

US EPA ARCHIVE DOCUMENT

**FACT SHEET**  
**Chevron Mining, Inc. – McKinley Mine**  
NPDES Permit No. NN0029386  
**Final - 2009**

Applicant address: McKinley Mine  
24 miles NW of Gallup on Highway 264  
Gallup, NM 87305

Facility Contact: Marie Shepherd, Environmental Unit Manager  
(505) 371-6289  
MShepherd@chevron.com

Facility Address: P.O. Box 4590  
Gallup, NM 87305

**I. Status of Permit**

Chevron Mining, Inc. (CMI) operates the McKinley Mine which is located approximately 28 miles northwest of Gallup, NM adjacent to New Mexico State Highway # 264 on Indian, Public, and Private Lands.

In 1985, the previous owner, the Pittsburg & Midway Coal Mining Co. (P&M), submitted a NPDES permit application form for the discharge of treated wastewater and stormwater from the McKinley Mine. P & M subsequently submitted a request for a Fundamentally Different Factor (FDF) Variance in accordance with the Clean Water Act (40 CFR Part 125). In the FDF, P & M requested that EPA approve alternative sediment control limits to control runoff and sediment from disturbed areas of the mine site. P & M asserted that the FDF was applicable to the McKinley mine site due to unique conditions at the mine which included low rainfall and naturally high sediment load conditions. EPA never officially responded to this request and has never issued a NPDES permit to the McKinley mine site.

On January 23, 2002, EPA promulgated a new Subpart H – Western Alkaline Coal Mining to the effluent limitations guidelines and standards for the Coal Mining Point Source Category, 40 CFF Part 440. This new subpart applies to alkaline mine drainage at western coal mining operation from reclamation areas, brushing and grubbing areas, topsoil stockpiling area, and regraded areas. The Subpart effectively establishes alternative sediment controls where the operator must establish a Sediment Control Plan that is designed to prevent an increase in the average annual sediment yield from pre-mined undisturbed conditions. This subpart was created specifically for arid and semi-arid coal mining reclamation areas where natural conditions include low rainfall and high sediment loads and where alternative sediment controls are effective.

EPA concluded that the promulgation of the Subpart H- Western Alkaline Coal Mining subcategory effectively addressed all of the factors that were initially part of the FDF request submitted by P&M. Therefore, EPA denied the variance request in a letter dated February 13, 2008 and required that CMI submit a new application to EPA. CMI submitted an application on April 30, 2009 which EPA deemed incomplete. A revised application was submitted on July 2, 2009.

Although the NPDES permit was never issued, the McKinley Mine has been operating under the conditions the facility proposed in the FDF variance request, consisting of a sediment control plan and consistent with the requirements of 30 CFR 816.46(b).

EPA notes that the original permit application was submitted to EPA Region 6 in Dallas, TX which has jurisdiction in Indian lands within New Mexico. Since that time, EPA Region IX has assumed jurisdiction for all NPDES related activities on the Navajo Nation, including areas of New Mexico. While the Mine encompasses private lands within the State of New Mexico, EPA Region 9 has assumed responsibility for the NPDES permit from Region 6 and will be issuing the permit for the McKinley mine.

## **II. Background**

Chevron Mining, Inc. (CMI) operates McKinley Mine which is located approximately 28 miles northwest of Gallup, NM adjacent to New Mexico State Highway #264 on Indian, public, and private lands. Indian lands are regulated by EPA Region IX and public and private lands are regulated by EPA Region VI. This NPDES permit application is being processed cooperatively between the two regions, with EPA Region IX taking the regulatory lead. McKinley Mine has been in operation since the 1960's and is nearing the end of the life-of-mine. The mine will either close at the end of 2009 when mining concludes in Areas 12, 14 and 15, or continue for several more years in Area 16 if market conditions are favorable.

There are four categories of regulated stormwater and process water discharges at McKinley Mine including Facilities Areas, Mining Areas, Reclaimed Lands and Roads. Descriptions of the activities conducted within each of these categories, regulatory references and applicable outfall effluent parameters are described below.

There are two facility areas at McKinley Mine, one located north of NM Highway 264 and the other located south of Highway 264 (Map 2). Primary activities that support the mining and shipping of coal at these two locations include:

- Dumping, temporary stockpiling, crushing (mechanical), transportation on beltlines and storage of coal in silos pending load out on railcars;
- Office buildings;

- Warehousing of supplies and parts both indoors and outdoors;
- Fuel and lubricant storage and dispensing;
- Heavy equipment cleaning and maintenance; and
- Temporary storage of wastes for off-site disposal.

Other than the mechanical crushing of coal listed above, coal processing (i.e., removal of contaminants) is not performed at the facility areas.

At the north facilities well water use is primarily for dust suppression on roads; washing down equipment, tippie and maintenance areas; and domestic purposes. Water for the facility areas is obtained from four groundwater wells completed into the Gallup aquifer. Well nos. 2 and 3A supply water to the north facility area; Well no. 1 supplied water to the south facility when it was being used, but is now used exclusively for road dust suppression; and Well no. 3, located in the CDK area, is also used only for road dust suppression. Activities at the south facilities ceased in 2008 and there is no current use of this area for coal mining purposes by CMI.

Eight Sediment Ponds provide for the treatment of stormwater and process water discharges from the facility areas. Office of Surface Mining Reclamation and Enforcement (OSMRE) approved designs for the Sediment Ponds at the north facilities are contained in Permit No. NM0001J, Volume VIII, Section 4.8; New Mexico Mining and Minerals Division (NMMMD) approved designs for the Sediment Ponds at the south facilities are contained in Permit No. 200602, Volume II, Section 4.7, 4.8, and Hydro Management Volume 2/3, Section 6.0. Six Sediment Ponds at the north facilities treat stormwater runoff and process water discharges. The north facility Sediment Ponds are configured in three series of two Sediment Ponds each. Sediment Pond 2N empties into Sediment Pond 1N (Outfall 001), Sediment Pond 4N empties into Sediment Pond 3N (Outfall 002) and Sediment Pond 6N empties into Sediment Pond 5N (Outfall 003). There are two Sediment Ponds at the south facilities that operate independently of one another: Sediment Pond 6S (Outfall 004) and Sediment Pond 7S (Outfall 005).

The Sediment Ponds at the facilities have been designed and are maintained to treat stormwater runoff from a 10-year, 24-hour precipitation event. Weather stations operated by the mine in the vicinity of the facilities areas document precipitation events and will be used to determine when design storm event criteria are exceeded.

### **III. Receiving Water**

Discharges from the McKinley mine are to receiving waters located on the Navajo Navajo Nation Indian reservation and on private and public lands located in the State of New

Mexico. Receiving waters are to tributaries of the Rio Puerco which include Coal Mine Wash, Defiance Draw, Tse Bonita Wash. The receiving waters within the Navajo Nation have the following designated uses:

Secondary Human Contact (ScHC), Fish Consumption (FC), Aquatic and Wildlife Habitat (A&WHbt), and Livestock and Wildlife Watering (L&W).

Receiving waters within the State of New Mexico have the following designated uses: livestock watering, wildlife habitat, limited aquatic life and secondary contact.

#### **IV. Description of Discharge**

The discharge includes runoff from active mine areas, coal preparation plant areas, and reclamation areas as well as roads and ancillary activities. The discharge meets the definition of “alkaline mine drainage”, defined at 40 CFR Part 434 as having a pH > 6.0 and total iron < 10 mg/L prior to treatment.

Mining areas include those lands where overburden and interburden removal processes are being performed, coal is being or has been removed and backfilling, and grading operations have not yet commenced. There are five distinct areas that are regulated as mining areas under the NPDES effluent criteria including:

- Area 3 where approximately 2,700 feet of pit has been mined out and remains to be backfilled and graded (stormwater runoff is contained in the pit for treatment);
- Area 2B Truck Pit where coal removal is ongoing (stormwater runoff is contained in the pit for treatment);
- Area 14 & 15 where mining is ongoing (stormwater runoff is treated in Sediment Pond 15-1); and
- Area 16 where future mining operations are proposed to occur depending upon market conditions; Stormwater will be treated in Sediment Ponds 16-1 and 16-2 that will be constructed prior to commencement of mining in this area.

Mining areas are regulated under 40 CFR Part 434 Subpart D-Alkaline Mine Drainage conventional pollutant control technology (BCT), as described below.

Of the five mining areas, two of them, Area 3 and Area 2B Truck Pit, contain all stormwater runoff in their pits (Map 2). Area 3 is mined out and is scheduled for backfilling and grading, including reduction of the final highwall. It will become an active reclamation area when backfilling and grading operations have covered the exposed coal seams. At the other four mining areas, three sediment ponds (one existing and two proposed) treat stormwater and process water discharges. These three sediment ponds operate independently and represent the outfalls for their respective mining areas. OSMRE approved designs for the Sediment Ponds at

the north mining areas are contained in Permit No. NM0001J, Volume VIII, Section 4.8.

The Sediment Ponds for mining areas have been designed and are maintained to treat stormwater runoff from a 10-year, 24-hour precipitation event. Weather stations operated by the mine within the permit area document precipitation events and will be used to determine when design storm event criteria are exceeded.

Reclaimed lands at McKinley Mine fall into three regulatory time periods including Pre-Law Lands, Initial Program Lands, and Permanent Program Lands. Reclaimed lands at the mine are covered under 40 CFR Part 434 Subpart H-Western Alkaline Coal Mining. CMI has conducted extensive surface water hydrologic modeling and post-mining topographic and hydrologic reconstruction design work to enable construction of reclaimed lands that will achieve an acceptable level of stability. A variety of stormwater runoff monitoring programs designed to evaluate the validity of the hydrologic modeling and reclamation design work, and provide stormwater runoff data that documents the relative effectiveness of alternate sediment controls used to treat stormwater runoff from reclaimed lands have been conducted. Reclaimed lands included in these modeling, design and monitoring efforts include Initial Program Lands and Permanent Program Lands.

RUSLE, SEDCAD and Natural Regrade with Geofluc design methods have been used to develop post-mining topography and hydrologic control structures for reclaimed areas. The use of these programs has been incorporated and developed by CMI over time as mining and reclamation has progressed. Initial program land designs relied on RUSLE and SEDCAD, while later designs incorporate geofluvial modeling capabilities. The goal of these efforts has been to create a stable landscape where soil detachment averages less than 5 tons per acre per year and drainages are reconstructed that will effectively pass concentrated stormwater runoff through reclaimed lands from various precipitation events as specified by applicable mining and reclamation rules and regulations.

The mine has used a variety of methods and structures to route stormwater runoff onto and through reclaimed lands. These structures and measures include channels designed to pass stormwater runoff from specified precipitation events (unlined, vegetation lined and rip rap lined), loose rock check dams, small depressions, and gradient terraces with rip rap lined drains. The design and construction of these structures has evolved in response to mine site specific conditions, and advances in technology and engineering.

Currently, there are 48 outfall points for active reclamation areas. Of these outfalls, 39 are spillways of impoundments and nine are open drainage channels. The mine has also participated in modeling stormwater runoff flows from reclaimed and undisturbed lands from watersheds of various sizes. These studies have used state-of-the-art design methods and computer programs (i.e., RUSLE, SEDCAD, AutoCAD, etc). These models demonstrate that sediment detachment and transport from reclaimed lands is less than that from undisturbed lands with similar sized watersheds. The effectiveness of design processes used at the mine is documented by the various stormwater runoff monitoring programs that have been conducted

over the years on Initial Program Lands and Permanent Program Lands at the mine. These studies have documented sediment contributions to stormwater runoff from lands undisturbed by mining and reclaimed lands. These studies have been conducted on small, medium, and large sized watersheds designed to allow direct comparisons between reclaimed and undisturbed land effluents. These monitoring programs have shown that stormwater runoff from reclaimed lands entrains lower suspended and settleable solids than that entrained in runoff from undisturbed lands. The studies and monitoring programs that have been used to evaluate sediment contributions to stormwater runoff have been developed in cooperation with the OSMRE and Navajo Nation, with the results being submitted in reports to these agencies for review and approval.

## V. Regulatory Basis of Proposed Effluent Limits

Section 301(a) of the Clean Water Act provides that the discharge of any pollutant to waters of the United States is unlawful except in accordance with an NPDES permit. Section 402 of the Act establishes the NPDES program. The program is designed to limit the discharge of pollutants into waters of the U.S. from point sources (40 CFR 122.1 (b)(1)) through a combination of various requirements including technology-based and water quality-based effluent limitations.

### Technology-based effluent limitations

Under 40 CFR Part 125.3(c)(2), Technology based treatment requirements may be imposed on a case-by-case basis under Section 402(a)(1) of the Act, to the extent that EPA promulgated effluent limitations are inapplicable, i.e., the regulation allows the permit writer to consider the appropriate technology for the category or class of point sources and any unique factors relating to the applicant.

The discharge of wastewater from coal mines is subject to 40 CFR Part 434: Coal Mining Point Source Category BPT, BAT, BCT Limitations and New Source Performance Standards. The mine has the potential to discharge wastewater from separate sources that are subject to separate subcategories of Part 434. These include:

#### A. Appendix A Outfalls – “Alkaline Mine Drainage”

These outfalls meet the definition of "alkaline, mine drainage" in 40 CFR Part 434.11(c). Therefore, the proposed permit sets limits for these outfalls in accordance with the requirements of ASubpart D - Alkaline Mine Drainage for BPT, BCT, and BAT regulations that apply to such discharges. The proposed permit sets discharge limits for these outfalls for Iron (3.5 mg/l daily average and 7.0 mg/l daily maximum), Total Suspended Solids (TSS)(35 mg/l daily average and 70 mg/l daily maximum), and pH (no less than 6.0 or greater than 9.0 standard pH units). Flow volumes, iron, TSS and pH monitoring is required during any event.

B. Appendix B Outfalls – “Coal Preparation & Associated Areas”

These outfalls meet the definition in 40 CFR 434.11(e), (f) and (g) for "coal preparation plant", "coal preparation plant and associated areas", and "coal preparation plant water circuit", respectively. Therefore, the proposed permit sets limits for the outfall in accordance with Subpart B - Coal Preparation Plants and Coal Preparation Plant Associated Areas for BPT, BCT, and BAT regulations that apply to such discharges. The requirements for the Outfalls listed in Appendix B are the same as those for "alkaline, mine drainage", with the addition of limitations and monitoring requirements for manganese (2.0 mg/l daily average and 4.0 mg/l daily maximum).

C. Appendix C Outfalls – “Western Alkaline Reclamation Areas”

These outfalls meet the definition of Subpart H- Western Alkaline Coal Mining, which applies to "alkaline mine drainage at western coal mining operations from reclamation areas, brushing and grubbing areas, topsoil stockpiling areas, and regraded areas." (40 CFR Part 434.81). In accordance with the requirements established in Subpart H; the operator has:

- 1) submitted a site-specific Sediment Control Plan to EPA incorporating the minimum requirements of 40 CFR Part 434.82,
- 2) demonstrated that implementation of the Sediment Control Plan will result in average annual sediment yields that will not be greater than the sediment yield levels from pre-mined, undisturbed conditions.

The operator submitted materials to OSMRE in a letter and attachments dated February 25, 2004. As discussed above, although the McKinley Mine has not had a NPDES permit, the Mine has been operating under the conditions as proposed in their FDF submittal. Therefore, the materials provided the hydrologic model and sediment assessment comparison of pre and post-mining soil loss of the CDK area. EPA reviewed these materials as part of the OSMRE review, and EPA concluded they are consistent with the requirements of the Sediment Control Plan requirements of 40 CFR Part 434.83. These materials are part of the Administrative Record for the proposed permit and are available for public review.

Therefore, EPA proposes to approve the Sediment Control Plan consistent with the requirements of Subpart H. Additionally, in accordance with Subpart H, the proposed permit requires that the approved Sediment Control Plan be incorporated into the permit as an effluent limit, and requires that the permittee design, implement, and maintain the BMPs in the manner specified in the Sediment Control Plan.

EPA Region IX and the Office of Surface Mining Reclamation and Enforcement (OSMRE) entered a Memorandum of Understanding on December 19, 2003: "A Process for Obtaining a NPDES Permit Under Subpart H - Western Alkaline Mine Drainage Category". Working through the process outlined in the MOU, OSM and EPA conducts



technical reviews of the Sediment Control Plan submitted by the Permittee. EPA has concluded that the Sediment Control Plan has been submitted in accordance with the requirements of 40 CR Part 434, and that the Sediment Control Plan meets the minimum requirements to demonstrate that the average annual sediment yields that will not be greater than the sediment yield levels from pre-mined, undisturbed conditions.

As existing outfalls defined in this permit as Aalkaline mine drainage@ are reclaimed, the Sediment Control Plan may be updated to incorporate additional outfalls. A revised Plan must be submitted to EPA and approved by EPA before it becomes effective. The revised plan will also be reviewed by OSMRE prior to EPA approving the revisions. Revisions to the Sediment Control Plan must meet all requirements contained at 40 CFR Part 434.82, and 100% of the drainage areas to an outfall that has been disturbed by mining must meet the definition of Subpart H to be considered for coverage under Subpart H. EPA=s approval of an updated Sediment Control Plan and reclassification of an existing outfall from Aalkaline mine drainage@ to Subpart H requirements will be considered a minor modification to this permit.

## 2. Water Quality-Based Effluent Limitations

Sections 402 and 301(b)(1)(C) of the Clean Water Act require that the permit contain effluent limitations that, among other things, are necessary to meet water quality standards. 40 CFR 122.44(d) provides that an NPDES permit must contain:

AWater quality standards and State requirements: any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under sections 301, 304, 306, 307, 318 and 405 of CWA necessary to:

(1) Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.@

40 CFR 122.44 (d)(1)(i) states:

ALimitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.@

40 CFR 122.44 (d) (1) (ii) states:

AWhen determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and non-point sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity) and where appropriate, the dilution of the effluent in the receiving water.@

40 CFR122.44 (d)(1) (iii) states:

When the permitting authority determines using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant.@

Guidance for the determination of reasonable potential to discharge toxic pollutants is included in both the Technical Support Document for Water Quality-Based Toxics Control (TSD) - Office of Water Enforcement and Permits, U.S. EPA, dated March 1991 and the U.S.EPA NPDES Permit Writers Manual - Office of Water, U.S. EPA, dated December 1996. EPA's technical support document contains guidance for determining the need for permit limits. In doing so, the regulatory authority must satisfy all the requirements of 40 CFR 122.44(d)(1)(ii). In determining whether the discharge causes, has the reasonable potential to cause or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants, the regulatory authority must consider a variety of factors. These factors include the following:

- X Dilution in the receiving water,
- X Existing data on toxic pollutants,
- X Type of industry,
- X History of compliance problems and toxic impacts,
- X Type of receiving water and designated use.

Based on an analysis of factors at the McKinley Mine operations and projected wastewater quality data provided in the application, EPA concluded there is no "reasonable potential" to cause or contribute to an exceedance of water quality standards. However, due to a lack of data for certain parameters, EPA has established monitoring in the permit. The permittee shall monitor all pollutants listed below at each outfall listed in Appendix A – “Alkaline Mine Drainage” and Appendix B – “Coal Preparation & Associated Areas” once per calendar year when a discharge occurs for the following parameters:

- Aluminum, dissolved
- Antimony, dissolved
- Arsenic, dissolved
- Boron, dissolved
- Cadmium, dissolved
- Chromium, total as Cr
- Copper, dissolved
- Lead, dissolved
- Mercury, dissolved
- Nickel, dissolved
- Selenium, dissolved
- Silver, dissolved

Thallium, dissolved  
Zinc, dissolved

EPA will evaluate the data to verify compliance with applicable water quality standards. If EPA determines that any discharge has the reasonable potential to cause or contribute to a violation of a water quality standard, EPA may reopen the permit and establish limits or conditions as necessary.

The proposed permit sets general conditions based on narrative water quality standards contained in Section 203 of the NNSWQS and the State of New Mexico. These standards are set forth in Section B (AGeneral Discharge Specifications@) of the permit.

The State of New Mexico Environment Department has establish effluent monitoring conditions consistent with State Water Quality Standards as a condition of their 401 Certification. These requirements are incorporated into the Permit, at Section D.1.b.

## **VI. Monitoring Requirements**

The proposed permit requires discharge data obtained during the previous three months to be summarized and reported quarterly. If there is no discharge for the quarter, indicate AZero Discharge@. These reports are due January 28, April 28, July 28, and October 28 of each year. Duplicated signed copies of these, and all other reports required herein, shall be submitted to the Regional Administrator, the Navajo Nation EPA, and the New Mexico Department of the Environment.

## **VII. Threatened and Endangered Species**

EPA has determined that the discharge in compliance with this permit will have no effect on threatened or endangered species. EPA has determined that due to the frequency of the discharge, effluent released in accordance with this permit will have no effect on any threatened or endangered species that may be present in the area. No requirements specific to the protection of endangered species are proposed in the permit. A copy of the permit and fact sheet is being sent to the U.S. Fish and Wildlife Service for review during the public comment period.

## **VIII. Permit Reopener**

The permit contains a reopener clause to allow for modification of the permit if reasonable potential is demonstrated during the life of the permit.

## **IX. Standard Conditions**

Conditions applicable to all NPDES permits are included in accordance with 40 CFR, Part 122.

## **X. Administrative Information**

### **Public Notice** (A.A.C. R18-9-A907)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft NPDES permit or other significant action with respect to an NPDES permit or application. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit. This permit will be public noticed in a local newspaper after a pre-notice review by the applicant and other affected agencies.

### **Public Comment Period** (A.A.C. R18-9-A908)

Rules require that permits be public noticed in a newspaper of general circulation within the area affected by the facility or activity and provide a minimum of 30 calendar days for interested parties to respond in writing to EPA. After the closing of the public comment period, EPA is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

### **Public Hearing** (A.A.C R18-9-A908(B))

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if the Director determines there is a significant amount of interest expressed during the 30-day public comment period, or if significant new issues arise that were not considered during the permitting process.

## **XI. Additional Information**

Additional information relating to this proposed permit may be obtained from the following locations:

U.S. Environmental Protection Agency, Region IX  
CWA Standards & Permits Office Mail Code: WTR-5  
75 Hawthorne Street  
San Francisco, California 94105-3901  
Telephone: (415) 972-3518  
Attn: John Tinger or email: [Tinger.John@EPA.gov](mailto:Tinger.John@EPA.gov)

## **XII. Information Sources**

While developing effluent limitations, monitoring requirements and special conditions for the draft permit, the following information sources were used:

1. EPA Technical Support Document for Water Quality-based Toxics Control dated March 1991.
2. U.S. EPA NPDES Basic Permit Writers Manual (December 1996).
3. 40 CFR Parts 122, 131, and 133.
4. NPDES permit application forms 2A and 2S, provided in letter dated July 2, 2009 .
5. Memorandum of Understanding: A Process for Obtaining A NPDES Permit Under Subpart H - Western Alkaline Mine Drainage Category@, EPA Region IX and the Office of Surface Mining Reclamation and Enforcement Office (OSM), dated December 19, 2003.