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ENGINEERING AND ENVIRONMENTAL DIVISION

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Copy to Susan Linner, Rick
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February 14, 1984

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**DIVISION OF
OIL, GAS & MINING**

Ms. Susan C. Linner
Reclamation Biologist
Utah Division of Oil, Gas, and Mining
4241 State Office Building
Salt Lake City, Utah 84114

Re: North American Equities NV/Blazon #1 Mine, DOC Meeting

Dear Susan:

We appreciated the opportunity to meet with yourself and other representatives of the Division of Oil, Gas, and Mining (DOGM) on Friday, February 3, 1984 at the DOGM offices in Salt Lake City, Utah. This letter is intended to confirm the discussions at our meeting.

As background, North American Equities NV submitted a response document to the Apparent Completeness Review (ACR) on October 7, 1983. DOGM comments, subsequent to the October 7, 1983 document submittal, have been communicated to North American Equities NV in the January 25, 1984 letter referenced "Determination of Completeness Review (DOC)". At the request of North American Equities NV, a meeting was held to discuss the DOC review and related permitting concerns.

Participating in this meeting were the following individuals:

Susan Linner - DOGM
Debra Davis - DOGM
Rick Summers - DOGM
Shannon Storrud - DOGM
Tom Portle - DOGM
Alan Smith - North American Equities NV
Eldon Strid - ACZ INC.
Mike Glen - ACZ INC.
David Sturges - Delany and Balcomb

The purpose of our meeting was to review and clarify all points listed in the DOC review letter. Further, possible formats for submittal of permit information were discussed in order to expedite further DOC review and the permitting process, in general.

The following are the points discussed during the meeting:

- UMC 771.23, Permit Applications: General Requirements for Format and Contents
- UMC 783.13, Hydrology and Geology Description
- UMC 783.14, Geology Description
- UMC 783.15, Ground Water Information
- UMC 783.16, Surface Water Information
- UMC 783.17, Alternative Water Supply Information
- UMC 783.19, Vegetation Information
- UMC 783.25, Cross Sections, Maps, and Plans
- UMC 784.12, Operation Plan: Existing Structures
- UMC 784.13, Reclamation Plan: General Requirements
- UMC 784.14, Reclamation Plan: Protection of Hydrologic Balance
- UMC 784.15, Post Mining Land Use
- UMC 784.16, Reclamation Plan: Ponds, Impoundments, Banks, Dams, and Embankments
- UMC 784.20, Subsidence Control Plan
- UMC 784.22, Diversions
- UMC 784.23, Maps and Plans
- UMC 784.24, Transportation Facilities
- UMC 817.22, Topsoil: Removal
- UMC 817.23, Topsoil: Storage
- UMC 817.24, Topsoil: Redistribution



- UMC 817.25, Topsoil: Nutrients and Soil Amendments
- UMC 817.43, Hydrologic Balance: Diversions and Conveyance of Overland Flow
- UMC 817.46, Hydrologic Balance: Sedimentation Ponds
- UMC 817.50, Hydrologic Balance: Underground Mine Entry and Access Discharges
- UMC 817.52, Hydrologic Balance: Surface and Ground Water Monitoring
- UMC 817.53, Hydrologic Balance: Transfer of Wells
- UMC 817.54, Hydrologic Balance: Water Rights and Replacements
- UMC 817.55, Hydrologic Balance: Discharge of Water into an Underground Mine
- UMC 817.57, Hydrologic Balance: Stream Buffer Zones
- UMC 817.71, Disposal of Underground Development Waste
- UMC 817.89, Disposal of Non-Coal Wastes
- UMC 817.97, Protection of Fish, Wildlife, and Related Environmental Values
- UMC 817.99, Slides and Other Damage
- UMC 817.100, Contemporaneous Reclamation
- UMC 817.101, Backfilling and Grading: General Requirements
- UMC 817.106, Regrading or Stabilizing Rills and Gullies
- UMC 817.111-117, Revegetation
- UMC 817.122, Subsidence Control: Public Notices



UMC 771.23, Permit Applications: General Requirements for Format and Contents

North American Equities NV will provide information regarding pertinent dates of work performed, as well as background of persons involved with vegetation data collection and the vegetation report included as part of the permit application.

UMC 783.13, Hydrology and Geology Description

As we discussed, North American Equities NV will provide a narrative description of water resources sampled as well as interpretation of seasonal changes in quantity and quality. Water resources will be reviewed by specific parameters or major ion concentrations on a site by site basis. Surface water samples for baseline information purposes taken during the period October, 1980 through December of 1981 provides reasonably predictive data from which interpretations and conclusions can be drawn.

Prior to initiating spring and seep sampling in September 1983, North American Equities sampled effluent from the old Clear Creek Mine workings as it entered Mud Creek near the Town of Clear Creek. North American Equities NV has and will continue to sample this effluent from the old workings as well as springs and seeps located during September 1983 and the water well located within the permit area in order to provide verification of groundwater quality assertions.

North American Equities NV will provide information from the electric logs of the two (2) exploration drill holes which have been recently reclaimed to substantiate previous assertions that ground water has not been encountered during drilling.

UMC 783.14, Geology Description

North American Equities NV will provide further information regarding the Blackhawk Formation within the permit area. Site specific lithology and stratigraphy based on the 1982 drilling logs will be discussed in greater detail.

Structural features including faults, folding, and jointing as well as general physical competency of the Blackhawk Formation will be discussed as it relates to past and future mining operations. Pertinent features such as faults and associated joints, joint patterns, dikes, etc. will be clarified or added to the geologic maps where applicable.



North American Equities NV has previously located and mapped a seep on the west side of the disturbed area updip from the mine portal faceup. No subsurface water has been exposed on the mine portal faceup nor is any water expected due to the downdip orientation of mining from the portal faceup.

North American Equities NV will provide a drill log of the water well based on information contained in the water rights exchange documentation. Additional explanation of the chemical analysis of the material overlying and underlying the coal seam to be mined will be provided.

North American Equities NV will use relevant, accurate information from the 1913 era Geologic - Structure Map, drill hole information and recent data from mining operations to provide up-to-date geology maps. These maps will be of appropriate scale, delineate all pertinent surface features, and be certified.

UMC 783.15, Ground Water Information

As we discussed, North American Equities NV will substantiate previous assertions regarding ground water occurrences as a series of perched, discontinuous water zones by discussing the aquifer potential of various stratigraphic members of the Blackhawk Formation. A more detailed discussion of implications to ground water hydrology of the permit area as a result of the old Clear Creek Mine workings below the permit area will be included. Regional ground water occurrences will be discussed as it relates to the Blazon No. 1 Mine including aquifers, location of aquifers, direction of flow and other pertinent information.

UMC 783.16, Surface Water Information

North American Equities NV will clarify on the appropriate maps, the sediment pond discharge point (NPDES point).

As previously indicated in Section 783.13, a site specific parameter by parameter narrative will be used to describe the quality of surface water resources. Previously collected baseline data will provide reasonably predictive information regarding the seasonal variations of quality and quantity experienced in the surface water sampling.

North American Equities will check anion-cation balance calculations for previously submitted analytical results to ensure accuracy and provide discussion to resolve any problems.



UMC 783.17, Alternative Water Supply Information

As we discussed, North American Equities NV will provide clarification of previous statements made regarding proposed mine entries under the Snyder Canyon Drainage. This clarification will include discussion of any potential impacts and planned mitigation measures.

North American Equities NV will commit to locating and securing replacement water rights or otherwise replacing water in those areas of potential negative impact.

UMC 783.19, Vegetation Information

As we discussed, North American Equities NV will clarify and support statements regarding productivity figures in the vegetation exhibit. Further, clarification and elaboration on methodologies for data collection and computation of reported numbers will be provided along with data sheets compiled during the field work portion.

The vegetation map will be modified to show the sample points and transect locations. A listing of acreages for each vegetation type will be provided.

UMC 783.25, Cross Sections, Maps, and Plans

As previously indicated in Section 783.14, North American Equities NV will use pertinent data from the Geologic - Structure Map (Drawing No. 3032) and the mine map for the Clear Creek Mines to update the geologic map. Certification of the revised maps will also be provided.

During our meeting, North American Equities NV demonstrated that the pre-mining cross sections and slope measurements do accurately portray the land surface configuration. However, the proposed reclamation plan does not intend to affect any natural stream drainage. Therefore, the post mining topography map and associated post mining cross sections will be modified to support this assertion.

As indicated in Section 783.16, the sedimentation pond discharge point (NPDES point) will be shown on the appropriate maps. Any monitoring points will be located and differentiated from the notation for springs.



UMC 784.12, Operation Plan: Existing Structures

As we discussed, North American Equities NV plans to submit photographs and "line drawing" figures to substantiate text descriptions of all existing structures within the permit area.

UMC 784.13, Reclamation Plan: General Requirements

As discussed, North American Equities NV will provide clarification of the reclamation cost summary to include hourly rates for labor and equipment, demolition and disposal costs for structures, and related contingency costs. North American Equities NV plans to use the Bonding Estimate Guidelines provided by DOGM for these purposes.

North American Equities NV will review and revise the reclamation seed mixes which may include Yellow Sweet Clover and Alfalfa as the only acceptable introduced species considered for contemporaneous or final revegetation.

As we discussed, North American Equities NV will clarify the woody plant species list to be used as well as the stocking density correlation with the existing shrub density.

North American Equities will seek consultation from DOGM and otherwise clarify statements regarding seeding rates, seeding methods, and mulching techniques.

As we discussed, North American Equities NV plans to use revegetation monitoring to determine the necessity of pest and disease control measures. Further, North American Equities NV will consult directly with and attain plan approval from DOGM for implementation of pest and disease control measures.

North American Equities NV plans to evaluate revegetation success of reclaimed areas based on comparison of sample data collected, on an annual or other appropriate time interval basis, from these reclaimed areas and the approved 1983 reference area. As we discussed, North American Equities NV proposes to use vegetative cover as the success standard for the meadow community since a reference area, per se, was not required for this vegetation community.

As we discussed, North American Equities will provide a vegetation monitoring plan incorporating pertinent sample parameters, appropriate sample size, and location and timing considerations for determining basis for bond release on reclaimed areas.



As we discussed, North American Equities NV will submit a reclamation plan for the mine development waste pile. Analytical results of material samples taken previously will be referenced to indicate that no specific problem exists or is expected with reclaiming development waste in a similar fashion to other materials present.

UMC 784.14, Reclamation Plan: Protection of Hydrologic Balance

North American Equities NV will submit a post mining (reclamation) surface and ground water monitoring plan with monitoring frequency, monitoring points parameters to be sampled, and reporting procedures in accordance with UMC 817.46.

As we discussed, North American Equities NV will provide substantiation of statements made concerning subsidence considerations for mining beneath perennial streams within the permit area. Information may include angle of draw calculations, overburden depth along the drainage channels, geologic data, and any other pertinent information.

North American Equities NV will reclaim the portal faceup and highwall bench area in accordance with Section 784.14 without the use of entry seals due to the nature of downdip mining and absence of subsurface water.

UMC 784.15, Post Mining Land Use

As we discussed, North American Equities NV has previously stated the intended post mining land uses of the permit area but will include wildlife habitat with these land uses. The Post Mining Land Use Map will be modified to include wildlife habitat.

North American Equities NV plans to consult with and seek approval from DOGM should measures to control noxious weeds or for the implementation of fencing to control domestic grazing become necessary.

UMC 784.16, Reclamation Plan: Ponds, Impoundments, Banks, Dams, and Embankments

As we discussed, North American Equities NV will supply design information regarding all diversions including surface location and appropriate cross sectional views. Calculations showing channel velocities will be included as well as plans for scour protection where channel velocities exceed five (5) feet per second.



North American Equities NV plans to place a trash rack device on the southernmost 84" culvert CSP located on Mud Creek. Placement of this device will be completed on a time frame suitable to DOGM and North American Equities NV.

As a part of the overall reclamation plan, drainage and sediment control structures including, but not limited to sedimentation ponds, diversion ditches, and culverts will be removed in sequence after applicable effluent limitation standards are met.

As we discussed, North American Equities NV will provide a narrative description regarding the diversion of overland flow and how it will be separated from the disturbed area runoff.

UMC 784.20, Subsidence Control Plan

As we discussed, North American Equities NV will provide information as to existing structures or renewable resource lands existing within the permit and adjacent areas. Further, North American Equities NV will clarify the map showing the areas with potential for subsidence within the permit area as well as any areas which have undergone subsidence. The areas subject to subsidence will include that area as determined by completion of angle of draw calculations or other methods of subsidence prediction.

As we discussed, North American Equities NV will perform a survey using surface methods or aerial photography to determine the tension or compression effects on the ground surface over present and past mining areas. North American Equities NV intends to request a stipulation that would allow this data collection be performed within sixty (60) days of the resumption of mining operations.

North American Equities NV will clarify the delineation of buffer zones for the Snyder Canyon and Mud Creek Drainages to substantiate the assertion of 100 foot buffer zones being adequate. Factors that influence this adequacy which will be considered include the angle of draw, depth of overburden, geologic considerations, etc.

North American Equities NV will clarify the delineation of barrier pillars to be left behind (inby) the upper Clear Creek Coal Seam outcrop. Narrative text will be used to specify the barrier width and pertinent rationale.

North American Equities NV will submit additional information regarding the placement of additional subsidence monitoring stations



and specify that monitoring stations will be surveyed prior to underground mining below the respective station location in order to establish accurate pre-mining elevations. Additionally, survey elevation reports will be submitted to DOGM no later than two (2) months after completion of survey work.

As we discussed, North American Equities NV has not undertaken detailed description of measures to mitigate damage to springs G4 and G5 as a result of mining operations because of the seep nature of spring G4 and the fact that spring G5 is situated outside of the angle of draw. Discussions to adequately respond to these concerns will be provided.

UMC 784.22, Diversions

North American Equities NV will provide clarification for the drainage and sediment control exhibit previously submitted as well as related maps to show that all diversion structures are of adequate design.

UMC 784.23, Maps and Plans

As we discussed, North American Equities NV will modify the Surface Facilities Map to show the development waste chute

As previously indicated in Section 783.25, North American Equities will not change the natural stream channel. The Post Mining Topography and Post Mining Cross Section will be clarified.

North American Equities NV will delineate and label the mine development waste pile on the Surface Facilities Map and the Drainage and Sediment Control Plan Map.

UMC 784.24, Transportation Facilities

As we discussed, North American Equities NV will provide profile and cross section views of the secondary road linking the mine portal area with the main access road. Also included will be a brief narrative description regarding road construction, maintenance and dust control measures, and a statement of the intended post mining use for this road.

UMC 817.22, Topsoil: Removal

As we discussed, North American Equities NV will show the soil sampling locations on a soils map which will also depict areal extent of the soil mapping units.



UMC 817.23, Topsoil: Storage

North American Equities NV will provide the seed mix that has been used to revegetate the topsoil stockpiles. North American Equities NV will provide clarification of map and text descriptions of the topsoil stockpile locations. These text descriptions will include volume estimates.

North American Equities NV has protected the stockpile locations from erosion due to surface drainage by placement of berms around the base of stockpiles and through revegetation. Additional discussion will be provided to clarify these measures.

UMC 817.24, Topsoil: Redistribution

As we discussed, North American Equities NV will provide the clarification as to the total volume of stockpiled topsoil and the approximate total area which will require topsoil replacement. These numbers will allow calculation of a replacement depth which in no case will be less than six (6) inches. Possible topsoil deficits would be addressed through the use of a substitute materials plan pursuant to the regulations under UMC 817.22 (E).

UMC 817.25, Topsoil: Nutrients and Soil Amendments

As we discussed, North American Equities NV will consult with, and seek plan approval from DOGM regarding soils testing and fertilizing as per guidelines in effect at the time of reclamation.

UMC 817.43, Hydrologic Balance: Diversions and Conveyance of Overland Flow

As we discussed, North American Equities NV will reclaim all diversion structures consistent with the reclamation schedule of Section 784.16 and the applicable effluent limitation standards.

North American Equities NV will move material from and otherwise recontour the mine development wastepile such that the Little Snyder Canyon ephemeral drainage can be replaced. Mine development waste will be treated similar to other backfill as far as topsoil replacement and revegetation is concerned.

UMC 817.46, Hydrologic Balance: Sedimentation Ponds

As we discussed, North American Equities NV has designed its sedimentation ponds to contain disturbed area runoff and sediment



volume for the 10-year, 24-hour precipitation event. Sedimentation ponds will not be reclaimed until effluent limitation standards can be met without the ponds.

UMC 817.50, Hydrologic Balance: Underground Mine Entry and Access Discharges

As we discussed, North American Equities NV mining operations at the Blazon #1 Mine advance in the downdip direction from the portal faceup area. Prior to temporary suspension of operations in January of 1982, day-to-day mining operations encountered no sources of ground water. Downdip mining advance and the absence of ground water sources adequately preclude the possibility of gravity discharge from the mine.

UMC 817.52, Hydrologic Balance: Surface and Ground Water Monitoring

As we discussed, North American Equities NV will provide narrative and map clarification of sampling locations and the sampling schedule. North American Equities NV has conducted baseline phase sampling and operational phase sampling. Subsequent sampling will take place during the reclamation phase and the post mining monitoring phase. As previously indicated in Section 783.13, baseline data collected for surface water and ground water provides reasonably predictive information on which interpretations of seasonal variation in terms of quality and quantity can be accurately made.

UMC 817.53, Hydrologic Balance: Transfer of Wells

North American Equities NV will abandon and plug the water well according to specifications approved by DOGM, upon completion of reclamation activities. Later, should North American Equities NV decide to transfer the well, documentation will be submitted to DOGM addressing the regulations under UMC 817.53 including required approval by the State Engineer.

UMC 817.54, Hydrologic Balance: Water Rights and Replacements

As previously discussed in Section 817.53, North American Equities NV will abandon the well or transfer it under an approved plan. The only exception or contingency to these plans for disposition of the well would be in the event that North American Equities NV would be required to provide alternative water supply for the loss of water rights as a results of mining activities. Should replacement of water rights become necessary, North American Equities will provide replacement water sources including, but not limited to, the water well located within the permit area. North American Equities NV will provide discussion of any possible replacement which may be required.



UMC 817.55, Hydrologic Balance: Discharge of Water into an Underground Mind

As we discussed, North American Equities NV will not divert any surface or mine water discharges into abandoned mine workings. Therefore, UMC 817.55 does not apply. Discussion regarding this analysis will be provided.

UMC 817.57, Hydrologic Balance: Stream Buffer Zones

As we discussed, North American Equities NV will submit plans to protect surface drainages by containment of all refuse materials that could potentially enter streams. These plans may consist of "half-culverts" or waste rock containment devices.

UMC 817.71, Disposal of Underground Development Waste

As we discussed, North American Equities NV has fully utilized the available capacity of the underground development waste area located adjacent to the portal bench. North American Equities NV may submit plans for disposal of future underground development waste in selected abandoned areas of the underground workings or other surface sites with supporting designs and calculations.

UMC 817.89, Disposal of Non-Coal Wastes

North American Equities NV will provide a plan detailing the handling and disposal of non-coal waste including, but not limited to, trash and used oil. The plan will contain information as to the number of receptacles to be employed and the removal frequency.

UMC 817.97, Protection of Fish, Wildlife, and Related Environmental Values

As we discussed in the meeting and within this letter under Sections 783.17 and 817.54, North American Equities NV will provide a plan for supplying alternative water supply in the event that loss of water rights occurs as a result of mining.

North American Equities NV will clarify the wildlife plan as to protection and mitigation measures to be implemented including information regarding dust control, firearms, vehicles, domestic animals, surface land disturbance, and employee education.

North American Equities NV will provide information and documentation as to the absence of threatened or endangered species of plants or animals within the permit area.



UMC 817.99, Slides and Other Damage

North American Equities NV will supply a plan whereby DOGM will be notified within seven (7) days after the occurrence of any slide or other event resulting in damage with a potential adverse affect on persons, property, health, safety, or the environment. This notification will also contain information as to the remedial measures to be taken.

UMC 817.100, Contemporaneous Reclamation

As we discussed in the meeting and previously within this letter under Section 784.13, North American Equities NV will clarify reclamation information to include monitoring plans for temporary and contemporaneously reclaimed areas so as to provide useful data for further reclamation efforts.

North American Equities NV has not undertaken reclamation or revegetation activities on the disturbed area to date with the exception of reseeding of the topsoil stockpiles. The seed mixes and rates of application for revegetation of the topsoil stockpiles has been covered within this letter under Section 817.23.

UMC 817.101, Backfilling and Grading: General Requirements

As we discussed, North American Equities NV will provide information as to the specific methods for replacement of backfill materials from the point of view of meeting a practical safety standard. North American Equities NV would like to reiterate the relative order of magnitude of material involved being a few thousand cubic yards.

UMC 817.106, Regrading or Stabilizing Rills and Gullies

As we discussed, North American Equities NV will provide clarification as to a contingency management plan for rills and gullies.

UMC 817.111-117, Revegetation

As we discussed, North American Equities NV will provide information under Sections 783.19, Vegetation Information, and 784.13, Reclamation Plan, that forms the basis for reclamation and revegetation of the permit area in accordance with these individual performance standards under Section 817.111 through 817.117.



Ms. Susan Linner
February 14, 1984

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UMC 817.122, Subsidence Control: Public Notice

As we discussed, North American Equities NV will clarify information regarding notification of land owners of and adjacent to the permit area. Notification will provide details relative to affected lands, pertinent dates, and mitigation or control measures to be employed.

Upon completing joint review of all items contained in the January 25, 1984 DOC Letter, DOGM expressed concurrence with North American Equities NV that the items of concern described above can be answered with the various discussions, maps, figures and tables reviewed in the above sections.

We appreciated meeting with yourself and the other DOGM representatives. North American Equities NV has gained an important regard for DOGM concerns and requirements related to the permit application. We would also appreciate any written response or comments on our subject meeting and your opinions drawn as a result. If you have any immediate questions or comments, please do not hesitate to contact either Eldon Strid or myself.

Sincerely,

ACZ INC.



R. Michael Glen

RMG:ski

cc: Alan Smith, North American Equities NV
David Sturges, Delany and Balcomb

