

UNIVERSITY OF UTAH
COLLEGE OF LAW
EXAMINATION COVER SHEET

Student Examination Number: _____

Law 7230

Water Law

Professor Adler

Spring 2010

April 28, 2010

1:00 p.m. – 4:15 p.m.

⌚ **Time Allowed:** 3 hours 15 minutes

Authorized Materials: Open book. Students may bring any books, notes, outlines, or other written materials into the exam.

Special Instructions:

1. Not including this cover page and the general instructions page, this exam consists of 5 pages, with 2 large, related questions. Both of the questions have multiple subparts. Make sure you have the full exam.
2. You have 3 hours to answer the questions, and an extra 15 minutes to read through the exam and plan your approach. Although you may use your time any way you would like, you will probably do better if you use your extra time to read through and scope out the entire exam first and then begin to answer the questions.
3. There are 180 points on the exam (one point per minute of time). The exam indicates point values for each subpart of each question. The point values are proportionate to the expected length and depth of the answers, *i.e.*, questions with smaller point values should be answered more briefly, and questions with higher point values require more analysis and explanation. Try not to exceed the time allotted for any question. You will lose more points in the long run because you will run out of time or rush later answers, and if you spend too much time on a question, you are probably going beyond the scope of the expected answer.
4. Read the questions carefully and answer what is asked precisely, from the perspective of the party identified in the question. You will receive more credit if your answers are well-organized and responsive to the question. You will not receive more credit for “data dumps,” *i.e.*, simply writing a lot of information that is generally relevant to the subject matter.

GENERAL INSTRUCTIONS FOR ALL EXAMS:

1. Exams do not leave the exam room! Write your exam number on your copy of the examination questions, and return it to the proctor at the end of the exam.
2. Students may NOT take any bluebooks or scratch paper from the examination room, whether blank or used. Return to proctor.
3. If you are using a bluebook print your exam number, the title of the course and the instructor's name on the front of each bluebook.
4. Number each bluebook (1 of 3, 2 of 3, 3 of 3, etc.) and place all bluebooks and examination questions inside the first numbered bluebook.
5. If the examination utilizes a computer answer sheet (Scantron):
 - You must use **BLACK** or **BLUE INK** only; no pencils
 - You may use **CORRECTION TAPE** only; no liquid paper
 - Print your examination number in the box found in the lower left-hand section of the form. Write the number in the first 4 spaces, and zero-fill any remaining spaces.

For example, if your examination number is 2983:

IDENTIFICATION NUMBER

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Fill in the bubbles corresponding to the numbers written.

1. Digital Mining Company located a vein of rare minerals in the vicinity of the Coloblanco River in the (hypothetical) State of Aridity. Because of their scarcity and because they are essential to the production of specialized computer microchips, the value of the minerals once separated from the ore will be extremely high. Some microchips made with these minerals are key components in the newest generation of “drones” used by the U.S. military (and other entities of the U.S. government that cannot be named without fear of prosecution) for essential national security purposes. The company expects to operate the mine and associated processing facility for at least 25 years.

Digital has both water problems and water needs associated with the proposed mine. Because the groundwater near the mine is hydrologically connected to the river, the water table is very close to the surface. This water will interfere with mining, and must be pumped in order to extract the ore and to ensure safe working conditions for the workers. However, Digital also needs significant quantities of water for two purposes.

First, they need cooling water for drilling equipment used at the mining site. Although higher in temperature, cooling water will not be contaminated or rendered unsuitable for any subsequent uses. The amount of water that must be pumped to operate the mine would be sufficient to meet cooling water uses. Roughly 50 percent of this water would evaporate due to contact with the hot equipment, and not enough would remain to meet all of the process water needs specified in the next paragraph. However, the excess water could be transported downstream by pipe to meet some of that need.

Second, Digital needs larger quantities of water at their proposed processing plant on a separate parcel 10 miles downstream, at which they will separate the valuable minerals from the rest of the material. It is also possible to drill groundwater wells at the processing site. However, the water table is much lower at that site due to significant water withdrawals from the river in between the two sites. Therefore, well drilling and pumping costs at the processing site would be very high.

Aridity follows the standard prior appropriation doctrine, administered through a permit system implemented by the State Engineer. The state statute defines the “waters of the state” to include “all water regardless of origin or location, including surface water, ground water, and water from springs, seeps, and other natural sources.” It authorizes the State Engineer to issue permits to appropriate, for “any beneficial use,” all water “available for appropriation, subject to any senior rights,” from every “water system” in the state, so long as such appropriation does not harm existing water users within the same “water system.” The statute provides that “beneficial use shall be the basis, the measure and the limit of any appropriation.”

The Coloblanco River is fully appropriated under prevailing flow conditions in most years from the headwaters to the point below the processing plant, although some water remains available for appropriation during the highest flow years. Digital’s hydrologist reports that, because return flows from upstream users are often higher than reflected in the State Engineer’s records, and because many upstream users do not use their full

paper allocations, more water is physically available than reflected in the state records. Several farmers, ranchers, and municipalities draw water from the river and from wells upstream and downstream from the proposed mine, under valid permits.

- a. **[45 points/minutes]** Write a legal strategy for Digital to obtain sufficient water for its operation, and to pump sufficient water to prevent interference with its operations. Address the following issues and any others that you see:
 - i. Should Digital apply for an appropriation of surface water from the Coloblanco River, and if so, from what diversion point or points? If it withdraws all of its water from near the mining site, can it return the unused portion to the river and use the remainder at the processing plant downstream, thus avoiding the costs of building a pipeline? Discuss all benefits and drawbacks to your proposed surface water allocations, including the likelihood of success and any possible opposition.
 - ii. Can Digital obtain a water rights permit to pump groundwater at the mining site for purposes of preventing interference with its mining activities, and then to use that water for cooling water? For cooling water plus piping the remainder to the processing plant downstream? Who might oppose this permit and on what grounds, and under what circumstances is the opposition likely to succeed?
- b. **[20 points/minutes]** How would your answer be affected if the state's water law explicitly treated groundwater separately from surface water, and if the state followed any of the other four major U.S. doctrines of groundwater law aside from prior appropriation? Address whether groundwater pumped from the mine site could be used at the processing facility as well, and under what conditions.
- c. **[15 points/minutes]** Digital's hydrologist identifies unappropriated water from an adjacent tributary (which flows into the Coloblanco downstream from the proposed facilities). Could the company appropriate that water for supplemental cooling water at the mine, and avoid the cost of building a pipeline to transport this water downstream by discharging it into the river and then recapturing it for use downstream? Alternatively, if Digital pipes the water and uses it at both locations, can it then sell the excess, now contaminated water to a downstream power plant, or must it return unused water to the river?
- d. **[20 points/minutes]** For this sub-question only, assume that the mine is in the State of Calaridity, which follows a mixed doctrine of water law identical to that in California. Digital can purchase property adjacent to its processing plant, with riparian rights under a grant dating to the 19th century. Riparian rights up and down the river allow riparian landowners to irrigate pasture, hay crops, and some very high value crops such as almonds, and for municipal uses by some downstream cities. Although the price for the parcel is high, the company wants to know whether this purchase will eliminate the need to apply for any appropriative rights aside from the water it needs to pump in order to operate the mine. Evaluate whether or not this is correct.

2. Farther downstream, the Coloblanco River is not yet fully appropriated but more widespread disputes are developing. The following is a summary of the major players:

The City of White River is one of the fastest growing metropolitan areas in the Southwest due to its favorable climate and proximity to several national parks and other prime recreation areas. White River has adequate supplies for its existing population in most years, but has resorted to voluntary conservation measures such as “no watering days,” rebate programs for water-guzzling appliances, and financial incentives for “water wise” landscaping (xeriscaping) by homeowners. Nevertheless, per capita water use in White River is among the highest in the nation, due to extensive use of lawns for residences, golf courses and public parks, and the hot, dry climate and long growing season. Moreover, the City anticipates 50% growth over the next 20 years.

The U.S Bureau of Reclamation (BOR) recently built a dam on a major tributary to the Coloblanco, upstream of White River. The congressional authorizing legislation provides that the project shall be subject to all general provisions of the Reclamation Act, including section 8 of the Act governing the relationship between federal reclamation projects and state water law.¹ BOR applied for and obtained from the State Engineer a permit to appropriate sufficient water to fill the new reservoir annually, and storage rights to that water pending sale and beneficial use by project beneficiaries. Unlike many reclamation projects, however, which permit diverse uses of project water, the authorizing legislation specifically provides that “the Bureau of Reclamation may, by contract, sell water from this project and authorize its use only for agricultural irrigation and other agricultural uses within the Coloblanco River basin.” The Blanco Irrigation District (BID) was formed to negotiate contracts with BOR for project water, to collect payments from its members to repay project costs, and to allocate water to individual farmers and ranchers for agricultural uses.

After leaving Aridity, the Coloblanco enters the State of Aridzona, which has been watching the increased appropriation of water within Aridity with growing concern. For many years, Aridzona was sparsely populated and largely agricultural, and a combination of return flows from Aridity and new tributaries flowing into the Coloblanco within Aridzona were sufficient to meet its water needs. Growth of water demand in Aridzona has been much higher in recent years, however, because of

¹ Section 8 provides: “Nothing in this Act shall be construed as affecting or intended to affect or to in any way interfere with the laws of any State or Territory relating to the control, appropriation, use, or distribution of water used in irrigation, or any vested right acquired thereunder, and the Secretary of Interior, in carrying out the provisions of this Act, shall proceed in conformity with such laws, and nothing herein shall in any way affect any right of any State or of the Federal Government or of any landowner, appropriator, or user of water in, to, or from any interstate stream or the waters thereof; Provided, That the right to use of water acquired under the provisions of this Act shall be appurtenant to the land irrigated, and beneficial use shall be the basis, the measure, and the limit of the right.”

blossoming retirement communities, the location of several large new manufacturing facilities due to the state's nice climate and favorable tax policy, and increased demand for high value crops that thrive in the region (such as kiwis and specialty vegetables). In part due to its fear that Aridity will try to monopolize the flow of the mainstem of the Coloblanco, leaving much smaller and much more polluted flows at the border, Aridzona takes the unprecedented step (for a western state) of abandoning the prior appropriation doctrine and adopting a statutory system of riparian rights that allows the sale and use of riparian water on nonriparian lands within the state. Existing appropriative rights are grandfathered for twenty years, at which time they will expire, but new water uses on nonriparian lands require purchase from riparian owners.

The Coloblanco Indian Reservation straddles the Aridity-Aridzona border, with approximately 60% of its lands in Aridzona and 40% in Aridity. Congress established the Reservation in 1880 to "provide a permanent homeland for the Coloblanco Tribe, in which they can engage in farming and other pursuits consistent with those activities." Most of the irrigable land is in the Aridity portion of the Reservation, because the river carves a deep canyon through the Aridzona portion of the Reservation. The mesas above the canyon are much higher in elevation, and suitable mainly for grazing. Historically, water use on the Reservation has been low, because most tribal members engaged in sheep and cattle ranching on existing pasturelands, with some irrigation of hay crops and farming of food for local consumption. In recent decades the population dropped as many young members of the Tribe moved away for education and employment. Recently, there has been a movement by many of those younger members to return to the Reservation to engage in economic development activities, including recruitment of manufacturing facilities, mining, farming of higher value crops, and development of casinos under the Indian Gaming Act and a series of related resorts and condominium developments to take advantage of the region's scenic beauty.

The Coloblanco Canyons National Recreation Area (NRA) is immediately downstream of the Reservation, and was established by Congress in 1978 for purposes of "promoting and preserving its world-class white water recreational opportunities and its scenic and ecological values." As part of its efforts to develop water on the Reservation, the Coloblanco Tribe wants to build a diversion dam just upstream of the border between the Reservation and the NRA. This would reduce flows through the NRA sufficiently to eliminate rafting and kayaking by all but expert paddlers until more water enters the NRA from the Little Coloblanco River 12 miles downstream.

- a. **[20 points/minutes]** White River proposes to purchase water from individual members of BID. The water would come from collected return flows before they exit individual farms. Assume for purposes of this sub-question that the sale of return flow water is permissible under the law of Aridity so long as the water is collected before it exits the property of the seller who holds a water right for that water. BOR and BID both oppose the proposed sales. What objections can they raise, and who is likely to win on those issues?

- b. **[15 points/minutes]** A group of existing appropriative rights holders in Aridzona file a lawsuit claiming that the new Aridzona riparian rights statute constitutes an unlawful taking of their property without just compensation, in violation of the Fourteenth Amendment to the U.S. Constitution. Should they prevail in this claim, and why or why not?
- c. **[45 points/minutes]** Aridzona files an action in the U.S. Supreme Court seeking equitable apportionment of the Coloblanco River. In part, Aridzona argues that, because of its riparian rights system, it is entitled to the full flow of the river as it was at the time of statehood, undiminished in quality and quantity. The Coloblanco Tribe and the National Park Service move to intervene to assert their water rights and any other claims they may have regarding use and protection of the river. You are appointed Special Master to hear this case and to reach proposed findings of fact and conclusions of law, and a proposed decree. Outline the major issues you will have to address, what facts and other evidence you will need to reach a fair decision, and your preliminary legal conclusions about how Aridzona's riparian rights system affects the resolution of this case, and what standards you propose to use to allocate the river.