

NPDES PERMIT NO. NM0031101

FACT SHEET

FOR THE DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

APPLICANT

New Mexico Copper Corporation
Copper Flat Production Well Field
2425 San Pedro NE, Suite 100
Albuquerque, NM 87110

ISSUING OFFICE

U.S. Environmental Protection Agency
Region 6
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DATE PREPARED

March 1, 2012

PERMIT ACTION

Issuance of a first time permit.

RECEIVING WATER – BASIN

Grayback Arroyo – Rio Grande Basin

DOCUMENT ABBREVIATIONS

In the document that follows, various abbreviations are used. They are as follows:

4Q3	Lowest four-day average flow rate expected to occur once every three-years
BAT	Best available technology economically achievable
BCT	Best conventional pollutant control technology
BPT	Best practicable control technology currently available
BLM	Bureau of land management
BMP	Best management plan
BOD	Biochemical oxygen demand (five-day unless noted otherwise)
BPJ	Best professional judgment
CBOD	Carbonaceous biochemical oxygen demand (five-day unless noted otherwise)
CD	Critical dilution
CFR	Code of Federal Regulations
cfs	Cubic feet per second
COD	Chemical oxygen demand
COE	United States Corp of Engineers
CWA	Clean Water Act
DMR	Discharge monitoring report
ELG	Effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FWS	United States Fish and Wildlife Service
FCB	Fecal coliform bacteria
mg/l	Milligrams per liter
ug/l	Micrograms per liter
MGD	Million gallons per day
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMIP	New Mexico NPDES Permit Implementation Procedures
NMWQS	New Mexico State Standards for Interstate and Intrastate Surface Waters
NPDES	National Pollutant Discharge Elimination System
MLQ	Minimum quantification level
O&G	Oil and grease
POTW	Publically Owned Treatment Works
RP	Reasonable potential
SIC	Standard industrial classification
s.u.	Standard units (for parameter pH)
SWQB	Surface Water Quality Bureau
TDS	Total dissolved solids
TMDL	Total maximum daily load
TRC	Total residual chlorine
TSS	Total suspended solids
UAA	Use attainability analysis
USGS	United States Geological Service
WLA	Wasteload allocation
WET	Whole effluent toxicity
WQCC	New Mexico Water Quality Control Commission
WQMP	Water Quality Management Plan
WWTP	Wastewater treatment plant

I. CHANGES FROM THE PREVIOUS PERMIT

This is a first time permit.

II. APPLICANT LOCATION and ACTIVITY

The New Mexico Copper Corporation (NMCC) site is located in Sierra County, approximately eight miles east of the town of Hillsboro, NM. The area, on BLM land, was once a copper mine started in 1982. Low copper prices led to its closure after only three months of production. Under the SIC Code 1021, this category includes establishments primarily engaged in mining, milling, or otherwise preparing copper ores including operations primarily engaged in the recovery of copper concentrates by precipitation and leaching of copper ore.

NMCC is planning on discharging water well discharges to evaluate the impact of water well withdrawals on existing wells. The pump rates for the test will be at much higher pumping rates than what would be needed for the actual copper mine operation. The project will require approximately two-weeks of pumping at 1.5 MGD per well using two wells, to determine if the wells can provide sufficient water volume to provide needed water volume for a future copper mine. Approximately 49 million gallons total will be discharged for the twelve days of anticipated testing; equivalent to 150 acre-feet of water. The well test is to also determine if the water usage will impact existing wells currently in the area not associated with the planned copper mine. The draft permit is not for any operations of a copper mine; it is only for the evaluation of water well supply and their associated impacts on existing wells.

The flow rate will be reduced by erosion control structures to minimize velocity impacts on the streambed and reduce sediment disturbance. Other than this the discharge will not be treated with any treatment structure and/or chemical process. The discharge from the site will be to Grayback Arroyo thence after 1.7 miles it enters Greenhorn Arroyo thence after 3.2 miles flows into Caballo Reservoir. The discharge from Outfall 001 is located at Latitude 32° 57' 42" North, Longitude 107° 22' 22" West.

III. EFFLUENT CHARACTERISTICS

Pollutant data was provided as part of the NPDES application for well MW-9. MW-9 is not included in the four well project; it is approximately 0.6 miles north of the project but produces water from the same Santa Fe Aquifer as the test wells; 300 feet depth to water column. The permit writer believes that the constituents of MW-9 are representative of the four wells and this data will be used to determine RP against state WQS. Additionally the permit drafter believes that metals are the only reasonable pollutants of concern considering that the remote area is not now nor was it ever the site of industrial activities that would have lead to organic pollution reaching the groundwater zone. Pollutant data was analyzed for metals that have listed state criteria, showing dissolved forms metals except for mercury; which was reported as total. Non detect is shown as ND.

Pollutant	ug/l	Pollutant	ug/l
Aluminum	ND	Nickel	ND
Beryllium	ND	Silver	ND
Boron	48	Vanadium	ND
Cadmium	ND	Zinc	48
Chromium	ND	Antimony	ND

Cobalt	ND	Arsenic	4.1
Copper	ND	Selenium	ND
Lead	ND	Thallium	ND
Manganese	ND	Uranium	1.3
Molybdenum	ND	Mercury (Total)	0.2

Consistent with permitting procedures in the state, the operator will be required to submit a sample for all applicable pollutants typically required in NMED NPDES permit applications for industrial dischargers when the first discharge from Outfall 001 is sampled as soon as access to the site allows.

Discharges from industrial facilities for permits issued to protect NMWQS need to analyze at a minimum certain human health pollutants. The list is shown below in the toxics section of this document; V.C.4.(b).

IV. REGULATORY AUTHORITY/PERMIT ACTION

In November 1972, Congress passed the Federal Water Pollution Control Act establishing the NPDES permit program to control water pollution. These amendments established technology-based or end-of-pipe control mechanisms and an interim goal to achieve “water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water,” more commonly known as the “swimmable, fishable” goal. Further amendments in 1977 of the CWA gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry and established the basic structure for regulating pollutants discharges into the waters of the United States. In addition, it made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. Regulations governing the EPA administered NPDES permit program are generally found at 40 CFR §122 (program requirements & permit conditions), §124 (procedures for decision making), §125 (technology-based standards) and §136 (analytical procedures). Other parts of 40 CFR provide guidance for specific activities and may be used in this document as required.

It is proposed that the permit be issued for a 2-year term following regulations promulgated at 40 CFR §122.46(c) which states: “The Director may issue any permit for a duration that is less than the full allowable term...”

V. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

A. OVERVIEW OF TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Regulations contained in 40 CFR §122.44 require that NPDES permit limits are developed that meet the more stringent of either technology-based effluent limitation guidelines, numerical and/or narrative water quality standard-based effluent limits, or the previous permit.

Water quality-based effluent limitations are established in the proposed draft permit for pH.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

1. General Comments

Regulations promulgated at 40 CFR §122.44 (a) require technology-based effluent limitations to be placed in NPDES permits based on ELGs where applicable, on BPJ in the absence of guidelines, or on a combination of the two. In the absence of promulgated guidelines for the discharge, permit conditions may be established using BPJ procedures. EPA establishes limitations based on the following technology-based controls: BPT, BCT, and BAT. These levels of treatment are:

BPT - The first level of technology-based standards generally based on the average of the best existing performance facilities within an industrial category or subcategory.

BCT - Technology-based standard for the discharge from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and O&G.

BAT - The most appropriate means available on a national basis for controlling the direct discharge of toxic and non-conventional pollutants to navigable waters. BAT effluent limits represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

2. Effluent Limitation Guidelines

There are no ELG's established at 40 CFR for this type of facility. The draft permit does not establish any technology-based pollutant permit limits since the pollutants of concern all have water quality criteria. Flow reporting requirements are established consistent with technology-based considerations.

C. WATER QUALITY BASED LIMITATIONS

1. General Comments

Water quality based requirements are necessary where effluent limits more stringent than technology-based limits are necessary to maintain or achieve federal or state water quality limits. Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on federal or state WQS. Effluent limitations and/or conditions established in the draft permit are in compliance with applicable State WQS and applicable State water quality management plans to assure that surface WQS of the receiving waters are protected and maintained, or attained.

2. Implementation

The NPDES permits contain technology-based effluent limitations reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations and/or conditions are included in the NPDES permits. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other available toxicity information to determine the

adequacy of technology-based permit limits and the need for additional water quality-based controls.

3. State Water Quality Standards

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC amended through January 14, 2011).

General criteria are applicable as specified in 20.6.4.13 NMAC. Human health-organism only criteria for toxic pollutants, as identified in Subsection J of 20.6.4.900 NMAC are applicable as specified in Subsection G of 20.6.4.11 NMAC (i.e., only human health criteria for persistent pollutants are applicable). Both Grayback Arroyo and Greenhorn Arroyo are unnamed tributaries of Caballo reservoir. The Grayback Arroyo and Greenhorn Arroyo would be designated as Segment 20.6.4.98 (NMAC), with designated uses of livestock watering, wildlife habitat, primary contact and marginal warmwater aquatic life. General criteria of 20.6.4.13 NMAC apply. All human health criteria of 20.6.4.900 (whether persistent or not) apply to 20.6.4.98 (see Subsection G of 20.6.4.11 NMAC).

4. Permit Action - Water Quality-Based Limits

Regulations promulgated at 40 CFR §122.44(d) require limits in addition to, or more stringent than effluent limitation guidelines (technology based). State WQS that are more stringent than effluent limitation guidelines are as follows:

a. pH

Criteria for pH is listed in 20.6.4.900.H.(6) for marginal warmwater aquatic life within the range of 6.6-9.0 su's. The draft permit will establish limitations for pH of 6.6 to 9.0 su for Outfall 001.

b. TOXICS

i. General Comments

The CWA in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR §122.44 (d) state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criteria, the permit must contain an effluent limit for that pollutant.

ii. Reasonable Potential - Toxics

Pollutant testing from MW-9 was provided by the applicant. The data shown above was evaluated for the Caballo Reservoir which according to the NMIP allows no mixing zone; the discharge must meet end-of-pipe applicable criteria. This would also be the requirements for discharge into either Grayback Arroyo and/or Greenhorn Arroyo as they have no low flow. The RP determinations based on the pollutant testing provided are in attached Appendix 1 of the fact sheet. Based on the results seen in Appendix 1, the data does not show any RP for the tested pollutants. The permit will not establish limits for the protection of water quality criteria based on this result.

5. Monitoring Frequency for Limited Parameters

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity, 40 CFR §122.48(b), and to assure compliance with permit limitations, 40 CFR §122.44(i)(1). Sample frequency is based on the March 15, 2012, NMIP.

Monitoring requirements for all parameters shall be once per month when discharging. The permit term is for a maximum of two (2) years. Since there are no mass load limits, flow may be estimated, using sound analytical methods such as pump flow rate charts. Grab samples shall be used for all pollutants. The following pollutants need to be sampled, analyzed and reported on the first discharge. A reopener clause will allow the permits to be reopened and additional limitations placed in the permit if these results indicate that a reasonable potential exists to exceed applicable WQS. Those pollutants are: Antimony (dissolved (D)), Arsenic (D), Nickel (D), Selenium (D), Thallium (D), Zinc (D), Cyanide, weak acid dissociable, 2,3,7,8-TCDD (Dioxin), Acrolein, Acrylonitrile, Benzene, Bromoform, Carbon Tetrachloride, Chlorobenzene, Chlorodibromomethane, Chloroform, Dichlorobromomethane, 1,2-Dichloroethane, 1,1-Dichloroethylene, 1,2-Dichloropropane, 1,3-Dichloropropene, Ethylbenzene, Methyl Bromide, Methylene Chloride, 1,1,2,2-Tetrachloroethane, Tetrachloroethylene, Toluene, 1,2--trans-Dichloroethylene, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl Chloride, 2-Chlorophenol, 2,4-Dichlorophenol, 2,4-Dimethylphenol, 2-Methyl-4, 6-Dinitrophenol, 2,4-Dinitrophenol, Pentachlorophenol, Phenol, 2,4,6-Trichlorophenol, Acenaphthene, Anthracene, Benzidine, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis (2-chloroethyl) Ether, Bis (2-chloroisopropyl) Ether, Bis (2-ethylhexyl) Phthalate, Butyl Benzyl Phthalate, 2-Chloronaphthalene, Chrysene, Dibenzo(a,h)anthracene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 3,3-Dichlorobenzidine, Diethyl Phthalate, Dimethyl Phthalate, Dibutyl Phthalate, 2,4-Dinitrotoluene, 1,2-Diphenylhydrazine, Fluoranthene, Fluorene, Hexachlorobenzene, Hexachlorobutadiene, Hexachlorocyclopentadiene, Hexachloroethane, Indeno (1,2,3-cd)Pyrene, Isophorone, Nitrobenzene, n-Nitrodimethylamine, n-Nitrosodi-n-Propylamine, n-Nitrosodiphenylamine, Pyrene, 1,2,4-Trichlorobenzene, Aldrin, Alpha-BHC, Beta-BHC, Gamma-BHC, Chlordane, 4, 4'-DDT and derivatives, Dieldrin, Alpha-Endosulfan, Beta-Endosulfan, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs and Toxaphene.

D. WHOLE EFFLUENT TOXICITY LIMITATIONS

Procedures for implementing WET terms and conditions in NPDES permits are contained in the NMIP, March 15, 2012. Table 12; Lakes, Reservoirs and Playas, of Section V of the NMIP outlines the type of WET testing for different types of discharges. The facility will be required to do a one-time acute test for *Daphnia pulex* and *Pimephales promelas* prior to discharge. Issuance of the permit is conditioned on passing both species. For the draft permit development, the facility performed WET tests using water from MW-9. Reasonable potential for an excursion of the narrative criterion to protect the aquatic life against toxicity does not exist because lethal (acute test) toxic events were not demonstrated on MW-9 well water. During the period beginning the effective date of the permit and lasting through the expiration date of the permit, the permittee is authorized to discharge from Outfall 001 - the discharge to Grayback Arroyo thence Greenhorn Arroyo thence Caballo Reservoir. Discharges shall be limited and monitored by the permittee as specified below after access to the permitted wells allows:

The proposed permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests based on a 0.75 dilution series. These additional effluent concentrations shall be 32%, 42%, 56%, 75%, and 100%. The low-flow effluent concentration (critical low-flow dilution) is defined as 100% effluent.

Discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTIC</u>	<u>DISCHARGE MONITORING</u>	
	<u>30-DAY AVG MINIMUM</u>	<u>48-HOUR MINIMUM</u>
Whole Effluent Toxicity Testing (48-Hour Static Renewal) (*1)		
<i>Daphnia pulex</i>	REPORT	REPORT
<i>Pimephales promelas</i>	REPORT	REPORT

<u>EFFLUENT CHARACTERISTIC</u>	<u>MONITORING REQUIREMENTS</u>	
	<u>FREQUENCY</u>	<u>TYPE</u>
Whole Effluent Toxicity Testing (48-Hour Static Renewal) (*1)		
<i>Daphnia pulex</i>	Once/term	Grab
<i>Pimephales promelas</i>	Once/term	Grab

Footnote:

*1 Monitoring and reporting requirements begin on the effective date of this permit. See Part II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.

VI. 303(d) LIST

Grayback and Greenhorn Arroyo are not on the 2010-2012 State of New Mexico Integrated List for impaired waterbody’s. They are however tributaries of Caballo Reservoir and that waterbody is listed. Caballo Reservoir, Stream Segment No. 20.6.4.104, Assessment Unit ID: NM-2102.B_00, is listed in the 2010-2012 State of New Mexico Integrated List as not supporting the warmwater aquatic life designated uses. The probable causes are mercury in fish tissue. The probable sources of impairment are thought to be atmospheric deposition. The discharge from the site does have mercury but not in quantities that exhibit RP to exceed water quality criteria. The short term test will not require additional permit requirements since the quantity of mercury is known and the procedure awaiting a completed TMDL when the pollutant is present but not in sufficient quantities to get a chemical specific limit is monitoring.

VII. ANTIDegradation

The NMAC, Section 20.6.4.8 “Antidegradation Policy and Implementation Plan” sets forth the requirements to protect designated uses through implementation of the State water quality standards. The limitations and monitoring requirements set forth in the proposed permit are developed from the State water quality standards and are protective of those designated uses. Furthermore, the policy sets forth the intent to protect the existing quality of those waters, whose quality exceeds their designated use. The permit requirements and the limits are protective of the assimilative capacity of the receiving waters, which is protective of the designated uses of that water, NMAC Section 20.6.4.8.A.2.

VIII. ENDANGERED SPECIES CONSIDERATIONS

According to the most recent county listing available at USFWS, Southwest Region 2 website, <http://ifw2es.fws.gov/EndangeredSpecies/lists/>, eight species in Sierra County are listed as endangered (E) or threatened (T). They are the Black-footed ferret (E) (*Mustela nigripes*), Chiricahua leopard frog (T) (*Rana chiricahuensis*), Gila trout (T) (*Oncorhynchus gilae*), Mexican spotted owl (T) (*Strix occidentalis lucida*), northern aplomado falcon (E) (*Falco femoralis septentrionalis*), Rio Grande silvery minnow (E) (*Hybognathus amarus*), southwestern willow flycatcher (E) (*Empidonax traillii extimus*), and the Todsen's pennyroyal (E) (*Hedeoma todsenii*). The American bald eagle (*Haliaeetus leucocephalus*) was previously listed as endangered; however, the USFWS removed the American bald eagle in the lower 48 states from the Federal List of Endangered and Threatened Wildlife Federal Register, July 9, 2007, (Volume 72, Number 130).

The BLM has published for comment on February 27, 2012, an Environmental Assessment and made a Finding of No Significant Impact (FONSI), for activities related to the Copper Flat well test project including the actual water pumping. The EA # NM-030-2011-233 is on the BLM's website at http://www.blm.gov/nm/st/en/fo/Las_Cruces_District_Office/LCDO_NEPA.html and comments are due by March 26, 2012. The EPA will not issue the final permit without first securing any additional requirements BLM provides as part of its completion of issuing the FONSI after its public comments have been reviewed.

IX. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The issuance of the permit should have no impact on historical and/or archeological sites since no construction activities are planned in the issuance.

X. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if State Water Quality Standards are promulgated or revised. In addition, if the State amends a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that TMDL. Modification of the permit is subject to the provisions of 40 CFR §124.5.

XI. VARIANCE REQUESTS

No variance requests have been received.

XII. CERTIFICATION

The permit is in the process of certification by the State Agency following regulations promulgated at 40 CFR 124.53. A draft permit and draft public notice will be sent to the District Engineer, Corps of Engineers; to the Regional Director of the U.S. Fish and Wildlife Service and to the National Marine Fisheries Service prior to the publication of that notice.

XIII. FINAL DETERMINATION

The public notice describes the procedures for the formulation of final determinations.

XIV. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION(s)

EPA Application Form 2D received October 31, 2011.

Amended application information received March 15, 2012; revised permit flow information and revised MW-9 pollutant data.

B. 40 CFR CITATIONS

Citations to 40 CFR are as of February 17, 2012.

Sections 122, 124, 125, 133, 136

C. STATE OF NEW MEXICO REFERENCES

New Mexico State Standards for Interstate and Intrastate Surface Water, 20.6.4 NMAC, as amended through January 14, 2011.

Procedures for Implementing National Pollutant Discharge Elimination System Permits in New Mexico, March 15, 2012.

Statewide Water Quality Management Plan, December 17, 2002.

State of New Mexico 303(d) List for Assessed Stream and River Reaches, 2010 - 2012.