

**NPDES PERMIT NO. NM0028746  
FACT SHEET**

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

**APPLICANT:** San Juan Coal Company  
San Juan Mine  
P.O. Box 561  
Waterflow, NM 87421

**ISSUING OFFICE:** U. S. Environmental Agency  
Region 6  
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**PERMIT ACTION:** Proposed reissuance of the current National Pollutant Discharge Elimination System (NPDES) permit issued June 30, 2006, with an effective date of August 1, 2006, and an expiration date of December 31, 2010.

**DATE PREPARED:** January 14, 2013

**40 CFR CITATIONS:** Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations, revised as of December 1, 2012.

**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.

**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  
MQL - 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 June 30, 2006, with an effective date of August 1, 2006 and an expiration date of December 31, 2010 are:

1. Remove TSS, arsenic, copper, selenium, and zinc limitations and monitoring requirements from Outfall(s) 001, 002, 010, 011, and 012;
2. Remove monitoring requirements for lindane, alpha-endosulfan, beta-endosulfan, endrin, heptachlor, heptachlor epoxide, pentachlorophenol, and toxaphene from Outfall(s) 001, 002, 010, 011, and 012;
3. Change aluminum effluent limitations at Outfalls(s) 001, 002, 010, 011, and 012;
4. Categorize Outfall 006 with Outfalls 007 and 008, and remove monitoring requirements or effluent limitations for aluminum, arsenic, copper, selenium, and zinc from Outfalls 006, 007, and 008;
5. Replace TSS limitations with settleable solids at Outfalls 006, 007, and 008;
6. Remove monitoring requirements for fecal coliform and change effluent limitations for E. coli at Outfall 009;
7. Remove monitoring requirements for zinc and change effluent limitations for aluminum and copper at Outfall 012; and
8. Remove one-time monitoring requirements for human health pollutants at Outfall 012.

## II. APPLICANT ACTIVITY

Under the Standard Industrial Classification (SIC) Code 1221, the applicant operates coal mining. Based on information provided in the application, the facility is no longer mining surface coal, but continues underground coal mining operations. Wastewater generated in the underground coal mining process exists within a closed loop system, therefore is not discharged. The previously surface mined areas are undergoing reclamation. The requirements found in 40 CFR 434, Subpart H (reclamation activities in western alkaline coal mining) have been applied to discharges from reclamation areas.

## III. DISCHARGE LOCATION

As described in the application, the facility is located on NM County Road 6800 in Waterflow, San Juan County, about 16 miles west of Farmington, NM. Discharges are into either Westwater Arroyo in an unclassified stream segment, Shumway Arroyo in Stream Segment 20.6.4.98, or San Juan River in Stream Segment 20.6.4.401 of the San Juan River Basin. Outfall locations and names of receiving stream are listed below:

	Latitude	Longitude	Receiving Water
001	36°48'51"	108°25'49"	Westwater Arroyo
002	36°48'33"	108°25'42"	Westwater Arroyo
006	36°47'58"	108°25'42"	Shumway Arroyo

007	36°47'49"	108°25'44"	Shumway Arroyo
008	36°47'32"	108°25'50"	Shumway Arroyo
009	36°47'29"	108°25'50"	Shumway Arroyo
010	36°47'15"	108°25'43"	Shumway Arroyo
011	36°46'43"	108°25'28"	Shumway Arroyo
012	36°45'23"	108°24'50"	San Juan River

#### IV. RECEIVING WATER USES

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 November 20, 2012). The designated uses of San Juan River in Stream Segment 20.6.4.401 are municipal and industrial water supply, irrigation, livestock watering, wildlife habitat, primary contact, marginal coldwater aquatic life and warmwater aquatic life. The designated uses for Westwater Arroyo and Shumway Arroyo, non-perennial waterbodies, in Stream Segment 20.6.4.98 are designated as livestock watering, wildlife habitat, primary contact, and marginal warmwater aquatic life.

#### V. DISCHARGE DESCRIPTION AND OPERATIONS

The facility submitted information in its application Form 2C received by EPA on July 7, 2010 and additional information was received by the EPA on January 21, 2011, March 7, 2011, December 13, 2011, and November 12, 2012 that describe the nature of the potential discharges from the facility. The permittee identifies that discharges at Outfalls 001, 002, 010, 011, and 012 are associated with reclamation areas; discharges at Outfall 006, 007, and 008 are associated with buildings and some disturbed areas; and Outfall 009 is associated with sewage collection. There are 8 retention ponds at the facility which were designed for control of a 100-year, 6-hour storm event.

#### 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 will 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 June 30, 2006, with an effective date of August 1, 2006, and an expiration date of January 31, 2010. The permit renewal application was received June 7, 2010, and additional material was submitted January 21, 2011, March 7, 2011, December 13, 2011, and November 12, 2012.

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 that 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 above ground areas previously surface mined 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 SCP requirements were established in the expired permit, the permittee is not required to resubmit another copy of SCP, rather the permittee shall keep a copy and any update on site for inspection. Previous technology-based TSS effluent limitations for post-mining drainage are removed from Outfalls 001, 002, 010, 011, and 012.

Outfall 006 has been identified as containing wastewater discharges resulting from precipitation falling on a coal stockpile area. Outfalls 007 and 008 are discharges of precipitation falling on Ready Line area or precipitation falling on maintenance building, administration office, and parking areas. Because precipitations falling on these areas will be collected in sedimentation and evaporation ponds, and discharges will occur only when runoffs exceed a 10-year storm event, effluent guideline limitations in accordance with 40 CFR 434.63 for settleable solids and pH are proposed in this permitting action.

Outfall 009 is designated for discharge of sanitary wastewater, so effluent limitations of BOD and TSS pursuant to the secondary treatment effluent guideline limitations (40 CFR 133.102) as BPJ-based limitations are retained from the expired permit.

#### 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 January 14, 2011). EPA 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

There have been no continuous discharges so analytical results for samples collected during the years 2009 through 2011 were used to screen against the new WQS. WQ-based effluent limitations are proposed based on new calculated reasonable potential. For discharges to Westwater Arroyo or Shumway Arroyo, applicable water quality criteria apply at end-of-pipe with a default 4Q3 low flow at 0.0 cubic feet per second (cfs).

## (a) Toxics

Standards require that the discharge protect acute aquatic toxicity in all reaches. Acute aquatic life criteria apply at the end-of-pipe, at the critical dilution is 100%, without dilution. In order to implement this WQS, the end-of-pipe discharge will have to meet applicable standards. The default 4Q3 low flow of 0.001 cfs was used to calculate other standards. However, because discharges were associated with storm events and the facility has retention ponds with design capacities for a 100-year, 6-hour storm event, EPA determines that impacts on receiving streams would likely be temporary and acute. EPA determines to establish applicable WQS as both the daily maximum and monthly average limitations at the end-of-pipe. Because Outfall 012 is to San Juan River, stream data (i.e., 350 mg/l of TSS, 152.71 mg/l of hardness, and 475.85 cfs of 4Q3 low flow) used in 2006 RP screening were used for this RP screening. For discharges to Westwater or Shumway Arroyo, the effluent total suspended solids (TSS) were used to calculate the partition coefficients for metals to convert total metals to dissolved metals, and vice versa, if applicable. The hardness reported for WET test samples were used to calculate hardness-dependent criteria. The following data were reported in the application:

Sampling Date	12/08/09	03/11/10	03/11/10
Outfall No.	008	012	002
Pond No.	11	S-2	2
TSS (mg/l)	191	2710	72
Hardness (mg/l as CaCO <sub>3</sub> )	363	---	170 (sample collected on 3/19/10)
Aluminum (mg/l)	ND	58.7*	9.5*
Arsenic (mg/l)	ND	---	0.006
Copper (mg/l)	ND	0.09*	0.02
Selenium (mg/l)	ND	---	ND
Zinc (mg/l)	ND	0.26	0.05
Gross Alpha (pCi/l)	5.1	---	36.7*

Supplemental information received by EPA on November 16, 2012, includes effluent data from Outfalls 001 and 010 as shown below:

Sampling Date	10/22/10	08/23/12
Outfall No.	010	001
TSS (mg/l)	3480	222
Hardness (mg/l as CaCO <sub>3</sub> )	92	92 (Shumway sample collected on 08/23/12)
Aluminum (mg/l)	2700*	263
Arsenic (mg/l)	ND	0.001
Copper (mg/l)	ND	0.0045
Selenium (mg/l)	ND	ND

Zinc (mg/l)	ND	ND
Gross Alpha (pCi/l)	43.9*	2.1

\* Value has demonstrated RP

The RP screenings demonstrated that discharges exceeded aluminum and gross alpha WQS at Outfall 002, exceeded aluminum and gross alpha WQS at Outfall 010, and exceeded aluminum and copper WQS at Outfall 012, respectively. Due to the same nature and property of discharges from reclamation areas, the same WQ-based effluent limitations established at Outfall 002 and 010 also apply at Outfalls 001 and 011.

Parameter (Total)	Outfalls 001, 002, 010 & 011		Outfall 012	
	Daily Max./Monthly Avg.		Daily Max./Monthly Avg.	
Aluminum (mg/l)	7.07/7.07		6.11/6.11	Acute Aquatic Life
Alpha, Gross (pCi/l)	15 / 15 pCi/l		NA	Livestock Watering
Copper (mg/l)	NA		0.115/0.115	Acute Aquatic Life

Other WQ-based metal limitations in the expired permit are proposed to be removed because of no RP.

A one-time testing requirement for human health-related pollutants at Outfall 012 was established in the expired permit. The permittee has provided analytical results for human health pollutants and results showed those pollutants were not detected in the waters. Therefore, the proposed permit renewal does not include human health pollutants screening.

Because analytical results from Outfall 008 demonstrated no RP, no WQ-based effluent limitations for toxic pollutants are proposed.

(b) Bacteria

EPA had the limitations and monitoring requirements for fecal coliform bacteria in the expired permit because fecal coliform was the approved bacteria in the NM WQS when EPA reissued the permit in 2006. The expired permit required the permittee monitor both fecal coliform and E. coli bacteria until the approval of the E. coli bacteria standards, then the permittee might discontinue fecal coliform monitoring after the approval of E. coli bacteria standards. Because E. coli standards have been approved, the monitoring requirements for fecal coliform are removed from the draft permit. E. coli limitations in the expired permit were based on the State WQS listed in 20.6.4.97 NMAC for E. coli bacteria, requiring the monthly geometric mean to be 548 colony forming units (cfu)/100 ml or less; single sample 2507 cfu/100 ml or less. The E. coli bacteria criteria for State Water Segment 20.6.4.98 are the monthly geometric mean to be 206 colony forming units (cfu)/100 ml or less; single sample 940 cfu/100 ml or less. These standards apply at Outfall 009. The permit establishes a 6-month compliance schedule for the facility to comply with the new limitations.

(c) Other Conditions

The Colorado River Salinity Control Forum's Policy for Implementation of Colorado River Salinity Standards through the NPDES Permit Program (Policy) was adopted February 28,

1977 by the State. Pursuant to the Policy that the permit establishes daily limitation of 2,000 pounds of total dissolved solids.

The prohibition of the discharge of floating solids or visible foam in other than trace amounts is established in the permit.

Daily maximum chemical oxygen demand (COD) of 125 mg/l is retained from the existing permit and pH range of 6 to 9 standard units for discharges to ephemeral streams and 6.6 to 9.0 for discharge to San Juan River are based on the NMWQS.

(d) Schedule of Compliance

Part I.B of the draft permit establishes a schedule of compliance for six-months for compliance with E-coli limitations. A compliance schedule for aluminum, copper and gross alpha is not provided because the new effluent limitations are less stringent than the previous limitations in the expired permit.

(e) Monitoring Frequencies for Limited Parameters

The monitoring frequency remains 1/day for WQ-based limitations when discharge occurs.

5. Aquatic Toxicity Testing

(a) General Comments

The State has established narrative criteria, which in part, state that:

"Surface waters of the State shall be free of toxic substances attributable to discharges in amounts, concentrations or combinations which affect the propagation of fish or that are toxic to humans, livestock or other animals, fish or other aquatic organisms;..." (NM Standards 20.6.4.13 .F)

The Implementation Guidance for NM Standards state that:

"Biomonitoring requirements will be applied to all major dischargers and those minor dischargers with known or potential problems to cause or contribute to exceedances of applicable NM Standards, numeric or narrative water quality criteria in waters with existing or designated fishery uses" (Section V. Narrative Toxics Implementation).

(b) Permit Action

Whole effluent toxicity testing (biomonitoring) is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity.

(c) Testing and Reporting Requirements

OUTFALL 001, 002, 006, 007, 008, 009, 010, 011

Facilities with discharges that qualify as minor industrial and discharge to ephemeral water bodies such as all outfalls listed above will have WET requirements that consist of WET testing for the *Daphnia pulex* test species and a critical dilution of 100%. For outfalls 001, 002, 006, 007, 008, 009, 010, 011, table 11 of the NMIP directs the WET test to be a 48 hour acute test using a once per year frequency.

Because there were no WET testing data from real discharges available during the previous permit term, a 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, WET limits will not be established in the proposed permit.

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.

Since the testing frequencies for the outfall listed in this section is once a year or less, the tests are usually required to test in winter or springtime when most sensitive juvenile life forms are likely to be present in receiving water and colder ambient temperatures might adversely affect treatment processes. This time will generally be defined as between November 1<sup>st</sup> and April 30<sup>th</sup>. However, since discharges at this outfall are so rare, EPA will require WET testing upon first discharge as well as grab samples instead of 24 hour composite samples. Grab samples shall also be taken approximately 30-minutes after the expected time of arrival of the treated water has passed through the outfall.

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, 002, 006, 007, 008, 009, 010, 011- the discharge to Westwater for outfalls 001 and 002 and Shumway Arroyo for outfalls 006, 007, 008, 009, 010 and 011. Discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE MONITORING REQUIREMENTS			
	30-Day Avg MINIMUM	48-Hr. MINIMUM	FREQUENCY	TYPE
Whole Effluent Toxicity Testing (48 Hr. Static Renewal) <u>1/</u>				
<i>Daphnia pulex</i>	REPORT	REPORT	1/Year	Grab

FOOTNOTES

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.

OUTFALL 012

Facilities with discharges that qualify as minor industrial and discharge to perennial water bodies such as all outfall listed above will have WET requirements that consist of WET testing for the *Ceriodaphnia dubia* and *Pimephales promelas* test species at a critical dilution of 100%. For outfall 012, table 11 of the NMIP directs the WET test to be an acute test using a once per 6 months frequency since a WET limit will be carried over from the previous permit.

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.

Since discharges at this outfall are so rare, EPA will require WET testing upon first discharge during the monitoring period as well as grab samples instead of 24 hour composite samples. Grab samples shall also be taken approximately 30-minutes after the expected time of arrival of the treated water has passed through the outfall.

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 012 - the discharge to San Juan River. Discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE MONITORING REQUIREMENTS			
	30-Day Avg MINIMUM	48-Hr. MINIMUM	FREQUENCY	TYPE
Whole Effluent Toxicity (PCS 22414) (48 Hr. Static Renewal) <u>1/</u>	100%	100%		
<i>Daphnia pulex</i>	REPORT	REPORT	1/6 Mo	Grab
<i>Pimephales promelas</i>	REPORT	REPORT	1/6 Mo	Grab

FOOTNOTES

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.

IX. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if relevant portions of the State WQS are revised or remanded. In addition, the permit may be reopened and modified during the life of the permit if relevant procedures implementing the Water Quality Standards are either revised or promulgated by the State. This permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that approved State standards in accordance with 40 CFR 122.44(d). Modification of the permit is subject to the provisions of 40 CFR 124.5.

## X. IMPAIRED WATER- 303(D) LIST

Both Westwater Arroyo and Shumway Arroyo are not listed in State 2012-2014 303(d) impaired water list. Therefore, no additional requirements to what has been addressed in Section VIII above are proposed based on 303(d) information. San Juan River, at the segment between Navajo boundary at Hogback to Animas River, are not supporting marginal coldwater fishery and primary contact, and the probable causes of impairment are E. coli, sedimentation/siltation, and turbidity. Water quality criteria for bacteria are established at the end-of-pipe as described above. The facility is also required to implement a sediment control plan to reduce discharge of sediment. The permit conditions shall be protective to the receiving water prior to the development of total maximum daily load (TMDL) for the facility.

## 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 40CFR122.44(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 expired permit in 2006.

## 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. According to the most recent county listing of species, for the State of New Mexico as listed on website <http://www.fws.gov/southwest/es/NewMexico/SBC.cfm>, the following species may be present in the county where the proposed NPDES discharge occurs: southwestern willow flycatcher, Colorado pikeminnow, razorback sucker, black-footed ferret, Knowlton cactus, Mancos milk-vetch, Mexican spotted owl, and Mesa Verde cactus. The US Fish and Wildlife Service (FWS) delisted bald eagle from the Federal threatened and endangered species list since prior issuance of the expired permit in 2010.

During the reissuance of this permit in 2000, EPA conducted consultation with the FWS (Cons. #2-22-99-I-172) on four dischargers, which were Bloomfield School, Central School, Harper Valley, and San Juan Coal. The FWS concluded in a letter dated September 6, 2000, that

“Therefore after reevaluation of the BE and the supplemental information provided by the EPA, the Service concurs with the EPA determination that the reissuance of the NPDES permit for ...San Juan Coal “may affect, but is not likely to adversely affect” the Colorado pikeminnow, razorback sucker, southwestern willow flycatcher, and the bald eagle; and “will not destroy or adversely affect” the critical habitat of the pikeminnow or razorback sucker.”

To continue to address the US Fish and Wildlife Service’s concern about bioaccumulate toxics, the proposed permit retains a narrative condition: “No discharge shall contain any substance, including but not limited to selenium, DDT, PCB’s and dioxin, at a level which, when added to background concentration, can lead to bioaccumulation to toxic levels in any animal species.”

EPA has evaluated “effects” analyses which were driven by the FWS to the consultation conclusion and concluded that the reissuance of the permit does not change the environmental baselines used to reach that conclusion. Based on information available to EPA, the reissuance of the proposed permit will not change the following “effects” analyses baselines:

#### Effects to Colorado Pikeminnow and Razorback Sucker

“Although the pikeminnow can migrate up to 180 miles, it is unlikely they will reach the Farmington area (action area) since there are at least four diversion dams on the San Juan River between Shiprock and Farmington that do not have fish passage structures and are likely to block upstream migration of the species.”

“These [razorback suckers] spawning locations are located a minimum of 65 miles from the nearest upstream discharge point (San Juan Coal).”

“Based on the relatively long distances (5-38 miles upstream) of the four discharges upstream from the razorback sucker critical habitat, it appears very unlikely that any adverse effects to critical habitat will occur from the proposed permits.”

“The mixing zones of each discharge are very small, and in relation to the extent of the pikeminnow (180 miles) critical habitat.”

“The reissuance of the four permits will not cause adverse effects on aquatic species including Colorado pikeminnow and razorback sucker food supply (insects, crustaceans, and fish), since the permits contain limitations for the discharges to protect aquatic life. In addition, the requirement of compliance with whole effluent toxicity limitations and biomonitoring testing will ensure that the discharges are not toxic to any aquatic life. ...EPA’s action will not affect changes in the flow regime which might affect the species directly, adversely affect the species by facilitating predation by, or competition from, nonnative fish. The effects of the proposed permits to the pikeminnow, razorback sucker, and their critical habitats will be insignificant and discountable due to the permit requirements, low numbers of these fish species, and dilution of effluents.”

#### Effects to Southwestern Willow Flycatcher and Bald Eagle

“In the general [Farmington] area of the permits, eight flycatchers were located near the

Hogback Diversion, one near Bloomfield, and one in the Retherford Wildlife Area near Blanco. Bald eagles are common in the Navajo Lake (upstream from Farmington) area in winter. Due to the recovery of the bald eagle, it was proposed for delisting on July 6, 1999.”

“Adverse direct effects are not expected from the reissuance of the four permits, since they do not authorize construction activities that might adversely affect the flycatcher or bald eagle or their habitats, and limits the discharge of potentially toxic chemicals and metals. In addition, the effluent limitations were developed to preclude toxic effects to the prey of these bird species. Prey includes insects for flycatchers and fish for bald eagles.”

“In addition, each of these bird species is uncommon in the permit area.”

“The Service has evaluated the aggregate effects to listed species of four recently proposed EPA permit renewals...the Service believes that when permit actions for ...and San Juan Coal are considered together..., the reissued permits will contribute to a slight diminution in adverse cumulative effects to listed species.”

The proposed permit has incorporated the most recently approved NMWQS and has biomonitoring requirement for discharges associated with mine areas to ephemeral/intermittent tributaries of San Juan River. Although the proposed permit has deleted effluent limitations and monitoring requirements for those pollutants which the discharges have no reasonable potential to contribute to a violation of State water quality standards, such changes will unlikely to increase waste loads to receiving streams because the facility has ceased surface mining and is undergoing surface reclamation process and all reclamation ponds have been redesigned for storage capacity increases to a 100-year, 6-hour precipitation event. The proposed has established effluent limitations for pollutants which limited data had demonstrated RP. The reissuance of the NPDES permit will not measurably alter stream morphology, flow pattern, temperatures, water chemistry, or silt loads of the San Juan River. Therefore, the permit will not adversely affect the Colorado pikeminnow or razorback sucker or their critical habitats.

The reissuance of the permit will not adversely affect the southwestern willow flycatcher. The limitations on the effluents will protect the prey species of these birds and not adversely affect their habitats. Flycatchers are also unlikely present in the discharge area, which makes it unlikely that these birds would be adversely affected by the effluents.

Based on information available, EPA concludes that the reissuance of the NPDES permit will have no effect on the baseline of the previous ESA consultation in year 2000.

#### 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. NM0028746 issued June 30, 2006, with an effective date of August 1, 2006, and an expiration date of December 31, 2010.

## B. APPLICATION(S)

EPA Application Form 1 and Form 2C received by EPA on July 7, 2010, and additional information received by the EPA on January 21, 2011, March 7, 2011, December 13, 2011, and November 12, 2012, respectively.

## 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 November 20, 2012).

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

**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<sub>d</sub> = Instream waste concentration

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

C<sub>e</sub> = 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<sub>a</sub> = Ambient stream concentration, if available

Q<sub>e</sub> = Wastewater treatment design flow in MGD for municipal facilities, or  
= Average of daily maximum flow in MGD for industrial dischargers

Q<sub>a</sub> = For acute aquatic life screening, no dilution, so C<sub>d</sub> = C<sub>e</sub> \* 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 <sub>po</sub>	Alpha (a)	K <sub>po</sub>	a
Arsenic	0.48 X 10 <sup>6</sup>	-0.73	0.48 X 10 <sup>6</sup>	-0.73
Chromium	3.36 X 10 <sup>6</sup>	-0.93	2.17 X 10 <sup>6</sup>	-0.27
Copper	1.04 X 10 <sup>6</sup>	-0.74	2.85 X 10 <sup>6</sup>	-0.90
Lead	2.80 X 10 <sup>6</sup>	-0.80	2.04 X 10 <sup>6</sup>	-0.53
Nickel	0.49 X 10 <sup>6</sup>	-0.57	2.21 X 10 <sup>6</sup>	-0.76
Zinc	1.25 X 10 <sup>6</sup>	-0.70	3.34 X 10 <sup>6</sup>	-0.68

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

Given the Linear partition coefficient  
And the Fraction of metal dissolved  
Then, the Total metal limit

$$K_p = K_{po} \times TSS^a$$

$$C/C_t = 1 / (1 + (K_p \times 10^{-6} \times TSS))$$

$$C_t = C_r / (C/C_t)$$

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

Cr = 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.