

NPDES PERMIT NO. NM0030180
FACT SHEET

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

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PERMIT ACTION: Proposed re-issuance of the current permit issued May 31, 2009, with an effective date of July 1, 2009, and an expiration date of June 30, 2014.

DATE PREPARED: April 7, 2014

40 CFR CITATION: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations, revised as of January 3, 2014.

CERTIFICATION - The permit is in the process of certification by the State agency following regulations promulgated at 40 CFR Part 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/or to the National Marine Fisheries Service, prior to the publication of that notice.

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

DOCUMENT ABBREVIATIONS:

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

BAT – best available technology economically achievable

BMP – best management plan

BOD – five-day biochemical oxygen demand

BPJ – best professional judgment

CD – critical dilution

CFR – Code of Federal Regulations

cfs – cubic feet per second

CIU – Categorical Industrial User's

COD – chemical oxygen demand

COE – United States Corp of Engineers

CWA – Clean Water Act

DMR – discharge monitoring report

EPA – United States Environmental Protection Agency

ESA – Endangered Species Act

FC – fecal coliform

FWS – United States Fish and Wildlife Service

MGD – million gallons per day

NMAC – New Mexico Administrative Code

NMED – New Mexico Environment Department

NMWQS – New Mexico State Standards for Interstate and Intrastate Surface Waters

NPDES – National Pollutant Discharge Elimination System

ML – minimum quantification level

O&G – oil and grease

POTW – Publicly Owned Treatment Works

RP – reasonable potential

SIC – standard industrial classification

SIU – Significant Industrial User's

su – standard units

SWQB – Surface Water Quality Bureau

TDS – total dissolved solids

TMDL – total maximum daily load

TOC – total organic carbon

TRC – total residual chlorine

TSS – total suspended solids

UAA – use attainability analysis

WET – whole effluent toxicity

WQCC – New Mexico Water Quality Control Commission

WWTP – wastewater treatment plant

I. PROPOSED CHANGES FROM PREVIOUS PERMIT

The changes from the current permit issued May 31, 2009, with an effective date of July 1, 2009, and an expiration date of June 30, 2014, include:

1. Removal of monitoring requirements for dissolved aluminum;
2. Modification of Sediment Control Plan (SCP) conditions to require submittal of approved SCP under the mining permit;
3. Change Reclamation Inspection reporting requirement to be annually and be part of Sediment Control Plan; and
4. Requirements of sampling for effluent characteristics report.

II. APPLICANT ACTIVITY

Under the Standard Industrial Classification (SIC) Code(s) 1221, the applicant operates a postoperative coal mine area. A portion of the mine has received Phase III bond release and the remainder is in Phase II bond release. On-going activities include routine inspection and sampling of monitoring wells and impoundments, vegetative cover sampling, and ground inspections. Activities may also include the breaching or removal of temporary impoundments after sediment control release is obtained.

III. DISCHARGE LOCATION

As described in the application, the Ancho Mine is located in York Canyon, end of N.M. Highway 555, Colfax County, New Mexico. Discharges of mine drainage are to various streams named Salyers Canyon, Ancho Canyon, Gachupin Canyon, Brackett Canyon, and Vermejo River in the Segment No. 20.6.4.309 of Canadian River Basin. Outfall locations and flow information are listed below:

Outfall	Latitude	Longitude	Receiving Stream	Monthly Average Flow (MGD)
004	36° 48' 15"	104° 51' 30"	Ancho Canyon	0.00126
005	36° 48' 15"	104° 51' 30"	Salyers Canyon	0.00014
006	36° 48' 45"	104° 52' 15"	Salyers Canyon	0.00014
007	36° 49' 15"	104° 52' 45"	Salyers Canyon	0.0 (Inactive)
011	36° 47' 45"	104° 51' 00"	Ancho Canyon	0.00551
012	36° 47' 30"	104° 50' 15"	Un-named Canyon	0.0
014	36° 46' 60"	104° 52' 00"	Vermejo River	0.0048
015	36° 47' 15"	104° 52' 00"	Gachupin Canyon	0.0072
016	36° 47' 15"	104° 53' 30"	Gachupin Canyon	0.0
017	36° 47' 15"	104° 53' 30"	Salyers Canyon	0.0
018	36° 47' 15"	104° 53' 60"	Gachupin Canyon	0.00125
019	36° 47' 30"	104° 54' 15"	Gachupin Canyon	0.0
020	36° 47' 30"	104° 54' 15"	Gachupin Canyon	0.0
021	36° 47' 45"	104° 54' 30"	Gachupin Canyon	0.0
022	36° 47' 45"	104° 54' 30"	Gachupin Canyon	0.0
023	36° 47' 60"	104° 54' 45"	Gachupin Canyon	0.0
030	36° 47' 15"	104° 54' 00"	Gachupin Canyon	0.0
031	36° 47' 15"	104° 53' 30"	Gachupin Canyon	0.00012

032	36° 47' 15"	104° 53' 00"	Gachupin Canyon	0.0
033	36° 47' 15"	104° 53' 60"	Gachupin Canyon	0.0
034	36° 46' 30"	104° 52' 30"	Brackett Canyon	0.00038
037	36° 45' 45"	104° 51' 45"	Brackett Canyon	0.00019

IV. RECEIVING WATER USES

The CWA sections 101(a)(2) and 303(c) require water quality standards to provide, wherever attainable, water quality for the protection and propagation of fish, shellfish, wildlife, and recreation in and on the water, functions commonly referred to as “fishable/swimmable” uses. NMED conducted Use Attainable Analyses (UAA) and based on their Hydrology Protocol, has determined that Brackett Canyon, tributary to Brackett Canyon, and Gachupin Canyon are ephemeral streams in the Water Quality Segment No. 20.6.4.97, and therefore their designated uses are livestock watering, wildlife habitat, limited aquatic life and secondary contact. (<http://www.nmenv.state.nm.us/swqb/UAA/HP/index.html>.) The designated uses of Vermejo River in Water Quality Segment No. 20.6.4.309 are domestic water supply, irrigation, high quality coldwater aquatic life, livestock watering, wildlife habitat, and primary contact; and designated uses of Salyers Canyon and Ancho Canyon are, in consistent with the Water Quality Segment No. 20.6.4.98, wildlife habitat, livestock watering, marginal warmwater aquatic life and primary contact.

V. DISCHARGE DESCRIPTION AND OPERATIONS

The permittee submitted information in its application Form 2C dated December 30, 2013. The permittee only reported the total aluminum concentrations in the application. The range of total aluminum concentrations is from 6.1 mg/l to 57.0 mg/l. The new acute WQS for total aluminum ranges from 0.512 mg/l (in a stream of 25 mg/l stream hardness) to 10 mg/l (in a stream of 400 mg/l or above stream hardness).

VI. TENTATIVE DETERMINATION

On the basis of preliminary staff review and after consultation with the State of New Mexico, the EPA has made a tentative determination to reissue the permit for the discharges described in the application.

VII. PROPOSED PERMIT CONDITIONS

The specific effluent limitations and/or conditions can be found in the proposed permit.

VIII. DRAFT PERMIT RATIONALE

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other necessary explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under 40 CFR 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. REASON FOR PERMIT ACTION

The current permit was issued May 31, 2009, with an effective date of July 1, 2009, and an expiration date of June 30, 2014. The permit renewal application was dated December 20, 2013.

It is proposed that the current permit be reissued for a 5-year term following regulations promulgated at 40 CFR 122.46(a).

B. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at 40 CFR 122.44(l)(2)(ii), the draft permit limits are based on either technology-based effluent limits pursuant to 40 CFR 122.44(a) or on State water quality standards and requirements pursuant to 40 CFR 122.44(d), whichever are more stringent.

C. 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 which may include BOD, TSS, 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. Permit Requirements

The Western Alkaline Coal Mining Subcategory addresses drainage from coal mining operations from reclamation areas, brushing and grabbing areas, topsoil stockpiling areas, and regraded areas in the arid and semiarid western United States. Because the permittee has ceased surface mining and claimed that previously surface mined areas are undergoing reclamation, effluent guidelines in 40 CFR Part 434, subpart H are incorporated into the proposed permit. In accordance with the provision in 40 CFR 434.82 (BPT) and 434.83 (BAT), the permittee is required to submit a site-specific Sediment Control Plan (SCP) that is designed to prevent an increase in the average annual sediment yield from pre-mined, undisturbed conditions. Because

the permittee has already had an approved site-specific SCP, the permittee is required only to resubmit updates to EPA. Also, because EPA has relied on the Office of Surface Mining or State Mining Programs agency (Mining Office) to review and approve the SCP under the Surface Mining Control and Reclamation Act (SMCRA) authority, the permittee is required to submit updated SCP approved by the Mining Office and shall keep a copy and any update on site for inspection purposes.

D. WATER QUALITY-BASED EFFLUENT LIMITATIONS/CONDITIONS

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 June 5, 2013). Since the reissuance of the current permit, EPA has approved three hardness-dependent metal standards, aluminum, cadmium, and zinc on April 30, 2012. Therefore, new standards are used for RP screening.

4. Water Quality-based Limits

As mentioned above, the permittee only reported total aluminum concentrations in the application Form 2C and all reported data, with a range from 6.1 mg/l to 57.0 mg/l, have demonstrated RP. EPA proposes to retain the current total aluminum of 0.75 mg/l limitation in the permit unless the permittee provides hardness data, then EPA will recalculate the limitation based on the average hardness data.

The permittee is required to provide effluent characteristics in the Application Form 2C when the permittee submits the application for permit renewal. However, because all the surface mining activities have been ceased and the whole mining areas are under reclamation processes, EPA proposes to allow the permittee based on historic effluent data from the same reclaimed area for reporting purposes. It could be reasonable to believe that any on-going site inspection, monitoring or sampling activities would not contribute new pollutants to the discharges. This approach may also be justified by not requiring WET testing for discharges from reclaimed coal

mine areas. But, after consulting with NMED and in accordance with the NMIP, the permittee is required to collect and analyze samples for the persistent pollutants at each outfall listed in the Table below and report the results in the application for permit renewal if discharge occurs:

POLLUTANT	POLLUTANT	POLLUTANT
Antimony, (D)	Zinc (D)	Dieldrin
Arsenic (D)	Aldrin	2,3,7,8-TCDD
Nickel (D)	Benzo(a)pyrene	Hexachlorobenzene
Selenium (D)	Chlordane	PCBs
Thallium (D)	4,4'-DDT and derivatives	Tetrachloroethylene

The permittee shall sample and analyze, at the minimum, TSS, hardness, and the persistent pollutants listed above when the first discharge occurs at each outfall, respectively. Unless, any of the results demonstrates RP, this will be the last one-time forever effluent characteristics for discharges from those reclaimed areas at this facility. Because the facility has already been in the Phase II bond release stage and discharge data had demonstrated exceedance of WQS for total aluminum, the permittee may have limited control measures to comply with the effluent limitation when discharges occur, EPA is soliciting comments whether to establish a “no discharge” permit condition until the permittee receives their Phase III bond release. Once a site receives the Phase III bond release, the discharge from that site is no longer subject to this NPDES permit requirements.

The monitoring requirements for dissolved aluminum are removed from the permit because new WQS for aluminum are total recoverable aluminum (or listed as total aluminum in the permit).

The whole effluent toxicity (WET) monitoring is not required for discharges from a coal mining reclamation area in accordance with the NMIP.

IX. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if relevant portions of New Mexico’s Water Quality Standards for Interstate and Intrastate Streams are revised, or new State water quality standards are established and/or remanded by the New Mexico Water Quality Control Commission.

The permit may also be reopened and modified if new information is received that was not available at the time of permit issuance that would have justified the application of different permit conditions at the time of permit issuance.

X. IMPAIRED WATER- 303(D) LIST

Vermejo River from Rail Canyon to York Canyon (WQ Segment 20.6.4.309) is not supporting for high quality coldwater aquatic life due to specific conductance and temperature. Probable sources are rangeland grazing, habitat modification and unknown sources and are not likely due to authorized discharges from the reclaimed areas, therefore, no additional limitations are proposed for the discharge.

XI. ANTIDegradation

The New Mexico 20.6.4.8 NMAC "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 are protective of the assimilative capacity of the receiving waters, and are protective of the designated uses of that water.

XII. ANTIBACKSLIDING

The proposed permit is consistent with the requirements to meet Antibacksliding provisions of the Clean Water Act, Section 402(o) and 40 CFR 122.44(l)(2)(i)(B), which state in part that interim or final effluent limitations must be as stringent as those in the previous permit, unless information is available which was not available at the time of permit issuance. All changes of water quality-based effluent limitation are based on information available after the reissuance of the current permit in 2009.

XIII. ENDANGERED SPECIES

In accordance with requirements under section 7(a)(2) of the Endangered Species Act, EPA has reviewed this permit for its effect on listed threatened and endangered species and designated critical habitat. The following species may be present in the Colfax County where the proposed NPDES discharge occurs: southwestern willow flycatcher, black-footed ferret, piping plover, and Arkansas River shiner.

Because the permitting action area does not provide suitable habitats to those species and this permitting action does not contribute to declines of those species, EPA determines that this permit renewal action has no effect on those species.

XIV. VARIANCE REQUESTS

No variance requests have been received.

XV. ADMINISTRATIVE RECORD

The following section is a list of the fact sheet citations to applicable statutory or regulatory provisions and appropriate supporting references to the administrative record required by 40 CFR 124.9:

A. PERMIT(S)

NPDES Permit No. NM0030180 issued May 31, 2009, with an effective date of July 1, 2009, and an expiration date of June 30, 2014.

B. APPLICATION(S)

EPA Application Form 1 and Form 2C received by EPA on January 9, 2014.

C. STATE WATER QUALITY REFERENCES

The general and specific stream standards are provided in "New Mexico State Standards for Interstate and Intrastate Surface Waters," (20.6.4 NMAC, amended through June 5, 2013).

Procedures for Implementing National Pollutant Discharge Elimination System Permits in New Mexico – NMIP, March 15, 2012, Prepared by Permits Section.

XVI. ADDENDUM

Procedures to Develop Water Quality-Based Effluent Limitations

To determine if a pollutant has a reasonable potential to exceed a numeric criteria, the following steady state complete mixing zone model is used:

$$C_d = \{(FQ_a * C_a) + (Q_e * C_e)\} / (FQ_a + Q_e)$$

Where:

C_d = Instream waste concentration

F = Fraction of stream allowed for mixing, as applicable, F = 1.0

C_e = reported pollutant concentration

2.13 = Statistical multiplier, an estimate of the 95th percentile) for either a single available effluent concentration, or a geometric mean of effluent data concentration, as discussed in the EPA Region 6 document titled Effluent Variability Policy, dated September 17, 1991, or the most current revision thereof.

C_a = Ambient stream concentration, if available

Q_e = Wastewater treatment design flow in MGD for municipal facilities, or
 = Average of daily maximum flow in MGD for industrial dischargers

Q_a = For acute aquatic life screening, no dilution, so C_d = C_e * 2.13,
 = For irrigation, chronic aquatic life and livestock watering and wildlife habitat screening, using the 4Q3 low flow, and
 = For human health screening, using the harmonic mean flow.

Some of the metals in the State WQS are based on dissolved concentrations and mean hardness values. The following formulae convert metals reported in total form to dissolved form if criteria are in dissolved form.

LINEAR PARTITION COEFFICIENTS FOR PRIORITY METALS IN STREAMS AND LAKES

METAL	STREAMS		LAKES	
	K _{po}	Alpha (a)	K _{po}	a
Arsenic	0.48 X 10 ⁶	-0.73	0.48 X 10 ⁶	-0.73
Chromium	3.36 X 10 ⁶	-0.93	2.17 X 10 ⁶	-0.27
Copper	1.04 X 10 ⁶	-0.74	2.85 X 10 ⁶	-0.90
Lead	2.80 X 10 ⁶	-0.80	2.04 X 10 ⁶	-0.53
Nickel	0.49 X 10 ⁶	-0.57	2.21 X 10 ⁶	-0.76
Zinc	1.25 X 10 ⁶	-0.70	3.34 X 10 ⁶	-0.68

For the pollutants detected in the discharge, the following relationships are used:

Given the Linear partition coefficient	K_p	$= K_{po} \times TSS^a$
And the Fraction of metal dissolved	C/C_t	$= 1/(1 + (K_p \times 10^{-6} \times TSS))$
Then, the Total metal limit	C_t	$= C_r / (C/C_t)$

Where,

TSS = Total suspended solids concentration found in receiving stream, or in the effluent for intermittent or ephemeral stream, unit in mg/l.

a = found from table above

C_r = Dissolved criteria value, the value used in acute and chronic screening

If the in-stream waste concentration (C_d) is greater than applicable water quality criteria, a water quality-based effluent limitation will be established for the pollutant as follows:

$$C_e = [C_s (FQ_a + Q_e) / Q_e] - C_a (FQ_a / Q_e)$$

Where:

C_e = Allowable daily maximum effluent concentration. Daily average concentrations are calculated as $C_e / 1.5$.

C_s = Applicable water quality standard.

C_a = Ambient stream concentration, if known.

Q_e = Wastewater effluent flow, MGD.

Q_a = Low 4Q3 flow, MGD.

F = Fraction of stream allowed for mixing, as applicable, 1.0.