

US EPA ARCHIVE DOCUMENT

**FLORENCE COPPER, INC.
UIC PERMIT APPLICATION
FLORENCE COPPER PROJECT – PRODUCTION TEST FACILITY**

ATTACHMENT S – AQUIFER EXEMPTION

Table of Contents

Table of Contents	1
List of Figures.....	1
List of Exhibits.....	1
S.1 Introduction.....	2
S.2 Historical Context.....	2
S.3 Required Criteria for Exempted Aquifers.....	2
S.4 Original Aquifer Exemption	3
S.5 References	3

List of Figures

- Figure S-1 Lateral Extent of Aquifer Exemption
- Figure S-2 Vertical Extent of Aquifer Exemption Boundary

List of Exhibits

- Exhibit S-1 Aquifer Exemption (May 1, 1997)
- Exhibit S-2 NI 43-101 Technical Report Pre-Feasibility Study, Florence, Pinal County, Arizona

US EPA ARCHIVE DOCUMENT

S.1 Introduction

This Attachment has been prepared in support of an application (Application) by Florence Copper, Inc. (Florence Copper) to the United States Environmental Protection Agency (USEPA) for issuance of an Underground Injection Control Class III (Area) Permit (UIC Permit) for the planned Production Test Facility (PTF), to be located at the Florence Copper Project (FCP) in Pinal County, Arizona. This Attachment describes the aquifer exemption issued to BHP Copper, a previous site owner, in conjunction with UIC Permit No. AZ396000001. UIC Permit No. AZ396000001 was issued for operation of an in-situ copper recovery (ISCR) facility at the FCP property which is inclusive of the currently proposed PTF area and the broader mineralized area which is approximately 212 acres in size. The horizontal extent of the existing aquifer exemption coincides with the horizontal extent of the mineralized area permitted under UIC Permit No. AZ396000001 (212 acres), plus a 500-foot circumscribing area around that mineralized area. The vertical extent of the aquifer exemption conforms to criteria included in UIC Permit No. AZ396000001.

S.2 Historical Context

The USEPA originally issued UIC Permit No. AZ396000001 to BHP Copper Inc. (BHP Copper) on May 1, 1997. When the USEPA issued the UIC Permit, it also granted an “Underground Injection Control Aquifer Exemption for EPA Permit #AZ396000001” (Aquifer Exemption), designating the BHP Copper permitted area as exempt from provisions in the Safe Drinking Water Act as they pertain to protecting underground sources of drinking water (USDWs). The 1997 Aquifer Exemption is included for reference in Exhibit S-1.

UIC Permit No. AZ396000001 was amended on April 26, 2000 to establish permit limits for Alert Levels, Aquifer Quality Limits, and baseline water quality characteristics for Point of Compliance (POC) wells located around the Aquifer Exemption zone. The FCP property was subsequently sold and the permit was transferred from BHP Copper to the new owner in December 2001. None of the requirements of the UIC Permit were changed during the transfer process.

S.3 Required Criteria for Exempted Aquifers

Criteria for determining whether an aquifer qualifies as an “exempted aquifer” are listed under 40 Code of Federal Regulations (CFR) Sections 144.07 and 146.04. The criteria applicable to the Aquifer Exemption issued to BHP Copper are listed under 40 CFR 146.04(a) and (b). The criteria were evaluated during the USEPA review of BHP Copper’s 1996 Application and resulted in the granting of the Aquifer Exemption in 1997.

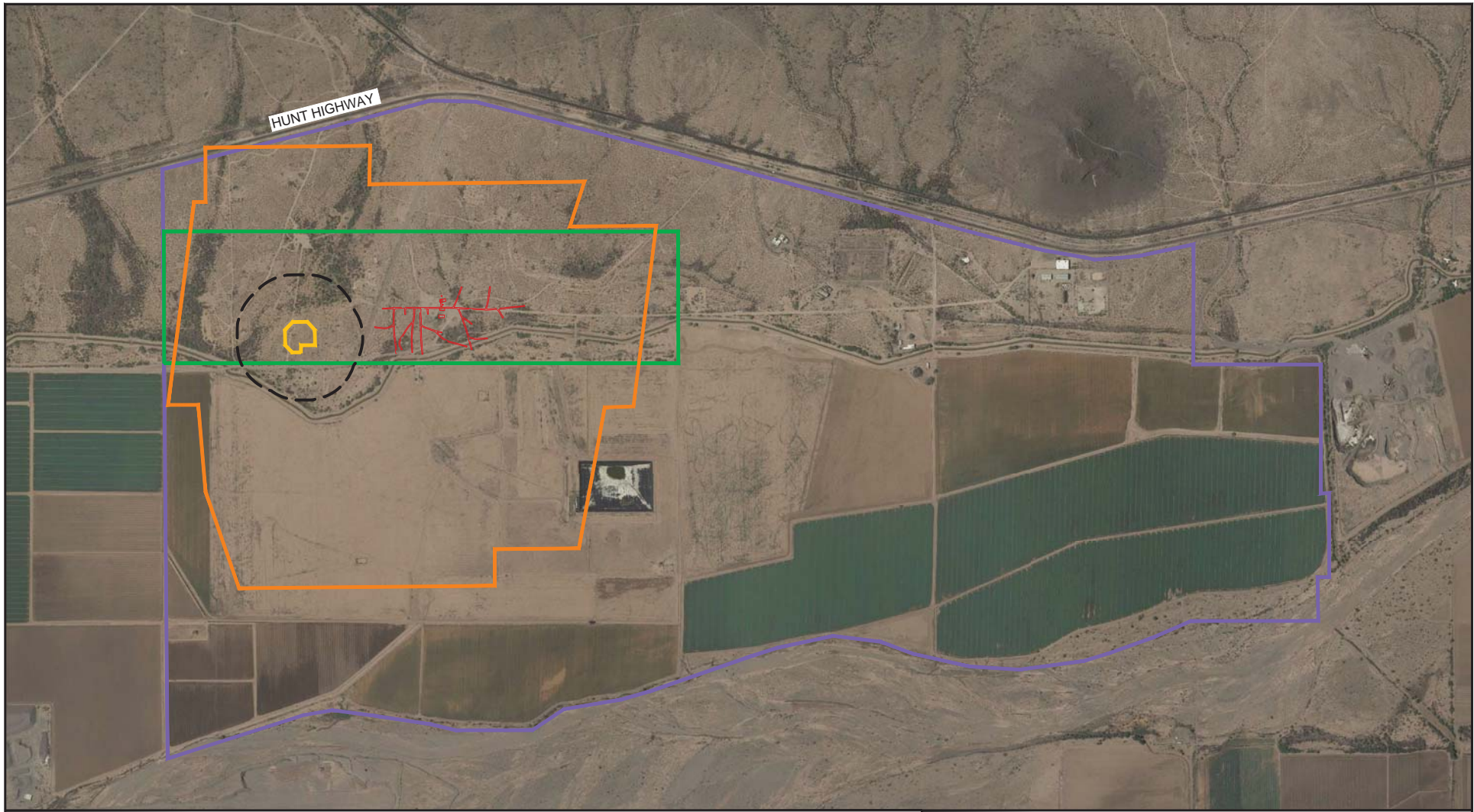
Florence Copper is not aware of any change in aquifer conditions or planned operations that would require a change in the criteria used to determine the Aquifer Exemption area. Florence Copper has recently completed a report entitled “*NI 43-101 Florence Copper Project, Technical Report, Pre-Feasibility Study*”. The report provides a broad range of information including the aquifer’s potential for economic mineral development as per requirements in 40 CFR Sections 144.07(c)(1) and 146.04(b)(1), and as required for this Attachment. The report provides data regarding the delineation of the injection zone, general information on the mineralogy and geochemistry of the injection zone, the amenability of the in-situ process to recover copper, and a timetable for proposed development. An electronic copy of the Pre-Feasibility report is provided on a CD in Exhibit S-2 of this Attachment.







S.4 Original Aquifer Exemption

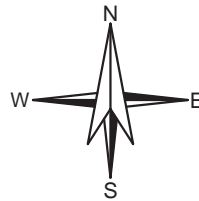
The horizontal limits of the proposed aquifer exemption coincide with the original Area of Review described in Attachment A and B of the original UIC Permit issued to BHP in 1997, and are shown on Figure S-1 of this Attachment. The vertical limits of the aquifer exemption are depicted in Figure S-2 and the lateral and vertical limit are described in Exhibit S-1.

S.5 References

M3 Engineering and Technology Corporation, 2013. NI 43-101 Technical Report Pre-Feasibility Study, Florence, Pinal County, Arizona. March 28.



- LEGEND**
-  AQUIFER EXEMPTION AREA
 -  PROPERTY BOUNDARY
 -  STATE MINE LEASE BOUNDARY
 -  PTF WELL FIELD
 -  AREA OF REVIEW
 -  CONOCO UNDERGROUND MINE WORKINGS



HALEY & ALDRICH

FLORENCE COPPER, INC.
FLORENCE, AZ

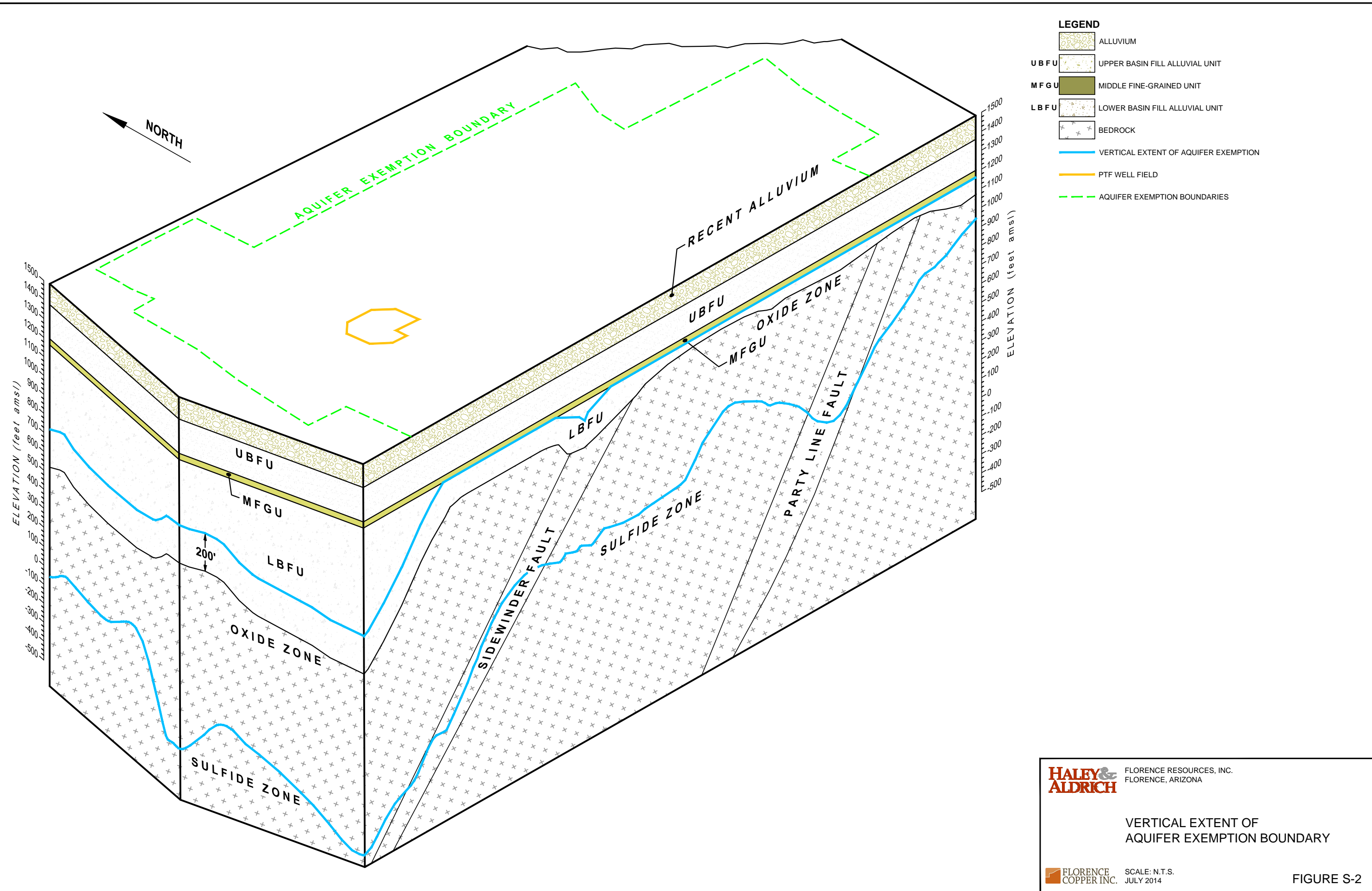
AQUIFER EXEMPTION AREA

FLORENCE COPPER INC.

SCALE: AS SHOWN
MAY 2014

FIGURE S-1

Drawing Name: G:\PROJECTS\CURIS RESOURCES\38706-CURIS FEASIBILITY\DRAWINGS\2014 UIC APP\FIGURES S\38706-300-S-2.DWG
Operator Name: RODRIGUEZ, BRANDY Plot Date: July 29, 2014



HALEY & ALDRICH FLORENCE RESOURCES, INC.
FLORENCE, ARIZONA

VERTICAL EXTENT OF
AQUIFER EXEMPTION BOUNDARY

FLORENCE COPPER INC. SCALE: N.T.S.
JULY 2014

FIGURE S-2

FLORENCE COPPER, INC.
UIC PERMIT APPLICATION
FLORENCE COPPER PROJECT – PRODUCTION TEST FACILITY
ATTACHMENT S – AQUIFER EXEMPTION

EXHIBIT S-1

**AQUIFER EXEMPTION
UIC PERMIT NO. AZ396000001 (MAY 1, 1997)**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

UNDERGROUND INJECTION CONTROL AQUIFER EXEMPTION
FOR
EPA PERMIT #AZ396000001

In compliance with provisions of the Safe Drinking Water Act, as amended, (42 USC 300f-300j-9, commonly known as the SDWA) and attendant regulations incorporated by the U.S. Environmental Protection Agency under Title 40 of the Code of Federal Regulations (CFR), the zone located:

- (1) in the subsurface interval of approximately 400 feet to 1600 feet below ground surface (bgs); and
- (2) below the upper aquifer exemption boundary which is 200 feet above the oxide zone, or the base of the Middle Fine-Grained Unit (MFGU), whichever is further below ground surface; and
- (3) above the lower aquifer exemption boundary which is the base of the reactive interval amenable to copper leach solutions, encompassing the oxide zone, which contains an economical amount of copper, and copper in the sulfide zone that is leachable; and
- (4) laterally within 500 feet of the mine zone boundary delineated in Appendix A of EPA Permit #AZ396000001, and within the line connecting the following coordinate system points:

From a point (point 1) in the southwest of the northwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 748028.6 and easting 646937.7

To a point (point 2) in the southeast of the northwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 748042.1 and easting 648619.5

To a point (point 3) in the southeast of the northwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona

Coordinate system Northing 747656.9 and easting 648617.4

To a point (point 4) in the southeast of the northeast of Section 28,
Range 9 East, Township 4 North of the GS & R meridian at Arizona
Coordinate system Northing 747675.3 and easting 650811.6

To a point (point 5) in the southeast of the northeast of Section 28,
Range 9 East, Township 4 North of the GS & R meridian at Arizona
Coordinate system Northing 747216.3 easting 650662.8

To a point (point 6) in the southeast of the northeast of Section 28,
Range 9 East, Township 4 North of the GS & R meridian at Arizona
Coordinate system Northing 747230.7 and easting 651548.8

To a point (point 7) in the southeast of the southeast of Section 28,
Range 9 East, Township 4 North of the GS & R meridian at Arizona
Coordinate system Northing 745379.4 and easting 651309.7

To a point (point 8) in the southeast of the southeast of Section 28,
Range 9 East, Township 4 North of the GS & R meridian at Arizona
Coordinate system Northing 745369.4 and easting 651019.1

To a point (point 9) in the northeast of the northeast of Section 33,
Range 9 East, Township 4 North of the GS & R meridian at Arizona
Coordinate system Northing 743926.7 and easting 650758.8

To a point (point 10) in the northwest of the northeast of Section 33,
Range 9 East, Township 4 North of the GS & R meridian at Arizona
Coordinate system Northing 743922.9 and easting 649898.8

To a point (point 11) in the northwest of the northeast of Section 33,
Range 9 East, Township 4 North of the GS & R meridian at Arizona
Coordinate system Northing 743543.9 and easting 649897.6

To a point (point 12) in the northwest of the northwest of Section 33,
Range 9 East, Township 4 North of the GS & R meridian at Arizona
Coordinate system Northing 743520.7 and easting 647281.7

To a point (point 13) in the southwest of the southwest of Section 28,
Range 9 East, Township 4 North of the GS & R meridian at Arizona
Coordinate system Northing 744512.8 and easting 649939.6

To a point (point 14) in the southwest of the southwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 745392.3 and easting 646862.4

To a point (point 15) in the southwest of the southwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 745391.8 and easting 646552.4

To a point (point 16) in the southwest of the northwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 747466.7 and easting 646824.3


To a point (point 17) in the southwest of the northwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 747468.8 and easting 646938.8

is exempted as an underground source of drinking water (USDW).

This aquifer exemption is granted in conjunction with the Class III Underground Injection Control permit issued to BHP Copper, for the injection of an acidic solution for the purpose of copper production at the Florence In-Situ Project, Pinal County, Arizona.

This aquifer exemption has no expiration date.

Signed this 1st day of May, 1997.



Alexis Strauss, Acting Director
Water Division, EPA Region 9

EXHIBIT S-2

**NI 43-101 Technical Report Pre-Feasibility Study,
Florence, Pinal County, Arizona
(Provided on CD)**