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CARLOTA MINE

GILA

Copper Lake Exploration Ltd. of Vancouver did some work at the Carlotta property on Pinto Creek west of Miami. At present a joint venture between Sonesta Resources and Consolidated Fortune Channel Mines are drilling the Carlotta. By the last of June they had 3 drills working. It is stated they had 420' of ore averaging 1.62% Cu from 330'-750'. Another hole 480' of ore of similar grade between 340'-820'. They were at the close of the year at 568' in another hole and were planning to go to 2000-3000' to try to reach sulphides. FTJ AR 73-74

3/8/76 - information from GWI who got the information from Bob Moore of Cities Service - Sherwood Owens is the owner of the Carlota Mine.

MG/WR 9/7/79 - Mr. Sherwood B. Owens owns the Carlota deposit in Gila Co. He reports 4 to 5 million tons of oxide copper assaying 0.85 to 0.90% total copper have been drilled out in this property. The Carlotta adjoins the Cactus deposit owned by Cities Service Co. The Carlotta is deep and lies beneath Pinto Creek. Mr. Richard Mieritz has been consultant to Owens on this property.

MG/WR 10/25/79 - Visited John Spencer, Manager of Planning, of the Cities Service Co. Spencer said the company would buy the adjacent Carlota deposit if a reasonable price could be negotiated with the owner.

NJN WR 3/25/88: Dick Mieritz (card) visited and provided a sketch map of the Carlota Property (file) Gila County which is controlled by Mr. Mieritz's client Sherwood Owens. Mr. Mieritz believes the property has in-situ leach potential. The sketch map of the Carlota shows the nature of the major faults which may provide control for the leaching solution. As Cyprus Minerals (card) has been aggressive in pursuing copper leach properties I have notified them of the availability of the Blue Bell and Carlota.

CARLOTA MINE

GILA COUNTY

Visited the Carlota mine and plant of the Milca Mining Co. - no activity. EGW WR 3-26-65

Mr. Fowells said that Kennametal Inc. are examining the Carlota mine. FTJ WR 5-26-67

Mr. Andy Zinkl, operating the Carlota mine near the Castle Dome mine in Gila County, called in. He wants to drill a well on the property and wanted information on his water rights. The requirement for filing an application for drilling with the State Land Department was explained. Also explained to him were the water rights regulations on percolating waters in Arizona. CLH WR 5-18-68

Visited the Carlota mine on Pinto Creek. 2 drills working besides making cuts and drill sites. Homestake Manufacturing is the company, George Freeman the engineer in charge - but was not at the mine. No further information received. FTJ WR 9-27-68

Visited Carlota mine which is undergoing exploration by Homestake Production Co. of Tulsa, Oklahoma. They have drilled 18 holes since July. Metler Bros. are the contract drillers. George Freeman is the engineer in charge of the work. FTJ WR 11-29-68

Exploration by core drilling at the Carlota mine was underway by Homestake Production Co. of Tulsa, Oklahoma. Mine production was about the same as last quarter, however exploratory effort increased. FTJ QR 12-31-68

Learned Homestake Production Co. still has option on the Carlota. FTJ WR 10-3-69

Visited the Carlota mine - no activity. FTJ WR 3-27-70

Visited the Carlota mine - idle. FTJ WR 5-29-70

To Carlota mine - no one around and idle. FTJ WR 1-29-71

Gerry Weathers said Homestake Productions has bought the Carlota mine. FTJ WR 2-26-71

To Florence Junction to Carlota Mine. Talked to Joe Hoyt, driller for Metler Bros. Drilling Co. He was drilling the 3rd and last hole. He thinks PMC is in with Homestake Productions on the drilling and hopes Metler gets his money. He did not mention findings in the drilling. FTJ WR 3-31-71

Homestake Producers were exploratory drilling on the Carlota mine, west of Castle Dome at the close of the quarter. FTJ QR 4-5-71

Went to Carlota mine. It was idle and returned to Phoenix office. FTJ WR 4/14/72

A Canadian Company, Consolidated Fortune Ltd., are examining the Carlota Mine on Pinto Creek. FTJ WR 5-24-74

Interview with Gerald Weathers - Consultant

Mr. Weathers stated that Milca Mining Co., Craig and Derrick Streets, Uniontown, Pa., had recently done some bulldozer stripping and had disclosed some stringers of ore near to the workings. They also did some road work. Gerald said he had no present connection with the project, but had recommended three or more, prospect drill holes over a length of several hundred feet. LAS Memo 6-17-63

Interview with Henry Huffman

Mr. Huffman stated that he had visited Carlota with one of the employees of Milca Mining Co. (Craig and Derrick Streets, Uniontown, Pa.). He said that this company was ready to leach the dump material which has been variously estimated to amount to 10,000 (certain) to 20,000 (probable) tons that was estimated, by Richard Mieritz and Gerald Weathers, to contain 2 per cent or less of copper. The heads are figures to be held at 0.7 per cent or more. The present plan, according to Huffman, is to crush the dump ore to 5/8 - 3/4 inch and then vat leach it in a series of concrete vats. The six vats are about 15 feet wide, 20 feet long and 4 feet deep. Each vat is calculated to accommodate about 45 to 50 tons and for the present 2 vats will be operated at a time. Eventually the third vat will be added, but not over 150 tpd will be run for some time. The leaching circuit is estimated to last for 4 days.

Equipment consists of a front loader, crusher (driven by a No. 4 caterpillar engine) and screens. 4 men are currently employed. Efforts to contact company officials failed, probably because of Thanksgiving holiday. LAS Memo 11-27-63

Mr. Weathers stated that he holds a lease on the Carlota mine. He is attempting to raise \$30,000 which he says is the minimum needed to drill 4 holes to determine the volume of ore in the main ore zone. These holes would be at least 400 feet deep. The mineral zone consists of several stringers occupying 200 feet of width. This zone trends N 70 degrees E. There are about 10,000 tons of about 2 per cent copper ore in the dump. He believes that vat leaching would be required. The leaching tests thus far have shown good recoveries. The minerals are malachite, chrysocolla, azurite and tenorite.

Miami Copper Co. drilled two holes in the canyon below the Carlota and this showed a good water flow of about 30 gallons per minute. Weathers believes that a 250 tpd plant would be the minimum size of plant that would pay. Such a plant would cost about \$50,000.

LAS Memo 4-6-62

Mr. Weathers calculates that 4-400 foot holes should adequately prospect the stringer zone on the Carlota. He states that his proposed program would cost between \$25,000 to \$30,000 including the drilling, leaching plant, and necessary accessories.

According to Weathers, Alexander (owner) reported that he had produced 20,000 tons of ore assaying 5-15 per cent copper. Alexander also estimated that probable total shipments amounted to 50,000 tons. The property has a 400 foot vertical shaft along with several hundred feet of lateral workings. The shaft is now caved near the surface, but may be open deeper down.

Weathers desires to develop sufficient reserves to warrant the erection of a leaching plant to produce about 5 tons of cement copper per day. Water is, at present, available in two old drill holes sunk by Miami in the canyon below the mine.

The dump, which is reputed to average 2 per cent copper, is variously estimated to contain 10,000 to 15,000 tons.

Previous attempts to leach this dump, in situ, failed mainly because of pregnant solution losses.

Memo LAS 4-17-62

Mr. Mieritz said he estimated the dumps at 15,000 tons assaying about 2 percent copper. This checks well with estimates made by Jerry Weathers. Memo LAS 7-12-62

CARLOTTA MINE

GILA COUNTY
MIAMI DISTRICT

CONFERENCE WITH VERNON O. GARDNER, (FOREMAN & STOCKHOLDER OF MILCA CORP), 1/31/64, AND MINE VISIT. (Gardner's address is 124 Hopi, Globe, PH-425-2811).

A leaching plant has been installed and is now in operation experimentally. It consists of drag, that pulls dump ore onto a belt conveyor, which in turn delivers the muck to a 10 X 30 inch Pacific jaw crusher. The crusher reduces the ore to 1 inch, and its discharge goes over a shaking screen, the fines being delivered to a set of 18 X 30 inch rolls that reduces the rock to 1/8-1/4 inch and finer. The minus 15 mesh is screened out and discarded. The ore is stockpiled on a concrete platform that overlies 4 circular agitation tanks that are in closed circuit. The tanks are 6 feet high and 4 feet in diameter and are constructed of red wood stays. The agitators are propeller-like blades on shafts that are driven by small direct-connected motors. The agitators are covered by a shed.

The acid water is added to the ore in these tanks and stirred for 3/4-hour in the first tank and 1/2 hour in each successive tank. Gardner proposes to leach a longer time in each tank and operate them separately. The extraction after one hour of agitation is estimated at 60 plus percent of the copper. Below these agitators is a polyethylene lined pond (50 feet in diameter and 15 feet deep) where the pregnant solution will be decanted off of the tailings. Gardner plans to leave the solution in the settling tank for a while (still not determined) where it further leaches the ore. He estimated that each added ten minutes of agitation yields 2 points more copper, but it is not believed that it will pay to go past 70 percent extraction. The leach solution contains 50 to 60 pounds of sulphuric acid per ton of ore. This is a P.H. of around 1.9. (The dump is estimated to contain 10,000 tons of 1.1 to 1.9 percent copper ore).

The decanted pregnant solution is delivered by gravity to 8 precipitation vats. Four of these are 3x14 feet in section and the other four are 4x12 feet. They are about 4 feet deep. Precipitation will be by tin cans. The vats are constructed of redwood and are in closed circuit. The cement copper will be stored on a concrete platform. The tail water is stored in a concrete reservoir adjacent to the cement copper storage platform. A flocculent will be added to speed the settling of iron sulphate out of the water. The water is then sent to a storage tank where fresh acid is added. Cortez Chemical Co., of Phoenix, furnished the acid. New water is supplied from a well next to Pinto Creek and this is added to the used water when the latter becomes too contaminated to be used alone. Periodically, when blending will not sufficiently clarify the old water, a new solution will be made up and the old water discarded.

Power is furnished by two R.D. 8 motors.

The ore contains azurite, malachite and chrysocolla.

Paul Hunter, Kennecott, is consultant on leaching.

According to Gardner, underground and pit sampling indicated that one area was high in lime content and another high in alumina. However, there is one zone that runs 0.70 percent copper that could be leached.

MEMO LEWIS A. SMITH 1/31/64



Carlota Mine (file)
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

February 27, 2002

Dear Interested Party:

Thank you for your interest and comments regarding the Carlota Copper Project National Pollutant Discharge Elimination System (NPDES) permit and the supplemental Environmental Assessment (EA). This letter is to inform you that on February 27, 2002 the U.S. EPA Region 9 re-issued the NPDES permit for the Carlota Copper Project and published an Amendment of a Record of Decision/Finding of No Significant Impact.

The EPA issued a National Pollutant Discharge Elimination System (NPDES) permit to the above referenced party on July 21, 2000. The permit was subsequently appealed to the Environmental Appeals Board (EAB). In accordance with 40 C.F.R. § 124.19(d), EPA withdrew two contested permit conditions in order to allow comment on these conditions and to review compliance with National Environmental Protection Act (NEPA) for these conditions. The remaining permit provisions and the petitions before the EAB have been stayed since that time.

On May 9, 2001 EPA public noticed the two withdrawn conditions and a supplemental environmental assessment (EA) for these two conditions. EPA has prepared a document responding to all public comments on the supplemental EA. The response to public comments, the NPDES permit and the Amendment of the Record of Decision/Finding of No Significant Impact are available for review at <http://www.epa.gov/region09/water/npdes/carlota.html> or by calling or writing to the following address:

U.S. Environmental Protection Agency, Region IX
CWA Office of Permits and Standards, WTR-5
ATTN: Shirin Tolle
75 Hawthorne Street
San Francisco, CA 94105
(415) 972-3515

Within 33 days of this public notice, any person who filed comments on the two withdrawn permit conditions may petition the EAB to review either of these two conditions. The petition shall include a statement of the reasons supporting that review, including a demonstration that any issues being raised were raised during the public comment period and a showing that the condition in question is based on: (1) a finding of fact or conclusion of law which is clearly erroneous, or (2) an exercise of discretion or an important policy consideration which the EAB should, in its discretion, review. See 40 C.F.R. §§ 124.19(a) and 124.20(d).

40 C.F.R. § 124.60 (b)(1) states that, as provided in 40 C.F.R. § 124.16 (a), if an appeal of an initial permit decision is filed under Section 124.19 of this Part, the force and effect of the contested conditions of the final permit shall be stayed until final agency action under 40 C.F.R. § 124.19 (f). In accordance with 40 C.F.R. § 124.16 (a)(1), “[i]f the permit involves a . . . new source, new discharger or a recommencing discharger, the applicant shall be without a permit for the proposed new . . . source or discharger pending final agency action.” Please review 40 C.F.R. § 124 and the revisions at 65 Fed. Reg. 30886 for a complete description of the requirements regarding appeal of NPDES permits.

If you have any questions regarding the procedures outlined above, or if you would like to review or request any documents from the Administrative Record, please contact Lisa Honor at (415) 972-3413 or myself at (415) 972-3515.

Sincerely,

A handwritten signature in black ink, appearing to read "Shirin Tolle". The signature is fluid and cursive, with a long horizontal stroke at the end.

Shirin Tolle
CWA Standards & Permits Office
Water Division

**AMENDED RECORD OF DECISION/
FINDING OF NO SIGNIFICANT IMPACT**

**FINAL ENVIRONMENTAL IMPACT STATEMENT
U. S. Forest Service**

AND

**SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT
U.S. Army Corps of Engineers**

AND

**SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT
U.S. Environmental Protection Agency**

for the

CARLOTA COPPER PROJECT

**U.S. Environmental Protection Agency
Region IX**

DECISION TO BE MADE

This Amended Record of Decision (ROD)/Finding of No Significant Impact (FONSI) documents the decision by the U.S Environmental Protection Agency (EPA) Region IX pertaining to issuance of a National Pollutant Discharge Elimination System (NPDES) permit authorized under Section 402 of the Clean Water Act (CWA) to the Carlota Copper Company for the proposed Carlota Copper Project. EPA, Region IX initially public noticed a ROD for this permit on July 24, 2000 and issued an NPDES permit to the Carlota Copper Company on that same date. The permit was subsequently appealed to the Environmental Appeals Board (EAB). In accordance with 40 C.F.R. § 124.19(d), EPA withdrew two contested permit conditions in order to allow comment on these conditions and to review compliance with the National Environmental Policy Act (NEPA) for these conditions. The two contested conditions under Part I.A.11 of the permit are described as follows:

Part I.A.11.a. Reclamation activities to be performed at the Gibson mine to reduce copper loadings to Pinto Creek prior to commencement of discharge,

Part I.A.11.b. Wellfield Mitigation Program allowing periodic discharges of ground water from a developed wellfield to waters of the U.S.

This Amended ROD/FONSI is being issued pursuant to NEPA, 42 U.S.C. § 4321 et seq., the Council on Environmental Quality (CEQ) NEPA regulations at 40 C.F.R. Parts 1500-1508, and EPA's NEPA implementing regulations at 40 C.F.R. Part 6, Subpart F (Environmental Review Procedures for the New Source NPDES Program). The decision is based upon the analyses included within the three NEPA documents prepared for the project: Final Environmental Impact Statement (Final EIS), issued July 22, 1997 by the U. S. Forest Service; Supplemental Environmental Assessment (Corps EA), issued January 23, 1998 by the Army Corps of Engineers (Corps) and the Supplemental Environmental Assessment (EPA Supplemental EA) public noticed on May 9, 2001. The Finding of No Significant Impact pertains to the information in the EPA Supplemental EA as there is no significant impact from the two permit conditions analyzed in that document: the wellfield mitigation discharge and the partial remediation of Gibson Mine.

INTRODUCTION

The Carlota Copper Company has proposed to construct, operate, and reclaim the Carlota Copper Project, an open-pit copper mine located approximately 6 miles west of Miami, Arizona. The proposed mine is located partly on lands administered by the Globe Ranger District of the Tonto National Forest and partly on private lands. The proposed action would involve conventional open-pit mining techniques and would produce an estimated 900 million pounds of copper. Mining activities, including leaching of ore, would continue for approximately 20 years. Following the end of operations and reclamation, the Forest Service has required that Carlota demonstrate that closure has been achieved through post-closure monitoring. Mine closure would likely be completed in approximately 2 to 3 years, depending on the results of post-closure monitoring.

The lead agency for preparation of the Carlota Copper Project Final EIS was the U. S. Forest Service, Tonto National Forest. The Corps and the Arizona Department of Environmental Quality (ADEQ) were cooperating agencies on development of the document. The 1997 Final EIS was prepared to address regulatory requirements of the federal permitting agencies, pursuant to NEPA. The lead agency for preparation of the Corps EA was the Corps. The Corps EA, prepared to supplement information provided in the 1997 Final EIS, was necessary in order to meet the Corps' regulatory responsibilities. The Corps EA includes information to support the CWA Section 404 (b) (1) Guidelines alternatives analysis (Appendix A, Final EIS), provides additional information regarding both off and on-site alternatives, and documents additional mitigation requirements, which are intended to minimize potential adverse impacts of the project.

The proposed project requires an NPDES permit from EPA. Because the project is defined as an NPDES new source (33 U.S.C. § 1316(a)(2); 40 C.F.R. 122.2 and 122.29), EPA is

required to comply with NEPA prior to final action on the NPDES permit, 33 U.S.C. § 1371 (c)(1). As outlined above, on July 24, 2000, the EPA issued a ROD by which it adopted the 1997 Final EIS and Corps EA to fulfill EPA's NEPA requirements associated with the new source NPDES permitting action. EPA hereby amends that ROD to include the additional analyses in the EPA Supplemental EA which resulted in a Finding of No Significant Impact for the two analyzed conditions: the wellfield mitigation discharge and the partial remediation of Gibson Mine.

DESCRIPTION OF THE PROPOSED ACTION

Chapter 2 of the Final EIS provides a detailed description of the proposed action and project alternatives. The proposed action would involve conventional open-pit mining techniques, such as blasting, truck hauling from the pit to the crusher, and transport of ore from the crusher to a leach pad. The Carlota and Cactus deposits would be mined as a single pit referred to as the Carlota Cactus pit. A channel would be constructed to divert approximately 7,500 feet of Pinto Creek around the pit. Mine rock (i.e., waste rock) would be taken from this pit and deposited in the Main mine rock disposal area located northwest of the Carlota Cactus pit and in the Cactus Southwest mine rock disposal area located south of the pit. In addition, mine rock would be used to partially backfill the Carlota Cactus pit. Ore would also be mined from three smaller pits referred to as the North, South, and Middle Eder pits during the latter half of the project. Mine rock from these pits would be hauled to the Eder mine rock disposal area located between the Eder North and South pits.

Processing facilities would consist of crushers, a heap-leach pad, and a solvent-extraction/electrowinning (SX/EW) plant. The heap leach pad would be located in the Powers Gulch drainage. A channel would be constructed to divert approximately one mile (5,250 feet) of Powers Gulch around the leach pad. Surface runoff from areas upgradient of the leach pad would be rerouted around the facility via an inlet control structure and the diversion channel. Ore processing would include curing the material with sulfuric acid and leaching it to produce a copper-bearing solution, which would be collected in internal ponds, and then piped to the SX/EW plant for the production of copper cathodes.

The water supply requirements for the project would be an average of approximately 590 gallons per minute (gpm). The proposed water sources would consist of a maximum of five ground water supply wells in the Pinto Creek drainage and dewatering wells around the pits. Additional facilities for the proposed action would include access and haul roads, power lines, an equipment maintenance shop and warehouse, office and laboratory buildings, water, fuel and reagent tanks, and sewage treatment/disposal systems.

DESCRIPTION OF PROJECT ALTERNATIVES

Project alternatives were evaluated to address issues identified during the scoping

processes. Alternatives were selected for analysis in the Final EIS on the basis of the specific criteria listed below:

- Public or agency issue or concern
- Ability to meet project purpose and need
- Technical, legal, or economic feasibility
- Potential environmental advantage over the proposed action

The alternatives were developed and evaluated to address major issues identified. Alternatives considered in detail included a no action alternative, three mine rock disposal alternatives, one leach pad alternative, and two water supply well field access road alternatives. The alternatives discussed in the EPA Supplemental EA include the action and no action alternative; a third alternative, removal of the Breccia ore body, was considered but not further analyzed because it could not be completed prior to discharge. The alternatives considered in the Final EIS and Corps EA are summarized as follows:

No Action Alternative

This alternative would preclude the development of the Carlota Copper Project on the public lands in question, and the ore reserves in the area would remain undeveloped. The No Action alternative assumes the continuation of the existing conditions in the project area.

Mine Rock Disposal Alternatives

The three mine rock disposal alternatives analyzed in the Final EIS were developed in an attempt to locate disposal areas on previously disturbed and/or private lands. These alternatives included (1) using two additional disposal areas for mine rock from the Carlota Cactus pit (Cactus South and Cactus Central sites), (2) additional backfilling of the Carlota Cactus pit, and (3) additional backfilling of the Eder South pit.

Eder Side-Hill Leach Pad Alternative

An alternative leach pad location that was considered the most feasible site for avoiding Powers Gulch was defined and analyzed. The Eder side-hill leach pad would be composed of two separate pads with embankments located on the east and west sides of Powers Gulch. This alternative would require relocating the Eder mine rock disposal area.

Water Supply Alternative

The water supply alternative evaluated in the Final EIS would satisfy Carlota water requirements by using low-quality water that has been degraded by other existing or historic mining operations in combination with good quality water derived from both the Pinto Creek well field and dewatering wells around the pits. Low-quality water is suitable for use on the leach pad and could potentially supply up to 59 percent of the water needs for the project.

Alternative Water Supply Well Field Access Roads

The Final EIS considered two alternative routes to access the water supply wells from the north. Alternative A would involve upgrading the existing road within the Pinto Creek flood plain; Alternative B would follow Forest Service Road 287A west from the Iron Bridge, south and east along Fifty Dollar Spring to well site TW-3 and the existing road. Alternatives A and B, as well as the proposed action would follow the same alignment between well sites TW-3 and TW-1.

COMPARISON OF THE ENVIRONMENTAL CONSEQUENCES OF THE ALTERNATIVES

Chapter 3 of the Final EIS evaluates the environmental effects associated with the project alternatives for all resources. A comparison of environmental effects of the project alternatives for each resource is included by reference to the 1997 Final EIS. Table ES-1 of the EPA Supplemental EA includes a comparison and evaluation of environmental effects of the two withdrawn permit conditions.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The environmentally preferable alternative is the alternative which causes the least damage to the biological and physical environment, and which best protects, preserves, and enhances historic, cultural and natural resources. The No Action alternative best meets this definition since no additional disturbance would take place. This alternative would result in the least environmental impact in comparison to any of the mine development ("action") alternatives. The two withdrawn conditions analyzed in the EPA Supplemental EA are designed to mitigate water quality impacts and, thus, would have a beneficial impact in comparison to the "no action" alternative considered in that document.

ENVIRONMENTALLY PREFERABLE ACTION ALTERNATIVE

The U.S. Forest Service identified an environmentally preferable action alternative (EPAA), based on the analysis of individual project components and alternatives documented in the Final EIS. This alternative was identified based on evaluations of environmental effects of the proposed action and each identified alternative.

The EPAA is that of the proposed action with three additional components:

- Inclusion of the alternative to place additional backfill into the Eder South pit, as described in Section 2.2.1.1 of the Final EIS.
- Inclusion of the water supply alternative, which combines low-quality water with water supply wells and dewatering wells, as described in section 2.2.1.4 of the Final EIS.
- Inclusion of access road Alternative A to the well field in place of the proposed north access road, as described in Section 2.2.15 of the Final EIS.

The U.S. Forest Service did not select the No Action alternative because it would not meet the purpose of and need for the project. The environmentally preferable action alternative (EPAA) was selected because it best meets the project purpose and need and is consistent with all laws, regulations, and policies applicable to the decision. The key differences in environmental impacts that would result as a result of incorporating the three additional alternatives into the proposed action are as follows:

Backfill of the Eder South Pit

Air Quality. Slight decreases in long-term emissions.

Geology and Minerals. Increased long-term stability of the Eder South pit wall, Eder slope, and Powers Gulch area; reduced threat to Powers Gulch diversion system and heap-leach pad.

Water Resources. Reduced long-term risks of sediment transport and potential impacts to Powers Gulch diversion by eliminating the Eder mine rock area at closure.

Soils and Reclamation. Additional reclaimed areas within the pit and at the disposal site; increased costs; reduced potential for erosion because of the elimination of the Eder mine rock disposal area.

Terrestrial Biology. Additional reclaimed areas for upland vegetation and associated wildlife; increased potential area for reclaiming upland habitat, especially for sensitive species such as loggerhead shrike.

Socioeconomics. Beneficial (gains in employment) and adverse (lack of housing) impacts of the workforce for additional 2-3 months.

Land Use. Additional reclaimed areas associated with the additional backfill of the Eder mine rock area available for postmining uses.

Visual Resources. Reduced visible extent of disturbed areas and a more open view of the background.

Noise. Slight, temporary increase of noise levels.

Use of Low-quality Water

Geology and Minerals. Addition of several miles of low-quality water pipeline and associated risks to the pipeline from landslides and slope instability.

Water Resources. Potential reduction of impacts to Haunted Canyon and Pinto Creek associated with water supply well field pumping. (If the pipeline is damaged during the life of the project, released water could potentially affect ground and/or surface water quality.)

Land Use. Potential for an additional pipeline right-of-way on National Forest System lands.

Aquatic Biology. Potential for reducing impact to surface water flow and associated impacts to aquatic biota.

Access Road Alternative A

Geology and Minerals. Reduced soil disturbance and erosion in a portion of Pinto Creek; reduced risk of induced slope instability.

Water Resources. The alternative is located in the Pinto Creek flood plain; more efficient access to water monitoring sites.

Soils and Reclamation. Slight decrease in soil disturbance; no new road construction.

Terrestrial Biology. Continued disturbance of riparian vegetation during project operation.

Land Use. Reduced land use disturbance in Pinto Creek area.

Recreation. Slight reductions in noise and visual impacts on hiking and horseback riding.

MITIGATION MEASURES AND MONITORING

Mitigation Measures

Mitigation includes avoidance, minimization, reduction of impacts, and compensation for unavoidable impacts. Chapter 3 of the Final EIS provides a discussion and list of mitigation measures. Following release of the Final EIS, the Corps revised the mitigation measures required

under the CWA Section 404 permit. These revisions, including the details of the additional mitigation requirements, are included in the Corps EA. The additional mitigation requirements include the following: the requirement to create a one-acre wetland upstream of the Pinto Creek diversion channel; the requirement to fence and remove all exotics from Pinto Creek riparian private areas; the requirement to acquire and put into non-use a 22,000 acre grazing allotment (Brushiest Allotment); and a requirement that Carlota either purchase an agreed-upon conservation area or contribute \$700,000 to a land trust association or agency approved by the Corps for the purchase and/or management of such an area.

In addition, the two withdrawn permit conditions are included as mitigation measures. The reclamation activities at the Gibson Mine would offset copper loadings from storm water discharges from the Carlota Copper Project. The discharges of ground water under the Wellfield Mitigation Program are intended to maintain base-flow conditions downstream.

Monitoring

Monitoring will be required to determine project compliance with the required federal and state permits. Monitoring provisions under the authority of the Forest Service are approved as part of the Plan of Operations. Monitoring provisions under the authority of other agencies are included in their respective permits.

EPA DECISION

EPA has decided to issue an NPDES permit for the EPAA, as described in the 1997 Record of Decision for the Carlota Copper Project prepared by the lead agency, the U.S. Forest Service, Tonto National Forest, with additional requirements and mitigation as described in the Corps EA and the EPA Supplemental EA. When the Final EIS was released, two significant section 404 concerns raised by EPA still remained unresolved - the siting of the heap leach pad in Powers Gulch and the Section 404 mitigation plan. To ensure that the proposed project met EPA's requirements for a CWA Section 404 permit, EPA conducted additional analyses to determine if the heap leach site was the least-environmentally damaging practicable site and worked with the Corps to improve upon the proposed mitigation measures. These analyses are documented in EPA's letter to the Corps dated October 28, 1997 and in the Corps EA. EPA hereby adopts the EPAA selected in the Final EIS, combined with the additional mitigation documented in the Corps EA and EPA Supplemental EA.

The NPDES permit only allows discharges to Pinto Creek during a 100-year, 24-hour storm event and into Powers Gulch during a 10-year, 24-hour storm event. The permit requires the maintenance of the retention basins built to meet the above conditions. In addition, the NPDES permit requires monitoring and reporting of characteristics of discharges, implementation of best management practices (such as maintenance of retention ponds, etc.), as well as monitoring of surface waters and biological organisms in the surrounding watershed to

assess any impacts which may result from project discharges. The permit also requires Carlota to remediate portions of Gibson Mine, an inactive copper mine, thus removing a significant source of copper currently discharging into Pinto Creek, prior to discharging into that waterbody. The permit allows Carlota to discharge ground water in order to maintain base-flow conditions in Pinto Creek. Finally, the NPDES permit includes a reopener provision which allows EPA to reopen and modify the permit to impose additional requirements if new information, such as monitoring results, indicates that permit conditions are not sufficient to protect water quality.

FACTORS CONSIDERED IN THE DECISION

EPA's authority relevant to the decision extends to either the granting (with specific limitations and/or conditions) the NPDES permit, which is required for the project to proceed, or the denial of the NPDES permit. In making this decision, EPA is required to take into account "any significant beneficial and adverse impacts of the proposed action and a review of the recommendations contained in the EIS..." [40 C.F.R. 122.29 (c)(3)].

EPA has taken into consideration the evaluations as described in the Final EIS, Corps EA and EPA Supplemental EA. EPA has also taken into consideration the results of consultations conducted by the Forest Service and EPA to determine compliance of the project with the National Historic Preservation Act (NHPA) and the Endangered Species Act (ESA). The Arizona State Historic Preservation Officer (SHPO) issued a letter to the Forest Service dated October 25, 1998 confirming that the Mining Plan of Operations complies with the NHPA. EPA subsequently met with Tribes and hired a consultant to perform an additional survey of the areas affected by the discharges authorized by EPA's NPDES permit. EPA received a letter dated June 29, 2000 from the SHPO concurring with the determination that there were no cultural resources with unmitigated impacts or Tribal Cultural Places within the area impacted by the discharges. The U.S. Fish & Wildlife Service issued a Biological Opinion for the project on April 26, 1996, stating that the project is not likely to jeopardize the continued existence of the lesser long-nosed bat and Arizona hedgehog cactus, the only two species protected under the ESA that might be affected. Finally, EPA further analyzed the above factors for the two withdrawn permit conditions in the EPA Supplemental EA.

EPA has analyzed project alternatives, associated environmental impacts, the extent to which environmental impacts could be mitigated, and has considered the objectives of the project proponent, the Carlota Copper Company. EPA also considered public and agency comments received during the U.S. Forest Service's Draft EIS public comment period, as well as agency and public comments received during EPA's public comment period for adoption of the Final EIS & Corps EA and issuance of the related NPDES permit and later comment period for the EPA Supplemental EA and on the two withdrawn permit conditions. The selected alternative, combined with the requirements and mitigation documented in the Corps EA and EPA Supplemental EA, best addresses the issues identified during the EIS scoping process and the comments received during the public comment periods. EPA concludes that all practical means

to avoid or minimize environmental harm from the selected alternative have been adopted.

In addition to impacts evaluated by the Final EIS, EPA further considered factors associated with the non-attainment of the water quality standard for copper in Pinto Creek in making this decision. Pinto Creek has been listed by the State of Arizona under Section 303(d) of the CWA for non-attainment of the water quality standard for dissolved copper, due to factors including uncontrolled and abandoned mines impacting the watershed, as well as natural mineralization. The EPA issued a final Total Daily Maximum Load (TMDL) for Pinto Creek in April 2001 to address this issue. The TMDL establishes loading capacities, determines background conditions, assigns allocations to point and nonpoint sources, and contains an implementation plan to ensure future compliance with water quality standards.

While the U.S. Fish & Wildlife Service determined that the project as a whole is not likely to jeopardize threatened and endangered species, EPA made the determination in a letter to U.S. Fish & Wildlife Service dated September 15, 1998 that any discharges allowed under an NPDES permit will have No Effect on any threatened and endangered species in the area. EPA has determined that discharges allowed under the permit will not adversely impact water quality due to the expected infrequency of discharges, the high degree of dilution which would be associated with any discharges, and the predicted characteristics of discharges based on EPA's review of waste rock characterization data. Based on facility design and included as a permit requirement, Carlota is only allowed to discharge runoff from waste rock dumps through retention ponds during major storm events. Specifically, Carlota has designed retention ponds on Pinto Creek to contain the volume of storm water which would result from the 100-year, 24-hour storm event and on Powers Gulch to contain the volume of storm water which would result from the 10-year, 24-hour storm event. EPA's permit prohibits any discharges into Pinto Creek containing detectable amounts of dissolved copper, until Carlota performs the partial remediation of Gibson Mine as outlined in the EPA Supplemental EA. The EPA Supplemental EA concludes that the implementation of the partial reclamation at the Gibson Mine could have positive secondary impacts on many threatened, endangered and special status species by improving water quality within Pinto Creek. Implementation of the wellfield mitigation plan would mitigate impacts to riparian zones and aquatic habitat by ensuring that base flows in Haunted Canyon, Powers Gulch and Pinto Creek do not drop below defined monthly minimum streamflows.

In addition to management of storm water discharges, all process solutions and process waste waters are managed in facilities designed to contain flows that would result from ½ the Probable Maximum Precipitation Event, as documented in the Final EIS.

NPDES PERMIT

The draft NPDES permit, Final EIS, and Corps EA were released for public comment on September 29, 1998. Since EPA was not a cooperating agency on the NEPA documents prepared by the U.S. Forest Service and the Corps, EPA was required to recirculate and take

comments on these NEPA documents prior to adoption to satisfy the NEPA compliance component of the NPDES permit. EPA's public comment period for these EPA actions ended on December 31, 1998. In response to comments received on these actions, EPA prepared a Response to Comments document addressing all comments and outlining all revisions made to the draft NPDES permit. On July 24, 2000, EPA issued a final permit and ROD for this project. The permit was subsequently appealed to the EAB. In accordance with 40 C.F.R. § 124.19(d), EPA withdrew two contested permit conditions in order to allow comment on these conditions and to review compliance with NEPA for these conditions. A response to those comments has been prepared and EPA has received CWA section 401 certification from ADEQ for the NPDES permit. The Final EIS, Corps EA, EPA Supplemental EA, NPDES Fact Sheet and Responses to Comments provide the basis for the final NPDES permit, which is issued concurrently with this Record of Decision. The NPDES permit includes monitoring requirements and other conditions imposed to protect water quality and to comply with the state water quality standards. Mitigation measures developed in the Final EIS have been included as conditions of the NPDES permit to the extent EPA is authorized under the CWA, such as monitoring of surface waters and biological organisms. These measures are specified in the NPDES permit and are made a part of this decision. EPA has determined that the above requirements ensure compliance with the technology-related pollutant control requirements of the Clean Water Act.

CONTACT PERSON

Further information regarding this Record of Decision may be obtained by contacting:

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Approved by:


Wayne Nastri
Regional Administrator

February 27, 2002
Date

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RESPONSIVENESS SUMMARY

Air Quality Control Permit No. 071434P0-00

Carlota Copper Company

Carlota Copper Company (CCC) plans to develop a heap-leach copper mining and processing facility in Pinto Valley, Arizona. The proposed facility will be located approximately six miles west of Miami. The facility will be adjacent to the Magma Copper Company's Pinto Valley Copper Mine and near other mining operations in the Globe/Miami, Arizona area.

The planned annual mining capacity of ore and waste rock at the facility is 28 million tons per year, with a mine life of approximately 15 years. Mining will take place within the Carlota/Cactus Pit and both the North and South Eder Pits. Air emissions from the proposed facility are particulate or dust from mining activities, combustion products of diesel fuel fired auxiliary equipment and mobile equipment, sulfuric acid (H_2SO_4) mist from the electrowinning tankhouse and volatile organic compounds (VOC) from storage tanks and the solvent extraction process.

Emissions will be controlled by implementing design features which reduce fugitive emissions and by installing appropriate pollution control equipment. Specific emission reduction measures which will be implemented include water sprays and/or chutes at most conveyor material transfer points, water sprays at the primary crusher, chemical dust suppressants and water applications on plant roads, and a baghouse at the secondary crushing system comprised of a vibrating screen and a secondary crusher.

The mining operation is located near the Superstition Wilderness Area, a Class I area. The area is also a popular outdoor recreational area. Although CCC has demonstrated, through modeling, that there will be no exceedances of the particulate or dust National Ambient Air Quality Standards (NAAQS) or the Arizona Ambient Air Quality Guidelines (AAAQG) limiting concentrations for sulfuric acid mist or nitrogen oxide outside the process area, the following added precautions have been taken to protect the public and the Wilderness area: CCC is required to restrict public access to the process area in which an exceedance may occur. This will be done by fencing the area and posting warnings; CCC will install an ambient air monitoring station to measure the airborne dust concentrations outside the process area. The location of the station will be in the general line in the direction of the Wilderness area.

The Arizona Department of Environmental Quality (ADEQ), Air Quality Division (AQD) has reviewed the application for an Air Quality Control Permit submitted by CCC. Based on this review and an extensive analysis of the air quality impacts that will result from this project, an Air Quality Control Permit was drafted and advertised for public comment in accordance with A.R.S. 49-426.D. The first advertisement was published in the Mesa Tribune and Globe-Miami Area Newspaper on March 12, 1996 and the second appeared on March 19, 1996. Since a Public Hearing was requested by CCC, this was noticed on the same dates.

Subsequently, AQD held a Public Hearing on April 16, 1996 in the auditorium of the Miami High School, Miami, Arizona. During the Public Hearing and the subsequent public review period which ended on April 22, 1996, verbal and written comments, questions and objections were received by AQD. This SUMMARY presents AQD's responses to these issues raised by the public.

The format for this summary is that the issues are designated as comments (C), questions (Q) and objections (O). The objections normally are those issues that would require action if espoused by AQD. Each issue is responded (R) to appropriately. The issues that have resulted in a revision to the draft permit are so indicated. The result of this process is the AQD decision on this matter and the issuance or denial of Air Quality Control Permit No. 071434P0-00.

- I. (C) A common theme put forth by many commentators was the following:
 - A. the Globe/Miami area has been and continues to be a mining community;
 - B. the citizens of the area need copper mining for the opportunities it provides for productive employment and economic activity;

1. The condition is in a permit or permit revision issued by the Director after the effective date of this Section (November 15, 1993).
2. The condition is identified within the permit as a material permit condition .
3. The condition is one of the following: f. An opacity standard required by section 111 or title I, part C or D of the Act (Clean Air Act)

Section 111 of the Act establishes the Standards of Performance for New Stationary Sources (NSPS) program. This facility is subject to 40 CFR 60, Subpart LL, which is a NSPS. Therefore, the opacity standards stated in the above referenced NSPS are material permit conditions (A.A.C. R18-2-331.A.3.f). For the purposes of calling an NSPS opacity standard a material permit condition, it is irrelevant that A.A.C. R18-2-331.C states that "For the purposes of this section, the term "emission standard" shall have the meaning set forth at A.R.S. §49-464(U)...". A.R.S. §49-464(U) states that the "term emission standard does not include opacity standards". The NSPS applicable to this facility establishes both emission standards and opacity standards which, by definition, are both material permit conditions. The applicability to emission standards is referred to in A.A.C. R18-2-331.A.3.a. These opacity standards are for stack emissions and process fugitive emissions, as stated in the draft permit. Other fugitive emission opacities are not material permit conditions.

AQD recognizes that in some instances an opacity standard is violated while the emission standard, which we agree is the definitive standard, is not. It is correct that EPA anticipated this occurrence in 40 CFR 60.11(e)(6). This section of the code establishes a procedure to gain relief from the violation. In summary, if during a performance test in which the affected facility is found to be in compliance with all applicable (emission) standards, but the affected facility fails to meet an opacity standard, the owner/operator may petition the Administrator (Director) within 10 days of receipt of notification to make appropriate adjustment to the opacity standard for the affected facility. AQD does not see how this affects the material permit condition determination.

A.R.S. §49-464, Violation; classification; definitions, establishes the felony classifications for various violations. Subsection G of this section states that a person who operates a sourcethat is subject to a material permit condition other than an emission standard identified in subsection C of this section.....and who knowingly violates such permit is guilty of a class 6 felony. This seems very clear; opacity standards are material permit conditions and to knowingly violate is a felony.

- V. (O) Although several control measures for H₂SO₄ emissions from the SX/EW facility are required, there are other sources of acid mist that are considered negligible. Also the method used to quantify the emissions from the SX/EW facility are suspect due to the confidentiality of the study used and the uncertainty of the design. The accuracy of the confidential study must be verified and a final design must be made before a permit can be issued. Also there is no commitment to ambient air quality monitoring for PM₁₀ made in the DEIS.
- (R) ADEQ recognized the uncertainties noted in the comment. Consequently, in an earlier draft of the proposed permit the permittee was required to either source test the exhaust ducts from the SX/EW building or install and operate an ambient air monitor for acid mist sited in a high predicted impact area. The permittee has now finalized on an open ridge vent design for the building. Since this design does not lend itself to a performance test, ADEQ will now require the ambient air monitor as a source of verification.

In the permit the permittee is required to install and operate an ambient air monitor for PM₁₀ at a location along the direction toward the Wilderness Area. This monitor is to be operated according to EPA State and Local Air Monitoring System (SLAMS) procedures.

- VI. (O) An emission limit of 1.4 pounds per hour of H₂SO₄ has been set for the tankhouse in the Section II of Attachment "B". Because a numeric standard has been listed for the emissions exhausting from the building, a work practice standard such as paragraph D of the section on sulfuric acid emissions is redundant and

that it is in attainment is true, EPA Region IX has not so redesignated the area; therefore, it is a nonattainment area. These source and area designations abrogate your concerns with respect to the State's authority.

If NSR were applicable, portions of the above referenced permitting programs would require the State to consider the Air Quality Related Values (AQRV) for Class I areas, e.g., visibility. Since NSR does not apply, the responsibility to review the AQRVs is with the federal land manager (in this case the U.S. Forest Service) through the Environmental Impact Statement (EIS) and the Conformity Determination. Your comments on visibility should be directed to the U.S. Forest Service.

Again the project is located in a nonattainment area; as such PSD Increments do not apply. However, to assuage the concern Carlota was asked to determine, using the EPA ISCST3 with plume depletion model, the maximum increase in the ambient PM_{10} concentration at the boundary of the nonattainment area. The result was $13.8 \mu\text{g}/\text{m}^3$, 24-hour average. Although the annual model was not run, an estimate based on the 24-hour average was $2.8 \mu\text{g}/\text{m}^3$ annual average. The maximum allowable PSD Class II increments are $30 \mu\text{g}/\text{m}^3$, 24-hour average and $17 \mu\text{g}/\text{m}^3$, annual average. The State also requested that Carlota model as far out as the Tonto National Monument. The result was $1.3 \mu\text{g}/\text{m}^3$, 24-hour average, and the estimated annual average was $0.26 \mu\text{g}/\text{m}^3$. As a reference, the maximum allowable PSD Class I increments are $8 \mu\text{g}/\text{m}^3$, 24-hour average and $4 \mu\text{g}/\text{m}^3$, annual average. (Reference: PSD increments, 40 CFR 52.21 (1995)).

In another comment the following similar question was raised: "Since the minor source baseline date has been triggered in the Central Intrastate Control Region (Gila and Pinal Counties),the Department was required to do a PSD increment analysis for the nearby Class I area, even though this is a minor source, not subject to PSD or NAA requirements." During the EPA review of the EIS this question was raised by an EPA reviewer and the Department requested clarification. David Howekamp, Director, Air Division of EPA, responded in part, "...since this is a minor source, any such increment consumption in a triggered area, and any NAAQS violation caused by it, would come to light only in the air quality analysis in a future major source PSD application, or monitoring....The State does have the responsibility to protect the increments and the NAAQS, and should such impacts come to light in the future, they would have to be mitigated.....this is a minor source in a nonattainment area, and so is not subject to PSD requirements for permits or impact analysis..."

Donald Gabrielson, Director, Pinal County Air Quality Control District, in a letter to Nancy Wrona, Director, Air Quality Division, Arizona Department of Environmental Quality, discussed this issue as a follow-up to his inquiry as "to whether the Forest Services's draft conformity analysis was defective, in that it did not include an increment consumption analysis." In his correspondence, he stated "I concur in the joint decision between ADEQ and EPA Region IX that neither ADEQ rules nor EPA regulations expressly require the air quality permitting agency to undertake or exact an increment consumption analysis for this project."

The consensus is that the Department does not have the authority to deny a permit to Carlota based on your concerns; those concerns should be addressed to the Forest Service, the federal land manager. An impact analysis was performed for the draft EIS (DEIS). The emissions modeled for the EIS included point, area, and mobile (on-site motor vehicle tailpipe emissions) associated with the project. The results showed maximum PM_{10} impacts in the Class I area of $5.8 \mu\text{g}/\text{m}^3$, 24-hour average (with plume depletion) and $1.6 \mu\text{g}/\text{m}^3$, annual average (without plume depletion). Both are well below the increments stated above.

- X. (Q) The emission inventory developed for the fugitive emissions from heavy duty haul truck traffic is based on an average speed of 15 miles per hour (mph). The comment presents calculations to demonstrate that a 15 mph average speed is unrealistic. Also, a question is raised as to how the strict monitoring and enforcement of any speed limit will be accomplished.
- (R) The Department has also developed scenarios based on the data given in the application and updated through the changes that have resulted from the EIS process. These calculations clearly show that there are a variety of scenarios, within the confines set in the application as revised by the EIS, that result in average speeds

per year. The operating time used in the modeling analysis was 438 hours per year. This assumption is less than the EPA worst case assumption, but much greater than the expected requirements. The hours used in the modeling analysis provide a worst case scenario.

- XIII. (C) The question of the location of boundary of the project is discussed, and it is concluded that the boundary, outside of which is in attainment, must be determined to protect the public from air pollution.
- (R) The determination of the boundary location has not been pre-determined; however, the permit specifically addresses this determination in Attachment "B", Section IV, Public Access Restrictions, Subsections A. and B.
- "A. The perimeter of the mine work area and the SX/EW Tankhouse area shall be bounded by a fence or a natural topographic barrier adequate to restrict public access and posted to identify the area as restricted to public access.
- B. The area restricted to public access shall confine all mining and SX/EW Tankhouse related activities and any and all areas which have been determined to have the potential for an exceedance of the National Ambient Air Quality Standard (NAAQS) for PM_{10} and/or an exceedance of the Arizona Ambient Air Quality Guideline (AAAQG) for H_2SO_4 . The exact location shall be proposed by the permittee and, upon written approval by the Department, the fence shall be installed accordingly."
- XIV. (C) Moisture figures of the topsoil and pit are derived from an American Mining Congress report. They should be site specific to the particular area the applicant plans to mine. If the moisture is less than 5 percent, the emission of PM_{10} would be increased.
- (R) The permittee did carry out a soil moisture survey. This survey consisted of samples of each type ore to be mined. The ore types sampled and the number of samples taken were Breccia Oxide (8), Breccia Mixed (4), Schist (4), Dacite (2), Kelly Schist (2) and Kelly Diabase (1). The Breccia Oxide and Mixed comprise about 67 percent of the ore to be mined. The percent of the other ore types are Schist, 18, Dacite, 6.2, Kelley Schist, 5.3, and Kelly Diabase, 3.5. All contained an average moisture of greater than 5 percent.
- Carlota also drilled over 250 exploration holes in the three pit areas. When these holes were drilled, the cuttings were observed to be generally at least damp, if not saturated, from just below the surface to the total depth. Also, most holes drilled in the vicinity of all three of the pits filled with water shortly after they were drilled.
- XV. (C) There is no guarantee that the applicant will have enough water for dust control on the roads.
- (R) At the time this comment was presented the dust control considered was water. To obtain more positive, increased control the permit requires that the "permittee shall treat unpaved roadways with magnesium oxide, calcium chloride or other chemical dust suppressants with equivalent or better control efficiency in sufficient quantity and frequency to maintain a ground inventory of 0.25 gallons per square yard." Water is only to be used as a surface maintenance tool. This greatly reduces water requirements.

Table 1 - Estimated Haul Truck Average Speed, Year 5

Assume all ore transported by haul truck:

Operation	Units	Ore Rock to Stockpile	Waste Rock to Waste Dump	Total Rock 150 ton Trucks	Ore Rock to Leach Pad	Mined Rock
Round trip haul distance	feet	14,784	21,120		2,429	
Annual amount hauled	kilotons	7,500	20,500	28,000	2,250	30,250
Haul truck capacity	tons	150	150	150	90	
Annual number of round trips		50,000	136,667	186,667	25,000	211,667
Annual distance traveled	miles	140,000	546,667	686,667	11,500	698,167
Annual hours of operation	hours	14,068	54,932	69,000	12,000	81,000
Annual hours in travel	hours	11,254	43,946	55,200	9,600	64,800
Average speed	mph	12.44	12.44	12.44	1.20	10.77
Number of trucks operating				9	3	12
Average operating hours per truck	hours			7,667	4,000	6,750

Fraction of time in travel = 0.8 (loading/unloading, personnel breaks, shift changes and maintenance account for the remaining 20%)

Table 2 - Results of the Study of the Impact of Metals in Fugitive Dust

Metals Concentrations in Soil Samples (mg/Kg)			Estimated Ambient Air Concentration ($\mu\text{g}/\text{m}^3$)			AAAQG Limit Concentration ($\mu\text{g}/\text{m}^3$)		
Metal	Average Soil Concentration	Maximum Soil Concentration	1-hour Average	24-hour Average	Annual Average	1-hour Average	24-hour Average	Annual Average
Antimony	5.0	5.0	0.01	0.000	0.00010	15	4	NA
Arsenic	3.7	7	0.00	0.000	0.00007	0.32	0.084	0.00023
Barium	77.6	170	0.08	0.007	0.00153	15	4	NA
Beryllium	1.18	1.7	0.00	0.000	0.00002	0.06	0.016	0.0005
Boron	23.3	30	0.02	0.002	0.00046	23	7.5	NA
Cadmium	0.25	.25	0.00	0.000	0.00000	1.7	0.11	0.00029
Chromium	10.5	20	0.01	0.001	0.00021	11	3.8	NA
Lead*	13.3	17	0.01	0.001	0.00026	NA	NA	1.5
Manganese**	396	588	0.40	0.037	0.00780	150	40	NA
Nickel	11.1	29	0.01	0.001	0.00022	5.7	1.5	0.004
Selenium	6.6	10	0.01	0.001	0.00011	6	1.6	NA
Silver	0.4	0.5	0.00	0.000	0.00001	0.3	1.079	NA
Titanium**	325	600	0.33	0.030	0.00640	150	40	NA
Vanadium	21.1	38	0.2	0.002	0.00048	1.5	0.4	NA
Zinc**	41.6	79	0.04	0.004	0.00082	150	40	NA

Notes:

NA There is no AAAQG for these averaging periods.

* The AAAQG listed for lead represents the limit for a calendar quarter average.

** For these metals the AAAQG is for the respirable form of the oxides of the elements. It is assumed that all the of the elemental metal is in the respirable oxide form.

RESPONSIVENESS SUMMARY

Air Quality Control Permit No. 071434P0-00

Carlota Copper Company

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- I. (C) A common theme put forth by many commentors was the following:
 - A. the Globe/Miami area has been and continues to be a mining community;
 - B. the citizens of the area need copper mining for the opportunities it provides for productive employment and economic activity;

- C. the proposed mine planned by CCC will create nearly 300 new jobs for a period approaching 20 years;
- D. there will be direct benefits to the local and State economies in taxes, fees, wages and purchases, all of which is very much needed;
- E. CCC has demonstrated the highest level of corporate citizenship.

(R) AQD recognizes the importance of the benefits stated above. AQD is please to have been able to work with CCC to draft a permit, the conditions of which will allow CCC to operate profitably while preserving the air quality and protecting the health and welfare of the citizens of the community.

II. (C) Carlota has applied for a Class II permit (a minor source). The rules are designed to subject major sources to considerably more scrutiny than minor sources. Carlota has had to expend considerably more time and effort on the application for this permit than should be required for a Class II permit.

(R) The majority of the time and effort that CCC expended were not required by the AQD for the Class II permit. Because of its proximity to the Superstition Wilderness, a Class I area, the U.S. Forest Service (USFS), the federal land manager, required that an Environmental Impact Statement (EIS) and Conformity Determination (CD) be prepared. Satisfying the requirements of the USFS in the preparation of the EIS and the CD required that CCC expend considerably more time and effort than would normally be required for a Class II permit.

AQD followed closely the EIS and CD developments so that the permit would reflect the premises upon which the EIS and CD conclusions were based, and, therefore, make them enforceable. Several of those conditions that are in the permit resulted from negotiation between AQD and CCC in which CCC voluntarily accepted the restrictions. The project can not go forward until the EIS and CD processes are complete and approved. AQD's efforts have paralleled the progress on the federal programs. As the finalization of the EIS and CD approach AQD is ready to issue a permit in a timely fashion.

III. (O) In paragraph XIII of Attachment "A" a statement is made that A.A.C. R18-2-310 will become federally enforceable upon approval by the Environmental protection Agency (EPA) of the Department's Title V operating permits program or when A.A.C. R18-2-310 is approved by EPA for incorporation into the State Implementation Plan (SIP). This is a Class II permit, and the Title V program should have nothing to do with it. The only way this rule becomes federally enforceable, in the case of this permit, is when it is incorporated into the SIP.

(R) The Department concurs and has revised the permit accordingly.

IV. (O) In Section II of Attachment "B" stack opacity has been made a material permit condition. Opacity is a secondary standard and should only be used as an indicator. The emission standard for the control device on the crusher and screen(s) is a maximum emission rate of 0.022 grains per dry standard cubic foot. Normally a piece of equipment operating in compliance with this emission standard will exhibit an opacity of 7 percent or less. However, this is not always the case and a control device having an emission rate in compliance can have opacities in excess of 7 percent; this possibility was recognized by EPA, and they included in the New Source Performance Standard (NSPS) rules a procedure for obtaining a variance from the opacity limit. Because opacity is only an indicator and not a true measure of compliance, the legislature in A.R.S. § 49-464 specifically excluded it from the definition of an emission standard. It should not be put back on the list of felony offenses by being listed as a material permit condition. By the same token, fugitive emission opacities should not be a material permit condition.

(R) A.A.C. R18-2-331.A, Material Permit Conditions, defines a "material permit condition" as one that satisfies all of the following:

1. The condition is in a permit or permit revision issued by the Director after the effective date of this Section (November 15, 1993).
2. The condition is identified within the permit as a material permit condition .
3. The condition is one of the following: f. An **opacity standard** required by section 111 or title I, part C or D of the Act (Clean Air Act)

Section 111 of the Act establishes the Standards of Performance for New Stationary Sources (NSPS) program. This facility is subject to 40 CFR 60, Subpart LL, which is a NSPS. Therefore, the opacity standards stated in the above referenced NSPS are material permit conditions (A.A.C. R18-2-331.A.3.f). For the purposes of calling an NSPS opacity standard a material permit condition, it is irrelevant that A.A.C. R18-2-331.C states that "For the purposes of this section, the term "emission standard" shall have the meaning set forth at A.R.S. §49-464(U)...". A.R.S. §49-464(U) states that the "term emission standard does not include opacity standards". The NSPS applicable to this facility establishes both emission standards and **opacity standards** which, by definition, are both material permit conditions. The applicability to emission standards is referred to in A.A.C. R18-2-331.A.3.a. These opacity standards are for stack emissions and **process fugitive emissions**, as stated in the draft permit. Other fugitive emission opacities are not material permit conditions.

AQD recognizes that in some instances an opacity standard is violated while the emission standard, which we agree is the definitive standard, is not. It is correct that EPA anticipated this occurrence in 40 CFR 60.11(e)(6). This section of the code establishes a procedure to gain relief from the violation. In summary, if during a performance test in which the affected facility is found to be in compliance with all applicable (emission) standards, but the affected facility fails to meet an opacity standard, the owner/operator may petition the Administrator (Director) within 10 days of receipt of notification to make appropriate **adjustment** to the opacity standard for the affected facility. AQD does not see how this affects the material permit condition determination.

A.R.S. §49-464, Violation; classification; definitions, establishes the felony classifications for various violations. Subsection G of this section states that a person who operates a sourcethat is subject to a material permit condition other than an **emission standard** identified in subsection C of this section.....and who **knowingly** violates such permit is guilty of a class 6 felony. This seems very clear; opacity standards are material permit conditions and to knowingly violate is a felony.

- V. (O) Although several control measures for H₂SO₄ emissions from the SX/EW facility are required, there are other sources of acid mist that are considered negligible. Also the method used to quantify the emissions from the SX/EW facility are suspect due to the confidentiality of the study used and the uncertainty of the design. The accuracy of the confidential study must be verified and a final design must be made before a permit can be issued. Also there is no commitment to ambient air quality monitoring for PM₁₀ made in the DEIS.
- (R) ADEQ recognized the uncertainties noted in the comment. Consequently, in an earlier draft of the proposed permit the permittee was required to either source test the exhaust ducts from the SX/EW building or install and operate an ambient air monitor for acid mist sited in a high predicted impact area. The permittee has now finalized on an open ridge vent design for the building. Since this design does not lend itself to a performance test, ADEQ will now require the ambient air monitor as a source of verification.

In the permit the permittee is required to install and operate an ambient air monitor for PM₁₀ at a location along the direction toward the Wilderness Area. This monitor is to be operated according to EPA State and Local Air Monitoring System (SLAMS) procedures.

- VI. (O) An emission limit of 1.4 pounds per hour of H₂SO₄ has been set for the tankhouse in the Section II of Attachment "B". Because a numeric standard has been listed for the emissions exhausting from the building, a work practice standard such as paragraph D of the section on sulfuric acid emissions is redundant and

should not be required. The source should have the operational flexibility to make its own decisions as to how it wants to comply with the emission limit.

- (R) The emission limit of 1.4 pounds per hour of acid mist was stated as a condition in the draft permit. As noted above, the applicant revised the design, and the new design does not lend itself to performance testing. Since an emission limit is of little use without a verification tool, it has been eliminated.

The work practice standard stated in the permit does serve a singular purpose. Note that two practices are stated; however, the permittee may propose some other practice, demonstrate that it is adequate to assure compliance and, with written approval by AQD, apply it. The purpose served is that the permittee may use established practices or develop their own, but, once established, AQD has an enforcement tool continuously available. If the work practice standard is in place and operating correctly, it can be assumed that the facility is in compliance.

- VII. (O) A limit on the weight rate of mined rock has been set at 125,000 tons per 24-hour day in Section III of Attachment "B". When the application was submitted, certain operating conditions were assumed so that the potential to emit (PTE) could be calculated. The source should be allowed the operational flexibility as long as the PTE is not exceeded by more than a "significant" amount as described in the rules. For example, changing to a larger haul truck will allow more tons to be mined and moved without increasing vehicle miles traveled (VMT) which is the basis for the PTE calculation.

- (R) The purpose of this condition is, as the comment correctly states, to limit the PTE PM_{10} to the level used in the analyses for the EIS and the permit. The PTE for the PM_{10} emissions from the haul roads is based on the vehicle miles travelled and estimated emission factors (pounds emitted per vehicle mile traveled) taken from EPA AP-42, 13.2.2 (1995). This emission factor is a function of the silt content of the road surface material, the mean vehicle speed, the mean weight of the vehicle and the mean number of wheels. Obviously, no one parameter could be selected to truly assure that no significant increase in the PTE will occur. One condition that was considered as an indicator was the recording of the daily and annual VMT. The applicant, however, preferred the limit on the weight of mined rock.

- VIII. (O) The AAAQGs are an internal policy that has never been formally adopted and published in the Administrative Register. Further, this policy would not meet the statutory requirements of a "substantive policy statement" even if it had been published. The reason is that according to A.R.S. § 41-1001.21 a policy statement can not impose additional requirements or penalties on regulated parties. Thus, imposition of requirements based on AAAQGs amounts to rulemaking without opportunity for public review and comment. The statement in A.R.S. § 41-1030.B that an agency cannot impose a condition that is not expressly authorized by statute or rule invalidates any permit conditions based on the AAAQGs.

- (R) A.R.S. 49-424.3 specifies that a duty of the Director is to "Determine the standards for the quality of the ambient air and the limits of air contaminants necessary to protect public health...". The AAAQGs are health based exposure limits. S.B. 1430, Section 64 provides for the continued "authority" that has gone before. That provision was provided to ensure that sources would not be deregulated if the time for the development of a new State HAPs program was protracted.

- IX. (O) Significant adverse impacts to visibility in the nearby Class I Superstition wilderness area and complete consumption of the Class II PSD increment imply this project will adversely impact the federal Class I and Class II air quality. Because the State believed that the Miami area was in attainment, ADEQ petitioned EPA Region IX, in a letter dated November 10, 1994, to realign the Hayden/Miami nonattainment area boundary to exclude the Miami area, including the Carlota Copper project area, from the nonattainment boundary.

- (R) The Carlota mine project is designated by rule and regulation as a Class II source located in a nonattainment area. Consequently, the New Source Review (NSR) Permitting Programs, i.e., Prevention of Significant Deterioration (PSD) review for attainment areas and Nonattainment Area (NAA) review for nonattainment areas do not apply. Although your statement that the State's assessment of the status of the Miami area is

that it is in attainment is true, EPA Region IX has not so redesignated the area; therefore, it is a nonattainment area. These source and area designations abrogate your concerns with respect to the State's authority.

If NSR were applicable, portions of the above referenced permitting programs would require the State to consider the Air Quality Related Values (AQRV) for Class I areas, e.g., visibility. Since NSR does not apply, the responsibility to review the AQRVs is with the federal land manager (in this case the U.S. Forest Service) through the Environmental Impact Statement (EIS) and the Conformity Determination. Your comments on visibility should be directed to the U.S. Forest Service.

Again the project is located in a nonattainment area; as such PSD Increments do not apply. However, to assuage the concern Carlota was asked to determine, using the EPA ISCST3 with plume depletion model, the maximum increase in the ambient PM_{10} concentration at the boundary of the nonattainment area. The result was $13.8 \mu\text{g}/\text{m}^3$, 24-hour average. Although the annual model was not run, an estimate based on the 24-hour average was $2.8 \mu\text{g}/\text{m}^3$ annual average. The maximum allowable PSD Class II increments are $30 \mu\text{g}/\text{m}^3$, 24-hour average and $17 \mu\text{g}/\text{m}^3$, annual average. The State also requested that Carlota model as far out as the Tonto National Monument. The result was $1.3 \mu\text{g}/\text{m}^3$, 24-hour average, and the estimated annual average was $0.26 \mu\text{g}/\text{m}^3$. As a reference, the maximum allowable PSD Class I increments are $8 \mu\text{g}/\text{m}^3$, 24-hour average and $4 \mu\text{g}/\text{m}^3$, annual average. (Reference: PSD increments, 40 CFR 52.21 (1995)).

In another comment the following similar question was raised: "Since the minor source baseline date has been triggered in the Central Intrastate Control Region (Gila and Pinal Counties),the Department was required to do a PSD increment analysis for the nearby Class I area, even though this is a minor source, not subject to PSD or NAA requirements." During the EPA review of the EIS this question was raised by an EPA reviewer and the Department requested clarification. David Howekamp, Director, Air Division of EPA, responded in part, "...since this is a minor source; any such increment consumption in a triggered area, and any NAAQS violation caused by it, would come to light only in the air quality analysis in a future major source PSD application, or monitoring....The State does have the responsibility to protect the increments and the NAAQS, and should such impacts come to light in the future, they would have to be mitigated.....this is a minor source in a nonattainment area, and so is not subject to PSD requirements for permits or impact analysis...".

Donald Gabrielson, Director, Pinal County Air Quality Control District, in a letter to Nancy Wrona, Director, Air Quality Division, Arizona Department of Environmental Quality, discussed this issue as a follow-up to his inquiry as "to whether the Forest Services's draft conformity analysis was defective, in that it did not include an increment consumption analysis." In his correspondence, he stated "I concur in the joint decision between ADEQ and EPA Region IX that neither ADEQ rules nor EPA regulations expressly require the air quality permitting agency to undertake or exact an increment consumption analysis for this project."

The consensus is that the Department does not have the authority to deny a permit to Carlota based on your concerns; those concerns should be addressed to the Forest Service, the federal land manager. An impact analysis was performed for the draft EIS (DEIS). The emissions modeled for the EIS included point, area, and mobile (on-site motor vehicle tailpipe emissions) associated with the project. The results showed maximum PM_{10} impacts in the Class I area of $5.8 \mu\text{g}/\text{m}^3$, 24-hour average (with plume depletion) and $1.6 \mu\text{g}/\text{m}^3$, annual average (without plume depletion). Both are well below the increments stated above.

- X. (Q) The emission inventory developed for the fugitive emissions from heavy duty haul truck traffic is based on an average speed of 15 miles per hour (mph). The comment presents calculations to demonstrate that a 15 mph average speed is unrealistic. Also, a question is raised as to how the strict monitoring and enforcement of any speed limit will be accomplished.
- (R) The Department has also developed scenarios based on the data given in the application and updated through the changes that have resulted from the EIS process. These calculations clearly show that there are a variety of scenarios, within the confines set in the application as revised by the EIS, that result in average speeds

of equal to or less than 15 mph . A sample of the calculations based on currently the planned scenario is attached as Table 1. This indicates that an average speed of 10.8 mph is realistic.

The second issue raised was how does the Department plan to accomplish the strict monitoring and enforcement of any speed limit? The Department, obviously, does not have the resources to dedicate an inspector to any project on a full time basis. By permit the permittee is required to "post and enforce a maximum speed of 35 mph for all vehicles. Also by permit, the permittee is required to record the total number of round trips taken for each of the haul trucks for each of the three transfer operations, namely, ore rock to stockpile, ore rock to leach pad and waste rock to waste dump. The round trip distance and the total time of operation each day for each operation is to be recorded. This will allow an estimate of the average speed for the total daily operations.

- XI. (Q) A number of listed air toxics are expected to exist in naturally low levels in the soil, subgrade and base rock. The effects of the dust emissions containing the air toxics are minimized in the DEIS; the potential impacts of these metals should be addressed, not ignored.
- (R) ADEQ requested that the permittee address this concern. The maximum ambient concentration of 15 metal species that have AAAQG limits were determined from the highest predicted ambient PM_{10} concentrations and the chemical analysis of potential sources of PM_{10} emissions. Soil samples, both weathered bedrock and colluvial soils, were taken at eight (8) locations in the areas that would be disturbed by the Carlota operations and would produce fugitive emissions from the facility. These samples were analyzed for the 15 metals. The maximum and average concentrations in the soil and the resulting ambient concentrations are shown in the following Table 2. As can be seen from this table the estimated ambient concentration is at least an order of magnitude less than the AAAQG limit.
- XII. (C) Calculations of the air impacts at the Tonto National Monument are directly contradictory. This contradiction is explained away by stating that "regional meteorology" and "complex terrain" make it "likely" that the actual impacts would be less than predicted. There is utterly no basis for characterizing the expected impacts as "negligible" based on some unstated comparability with the Sierra Ancha Wilderness.
- (R) To help to resolve this enigma, ADEQ requested that the permittee estimate the 24-hour average PM_{10} concentration at the Tonto National Monument. The ISCST3 model with plume depletion was utilized. The predicted maximum 24-hour ambient PM_{10} concentration was $1.3 \mu\text{g}/\text{m}^3$, which is well below the PSD maximum increment of $30 \mu\text{g}/\text{m}^3$ for a Class II area. Using the same model the predicted maximum 24-hour ambient PM_{10} concentration at the boundary of the Hayden/Miami nonattainment area for PM_{10} , i.e., the start of the Class II attainment area, was $13.8 \mu\text{g}/\text{m}^3$, which is also well below the PSD maximum increment for a Class II area. ADEQ did not request the modeling of any other pollutants.
- (C) Air toxics from the hot water heater and the emergency generators are based on the assumption that the generators would run 5 percent of the time. No basis is given in the DEIS for that assumption.
- (R) In an EPA memorandum dated September 6, 1996 guidance was given for calculating the potential to emit (PTE) for emergency generators. The EPA defined "emergency generator" as a generator whose sole purpose is to provide back-up power when electric power from the local utility is interrupted. EPA recommends that the PTE be determined based an estimate of maximum number of hours that the generator could operate, taking into account (1) the number of hours power would be expected to be unavailable and (2) the number of hours for maintenance activities. EPA believes that 500 hours is an appropriate default assumption for estimating the number of hours that an emergency generator could be expected to operate under worst case conditions.

SRP reports that over the last several years they have experienced approximately 40 minutes per year of power outages in this service area. In addition, the permittee plans to operate the generators for maintenance purposes approximately 14 hours per year. The expected total is, therefore, less than 15 hours

per year. The operating time used in the modeling analysis was 438 hours per year. This assumption is less than the EPA worst case assumption, but much greater than the expected requirements. The hours used in the modeling analysis provide a worst case scenario.

- XIII. (C) The question of the location of boundary of the project is discussed, and it is concluded that the boundary, outside of which is in attainment, must be determined to protect the public from air pollution.
- (R) The determination of the boundary location has not been pre-determined; however, the permit specifically addresses this determination in Attachment "B", Section IV, Public Access Restrictions, Subsections A. and B.
- "A. The perimeter of the mine work area and the SX/EW Tankhouse area shall be bounded by a fence or a natural topographic barrier adequate to restrict public access and posted to identify the area as restricted to public access.
- B. The area restricted to public access shall confine all mining and SX/EW Tankhouse related activities and any and all areas which have been determined to have the potential for an exceedance of the National Ambient Air Quality Standard (NAAQS) for PM_{10} and/or an exceedance of the Arizona Ambient Air Quality Guideline (AAAQG) for H_2SO_4 . The exact location shall be proposed by the permittee and, upon written approval by the Department, the fence shall be installed accordingly."
- XIV. (C) Moisture figures of the topsoil and pit are derived from an American Mining Congress report. They should be site specific to the particular area the applicant plans to mine. If the moisture is less than 5 percent, the emission of PM_{10} would be increased.
- (R) The permittee did carry out a soil moisture survey. This survey consisted of samples of each type ore to be mined. The ore types sampled and the number of samples taken were Breccia Oxide (8), Breccia Mixed (4), Schist (4), Dacite (2), Kelly Schist (2) and Kelly Diabase (1). The Breccia Oxide and Mixed comprise about 67 percent of the ore to be mined. The percent of the other ore types are Schist, 18, Dacite, 6.2, Kelley Schist, 5.3, and Kelly Diabase, 3.5. All contained an average moisture of greater than 5 percent.
- Carlota also drilled over 250 exploration holes in the three pit areas. When these holes were drilled, the cuttings were observed to be generally at least damp, if not saturated, from just below the surface to the total depth. Also, most holes drilled in the vicinity of all three of the pits filled with water shortly after they were drilled.
- XV. (C) There is no guarantee that the applicant will have enough water for dust control on the roads.
- (R) At the time this comment was presented the dust control considered was water. To obtain more positive, increased control the permit requires that the "permittee shall treat unpaved roadways with magnesium oxide, calcium chloride or other chemical dust suppressants with equivalent or better control efficiency in sufficient quantity and frequency to maintain a ground inventory of 0.25 gallons per square yard." Water is only to be used as a surface maintenance tool. This greatly reduces water requirements.

Table 1 - Estimated Haul Truck Average Speed, Year 5

Assume all ore transported by haul truck:

Operation	Units	Ore Rock to Stockpile	Waste Rock to Waste Dump	Total Rock 150 ton Trucks	Ore Rock to Leach Pad	Mined Rock
Round trip haul distance	feet	14,784	21,120		2,429	
Annual amount hauled	kilotons	7,500	20,500	28,000	2,250	30,250
Haul truck capacity	tons	150	150	150	90	
Annual number of round trips		50,000	136,667	186,667	25,000	211,667
Annual distance traveled	miles	140,000	546,667	686,667	11,500	698,167
Annual hours of operation	hours	14,068	54,932	69,000	12,000	81,000
Annual hours in travel	hours	11,254	43,946	55,200	9,600	64,800
Average speed	mph	12.44	12.44	12.44	1.20	10.77
Number of trucks operating				9	3	12
Average operating hours per truck	hours			7,667	4,000	6,750

Fraction of time in travel = 0.8 (loading/unloading, personnel breaks, shift changes and maintenance account for the remaining 20%)

Table 2 - Results of the Study of the Impact of Metals in Fugitive Dust

Metals Concentrations in Soil Samples (mg/Kg)			Estimated Ambient Air Concentration ($\mu\text{g}/\text{m}^3$)			AAAQG Limit Concentration ($\mu\text{g}/\text{m}^3$)		
Metal	Average Soil Concentration	Maximum Soil Concentration	1-hour Average	24-hour Average	Annual Average	1-hour Average	24-hour Average	Annual Average
Antimony	5.0	5.0	0.01	0.000	0.00010	15	4	NA
Arsenic	3.7	7	0.00	0.000	0.00007	0.32	0.084	0.00023
Barium	77.6	170	0.08	0.007	0.00153	15	4	NA
Beryllium	1.18	1.7	0.00	0.000	0.00002	0.06	0.016	0.0005
Boron	23.3	30	0.02	0.002	0.00046	23	7.5	NA
Cadmium	0.25	.25	0.00	0.000	0.00000	1.7	0.11	0.00029
Chromium	10.5	20	0.01	0.001	0.00021	11	3.8	NA
Lead*	13.3	17	0.01	0.001	0.00026	NA	NA	1.5
Manganese**	396	588	0.40	0.037	0.00780	150	40	NA
Nickel	11.1	29	0.01	0.001	0.00022	5.7	1.5	0.004
Selenium	6.6	10	0.01	0.001	0.00011	6	1.6	NA
Silver	0.4	0.5	0.00	0.000	0.00001	0.3	1.079	NA
Titanium**	325	600	0.33	0.030	0.00640	150	40	NA
Vanadium	21.1	38	0.2	0.002	0.00048	1.5	0.4	NA
Zinc**	41.6	79	0.04	0.004	0.00082	150	40	NA

Notes:

NA There is no AAAQG for these averaging periods.

* The AAAQG listed for lead represents the limit for a calendar quarter average.

** For these metals the AAAQG is for the respirable form of the oxides of the elements. It is assumed that all the of the elemental metal is in the respirable oxide form.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
Air Quality Division
3003 N. Central Ave. • Phoenix, AZ 85012-290703 • Phone: (602) 207-2338

AIR QUALITY CONTROL PERMIT

(As required by Title 49, Chapter 3, Article 2, Section 49-426, Arizona Revised Statutes)

This air quality control permit does not relieve applicant of responsibility for meeting all air pollution regulations

1. PERMIT TO BE ISSUED TO (Business license name of organization that is to receive permit) _____

Carlota Copper Company

2. NAME (OR NAMES) OF OWNER OR PRINCIPALS DOING BUSINESS AS THE ABOVE ORGANIZATION _____

3. MAILING ADDRESS P.O. Box 1009

NUMBER STREET

Miami, AZ 85539

CITY OR COMMUNITY STATE ZIP CODE

4. ORIGINAL EQUIPMENT LOCATION/ADDRESS Pinto Valley, West of Miami on Highway 60

NUMBER STREET

Miami, Gila/Pinal County, Arizona 85539

CITY OR COMMUNITY STATE COUNTY ZIP CODE

5. FACILITIES OR EQUIPMENT DESCRIPTION Open-pit copper ore mining, heap leaching and solvent extraction and

electrowinning processing. See Attachment "D" for complete list of equipment.

6. THIS PERMIT ISSUED SUBJECT TO THE FOLLOWING Conditions contained in Attachments "A" and "B"

7. ADEQ PERMIT NUMBER 071437P0-99 PERMIT CLASS II EXPIRATION DATE _____

PERMIT ISSUED THIS 14th DAY OF March, 1997

SIGNATURE

TITLE

Director, Division of Air Quality

ATTACHMENT "A"

**GENERAL PROVISIONS
Air Quality Control Permit No. 071434P0-00
For
Carlota Copper Company**

I. PERMIT EXPIRATION AND RENEWAL [A.R.S. § 49-426.F, A.A.C. R18-2-304.C.2 and 306.A.1]

- A. This permit is valid for a period of five years from the date of issuance of the permit.
- B. The permittee shall submit a application for renewal of this permit at least 6 months, but not more than 18 months prior to the date of permit expiration.

II. NOTIFICATION OF OPERATION STARTUP [A.A.C. R18-2-901.1, 901.41, 101.25 and 101.26]

The permittee shall furnish to the Department written notification as follows:

- A. Activities not subject to 40 CFR 60, Subpart LL

A notification of the date of commencement of any mine activity at the permitted source postmarked no later than 30 days after such date.
- B. Activities subject to 40 CFR 60, Subpart LL [40 CFR 60.7]
 - 1. A notification of the date construction of an affected facility is commenced postmarked no later than 30 days after such date.
 - 2. A notification of the anticipated date of initial startup of an affected facility postmarked not more than 60 days nor less than 30 days prior to such date.
 - 3. A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.

III. COMPLIANCE WITH PERMIT CONDITIONS [A.A.C. R18-2-306.A.8]

- A. The permittee shall comply with all conditions of this permit including all applicable requirements of Arizona air quality statutes and the air quality rules. Any permit noncompliance constitutes a violation of the Arizona Revised Statutes and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application.
- B. Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

IV. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE [A.A.C. R18-2-306.A.8.c]

The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit revision, revocation and reissuance, or termination; or of a notification of

planned changes or anticipated noncompliance does not stay any permit condition.

V. POSTING OF PERMIT

[A.A.C. R18-2-315]

- A. Permittee shall post such permit, or a certificate of permit issuance on location where the equipment is installed in such a manner as to be clearly visible and accessible. All equipment covered by the permit shall be clearly marked with one of the following:
1. Current permit number.
 2. Serial number or other equipment number that is also listed in the permit to identify that piece of equipment.
- B. A copy of the complete permit shall be kept on the site.

VI. FEE PAYMENT

[A.A.C. R18-2-326]

Permittee shall pay fees to the Director pursuant to A.A.C. R18-2-326.

VII. ANNUAL EMISSIONS INVENTORY QUESTIONNAIRE

[A.A.C. R18-2-327]

- A. Permittee shall complete and submit to the Director an annual emissions inventory questionnaire. The questionnaire is due by March 31 or ninety days after the Director makes the inventory form available each year, whichever occurs later, and shall include emission information for the previous calendar year
- B. The questionnaire shall be on a form provided by the Director and shall include the information required by A.A.C. R18-2-327.

VIII. COMPLIANCE CERTIFICATION

[A.A.C. R18-2-309]

- A. Permittee shall submit a compliance certification to the Director every 6 months, beginning 6 months subsequent to permit issuance.

The compliance certification shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification;
2. Compliance status;
3. Whether compliance was continuous or intermittent;
4. Method(s) used for determining the compliance status of the source, currently and over the reporting period;
5. Measures taken or to be taken to achieve compliance with any applicable requirement with which the source is not in compliance at the time of submittal of the compliance certification; and
6. Other facts as the Director may require to determine the compliance status of the source.

IX. COMPLIANCE PLAN

[A.A.C. R-18-309]

- A. The permittee shall continue to comply with applicable requirements.
- B. The permittee shall comply with requirements which become applicable during the permit term on a timely basis.

X. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS

[A.A.C. R18-2-304.H]

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy and completeness. This certification and any other certification required under this part shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

XI. INSPECTION AND ENTRY

[A.A.C. R18-2-309.4]

The permittee shall allow the Director or the authorized representative of the Director upon presentation of proper credentials to:

- A. Enter upon the permittee's premises where a source is located or emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;
- B. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
- C. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
- D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and
- E. Record any inspection by use of written, electronic, magnetic and photographic media.

XII. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD

[A.A.C. R18-2-304.C]

If this source becomes subject to a standard promulgated by the Administrator pursuant to section 112(d) of the Act, then the permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.

XIII. PERMIT DEVIATION REPORTING

A. EXCESS EMISSIONS REPORTING

[A.A.C. R18-2-306.A.5.b, 306.E.3.d and 310]

A.A.C. R18-2-310 will become federally enforceable when it is approved by EPA for incorporation into the State Implementation Plan.

- 1. Emissions in excess of an applicable emission limitation contained in this permit shall constitute a violation. For all situations that constitute an emergency as defined in R18-2-306(E), the affirmative defense and reporting requirements contained in that provision shall apply. In all other

circumstances, it shall be an affirmative defense if the permittee of the source has complied with the reporting requirements of subsection 3. of this section in a timely manner, and has demonstrated all of the following:

- a. Excess emissions resulted from a sudden and unavoidable breakdown of the process or the control equipment; resulted from unavoidable conditions during startup or shutdown; resulted from unavoidable conditions during an upset of operations; or that greater or more extended excess emissions would result unless scheduled maintenance is performed;
 - b. Air pollution control equipment, process equipment, or processes were at all times maintained and operated, in a manner consistent with good practice for minimizing emissions;
 - c. Where repairs were required, such repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded and off-shift labor and overtime were utilized where practical to insure that such repairs were made as expeditiously as possible. If off shift labor and overtime were not utilized, the permittee satisfactorily demonstrated that such measures were impractical;
 - d. Amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;
 - e. All feasible steps were taken to minimize the impact of the excess emissions on potential violations of ambient air quality standards;
 - f. Excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and,
 - g. During the period of excess emissions, no violations of the ambient air quality standards established in A.A.C. R18-2-201 through R18-2-206 which could be attributed to the emitting source were measured.
2. It shall be the burden of the permittee of the source to demonstrate, through submission of the data and information required by this section, that all reasonable and practicable measures within the permittee's control were implemented to prevent the occurrence of excess emissions.
3. Excess emissions shall be reported as follows:
- a. The permittee of any source issued a permit shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:
 - (1) Notification by telephone or facsimile within 24 hours of the time when the permittee first learned of the occurrence of excess emissions including all available information from paragraph b. of this subsection.
 - (2) Detailed written notification within 72 hours of the notification pursuant to subparagraph (1) of this paragraph.
 - b. Report shall contain the following information:
 - (1) Identity of each stack or other emission point where the excess emissions occurred.

- (2) Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions.
 - (3) Date, time and duration or expected duration of the excess emissions.
 - (4) Identity of the equipment from which the excess emissions emanated.
 - (5) Nature and cause of such emissions.
 - (6) If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions.
 - (7) Steps taken to limit the excess emissions. If the source's permit contains procedures governing source operation during periods of start-up or malfunction and the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures.
4. In the case of continuous or recurring excess emissions, the notification requirements of this section shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period or changes in the nature of the emissions as originally reported shall require additional notification pursuant to subsection A.3.a.(2) of this section.

B. EMERGENCY PROVISION

[A.A.C. R18-2-306.E]

1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of paragraph d of this section are met.
3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
 - b. The permitted facility was at the time being properly operated;
 - c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
 - d. The permittee submitted a notice of the emergency to the Director by certified mail, facsimile or hand delivery within 2 working days of the time when emission limitations were exceeded due to an emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.

4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

C. OTHER PERMIT DEVIATIONS

[A.A.C. R18-2-306.A.5]

Permittee shall report deviations from permit requirements, the probable cause of such deviations, and any corrective actions or preventive measures taken. Permit deviations to be reported include, but are not limited to, the following:

1. deviations that resulted in an increase in emissions, but less than an emission or opacity standard, e.g., failure of a water spray system;
2. deviation resulting in the reduction in the permittee's ability to monitor emissions, e.g., loss of required operation records or failure of a required monitoring system; and
3. deviation resulting from the failure of a required ambient air monitoring requirement.

The initial report shall be submitted to the Director for the six months subsequent to permit issuance. Following reports shall cover deviations from January 1 through June 30 and from July 1 through December 31. All reports shall be submitted to the Director sixty days after the end of the reporting period.

XIV. RECORDKEEPING

[A.A.C. R18-2-306.A.4]

- A. Permittee shall keep records of all required monitoring information including, but not limited to, the following:
1. The date, place as defined in the permit, and time of sampling or measurements;
 2. The date(s) analyses were performed;
 3. The name of the company or entity that performed the analyses;
 4. A description of the analytical techniques or methods used;
 5. The results of such analyses; and
 6. The operating conditions as existing at the time of sampling or measurement.
- B. Permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

XV. REPORTS

[A.A.C. R18-2-306.A.5.A]

All initial monitoring reports shall be submitted to the Director for the six months subsequent to permit issuance. Following monitoring reports shall be for the time periods January 1 through June 30 and from July 1 through December 31, unless more frequent submittal of specific monitoring reports is required in Attachment B to this permit. The reports shall be submitted to the Director sixty days after the end of the reporting period.

XVI. DUTY TO PROVIDE INFORMATION

[A.A.C. R18-2-304.G and 306.A.8.e]

- A. The permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Director copies of records required to be kept by the permit.
- B. If the permittee has failed to submit any relevant facts or if the permittee has submitted incorrect information in the permit application, the permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

XVII. PERMIT REOPENING FOR CAUSE

[A.A.C. R18-2-321]

The permit shall be reopened and revised under any of the following circumstances:

- A. The Director determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
- B. The Director determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.

XVIII. PERMIT AMENDMENT OR REVISION

[A.A.C. R18-2-318, 319 and 320]

Permittee shall apply for a permit amendment or revision for changes to the facility which do not qualify for a facility change without revision under Section XVII, as follows:

- A. Administrative Permit Amendment (A.A.C. R18-2-318);
- B. Minor Permit Revision (A.A.C. R18-2-319);
- C. Significant Permit Revision (A.A.C. R18-2-320).

The applicability and requirements for such action are defined in the above referenced regulations.

XIX. FACILITY CHANGE WITHOUT PERMIT REVISION

[A.A.C. R18-2-317]

- A. Permittee may make changes at the permitted source without a permit revision if all of the following apply:
 - 1. The changes are not modifications under any provision of Title I of the Act or under A.R.S. § 49-401.01(17).
 - 2. The changes do not exceed the emissions allowable under the permit whether expressed therein as a rate of emissions or in terms of total emissions.
 - 3. The changes do not violate any applicable requirements or trigger any additional applicable requirements.
 - 4. The changes satisfy all requirements for a minor permit revision under R18-2-319(A).
 - 5. The changes do not contravene federally enforceable permit terms and conditions that are

monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

- B. The substitution of an item of process or pollution control equipment for an identical or substantially similar item of process or pollution control equipment shall qualify as a change that does not require a permit revision, if it meets all of the requirements of subsections (A) and (C) of this Section.
- C. For each such change under subsections A and B of this Section, except as provided in C.1 below, a written notice by certified mail or hand delivery shall be received by the Director a minimum of 7 working days in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided less than 7 working days in advance of the change but must be provided as far in advance of the change as possible or, if advance notification is not practicable, as soon after the change as possible.
 - 1. Examples of changes that do not require notification:
 - a. Changes that are not physical changes or changes in the method of operation of a source and that do not have the potential to affect emissions;
 - b. Routine maintenance activities; and
 - c. Changes to activities that are insignificant under A.A.C. R18-2-101.54 unless such changes would trigger one or more applicable requirements.
 - 2. Each notification shall include:
 - a. When the proposed change will occur.
 - b. A description of each such change.
 - c. Any change in emissions of regulated air pollutants.
 - d. The pollutants emitted subject to the emissions trade, if any.
 - e. The provisions in the implementation plan that provide for the emissions trade with which the source will comply and any other information as may be required by the provisions in the implementation plan authorizing the trade.
 - f. If the emissions trading provisions of the implementation plan are invoked, then the permit requirements with which the source will comply.
 - g. Any permit term or condition that is no longer applicable as a result of the change.

XX. TRANSFER OF PERMIT

[A.A.C. R18-2-323]

- A. This permit may be transferred from permittee to another person whether by operation of law or otherwise if the permittee notifies the Director in writing at least thirty (30) days before the transfer. The notice shall be in writing and shall include the name, address, telephone number and statutory agent of the person to whom the permit will be transferred, the effective date of the proposed transfer and other information as specified in A.A.C. R18-2-323(A).
- B. If the Director determines that the transferee is not capable of operating the source in compliance with the requirements of the Article 2, Chapter 3 of Title 49 of Arizona Revised Statutes, and the conditions

established in the permit, the transfer shall be denied. Notice of the denial shall be sent to the permittee by certified mail stating the reason for the denial within ten (10) working days of the Director's receipt of the permittee's notice. If the transfer is not denied within ten (10) working days after receipt of the permittee's notice, it shall be deemed approved.

XXI. PROPERTY RIGHTS

[A.A.C. R18-2-306.A.8.d]

This permit does not convey any property rights of any sort, or any exclusive privilege.

XXII. SEVERABILITY CLAUSE

[A.A.C. R18-2-306.A.7]

The provisions of this permit are severable, if any provision of this permit is held invalid, the remainder of this permit shall not be affected thereby.

XXIII. PERMIT SHIELD

[A.A.C. R18-2-325]

Compliance with the conditions of this permit shall be deemed compliance with any applicable requirement as of the date of permit issuance, provided that such applicable requirements are included and expressly identified in this permit.

XXIV. REFERENCE TO AND CITATION OF APPLICABLE REQUIREMENTS

[A.A.C. R18-2-306.A.2.a.]

This permit specifies and references the origin of and authority for each term or condition and identifies any differences in form as compared to the applicable requirement upon which the term or condition is based. Attachment "C" contains a list of all applicable requirements with which the permittee must comply.

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ATTACHMENT "B"

SPECIFIC CONDITIONS Air Quality Control Permit No. 071434P0-00 For Carlota Copper Company

I. RELATIONSHIP OF PERMIT TO APPLICABLE STATE IMPLEMENTATION PLAN

This permit is issued pursuant to the provisions of A.R.S. §49-404.C, and constitutes an installation permit for the purposes of the state implementation plan.

II. AIR POLLUTION CONTROL REQUIREMENTS

The permittee shall limit emissions of regulated air pollutants as specified below:

PARTICULATE EMISSIONS:

- A. Process Stack Emissions: [40 CFR 60, Subpart LL, 40 CFR 60.8, 60.11(b) and 60.11(e)(1)]

On and after the date on which the performance test required to be conducted as per Section V of this permit is completed, the permittee shall not cause to be discharged into the atmosphere from an affected facility, defined as each crusher and screen in the open-pit mining area (metallic mineral processing plant), any stack emissions that:

1. contain particulate matter in excess of 0.05 grams per dry standard cubic meter (0.022 grains per dry standard cubic foot), or
2. exhibit greater than 7 percent opacity. [This is a material permit condition.]

- B. Fugitive Emissions: [40 CFR 60, Subpart LL, A.A.C. R18-2-605, 606,607, and 610]

1. On and after the sixtieth (60) day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial start-up, the permittee shall not cause to be discharged into the atmosphere from any affected facility any process fugitive emissions that exhibit greater than 10 percent opacity. [This is a material permit condition.]
2. For the fugitive emissions from the haul roads, storage piles, spillage and yard areas the permittee shall take reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne
3. For fugitive emissions not covered by II.B.1, above (e.,g., haul roads, open storage piles, spillage and yard areas), the permittee shall not cause to be discharged into the atmosphere from any nonpoint source fugitive emissions that exhibit greater than 40 percent opacity.

- C. Off-road Machinery: [A.A.C. R18-2-802]

1. Permittee shall not cause, allow or permit emissions of smoke into the atmosphere for any period greater than ten consecutive seconds from any off-road machinery, the opacity of which exceeds 40 percent. Visible emissions when starting cold equipment shall be exempt from this requirement

for the first ten minutes.

2. Off-road machinery shall include trucks, graders, rollers, and other mining machinery not normally driven on a completed public roadway.

D. Dust Control Procedures for Unpaved Roadways:

[A.A.C. R18-2-605.A and 610]

Permittee shall take reasonable precautions to prevent excess amounts of particulate matter from becoming airborne from unpaved roadways. Dust and other particulate shall be kept to a minimum by employing temporary paving, dust suppressants, wetting down, detouring on other treated surfaces or by other reasonable means. Opacity of emissions shall not be greater than 40 percent, measured in accordance with EPA Reference Method 9, 40 CFR 60, Appendix A. ADEQ finds that the following measures are reasonable within the meaning of the applicable requirements:

1. Maximum Speed

- a. Permittee shall post and enforce a speed limit of 35 mph for all vehicles, both heavy duty vehicles and light duty vehicles operating on the unpaved roadways on the property; at the maximum production rates (see Section III below) the average speed for the heavy duty haul trucks shall not exceed 15 mph. This average speed shall be adjusted for periods during which the daily production is reduced in accordance with the following formula:

$$SL = SLM \times \left(\frac{PRM}{PR} \right)$$

Where:

SL = the maximum speed at reduced daily production rate

SLM = the maximum speed at maximum daily production rate, 15 mph

PR = the actual reduced daily production rate

PMR = the maximum daily production rate, 125,000 tons/day

- b. Permittee shall record the following:

- (1) number of truck round trips for each operation on each day, N_i ;
- (2) round trip distance for each operation on each day, D_i ; and
- (3) the start time, T_{si} , and finish time, T_{fi} for each operation on each day.

Using a truck utilization fraction of 0.8, i.e. the fraction of the total operation time during which the trucks are moving (accounts for time for load/unload, shift changes and personnel breaks), the permittee shall estimate the average haul truck speed for each day by the following formula:

$$\text{Average Speed} = \sum_{i=1}^n \frac{f_i(N_i D_i)}{0.8 \sum_{i=1}^n (T_{fi} - T_{si})}$$

where:

$$f_i = \frac{(N_i D_i)}{\sum_{i=1}^n (N_i D_i)}$$

and i designates each operation, namely,

- 1 Ore rock to stockpile,
 - 2 Ore rock to leach pad, and
 - 3 Waste rock to waste dump.
2. Permittee shall treat the unpaved roadways with magnesium chloride, calcium chloride or other chemical dust suppressants with equivalent or better control efficiency in sufficient quantity and frequency to maintain a ground inventory of 0.25 gallons per square yard. Additionally, water shall be applied frequently enough to maintain the integrity of the chemically treated surface and assure compliance. The permittee shall maintain records of the treatment dates, areas treated, and the type and quantity of chemical suppressant utilized.
 3. Permittee shall use appropriate means, such as berms, signs or other effective procedures, to restrict traffic usage to the treated areas. Should there be a rock spill on a roadway such that traffic is blocked, permittee shall clean up the spill; under no circumstances is traffic to be diverted to untreated areas to avoid the spill.

E. Dust Control Procedures for Process Areas

1. The material that is fine enough to contribute to PM_{10} emissions that accumulates around process equipment shall be minimized. At points where such material does accumulate, it shall be collected and removed either manually or by using a vacuum equipped truck. Clean-up shall be performed on an as-needed basis to assure compliance with the stated opacity limits.
2. Water sprays shall be installed, operated and maintained continuously during the times of operation of the affected facilities, i.e., the primary crusher. [This is a material permit condition.]
3. Water sprays shall be installed, operated and maintained continuously, except as provided by the excess emission rule, A.A.C. R18-2-306 and 310, during the times of operation of the non-affected facilities, i.e., conveyor systems, transfer points, process equipment and storage piles at the stacker discharge points to control particulate emissions. The water shall be used in sufficient quantity to prevent excessive amounts of particulate from becoming airborne. [This is a material permit condition.]

F. Recordkeeping:

The records required in Section II.D.2 shall be maintained on-site and shall be available for inspection by a Department representative during normal business hours.

G. Baghouse Control

1. Prior to start-up, permittee shall install and operate a baghouse on the secondary crusher and associated vibrating screen in such manner as to collect the particulate matter emitted from these operations. [This is a material permit condition.]
2. This baghouse shall be maintained in accordance with manufacturers recommendations and operated at all times that the process equipment is in operation.
3. Dust collection points shall include the discharge chute of conveyor number 4 (Equipment No. 132602), the vibrating screen cover, the vibrating screen overflow discharge chute, and conveyor

number 5 (equipment No. 132604) prior to the screen underflow discharge chute and following the crusher discharge chute. [This is a material permit condition.]

4. Rubber sealing strips and rubber curtains shall be installed on all openings to minimize fugitive emissions from exiting the capture hood. [This is a material permit condition.]

SULFURIC ACID MIST EMISSIONS:

- A. Permittee shall shroud the preconditioning system wherein sulfuric acid is added to the rock from the secondary crusher prior to the truck loadout bin or the loadout conveyor to minimize wind effects. [This is a material permit condition.]
- B. Permittee shall add sulfuric acid to the leach pad either through low-pressure wobblers or a drip system. Permittee shall notify the Department of any change in the method of adding sulfuric acid to the leach pad. [This is a material permit condition.]
- C. The permittee shall use polyballs, foam or other similar measures approved by the Department in the electrowinning cells in the SX/EW Tankhouse. Permittee shall maintain a record of the type of covering in use, noting any changes in the method of covering the cell surface. [This is a material permit condition.]
- D. The venting of the SX/EW Tankhouse shall be through a ridge vent with essentially a horizontal flow at the exit.

SX/EW TANKHOUSE VOLATILE ORGANIC COMPOUND EMISSIONS [This is a material permit condition]

Permittee shall install and maintain covers over the solvent extraction mixer-settler tanks. Covers may be opened or removed as needed for process reasons such as performing routine operating and maintenance procedures.

BOILER AND GENERATOR EMISSIONS:

[A.A.C. R18-2-702, R18-2-724, R18-2-719]

- A. The permittee shall not discharge or cause the discharge into the atmosphere from the stacks of the SX/EW Tankhouse boiler or backup generator or the leach pad backup generator particulate matter in excess of the following specified limit:

$$E = 1.02 \times (Q)^{0.769}$$

where:

E = Average Particulate Emission Limit, lbs/hr
Q = the heat input, million BTU per hour

- B. The permittee shall not cause to be discharged into the atmosphere from the SX/EW Tankhouse boiler or backup generator or leach pad backup generator any gases which exhibit greater than 40 percent opacity.
- C. Fuel Type and Analysis
 1. The permittee shall burn only diesel no. 2 fuel with a sulfur content of less than 0.05 percent in the SX/EW Tankhouse boiler and backup generator and the leach pad backup generator
 2. Verification of the sulfur content may be made through the suppliers analysis or, if requested by the Department, the sulfur content shall be determined using ASTM D 2880-71 or an alternate method approved by the Department.

III. PRODUCTION LIMITS

- A. The weight rate of mined rock (waste rock and ore combined) shall not exceed 125,000 tons per 24-hour calendar day and 28 million tons per year, determined from daily rates updated monthly after the first year of operations.
- B. The weight rate of mined rock shall be determined by a count of the haul trucks leaving the mine area multiplied by the rated capacity of each truck.
- C. Permittee shall record the daily and annual weight rate of mined rock determined as above.
- D. The annual weight rate of mined rock shall be confirmed by comparison with the annual surveyed volume determination.
- E. These records shall be maintained at the facility and made available for inspection by authorized Department personnel or their representative during normal working hours.
- F. Permittee shall submit a written report of these records to the Department annually within 30 days of the anniversary date of the start of production at the facility.

IV. PUBLIC ACCESS RESTRICTIONS

Mine and SX/EW Tankhouse Areas:

- A. The perimeter of the mine work area and the SX/EW Tankhouse area shall be bounded by a fence or a natural topographic barrier adequate to restrict public access and posted to identify the area as restricted to public access
- B. The area restricted to public access shall confine all mining and SX/EW Tankhouse related activities and any and all areas which have been determined to have the potential for an exceedance of the National Ambient Air Quality Standard (NAAQS) for PM₁₀ (particulate matter with an aerodynamic diameter of less than or equal to 10 micrometers) and/or an exceedance of the Arizona Ambient Air Quality Guideline (AAAQG) for H₂SO₄. The exact location shall be proposed by the permittee and, upon written approval by the Department, the fence shall be installed accordingly.

V. PERFORMANCE TEST REQUIREMENTS

[40 CFR 60.8; A.A.C. R18-2-312]

- A. The permittee shall conduct a performance test for particulate matter in the discharge of the baghouse servicing the secondary crusher and the associated vibrating screen within 60 days of achieving the maximum production rate at the facility, but no later than 180 days after the initial start-up, and biennially thereafter. Except as otherwise specified in A.A.C. Title 18, Chapter 2, the applicable procedures and testing methods contained in the Arizona Testing Manual and/or 40 CFR 60, Appendices A shall be used to determine compliance with the applicable requirements.
- B. Production Rates

Testing of emissions shall be accomplished at a minimum of 80 percent of the permitted secondary crusher capacity. With prior written approval from the Department, testing may be performed at a lower rate. If testing is performed at a lower rate, operation shall be restricted to the process input rate of testing at such level plus 20 percent, not to exceed 100 percent, until a subsequent compliance test is performed at a higher percentage of the permitted secondary crusher capacity.

C. Operational Conditions During Testing

Performance tests shall reflect representative operational conditions of the unit. Operations during start-up, shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute representative operational conditions. Performance tests shall be conducted in accordance with the approved test plan required in Section V.E, below.

D. Test Methods and Procedures

As per A.A.C. R18-2-312.B, performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the Arizona Testing Manual.

1. EPA Reference Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity from process emission sources.
2. EPA Reference Method 9 and the procedures in 40 CFR 60.386(b)(2) shall be used to determine opacity from process fugitive sources.
3. EPA Reference Method 5 or 17 shall be used to determine the concentration of particulate matter emissions from the baghouse stack. The sampling volume for each run shall be a minimum of 60 dry standard cubic feet (dscf).

E. Test Plan

At least 30 calendar days prior to performing a test, the owner or operator shall submit a test plan to the Director. Such test plan must be in accordance with the Arizona Testing Manual and must be approved, in writing by the Department before the test is performed. Submittal of the test plan 30 days prior to the proposed test date shall satisfy the two week notification requirement of A.A.C. R18-2-312.D.

F. Stack Sampling Facilities

The permittee shall provide or cause to be provided, performance testing facilities as follows:

1. sampling ports adequate for the applicable test methods;
2. Safe sampling platforms;
3. Safe access to sampling platforms; and
4. Utilities for sampling and testing equipment.

G. Interpretation of Final Results

Each performance test shall consist of three separate runs using the required test method. Each run shall be conducted in accordance with the applicable standard and test method. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. If a sample is accidentally lost or conditions occur which are not under the permittee's control and which may invalidate the run, compliance may, upon the Director's approval, be determined using the arithmetic mean of the other two runs.

H. Report of Final Results

A written report of the results of all performance tests shall be submitted to the Director within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual

and A.A.C. R18-2-312.B.

I. Cessation of Testing After the First Run has Started

If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes, forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions or other conditions beyond the permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation which demonstrates good cause must be submitted.

VI. AMBIENT AIR QUALITY MONITORING

A. Ambient PM₁₀ Monitoring

1. During the five-year term of this permit, permittee shall operate and maintain an ambient PM₁₀ particulate sampler near the boundary of the mining activity in the general direction of the Superstition Wilderness. The site location shall be determined by Carlota Copper Company (CCC), with the written approval of the Department.

2. Laboratory Sample Analysis:

Each sample shall be weighed, the 24-hour sample period concentration calculated and reported in standard $\mu\text{g}/\text{m}^3$. The laboratory mass measurements and subsequent data reporting shall be done in accordance with appropriate manufacturer's instruction manuals and in accordance with the specifications contained in the latest revision of Section 2.10 or 2.11 of the Quality Assurance Handbook For Air Pollution Measurement Systems, Volume II, U.S. Environmental Protection Agency.

3. PM₁₀ Sampler Operations:

The PM₁₀ sampler shall be operated, calibrated and maintained in accordance with the appropriate manufacturer's instruction manual and in accordance with the specifications contained in the latest revision of Section 2.10 or 2.11 of the Quality Assurance Handbook For Air Pollution Measurement Systems, Volume II, U.S. Environmental Protection Agency. The sampler shall be sited, maintained and operated in accordance with the requirements of 40 CFR, Part 50, Appendix J; 40 CFR, Part 58, Appendix A, Sections 3.3, 3.4.1, 5.3 and 5.4; and 40 CFR, Part 58, Appendix E, Section 8.

4. Recordkeeping and Reports:

The results shall be recorded and maintained on site and shall be available for inspection by Department personnel or their designated representative during normal business hours. CCC shall also send a summary report of the results for each calendar quarter to the Department within 45 days after the end of each calendar quarter. The report shall contain the following information, with all concentrations presented in micrograms per cubic meter:

- a. Date of each measurement.
- b. PM₁₀ concentration for each measurement.
- c. Average PM₁₀ concentration for the quarter.
- d. Maximum PM₁₀ concentration for the quarter.

5. PM₁₀ Sampling Frequency:

- a. The PM₁₀ samples shall be collected on an every sixth day, midnight to midnight sampling schedule in accordance with 40 CFR Part 58.13.
- b. In the event that a sampler malfunction or other circumstance beyond the permittee's control prevents the successful collection of the required samples on the schedule specified above, special midnight to midnight samples shall be substituted starting as soon as practicable after the correction of the malfunction problem to comply with a quarterly data recovery specification of 80 percent.
- c. Should any three (3) consecutive samples or five (5) samples within a calendar quarter show a 24-hour average ambient concentration of greater than 80 percent of the NAAQS for PM₁₀, i.e., a value greater than 120 µg/m³, CCC shall notify the Department of the event by a FAX communication within 24 hours of discovery. The cause of the high ambient concentrations shall be included in the notification, if known. It shall be the responsibility of the permittee to demonstrate to the satisfaction of the Department whether the high ambient concentration was or was not primarily caused by CCC operations. If such concentrations are not shown to be primarily the result of emissions from a source or sources other than CCC, within 14 calendar days after the notification, the permittee shall be required to develop an alternative control plan to eliminate the problem(s). The corrective actions to be taken shall be reported to the Department in writing with a schedule for implementing those actions. After Department approval of the plan in writing, the permittee shall implement the plan according to the schedule.

If the 24-hour average NAAQS for PM₁₀ is exceeded for any sample, i.e., 150 µg/m³, CCC shall notify the Department of the event by a FAX communication within 24 hours of discovery. The cause of the exceedance shall be included in the notification, if known. It shall be the responsibility of the permittee to demonstrate to the satisfaction of the Department whether the exceedance was or was not primarily caused by CCC operations. If such concentrations are not shown to be primarily the result of emissions from a source or sources other than CCC, the permittee shall implement immediate actions, including, but not limited to, a reduction in the level of operations, to avoid a repeat of the exceedance. The permittee shall be required to develop an alternative control plan to eliminate the problem(s). The additional corrective actions to be taken shall be reported to the Department with a schedule for implementing those actions. The immediate corrective actions taken shall be continued until CCC can demonstrate that the NAAQS will not be exceeded again.

B. Ambient Sulfuric Acid Mist Monitoring

1. The permittee shall operate and maintain an ambient sulfuric acid monitor located in the vicinity of the point of maximum ambient concentration (outside the fence line) as predicted by modeling. The actual location shall be determined by the permittee, with the written approval of the Department. The permittee shall submit a monitoring plan and, with the written approval of the Department, install and operate the monitor in accordance with the approved plan and at the location agreed upon. Since the available monitoring procedure is not continuous, all samples shall be collected during a continuous, 24-hour sampling period.

The plan shall include, but not be limited to, the following:

- a. the calendar period(s) of the year during which monitoring will be undertaken;

- b. the frequency of the sampling periods during a each calendar period;
 - c. the criteria upon which the calendar period(s) and frequency of the sampling periods during each calendar period were determined;
2. The results shall be recorded and maintained on site and shall be available for inspection by Department personnel or their designated representative during normal business hours. CCC shall also send a summary report of the results for each monitoring period to the Department within 45 days after the end of a monitoring period. The report shall contain the following information, with all concentrations presented in micrograms per cubic meter:
- a. The five (5) largest, 24-hour average sulfuric acid mist concentrations recorded and the date of the occurrence; and
 - b. The monthly average 24-hour sulfuric acid mist concentrations for each calendar month during a monitoring period.

VII. RECORDKEEPING REQUIREMENTS

[A.A.C. R18-2-306.A.4.]

- A. Permittee shall maintain all records for five years from the date of sample, measurement, report, or application;
- B. The permittee shall maintain records of the following:
 - 1. Daily production rate and daily operating schedule.
 - 2. Compliance test data and reports (see Section V);
 - 3. Ambient air quality monitoring data and reports (see Section VI), including but not limited to the following:
 - a. The date, place, and time of ambient sampling;
 - b. The company or entity that performed any of the required analyses;
 - c. The analytical techniques or methods used;
 - d. The results of such analyses; and
 - e. The operating and weather conditions as existing at the time of ambient sampling.

VIII. REPORTING REQUIREMENTS

[A.A.C. R18-2-309.3, R18-2-306.A.5]

- A. Records of daily production rates and daily operating schedule required in Section VI.B.2 and 3 shall be submitted at least annually.
- B. Deviations from permit requirements, including those attributable to upsets, shall be reported promptly, and the report shall include the cause of such deviations and any corrective actions or preventive measures taken.
- C. Performance test reports shall be submitted within 30 days after the test is performed as stated in Section IV.H.

- D. PM_{10} ambient air quality summary reports shall be submitted for each calendar quarter within 45 days after the end of each calendar quarter as stated in Section VI.A.4.
- E. A summary report of the results of the ambient H_2SO_4 mist for each monitoring period shall be submitted within 45 days after the end of a monitoring period.
- F. Permittee shall be responsible to notify the Department in writing within 30 days of the identification (placing an order or purchasing) of specific pieces of equipment listed in Attachment "D". This notification shall contain all of the information required to complete Attachment "D".
- G. Any document (including reports) required to be submitted by this permit shall be certified as being true, accurate and complete by a responsible corporate official.

ATTACHMENT "C"

**APPLICABLE REQUIREMENTS
Air Quality Control Permit No. 071434P0-00
For
Carlota Copper Company**

The following is a list of the permittee's applicable requirements:

Arizona Administrative Code (A.A.C.)

Article 1. Definitions

- R18-2-101.12, "Ambient Air"
- R18-2-101.25, "Commence"
- R18-2-101.26, "Construction"

Article 3. Permits and permit revisions

- R18-2-304, Permit application processing procedures
- R18-2-306, Permit contents; forms
- R18-2-309, Compliance plan; certification
- R18-2-310, Excess emissions
- R18-2-311, Test methods and procedures
- R18-2-312, Performance tests
- R18-2-315, Posting of Permit
- R18-2-317, Facility changes allowed without permit revisions
- R18-2-318, Administrative permit amendments
- R18-2-319, Minor permit revisions
- R18-2-320, Significant permit revisions
- R18-2-322, Permit renewal
- R18-2-323, Permit transfers
- R18-2-326, Fees related to individual permits
- R18-2-327, Annual emissions inventory questionnaire

Article 6. Emissions from existing and new nonpoint sources

- R18-2-605, Roadways and streets
- R18-2-606, Material handling
- R18-2-607, Storage piles
- R18-2-610, Evaluation of nonpoint source emissions

Article 7. Existing stationary source performance standards

- R18-2-702, General provisions
- R18-2-719, Stationary rotating machinery
- R18-2-724, Fossil fuel fired industrial and commercial equipment

Article 8. Emissions from mobile sources

- R18-2-802, Off-road machinery

Article 9. New Source Performance Standards

- R18-2-901.1, Standards of performance for new stationary sources
- R18-2-901.41, Subpart LL - Metallic Mineral Processing Plants
- R18-2-901.2, General Provisions

Code of Federal Regulations (CFR)

- 40 CFR 60, Subpart LL, New source performance standards for metallic mineral processing plants
- 40 CFR 60.8, Performance tests
- 40 CFR 60.11, Compliance with standards and maintenance requirements
- 40 CFR 50, Appendix J, Reference method for the determination of particulate as PM_{10} in the atmosphere
- 40 CFR 58, Appendix A, Quality assurance requirements for state and local air monitoring stations
- 40 CFR 58, Appendix E, Probe siting criteria for ambient air quality monitoring
- 40 CFR 58.13, Operating schedule

ATTACHMENT "D"

EQUIPMENT LIST

Air Quality Control Permit No. 071434P0-00

For

Carlota Copper Company

Type of Equipment	Manufacturer	Model No.	Serial No.	Date of Manufacture	Equipment I.D. No.
ROM Bin	TBD	TBD	TBD	TBD	TBD
Primary Crusher (54"x74" Gyratory)	Allis Minerals	TBD	TBD	TBD	114101
Rock Breaker (3000 ft-lb Hydraulic)	TBD	TBD	TBD	TBD	113301
Primary Discharge Belt Feeder Conveyor	TBD	TBD	TBD	TBD	112501
Overland Belt Conveyor	TBD	TBD	TBD	TBD	122601
Coarse Ore Stacker	TBD	TBD	TBD	TBD	132901
Reclaim Feeder #1	TBD	TBD	TBD	TBD	132501
Reclaim Feeder #2	TBD	TBD	TBD	TBD	132502
Reclaim Feeder #3	TBD	TBD	TBD	TBD	132503
Reclaim Feeder #4	TBD	TBD	TBD	TBD	132504
Reclaim Feeder #5	TBD	TBD	TBD	TBD	132505
Reclaim Belt Conveyor	TBD	TBD	TBD	TBD	132602
Crusher Flow Diverter	TBD	TBD	TBD	TBD	132101
Secondary Screen (Double Deck Vibrating)	TBD	TBD	TBD	TBD	132401
Secondary Cone Crusher	TBD	TBD	TBD	TBD	134102
Sampler (Cross Cut Type)	TBD	TBD	TBD	TBD	137901
Secondary Crusher Baghouse (21,000 cfm)	TBD	TBD	TBD	TBD	136901
Sample Crusher (Chipmunk type)	TBD	TBD	TBD	TBD	137902
Riffle Splitter	TBD	TBD	TBD	TBD	137903
Secondary Crusher Discharge Belt Conveyor	TBD	TBD	TBD	TBD	132604
Mixing Conveyor	TBD	TBD	TBD	TBD	142604
Heap Transport Conveyor #1	TBD	TBD	TBD	TBD	TBD
Heap Transport Conveyor #2	TBD	TBD	TBD	TBD	TBD
Mobile Conveyor #1	TBD	TBD	TBD	TBD	TBD
Mobile Conveyor #2	TBD	TBD	TBD	TBD	TBD
Mobile Conveyor #3	TBD	TBD	TBD	TBD	TBD
Mobile Conveyor #4	TBD	TBD	TBD	TBD	TBD
Mobile Conveyor #5	TBD	TBD	TBD	TBD	TBD
Mobile Conveyor #6	TBD	TBD	TBD	TBD	TBD

ATTACHMENT "D"

EQUIPMENT LIST

Air Quality Control Permit No. 071434P0-00

For

Carlota Copper Company

Type of Equipment	Manufacturer	Model No.	Serial No.	Date of Manufacture	Equipment I.D. No.
Mobile Conveyor #7	TBD	TBD	TBD	TBD	TBD
Mobile Conveyor #8	TBD	TBD	TBD	TBD	TBD
Mobile Conveyor #9	TBD	TBD	TBD	TBD	TBD
Mobile Conveyor #10	TBD	TBD	TBD	TBD	TBD
South Heap Radial Stacker	TBD	TBD	TBD	TBD	TBD
Portable Primary Crusher - Eder Pit (after Eder pit startup)	TBD	TBD	TBD	TBD	TBD
E1 Extraction Mixing Settler	TBD	TBD	TBD	TBD	239101
E2 Extraction Mixing Settler	TBD	TBD	TBD	TBD	239102
S1 Stripping Mixing Settler	TBD	TBD	TBD	TBD	239103
Electrowinning Cells (94 cells, 19.54' x 4.01')	TBD	TBD	TBD	TBD	246401 to 246494
Hot Water Boiler	TBD	TBD	TBD	TBD	246801
Diesel Backup Generator - Leach Pad (1000 KVA)	TBD	TBD	TBD	TBD	220601
Diesel Backup Generator -	TBD	TBD	TBD	TBD	240602
Diesel Oil Tank - Boiler Fuel (10,000 gal)	TBD	TBD	TBD	TBD	261704
Organic Holding Tank (215,326 gal)	TBD	TBD	TBD	TBD	231704
Diluent Storage Tank (10,000 gal)	TBD	TBD	TBD	TBD	261702
Diesel Mining Fuel Storage Tank #1 (15,000 gal)	TBD	TBD	TBD	TBD	081701
Diesel Mining Fuel Storage Tank #2 (15,000 gal)	TBD	TBD	TBD	TBD	061702
Light Vehicle Fuel Storage Tank (5,000 gal)	TBD	TBD	TBD	TBD	081703

TBD - to be determined. Complete equipment information will be provided as it becomes available.

ATTACHMENT "D"

EQUIPMENT LIST

Air Quality Control Permit No. 071434P0-00

For

Carlota Copper Company

(The following items are not considered air emitting sources, but are included for completeness)

Type of Equipment	Manufacturer	Model No.	Serial No.	Date of Manufacture	Equipment I.D. No.
Electrolyte Flotation Column (15,000 gal)	TBD	TBD	TBD	TBD	236101
Electrolyte Recirculation Tank (115,522 gal)	TBD	TBD	TBD	TBD	241701
Crud Tank (1,000 gal)	TBD	TBD	TBD	TBD	231710
Crud Decant Tank (1,000 gal)	TBD	TBD	TBD	TBD	231711
Loaded Organic Tank (132,596 gal)	TBD	TBD	TBD	TBD	231705
Filter Backwash Tank (65,340 gal)	TBD	TBD	TBD	TBD	231707
Filter Feed Tank (65,000 gal)	TBD	TBD	TBD	TBD	231708
Strong Electrolyte Tank (66,700 gal)	TBD	TBD	TBD	TBD	231709

TBD - to be determined. Complete equipment information will be provided as it becomes available.

- C. the proposed mine planned by CCC will create nearly 300 new jobs for a period approaching 20 years;
- D. there will be direct benefits to the local and State economies in taxes, fees, wages and purchases, all of which is very much needed;
- E. CCC has demonstrated the highest level of corporate citizenship.

(R) AQD recognizes the importance of the benefits stated above. AQD is please to have been able to work with CCC to draft a permit, the conditions of which will allow CCC to operate profitably while preserving the air quality and protecting the health and welfare of the citizens of the community.

II. (C) Carlota has applied for a Class II permit (a minor source). The rules are designed to subject major sources to considerably more scrutiny than minor sources. Carlota has had to expend considerably more time and effort on the application for this permit than should be required for a Class II permit.

(R) The majority of the time and effort that CCC expended were not required by the AQD for the Class II permit. Because of its proximity to the Superstition Wilderness, a Class I area, the U.S. Forest Service (USFS), the federal land manager, required that an Environmental Impact Statement (EIS) and Conformity Determination (CD) be prepared. Satisfying the requirements of the USFS in the preparation of the EIS and the CD required that CCC expend considerably more time and effort than would normally be required for a Class II permit.

AQD followed closely the EIS and CD developments so that the permit would reflect the premises upon which the EIS and CD conclusions were based, and, therefore, make them enforceable. Several of those conditions that are in the permit resulted from negotiation between AQD and CCC in which CCC voluntarily accepted the restrictions. The project can not go forward until the EIS and CD processes are complete and approved. AQD's efforts have paralleled the progress on the federal programs. As the finalization of the EIS and CD approach AQD is ready to issue a permit in a timely fashion.

III. (O) In paragraph XIII of Attachment "A" a statement is made that A.A.C. R18-2-310 will become federally enforceable upon approval by the Environmental protection Agency (EPA) of the Department's Title V operating permits program or when A.A.C. R18-2-310 is approved by EPA for incorporation into the State Implementation Plan (SIP). This is a Class II permit, and the Title V program should have nothing to do with it. The only way this rule becomes federally enforceable, in the case of this permit, is when it is incorporated into the SIP.

(R) The Department concurs and has revised the permit accordingly.

IV. (O) In Section II of Attachment "B" stack opacity has been made a material permit condition. Opacity is a secondary standard and should only be used as an indicator. The emission standard for the control device on the crusher and screen(s) is a maximum emission rate of 0.022 grains per dry standard cubic foot. Normally a piece of equipment operating in compliance with this emission standard will exhibit an opacity of 7 percent or less. However, this is not always the case and a control device having an emission rate in compliance can have opacities in excess of 7 percent; this possibility was recognized by EPA, and they included in the New Source Performance Standard (NSPS) rules a procedure for obtaining a variance from the opacity limit. Because opacity is only an indicator and not a true measure of compliance, the legislature in A.R.S. § 49-464 specifically excluded it from the definition of an emission standard. It should not be put back on the list of felony offenses by being listed as a material permit condition. By the same token, fugitive emission opacities should not be a material permit condition.

(R) A.A.C. R18-2-331.A, Material Permit Conditions, defines a "material permit condition" as one that satisfies all of the following:

should not be required. The source should have the operational flexibility to make its own decisions as to how it wants to comply with the emission limit.

- (R) The emission limit of 1.4 pounds per hour of acid mist was stated as a condition in the draft permit. As noted above, the applicant revised the design, and the new design does not lend itself to performance testing. Since an emission limit is of little use without a verification tool, it has been eliminated.

The work practice standard stated in the permit does serve a singular purpose. Note that two practices are stated; however, the permittee may propose some other practice, demonstrate that it is adequate to assure compliance and, with written approval by AQD, apply it. The purpose served is that the permittee may use established practices or develop their own, but, once established, AQD has an enforcement tool continuously available. If the work practice standard is in place and operating correctly, it can be assumed that the facility is in compliance.

- VII. (O) A limit on the weight rate of mined rock has been set at 125,000 tons per 24-hour day in Section III of Attachment "B". When the application was submitted, certain operating conditions were assumed so that the potential to emit (PTE) could be calculated. The source should be allowed the operational flexibility as long as the PTE is not exceeded by more than a "significant" amount as described in the rules. For example, changing to a larger haul truck will allow more tons to be mined and moved without increasing vehicle miles traveled (VMT) which is the basis for the PTE calculation.

- (R) The purpose of this condition is, as the comment correctly states, to limit the PTE PM_{10} to the level used in the analyses for the EIS and the permit. The PTE for the PM_{10} emissions from the haul roads is based on the vehicle miles travelled and estimated emission factors (pounds emitted per vehicle mile traveled) taken from EPA AP-42, 13.2.2 (1995). This emission factor is a function of the silt content of the road surface material, the mean vehicle speed, the mean weight of the vehicle and the mean number of wheels. Obviously, no one parameter could be selected to truly assure that no significant increase in the PTE will occur. One condition that was considered as an indicator was the recording of the daily and annual VMT. The applicant, however, preferred the limit on the weight of mined rock.

- VIII. (O) The AAAQGs are an internal policy that has never been formally adopted and published in the Administrative Register. Further, this policy would not meet the statutory requirements of a "substantive policy statement" even if it had been published. The reason is that according to A.R.S. § 41-1001.21 a policy statement can not impose additional requirements or penalties on regulated parties. Thus, imposition of requirements based on AAAQGs amounts to rulemaking without opportunity for public review and comment. The statement in A.R.S. § 41-1030.B that an agency cannot impose a condition that is not expressly authorized by statute or rule invalidates any permit conditions based on the AAAQGs.

- (R) A.R.S. 49-424.3 specifies that a duty of the Director is to "Determine the standards for the quality of the ambient air and the limits of air contaminants necessary to protect public health...". The AAAQGs are health based exposure limits. S.B. 1430, Section 64 provides for the continued "authority" that has gone before. That provision was provided to ensure that sources would not be deregulated if the time for the development of a new State HAPs program was protracted.

- IX. (O) Significant adverse impacts to visibility in the nearby Class I Superstition wilderness area and complete consumption of the Class II PSD increment imply this project will adversely impact the federal Class I and Class II air quality. Because the State believed that the Miami area was in attainment, ADEQ petitioned EPA Region IX, in a letter dated November 10, 1994, to realign the Hayden/Miami nonattainment area boundary to exclude the Miami area, including the Carlota Copper project area, from the nonattainment boundary.

- (R) The Carlota mine project is designated by rule and regulation as a Class II source located in a nonattainment area. Consequently, the New Source Review (NSR) Permitting Programs, i.e., Prevention of Significant Deterioration (PSD) review for attainment areas and Nonattainment Area (NAA) review for nonattainment areas do not apply. Although your statement that the State's assessment of the status of the Miami area is

of equal to or less than 15 mph . A sample of the calculations based on currently the planned scenario is attached as Table 1. This indicates that an average speed of 10.8 mph is realistic.

The second issue raised was how does the Department plan to accomplish the strict monitoring and enforcement of any speed limit? The Department, obviously, does not have the resources to dedicate an inspector to any project on a full time basis. By permit the permittee is required to "post and enforce a maximum speed of 35 mph for all vehicles. Also by permit, the permittee is required to record the total number of round trips taken for each of the haul trucks for each of the three transfer operations, namely, ore rock to stockpile, ore rock to leach pad and waste rock to waste dump. The round trip distance and the total time of operation each day for each operation is to be recorded. This will allow an estimate of the average speed for the total daily operations.

- XI. (Q) A number of listed air toxics are expected to exist in naturally low levels in the soil, subgrade and base rock. The effects of the dust emissions containing the air toxics are minimized in the DEIS; the potential impacts of these metals should be addressed, not ignored.
- (R) ADEQ requested that the permittee address this concern. The maximum ambient concentration of 15 metal species that have AAAQG limits were determined from the highest predicted ambient PM_{10} concentrations and the chemical analysis of potential sources of PM_{10} emissions. Soil samples, both weathered bedrock and colluvial soils, were taken at eight (8) locations in the areas that would be disturbed by the Carlota operations and would produce fugitive emissions from the facility. These samples were analyzed for the 15 metals. The maximum and average concentrations in the soil and the resulting ambient concentrations are shown in the following Table 2. As can be seen from this table the estimated ambient concentration is at least an order of magnitude less than the AAAQG limit.
- XII. (C) Calculations of the air impacts at the Tonto National Monument are directly contradictory. This contradiction is explained away by stating that "regional meteorology" and "complex terrain" make it "likely" that the actual impacts would be less than predicted. There is utterly no basis for characterizing the expected impacts as "negligible" based on some unstated comparability with the Sierra Ancha Wilderness.
- (R) To help to resolve this enigma, ADEQ requested that the permittee estimate the 24-hour average PM_{10} concentration at the Tonto National Monument. The ISCST3 model with plume depletion was utilized. The predicted maximum 24-hour ambient PM_{10} concentration was $1.3 \mu\text{g}/\text{m}^3$, which is well below the PSD maximum increment of $30 \mu\text{g}/\text{m}^3$ for a Class II area. Using the same model the predicted maximum 24-hour ambient PM_{10} concentration at the boundary of the Hayden/Miami nonattainment area for PM_{10} , i.e., the start of the Class II attainment area, was $13.8 \mu\text{g}/\text{m}^3$, which is also well below the PSD maximum increment for a Class II area. ADEQ did not request the modeling of any other pollutants.
- (C) Air toxics from the hot water heater and the emergency generators are based on the assumption that the generators would run 5 percent of the time. No basis is given in the DEIS for that assumption.
- (R) In an EPA memorandum dated September 6, 1996 guidance was given for calculating the potential to emit (PTE) for emergency generators. The EPA defined "emergency generator" as a generator whose sole purpose is to provide back-up power when electric power from the local utility is interrupted. EPA recommends that the PTE be determined based an estimate of maximum number of hours that the generator could operate, taking into account (1) the number of hours power would be expected to be unavailable and (2) the number of hours for maintenance activities. EPA believes that 500 hours is an appropriate default assumption for estimating the number of hours that an emergency generator could be expected to operate under worst case conditions.

SRP reports that over the last several years they have experienced approximately 40 minutes per year of power outages in this service area. In addition, the permittee plans to operate the generators for maintenance purposes approximately 14 hours per year. The expected total is, therefore, less than 15 hours

Arizona Dept. Mines and Mineral Resources

Verbal Information Summary

Mine: Carlota, Cactus, Eder North and South
Engineer: Nyal J. Niemuth

Counties: Gila and Pinal
Date: February 16, 1996

Summary of comments made by Bob Walish, Manager for Cambior d.b.a. in Arizona as Carlota Copper Company at the Maricopa Section AIME meeting February 15, 1996.

Details of the Planned Mining Operations

The mine will use 17 cubic yard hydraulic shovels paired with 150 ton haul trucks. The mine will use the higher maintenance hydraulic shovels due to their speed to help with truck utilization on the short hauls. Strip ratio will be 2-1 waste to ore. Pit slopes will be 42 degrees. Mining rates will be 20,000 tons per day and 49,000 ton per day waste. Ore will be crushed to 2" minus. At first the heap leach pad will be loaded with trucks latter only by conveyors. The leach pad will be divided into 4 quadrants to optimize water evaporation and production during periods of heavy rains. The Cactus deposit will be mined first, then Carlota. The Eder deposits will be started to be mined round years 10 to 13 of the projects planned 18 year life. At the end of mining in the Cactus area, waste from Carlota will be dumped in it. This waste will also serve to divert Pinto Creek out of the pit.

The ultimate recovery of copper is estimated to be 90%. Leaching of mainly chrysocolla will consume 36 lb. of sulfuric acid per ton of Cactus breccia. Recovery of cathode copper will be by SX-EW. The Mount ISA process using stainless steel starter sheets has ben licensed.

At \$1.00 per pound of copper the following are operating cost estimates: power will be 11 cents per pound, taxes 10 cents and parts and supplies 28 cents. Direct wages for the 300 employees will be \$10 million annually, other amounts will be taxes and fees \$ 3 million and Arizona purchases will be \$28 million.

Permitting Comments

The plan of operations was originally original filed February 1992 to begin the NEPA process. Final EIS should be out by April 1996. A few months of appeals are expected after that before construction will begin. Army Corps of Engineer 404 permits are being required for both the Pinto Creek drainage (runs through the Cactus and Carlota combined pit) and Powers Gulch (site of the heap leach pad).

The cactus that was supposedly endangered, a variety of hedge hog, is believed now to have been introduced from Mexico by the Soledad (sp) Indians for its hallucinogenic properties. It has been found now in the tens of thousands in this area and in an area of eastern Arizona that Phelps Dodge is permitting near the Morenci Mine.

Total investment is planned to be \$152 million before production begins and \$37 million has been invested to date in exploration , obtaining baseline data, and on archeological and environmental permitting.

The U.S. Forest Service has never before permitted a major mine in Arizona and this learning experience has been part of the reason for the slow progress.

Still to be excavated are 37 Indian sites, expected cost of the archeological study of these sites is \$1.2 million

Construction

Once all permits are in hand, hopefully by August 19996, an accelerated construction schedule planned to take 13 months will begin.

Caborca, Sonora.
Mexico.

1 / 14 / 52

Ford Chemical Co
7960 Beverly Blvd.,
Los Angeles, Calif.

Gentlemen;

Mr. Manning of the Dept. of Mineral Resources of Arizona, has suggested that I contact you regarding your possible interest in the Carlota Copper Mine, near Miami, Arizona, which I own, and which due to my interests here, I would be interested in disposing of.

The first of last year I prepared the mine for open pit mining, installed a new ore bin of 125 tons capacity and partly stripped the ore body. The mine is ready to produce on short notice.

There is exposed of this surface ore some 100,000 tons that should average approximately 2.4% copper, all oxide, readily leachable with sulphuric acid, with low acid consumption.

The underground workings are in bad shape and caved due to our operations during the war and heavy ground. We shipped about 50,000 tons to International Smelter during the war that averaged better than 5.5% or about that. The mine was developed thru tunnels exclusively and deeper work would have to be thru shaft.

We previously operated at about 100 tons daily from underground mining. This could be easily duplicated by one cat on surface or doubled by same.

The deepest working on the property is an old shaft some 400' deep, in bad condition, that is some 700' below the outcrops. This shaft is supposed to have crosscut another ore body that showed 60' width of 3.2% average, all oxide ore. No work being done in the ore bodies we mined.

Property of Miami Copper Co adjoins us on two sides and shows considerable copper.

If you feel your company might be interested I would be pleased to arrange a meeting and show you over the mine. Please address me at Caborca, where I may be reached by letter, wire or phone.

Very truly yours



W

CARLOTA COPPER CO.

BOX 1745

MIAMI, ARIZONA

January 21, 1944

Mr. W.C. Broadgate,
Hotel Harrington,
Washington, D.C.

Dear Bill,

Since writing you last we have been advised that the special premium requested by Carlota Copper Co. to remain in effect long enough to recompense us for development work done at the request of WPB has been denied.

I am also informed today by Mr. Strobel that the Committee after "very careful consideration" of our appeal on the Carlota-Schulze application for a special premium of 5 cents had also been denied and that their conclusions were the same as they were on last Dec. 7th.

As you know this screws us up quite thoroughly and considerable ore is available which is not possible to ship at 17 cents.

The whole damn story doesn't add up to me. I guess that the idea promulgated by Harry King last fall has taken root, that there is enough copper.

In about three or four months from now when they begin screaming for it again a good many of us are liable to give the five fingered salute.

There is something wrong with their statisticians but I am not purporting to take their place.

Since some screw-ball is liable to pull the pin from under the 17 cent price it might behoove us to turn the pressure in the direction of gold properties. In that connection would appreciate your sending me what dope you get on the gold situation without going too far out of your way.

Many thanks for your assistance on the copper deals and please look me up when you get back this way.

Sincerely,

Mac



B. S. McCUTCHEN
PRESIDENT



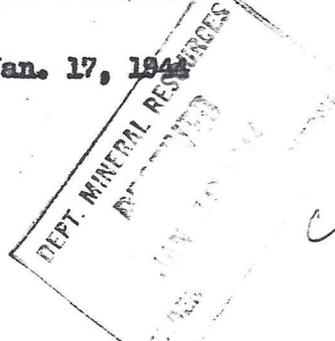
AUGUSTUS GUMPERT
MANAGER

HOTEL HARRINGTON

ELEVENTH, TWELFTH & E STREETS, N.W.

WASHINGTON, D.C.

Jan. 17, 1944



Dear Mac,

I was a little surprised at your letter of Jan. 15th which would indicate you had had no results whatever from the Quota Committee.

I had the Carlotta cleared and sent out the 4th of Jan.

Unfortunately the Schultz got jammed a little with OPA and there has been some general question of policy with MRC on a number of copper cases which I have been discussing today, and which I think will permit them to clear sooner. The Schultz does not seem to be quite as good a case as the Carlotta.

I have to go to Denver for the Convention and will see Willis there, so you may not hear from me till after the first. I have been promised that these coppers will get active attention while I am gone.

Sincerely,

W. C. Broadgate

THE AMERICAN METAL COMPANY, OF NEW MEXICO

55-56 SENA PLAZA
SANTA FE, NEW MEXICO
P. O. BOX 170

July 2, 1940

Mr. J. S. Coupal
Department of Mineral Resources
Phoenix, Arizona

Dear Mr. Coupal:

This will acknowledge your letter of June 25, with which you enclosed information concerning the Carlotta Copper Mine, owned by Mr. John L. Alexander, 541 West Monte Vista, Phoenix, Arizona, and by which you suggest that we communicate directly with Mr. Alexander if interested in the property.

I want to thank you very much for this information, and state that we will certainly look into the matter although my first impression is that due to the ore body being entirely oxidized it would seem doubtful if it would be of any interest to the Metal Company.

Thank you again for this information and I am,

Yours very truly,



J. T. Matson

JTM:BB
cc - Mining Department

JOHN L. ALEXANDER
MINING
541 WEST MONTE VISTA
PHOENIX, ARIZONA

Handwritten signature/initials

6 / 21 / 40

C O - 3
Arizona Department of Mineral Resources
Capitol Bldg.,
Phoenix, Arizona.

Dear Sir;

The following is in reply to an inquiry that recently appeared in a publication by the Arizona Dept. of Mineral Resources, which was sent me.

I notice that you are interested in buying some 500 tons of copper ore weekly and wish an analysis of same. I have a property that could produce this amount for a considerable period of time, provided I was assured of a market for same.

This ore according to shipments of some 125 cars from development work averages about as follows;

Cu. 5%; Fe. 6.3%; CaO 2.3%; Al₂O₃ 11½ to 14%; SiO₂. 44%; S. 0%.

I have some 50,000 tons of the above ore proven and and additional 50,000 indicated on two sides. In addition there is every possibility of some 2 - 3,000,000 tons of about 3% ore as well as several of the higher grade ore chutes on which we have done no work at present.

In previous work it has been demonstrated that in actual mining the grade of ore will mine at from a low of 4% to a high of 8.5% , but the average over a period of time would be about 5%.

I would be willing to deliver this ore in either Miami or Superior, Arizona for eight cents per pound of contained copper or at five and three quarter cents per pound of contained copper at the mine F.O.B. trucks. Mutual guarantees would have to be made as to delivery and market .

Naturally I would be pleased to go into the matter further with you at any time should you be interested.

Very truly yours

Handwritten signature

6-24-1940

Handwritten notes:
Mitsun
Brooks
Kilmer

2 /2/44

Dear Mac,

Your two letters are at hand. I just got back from Denver yesterday.

It is my understanding that the Carlotta got a 6.7¢ special premium, and is now up for reconsideration for 9.8¢.

As to the Schulz, this was denied because the second application also showed a capital expenditure of \$10,000 would be necessary.

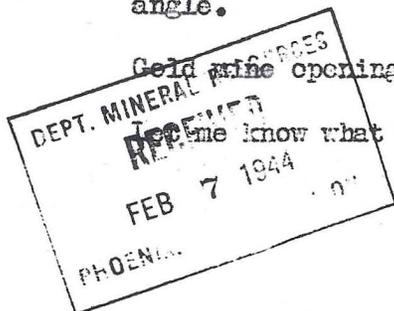
MPB does not want to encourage capital expenditures when the tenure of the premium is uncertain and hence the miner might not get his money back and would file a claim, the chances are, for his loss.

I thought you did alright on the Carlotta, but was not able to help on the Schulz because of the size of the investment, as shown on the application. Perhaps you could file another to show the "ore available with no investment" angle.

Gold mine opening is far in the future.

I don't know what further I can do for you.

Bill Broadgate



CARLOTA COPPER CO.

BOX 1745

MIAMI, ARIZONA

January 20, 1944

Dear Bill,

Mr. Coupal passed on your memo to John Alexander to the effect that the Carlota has been allowed special additional copper premium. Many thanks.

Also that the Schulze was under consideration and about ready for determination.

I have a note from Jim Douglas to the effect that Pop Elsing is discouraging new operations where capital can not be amortized within a very short period, say a matter of 3 or 4 months. Pop still is harping on the idea that we are going to spend \$30,000 before we can ship. I have tried to get across to him that we have some shipping ore available without additional capital expenditures being required but we need a special premium to get by with it. I am at a loss to know how to spell it out any clearer.

Incidentally, I have taken over supervision of the Van Dyke mine at Miami. They also are waiting on a determination of special premium price. The answer to this makes quite a difference in one's selection of ore to ship and the whole works gets bogged down during the course of all the haggling over price.

Johnny and I are trying to work out an idea I have been toying with for some little time, namely, to build up an organization composed of several men who are top notch in their field such as geology, mining, metallurgy, etc., etc., then making their services

W.C.Broadgate

-2-

January 20, 1944

available through our organization to smaller operations on a cost plus fee basis. This basis being kept elastic enough to apply it as conditions warrant and as the traffic may bear.

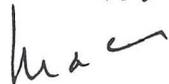
Our basic idea is that through such a method the smaller mines can have available the same type of technical and business advice that the larger companies provide to their smaller units and have it at a cost within their means by virtue of the fact that we can spread the overhead and the time of our men over a number of properties, come out alright from our point of view and at the same time charge each individual property only a nominal amount. Thereby, we get along OK and the mines concerned make more money than they might otherwise.

We are putting a professional card in the Mining Journal and the E&MJ.

Naturally, we can't go around knocking on peoples' door but will have to depend upon the "bush telegraph" and the recommendations of our friends. Am enclosing a copy of the card to be sent to the Mining Journal.

Best regards,

Sincerely,



J.D. McClintock

CARLOTA COPPER CO.

BOX 1745

MIAMI, ARIZONA

January 15, 1944

Dear Bill,

Thanks for your note about the pile-up of price bonus applications. In addition, I guess the holidays had something to do with delaying the procedure.

Since, in any event, we apparently have only the rest of this year on which to rely on any price, I hope they will be able to get at our case fairly soon. It shouldn't take much time as it has already been gone over twice.

Next time you see Pop would appreciate your prodding him again for me.

Hope you had a good New Year and that it wasn't too strenuous. It was pretty rough around here for a couple of days.

Best regards,

Sincerely,

Wac

J. J. McClintock

Assignment sheet sent 1/4 on Carlotta
Sheet - on Agenda

January 18, 1944

Mr. John Alexander
Carlota Copper Co.
Box 1745
Miami, Arizona

Dear Mr. Alexander:

I have just received a memorandum from Bill Brougate in Washington stating that "the Carlotta Mine, Alexander and McClintock, has been allowed special additional copper premium."

He further states that the Schulze mine is still on the agenda and is in line for some determination shortly.

Yours very truly,

J. S. Coupal, Director

JSC:LP

May 28, 1941

Mr. George T. Scholey ,
C/o Nielson and Co., Inc.
802 Hoge Bldg.
Seattle, Washington

Dear Mr. Scholey:

Many thanks for filling out the questionnaire regarding the Carlotta mine. I note that under the question "How much copper could this property produce annually on a 14¢ price" you say "1400". I should take this to mean 1400 tons of metallic copper.

It is very apparent that this property qualifies as one of the potential copper producers of Arizona under a national defense program. Therefore, we would like to get some additional information, as we hope to include a brief statement regarding each property that is being reported upon.

I am enclosing another questionnaire which will give us the data that we want for this brief statement. We would appreciate your making it concise.

Trusting that we will have it back shortly, and with kindest personal regards, I am

Yours very truly,

Chairman, Board of Governors
Arizona Department of Mineral Resources

CFW:LP
Enc.

June 3, 1941

Mr. George T. Scholey
C/o Nielson and Co., Inc.
802 Hoge Bldg.
Seattle, Washington

Dear Mr. Scholey:

I want to thank you for so promptly returning to us the second questionnaire. This now gives us the complete information on your property. I only wish others were as prompt to send them in.

Thanking you, and with kindest personal regards,

I am

Yours very truly,

Chairman, Board of Governors
Arizona Department of Mineral Resources

CFW:LP

28 December 1940

Mr. John L. Alexander,
541 West Monte Vista,
Phoenix, Arizona.

My dear Mr. Alexander:

I have today given your address to Mr. Jimmie Johnston, P. O. Box 513, Miami, Arizona. Mr. Johnston stated that he was desirous of getting a lease on the CARLOTTA MINE.

With best wishes for the New Year, I am

Yours very truly,

J. S. Coupal
Director

JSC-jrf

5 July 1940

Mr. J. T. Matson,
Box 170,
Santa Fe, New Mexico.

Dear Mr. Matson:

With further reference to your desire for a copper property, I am enclosing herewith a copy of Mine Owners Report covering the Carlotta Copper Mine owned by Mr. John L. Alexander. I am also enclosing a copy of a letter from Mr. Alexander.

I should suggest that you communicate directly with Mr. Alexander.

Assuring you of my desire to be helpful, and trusting the information contained in this report and letter may be helpful, I am

Yours very truly,

J. S. Coupal
Director

JSC-jrf
encls.

THIS information also sent to
C. H. Brooks, Los Angeles
Charles W. Garland, Los Angeles
Chas. A. Diehl, Phoenix
Howard Mottier, Phoenix.

COPY

6/21/40

C O - 3
Arizona Department of Mineral Resources
Capitol Bldg.,
Phoenix, Arizona.

Dear Sir:

The following is in reply to an inquiry that recently appeared in a publication by the Arizona Dept. of Mineral Resources, which was sent me.

I notice that you are interested in buying some 500 tons of copper ore weekly and wish an analysis of same. I have a property that could produce this amount for a considerable period of time, provided I was assured of a market for same.

This ore according to shipments of some 125 cars from development work averages about as follows:

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In previous work it has been demonstrated that in actual mining the grade of ore will mine at from a low of 4% to a high of 8.5%, but the average over a period of time would be about 5%.

I would be willing to deliver this ore in either Miami or Superior, Arizona for eight cents per pound of contained copper or at five and three quarter cents per pound of contained copper at the mine F.O.B. trucks. Mutual guarantees would have to be made as to delivery and market.

Naturally I would be pleased to go into the matter further with you at any time should you be interested.

Very truly yours

John L. Alexander
541 West Monte Vista
Phoenix, Arizona

3 December 1940

Mr. John L. Alexander,
541 West Monte Vista,
Phoenix, Arizona.

My dear Mr. Alexander:

I am in receipt of a letter from Mr. Geo. T. Scholey, General Manager of Nielson & Company, Inc., 1102 Hoge Building, Seattle, Washington, in which he acknowledges receipt of the Carlotta information and stating that he would like further advise on this property in regards to the kind of deal the owners would be interested in.

I am sending a copy of this letter to Mr. Scholey, and I should suggest that you communicate with him directly.

Yours very truly,

J. S. Coupal
Director

JSC-jrf

cc-Scholey