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QUESTIONS AND ANSWERS FROM THE ORTIZ MOUNTAINS
OPEN HOUSE, OCTOBER 11, 1990

WATER

What allotment of water are we going to use out of the old Gold Fields rights? If so, when and at what rates? 2 x

Planning has not yet progressed to the point that specific uses of the Gold Fields water rights have been designated. Pegasus may use water pumped from the Gold Fields wells in accordance with the Gold Fields permits to appropriate groundwater, and may use the surface-water rights in Galisteo Creek to offset depletion of surface flow.

How are we going to protect the water users below the Gold Fields mine for current and other development?

Currently existing water rights are protected by the State Engineer, in that a permit for a new appropriation cannot be issued if impairment of an existing right would result. If "other" development refers to development that is contemplated, but for which water rights have not yet been established, then the applications of these users would be junior to that of Pegasus. The Mine Dewatering Act includes a provision by which the applicant, in this case Pegasus, can replace one or more existing rights in a manner acceptable to the State Engineer, and thus make an appropriation that might otherwise result in impairment. The plan offered by the applicant under this procedure is referred to as a Plan of Replacement. The plan offered by the applicant under this procedure is referred to as a Plan of Replacement. The plan offered by the applicant under this procedure is referred to as a Plan of Replacement. The plan offered by the applicant under this procedure is referred to as a Plan of Replacement. The plan offered by the applicant under this procedure is referred to as a Plan of Replacement. The plan offered by the applicant under this procedure is referred to as a Plan of Replacement. Pegasus may prepare a Plan of Replacement for consideration by the State Engineer as part of the hearing testimony.

Is there enough water? Griff Salisbury

The State Engineer Office cannot issue a permit to appropriate water if impairment of an existing right would occur. Therefore, Pegasus can appropriate water only up to the limit at which impairment of an existing right would occur. The State Engineer determines the threshold of impairment on a case-by-case basis. The Mine Dewatering Act includes a provision by which the applicant, in this case Pegasus, can replace one or more existing rights in a manner acceptable to the State Engineer, and thus make an appropriation that might otherwise result in impairment. The plan offered by the applicant under this procedure is referred to as a Plan of Replacement. Pegasus may prepare a Plan of Replacement for consideration by the State Engineer as part of the hearing testimony.

How were well sites selected? Mary Barraco

Two of the well sites were chosen to represent down-gradient groundwater conditions, for water-quality and water-level monitoring, below the proposed Lukas Canyon and Carache Canyon activities. The third site, Iron Vein, was chosen because it was expected that permeability of the aquifer would be sufficient to support a good supply well. During drilling, it was found that the Lukas Canyon site was actually the best in terms of water-supply capability, and the design of that well was changed to make it a larger-capacity test well.

What is the quality of water that is pumped out of mine area?

Analyses of the water pumped from the three test- and monitor-wells drilled so far and from the exploratory tunnel have been submitted to the New Mexico Environmental Improvement Division (EID). They are available in the public record. Much of this information was presented at the open house and is available at Pegasus' office.
Did the newspaper report reflect application accurately? Drainage, or new appropriation? Bea Galaviz

Pegasus does not presently have a copy of the newspaper report and therefore cannot comment. However, Pegasus would be happy to respond if a copy of the article can be made available.

Impact of pumping of Henderson's well for exploratory drilling water on wells in the Golden area?

The State Engineer may grant one-year permits for 3.0 acre-feet of water for drilling operations if the State Engineer finds that the proposed use will not permanently impair any existing water right. The fact that these permits were granted means that the State Engineer found that no permanent impairment would occur. The State Engineer's Office regulations include the provisions that "Applications . . . will not be granted in declared underground water basins that are stream-related, if the State Engineer finds that the appropriation will take 0.1 acre-foot or more from a fully appropriated stream within the year the permit may be exercised . . . " and, if, " . . . the accumulated effects of the proposed appropriation and prior appropriations will take 0.25 acre-foot or more from a stream . . . " The accumulated stream-flow depletion at the end of the second year's permit (February 22, 1991) was calculated at 0.00606 ac-ft for the Rio Grande and 0.0407 ac-ft for Galisteo Creek, assuming that 3.0 ac-ft is used during the second year.

Rates of flow in ground-water system? Steve McDowell

The rate of ground-water flow is governed by the hydraulic conductivity, or permeability, of the aquifer and the hydraulic gradient. The hydraulic gradient may be thought of as the slope of the water table. Under the conditions typical of the area around the Ortiz Mountain range, the rates of flow would be measured in feet per year. Studies are currently underway to determine the hydraulic gradient in the Ortiz Mountains area.

How would any downgradient contamination of groundwater be detected and what would be done about it? Peggy Krenz

The specific plans for ground-water monitoring have not yet been formulated, because the design of the proposed operation has not been completed. In general, ground-water quality would be monitored by regular sampling and analysis of water in monitor wells located very close to, and down-gradient from the facilities. Soil-water in the unsaturated zone above the water table may also be monitored through the use of lysimeters. Lysimeters are devices for collecting water from soil that contains only a low moisture content. The design of the facilities would be such that water not meeting the New Mexico Water Quality Control Commission standards for discharge would not leave the system. If for some reason a release did occur, contaminated water can be prevented from moving in the aquifer, can be removed, and can be reclaimed by a properly designed pumping and treatment program.

What precautions to preserve rights of existing and future residential users? Judith Polich

The State Engineer cannot issue a permit for a new appropriation that would impair any existing water right. However, ownership of a parcel of land does not in itself establish a water right, so future residential users (those that might have their own wells but have not yet drilled them) do not as yet have water rights to be protected. The Mine Dewatering Act includes a provision by which the applicant, in this case Pegasus, can replace one or more existing rights in a manner acceptable to the State Engineer, and thus make an appropriation that might otherwise result in impairment. The plan offered by the applicant under this procedure is referred to as a Plan of Replacement. Pegasus may prepare a Plan of Replacement for consideration by the State Engineer as part of the hearing testimony.
Water table contours and copy of water quality data? Rita Horton

The detailed water-table map has not been completed. A published water-table map which includes the area is part of a State Engineer Office Basic Data Report titled "Hydrologic Maps and Data for Santa Fe County, New Mexico" by W. A. Mourant (1980). Water-quality data are included in reports to EID, and are available in the public record there.

PEGASUS AS A COMPANY

Do we have any affiliation with Placer Dome? Are we going to have any?

Pegasus is not affiliated with Placer Dome and does not anticipate future affiliation. This is an important distinction since many have considered the companies to be related for some unknown reason.

What is the Pegasus record in environmental control and compliance?

Pegasus' record in environmental control and compliance will be included in another open house. However, Pegasus' environmental record is generally considered superior in the mining industry and is often used by regulatory agencies as the "good example." Awards have been given to the company for its efforts and will also be displayed at a future open house.

EXPLORATION

How many exploratory holes?

There have been 608 holes drilled under the exploration permit to date.

How much is disturbed to date?

The area disturbed is primarily associated with exploratory drilling operations and is covered under the exploratory permit. The approximate acreage that is disturbed right now is 89.3 acres. This figure will change since parts of it are being reclaimed.

Any problems with livestock getting into pits and drinking the water?

Water which may be available for wildlife or livestock will be of the same quality as the water that is currently available for wildlife or livestock. Therefore, it will not provide problems. However, livestock will be fenced away from active operation for their protection. Hazardous materials such as fuels and solvents which may harm livestock and wildlife will be managed, transported, and stored under federal, state, and county regulations and with the utmost care.

MINING OPERATIONS

When will we apply for a permit? (2 x)

Permits will be into the application phase in 1991. This is somewhat dependent on the new County Ordinance and other issues beyond Pegasus' control. Environmental baseline work is underway, ongoing and near completion in preparation for Environmental Assessments, Environmental Impact Statements, and other regulatory concerns.
Pre-presentations?
Any pre-presentations before future open houses will be announced in the Albuquerque Journal, The New Mexican, the Santa Fe Reporter, and through the mail to the larger community around the Ortiz Mountains.

Have the standards for water, air, et cetera along with the data.
Excellent suggestion that will be incorporated in future open houses.

When were the roads in the reclamation picture reseeded?
The diagonal, revegetated roads are between the horizontal roads still in use in the reclamation picture. These roads were revegetated in June, 1990. Reclamation of areas where exploration operations have ceased is ongoing, modified for seasonal and weather related constraints.

Are you continuing evaluation of revegetated areas?
Yes. All work including applicable seed mixes, reclamation techniques and annual evaluations is being closely monitored. The New Mexico Soil Conservation Service's Plant Materials Center personnel are involved in efforts regarding vegetation establishment.

Where were mailers sent out?
Mailers were sent to people having rural box addresses and post office box addresses from Edgewood north to Santa Fe, and from I-25 east to Galisteo and Lamy. If you did not receive a mailer or know someone who didn’t, please send names and addresses to Pegasus.

PLANTS/WILDLIFE

What types of plants are present? Do you have a complete plant list available?
Send Pegasus your name and address for a full list. There will also be copies of this list at the next open house.

How will mining affect wildlife?
Mining will affect wildlife in much the same way as construction of a subdivision or any other habitat disturbance. Some wildlife will be displaced. Small birds will relocate as will larger mammals. Small mammals such as mice may experience an initial population decrease due to disturbances. Large predators (hawks, owls, coyotes, bear, cougar) may lose a portion of their home range. However, they will adapt and expand their activities to adjacent areas.
There should not be a need to reintroduce any wildlife after reclamation; as the habitat improves, wildlife will rehabit the area.

Effect of excess water on vegetation?
Long term saturation of the soil surrounding plant root can cause the demise of existing vegetation. Therefore, any excess water will not be allowed to become ponded. Instead, the excess water will be discharged via timed sprinklers back upon the ground to recharge the aquifer. Changes in physical and chemical properties of the soil may result in a shift in the type of plant community present. Drainage in the Ortiz Mountains is good, and ponding and standing water is unlikely. Areas of depression and/or heavy texture should be identified and management techniques can easily be adopted to deal with them.
MINING IN GENERAL

Why is mining gold worth the terrible disturbance?
We value gold as something rare and precious. It has been one of the most sought after metals throughout human history. Gold continues to be very important in our lives, an example being the typical gold wedding band. In relative terms, there are over 22 acres of disturbance caused by the Agua Fria Open Pit Landfill and Transfer Stations System currently in use in Santa Fe County. There are 21 acres of disturbance caused by current open pit gold mining in Santa Fe County. Subdivisions and gravel pits make up the largest single purpose disturbances in Santa Fe County.

Why do we need any products from mining?
Everything in our lives today either contains part of a mining product or was created with something that contains a mining product. The cars that we drive contain metals from mining, the gas that powers those cars was taken from the earth with metals from mining, and the food we eat, even if we grow it ourselves, is cultivated, harvested, and prepared with metals from mining. If we were to remove all products that were created with mining products or contained mining products, we would effectively move our society back to the Stone Age of 10,000 years ago.

Why can't people in mining get good moral jobs?
Adjectives like "good" and "moral" are merely an indication of individual opinions, and do not reflect the societal demand for any job.

OTHER STUDIES

Socioeconomics?
A study on the economic impact of mining in the Ortiz Mountains will be included in another open house.

What about the archeological survey report? Standards?
The results of the archeological baseline report will be included in another open house.

OPEN HOUSES

Schedule of open houses? Is this open house being held at other places?
The schedule for future open houses has not been finalized yet. All open houses will be announced in the Albuquerque Journal, The New Mexican, the Santa Fe Reporter, and through the mail to the larger community around the Ortiz Mountains. If you would like to be certain that you receive notification of future open houses, please send your name and address to Pegasus.

Want 8.5 x 11 copies of posters. (3 x) Synopsis of session. Copy of seed mixture table?
Please send your name and address to Pegasus if you would like to receive reduced copies of the posters. Come to the next open house where reduced copies of the posters as well as copies of these questions and answers will be available.
How does 480 gallons per minute per operation (map) affect the aquifer?! Mardell Martinez

Drawdown calculations have not been completed; calculations of drawdown effects and stream-flow depletion will be presented as part of the testimony in the hearing on the water-right application. Part of the total amount of water pumped will be returned to the ground-water system as part of the normal operations. This amount cannot be determined until the design of the facilities is completed.

Are the buying of water rights open to appeal? Mardell Martinez

The purchase of an existing water right is similar to the purchase of land: there is no requirement for regulatory approval. However, the approval of the State Engineer is required to change the point of diversion, place of use, or purpose of use of the water once an existing water right has been purchased. Decisions of the State Engineer may be appealed.

What is the drinking water standard for cyanide? Carla McFadden

There is no EPA Primary or Secondary Drinking-Water Standard for cyanide concentration in drinking water, nor is there a New Mexico Water Quality Control Commission standard for cyanide concentration in drinking water.

Is there ground-water flow from Tuerto Valley into Estancia Basin?

The configuration of the water table, as determined from measurements of depth-to-water in wells, shows that ground-water flow coincides approximately with surface-water flow in the Tuerto Valley, and in the valley of Arroyo la Joya which flows eastward from the same point as the head of Arroyo Tuerto. There may be some ground-water flow into the Estancia basin from the Arroyo la Joya drainage, but most of the ground-water flow is expected to be toward Galisteo Creek.

How can there be a new appropriation if the Rio Grande Basin is overdrafted?

The Rio Grande Basin is considered "fully appropriated," in the sense that there is no unappropriated surface-water flow in the Rio Grande itself. There still is unappropriated ground water, although the amount has not been established with certainty. A withdrawal of ground water from storage may affect the flow of the river. The amount and timing of the effect of this withdrawal is determined by distance from the river and the properties of the aquifer. Thus the amount of ground water that can be produced is really governed by the depletion of river flow that could result. A letter written by then-State Engineer S. E. Reynolds, dated September 1, 1983, indicates that accumulated ground-water depletion could reach 2.7 million acre-feet within 100 years in the part of the basin between Otowi Bridge and Elephant Butte without exceeding the available surface-water depletion. A new ground-water appropriation must be accompanied by the dedication or retirement of sufficient existing surface-water rights to offset the depletion of surface flow.

Are the San Pedro Mountains a barrier to ground-water flow?

The configuration of the water table indicates that ground water flows away from the San Pedro Mountains to both the north and the south, so that a ground-water divide exists within the mountains. Therefore, even though the hydraulic conductivity of the rocks that make up the San Pedro Mountains is not zero, it is improbable that ground water would flow from one side of the range to the other.

Why are the Pegasus wells so much deeper than everybody else's? Paula O'Neil

Two of the Pegasus wells were designed to be large-capacity test wells. Since the capacity of a well is partly a function of the thickness of the water-bearing rock penetrated, it is desirable for the well to be as deep as practical, as long as it is not drilled beyond the bottom of the aquifer.
Where is first water encountered?

An accurate answer to this question requires that the place be specified. Depth to ground water is highly variable over the Pegasus property. In general, it is more than 100 feet to water. In the mountain parts of the area, water is sometimes found in fractures above the regional water table.

Are domestic water rights for new wells in existing subdivisions protected by the State Engineer's Office?

If the subdivision has a central water system, the water-right associated with it is usually sufficient to supply the projected demand of the system at full development. That subdivision's water-right, since it already existed at the time of a new application by another party, would be protected by the State Engineer. However, if each lot will have its own well, only the wells that have been drilled, with that water put to beneficial use prior to the new application by another party, will be protected by the State Engineer.

What is the validity of the large number of variable professional opinions to and including the State Engineer's Office regarding hydrogeology and water supplies in the area? Richard Anaya

The ground-water system is very complex because of the complexity of the geologic conditions. The analysis of the ground-water flow must be based on the data available from the limited number of wells that exist. As a rule, the analysis by the State Engineer's Office is both comprehensive, in that all of the information available is taken into account, and conservative, in that the interpretation is chosen that would both fit the data and result in the smallest appropriation.

Status of the water rights application? Journal North

An application for a new ground-water appropriation was filed on March 22, 1990. A notice was published, and the application was protested by a number of parties. Pegasus has asked the State Engineer to set a hearing date for the application. (See the later question concerning the timing of the application).

Relation with Gold Fields water rights?

Pegasus now controls Gold Fields' interests in the Ortiz Grant, including water rights.

Timing of application, hearing?

An application for a new ground-water appropriation was filed on March 22, 1990. A notice was published, and the application was protested by a number of parties. Pegasus has asked the State Engineer to set a hearing on the application. The date of the hearing will be set by the State Engineer's Office after consultation with the parties. Hearings are usually not held during the legislative session, but there is otherwise no requirement as to the time of the hearing.

How much water is used during the exploratory activities? Commissioner Linda Grill

Water for exploratory drilling is pumped from a well in Golden under a permit issued to Pegasus by the State Engineer's Office (RG-50405). The permit, which is a new one-year permit for each year of activity, is for 3.0 acre-feet of water. The first one-year permit expired on February 22, 1990, and a total of 2.16 ac-ft was pumped.

How far will drawdown impacts extend? Steve McDowell

Drawdown calculations have not been completed. Calculations of drawdown effects and stream-flow depletion will be presented as part of the testimony in the hearing on the water-right application.
Why did junipers in bottoms of arroyos die? (Arroyos tributary to Galisteo, below Ortiz, off Road 55A, south side of Galisteo toward Goldfields) Jim Stapleton

Possibilities are 1) insect infestation, 2) changes in the moisture regime around the roots, 3) quality of drainage water, and 4) some other natural phenomenon. Without a detailed investigation of this specific area, any answer is speculation.

OTHER

A tour before November 6 for Linda Grill and a few others.

Done. Commissioners Linda Grill and Gilbert Chavez toured the site on October 24.

Tour of the Goldfields site? (Peggy Krenz, Judith Polich, Gayle Price)

Preparations for tours (limited to 10 people per tour) are underway. The tours are scheduled for November 6, 10, and 14. These tours will continue to be a way to provide information to the general public concerning exploration operations at Ortiz Project IV. The limited number is based on the four-wheel terrain conditions and maintaining safety for the general public. During these fact-filled tours, two department heads from Pegasus (composed of the Chief Geologist, the Chief Engineer, the Administrative Manager, the Environmental Manager, or the General Manager) will be leading the tours.

QUESTIONS BEYOND THE SCOPE OF THIS OPEN HOUSE

All of these questions will have answers readily available at a future open house.

Cyanide is a big issue: are you prepared with a large arena?

What are the effects of cyanide? On soil and plants?

What are the alternatives to cyanide use in the mining process?

Has a mine plan been developed? What type of operations?

Does cyanide occur naturally? Paula O'Neil

Does Pb and Cd occur naturally and at what levels? Paula O'Neil

Where will we attempt to mine?

What will be the area of disturbance?

What will happen to the tailings?

Will we haul ore to Goldfields site for processing?

Will we reprocess existing tailings at Goldfields?

What happens to residue when contaminated water evaporates? How is the residue disposed of and where? What quantity of residue will be produced during life of operations? Judith Polich

Was there an effluent from the Gold Field's mining and extraction activities? Carla McFadden