of the notice for this hearing and to generate some initial experience with this approach, however, for now this alternative proposal addresses only the five regional areas identified in the initial proposal.

The Commission believes that the rulemaking record for this proceeding demonstrates the need for adoption of the interim narrative standard. The Commission is required by the Water Quality Control Act to develop “a comprehensive and effective program for prevention, control and abatement of water pollution and for water quality protection” . Section 25-8-202(1), C.R.S. Further, in section 25-8-202(7)(1), C.R.S., the Commission is given sole responsibility for the adoption of water quality standards and classifications for state waters. The Commission believes that this action to begin to define ambient ground water quality standards is necessary to help provide guidance to the various state agencies charged with implementing water quality protection responsibilities. As indicated above, the Commission believes that the proper statutory authority exists for adoption of the interim narrative standard. In addition, the regulation is clearly and simply stated to the extent practical.

Finally, arguments were raised by some parties to the hearing that the alternative proposal presented by the Water Quality Control Division that has resulted in the interim narrative standard being adopted by the Commission should have been re-noticed prior to action by the Commission. The Commission does not believe that such re-noticing would be an appropriate use of public or private resources. The alternative ultimately being adopted is well within the range of alternatives originally noticed and put forth by various parties to the hearing in their prehearing statements. Moreover, the alternative being adopted was formulated precisely in response to many of the concerns raised during the hearing regarding the original proposal. Therefore, the regulation being adopted is a natural outgrowth of, and is strongly supported by, the rulemaking hearing record before the Commission.

2. <u>Specified Area</u>

The five major specified areas to which the narrative standard applies are, with minor revisions, identical to the areas outlined by the Division in the original proposal. The revision recommended by Equus Farms to clarify that the specified area for the South Platte alluvial system also extends to those formation associated with the alluvium that are overlain by other deposits, and therefore not shown on the Ogden and Tweto map as a surficial formation. The Commission applied this revision to the Arkansas Basin specified area as well since it is a similar riverine system. The clarification was not necessary for the other three aquifer systems since they, by definition, included all unconfined ground water within a definite geographical area, and did not include deposits masked by overlaying formations.

The Commission also accepted the revised description of the specified area for the San Luis Valley aquifer offered by Rio Grande Water User Association. The Division testified that it concurred with the revised description of the shallow ground waters in the San Luis Valley.

Several parties testified that the specified areas in the proposal were too large and ill-defined, and that smaller, more precisely delineated areas should be drawn up in a revised proposal. The Commission realizes that any classification system that relies upon geologic formations as a determinant of the boundaries of a classified ground water will be subject to legitimate differences of opinion, and will require site-specific determinations regardless of the map scale used to describe the specified area. Using political boundaries or other fixed topographical features such as highways would alleviate the need for

site-specific determinations, but ground water formations do not adhere to such arbitrary boundaries, and therefore, such a system is not as realistic as one based on geology.

Also, CF&I raised the issue of whether the ground waters in a particular area within the specified area subject to this regulation are state waters. The Commission intends this interim narrative to apply only to state waters.

Finally, Coors requested that the specified area for the South Platte alluvial system include an additional area around Clear Creek as it exits the mountains near Golden. The Division stipulated to this addition and the commission concurs with its inclusion, but since it is not shown as Qa or Qg on the Ogden/Tweto map, a separate map (figure 1a) has been prepared to delineate it.

3. <u>Existing Quality Determination</u>

Application of the Interim Narrative Standard on a site-specific basis is dependent on a determination of "existing ambient quality" as of the effective date of this regulation. Several parties expressed concern regarding the difficulty of making this determination in the future, due in part to the limited ground water quality data that currently is available in many locations. Several parties suggested that this concern be addressed by determining "existing quality" as of the effective date of a permit or other implementation of the Interim Narrative Standard. The Commission believes that the effective date of this regulation is the appropriate time on which to base the existing quality determination. As discussed above, a fundamental purpose of the Interim Narrative Standard is to help assure that quality is not allowed to get any worse in currently contaminated areas. Determining existing quality as of a future implementation date would not account for degradation occurring in the interim.

At the same time, the Commission recognizes that existing data may currently be inadequate to determine existing ambient quality in many specific locations. Therefore, the Commission has made two changes to subsection 3.12.5(2)(c) from the version contained in the original alternative proposal, in response to the concerns expressed by the parties.

First, the Commission has revised the language so that it now refers to "adequate information to determine or estimate' existing ambient quality" . This change, recommended by the Metro Wastewater Reclamation District, is an appropriate recognition that definitive data will not always be available. The Commission does not intend that the "default standard" contained in subsection 3.12.5(2)(c) would be applied where there is a reasonable basis for estimating existing ambient quality.

Second, the Commission has added a new sentence to this same subsection, providing that data generated in the future will be presumed to be representative of existing quality as of the regulation's effective date if no new or increased sources of ground water quality contamination have been initiated in the interim. Thus, where such additional contamination has not occurred, a potentially regulated entity could generate data at the time of future implementation of the Interim Narrative Standard and thereby avoid application of the default standard.

Finally, the Commission notes that an implementing agency's application of the Interim Narrative Standard can essentially be "appealed" to the Commission by requesting a site-specific classification and standard-setting hearing, if necessary; e.g., if later data is not adequate to determine quality as of the effective date of the regulation, due to intervening developments. Any site-specific use classifications and numerical standards adopted by the Commission would then override and nullify application of the Interim Narrative Standard in that location. Of course, any such hearing before the Commission would be a "de novo" proceeding, in which the default presumption contained in subsection 3.12.5(2)(c) would carry no weight.

4. <u>Default Standard</u>

Subsection 3.12.5(2)(c) provided what has been characterized as a “default standard” that applied if there is inadequate information to determine or estimate existing ambient quality. The purpose of this provision is to avoid the gaps in application of the Interim Narrative Standard that would otherwise exist where available data is limited. This provision will also have the benefit of creating an incentive for potentially regulated entities to help supplement the current data base. The Commission believes that it is important for the Division to increase its efforts to generate additional ground water quality data. However, it would be unrealistic to assume that these efforts will immediately result in the generation of data in all locations.

Some parties argued that this provision will have the same effect as the original classification and standards proposal considered in this hearing—widespread application of domestic and agricultural table value standards—due to application of the default standard in the absence of current data. This is incorrect. As explained above, a potentially regulated entity can avoid application of the default standard by generating site-specific data, even subsequent to the effective date of this regulation. Therefore, there is not reason to expect that application of the default standard will result in unreasonably stringent regulation.

Some parties also argued that the application of section 3.12.5(2)(c) will inappropriately shift the burden of proof regarding appropriate classifications and standards to potentially regulated entities, by automatically applying the table values as standards if inadequate information is available. A fundamental purpose of the Interim Narrative Standard is to provide appropriate protection for Colorado's ground water quality resources prior to the time that more comprehensive information on quality and uses is available. The Commission has determined as a matter of policy that where existing information is limited, the interim standards should resolve any uncertainty in favor of protection.

5. <u>Remediation</u>

As discussed above, the purpose of subsection 3.12.5(2)(b) is to clarify that the Interim Narrative Standard being adopted does not address the issues of when remediation of existing ground water quality contamination is necessary or how much remediation is appropriate for any site-specific situations. This section does state an ambitious long-term cleanup goal, to emphasize that the Commission believes that improvement of ground water quality should be aggressively pursued. In response to comments by several parties, this provision has now been revised from the original alternative proposal to refer to remediation “to the maximum degree technically feasible and economically reasonable” . The Commission believes that this language is more consistent with the language of the Water Quality Control Act and represents appropriate policy. Although application of this goal to any particular fact situations is beyond the scope of this proceeding, the Commission notes that even very substantial expenditures may be “economically reasonable” when necessary to protect public health or important environmental resources. As indicated above, neither this goal or the Interim Narrative Standard are intended to prejudice the outcome of any subsequent classification and numerical standard-setting proceedings, or any remedial action determinations by applicable agencies.

Some parties expressed concern that the provisions being adopted could be interpreted to indicate that the Commission intends all naturally occurring contamination to be eliminated. This is not the Commission's intent. Again, the action taken here is not intended to prejudge the potential need for site-specific remediation in any particular circumstances. Moreover, if the Commission were requested to adopt site-specific classifications and standards that might be applicable to a remedial action, the Commission is mandated by section 25-8-203(2)(b) and 25-8-204(4)(e), C.R.S. to consider whether any contamination present results from natural sources.

Finally, the Commission notes that it believes that the provisions being adopted are responsive to concerns expressed by some parties that the Commission not adopt standards that would threaten the continued viability of agriculture in Colorado. The Interim Narrative Standard recognizes that past agricultural and other human activities have adversely impacted ground water quality, and does not mandate that such impacts be remediated. Of course, the Commission hopes that in many circumstances

improved quality will be achieved over time. With respect to agricultural activities, the starting point for efforts to control ground water quality impacts will be implementation of Senate Bill 90-126.

6. Water Rights

Numerous parties expressed concern that implementation and enforcement of the proposed ground water classifications and standards have the potential to cause material injury to water rights. Like the surface water standards, the interim narrative standard is not self-implementing. In the absence of separate implementing authority, and the exercise thereof, the adopted standard is not intended to have a regulatory impact upon the exercise of water rights, including, but not limited to, the withdrawal and use of surface water or ground water for irrigation or stock watering, the use of surface water or ground water in recharge, augmentation, substitute supply, or exchange plans, and the diversion, carriage, storage, or release from storage of surface water or ground water. Naturally, the implementation and enforcement of this standard must be in strict compliance with C.R.S. 25-8-104(1). This standard establishes a baseline upon which a ground water protection program will be based as implementing regulations are adopted. The Commission specifically acknowledges that at such time as proposals or regulations are advanced to implement this standard, those with an interest in water rights shall have the opportunity to contest such proposals or regulations, and no waiver of such right shall be inferred from the adoption of the interim narrative standard.

C. Site-Specific Classification

1. City of Brush Wellfield: The City of Brush, Colorado, provided testimony in support of the adoption of domestic use classifications and standards for the South Platte alluvium, but felt that the area of Brush's domestic wellfield was not properly delineated in the proposed rule. As an alternative, Brush supplied a legal description and map showing the extent of the aquifer supplying water to its wells, and a series of water sample data showing the high quality of its well supply. The Water Quality Control Division supported the alternative specified area, and none of the parties opposed the setting of domestic use and agricultural use classifications for Brush's wellfield.

   The Commission concluded that the evidence presented by Brush clearly showed the existence of the domestic use of water in the area specified, and that the Division's and other parties' testimony supported the adoption of the agricultural classification as well. Brush's data included in their rebuttal statement demonstrated that the ground water was of very good quality, well within table values for domestic and agricultural uses. Therefore, the specified area shown was classified and standards set according to the framework established in the Basic Standards for Ground Water.

2. Upper Black Squirrel Creek Alluvial Aquifer: The Upper Black Squirrel Creek Ground Water Management District (“District”) presented evidence in support of assigning the proposed classifications and standards to the alluvial ground water within the District's boundary. The District is charged with the responsibility of conserving, preserving, protecting and recharging the ground water of the basin, and sought assurance that classifications and standards would be adopted to protect the existing domestic and agricultural uses of the ground water. No testimony in opposition to the District's position was received. Therefore, the Commission concluded that the alluvial ground waters as shown on Figure 3a were suitable for classification as domestic use-quality and agricultural use-quality, with all standards included in Tables 1–4 of the Basic Standards assigned accordingly.

D. Follow-up Efforts

The Commission expects several associated activities to take place to complement the establishment of an interim narrative standard for the five specified areas. First, the Water Quality Control Commission intends to schedule a rulemaking hearing for approximately one year from now, to consider the adoption of water quality classifications and standards for ground water in the vicinity of public water supplies in

Colorado, to assure that these existing drinking water uses are protected. In that hearing, the Division would put forth its best available information regarding the identification of vulnerable ground water areas, using whatever reasonable assumptions may be necessary in the absence of detailed, site-specific geohydrologic information. The identification of these areas could be refined over time as better information became available, but this step would assure basic interim protection for those public water supplies in Colorado that rely on ground water. Local water purveyors would be involved in this process as they have been to date in the process of developing a state wellhead protection strategy. The identification of areas for these ground water quality classifications and standards would not be intended to prejudice the subsequent delineation of wellhead protection areas, as part of the program that the State is currently developing.

Second, site-specific ground water quality classification and standard-setting hearings would be held on an "as needed" basis. For example, if the Division felt that there were certain areas where there is extensive reliance on ground water for drinking water from private supplies, although no public water supply is present, such areas could be brought to the Commission for classification and standard-setting. If appropriate based on available information, such areas could be addressed in the same rulemaking hearing to consider ground water in the vicinity of public water supplies. In addition, the Commission will consider classification and standard-setting petitions submitted by any outside entities.

The Commission has decided not to adopt site-specific classifications and standards as a result of this hearing for those site-specific situations that were contested in this proceeding, such as Hog Farms/Equus and Arapahoe County/Aurora/Cherry Creek Basin Authority. These issues should be readdressed in subsequent site-specific hearings if it is determined that the interim narrative standard described above does not provide adequate protection, or that alternative numerical standards ought to be applied.

Third, the Division is requested to work with the various implementing agencies to develop Memoranda of Agreement, or revise existing MOAs, to address the question of how the existing statewide numerical standards for organics and radionuclides, the new interim narrative standard adopted as a result of this hearing, and any future classifications and numerical standards would be implemented by other agencies. The development or revision of these MOAs is not intended to interfere with or delay ongoing program development efforts by implementing agencies. Where regulatory actions by other agencies addressing implementation will be completed in the near future, new or revised MOAs may be unnecessary. As used here, "implementing agencies" refers to the Department of Agriculture as well as those agencies identified in Senate Bill 181, due to the provisions of SB 126. Of course, the Division itself also has an implementation role, in accordance with applicable discharge permit regulations and control regulations adopted by the Commission. The Ground Water Commission, while not an implementing subject to the legal provisions of SB 181, nonetheless ought to be consulted with in a manner similar to the other agencies noted above.

Fourth, the Division is requested to work with other state agencies and outside entities to develop proposals for enhancing the currently available ground water quality data base. This may include better integration of data currently generated from a variety of sources, as well as proposals for funding for developing more data in the future. In addition, this effort should consider whether additional monitoring requirements should be established for activities potentially impacting ground water quality. This effort should also take into account the need for improved information for more precise delineation of wellhead protection areas.

Fifth, the Division is request to develop a proposal regarding how the Commission and Division should proceed to address the goal of ground water quality improvement in currently contaminated areas. As stated in the interim narrative standard described above, the Commission has articulated a goal that, to the maximum degree feasible, contaminated ground water should be cleaned up to a degree that it is usable for all existing and potential beneficial uses. However, the interim narrative standard itself would not result in any progress toward that goal. Therefore, the Commission requests this effort by the Division to help assure such progress, and in particular to further assure that the interim "existing ambient quality"

standard being adopted here for contaminated areas is not interpreted as-or does not de facto become-a long-term acceptable result.

The Division is requested to proceed in a manner that provides for substantial public input as each of these efforts proceed. If these efforts indicate a need for revising the Basic Standards for Ground Water, or otherwise modifying the Commission and Division's approach to the ground water quality protection issue, the Division or any other interested entity could bring any such proposals to the Commission for consideration as they are developed.

PARTIES TO THE MAY 6 & 7, 1991 RULEMAKING HEARING FOR THE UNCONFINED GROUND WATER

1. City of Brush

2. Denver Southeast Suburban Water and Sanitation District

3. City of Arvada

4. City of Westminster

5. The Rio Grande Water Users

6. Colorado Cattle Feeders Association

7. CF&I Steel Corporation

8. Gates Corporation

9. The Ground Water Management Subdistrict of the Central Colorado Water Conservancy District

10. Climax Molybdenum Company

11. Waste Management of Colorado, Inc.

12. City of Ft. Collins

13. Kodak Colorado Division

14. Metro Wastewater Reclamation District

15. Public Service of Colorado

16. The Northern Colorado Water Conservancy District and the Municipal Subdistrict, Northern Colorado Water Conservancy District

17. National Hog Farms, Inc.

18. North Front Range Water Quality Planning Association

19. Goldsmith Metropolitan District

20. Meridan Metropolitan District

21. Arapahoe County Water and Wastewater Authority

22. Colorado Ground Water Association

23. Cherry Creek Basin Water Quality Authority

24. Cooley Gravel Company

25. Centennial Water and Sanitation District

26. Upper Black Squirrel Creek Ground Water Management District

27. City of Aurora

28. City of Colorado Springs Water Department

29. Colorado Mining Association

30. Conoco Inc.

31. Riverside Irrigation District

32. Rio Grande Water Conservation

33. East Cherry Creek Valley Water and Sanitation District

34. Estate of F.M. Houck

35. Adolph Coors Company

36. Jefferson Center Metropolitan District No. 1

37. Castles Pines Metropolitan District

38. Willows Water District

39. Equus Farms, Inc.

40. Martin Marietta Corporation

41. Union Oil Company of California

42. Shell Oil Company

43. Landfill, Inc.

44. Battle Mountain Resources, Inc.

45. ASARCO

46. "Lowry Coalition" Adolph Coors Co.; Asamera Oil (U.S.), Inc.; Conoco Inc.; The Gates Rubber Co.; Hewlett Packard Co.; Int Business Machines Corp.; City of Lakewood; Littleton-Englewood Bi-City Wastewater Treatment Plant; Metro Wastewater Reclamation Dist.; the S.W. Shattuck Chemical Co., Inc,; Sundstrand Corp.; and Snytex Chemicals, Inc.

47. Colorado State engineer, the State Board of Examiners of Water Well & Pump Installation Contractors and the Colorado Ground Water Commission

48. Robinson Brick Company

49. City and County of Denver

50. Parker Water & Sanitation District

51. S.W. Shattuck Chemical Co.

42.12 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE: MAY 3, 1993 HEARING ON SITE-SPECIFIC GROUND WATER CLASSIFICATION AND STANDARDS FOR 10 OF THE STATE'S LARGEST PUBLIC GROUND WATER SYSTEMS.

The provisions of C.R.S. 25-8-202(1)(a), (b)(i)(2) and (7); and 25-8-203; and 25-8-204 provide the specific statutory authority for adoption of these regulatory provisions. The Commission has also adopted, in compliance with C.R.S. 24-4-103(4), the following statement of basis and purpose.

BASIS AND PURPOSE

A. Overview

In accordance with the directive issued in the Statement of Basis and Purpose in the May 1991 hearing, the Commission has decided to proceed with classification of the specified areas surrounding 10 of the 20 largest community ground water systems in the state for domestic use-quality and agricultural use-quality, and to assign the ground water standards found in Table 1–4 of the “Basic Standards for Ground Water” to these areas. This action was taken to provide needed water quality protection for public drinking water supplies, it was not intended to impose significant changes or additional restrictions on ground water users.

B. Site-Specific Classifications and Standards Setting of the Specified Areas Surrounding 10 of the State's Largest Ground Water System

The Commission determined that the Division's proposal to classify the ground waters underlying the specified areas surrounding 10 of the state's 20 largest public ground water systems for domestic use-quality and agricultural use-quality, and to assign the water quality standards included in Tables 1–4 of the “Basic Standards for Ground Water” 3.11.0 (5 CCR 1002-8) was reasonable and consistent with the Commission's responsibility to protect ground water quality for beneficial use.

Site-Specific classification of the specified areas required information on the wells and the aquifer to develop a computer-generated model that delineates an area around the wells or wellfields. The information needed was furnished by the public water suppliers. The water found in the specified areas most directly influences the drinking water or agricultural wells, and therefore needs to meet the domestic use and/or agricultural use quality standards. This action, in combination with the assignment of the ground water standards, helps to ensure a safe, potable water supply.

The decision to add the agricultural use-quality classification was based on information that irrigation and stock watering wells were located and permitted within the specified areas. Therefore, it seemed important to protect the agricultural use through application of the agricultural table values as well as with those for potable use protection. It is anticipated that this action will provide protection of the ground water source, but will not alter or change the regulatory requirements of the Safe Drinking Water Act (SDWA).

As originally formulated, the ground water underlying the state's 20 largest community ground water systems was targeted for classification and standards setting. This number had to be reduced to 15 due to difficulties in assembling the data needed to generate the delineated areas with the degree of confidence desired. The number was reduced to 14 when the Commission and Division decided to withhold South Adams County Water and Sanitation District from consideration until a more thorough

evaluation could be done of the implications of including the Rocky Mountain Arsenal in the specified area to be classified to protect the District's drinking water source. Reconsideration of South Adams County W&SD will take place once this evaluation is completed.

The number was further reduced to 10 by the Commission in accordance with a request during the rulemaking hearing from the cities of Brighten, Fort Morgan, Fort Lupton, and Sterling in order to give those cities time to develop more data and obtain more support for the classification. Accordingly, the hearing date for those cities will be October 1994. The Commission anticipates publishing the Notice as the current Division proposal unless it is convinced otherwise in the interim.

Of the 14 systems proposed for classification and assignment of the table value standards, the largest, the City of Brighton and Willows Water District each serve approximately 14,000 residents, the smallest, Stratmoor Hills, serves 5,000. The total number served by the 14 systems is 128,610 people. After the deletion of the four northern cities, the total number served by the 10 remaining systems is 90,160 people. It should be noted that Cherokee Water and Sanitation District in eastern El Paso County numbers among the 20 largest systems but was omitted from the initial proposal because it is located in the Upper Black Squirrel Aquifer which was classified in September, 1991.

The specified areas to be protected were determined through the use of a modular, semi-analytical ground water flow model developed for the U.S. EPA Office of Ground Water Protection for use in the wellhead protection program. Referred to as the WHPA (Wellhead Protection Area) 2.0 model, its principal application has been to delineate wellhead protection areas around public ground water systems. The term wellhead protection area refers to the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to more toward and reach the well or wellfield.

The decision to use the wellhead protection concept was influenced by the fact that it is relatively easy to employ if necessary data elements are available; and the resulting delineated areas are accurate indicators of the surface and subsurface areas that must be addressed if the water source is to be protected. These specified areas are an approximation using the semi-analytical flow model to define the ground water area to be protected.

The introduction of this proposal and the data gathering efforts that support it fulfill the Commission's goal to adopt water quality classifications and standards for ground water in the vicinity of public drinking water supplies. This is viewed as an important step in protecting these drinking water supplies, and will be for the remaining ten public water systems and for others in the future.

It should be emphasized that these use classifications and standards assignments do not preclude holding public hearings to set site-specific classifications and numerical standards as the need for such arises. If new data is developed which points to a need to reconfigure any of the specified areas adopted herein, requests for site-specific hearings will, of course, be considered by the Commission.

The information generated in the course of developing this proposal will become part of the ground water quality data base. Efforts continue to verify and integrate the data collected and to use it in developing a comprehensive state ground water protection strategy. In addition, the information on wells and the potential contaminant threats to ground water quality will be evaluated as part of the overall wellhead protection strategy. A concerted effort will be made to work with local public water suppliers to proceed with wellhead protection measures as a means of providing long-term protection for their wells.

In the course of the hearing, the Division did alter, and in some cases, expanded, the shape of the specified areas to accommodate additional well data and water rights information from the affected suppliers. Although several parties supported such modifications, others questioned whether the notice was broad enough to encompass expansion of the specified areas. The purpose of this regulation as stated in the notice is to protect public drinking water supplies of certain identified public water systems from contamination. The Commission believes it is within the scope of the notice therefore to expand the boundaries of the specified areas to include all public drinking water wells and the areas that surround

these wells through which contaminants are reasonably likely to move toward and reach such well or wellfield. The Commission finds that there was adequate legal basis for those changes and believes that this rule, as adopted, is consistent with the subject matter as set forth in the notice, including the narrative portion of the notice.

The water quality data submitted by the Division and parties indicated that all but one of the subject systems is meeting drinking water standards at the tap with chlorination as the sole method of treatment. This evidence was sufficient to demonstrate that the water quality is adequate to meet the majority of primary and secondary drinking water standards as well as agricultural table value standards.

In promulgating this rule, the Commission recognizes that the current ambient water quality may not necessarily meet the table value standards at every point in the classified aquifers throughout the specified areas. However, given the Commission's statutory charge to protect, maintain and improve the quality to state waters, (see 25-8-101 et. seq.) and the evidence of use and potential use and the utilization of the model and Division mapping, including the five year time of travel factor applied, the Commission believes it is appropriate to proceed at this time to protect the identified uses by classifying and establishing table value standards.

IMPLEMENTATION

The Commission has authority to classify waters of the state and to promulgate water quality standards to protect those classified uses Under SB 89-181, the various implementing agencies will carry out the impact of this regulation. The WQCD has provided lists of various agencies which could use these regulations to implement their own programs.

During the hearing the Commission received testimony on how the Hazardous Materials and Waste Management Division may use this regulation as the basis for overly stringent clean-up requirements at the Lowry Superfund site and the Eagle Picher/Schlage Lock clean-up sites which it regulates that are located within or near specified areas included in this regulation. Although the Commission is concerned about how implementing agencies will use its regulations, the Commission points out that it is obligated to promulgate regulations that ensure that existing and potential uses of state waters are protected. Evidence in the record before the Commission indicates that the specified areas identified in this regulation all contain sources or potential sources of drinking water which, therefore, must be protected from contamination at appropriate levels. The Commission also received evidence that the Hazardous Materials and Waste Management Division has the authority to select more stringent clean-up standards than the standards adopted by the commission, thus any less stringent standard adopted by the Commission would likely not provide any relief to such affected dischargers. The Commission understands that the classifications and standards it selects for specified areas may impact clean-up requirements at sites regulated by the Hazardous Materials and Waste Management Division, nevertheless it believes that there is sufficient flexibility in setting points of compliance to accommodate specific implementation concerns.

At such time as any of the implementing agencies move forward with their own proposals, the Commission anticipates that parties to this rulemaking and other interested persons will have full opportunity to participate in the formulation of such implementation, and no waiver of such right shall be inferred from the adoption of this rule. The Commission also acknowledges that the setting of points of compliance during permitting should be done with flexibility that recognizes that recharge zones can be within the capture zone or specified area, and can be derived from more detailed modeling, since such modeling is an iterative process.

The Commission would note that the EPA model used to delineate the capture zones surrounding the public water supply wells or wellfields was developed to identify wellhead protection areas. Such areas are defined by federal statute as “the surface and subsurface area surrounding a water well or wellfield supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield” . In this rulemaking, the Commission is only classifying waters underlying the areas generated by the model and Division mapping.

The Commission does not intend to pre-judge whether any particular activity generates pollutants or contaminants which could impact ground water without adequate preventative methods. The Commission does however recognize that the adopted specified areas do represent the areas through which contaminants are reasonably likely to move toward and reach the subject wells.

The Commission also recognizes that these classifications are not intended to confer upon any public water supplier the right to exercise authority over the activities, uses or operations of any other public water supplier, except as may be otherwise permitted by law.

EAST CHERRY CREEK VALLEY WATER AND SANITATION DISTRICT AND WILLOWS AND CENTENNIAL GROUND WATER CLASSIFICATION AREA

The boundaries of these specified areas have been based on the existing uses and reasonably expected future uses of the groundwater. The reasonably expected future uses have been based on existing court decrees that authorize the withdrawal of the groundwater, the water providers' testimony that such groundwater will be withdrawn for such uses, and utilization of the Division's model and mapping methodology. The quality of the classified groundwater generally meets the table value numbers for the classified uses although there is evidence in the record demonstrating that not all of the table value numbers are being met at all points throughout the specified area. It is the Commission's intention that the above assumptions and evidence be taken into account when implementing any of the adopted classifications and standards.

WATER RIGHTS

Numerous parties expressed concern that implementation and enforcement of the proposed ground water classifications and standards have the potential to cause material injury to water rights. Like the surface water standards, these standards are not self-implementing. In the absence of separate implementing authority, and the exercise thereof, the adopted standards are not intended to have a regulatory impact upon the exercise of water rights, including, but not limited to, the withdrawal and use of surface water or ground water for irrigation or stock watering, the use of surface water or ground water in recharge, augmentation, substitute supply, or exchange plans, and the diversion, carriage, storage, or release from storage of surface water or ground water. Naturally, the implementation and enforcement of these standards must be in strict compliance with C.R.S. 25-8-104(1). The Commission specifically acknowledges that at such time as proposals or regulations are advanced to implement these standards, those with an interest in water rights shall have the opportunity to contest such proposals or regulations, and no waiver of such right shall be inferred from the adoption of these standards.

PARTIES TO THE APRIL 5, 1993 RULEMAKING HEARING FOR CONFINED AND UNCONFINED GROUND WATER

1. South Adams County Water & Sanitation District

2. Mission Viejo Company

3. The Vail Valley Consolidated Water District

4. Central Colorado Water Conservancy District & Ground Water Management Subdistrict of the Central Colorado Water Conservancy District

5. The Lower South Platte Water Conservancy District

6. The City of Brighton

7. City & County of Denver

8. Schlage Lock Company

9. Metro Wastewater Reclamation District

10. Waste Management Disposal Services of Colorado, Inc.

11. South Suburban Park & Recreation District

12. Willows Water District/East Cherry Creek, City of Fountain, Security Water & Sanitation District, Stratmoor Hills Water District & Widefield Homes Water Company

13. Eagle-Picher Industries, Inc.

14. The City of Englewood

15. The City of Thornton

16. The City of Colorado Springs

17. The Centennial Water & Sanitation District

18. Fort Morgan Reservoir & Irrigation Company

19. The City of Federal Heights

20. Northern Colorado Water Conservancy District & Municipal Subdistrict

21. Cherry Creek Basin Water Quality Authority

22. Parker Water & Sanitation

23. The City and County of Denver

24. Board of County Commissioners of Arapahoe County

25. The Lowry Coalition

26. The Colorado Ground Water Association

27. The City of Ft. Lupton

28. Goldsmith Metropolitan District

29. Meridian Metropolitan District

30. Douglas County

42.13 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE: DECEMBER 7, 1993 HEARING ON STATEWIDE APPLICATION OF THE INTERIM NARRATIVE STANDARD FOR GROUND WATER

The provisions of C.R.S. 25-8-202(1)(b)(2) and (7) and 25-8-204 provide the specific statutory authority for adoption of these regulatory provisions. The Commission has also adopted, in compliance with C.R.S. 24-4-103(4), the following statement of basis and purpose.

BASIS AND PURPOSE

A. Overview

In the continuing effort to ensure that the state's ground-water reserves remain viable for beneficial use, the Water Quality Control Commission has expanded application of the interim narrative standard, adopted in September, 1991 and applied to five select aquifer systems, to all ground waters of the state to which standards have not previously been assigned. In taking this action, the Commission has exempted those aquifers in which the total dissolved solids (TDS) are equal to or exceed 10,000 mg/l. The Commission does not intend to preempt any agency's independent statutory authority to protect ground water. In those areas where the TDS equal or exceed 10,000 mg/l, the statewide standards for radioactive materials and organic pollutants established in section 3.11.5C of the basic standards for ground water shall apply.

The exemption for high levels of TDS was included in recognition of the fact that currently, these waters could not be recovered for beneficial use within reasonable economic cost.

At the time the interim narrative standard was adopted in September, 1991, application was limited to the five regional aquifer systems due to the constraints of the public notice which had specified the aquifer systems to which the Division's original proposal (May 1991) would apply. In the Basis and Purpose Statement developed for the interim narrative standard, the Commission recognized that it may be appropriate to consider adoption of the interim narrative standard for ground water elsewhere in the state at a subsequent time (Subsection 3.12.11 B.1.). As a result of this rule, the unconfined ground water in the five regional aquifer systems continues to enjoy the protection of the INS. In addition, the INS will also apply to the confined ground waters in those aquifers as well as other ground waters in the state. January 31, 1994, the effective date for statewide application of the INS replaces October 30, 1991, and applies to all confined and unconfined ground water in the state including the five regional aquifers addressed in the original INS hearing. With statewide application of the INS, the five figures depicting the regional aquifers to which the INS applied prior to statewide application, has been deleted from the regulation as they are no longer needed.

In the two years since its adoption, the interim narrative standard has been very effective in protecting the ambient quality of the state's ground-water reserves and preventing further deterioration. Expansion of the concept statewide will ensure that the remainder of the state's ground-water supplies are similarly protected until more appropriate site-specific use classifications and standards can be adopted.

B. Background and Rationale

The interim narrative standard (INS), adopted by the Commission in September, 1991, established a process to arrive at numeric standards for five (5) specific aquifer systems within the state. The intent of the regulation was to maintain ground-water quality in aquifers not yet contaminated, and to prevent further deterioration from human-induced pollution where contamination has occurred. It is important to note that it was not designed to prevent or control naturally occurring pollution.

In adopting the INS, the Commission made clear that the intent was to foster clean up of ground water contaminated by human activities to the maximum degree technically feasible within reasonable economic limits. The stated goal of clean up is to make the ground water useable for all existing and potential beneficial uses. The Commission further indicated that the intent of the INS is not to define the limits of remediation, but instead to ensure that a contaminated area will be stabilized or will improve (Subsection 3.12.5 (b). The INS defines the protection provided unless and until replaced by site-specific use classifications and numerical standards at another time.

The growing number of people in the state who rely on ground water as a source of drinking water and for other beneficial uses prompted the Commission to consider expanding the application to all ground waters of the state. The statistics maintained by the Drinking Water Section of the WQCD indicate that

there are currently 532 public water systems in the state relying entirely on ground water serving approximately 428,000 residents.

The numbers of people at risk are one indication of the need to protect ground water as a drinking water source. The growing incidences of ground water contamination are another. Expansion of the interim narrative standard allows the Commission to meet its statutory responsibility to protect ground water until more complete information is available to establish site-specific standards.

C. Implementation

Implementation of the interim narrative standard statewide will essentially be the same as it has been on a regional basis. The appropriate implementing state or local agency will use the best information available to determine or "estimate" existing ambient quality to make determinations regarding points of compliance, issuing permits, and taking remedial actions. Where this information is inadequate or unavailable, these agencies will rely on best professional judgment to determine existing ambient quality.

D. Default Standard

The interim narrative standard provides for a default standard that applies if there is inadequate information to determine or estimate existing ambient quality. The default standard is that quality which meets the most stringent criteria set forth in Tables 1 through 4 of the "Basic Standards for Ground Water" . As stated in the 1991 statement of basis and purpose, and restated here for clarity, "the Commission has determined as a matter of policy, that where existing information is limited, the interim narrative standard should resolve any uncertainty in favor of protection. For this statement, the Commission fully incorporates this policy as well as all other applicable information contained in the 1991 statement of basis and purpose for the interim narrative standard."

A potentially regulated entity can avoid application of the default standard by generating site-specific data, even subsequent to the effective date of the regulation. The ambient quality established then becomes the standard for all appropriate regulatory purposes through the implementing agencies. If the regulated entity feels that an implementing agency is improperly determining or applying ambient quality-based standards, it can petition the Commission for a site-specific rulemaking hearing.

E. Remediation

As with regional application, statewide expansion of the interim narrative standard does not address the issues of when remediation of existing ground water quality contamination is necessary, or how much remediation is appropriate for any site-specific situations. These determinations are established in state and federal law, and are made by the appropriate regulatory agencies responsible for implementing these laws. In expanding the INS to all ground waters of the state, the Commission provides the implementing agencies with guidelines to make regulatory decisions.

Although the INS is not self-implementing, and does not in and of itself require remediation of polluted ground water, it is important to reiterate that the Commission's stated intent is to foster and encourage clean up of contaminated ground water to the maximum degree technically feasible and economically reasonable. (The exemption of ground water equal to or in excess of 10,000 mg/l is compatible with this position).

F. Water Rights

The statutory prohibitions regarding impairment to water rights contained in 25-8-104 are not compromised with this rule. Any lawful right to withdraw and beneficially use ground water will not be affected by this narrative standard because its purpose is to provide a foundation for controlling discharges to the ground water, not withdrawals. Recharge or augmentation plans will have to consider the quality of the recharge water similar to the current requirements of the State Engineer's Office, so this

rule does not change that previous requirement. Ultimately, this rule should protect and enhance the value of water rights since its purpose is to maintain a level of quality that supports the beneficial uses to which the water will be applied.

PARTIES TO THE RULEMAKING HEARING

1. La Plata County and Board of County Commissioners

2. Arapahoe County Water and Wastewater Authority

3. ASARCO Inc.

4. Paramount Communications Inc.

5. Martin Marietta Corporation

6. Basalt Water Conservancy District

7. Colorado Mining Action Project

42.14 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE: JUNE 7, 1994 HEARING ON SITE-SPECIFIC GROUND WATER CLASSIFICATIONS AND STANDARDS FOR 18 PUBLIC GROUND WATER SYSTEMS

The provisions of C.R.S. 25-8-202; 25-8-203; 25-8204 provide the specific statutory authority for adoption of these regulatory provisions. The Commission has also adopted, in compliance with C.R.S. 24-4-103(4), the following statement of basis and purpose.

BASIS AND PURPOSE

A. Background

With this hearing, the Commission continues its efforts to protect the ground water used by 18 select public water systems for domestic and agricultural uses. Protection is provided through the assignment of use classifications and the corresponding water quality standards found in Tables 1–4 of the “Basic Standards for Ground Water” 3.11.0 (5 CCR 1002-8) to all confined and unconfined ground water underlying or influencing the wells serving the public water systems cited in the public notice and the rule.

The public water systems (PWSs) that are the subject of the hearing all rely exclusively on ground water as a source of drinking water. The Division's original proposal for this hearing included 22 public water systems. Four systems were dropped from consideration at this hearing, these were Cottonwood and Parker Water and Sanitation Districts (Douglas County), the Town of Meeker (Rio Blanco County), and Winter Park West Water and Sanitation District (Grand County).

At the request of Lincoln Park Metropolitan District, the proposed classification and standards setting of the ground water underlying the Cottonwood and Parker Water and Sanitation Districts' wellfields was postponed until December, 1995. The postponement was granted by Commissioner Laura Davis, the hearing chair, to allow for a ground water quality study which is expected to better define the ambient quality of the ground water proposed for classification.

Commissioner Davis also agreed to the request for postponement submitted by the Town of Meeker. Classification of the Town's wellfield was rescheduled for November, 1994 to allow for additional time to review and evaluate the proposed classified area for the town's wellfield. Winter Park West Water and Sanitation District was dropped from consideration at the June 7, 1994 hearing due to an error in

calculating the resident population served by the District. Had the correct number been used, the District would not have been included in this round of classifications.

Modifications to the boundaries proposed by the Division for Denver Southeast Suburban Water and Sanitation District, Morgan County Quality Water District, Northern Colorado Water Association and the City of Glendale and Cherry Creek Valley Water and Sanitation District were made at the request of the systems, with the concurrence of the interested parties.

The name of the specified area for the City of Glendale's wellfield was changed to “City of Glendale and Cherry Creek Valley Water and Sanitation District Ground Water Classification Area” at the request of the Cherry Creek Valley, with the concurrence of Glendale and the Division.

Records maintained by the Drinking Water Section of the Water Quality Control Division indicate that in 1993, collectively, the 18 PWSs provided drinking water to 66,839 Colorado residents. Compliance records indicate that most of the systems consistently meet the Safe Drinking Water Act requirements for the delivery of potable water at the tap with chlorination as the sole means of disinfection. This is an indication that the water source is of good quality. The Commission concluded that classification and the assignment of standards would help to ensure long term protection of the ground water as a drinking water source.

The aquifer settings included in the proposal cover all examples found in Colorado, i.e. confined, unconfined and fracture-flow. By assigning the use classifications and standards to those portions of the aquifers with documented drinking water and agricultural uses, the Commission sought to protect the uses from undue pollution.

B. Site-Specific Classification and Standards Setting of Public Water Systems

Site-specific classification of ground water begins with the identification of the use of the water. In this instance, and that of the previous site-specific hearing in May, 1993, the identified uses are domestic and agricultural. The agricultural use-quality classification was included in the proposal based on information that irrigation and stock watering wells were frequently identified within the specified areas. The corresponding water quality standards, found in Tables 1 through 4 of the “Basic Standards for Ground Water” 3.1..0 (5 CCR-1002-8), are designed to protect the uses.

The agricultural use classification was dropped for the Park Center Water District in Fremont County when formal verification of the uses indicated that there was no actual or potential agricultural use in the vicinity of the wellfield.

The specified areas to which the use classifications and standards apply were determined through the use of a semi-analytical ground water flow model (WHPA Model 2.1) developed for use in the wellhead protection program. The specified areas represent the zone of influence from which the water is drawn for beneficial use and are determined by assembling information on the well(s) and the aquifer. Examples of data used to generate the specified areas include the location and pumping rate of the wells, hydraulic conductivity and saturated thickness of the aquifers, the direction of flow and recharge or discharge areas. The areas delineated by the computer as influencing the wells are then projected to the surface and parameters are drawn on 7.5 minute maps to outline the specified areas earmarked for classification. The configurations vary and depend on the hydrologic factors present.

C. Implementation

The use classifications and standards adopted by the Commission for the specified areas around the 18 public water systems addressed in the hearing serve as the basis for permitting and remedial actions undertaken by various local, state and federal regulatory agencies responsible for protecting ground water. Application of the classifications and standards is triggered by these actions; the regulation in and of itself is not self-implementing.

D. Water Rights

The classification and standards regulation serves as a means of protecting the ground water and by law, cannot interfere with the exercise of water rights (Colorado Water Quality Control Act, C.R.S. 25-8-104(1).

PARTIES TO THE RULEMAKING HEARING

1. Northern Trust and Robert J. Seyfried
2. Cherry Creek Valley Water & Sanitation District
3. Inverness Water & Sanitation District
4. Denver Southeast Suburban Water & Sanitation District
5. Yellow-Jacket Water Conservancy District
6. Board of County Commissioners of Rio Blanco County
7. Town of Meeker
8. City of Ft. Collins
9. Lost Creek Land & Cattle Company
10. Northern Colorado Water Association
11. Stroh Ranch Development Limited Partnership
12. Lincoln Park Metropolitan District
13. Parker Water & Sanitation District
14. Cottonwood Water & Sanitation District
15. Morgan County Quality Water District

42.15 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE: NOVEMBER 15, 1994 HEARING ON SITE-SPECIFIC GROUND WATER CLASSIFICATIONS AND STANDARDS FOR 9 PUBLIC GROUND WATER SYSTEMS

The provisions of C.R.S. 25-8-202; 25-8-203; 25-8204 provide the specific statutory authority for adoption of these regulatory provisions. The Commission has also adopted, in compliance with C.R.S. 24-4-103(4), the following statement of basis and purpose.

BASIS AND PURPOSE

A. Background

The public water supply systems considered for classification and standards setting include four (Brighton, Fort Lupton, Fort Morgan and Sterling) on which the Commission delayed final action following the May, 1993 site-specific ground water classification hearing. The specified areas proposed for classification for three of these systems (Fort Lupton, Fort Morgan and Sterling) were developed by the "Northern Group" a consortium of the four cities and three area Water Conservancy Districts (Northern

Colorado, Central Colorado, and Lower South Platte). The specified area for the City of Brighton was developed by an independent consultant.

The Commission agreed to delay the classification of the four wellfields for eighteen months. The additional time was requested to allow the Northern Group to develop the specified areas for classification using a model and database which they argued would provide more accurate specified areas and consequently greater confidence. The Northern Group also indicated that the additional time was needed to explain the proposal to municipal officials and area agricultural interests, and to seek their understanding, support, and concurrence.

The Commission directed the Northern Group to return for a hearing in the fall of 1994 with alternative specified areas for consideration. If alternatives for the four systems were not forthcoming, the Commission indicated that the Division's classification proposals for the four public water systems would be re-introduced for consideration.

Classification of the Town of Meeker's wellfield was delayed from the June 7, 1994 hearing on site-specific ground water classifications to allow the Town and the Rio Blanco County Commission to collect additional data to support revising the figure indicating the specified area. The Commission agreed to delay consideration until November, 1994.

The figure indicating the specified area for the Town of Meeker's wellfield was developed initially by the Division using the WHPA 2.1 semi-analytical model.

The specified area for the San Arroyo Creek Basin of the Morgan County Quality Water District's wellfield was developed by an independent consultant and reviewed and concurred with by the Division. The specified areas for the Towns of Eckley, Las Animas and Haswell were developed by the Division using the wellhead protection area or WHPA 2.1. Model developed for the U.S. EPA for use in delineating WHPAs for the wellhead protection program.

Participation in the hearing by the Town of Las Animas was solicited by the Division as it was to have been included in the two previous site-specific hearings and was unable to for a variety of reasons. The remaining systems (Eckley, Haswell, and Morgan County Quality Water) approached the Division independently seeking assistance and/or concurrence to have their wellfields classified.

The specified area for the Town of Eckley covers an area five miles upgradient of the Town's wells. The expanded area, considerably larger than the five year time of travel usually recommended by the Division, was developed at the request of Town's Board of Trustees.

All of the public water systems considered for classification at this hearing rely on ground water as a source of drinking water, and in the aggregate provide drinking water to 45,361 Colorado residents. Compliance records maintained by the Division's Drinking Water Section indicate that the systems that are the subject of this hearing consistently meet the Safe Drinking Water Act requirements for the delivery of potable water at the tap with chlorination as the sole means of disinfection. This is an indication that the ground water resource is of relatively good quality, and worthy of the protection provided by classification and standards setting.

B. Site-Specific Classification and Standards Setting of Public Water Systems

Site-specific classification of ground water begins with the identification of the use of the water. In this instance, and those of previous site-specific hearings, the identified uses are domestic and agricultural. Both uses have been documented through the well records maintained by the State Engineer's Office. The corresponding water quality standards, found in Tables 1 through 4 of the “Basic Standards for Ground Water” 3.11.0 (5 CCR-1002-8), are designed to protect the uses.

The specified areas for the Northern Group cities of Fort Lupton, Fort Morgan and Sterling, to which the use classifications and standards are to apply, were determined through the use of the new “wellhead analytic element model” . Referred to as the WhAEM Model, it is a steady state ground water flow model designed to delineate capture zones for the wellhead protection program. It allows modeling of all features which influence ground water movement and is therefore very suitable for application to the varying hydrogeological situations found in Colorado.

Data used by the Northern Group in the WhAEM Model to determine the specified areas included: location and seasonal pumping rates of the cities' wells and the surrounding irrigation wells; aquifer properties such as hydraulic conductivity, thickness, and soil porosity; location and amount of ditch seepage and deep percolation of on-farm irrigation practices; and the location and elevation of constant head boundaries such as rivers and reservoirs. The WhAEM Model uses the data input to create water table contour plots which are compared to existing USGS data bases to verify that the model is calibrated, this is an important feature in gaining acceptance and confidence in the model.

The WhAEM Model is being developed for the U.S. EPA, and once completed, will supplement use of the semi-analytical WHPA 2.1 Model in the development of wellhead protection areas. Selection of an appropriate model in developing wellhead protection areas or areas for classification will generally be determined by the hydrogeologic conditions present in the subject aquifer.

WhAEM is based on the superposition or adding together of separate analytical functions that describe different features that effect ground water flow. WhAEM has functions or elements for well pumping, canal seepage, irrigation and rain infiltration, and river and reservoir gains or losses to the ground water aquifer. WhAEM can model numerous wells, canals, rivers and irrigation systems with the data input to WhAEM based on the x, y map coordinates of the elements. WhAEM also has the option of using digitized map files as input through its graphical pre-processor, GAEP.

WhAEM separates capture zones into subzones characterized by different sources of water. For example, WhAEM displays how much water to a well comes from each of multiple sources such as a river, canal, and irrigation infiltration. WhAEM plots time related capture zones with any time increment. WhAEM can display 30 day increments out to 300 days or 1 year increments out to 5 years (time increment used for Northern Group modeling) or any other combination. The WhAEM output can also zoom in on a specific part of the aquifer to display water table contours and capture zones in detail.

With its versatility and flexibility for incorporating numerous hydrogeologic features and interactions, WhAEM provides the tool needed to investigate future water management alternatives for the protection of the subject wellfields. Proposed recharge areas can be modeled to determine whether the localized ground water mounds from this recharge can keep pollutants away from wells.

The specified area for the City of Brighton was developed independently using the USGS Modflow Model. Two of the Conservancy Districts working with the Northern Group provided the consultant working with Brighton irrigation well pumping and canal seepage data in the Brighton area.

The WHPA 2.1. Model was used to develop the specified areas for the Towns of Eckley, Las Animas and Haswell, and to verify the figure proposed for the Morgan County Quality Water District. This model was also applied in developing the initial figure for the Town of Meeker's wellfield.

The Division used the modular, semi-analytical ground water flow model to define the areas specified for classification. The wellhead protection area or WHPA 2.1 Model was designed to assist the state and local technical staff with the task of wellhead protection area (WHPA) delineation. The model is PC-based and very user friendly.

The WHPA Model can be divided conceptually into two major sections. The computational section contains the Fortran programs that compute the capture zone(s) for a given physical scenario. All of the

“number crunching” is performed by these computational modules. The second section of the WHPA model is the user-interface. The interface provides for data entry and review of the results.

The WHPA model contains four independent computational modules used to delineate capture zones. Three of the modules contain semi-analytical capture zone solutions that allow for a variety of simulated circumstances. Available aquifer types covered include confined, leaky-confined, and unconfined with areal recharge. The fourth module is a general particle tracking module that may be used as a postprocessor for two-dimensional numerical models of ground water flow. In developing the specified areas for the site-specific ground water classification proposal, the Division relied most heavily on two of the four computational modules available through the WHPA Model; namely the General Particle Tracking (GPTRAC) module and the Multiple Well Capture Zone (MWCAP) module.

GPTRAC delineates time-related capture zones for pumping wells in homogeneous aquifers with steady and uniform ambient ground water flow. The aquifer may be of infinite areal extent, or may be bounded by one or two (parallel) streams and/or barrier boundaries. The effects of well interference are accounted for. It also delineates time-related capture zones around pumping wells for steady ground water flow fields.

The Division selected a five year time of travel (TOT) as it was recommended in the state wellhead protection plan as an adequately protective timeframe for the majority of Colorado's aquifers. Time of travel refers to the time required for ground water to move through saturated strata (the aquifer) from a specific point to a well.

MWCAP delineates steady-state time-related (5 years), or hybrid capture zones for pumping wells in homogeneous aquifers with steady and uniform ambient ground water flow. The aquifer may be infinite in areal extent or the effects of nearby stream or barrier boundaries can be assessed. If multiple wells are examined, the effects of well interference are ignored.

There are two major assumptions common to both of the computational modules used. The first is that the aquifer is at steady state. “Steady state” is an idealization of the dynamic conditions that exist in the aquifer and the well during ground water withdrawal. The second assumption is that flow in the aquifer is horizontal (two dimensional in areal view).

The WHPA Model was run using information supplied by the public water systems and by the Division. Typically this consisted of (a) well logs, which contain the well location, geologic log, the well diameter, the length of the perforated casing, and the production rate in gallons per minute; (b) transmissivity; (c) porosity; (d) ground water gradient; and, if available, (e) the aquifer boundaries. If the public water system was unable to provide the information in (b) through (e), the Division consulted references such as the U.S. Geological Survey's Water Supply Papers, investigation series maps, open file reports and hydrologic atlases.

C. Implementation

The use of classifications and standards adopted by the Commission for the specified areas surrounding the nine public ground water systems indicated in figures 29 through 37 serve as the basis for permitting and remedial actions undertaken by various local, state and federal regulatory agencies responsible for protecting ground water. Application of the classifications and standards is triggered by these actions; the regulation in and of itself is not self-implementing.

D. Water Rights

The site-specific classification and standards regulation serves as a means of protecting the ground water and by law, cannot cause material injury to water rights (Colorado Water Quality Control Act, C.R.S. 25-8-104(1)).

E. Public Outreach Efforts

The Division and the Northern Group both worked diligently to explain the classification proposal, the modeling, and to educate and gain support for ground water classification and protection.

The Northern Group met individually in March, 1994, with the cities of Fort Lupton, Fort Morgan and Sterling to obtain data on the wells, A meeting with the Division was held in April to explain the modeling approach and the progress to date.

In May, 1994, the Northern Group met with the Weld County Commissioners to explain the ground water classification requirements. The Commissioners were interested in the potential implications on land use, and in the City of Fort Lupton's proactive involvement in managed recharge to protect ground water quality.

In June, the Northern Group presented the results of the modeling efforts to the Fort Lupton Water Board and City Council, and received a very favorable response. As a follow up, the City plans to join with the three Conservancy Districts to apply for a Section 319 non-point source grant to implement a managed artificial recharge project to protect alluvial ground water. This effort is expected to be an example and demonstration for other ground-water dependent communities.

Similar meetings to present the modelling results and explain the classification process are scheduled in early July before the Fort Morgan and Sterling City Councils.

The Division's outreach efforts included meeting with the consultant for the Morgan County Quality Water District to explain the process, and numerous phone contacts with the systems not represented in the Northern Group to explain the process and respond to questions. The Division made a presentation to a joint public meeting of the Town of Meeker and the Rio Blanco County Commission on July 12, 1994 to review and explain the classification proposal for the Town's wellfield, and to respond to questions.

PARTIES TO THE RULEMAKING HEARING

1. Metro Wastewater Reclamation District

2. Town of Meeker

3. Board of County Commissioners of Rio Blanco County

4. Northern Colorado Water Conservancy District and Municipal Subdistrict

5. Ft. Morgan Reservoir & Irrigation Company

6. Central Colorado Water Conservancy District & Ground Water Management Subdistrict of the Central

7. Lower South Platte Water Conservancy District

8. City of Ft. Lupton

9. Town of Eckley

10. City of Brighton

42.16 <u>STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE: SEPTEMBER 11, 1995 SITE-SPECIFIC HEARING ON GROUND WATER CLASSIFICATIONS AND STANDARDS FOR THE SOUTHWEST WATER PROTECTION AREA, KIT CARSON COUNTY</u>

The provisions of C.R.S. 25-8-202(1)(a), (b) and (2); 25-8-203; and 25-8-204 provide the specific statutory authority for adoption of these regulatory provisions. The Commission has also adopted, in compliance with C.R.S. 24-4-103(4), the following statement of basis and purpose.

BASIS AND PURPOSE

The request to classify the ground water in the southwest water protection area of Kit Carson County was brought to the Commission by a group of area residents. This was the first time that citizens had sought site-specific classification of ground water in Colorado. Previous to this occasion, requests for classification have come through the Division on behalf of public water suppliers, or, in a few instances, from the suppliers themselves. The key issues addressed at the hearing included (1) the need for classification, recognizing the current interim narrative standard which applies statewide, (2) the appropriate level for a nitrate standard in the specified area, and (3) the size and configuration of the specified area.

The Commission determined that the ground water underlying the area indicated in Figure 38 is relied upon for domestic and agricultural uses, based on information regarding existing wells in the area. The Commission accepted the boundaries of the specified area as proposed. The Commission agreed to classify the area rather than rely solely on the interim narrative standard for protection. The “interim” standard was always intended to be just that—an interim protection measure until adequate information is available to warrant the adoption of site-specific classifications and standards.

Ground water quality monitoring by Midwest Farms and by the citizen group requesting this hearing indicates ground water quality in the area in question currently meets or is better than that specified by table value criteria for agriculture and domestic uses. The nitrate levels for samples taken to date, in particular, were considerably below the table value of 10 mg/l. The citizen group argued that the nitrate standards should be set close to current levels to prevent future degradation and argued that the table values were not adequately protective of human health. They requested that the Commission establish a standard of 4.25 mg/l for nitrate within the specified area. Midwest Farms argued that the 10 mg/l standard for nitrate was established by the EPA and had been applied consistently in prior ground water classification hearings. The Water Quality Control Division supported the table value standard for nitrate, and agreed that potential changes to the table values were more appropriately addressed in a hearing on the Basic Standards for Ground Water.

The Commission deliberated at length on the appropriate level for the nitrate standard, and determined that it would not be appropriate to assign a standard lower than the table value as a result of this hearing. Data regarding current nitrate levels in the area in question is limited. Moreover, the alternative proposal raises important statewide policy issues that should be considered in a broader hearing.

In spite of the extensive discussion in this hearing regarding a proposed Midwest Farms swine production facility in the area, the Commission notes that the purpose of this hearing was to determine whether ground water quality classifications and standards should be adopted; not to determine whether the Midwest Farms operation should be allowed or what controls may be appropriate for such operation. The Commission encourages Midwest Farms, the area residents and the Water Quality Control Division to work cooperatively to put in place an effective waste management plan and ground water monitoring program that would provide adequate forewarning of any changes in soil or ground water quality to ensure the protection of ground water quality in the area.

PARTIES TO THE RULEMAKING HEARING

1. Betty and Doug Hillman

2. Midwest Farms, Inc.

42.17 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE: DECEMBER 11, 1995 HEARING ON CHERRY CREEK BASIN CLASSIFICATIONS AND STANDARDS

The provisions of C.R.S. 25-8-202; 25-8-203; 25-8-204 provide the specific statutory authority for adoption of these regulatory provisions. The Commission has also adopted, in compliance with C.R.S. 24-4-103(4), the following statement of basis and purpose.

BASIS AND PURPOSE

A. Background

Initially, this hearing was to consider classifications and standards for the ground water underlying the wellfields of the Cottonwood and Parker Water and Sanitation Districts. These two systems were part of a group classified in June, 1994, however they were removed from consideration at the request of the Lincoln Park Metropolitan District for reconsideration in December, 1995 pending conclusion of a ground water study. The study in question is being sponsored by the Cherry Creek Basin Water Quality Authority and is designed to develop baseline water quality data in the upper Cherry Creek Basin (from Castlewood Canyon to Cherry Creek Reservoir). The study began in August, 1994, and was to conclude in July, 1995. Due to a myriad of circumstances, the Commission learned in July, 1995, that an additional year would be needed to complete the study and analyze the results.

In negotiations with the Water Quality Control Division, which had advanced the original classification proposal for the two public water systems, the proponents for postponing the December, 1995 hearing until the study could be completed, agreed instead to support going forward with the hearing provided the standards were applied on an interim basis until the study is completed. At that time the Commission will re-consider the standards, based on the outcomes of the study, and use this information in determining the adoption of permanent standards. The Division asked that specific constituents be added to the study for the final year, these included gross alpha, metals and e. coli bacteria. The addition of these constituents and the sampling schedule for them was to be approved by the Cherry Creek Basin Water Quality Authority.

It was also agreed that the area considered for classification in the December, 1995 hearing would expand from the wellfields of the two public water systems (Cottonwood and Parker), as originally proposed, to include the alluvial aquifers and their tributaries, and the Denver Basin aquifers located in the upper Cherry Creek Basin. This is an area, as illustrated in Figure 39, that encompasses portions of El Paso, Douglas and Arapahoe counties. The Commission determined that site-specific classification was important to ensure the protection and preservation of the ground water in an area undergoing abnormally high residential and commercial development.

B. Adoption of Ground Water Classifications and Standards

The action requested of the Commission was to classify the area specified in Figure 39 for “domestic use-quality” , and “agricultural use-quality.” The standards that are appropriate to protect these two use classifications are those found in Tables 1 through 4 of “The Basic Standards for Ground Water 3.11.0 (5 CCR 1002-8).

The Commission decided that it was appropriate to adopt the Table Value standards as interim standards in view of the ongoing study in a portion of the specified area which could result in proposed ambient-based standards in a subsequent rulemaking. The Commission noted that it expected these interim standards to function as the foundation for any regulatory decisions that might be made affecting ground water in the specified area in that interim between this action and any future rulemakings on the permanent adoption of standards.

The Commission also adopted these interim standards as applicable to all ground waters underlying the specified area proposed in the public notice, alluvial ground waters as well as those contained in the Denver basin aquifers.

Written testimony submitted by one group of parties asserted that these classifications and standards may cause significant additional investment in treatment plants and monitoring requirements, and that irrigation use could be restricted if the proposed classifications and standards were implemented. The Division and others responded that such effects were highly unlikely since there already were reasonable limits in place in the discharge permits for existing dischargers based upon the narrative standard (Tables 1–4, Basic Standards, as criteria), and that statutory prohibitions against injuring water rights via water quality regulation would fully protect against the fear that irrigation with raw water might be restricted in some manner. At the hearing, the parties that raised these issues indicated that their concerns had been addressed.

Finally, a party requested clarification on whether the interim organic standards in Table A of the Basic Standards for Ground Water, 3.11.5 (5 CCR 1002-8), continue to apply to the specified areas classified in this hearing. Under that section, the organic standards in Table A are in effect statewide unless replaced by site-specific standards for the listed organics. The standards adopted by the Commission in this hearing do not include site-specific standards for organics. Therefore, Table A continues to apply to the specified areas.

PARTIES TO THE RULEMAKING HEARING

1. Cherry Creek Basin Water Quality Authority

2. Cottonwood Water and Sanitation District

3. Castle Pines North Metropolitan District

4. The Douglas County Water Resource Authority

5. The Meridian Metropolitan District

6. The Goldsmith Metropolitan District

7. Arapahoe County Water and Wastewater Authority

42.18 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE (1996 REVISIONS)

The provisions of section 25-8-202(1)(a), (b) and (2); 25-8-203; and 25-8-204; C.R.S., provide the specific statutory authority for adoption. The Commission also adopted, in compliance with section 24-4-103(4) C.R.S., the following statement of basis and purpose.

BASIS AND PURPOSE:

This hearing was held to consider changes recommended in the triennial review informational hearing for the ground water standards and classifications regulations “The Basic Standards for Ground Water” 3.11.0, and “The Classifications and Water Quality Standards for Ground Water” 3.12.0. With a few exceptions, the majority of the changes proposed were of a “housekeeping” nature aimed at improving the clarity, organization, and useability of both sets of regulations.

The Commission has moved the statewide interim narrative standard for ground water from 3.12.0 to 3.11.0. This was done to consolidate all statewide standards in the basic standards regulation. This action was warranted due to the Commission's action, in December, 1994 to apply the interim narrative standard

to all ground waters of the state. Note that the Statements of Basis and Purpose for the original adoption of the interim narrative standard and for applying it statewide are located in 3.12.11 and 3.12.13.

The term “site-specific” was added to the title of regulation 3.12.0 to clarify the contents.

Changes to the Table 1 values for asbestos, barium, chromium and selenium were adopted for both 3.11.0 and 3.12.0 to reflect the current domestic use values found in the Colorado Primary Drinking Water Regulations. This change was particularly important for selenium as background levels in many areas of the state exceed the previous table value of 0.01 mg/l.

Clarification was made in section 3.12.7 that the statewide organic chemical standards found in Table A of the basic standards regulation apply to all ground water for which site-specific classifications and standards have been adopted by the Commission. This was done to eliminate the confusion that existed, and to clarify that this has been the intention and practice of the Commission from the beginning of the site-specific classification and standards setting process.

An index of classified areas was added to replace the introduction as section 3.12.3. This addition is intended to make the figures that illustrate the specified areas easier to locate. By organizing the list of systems in alphabetical order and locating them on a map of the state, they can be readily updated every time new areas are added.

PARTIES TO THE RULEMAKING HEARING

1. Coors Brewing Company

2. CF&I Steel, L.P.

3. The United States Dept. Of Energy

4. Cherry Creek Basin Water Quality Authority

5. City of Westminster

6. Kaiser-Hill Company, L.L.C.

42.19 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE (1996 REVISIONS)

The provisions of section 25-8-202(1)(a), (b) and (2); 25-8-203; and 25-8-204; C.R.S., provide the specific statutory authority for adoption. The Commission also adopted, in compliance with section 24-4-103(4) C.R.S., the following statement of basis and purpose.

BASIS AND PURPOSE

In this rulemaking proceeding, the Commission has adopted changes to site-specific ground water use classifications and standards to be more consistent with current and anticipated future uses, taking into account the Rocky Flats site cleanup and water management strategy. This approach allows for the deletion of domestic and agricultural use classifications for ground water in the site-specific area of the Rocky Flats Site because those uses will be prevented by institutional control. The Surface Water Protection Classification was retained and the Statewide Standards for Surface Water apply. Radionuclide standards were amended to be consistent with new Statewide standards.

2. Background

DOE has been studying the sources of ground water contamination associated with past weapons production and other industrial activity, as well as contaminant migration patterns in ground water at the Rocky Flats Environmental Technology Site (RFETS) since the 1980s. These studies and interim remedial measures have been implemented in accordance with the requirements of the Federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Federal Resource Conservation and Recovery Act (RCRA) and its companion State law and regulations under a succession of agreements among the U.S. Department of Energy, U.S. Environmental Protection Agency and the State of Colorado.

In 1991, the Commission adopted Site-specific use classifications and quality standards for ground water within the boundaries of what is now called the Rocky Flats Environmental Technology Site (Site). Per 5 CCR 1002-8, 3.12.7(1), the "Specified Area" includes unconfined ground waters in the unconsolidated Quaternary, Rocky Flats, Arapahoe and Laramie-Fox Hills aquifers within the Site boundary. Use classifications for ground water in the Quaternary and Rocky Flats aquifers were set, including Domestic Use-Quality, Agricultural Use-Quality and Surface Water Protection. The Basic Standards for Ground Water in 5 CCR 1002-8, 3.11.5, Tables 1 through 4, were applied to all ground waters in the Specified Area, while additional Site-specific standards for organics and radionuclides were established for the Quaternary and Rocky Flats aquifers in Tables 5 and 6 of 3.12.7(1).

The Upper Hydro-Stratigraphic Unit (UHSU) is a term developed at this Site and other RCRA/CERCLA sites to define ground waters in different lithologic units that are in hydraulic connection with each other and/or with surface water. The UHSU at the Site consists of unconsolidated surficial deposits, weathered bedrock and sandstones in hydraulic connection with overlying units. Use of the term UHSU in this regulation, in lieu of the Quaternary and Rocky Flats aquifers, to define the upper-most portion of the "Specified Area" will allow the Commission to protect water quality in ground water which does not meet the useable quantity expectations associated with the term aquifer.

The Site conceptual model for contamination sources and migration patterns shows that all known, delineated ground water contamination plumes associated with Site sources have transport pathways through alluvial and weathered bedrock ground waters which discharge only to surface waters within the Site boundaries. This hydrologic regime, along with DOE's agreement—articulated in the recently finalized Rocky Flats Cleanup Agreement (RFCA) and Vision—to restrict uses of ground water at the Site for any purpose other than to support cleanup, justifies the removal of the Domestic and Agricultural Use Classifications of Site ground waters. In addition, removal of the domestic and agricultural uses, while retaining the Surface Water Protection Use Classification, is consistent RFCA and the Vision wherein the signatories have agreed that DOE will remediate ground water to prevent migration of contaminants into surface waters at levels that impair their classified uses.

Adoption of the proposed statewide health risk-based standards for plutonium and americium allows deletion of these standards from the site specific standards, Table 6. The Woman Creek drainage standards for gross beta and uranium are amended to be consistent with adoption of proposed changes to the Site Specific Surface Water Standards.

3. Commission Decision

The Commission has revised 5 CCR 1002-8, 3.12.7(1)(b) by deleting the Domestic and Agricultural Use Classifications and Standards on the Rocky Flats Specified Area; deleting Table 5; and amending Table 6.

PARTIES TO THE RULEMAKING

1. State of Colorado Division of Wildlife

2. U.S. Department of Energy

3. Kaiser-Hill Company, LLC

4. City of Broomfield

5. City of Westminster

6. U.S. EPA Region VIII

7. City of Thornton

8. City of Arvada

9. City of Northglenn

42.20 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: JULY, 1997 RULEMAKING

The provisions of sections 25-8-202 and 25-8-401, C.R.S., provide the specific statutory authority for adoption of the attached regulatory amendments. The Commission also adopted, in compliance with section 24-4-103(4) C.R.S., the following statement of basis and purpose.

BASIS AND PURPOSE

The Commission has adopted a revised numbering system for this regulation, as a part of an overall renumbering of all Water Quality Control Commission rules and regulations. The goals of the renumbering are: (1) to achieve a more logical organization and numbering of the regulations, with a system that provides flexibility for future modifications, and (2) to make the Commission's internal numbering system and that of the Colorado Code of Regulations (CCR) consistent. The CCR references for the regulations will also be revised as a result of this hearing.

42.21 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE: JULY 14, 1997 HEARING ON SITE-SPECIFIC GROUND WATER CLASSIFICATION AND STANDARDS FOR THE GROUND WATER WITHIN THE LOWER CRETACEOUS DAKOTA GROUP (D, J, AND O SANDSTONES) IN TOWNSHIPS 5 NORTH THROUGH 12 NORTH AND RANGES 51 WEST THROUGH 55 WEST, NORTHEASTERN COLORADO.

SPECIFIC STATUTORY AUTHORITY

The provisions of C.R.S. 25-8-202; 25-8-203; and 25-8-204 provide the specific statutory authority for adoption of these regulatory provisions.

STATEMENT OF BASIS AND PURPOSE

The Commission has adopted, in compliance with section 24-4-103(4) C.R.S. the following statement of basis and purpose.

A. Background

As a result of this hearing, the Commission applied the classification of limited quality and use to the ground waters contained within the D, J, and O Sandstones of the Lower Cretaceous Dakota Group within a specified area of northeastern Colorado in which extensive oil and natural gas exploration and development have occurred. The specified area includes the western half of Logan County, the far northeastern corner of Morgan County, and the narrow strip along the northwestern border of Washington County.

Within the specified area the ground water in the D, J, and O Sandstones is brought to the ground surface or “produced” as a by product or “waste” of the oil and gas extraction process. The vast majority of this produced water is placed back into the formations from which it comes by injection into wells.

The practice of underground injection is essential to many industries, including the petroleum industry; however, the realization that subsurface injection could contaminate ground water led to the creation of the federal Underground Injection Control (UIC) program under the provisions of the Safe Drinking Water Act (SDWA) of 1974. The purpose of this program is to ensure that injection wells are operated in such a manner that underground sources of useable water are protected.

The EPA has delegated primary regulatory authority to the Colorado Oil and Gas Conservation Commission (COGCC) for what are known as “Class II” injection wells. Class II UIC wells in Colorado are authorized to inject under the COGCC's UIC Program by permit and with requirements specified in the following COGCC rules:

> RULE 324B. EXEMPT AQUIFERS
>
> RULE 325. UNDERGROUND DISPOSAL OF WATER
>
> 400 SERIES RULE. UNIT OPERATION, ENHANCED RECOVERY PROJECTS, AND STORAGE OF LIQUID HYDROCARBONS

Within the specified area, Class II injection wells are used only for the disposal of certain exploration and production (E&P) related fluids and for enhanced oil recovery. Produced water is the fluid most typically injected for both disposal and enhanced oil recovery.

Division of Water Resources data indicate that there are no public water systems, or domestic, agricultural, or industrial water wells completed in the D, J, or O Sandstones. Hydrogeologic data including produced water quality and depths of these formations, and COGCC data indicate that the ground water in these formation is of limited use and quality. The Commission, therefore, concluded that the application of the “Limited Use and Quality” classification to the ground water within the D, J, and O Sandstones in the specified area is appropriate. This classification and the application of site-specific standards for organic chemicals assures consistency between implementation of UIC Program requirements and WQCC Standards and Classification.

The adoption of this Limited Use and Quality classification by the Commission does not preclude the need for obtaining an aquifer exemption under the UIC program, if future applicants wish to inject fluids into portions of the specified area for which an aquifer exemption has not previously been granted. That is, the adoption of this classification does not preclude the need for compliance with the specific requirements of the UIC program.

B. <u>Site-Specific Classification and Standards Setting</u>

Site-specific classification of ground water begins with the identification of the use of the water. The ground water in the D, J, or O Sandstones of the Lower Cretaceous Dakota Group is co-produced with oil and gas and is considered a waste. It is not currently used nor can it be reasonably expected to be used in the future for domestic or agricultural purposes. It is not in communication with any surface water bodies within the specified area so that water quality standards of any classified surface water bodies are not affected by this ground water. More specific evidence of the limited use and quality of this water follows:

> Within the specified area there are approximately 4,278 water wells permitted with the Office of the State Engineer. None of these water wells are completed in the D, J, or O Sandstones.

The D, J, and O Sandstones contain or have contained naturally occurring accumulations of crude oil, condensate, and natural gas, in addition to ground water in many portions of this specified area. These oil and gas resources have been developed and produced since at least the early 1950's and 1960's in most of the oil fields and even earlier in some of the oil fields.

Within the specified area approximately 3,000 oil and gas wells or tests have been drilled to or completed in the D, J, or O Sandstones.

Within the specified area the Colorado Oil and Gas Conservation Commission (COGCC) has granted 34 aquifer exemptions for underground injection control (UIC) projects under Rule 322(B) of the Rules and Regulations, Rules of Practice and Procedure" (2 CCR 404-1), pursuant to the Colorado Oil and Gas Conservation Act, Title 60, Article 34, C.R.S. (1982). Seven other injection projects also have been permitted within the specified area; however, these did not require aquifer exemptions, because the total dissolved solids (TDS) concentrations of the injection zone exceeded 10,000 milligrams per liter (mg/l). Of the total 41 permitted injection projects within the specified area, 26 are still in operation.

Within the specified area the D, J, or O Sandstones lie between 4,300 and 6,000 feet below the ground surface.

Within the specified area TDS concentrations range from 4,698 mg/l to 16,197 mg/l with an average of 9,516 mg/l for the D Sandstone, from 2,612 mg/l to 13,558 mg/l with an average of 6,413 mg/l for the J Sandstone, and from 4,235 mg/l to 14,550 mg/l with an average of 6,841 mg/l for the O Sandstones.

Consistent with the classification, the ground water quality standards in Tables 1 through 4 of the Basic Standards for Ground Water, Regulation No. 41 and the statewide standards for certain specified organic chemicals associated with oil and gas production activities will not apply within the specified area. However, to provide some protection of the potential future use of water resources in the specified area, the Commission's action provides that the statewide standard for radionuclides, as well as the statewide organic chemical standards, other than those for benzene, toluene, ethylbenzene, xylenes, and benzo(a) pyrene, will continue to apply to this ground water.

C. Revision to Specified Area for the City of Sterling Wellfield

The confined and unconfined ground waters underlying the specified area for the City of Sterling wellfield have been classified Domestic Use-Quality and Agricultural Use-Quality. Technically this would include ground waters in the D, J, and O Sandstones. The specified area for the City of Sterling wellfield is within the area specified for the Colorado oil and gas fields of Logan, northern Washington, and northeastern Morgan Counties; therefore, to classify the ground waters in the D, J, and O Sandstones Limited Use and Quality, the specified area for the City of Sterling Wellfield has been revised to exclude the ground waters within the D, J, and O Sandstones.

The risk of adverse impact to the City of Sterling Wellfield from this reclassification of the D, J, and O Sandstones is considered by the Commission to be very low, because all of the water supply wells are completed in the alluvial deposits of the Platte River, or shallow bedrock including the Tertiary White River, Arikaree, or Ogallala, or the upper sandy member of the Cretaceous Pierre Shale; none are completed in the D, J, or O Sandstones. In addition, the D, J, and O Sandstone lie at a depth of approximately 4,500 to 5,000 feet below the base of the aquifers tapped by the water supply wells; therefore, it is highly unlikely that there is any significant hydrologic interaction between the shallow ground waters sources for the wellfield and the ground waters in the D, J, or O Sandstones.

PARTIES TO THE RULEMAKING HEARING July, 1997

1. Colorado Oil and Gas Conservation Commission

2. Colorado Oil and Gas Association

3. U.S. EPA Region VIII

42.22 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE: JANUARY, 1998 RULEMAKING

The provisions of C.R.S. 25-8-202; 25-8-203; and 25-8-204 provide the specific statutory authority for adoption of these regulatory provisions. The Commission has also adopted, in compliance with C.R.S. 24-4-103(4), the following statement of basis and purpose.

BASIS AND PURPOSE

A. Background

This hearing was held to complete the first round of "housekeeping" measures adopted in March, 1996. The principal objective of that hearing was to improve the clarity, organization and useability of the ground water standards and classifications regulations, "The Basic Standards for Ground Water" , Regulation No. 41 and "Site-Specific Water Quality Classifications and Standards for Ground Water" , Regulation No. 42. Proposed changes reviewed at this hearing pertained solely to the "Site-Specific Water Quality Regulated for Ground Water" .

B. Actions/Rationale

1. Replacement of specified area maps

The Commission replaced all of the maps (Figures 1 through 40) of the specified areas for site-specific ground water classifications and standards with geographical information system (GIS) based maps. The GIS maps were developed from the original set of maps contained in the regulations, and are therefore very similar. The principal differences are the size and the amount of topographical detail found on each.

Users will find the GIS maps easier to read and reference as each map occupies one page and is significantly less busy. This is a change from the previous set which used USGS 7.5 minute quadrangles and, depending on the size of the specified area, took up to four pages. Although accurate representations of the specified areas, the original maps were difficult and cumbersome to use due to the need to flip pages back and forth. This made it difficult to get a clear picture of the actual size and outline of the specified area.

To ensure that the detail that is missing on the GIS maps is available for reference, the Commission agreed to maintain a separate set of large scale maps for each specified area. These will depict the specified areas as adopted by the Commission, and can be viewed at the Commission office during normal business hours. Reference to these maps is included in sub-section 42.3 of the regulation, and has been inserted in the narrative describing each of the specified areas.

2. Legend

A legend was developed for the GIS generated maps, and is found immediately before the first figure. The legend provides a clear visual explanation of the key features of the maps, and is a valuable reference. The larger reference maps maintained in the Commission office with have the USGS legend.

3. Addition of Figures 39 and 40 to locational reference map

References to Figures 39 and 40, the most recently adopted specified areas for site-specific ground water classifications and standards, were added to the outline map of Colorado found on page 3 of the regulations.

42.23 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE: APRIL, 1998 RULEMAKING HEARING ON SITE-SPECIFIC GROUND WATER CLASSIFICAITON AND STANDARDS FOR THE GROUND WATER IN THE WEBER FORMATION AND THE NAVAJO SANDSTNE IN: SECTIONS 1 THROUGH 12 OF TOWNSHIP 1 NORTH AND RANGE 101 WEST, SECTIONS 1 THROUGH 12 OF TOWNSHIP 1 NORTH AND RANGE 102 WEST, SECTIONS 1 THROUGH 12 OF TOWNSHIP 1 NORTH AND RANGE 103 WEST, ALL OF TOWNSHIP 2 NORTH AND RANGE 101 WEST, ALL OF TOWNSHIP 2 NORTH AND RANGE 102 WEST, ALL OF TOWNSHIP 2 NORTH AND RANGE 103 WEST, RIO BLANCO COUNTY, COLORADO

The provisions of sections 25-8-202; 25-8-203; and 25-8-204 C.R.S. provide the specific statutory authority for adoption of these regulatory provisions. The Commission has also adopted, in compliance with section 24-4-103(4) C.R.S., the following statement of basis and purpose.

BASIS AND PURPOSE

A. Background

As a result of this hearing, the Commission applied the classification of limited quality and use to the ground water contained with the Pennsylvanian-Permian aged Weber Formation and the Late Triassic-Early Jurassic aged Navajo Sandstone within a specified area of Rio Blanco County, Colorado in which extensive oil and natural gas exploration and development have occurred. The specified area includes approximately 144 square miles in northwest Rio Blanco County, Colorado.

Within the specified area the ground water in the Weber Formation is brought to the ground surface of “produced” as a by product or “waste” of the oil and gas extraction process. The vast majority of this produced water is placed back into the formation from which it comes by injection into wells. In addition, a small percentage of the Weber produced water is injected into the Navajo Sandstone.

The practice of underground injection is essential to many industries, including the petroleum industry; however, the realization that subsurface injection could contaminate ground water led to the creation of the federal Underground Injection Control (UIC) program under the provisions of the Safe Drinking Water Act (SDWA) of 1974. The purpose of this program is to ensure that injection wells are operated in such a manner that underground sources of useable water are protected.

The EPA has delegated primary regulatory authority to the Colorado Oil and Gas Conservation Commission (COGCC) for what are known as “Class II” injection wells. Class II UIC wells in Colorado are authorized to inject under the COGCC's UIC Program by permit and with requirements specified in the following COGCC rules:

RULE 324B. EXEMPT AQUIFERS

RULE 325. UNDERGROUND DISPOSAL OF WATER

400 SERIES RULE. UNIT OPERATION, ENHANCED RECOVERY PROJECTS, AND STORAGE OF LIQUID HYDROCARBONS

Within the specified area, Class II injection wells are used only for the disposal of certain exploration and production (E&P) related fluids and for enhanced oil recovery. Produced water is the fluid most typically injected for both disposal and enhanced oil recovery. In addition, makeup water for a secondary recovery waterflood project has also been obtained from the Dakota, Entrada, and Navajo formations and the White River. A tertiary recovery carbon dioxide (CO_2) project has been initiated to help recover residual oil left behind by the waterflood.

Division of Water Resources data indicate that there are no public water systems, or domestic, or agricultural water wells completed in the Weber Formation or the Navajo Sandstone.

Division of Water Resources data indicate that there are 15 industrial water well permits. Thirteen of these are former oil wells or dry oil test holes that were recompleted in the Dakota, Entrada, and/or Navajo formations. Water from these wells was used as makeup water for the enhanced recovery injection projects. These wells all have been either plugged and abandoned or recompleted in the Weber Formation as oil wells.

Hydrogeologic data including produced water quality and depths of the Weber Formation and Navajo Sandstone and other COGCC data indicate that the ground water in these formation is of limited use and quality. The Commission, therefore, concluded that the application of the "Limited Use and Quality" classification to the ground water within the Weber Formation and Navajo Sandstone in the specified area is appropriate. The classification and the application of site-specific standards for organic chemicals assures consistency between implementation of the UIC Program requirements and WQCC Standards and Classifications.

The adoption of the Limited Use and Quality classification by the Commission does not preclude the need for obtaining an aquifer exemption under the UIC program, if future applicants wish to inject fluids into portions of the Weber Formation or the Navajo Sandstone within the specified area for which an aquifer exemption would be needed. That is, the adoption of this classification does not preclude the need for compliance with the specific requirements of the UIC program.

B. Site-Specific Classification and Standards Setting

Site-specific classifications of ground water begins with the identification of the use of the water. The ground water in the Pennsylvanian-Permian aged Weber Formation is co-produced with oil and gas and is considered a waste. The ground water in the Late Triassic-Early Jurassic aged Navajo Sandstone has been used as makeup water for the enhanced recovery projects. Within the specified area, ground water in both the Weber Formation and the Navajo Sandstone is not currently used nor can it reasonably be expected to be used in the future for domestic or agricultural purposes. The ground water is not in communication with any surface water bodies within the specified area so that water quality standards of any classified surface water bodies are not affected by this ground water. More specific evidence of the limited use and quality of this ground water follows:

Within the specified area there are approximately 32 water wells permitted with the Office of the State Engineer. None of these water wells are completed in the Weber Formation. Thirteen were industrial water wells completed in the Dakota, Entrada, and/or Navajo formations. These wells all have been either plugged and abandoned or recompleted in the Weber Formation as oil wells.

The Weber Formation contains or has contained naturally occurring accumulations of crude oil and natural gas, in addition to ground water in many portions of this specified area.

Although discovered in 1933, active development of the Weber Formation did not begin until 1944 when World War II petroleum demand justified the installation of facilities to produce the oil from this remote location. The Rangely Field is the largest oil field in Colorado and the sixteenth largest oil field in the United States, based upon cumulative production.

Within the specific area approximately 912 oil and gas wells or tests have been drilled to be completed in the Weber Formation.

Within the specified area three injection projects have been permitted. These did not require aquifer exemptions, because the total dissolved solids (TDS) concentrations of the injection zones exceeded 10,000 milligrams per liter (mg/l). The Rangely Weber Sand Unit and the Northeast Rangely are enhanced recovery projects which use approximately 364 injection wells completed in the Weber

Formation. The McLaughlin 44 is a disposal project which uses one injection well completed in the Navajo Sandstone.

Within the specified area the average depth to the Weber Formation is 6,500 feet below the ground surface (fbgs) and the average depth to the Navajo Sandstone is 5,100 fbgs.

Within the specified area the original TDS of the Weber Formation was greater than 115,000 mg/l; however, injection of makeup water with relatively lower TDS concentrations has caused an overall decrease in TDS so that today TDS concentrations ranging from 10,000 mg/l to 60,000 mg/l occur in some places. The TDS of the Navajo Sandstone is greater than 20,000 mg/l.

Consistent with this classification, the ground water quality standards in Tables 1 through 4 of the Basic Standards for Ground Water, 41.0 and the statewide standards for certain specified organic chemicals associated with oil and gas production activities will not apply within the specified area. However, to provide some protection of the potential future use of water resources in the specified area, the Commission's action provides that the statewide standard for radionuclides, as well as the statewide organic chemical standard, other than those for benzene, toluene, ethylbenzene, xylenes, and benzo(a) pyrene, will continue to apply to this ground water.

PARTIES TO THE RULEMAKING HEARING

1. Colorado Oil and Gas Conservation Commission

2. U.S. EPA Region VIII

3. Chevron U.S.A. Production Company

42.24 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; JANUARY, 1999 RULEMAKING

The provisions of sections 25-8-202; 25-8-204; 25-8-402, C.R.S., provide the specific statutory authority for adoption. The Commission also adopted, in compliance with section 24-4-103(4) C.R.S., the following statement of basis and purpose.

BASIS AND PURPOSE

This revisions is to reconfirm the previous action taken by the Commission to include correct publication in the Colorado Code of Regulations Statement of Basis, Specific Statutory Authority and Purpose for the December, 1996 rulemaking hearing.

42.25 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE: DECEMBER 13, 1999 HEARING ON SITE-SPECIFIC GROUND WATER CLASSIFICATION AND STANDARDS FOR THE GROUND WATER IN SPECIFIED AREAS OF LARIMER, JACKSON, AND MOFFAT COUNTIES:

The provisions of C.R.S. 25-8-202; 25-8-203; and 25-8-204 provide the specific statutory authority for adoption of these regulatory provisions.

STATEMENT OF BASIS AND PURPOSE

The Commission has adopted, in compliance with section 24-4-103(4) C.R.S. the following statement of basis and purpose.

Background

A.1 Hydrogeologic Units

As a result of this hearing, the Commission applied the classification of limited quality and use to the ground water contained within the following specified areas:

Larimer County (Figure 42) The Early Jurassic aged Entrada Sandstone and the Lower Cretaceous aged Muddy Sandstone (J Sand) of the Dakota Group within a specified area of Larimer County, Colorado in which extensive oil and natural gas exploration and development have occurred. The Muddy Sandstone is a stratigraphic equivalent to the J Sandstone of the Lower Cretaceous Dakota Group. Muddy Sandstone is the name used commonly in Wyoming and J Sandstone is the name used commonly in northeastern Colorado. The specified area includes approximately 135 square miles in northeast Larimer County, Colorado.

Jackson County (Figure 43) The Lower Cretaceous aged Dakota and Lakota Sandstones and the Upper Cretaceous aged Pierre B Sandstone Member of the Pierre Shale within a specified area of Jackson County, Colorado in which extensive oil and natural gas exploration and development have occurred. The specified area includes approximately 56 square miles in northern Jackson County, Colorado.

Jackson County (Figure 44) The Lower Cretaceous aged Dakota and Lakota Sandstones within a specified area of Jackson County. Colorado in which extensive oil and natural gas exploration and development have occurred. The specified area includes approximately 17 square miles in northern Jackson County, Colorado.

Moffat County (Figure 45) The Paleocene aged Fort Union Formation within a specified area of Moffat County, Colorado in which extensive oil and natural gas exploration and development have occurred. The specified area includes approximately 38 square miles in northern Moffat County, Colorado.

A.2 Aquifer Exemption Requirements

The adoption of this Limited Use and Quality classification by the Commission does not preclude the need for obtaining an aquifer exemption under the UIC program, if future applicants wish to inject fluids into portions of the subject formations within each specified area for which an aquifer exemption would be needed. That is, the adoption of this classification does not preclude the need for compliance with the specific requirements of the UIC program.

A.3 Site-Specific Classifications

Site-specific classification of ground water begins with the identification of the use of the water within the four specified areas as follows:

Larimer County (Figure 42) The ground water in the Lower Cretaceous aged Muddy Sandstone (J Sand) of the Dakota Group is co-produced with oil and gas and is considered a waste. Within the specified area, ground water in both the Entrada Sandstone and Muddy Sandstone (J Sand) is not currently used nor can it reasonably be expected to be used in the future for domestic or agricultural purposes. The ground water is not in communication with any surface water bodies within the specified area so that the water quality standards of any classified surface water bodies are not affected by this ground water. More specific evidence of the limited use and quality of this ground water follows:

Within the specified area there are approximately 710 water wells permitted with the Office of the State Engineer. Division of Water Resources data indicates that there are no public water systems, or domestic, agricultural, commercial, or industrial water wells completed in the Entrada Sandstone or the Muddy Sandstone (J Sand) within the specified area.

The Entrada Sandstone and the Muddy Sandstone (J Sand) contain or have contained naturally occurring accumulations of crude oil and natural gas, in addition to ground water in many portions of this specified area. These oil and gas resources have been developed and produced since the 1920's.

Within the specified area approximately 183 oil and gas wells or tests have been drilled to or completed in the Muddy Sandstone (J Sand). Several of these wells were drilled deeper to the Entrada Sandstone.

Within the specified area the Colorado Oil and Gas Conservation Commission (COGCC) has granted four aquifer exemptions for UIC projects under Rule 324(B) of the Rules and Regulations, Rules of Practice and Procedure (2 CCR 404-1), pursuant to the Colorado Oil and Gas Conservation Act, Title 60, Article 34, C.R.S. (1982). The Clarks Lake Muddy Sand Unit is an enhanced recovery project that uses approximately 4 injection wells completed in the Muddy Sandstone. The South Clarks Lake Unit is an enhanced recovery project that uses approximately 3 injection wells completed in the Muddy Sandstone. The Wellington Muddy Sand Unit is an enhanced recovery project that uses approximately 5 injection wells completed in the Muddy Sandstone (J Sand). The Wellington Unit 27-3 is a disposal project that uses one injection well completed in the Entrada Sandstone. Two other injection projects also have been permitted within the specified area; however, these did not require aquifer exemptions, because the total dissolved solids (TDS) concentrations of the injection zone exceeded 10,000 milligrams per liter (mg/l). The Fort Collins Muddy Sand Unit is an enhanced recovery project that uses approximately 20 injection wells completed in the Muddy Sandstone. The Peterson 14–20 is a disposal project that uses one injection well completed in the Muddy Sandstone.

Within the specified area the Entrada Sandstone lies between 5,200 – 6,100 feet below the ground surface (fbgs) and the Muddy Sandstone (J Sand) lies between 4,200 – 6,200 fbgs.

Based on information available to the COGCC, within the specified area the TDS concentration of the Entrada Sandstone is 4,611 milligrams per liter (mg/l). The TDS concentration of the Muddy Sandstone (J Sand) ranges from 6,945 mg/l to 14,906 mg/l with an average of 10,025 mg/l.

Hydrogeologic data including produced water quality and depths of the Entrada Sandstone and Muddy Sandstone (J Sand) and other COGCC data indicate that the ground water in these formations meets the criteria in Regulation 41 for classification as “Limited Use and Quality” . The Commission, therefore, concluded that the application of the “Limited Use and Quality” classification to the ground water within the Entrada Sandstone and the Muddy Sandstone (J Sand) in the specified area is appropriate. This classification and the application of site-specific standards for organic chemicals assure consistency between implementation of the Underground Injection Control (UIC) Program requirements and WQCC Standards and Classification.

Jackson County (Figure 43) The ground water in the Lower Cretaceous aged Dakota and Lakota Sandstones and the Upper Cretaceous aged Pierre B Sandstone Member of the Pierre Shale is co-produced with oil and gas and is considered a waste. Within the specified area, ground water in both the Dakota and Lakota Sandstones and Pierre B Sandstone Member of the Pierre Shale is not currently used nor can it reasonably be expected to be used in the future for domestic or agricultural purposes. The ground water is not in communication with any surface water bodies within the specified area so that the water quality standards of any classified surface water bodies are not affected by this ground water. More specific evidence of the limited use and quality of this ground water follows:

Within the specified area there are approximately 16 water wells permitted with the Office of the State Engineer. Division of Water Resources data indicates that there are no public water systems, or domestic, agricultural, or industrial water wells completed in the Dakota and Lakota Sandstones. There are 9 commercial water well permits within the specified area. Three of these are former oil wells that have been recompleted in the Pierre Sandstone. Water from these wells is used as makeup water for the enhanced recovery injection project in the McCallum Unit. The remaining six commercial water wells are completed in shallower aquifers.

The Dakota and Lakota Sandstones and the Pierre B Sandstone Member contain or have contained naturally occurring accumulations of crude oil and natural gas, in addition to ground water in many portions of this specified area. These oil and gas resources have been developed and produced since the 1920's.

Within the specified area approximately 240 oil and gas wells or tests have been drilled to or completed in the Dakota and Lakota Sandstones or the Pierre B Sandstone Member.

Within the specified area the COGCC has granted 2 aquifer exemptions for UIC projects under Rule 324(B) of the Rules and Regulations, Rules of Practice and Procedure (2 CCR 404-1), pursuant to the Colorado Oil and Gas Conservation Act, Title 60, Article 34, C.R.S. (1982). The McCallum Unit is an enhanced recovery project that uses approximately 37 injection wells completed in the Pierre B Sandstone. The Dwinell 1 in the Battleship Field is a disposal project that uses one injection well completed in the Dakota and Lakota Sandstones.

Within the specified area the average depth to the Dakota and Lakota Sandstones is 4,700 fbgs in the Battleship Field, and 5,800 fbgs in the McCallum Field. The average depth to the Pierre B Sandstone is 1,000 fbgs in the McCallum Field.

Based on information available to the COGCC, within the specified area the TDS concentration of the Dakota and Lakota Sandstones ranges from 474 mg/l to 11,533 mg/l with an average of 4,327 mg/l. The TDS of the Pierre B Sandstone Member of the Pierre Shale is greater than 20,000 mg/l.

Hydrogeologic data including produced water quality and depths of the Dakota and Lakota Sandstones or the Pierre B Sandstone Member of the Pierre Shale and other COGCC data indicate that the ground water in these formations meets the criteria in Regulation 41 for classification as “Limited Use and Quality” . The Commission, therefore, concluded that the application of the “Limited Use and Quality” classification to the ground water within the Dakota and Lakota Sandstones or the Pierre B Sandstone Member of the Pierre Shale in the specified area is appropriate. This classification and the application of site-specific standards for organic chemicals assure consistency between implementation of the UIC Program requirements and WQCC Standards and Classification.

Jackson County (Figure 44) The ground water in the Lower Cretaceous aged Dakota and Lakota Sandstones is co-produced with oil and gas and is considered a waste. Within the specified area, ground water in the Dakota and Lakota Sandstones is not currently used nor can it reasonably be expected to be used in the future for domestic or agricultural purposes. The ground water is not in communication with any surface water bodies within the specified area so that the water quality standards of any classified surface water bodies are not affected by this ground water. More specific evidence of the limited use and quality of this ground water follows:

Within the specified area there are approximately 12 water wells permitted with the Office of the State Engineer. Division of Water Resources data indicates that there are no public water systems, or domestic, agricultural, commercial, or industrial water wells completed in the Dakota and Lakota Sandstones.

The Dakota and Lakota Sandstones contain or have contained naturally occurring accumulations of crude oil and natural gas, in addition to ground water in many portions of this specified area. These oil and gas resources have been developed and produced since the 1920's.

Within the specified area approximately 42 oil and gas wells or tests have been drilled to or completed in the Dakota and Lakota Sandstones.

Within the specified area the COGCC has granted 1 aquifer exemption for UIC projects under Rule 324(B) of the Rules and Regulations, Rules of Practice and Procedure (2 CCR 404-1), pursuant to the Colorado Oil and Gas Conservation Act, Title 60, Article 34 C.R.S. (1982). The Spaulding 4-B in the Lone

Pine Field is a disposal project that uses one injection well completed in the Dakota and Lakota Sandstones.

Within the specified area the average depth to the Dakota and Lakota Sandstones is 2,400 fbgs in the Lone Pine Field.

Based on information available to the COGCC, within the specified area the TDS concentration of the Dakota and Lakota Sandstones ranges from 1,053 mg/l to 11,892 mg/l with an average of 4,612 mg/l.

Hydrogeologic data including produced water quality and depths of the Dakota and Lakota Sandstones and other COGCC data indicate that the ground water in these formations meets the criteria in Regulation 41 for classification as "Limited Use and Quality" . The Commission, therefore, concluded that the application of the "Limited Use and Quality" classification to the ground water within the Dakota and Lakota Sandstones in the specified area is appropriate. This classification and the application of site-specific standards for organic chemicals assure consistency between implementation of the UIC Program requirements and WQCC Standards and Classification.

Moffat County (Figure 45) The ground water in the Paleocene aged Fort Union Formation is co-produced with oil and gas and is considered a waste. Within the specified area, ground water in the Fort Union Formation is not currently used nor can it reasonably be expected to be used in the future for domestic or agricultural purposes. The ground water is not in communication with any surface water bodies within the specified area so that the water quality standards of any classified surface water bodies are not affected by this ground water. More specific evidence of the limited use and quality of this ground water follows:

Within the specified area there are approximately 6 water wells permitted with the Office of the State Engineer. Division of Water Resources data indicates that there are no public water systems, or domestic, agricultural, commercial, or industrial water wells completed in the Fort Union Formation.

The Fort Union Formations contains naturally occurring accumulations of crude oil and natural gas, in addition to ground water in many portions of this specified area.

Within the specified area approximately 29 oil and gas wells. Many of these wells were drilled to and/or completed in the Fort Union Formation.

Within the specified area the COGCC has permitted two injection projects. These did not require aquifer exemptions, because the TDS concentration of the injection zones exceeded 10,000 milligrams per liter (mg/l). The Big Hole Federal 10-1 is a disposal project that uses one injection well completed in the Fort Union Formation. The Shell Creek #4 is a disposal project that uses 1 injection well completed in the Fort Union Formation.

Within the specified area the Fort Union Formation lies between 2,500 – 5,900 fbgs.

Based on information available to the COGCC, within the specified area the TDS concentration of the Fort Union Formation ranges from 8,177 mg/l to 32,120 mg/l with an average TDS of 23,080 mg/l.

Hydrogeologic data including produced water quality and depths of the Fort Union Formation and other COGCC data indicate that the ground water in this formation meets the criteria in Regulation 41 for classification as "Limited Use and Quality" . The Commission, therefore, concluded that the application of the "Limited Use and Quality" classification to the ground water within the Fort Union Formation in the specified area is appropriate. This classification and the application of site-specific standards for organic chemicals assure consistency between implementation of the UIC Program requirements and WQCC Standards and Classification.

B. Site-Specific Numerical Standards

Consistent with the “Limited Use and Quality” classification, the ground water quality standards in Tables 1 through 4 of the Basic Standards for Ground Water, 41.0 will not apply within the specified area. Additionally, the ground water organic chemical standards included in Table A of Section 41.5.C.3 of the Basic Standards for Ground Water (5 CCR 1002-41) for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene will not apply to certain oil and gas producing formations within the specified areas. However, to provide some protection of the potential future use of water resources in the specified area, the Commission's action provides that the statewide standard for radionuclides, as well as the statewide organic chemical standards (other than those for benzene, toluene, ethylbenzene, xylenes, and benzo(a) pyrene) will continue to apply to this ground water.

PARTIES TO THE RULEMAKING HEARING

1. Colorado Oil and Gas Conservation Commission

2. Whiting Petroleum Corporation

3. U. S. Environmental Protection Agency, Region VIII

4. Colorado Oil & Gas Association

5. Larimer County Environmental Advisory Board

6. Tom Brown, Inc.

7. Wellington Operating Company

8. Clark's Lake Operating Company

42.26 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE: DECEMBER 12, 2000 HEARING ON SITE-SPECIFIC GROUND WATER CLASSIFICATION AND STANDARDS FOR THE GROUND WATER IN SPECIFIED AREAS OF ADAMS, ARAPAHOE, MORGAN, WASHINGTON, AND WELD COUNTIES

SPECIFIC STATUTORY AUTHORITY

The provisions of C.R.S. 25-8-202; 25-8-203; and 25-8-204 provide the specific statutory authority for adoption of these regulatory provisions. The Commission has adopted in compliance with C.R.S. 24-4-103(4) the following statement of basis and purpose.

BASIS AND PURPOSE

A. Background

A.1 Hydrogeologic Units

As a result of this hearing, the Commission applied the classification of limited use and quality to the ground water contained within the following specified areas:

Weld County (Figure 46) The Permian aged Lyons Sandstone within a specified area of Weld County, Colorado in which extensive oil and natural gas exploration and development have occurred. The specified area includes approximately 25 square miles in Weld County, Colorado.

Weld County (Figure 47) The Upper Cretaceous aged Parkman Sandstone within a specified area of Weld County, Colorado in which extensive oil and natural gas exploration and development have occurred. The specified area includes approximately 12 square miles in Weld County, Colorado.

Weld County (Figure 48) The Upper Cretaceous aged Sussex Sandstone within a specified area of Weld County, Colorado in which extensive oil and natural gas exploration and development have occurred. The specified area includes approximately 14 square miles in Weld County, Colorado.

Adams, Arapahoe, Morgan, Washington, and Weld Counties (Figures 49A, 49B, 49C) The Lower Cretaceous aged D and J Sandstones within specified areas of Adams, Arapahoe, Morgan, Washington, and Weld Counties, Colorado in which extensive oil and natural gas exploration and development have occurred. The specified areas include approximately 186 square miles in Adams, Arapahoe, Morgan, Washington, and Weld Counties, Colorado.

A.2 Aquifer Exemption Requirements

The adoption of this Limited Use and Quality classification by the Commission does not preclude the need for obtaining an aquifer exemption under the Underground Injection Control (UIC) program, if future applicants wish to inject fluids into portions of the subject formations within each specified area for which an aquifer exemption would be needed. That is, the adoption of this classification does not preclude the need for compliance with the specific requirements of the UIC program.

A.3 Site-Specific Classifications

Site-specific classification of ground water begins with the identification of the use of the water within the four specified areas as follows:

Weld County (Figure 46) The ground water in the Permian aged Lyons Sandstone is coproduced with oil and gas and is considered a waste. Within the specified area, ground water in the Lyons Sandstone is not currently used nor can it reasonably be expected to be used in the future for domestic or agricultural purposes. The ground water is not in communication with any surface water bodies within the specified area so that the water quality standards of any classified surface water bodies are not affected by this ground water. More specific evidence of the limited use and quality of this ground water follows:

> Within the specified area there are approximately 126 water wells permitted with the Office of the State Engineer. Division of Water Resources data indicates that there are no public water systems, or domestic, agricultural, commercial, or industrial water wells completed in the Lyons Sandstone within the specified area.
>
> The Lyons Sandstone contains or has contained naturally occurring accumulations of crude oil and natural gas, in addition to ground water in many portions of this specified area. These oil and gas resources have been developed and produced since the 1950's.
>
> Within the specified area approximately 40 oil and gas wells or tests have been drilled to or completed in the Lyons Sandstone.
>
> Within the specified area the Colorado Oil and Gas Conservation Commission (COGCC) has not granted any aquifer exemptions for UIC projects under Rule 324(B) of the Rules and Regulations, Rules of Practice and Procedure (2 CCR 404-1), pursuant to the Colorado Oil and Gas Conservation Act, Title 60, Article 34, C.R.S. (1982). Two injection projects have been permitted within the specified area; however, these did not require aquifer exemptions, because the total dissolved solids (TDS) concentrations of the injection zone exceeded 10,000 milligrams per liter (mg/l). These three injection projects contain a total of approximately 14 injection wells completed in the Lyons Sandstone.
>
> Within the specified area the Lyons Sandstone lies between 8,800 – 9,500 feet below the ground surface (fbgs).

Based on information available to the COGCC, within the specified area the TDS concentration of the Lyons Sandstone ranges from 27,228 mg/l to 95,867 mg/l with an average of 61,548 mg/l.

Hydrogeologic data including produced water quality and depths of the Lyons Sandstone and other COGCC data indicate that the ground water in these formations meets the criteria in Regulation 41 for classification as “Limited Use and Quality” . The Commission, therefore, concluded that the application of the “Limited Use and Quality” classification to the ground water within the Lyons Sandstone in the specified area is appropriate. This classification and the application of site-specific standards for organic chemicals assure consistency between implementation of the UIC Program requirements and WQCC Standards and Classification.

Weld County (Figure 47) The ground water in the Upper Cretaceous aged Parkman is coproduced with oil and gas and is considered a waste. Within the specified area, ground water in the Parkman Sandstone is not currently used nor can it reasonably be expected to be used in the future for domestic or agricultural purposes. The ground water is not in communication with any surface water bodies within the specified area so that the water quality standards of any classified surface water bodies are not affected by this ground water. More specific evidence of the limited use and quality of this ground water follows:

Within the specified area there are approximately 176 water wells permitted with the Office of the State Engineer. Division of Water Resources data indicates that there are no public water systems, or domestic, agricultural, or industrial water wells completed in the Parkman Sandstone within the specified area.

The Parkman Sandstone contains or has contained naturally occurring accumulations of crude oil and natural gas, in addition to ground water in many portions of this specified area. These oil and gas resources have been developed and produced since the 1970's.

Within the specified area approximately 39 oil and gas wells or tests have been drilled to or completed in the Parkman Sandstone.

Within the specified area the Colorado Oil and Gas Conservation Commission (COGCC) has not granted any aquifer exemptions for UIC projects under Rule 324(B) of the Rules and Regulations, Rules of Practice and Procedure (2 CCR 404-1), pursuant to the Colorado Oil and Gas Conservation Act, Title 60, Article 34, C.R.S. (1982). Three injection projects have been permitted within the specified area; however, these did not require aquifer exemptions, because the total dissolved solids (TDS) concentrations of the injection zone exceeded 10,000 milligrams per liter (mg/l). These three injection projects contain a total of three injection wells completed in the Parkman Sandstone.

Within the specified area the Parkman Sandstone lies between 2,600 – 4,700 fbgs.

Based on information available to the COGCC, within the specified area the TDS concentration of the Parkman Sandstone ranges from 11,078 mg/l to 24,400 mg/l with an average of 14,272 mg/l.

Hydrogeologic data including produced water quality and depths of the Parkman Sandstone and other COGCC data indicate that the ground water in these formations meets the criteria in Regulation 41 for classification as “Limited Use and Quality” . The Commission, therefore, concluded that the application of the “Limited Use and Quality” classification to the ground water within the Parkman Sandstone in the specified area is appropriate. This classification and the application of site-specific standards for organic chemicals assure consistency between implementation of the UIC Program requirements and WQCC Standards and Classification.

Weld County (Figure 48) The ground water in the Upper Cretaceous aged Sussex Sandstone is co-produced with oil and gas and is considered a waste. Within the specified area, ground water in the Sussex Sandstone is not currently used nor can it reasonably be expected to be used in the future for

domestic or agricultural purposes. The ground water is not in communication with any surface water bodies within the specified area so that the water quality standards of any classified surface water bodies are not affected by this ground water. More specific evidence of the limited use and quality of this ground water follows:

> Within the specified area there are approximately 96 water wells permitted with the Office of the State Engineer. Division of Water Resources data indicates that there are no public water systems, or domestic, agricultural, or industrial water wells completed in the Sussex Sandstone within the specified area.
>
> The Sussex Sandstone contains or has contained naturally occurring accumulations of crude oil and natural gas, in addition to ground water in many portions of this specified area. These oil and gas resources have been developed and produced since the 1970's.
>
> Within the specified area approximately 180 oil and gas wells or tests have been drilled to or completed in the Sussex Sandstone.
>
> Within the specified area the Colorado Oil and Gas Conservation Commission (COGCC) has not granted any aquifer exemptions for UIC projects under Rule 324(B) of the Rules and Regulations, Rules of Practice and Procedure (2 CCR 404-1), pursuant to the Colorado Oil and Gas Conservation Act, Title 60, Article 34, C.R.S. (1982). Two injection projects have been permitted within the specified area; however, these did not require aquifer exemptions, because the total dissolved solids (TDS) concentrations of the injection zone exceeded 10,000 milligrams per liter (mg/l). These two injection projects contain a total of three injection wells completed in the Sussex Sandstone.
>
> Within the specified area the Sussex Sandstone lies between 4,300 – 4,850 fbgs.
>
> Based on information available to the COGCC, within the specified area the TDS concentration of the Sussex Sandstone ranges from 12,645 mg/l to 21,862 mg/l with an average of 18,238 mg/l.

Hydrogeologic data including produced water quality and depths of the Sussex Sandstone and other COGCC data indicate that the ground water in these formations meets the criteria in Regulation 41 for classification as “Limited Use and Quality” . The Commission, therefore, concluded that the application of the “Limited Use and Quality” classification to the ground water within the Sussex Sandstone in the specified area is appropriate. This classification and the application of site-specific standards for organic chemicals assure consistency between implementation of the UIC Program requirements and WQCC Standards and Classification.

<u>Adams, Arapahoe, Morgan, Washington, and Weld Counties (Figures 49A, 49B, 49C)</u> The ground water in the Lower Cretaceous aged D and J Sandstones is co-produced with oil and gas and is considered a waste. Within the specified areas, ground water in the D and J Sandstones is not currently used nor can it reasonably be expected to be used in the future for domestic or agricultural purposes. The ground water is not in communication with any surface water bodies within the specified areas so that the water quality standards of any classified surface water bodies are not affected by this ground water. More specific evidence of the limited use and quality of this ground water follows:

> Within the specified areas there are approximately 333 water wells permitted with the Office of the State Engineer. Division of Water Resources data indicates that there are no public water systems, or domestic, agricultural, commercial, or industrial water wells completed in the D and J Sandstones within the specified areas.
>
> The D and J Sandstones contain or have contained naturally occurring accumulations of crude oil and natural gas, in addition to ground water in many portions of these specified areas. These oil and gas resources have been developed and produced since the 1920's.

Within the specified areas, approximately 1,367 oil and gas wells or tests have been drilled to or completed in the D and J Sandstones.

Within the specified areas the Colorado Oil and Gas Conservation Commission (COGCC) has granted 25 aquifer exemptions for UIC projects under Rule 324(B) of the Rules and Regulations, Rules of Practice and Procedure (2 CCR 404-1), pursuant to the Colorado Oil and Gas Conservation Act, Title 60, Article 34, C.R.S. (1982). These 25 injection projects contain a total of approximately 108 injection wells; 41 injection wells are completed in the D Sandstone, 66 injection wells completed in the J Sandstone, and one injection well completed in the D and J Sandstones.

Additionally, 6 injection projects have been permitted within the specified areas; however, these did not require aquifer exemptions, because the total dissolved solids (TDS) concentrations of the injection zone exceeded 10,000 milligrams per liter (mg/l). These 6 injection projects contain a total of approximately 13 injection wells; 9 injection wells completed in the D Sandstone and 4 injection wells completed in the J Sandstone.

Within the specified areas the depth to the D and J Sandstones ranges from 3,795 fbgs in the Pod Field of Washington County to 7,415 fbgs in the Quill and Pollen Fields of Arapahoe County.

Based on information available to the COGCC, within the specified areas the TDS concentration of the D Sandstone ranges from 2,899 mg/l in the Little Beaver Field of Washington County to 18,972 mg/l in the Nile Field of Adams County. Additionally, within the specified areas the TDS concentration of the J Sandstone ranges from 1,026 mg/l in the Lindon Field of Washington County to 25,400 mg/l in the Pollen Field of Arapahoe County.

Hydrogeologic data including produced water quality and depths of the D and J Sandstones and other COGCC data indicate that the ground water in these formations meets the criteria in Regulation 41 for classification as “Limited Use and Quality” . The Commission, therefore, concluded that the application of the “Limited Use and Quality” classification to the ground water within the D and J Sandstones in the specified areas is appropriate. This classification and the application of site-specific standards for organic chemicals assure consistency between implementation of the UIC Program requirements and WQCC Standards and Classification.

B. <u>Site-Specific Numerical Standards</u>

Consistent with the “Limited Use and Quality” classification, the ground water quality standards in Tables 1 through 4 of the Basic Standards for Ground Water, 41.0 will not apply within the specified area. Additionally, the ground water organic chemical standards included in Table A of Section 41.5.C.3 of the Basic Standards for Ground Water (5 CCR 1002-41) for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene will not apply to certain oil and gas producing formations within the specified areas. However, to provide some protection of the potential future use of water resources in the specified area, the Commission's action provides that the statewide standard for radionuclides, as well as the statewide organic chemical standards (other than those for benzene, toluene, ethylbenzene, xylenes, and benzo(a) pyrene) will continue to apply to this ground water.

PARTIES TO THE RULEMAKING HEARING

1. Colorado Oil and Gas Conservation Commission

2. PRIMA Oil & Gas Company

3. Rex Monahan

4. Morgan County

5. Colorado Oil & Gas Association

42.27 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE: AUGUST 13, 2001 HEARING

SPECIFIC STATUTORY AUTHORITY

The provisions of C.R.S. 25-8-202; 25-8-203; and 25-8-204 provide the specific statutory authority for adoption of these regulatory provisions. The Commission has adopted in compliance with C.R.S. 24-4-103(4) the following statement of basis and purpose.

BASIS AND PURPOSE

In this rulemaking proceeding, the Commission adopted changes that were generally of a housekeeping nature to update the regulation, to make it easier to use, to remove unnecessary tables, to correct figures of specified areas, and to improve the overall quality of the figures (maps) of specified areas.

The changes made to update the regulation included adding references to the index and location map of classified areas and removing unnecessary tables from section 42.7(1) “Rocky Flats Area, Jefferson and Boulder Counties” .

In 1991, the Commission adopted ground water classifications and standards for the Rocky Flats specified area. The classifications adopted by the Commission included Domestic Use-Quality, Agricultural Use-Quality, and Surface Water Protection. The standards were listed in Tables 1–6. A second rulemaking hearing was held in 1996 to consider changes to the classification and standards for ground water at the Rocky Flats specified area. As a result of the hearing the Commission revised the classification and standards by deleting the Domestic and Agricultural Use Classifications and Standards, deleting Table 5, and amending Table 6. Tables 1 through 4 are ground water standards tables from Regulation 41 “The Basic Standards for Ground Water” , and they only apply to the Domestic and Agricultural Use Classifications. Table 5 was deleted by the Commission. Therefore, Tables 1 through 5 have been removed from section 42.7(1) because they are no longer applicable due to the change in ground water classifications and standards adopted by the Commission in the 1996 rulemaking hearing. Since Tables 1 through 5 hae been removed from section 42.7(1), Table 6 will be referenced only by its title “Site-Specific Radionuclide Standards” .

In the previous triennial review hearing modified figures, prepared using Geographic Information System technology, were adopted by the Commission. Inaccuracies were noted in the specified area boundaries on several of the reproduced figures. These specified area boundaries have been corrected to conform to the specified area boundaries depicted on the original figures adopted by the Commission at the time of the classification hearings. In order to improve the overall quality and usefulness of the figures in Regulation 42, a new set of figures were prepared by the WQCD and Colorado Oil and Gas Conservation Commission. The new figures show greater mapping detail and specified area boundaries highlighted by a heavy solid line which will reproduce with greater clarity in black and white.

42.28 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE: DECEMBER 10, 2001 HEARING ON SITE-SPECIFIC GROUND WATER CLASSIFICATION AND STANDARDS FOR THE GROUND WATER IN ONE SPECIFIED AREA OF RIO BLANCO COUNTY

SPECIFIC STATUTORY AUTHORITY

The provisions of C.R.S. 25-8-202; 25-8-203; and 25-8-204 provide the specific statutory authority for adoption of these regulatory provisions. The Commission has adopted in compliance with C.R.S. 24-4-103(4) the following statement of basis and purpose.

STATEMENT OF BASIS AND PURPOSE

A. Background

A.1 Hydrogeologic Units

As a result of this hearing, the Commission applied the classification of limited use and quality to the ground water contained within the following specified area:

Rio Blanco County (Figure 50) The Jurassic age Morrison and Sundance Formations within a specified area of Rio Blanco County, Colorado in which extensive oil and natural gas exploration and development have occurred. The specified area includes approximately 23 square miles in Rio Blanco County, Colorado.

A.2 Aquifer Exemption Requirements

The adoption of this Limited Use and Quality classification by the Commission does not preclude the need for obtaining an aquifer exemption under the Underground Injection Control (UIC) program, if future applicants wish to inject fluids into portions of the subject formations within each specified area for which an aquifer exemption would be needed. That is, the adoption of this classification does not preclude the need for compliance with the specific requirements of the UIC program.

A.3 Site-Specific Classifications

Site-specific classification of ground water begins with the identification of the use of the water within the four specified areas as follows:

Rio Blanco County (Figure 50) The ground water in the Jurassic age Morrison and Sundance Formations is co-produced with oil and gas and is considered a waste. Within the specified area, ground water in the Morrison Formation is not currently used nor can it reasonably be expected to be used in the future for domestic or agricultural purposes. The ground water is not in communication with any surface water bodies within the specified area so that the water quality standards of any classified surface water bodies are not affected by this ground water. More specific evidence of the limited use and quality of this ground water follows:

Within the specified area there are approximately 14 water wells permitted with the Office of the State Engineer. One is a shallow stock watering well, ten are shallow ground water monitoring wells installed along Wilson Creek for a contamination investigation, and three are inactive industrial water supply wells completed at depths within or exceeding the Morrison and Sundance Formations. The Division of Water Resources data indicates that there are no public water systems, or domestic, agricultural, commercial water wells completed in the Morrison and Sundance Formations within the specified area.

The Morrison and Sundance Formations contain contained naturally occurring accumulations of crude oil and natural gas, in addition to ground water this specified area. These oil and gas resources have been developed and produced since the 1930's.

Within the specified area approximately 40 oil and gas wells or tests have been drilled to or completed in the Morrison and Sundance Formations.

Within the specified area the Colorado Oil and Gas Conservation Commission (COGCC) has not granted any aquifer exemptions for UIC projects under Rule 324(B) of the Rules and Regulations, Rules of Practice and Procedure (2 CCR 404-1), pursuant to the Colorado Oil and Gas Conservation Act, Title 60, Article 34, C.R.S. (1982). Two enhanced oil production injection projects have been permitted within the specified area; however, these did not require aquifer exemptions, because the total dissolved solids (TDS) concentrations of the injection zones exceed 10,000 milligrams per liter (mg/l). These two injection

projects contain a total of approximately five injection wells completed in the Morrison and Sundance Formations.

Morrison Formation

Within the specified area the Morrison Formation lies between 6,380 to 7,868 feet below the ground surface (fbgs).

Based on information available to the COGCC, within the specified area the TDS concentration of the Morrison Formation ranges from 2,342 mg/l to 11,770 mg/l with an average of 7,055 mg/l.

Hydrogeologic data including produced water quality and depths of the Morrison Formation and other COGCC data indicate that the ground water in this formation meets the criteria in Regulation 41 for classification as “Limited Use and Quality” . The Commission, therefore, concluded that the application of the “Limited Use and Quality” classification to the ground water within the Morrison Formation in the specified area is appropriate. This classification and the application of site-specific standards for organic chemicals assure consistency between implementation of the UIC Program requirements and WQCC Standards and Classification

Sundance Formation

Within the specified area the Sundance Formation lies between 6,707 to 7,941 feet below the ground surface (fbgs).

Based on information available to the COGCC, within the specified area the TDS concentration of the Sundance Formation ranges from 13,277 mg/l to 22,000 mg/l with an average of 16,974 mg/l.

Hydrogeologic data including produced water quality and depths of the Morrison Formation and other COGCC data indicate that the ground water in this formation meets the criteria in Regulation 41 for classification as “Limited Use and Quality” . The Commission, therefore, concluded that the application of the “Limited Use and Quality” classification to the ground water within the Sundance Formation in the specified area is appropriate. This classification and the application of site-specific standards for organic chemicals assure consistency between implementation of the UIC Program requirements and WQCC Standards and Classification.

B. Site-Specific Numerical Standards

Consistent with the “Limited Use and Quality” classification, the ground water quality standards in Tables 1 through 4 of the Basic Standards for Ground Water, 41.0 will not apply within the specified area. Additionally, the ground water organic chemical standards included in Table A of Section 41.5.C.3 of the Basic Standards for Ground Water (5CCR 1002-41) for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene will not apply to certain oil and gas producing formations within the specified areas. However, to provide some protection of the potential future use of water resources in the specified area, the Commission's action provides that the statewide standard for radionuclides, as well as the statewide organic chemical standards (other than those for benzene, toluene, ethylbenzene, xylenes, and benzo(a) pyrene) will continue to apply to this ground water.

PARTIES TO THE RULEMAKING HEARING

1. Colorado Oil and Gas Conservation Commission

42.29 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE: SEPTEMBER 9, 2002 HEARING ON SITE-SPECIFIC GROUND WATER CLASSIFICATION AND STANDARDS FOR THE GROUND WATER in ONE SPECIFIED AREA OF BACA COUNTY:

SPECIFIC STATUTORY AUTHORITY

The provisions of C.R.S. 25-8-202; 25-8-203; and 25-8-204 provide the specific statutory authority for adoption of these regulatory provisions. The Commission has adopted in compliance with C.R.S. 24-4-103(4) the following statement of basis and purpose.

STATEMENT OF BASIS AND PURPOSE

Background

A.1 Hydrogeologic Units

As a result of this hearing, the Commission applied the classification of limited use and quality to the ground water contained within the following specified area:

Baca County (Figure 51) The Pennsylvanian aged Lansing Formation within a specified area of Baca County, Colorado in which extensive oil and natural gas exploration and development have occurred. The specified area includes approximately 14 square miles in Baca County, Colorado.

A.2 Aquifer Exemption Requirements

The adoption of this Limited Use and Quality classification by the Commission does not preclude the need for obtaining an aquifer exemption under the Underground Injection Control (UIC) program, if future applicants wish to inject fluids into portions of the subject formations within each specified area for which an aquifer exemption would be needed. That is, the adoption of this classification does not preclude the need for compliance with the specific requirements of the UIC program.

A.3 Site-Specific Classifications

Site-specific classification of ground water begins with the identification of the use of the water within the specified area as follows:

Baca County (Figure 51) The ground water in the Pennsylvanian aged Lansing Formation is co-produced with oil and gas and is considered a waste. Within the specified area, ground water in the Lansing Formation is not currently used nor can it reasonably be expected to be used in the future for domestic or agricultural purposes. The ground water is not in communication with any surface water bodies within the specified area so that the water quality standards of any classified surface water bodies are not affected by this ground water. More specific evidence of the limited use and quality of this ground water follows:

> Within the specified area there are approximately 25 water wells permitted with the Office of the State Engineer. Nine are shallow stock watering wells, ten are shallow ground water wells installed by the Forest Service, and six are active industrial water supply wells. The Division of Water Resources data indicates that there are no public water systems, or domestic, agricultural, commercial water wells completed in the Lansing Formation within the specified area.
>
> The Lansing Formation contains or has contained naturally occurring accumulations of crude oil and natural gas, in addition to ground water in this specified area. These oil and gas resources have been developed and produced since 1983.
>
> Within the specified area approximately 56 oil and gas wells or tests have been drilled to or completed in the Lansing Formation.
>
> Within the specified area the Colorado Oil and Gas Conservation Commission (COGCC) has not granted any aquifer exemptions for UIC projects under Rule 324(B) of the Rules and Regulations,

Rules of Practice and Procedure (2 CCR 404-1), pursuant to the Colorado Oil and Gas Conservation Act, Title 60, Article 34, C.R.S. (1982). Three enhanced oil production injection projects have been permitted within the specified area; however, these did not require aquifer exemptions, because the total dissolved solids (TDS) concentrations of the injection zones exceed 10,000 milligrams per liter (mg/l). These three injection projects contain a total of approximately fourteen injection wells completed in the Lansing Formation.

Within the specified area the Lansing Formation lies between 3,903 to 4,088 feet below the ground surface (fbgs).

Based on information available to the COGCC, within the specified area the TDS concentration of the Lansing Formation ranges from 89,575mg/L to 105,953mg/L The average TDS is 97,764mg/L.

Hydrogeologic data including produced water quality and depths of the Lansing Formation and other COGCC data indicate that the ground water in this formation meets the criteria in Regulation 41 for classification as “Limited Use and Quality” . The Commission, therefore, concluded that the application of the “Limited Use and Quality” classification to the ground water within the Lansing Formation in the specified area is appropriate. This classification and the application of site-specific standards for organic chemicals assure consistency between implementation of the UIC Program requirements and WQCC Standards and Classification.

B. <u>Site-Specific Numerical Standards</u>

Consistent with the “Limited Use and Quality” classification, the ground water quality standards in Tables 1 through 4 of the Basic Standards for Ground Water, 41.0 will not apply within the specified area. Additionally, the ground water organic chemical standards included in Table A of Section 41.5.C.3)of the Basic Standards for Ground Water (5CCR 1002-41) for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene will not apply to certain oil and gas producing formations within the specified areas. However, to provide some protection of the potential future use of water resources in the specified area, the Commission's action provides that the statewide standard for radionuclides, as well as the statewide organic chemical standards (other than those for benzene, toluene, ethylbenzene, xylenes, and benzo(a) pyrene) will continue to apply to this ground water.

C. <u>Other Revisions</u>

The table and map in section 42.3, “Index of Classified Areas: has been updated to reflect all current site-specific classifications and standards. In addition, references throughout the regulation to “larger scale maps available in the Commission Office” have been deleted. These anticipated maps have not been completed, and the Commission has determined that they are not necessary at this time. A quality control check indicated that one of the specified areas on Figure 49A had an incorrect outline and has been replaced with a new Figure 49A.

PARTY STATUS/MAILING LIST STATUS FOR SEPTEMBER 2002 RULEMAKING HEARING

1. Colorado Oil and Gas Conservation Commission

2. San Juan Citizens Alliance and High Country Citizens Alliance

3. American Council of Engineering Companies of Colorado

42.30 <u>STATEMENT OF BASIS. SPECIFIC STATUTORY AUTHORITY. AND PURPOSE: DECEMBER 8. 2003 HEARING ON SITE-SPECIFIC GROUND WATER CLASSIFICATION AND STANDARDS FOR THE GROUND WATER in ONE SPECIFIED AREAS OF CHEYENNE AND KIT CARSON COUNTIES</u>:

SPECIFIC STATUTORY AUTHORITY

The provisions of C.R.S. 25-8-202; 25-8-203; and 25-8-204 provide the specific statutory authority for adoption of these regulatory provisions. The Commission has adopted in compliance with C.R.S. 24-4-103(4) the following statement of basis and purpose.

BASIS AND PURPOSE

A. Background

A.1 Hydro geologic Units

As a result of this hearing, the Commission applied the classification of limited use and quality to the ground water contained within the following specified area:

Cheyenne and Kit Carson Counties (Figures 52A and 52B) The Pennsylvanian aged Morrow Formation within specified areas of Cheyenne and Kit Carson Counties, Colorado in which extensive oil and natural gas exploration and development have occurred. The specified area includes approximately 90 square miles in Cheyenne and Kit Carson Counties, Colorado.

A.2 Aquifer Exemption Requirements

The adoption of this Limited Use and Quality classification by the Commission does not preclude the need for obtaining an aquifer exemption under the Underground Injection Control (UIC) program, if future applicants wish to inject fluids into portions of the subject formations within each specified area for which an aquifer exemption would be needed. That is, the adoption of this classification does not preclude the need for compliance with the specific requirements of the UIC program.

A.3 Site-Specific Classifications

Site-specific classification of ground water begins with the identification of the use of the water within the specified area as follows:

Cheyenne and Kit Carson Counties (Figures 52A and 52B) The ground water in the Pennsylvanian aged Morrow Formation is co-produced with oil and gas and is considered a waste. Within the specified area, ground water in the Morrow Formation is not currently used nor can it reasonably be expected to be used in the future for domestic or agricultural purposes. The ground water is not in communication with any surface water bodies within the specified area so that the water quality standards of any classified surface water bodies are not affected by this ground water. More specific evidence of the limited use and quality of this ground water follows:

Within the specified area there are approximately 59 water wells permitted with the Office of the State Engineer. The Division of Water Resources data indicates that there are no public water systems, or domestic, agricultural, commercial water wells completed in the Morrow Formation within the specified area.

The Morrow Formation contains or has contained naturally occurring accumulations of crude oil and natural gas, in addition to ground water in this specified area. These oil and gas resources have been developed and produced since 1979.

Within the specified area approximately 374 oil and gas wells or tests have been drilled to or completed in the Morrow Formation.

Within the specified area the Colorado Oil and Gas Conservation Commission (COGCC) has not granted any aquifer exemptions for UIC projects under Rule 324(B) of the Rules and Regulations, Rules of

Practice and Procedure (2 CCR 404-1), pursuant to the Colorado Oil and Gas Conservation Act, Title 60, Article 34, C.R.S. (1982). Eight enhanced oil production injection projects have been permitted within the specified area; however, these did not require aquifer exemptions, because the total dissolved solids (TDS) concentrations of the injection zones exceed 10,000 milligrams per liter (mg/l). These eight injection projects contain a total of approximately twenty-three injection wells completed in the Morrow Formation. The Second Wind Field has two gas injection wells; Frontera Field has three gas injection wells; Arapahoe Field has two water injection wells and three gas injection wells; Arapahoe NW Field has one water injection well and one gas injection well; Mount Pearl Field has one water injection well and five gas injection wells; Sorrento Field has one gas injection well; Bledsoe Ranch Field has one water injection well and one gas injection well; Speaker Field has two gas injection wells.

Within the specified area the Morrow Formation lies between 5,088 to 6,531 feet below the ground surface (fbgs). The Second Wind Field ranges from 5,119 fbgs to 5,150 fbgs; Frontera Field ranges from 5,117 fbgs to 5,179 fbgs; Arapahoe Field ranges from 5,088 fbgs to 5,249 fbgs; Arapahoe NW Field ranges from 5,190 fbgs to 5,320 fbgs; Mount Pearl Field ranges from 5,321 fbgs to 5,488 fbgs; Sorrento Field ranges from 5,440 fbgs to 5,478 fbgs; Bledsoe Ranch Field ranges from 6,525 fbgs to 6,531 fbgs; Speaker Field ranges from 6,374 fbgs to 6,386 fbgs.

Based on information available to the COGCC, within the specified area the average TDS concentration of I the Morrow Formation ranges from 39,943mg/L to 225,730mg/L with an average of 39,943 mg/l in the I Second Wind Field; an average of 71,355 mg/I in Frontera Field; an average of 56,693 mg/l in Arapahoe Field; an average of 56,261 mg/l in Arapahoe NW Field; an average of 225,730 mg/l in Mount Pearl Field; an I average of 142,102 mg/l in Sorrento Field; an average of 52,167 mg/l in Bledsoe Ranch Field; an average of 127,662 mg/l in Speaker Field.

Hydro geologic data including produced water quality and depths of the Morrow Formation and other COGCC data indicate that the ground water in this formation meets the criteria in Regulation 41 for classification as “Limited Use and Quality” . The Commission, therefore, concluded that the application of the “Limited Use and Quality” classification to the ground water within the Morrow Formation in the specified area is appropriate. This classification and the application of site-specific standards for organic chemicals assure consistency between implementation of the UIC Program requirements and WQCC Standards and Classification.

B. Site-Specific_Numerical_Standards

Consistent with the “Limited Use and Quality” classification, the ground water quality standards in Tables 1 through 4 of the Basic Standards for Ground Water, 41.0 will not apply within the specified area. Additionally, the ground water organic chemical standards included in Table A of Section 41.5.C.3 of the Basic Standards for Ground Water (5CCR 1002-41) for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene will not apply to certain oil and gas producing formations within the specified areas. However, to provide some protection of the potential future use of water resources in the specified area, the Commission's action provides that the statewide standard for radionuclides, as well as the statewide organic chemical standards (other than those for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene) will continue to apply to this ground water.

The table and map in section 42.3 “Index of Classified Areas” and “Index Map” have been undated to reflect the new site-specific classifications and standards that were adopted in this rulemaking hearing.

PARTY STATUS/MAILING LIST STATUS FOR DECEMBER, 2003 RULEMAKING HEARING

1. Colorado Oil and Gas Conservation Commission

42.31 STATEMENT OF BASIS. SPECIFIC STATUTORY AUTHORITY. AND PURPOSE: March 9.2004 HEARING ON SITE-SPECIFIC GROUND WATER CLASSIFICATION AND

STANDARDS FOR THE GROUND WATER IN ONE SPECIFIED AREA (HIAWATHA FIELD) OF MOFFAT COUNTY:

SPECIFIC STATUTORY AUTHORITY

The provisions of C.R.S. 25-8-202; 25-8-203; and 25-8-204 provide the specific statutory authority for adoption of these regulatory provisions. The Commission has adopted in compliance with C.R.S. 24-4-103(4) the following statement of basis and purpose.

STATEMENT OF BASIS AND PURPOSE

A. Background

A.1 Hydrogeologic Units

As a result of this hearing, the Commission applied the classification of limited use and quality to the ground water contained within the following specified area:

Moffat County (Figure 53) The Tertiary age Wasatch Formation within a specified area of Moffat County, Colorado (Hiawatha Field) in which extensive oil and natural gas exploration and development has occurred. The specified area includes approximately 3 square miles in Moffat County, Colorado.

A.2 Aquifer Exemption Requirements

The adoption of this Limited Use and Quality classification by the Commission does not preclude the need for obtaining an aquifer exemption under the Underground Injection Control (UIC) program, if future applicants wish to inject fluids into portions of the subject formation within each specified area for which an aquifer exemption would be needed. That is, the adoption of this classification does not preclude the need for compliance with the specific requirements of the UIC program.

A.3 Site-Specific Classifications

Site-specific classification of ground water begins with the identification of the use of the water within the four specified areas as follows:

Moffat County (Figure 53) The confined ground water in the Middle Sand zone of the Tertiary age Wasatch Formation at Hiawatha Field is co-produced with oil and natural gas and is considered a waste. Within the specified area, ground water in the Middle Oil Sand of the Wasatch Formation is not currently used nor can it reasonably be expected to be used in the future for domestic or agricultural purposes. The ground water is not in communication with any surface water bodies within the specified area so that the water quality standards of any classified surface water bodies are not affected by this ground water. More specific evidence of the limited use and quality of this ground water follows:

> Within the specified area there are 3 water wells permitted with the Office of the State Engineer. All three of the permitted water wells have been installed by Wexpro (operator of the Hiawatha Middle Oil Sand Unit Injection project) for make-up water for their enhanced oil production project. The Division of Water Resources data indicates that there are no public water systems, or domestic, agricultural, commercial water wells completed in the Wasatch Formation within the specified area.
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> The Middle Oil Sand zone of the Wasatch Formation contains or has contained naturally occurring accumulations of crude oil and natural gas, in addition to ground water this specified area. These oil and gas resources have been developed and produced since the 1930's.

Within the specified area approximately 26 oil and gas wells or tests have been drilled to or completed in the Middle Oil Sand zone of the Wasatch Formation.

Within the specified area the Colorado Oil and Gas Conservation Commission (COGCC) has not granted any aquifer exemptions for UIC projects under Rule 324(B) of the Rules and Regulations, Rules of Practice and Procedure (2 CCR 404-1), pursuant to the Colorado Oil and Gas Conservation Act, Title 60, Article 34, C.R.S. (1982). One enhanced oil production injection project (Hiawatha Middle Sand Unit [COGCC Injection Facility No. 150230]) and one water disposal project (COGCC Injection Facility No. 150060) have been permitted within the specified area; however, nether project required an aquifer exemption, because the total dissolved solids (TDS) concentrations of the injection zone (Middle Oil Sand zone) exceed 10,000 milligrams per liter (mg/l). These two injection projects contain a total of four injection wells completed in the Middle Oil Sand zone of the Wasatch Formation.

Middle_Oil_Sand_Zone_of_the_Wasatch_Formation

Within the specified area the Middle Oil Sand zone of the Wasatch Formation is between 2,200 to 2,320 feet below the ground surface (fbgs).

Based on information available to the COGCC, within the specified area the TDS concentration of the Middle Oil Sand zone of the Wasatch Formation ranges from 38,500 mg/l to 39,000 mg/l with an average of 38,750 mg/l.

Hydrogeologic data including produced water quality and depth of the Middle Oil Sand zone of the Wasatch Formation and other COGCC data indicate that the ground water in this formation meets the criteria in Regulation 41 for classification as “Limited Use and Quality” . The Commission, therefore, concluded that the application of the “Limited Use and Quality” classification to the ground water within the Middle Oil Sand zone of the Wasatch Formation in the specified area is appropriate. This classification and the application of site-specific standards for organic chemicals assure consistency between implementation of the UIC Program requirements and WQCC Standards and Classifications.

B. Site-Specific Numeric Standards

Consistent with the “Limited Use and Quality” classification, the ground water quality standards in Tables 1 through 4 of the Basic Standards for Ground Water, 41.0 will not apply within the specified area. Additionally, the ground water organic chemical standards included in Table A of Section 41.5.C.3 of the Basic Standards for Ground Water (5CCR 1002-41) for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene will not apply to certain oil and gas producing formations within the specified areas. However, to provide some protection of the potential future use of water resources in the specified area, the Commission's action provides that the statewide standard for radionuclides, as well as the statewide organic chemical standards (other than those for benzene, toluene, ethylbenzene, xylenes, and benzo(a)pyrene) will continue to apply to this ground water.

PARTY STATUS/MAILING LIST STATUS FOR MARCH, 2004 RULEMAKING HEARING

1. Colorado Oil and Gas Conservation Commission

42.32 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; SEPTEMBER 2004 RULEMAKING

The provisions of sections 25-8-202; 25-8-204; 25-8-402, C.R.S., provide the specific statutory authority for adoption. The Commission also adopted, in compliance with section 24-4-103(4) C.R.S., the following statement of basis and purpose.

BASIS AND PURPOSE

This hearing was held to consider changes recommended in the an Informational Hearing for Regulation 42, Site-Specific Water Quality Classifications and Standards for Ground Water. The only changes that the Commission considered during this hearing were the correction of typographical errors.

PARTIES TO THE RULEMAKING HEARING

1. Schlage Lock Company
2. Teck Cominco Limited
3. Raytheon Aircraft Company
4. City and County of Denver
5. Waste Management of Colorado
6. Lockheed Martin Space Systems Company
7. Barrick Gold Corporation
8. Shell Oil Company
9. Colorado Wastewater Utility Council
10. The City of Boulder
11. Emerson Electric Company
12. Colorado Association of Commerce and Industry
13. Metro Wastewater Reclamation District
14. Dover Industries, Inc.
15. Colorado Mining Association
16. The Board of County Commissioners of El Paso County
17. The JRW Family Limited Partnership
18. The South Adams County Water and Sanitation District
19. Colorado Department of Transportation
20. U.S. Environmental Protection Agency
21. Stephen A. Bain
22. U.S. Department of Energy, Rocky Flats Project Office
23. John D. Fognani & Suzanna K. Moran
24. Alliant Techsystems Inc.

42.33 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: FEBRUARY 2006 RULEMAKING

The provisions of C.R.S. sections 25-8-202; 25-8-203; 25-8-204; 25-8-402, provide the specific statutory authority for adoption. The Commission also adopted, in compliance with section 24-4-103(4) the following statement of basis and purpose.

BASIS AND PURPOSE

This hearing was held to correct a typographical error that was discovered for the site-specific ground water quality classification of the San Arroyo Creek Basis, delineated in 42.7(36) of Regulation 42, Site-Specific Water Quality Classifications and Standards for Ground Water. The only changes that the Commission considered during this hearing were the correction of the legal description for this classified area.