

Produced Nontributary Water - Unsnarling the Regulations And Water Rights Issues in Colorado

*James L. Jehn, C.P.G.
President
Jehn Water Consultants, Inc.*

Summary of Presentation

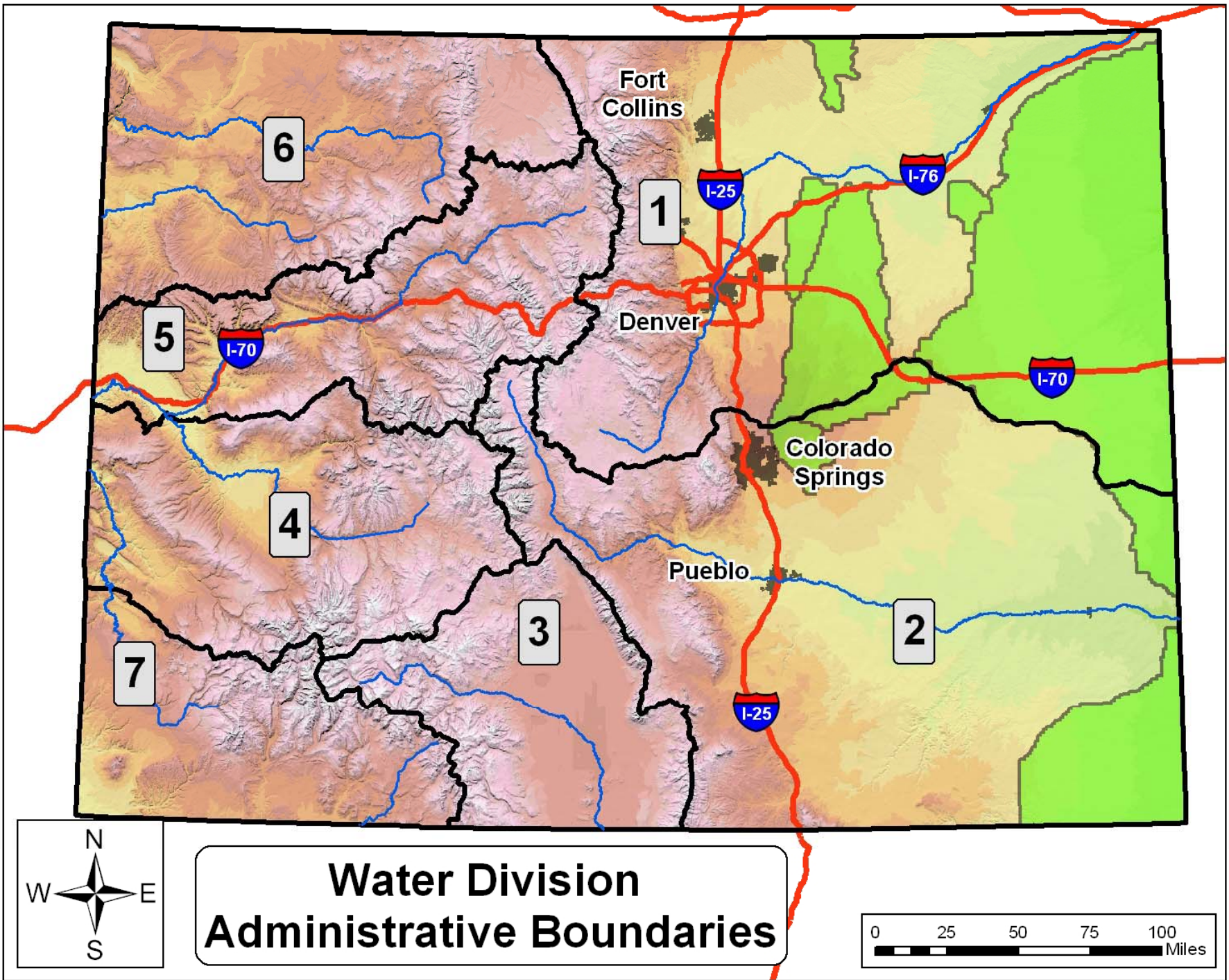
- Overview of Colorado Water Law
- Application of Colorado Water Law to Produced Water
- Vance Case No. 05CW63
- Findings of the Colorado Supreme Court Case 07CA293, Vance v. Wolfe
- Summary of House Bill 09-1303
- Produced Nontributary Ground Water Rules
- Central Raton Petition Example
- Well Permit Requirements

Prior Appropriation

- “First in time, first in right.”
- The right to use the waters of the State is based on the priority of a party’s appropriation of a specified amount of water, at a specified location, for specified uses (a “water right”).

Water Rights

- Water rights are decreed in one of seven special Water Courts, each of which is associated with one of the seven major drainages leaving Colorado.



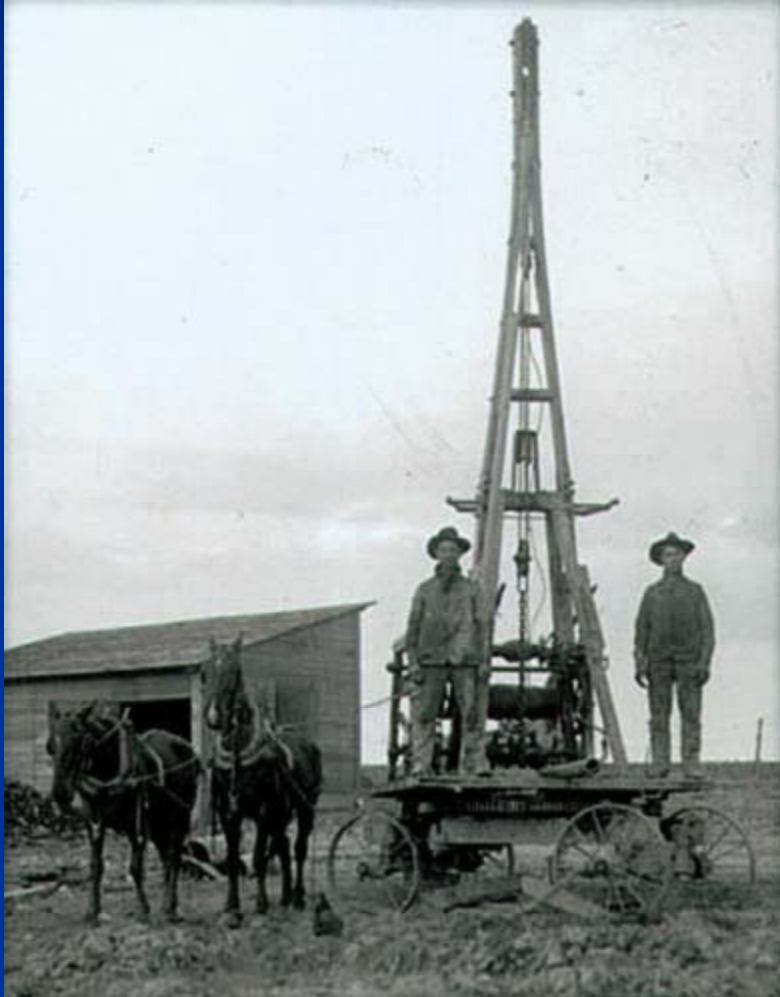
Water Division Administrative Boundaries

Timeline of Colorado Water Law 1876 - Article XVI



- Priority of Appropriation – any unappropriated water of every “natural stream” is the property of the public.

Timeline of Colorado Water Law 1903 - Court Adjudication



- Any water right derived from any natural stream is subject to court adjudication (tributary water)

Timeline of Colorado Water Law

- 1914: Colorado Supreme Court confirms the constitutional term “natural stream”
- 1951: Colorado Supreme Court holds that all ground water is presumed to be tributary and is subject to appropriation and administration.

Natural Stream

Natural Stream

A stream system which arises as a natural surface stream and, as a natural or man-induced phenomenon, terminates within the state of Colorado through naturally occurring evaporation and transpiration of its water, together with its underflow and tributary water, is a natural surface stream subject to appropriation.



Timeline of Colorado Water Law

- 1957: Colorado General Assembly
 - All users of ground water must file a statement of beneficial use.
 - New wells need a permit
 - Well permit does not grant a water right.
- 1965: Colorado General Assembly adopts the ground water management act – Requires well permits to be obtained prior to drilling a well.

Timeline of Colorado Water Law

- 1969: Colorado General Assembly – Adopts the Colorado Water Rights Determination and Administration Act - tributary ground water and surface water administered by prior appropriation.
 - Tributary wells need to obtain adjudication of their priorities
 - Augmentation Plans may be decreed to allow for out of priority depletions
 - Conditional water rights defined

Timeline of Colorado Water Law

- 1973: Senate Bill 73-213 (SB213)
 - Allocated the right to use nontributary ground water to the overlying landowner.
 - The amount of nontributary ground water that can be withdrawn annually is limited to one percent (1%) of the quantity of water considered to be underlying the land.

Timeline of Colorado Water Law

- 1985: Senate Bill 85-5 (SB5)
 - Governs the development and use of nontributary ground water.
 - Provides a statutory definition to nontributary and not-nontributary ground water.
 - Defines the limits of the Denver Basin aquifers.
 - Defines special treatment in the determination of nontributary and not-nontributary water in the Denver Basin aquifers.
 - Requires not-nontributary aquifer water to have an augmentation plan prior to being put to beneficial use.

Timeline of Colorado Water Law

1985: Senate Bill 85-5 (SB5) *Cont'd*

- Coexists with the 1973 law
- Did not negate the legal effect of the 1973 law for landowner
- Allows nontributary water withdrawal when mining minerals
- Premised on incidental withdrawal (dewatering of a geologic formation)
- This necessarily limits the amount that can be withdrawn
- This necessarily limits the duration

Definition

Nontributary Ground Water CRS 37-90-103 (10.5)

Nontributary ground water means that ground water, located outside the boundaries of any designated ground water basin in existence on January 1, 1985, the withdrawal of which will not, within one hundred years, deplete the flow of a natural stream at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal.

APPLICATION OF COLORADO WATER LAWS
TO PRODUCED WATER FROM
COAL BED METHANE WELLS
AND
OIL AND GAS WELLS
IN COLORADO

Vance Case No. 05CW63 (Division 7 Water Court)

- State Engineer (in addition to COGCC) has authority over produced water from oil and gas wells.
- The ground water withdrawn by oil and gas wells is presumed to be tributary, and unless proven nontributary, operators must take appropriate steps to prevent injury.
- Removal of produced water by CBM wells is “beneficial use” of water and requires a permit from the State Engineers Office.

Findings of the Colorado Supreme Court Case 07CA293, Vance v. Wolfe

Vance v. Wolfe (Supreme Court)

- Supreme Court affirmed Water Court's ruling that removal of produced water is an "appropriation" of water for "beneficial use."
- Supreme Court affirmed Water Court's ruling that State Engineer needs to prevent injury to water rights caused by withdrawal of water by oil and gas wells.

What does Vance v. Wolfe mean?

- Coal bed methane wells that remove produced water result in an “appropriation” of water for beneficial use.
 - Must obtain well permits from State Engineer
 - If tributary, must replace injurious out-of-priority stream depletions
 - Can file for adjudication of water rights in water court

What does Vance v. Wolfe mean?

- Potential for State Engineer to issue many water well permits
- State Engineer needs to determine which wells are nontributary in order to properly assess the need for water well permit and substitute water supply plans

Who should regulate produced water from CBM wells?

- Colorado Oil and Gas Conservation (“COGCC”)
 - Has authority over “all oil and gas operations.”
 - Responsible for permitting all operation of oil and gas wells, including disposal of “waste.”
- State Engineer
 - Has authority to curtail diversions of water that injure other water users.
 - Responsible for permitting wells that withdraw ground water for “beneficial use.”

Summary of HB 09-1303 and SB 10-165

HB 09-1303

Pivotal Question:

***Is the ground water
nontributary?***

...and if instead, it is tributary, what then?

HB 09-1303

Background

- SEO worked with industry and Colorado Water Congress to draft legislation
- Developed language with legislator support during 2009 legislative session
- HB-1303 signed into law on June 2, 2009

HB 09-1303

HB 09-1303 allows a reasonable period of delay before administration

- An existing statute requires that the State Engineer take action
- HB 09-1303 states that this statute shall not apply to oil and gas wells until March 31, 2010.
This allows time for the Producers to react to the outcome of the Vance Case ruling and its implications on ground water administration for oil and gas wells.

HB 09-1303

HB 09-1303 provides an additional transition period of nearly three years, only for Coal Bed Methane wells that produce tributary ground water

- As described, exempts all oil and gas wells from administration for an initial period
- After that period, all oil and gas wells producing *tributary* ground water will be subject to the State Engineer's administrative authority.
- However, beginning April 1, 2010, and until December 31, 2012, CBM wells may operate under a new substitute water supply plan statute.

Allows a period of nearly three years for developing an augmentation plan

HB 09-1303

HB 09-1303 provides for rule making by the State Engineer

- HB 09-1303 provides that the State Engineer may adopt rules to assist in the process for determining that ground water meets the definition of *nontributary*.

- Scope of rules

 - Identify methodologies, assumptions, accepted values, definitions, etc.

 - Consider proposals for nontributary determinations for formations that have, or will have oil and gas production

SB 10-165

SB 10-165 is a DWR/DNR bill that was necessary due to the compressed time frame and the potentially large number of permits

- Extends the deadline for permitting to August 1, 2010
 - Applications must be received by April 30, 2010
- Extends the deadline for SWSP approval to August 1, 2010
 - Applications must be received by April 30, 2010
- Allows produced water from non-CBM wells to be used for certain oil and gas uses without a permit.
- Includes an interesting statement about the effect of the permit
 - *“PERMITTING DETERMINATIONS PURSUANT TO THIS SUBSECTION (7) NEITHER CONFER A WATER RIGHT NOR PRECLUDE DETERMINATION OF A WATER RIGHT BY THE WATER COURT.”*

Produced Nontributary Ground Water Rules

Timeline of Rulemaking

- Proposed Rules submitted to Secretary of State on August 31, 2009
- Rulemaking was bifurcated in October 2009
- Hearing on CBM Proposed Alternate Rules held in December 2009
- Ruling on CBM Alternate Rules submitted to Secretary of State on December 30, 2009

Timeline of Rulemaking

- CBM Alternate Rules became effective on January 30, 2010
- Hearing on non-CBM Proposed Alternate Rules held in January 2010
- Ruling on non-CBM Alternate Rules submitted to Secretary of State February 12, 2010
- Non-CBM Alternate Rules became effective on March 17, 2010

Well Permit Requirements

Water Administration Requirements

Well Permit Requirements

Coal Bed Methane ("CBM") Wells

- Wells that produce ground water through the CBM extraction process are ***putting the water to beneficial use*** and must obtain a water well permit



CBM well pad & water pit, Raton Basin

www.cpawsyukon.org

Well Permit Requirements

Non CBM Wells

- Non-CBM wells that *put* ground water to a *beneficial* use require well permits*; otherwise, no permit is required

* Except as allowed by SB10-165

Well Permit Requirements

EXTRACTION ONLY

CBM Wells

Tributary: Requires a permit and the replacement of depletions.

Nontributary: Requires a permit.

Non-CBM Wells

Tributary: No permit required. Depletion replacement to an over-appropriated stream is required.

Nontributary: No permit required.

Well Permit Requirements

USE SUBSEQUENT TO EXTRACTION

CBM Wells

Tributary: Requires a permit and the replacement of depletions.

Nontributary: Requires a permit.

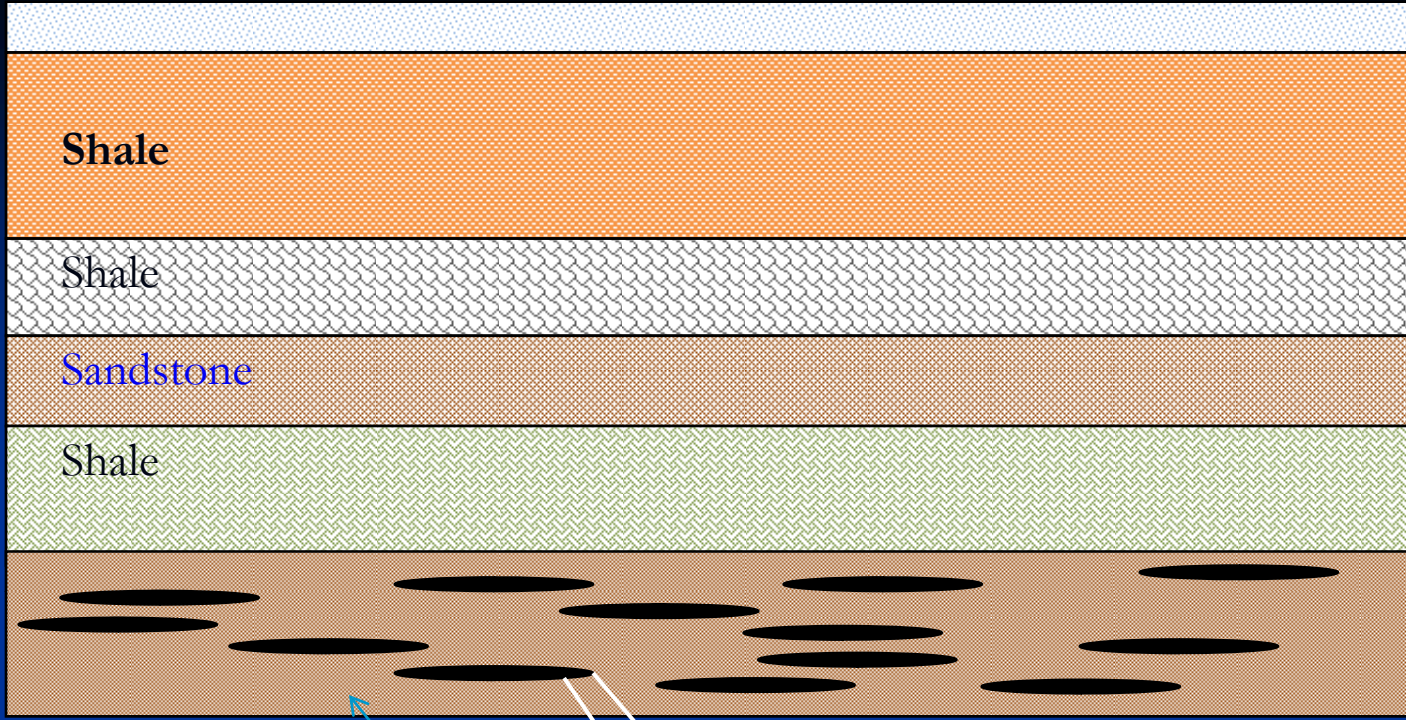
Non-CBM Wells

Tributary: Requires a permit and the depletion replacement to an over-appropriated stream.

Nontributary: Requires a permit.

Coal Seam in Geologic Cross-Section

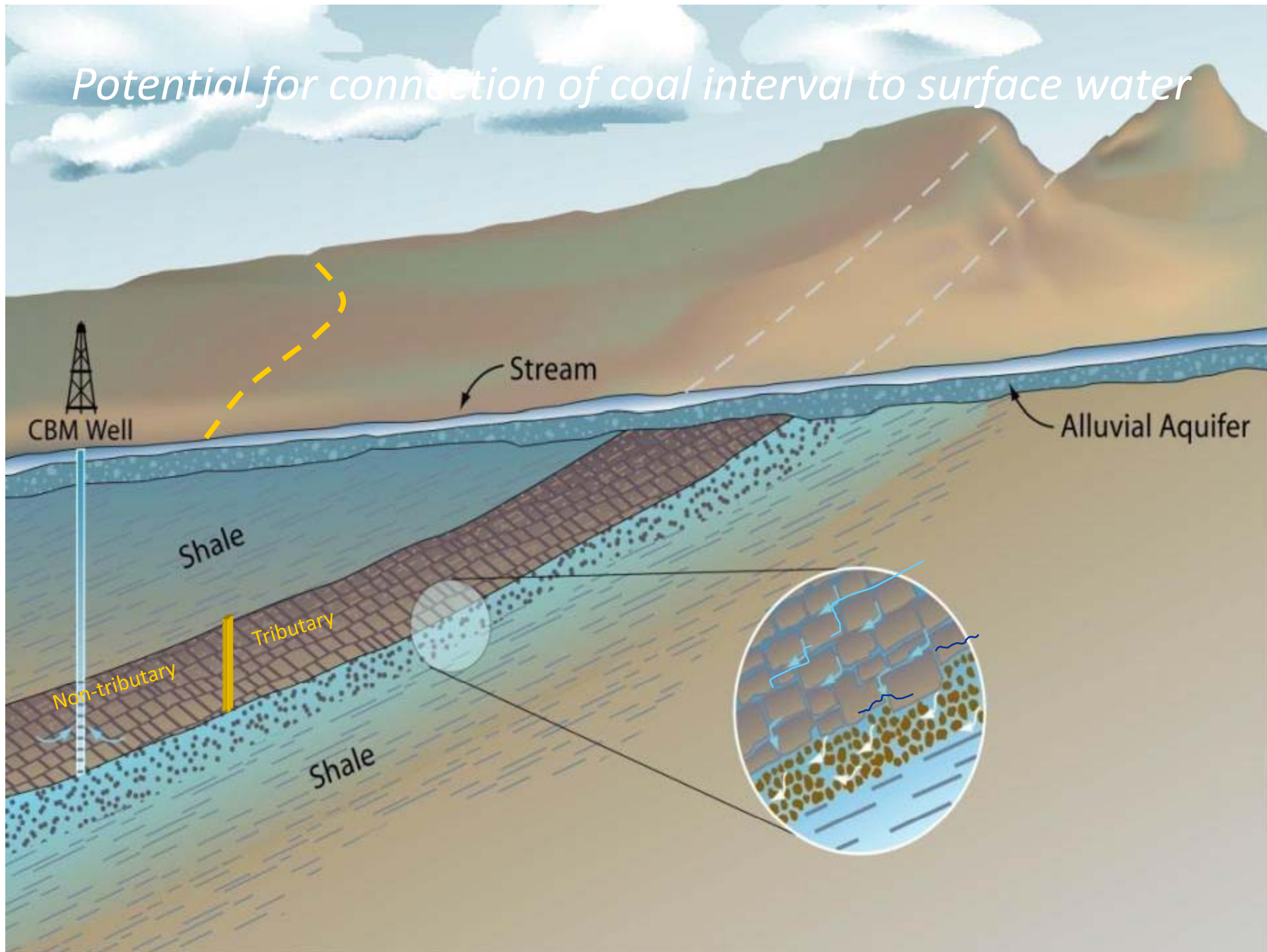




Coal Producing Formation



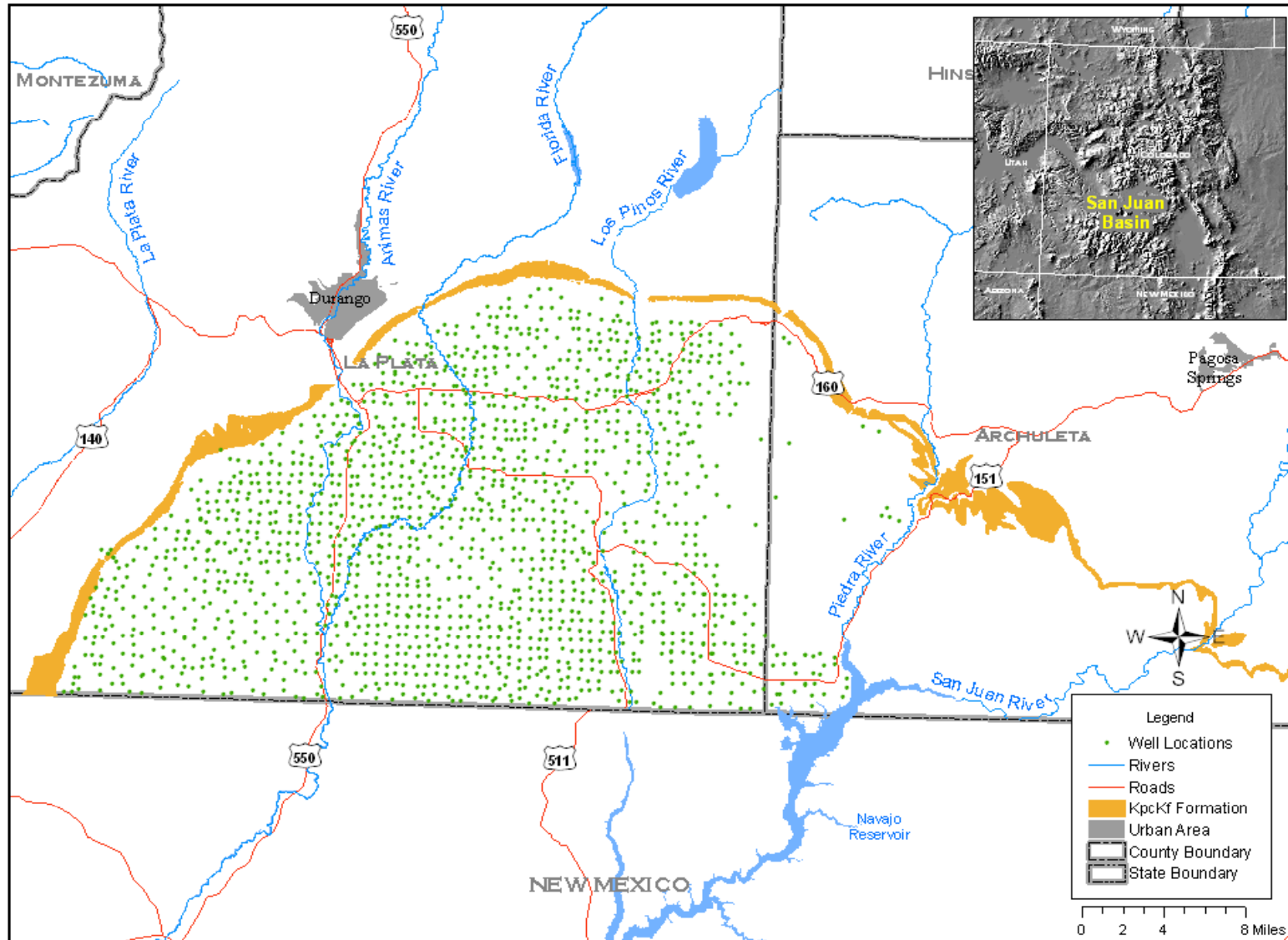
Potential for connection of coal interval to surface water

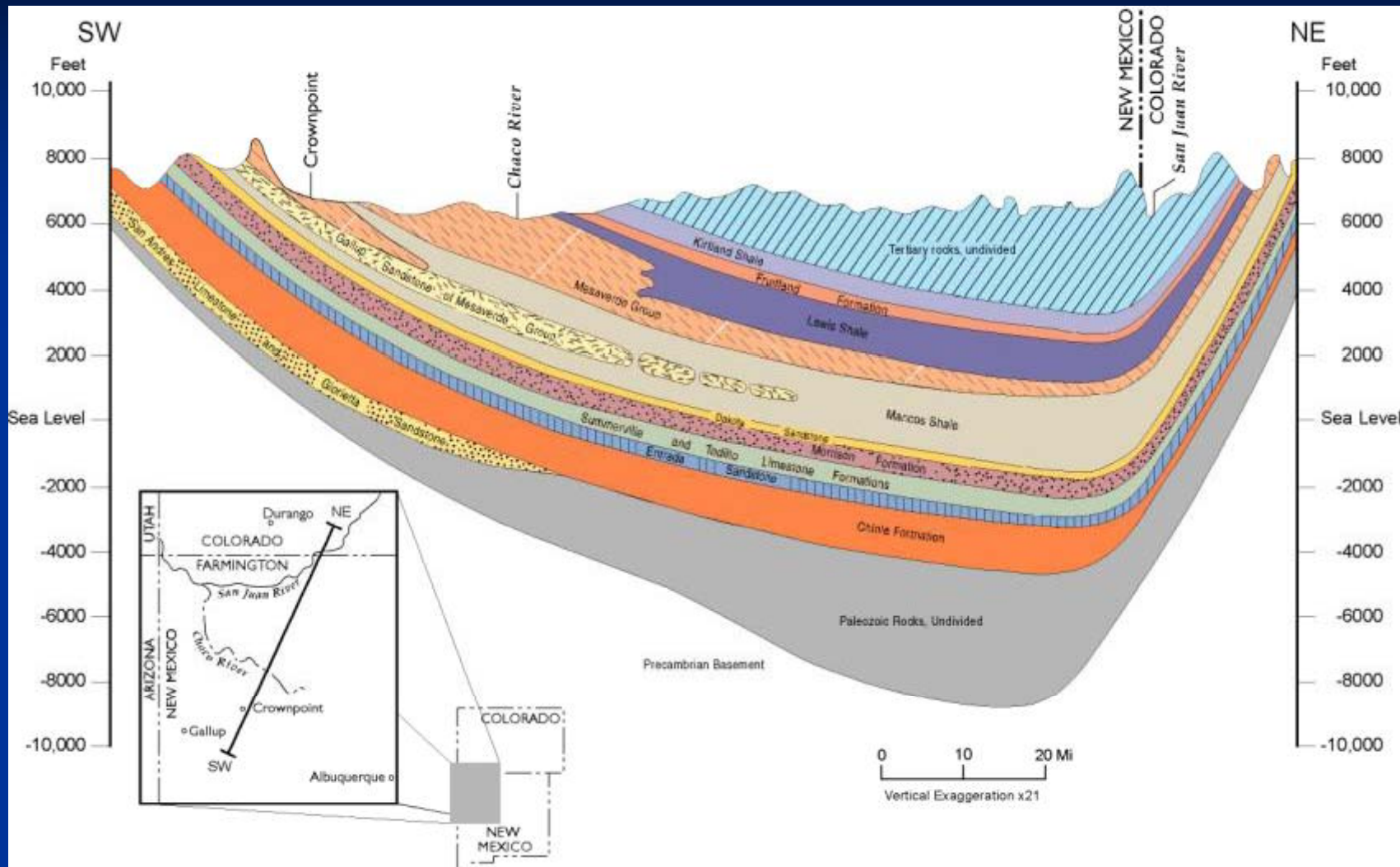


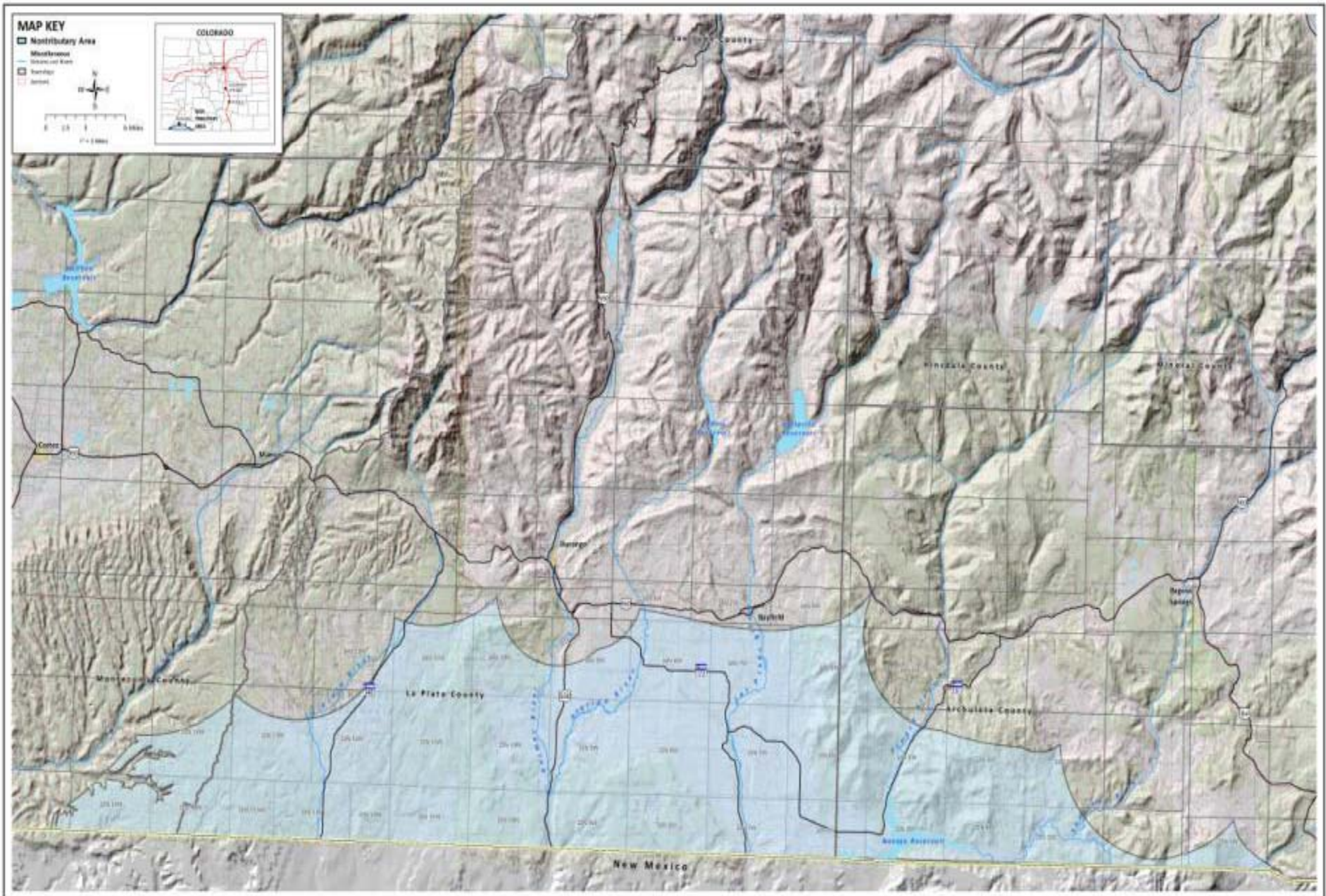
Petition for Central Raton Basin

- As allowed by Rule 17.5, operators in the Central Raton submitted a Petition for a Determination of Nontributary Ground Water
- The parties in that matter stipulated to an agreed-upon nontributary area
- The result is that there will be a nontributary area in the Central Raton Basin
- Not a “rule”, but for the purposes of 37-90-137(7) it has the same effect

Recent Example - Wells in San Juan Basin, Colorado







State of Colorado – Division of Water Resources
 Produced Nontributary Ground Water Rules; 2 CCR 402-17
Nontributary Ground Water in the Northern San Juan Basin
 Menefee Formation

Produced Nontributary Water

- 37-90-137(7): In the case of dewatering of geologic formations by withdrawing nontributary ground water to facilitate or permit mining of minerals:
 - (a) No well permit shall be required unless the nontributary ground water being removed will be beneficially used; and

Produced Nontributary Water, cont.

- (b) In the issuance of any well permit pursuant to this subsection (7), the provisions of subsection (4) of this section shall not apply. The provisions of subsections (1), (2), and (3) of this section shall apply; except that, in considering whether the permit shall issue, the requirement that the state engineer find that there is unappropriated water available for withdrawal and the six-hundred-foot spacing requirement in subsection (2) of this section shall not apply. The state engineer shall allow the rate of withdrawal stated by the applicant to be necessary to dewater the mine; except that, if the state engineer finds that the proposed dewatering will cause material injury to the vested water rights of others, the applicant may propose, and the permit shall contain, terms and conditions which will prevent such injury. The reduction of hydrostatic pressure level or water level alone does not constitute material injury.

CREDITS

Assistance and information was provided by the following:

Mr. Kevin Rein, Assistant State Engineer, Colorado Division of Water Resources

Photos & Figures:

Colorado Division of Water Resources

www.cpawsyukon.org

www.flickr.com/photos/29730057