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West Virginia Department of Environmental Protection Annual Evaluation Report

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Office of Surface Mining
Reclamation and Enforcement
Charleston, West Virginia

OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

Annual Evaluation Report for the
Regulatory and Abandoned Mine Lands Reclamation Programs
Administered by the West Virginia Department of Environmental Protection of
WEST VIRGINIA
for

Evaluation Year 2021

July 1, 2020 to June 30, 2021

Prepared by Charleston Field Office

EXECUTIVE SUMMARY

The Charleston Field Office (CHFO) of the Office of Surface Mining Reclamation and Enforcement (OSMRE) oversees the administration of the West Virginia Department of Environmental Protection's (WVDEP) approved regulatory program, under authority from the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The following report covers July 1, 2020 to June 30, 2021, of which the outline can be found in Directive REG-8, signed on May 30, 2019 by the OSMRE Director, which revised policies, procedures, and responsibility for conducting oversight of State programs.

The WVDEP and CHFO cooperatively develop a biannual Performance Agreement. CHFO solicits input from interested citizens, industry, and environmental groups on potential oversight evaluation topics to include in the agreement. The EY 2022/2023 biannual Performance Agreement can be found online at <http://odocs.OSMRE.gov/>. OSMRE also monitors activities such as coal company bankruptcy filings and litigation for possible impact on the program.

WVDEP EY 2021 activities and accomplishments are highlighted below for both the Regulatory and AML Programs.

Regulatory Program

- The WVDEP was awarded grants by OSMRE in the amount of \$ 10,587,795 as matching funds to operate its Regulatory Program.
- WVDEP completed the correct number of inspections 97 percent of the time, a slight decrease from last year's 98 percent. When considering all inspections conducted during the EY irrespective of the monthly individual permit review requirement, data shows WVDEP conducted nine percent (616) more complete inspections than required, along with 75 percent (5,817) more partial inspections than required by the program.
- Evaluations revealed 95 percent of both West Virginia's 1,676 permitted sites and 329 bond forfeiture sites were off-site impact free. OSMRE used State enforcement records to determine when/if the primary cause of an off-site impact was due to operator negligence (I.E., poor judgement, operator error). (See Section V.A.)

- Bond release acreage increased by 2,102.79 acres from EY 2020, with 2,612.23 reclaimed acres to 4,715.02 reclaimed acres in EY 2021(See Section V.B).
- The WVDEP issued fourteen new surface or underground coal mining permits this EY adding 3,827 acres to be mined. 853 were added by a permit revision that was not an incidental boundary revision, and 1,931 acres were removed by 55 incidental boundary revisions.

Abandoned Mine Land Reclamation Program

During EY 2021, The Office of Abandoned Mine Lands and Reclamation (OAMLRL) effectively administered its SMCRA Title IV AML Reclamation Program to reclaim mine land and water areas that were abandoned by coal mine operators prior to 1977. The OSM issued 33 Authorizations-to-Proceed (ATP) for OAMLRL to execute reclamation projects addressing AML hazards, including emergencies. For the calendar year (CY) 2021, OAMLRL was awarded grant funding in the amount of \$18,913,351 to operate its Abandoned Mine Lands (AML) Program. In addition, OSM awarded West Virginia \$25,000,000 in grant funding from the Abandoned Mine Land Economic Revitalization (AMLER) Program, for AML projects that contain economic/community benefits.

Through the funding support from the Abandoned Mine Land Reclamation Fund, OAMLRL:

- During EY 2021, OAMLRL initiated 22 non-water construction projects and completed reclamation at 19 projects. As part of their water supply restoration program, the OAMLRL, whether entirely or in partnership with another entity, initiated one water supply project during EY 2021.
- Acid Mine Drainage (AMD) Set-Aside funds were utilized on six projects spending \$320,084 of set-aside funds.
- During EY 2021, OAMLRL's program investigated 613 citizen's complaints, resulting in the declaration of 22 emergencies. All emergency projects began in a timely manner, with most projects reaching completion within days or weeks of the Authorization-to- Proceed. The larger projects, such as landslide abatement projects, required a longer performance period to address the emergency aspects of the project.
- OAMLRL at this time has five active AML Enhancement projects, one pending ATP, and one proposed is under consideration by OAMLRL at this time.

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I. Introduction

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) created the Office of Surface Mining Reclamation and Enforcement (OSM) within the Department of the Interior (DOI). The SMCRA ACT provides OSM authority to oversee the implementation of, and provide Federal funding for, State and Tribal Regulatory and Abandoned Mine Land Programs approved by the Secretary of the Interior as meeting the minimum standards specified by SMCRA. This report contains summary information regarding the West Virginia Program and its effectiveness in meeting the applicable purposes of SMCRA as specified in Section 102 for the period of July 01, 2020 to June 30, 2021. Detailed background information and comprehensive reports for the program elements evaluated during this period are available for review and copying at OSM's Charleston Field Office, 1027 Virginia Street East, Charleston, West Virginia 25301, (304) 347-7158, or by email at OSMRE-CHFO@OSMRE.gov. The OSM's REG-8 Oversight Database (ODOcs) contains all oversight documents: <http://odocs.OSMRE.gov/>.

The OSM web address is <https://www.osmre.gov/>

This report uses the following acronyms:

A&E	Administration and Enforcement
ABS	Alternative Bonding System
AER	Annual Evaluation Report
ALSX	Acid Leaching/Solvent Extraction
AMD	Acid Mine Drainage
AML	Abandoned Mine Land
AMLIS	Abandoned Mine Land Inventory System
AOC	Approximate Original Contour
ARRI	Appalachian Regional Reforestation Initiative
AVS	Applicant Violator System
BCR	Biological Chemical Reactor
CCR	Citizen Complaint Referral
CHFO	Charleston Field Office
CHIA	Cumulative Hydrologic Impact Assessment
CRMW	Coal River Mountain Watch
CSR	Code of State Regulations
CWA	Clean Water Act
DMR	Division of Mining and Reclamation
DOI	United States Department of the Interior
EPA	United States Environmental Protection Agency
ERIS	Environmental Resources Information System
ERIS/EQuIS	Environmental Resources Information System/Environmental Quality Information System
EY	Evaluation Year

FAM	Federal Assistance Manual
FBR	Fluidized Bed Reactor
FIMS	Financial Information Management System
FR	Federal Register
FRA	Forestry Reclamation Approach
FTACO	Failure to Abate Cessation Order
FTE	Full Time Equivalent
FWS	United States Fish and Wildlife Service
FY	Fiscal Year
IBR	Incidental Boundary Revisions
IMB	Investment Management Board
IU	Inspectable Unit
NLEB	Northern Long-Eared Bat
NOI	Notice of Intent to Sue
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
NTTP	National Technical Training Program
OAMLR	Office of Abandoned Mine Land Reclamation
OASIS	Our Advanced Solution with Integrated Systems
OSM	Office of Surface Mining Reclamation and Enforcement
OSR	(WVDEP) Office of Special Reclamation
OVEC	Ohio Valley Environmental Coalition
PAD	Problem Area Description
QAQC	Quality Assessment Quality Control
REE	Rare Earth Elements
SEV	Single Event Violation (NPDES)
SLOC	Standby Letter of Credit
SMA	Surface Mining Application
SMCRA	Surface Mining Control and Reclamation Act of 1977
SRF	Special Reclamation Fund
SRWTF	Special Reclamation Water Trust Fund
SWROA	Storm Water Runoff Analysis
TDN	Ten-Day Notice
TIPS	Technical Innovation and Professional Services
USACE	United States Army Corps of Engineers
USGS	United States Geological Survey
WVDEP	West Virginia Department of Environmental Protection
WVHC	West Virginia Highlands Conservancy
WVSCMRA	West Virginia Surface Coal Mining and Reclamation Act

Regulatory Program

II. Overview of the Coal Mining Industry in the State of West Virginia

Underground mining was the predominate method of mining coal in West Virginia from the early 1700s through the 1950s. Surface mining began around 1916, however significant production did not occur until World War II.

Mining activities occurring before passage of SMCRA in 1977 resulted in many under-reclaimed areas within the State, given some reclamation standards were less stringent than SMCRA. Currently, there are 4,873 problem sites listed in the Abandoned Mine Land Inventory System (AMLIS) for West Virginia.

West Virginia's demonstrated coal reserve base totals 30 billion tons, and the estimated recoverable reserves total 16.3 billion tons. Operational mines attributed 1.5 billion tons to the State's estimated recoverable coal reserves in 2020. West Virginia currently ranks fourth in the country for proven coal reserves and recoverable coal reserves. Mineable seams have been identified in 43 counties, totaling 117 seams state-wide, 65 contain recoverable coal if mined using current technology.

West Virginia's coal production accounts for about 12.6 percent of the nation's total coal production. In 2020, West Virginia produced 64.4 million tons of coal, allowing it to retain its ranking as the second-largest coal producing State in the nation (see Table 1, Appendix A for coal production based on sales). Coal was produced in 15 counties and 39 different seams in 2020. Of the 15 counties producing coal that year, the top ten counties were Marshall, Ohio, Marion, Logan, Raleigh, Kanawha, Mingo, Monongalia, Boone, and Fayette, totaling eighty-two percent of the State's total coal production. The State historically has a recovery rate of 66 percent at producing mines, leaving 34 percent in place. The average market price for West Virginia coal increased by about twenty eight percent in December 2021 to \$92.50 per ton.

Methods of surface mining used in WV includes contour, area, auger, mountaintop, and highwall operations. These surface methods account for 21% of WV coal mined in the State, which contributes five percent of the Nation's surface mined coal. West Virginia surface coal production decreased in 2020 by about 4.4 percent.

Excluding coal exploration operations, West Virginia has 1,982 inspectable units including 1,128 active mines, 512 inactive mines, and 329 bond forfeiture sites, with an additional 13 inspectable units (all forfeited) on Federal lands. Inspectable units average 177.90 acres, while surface mining averages 345.43 acres and underground mines average 46.85 acres. The surface area above underground works are not bonded, except for support facilities. Approximately 57 percent of the State's permits are active and require monthly inspections by the West Virginia Department of Environmental Protection (WVDEP). Of those active permits, underground mines account for 32% and surface mines 36%. Thirty-eight percent consists of preparation plants, coal refuse piles,

loading facilities, haul roads, and other facilities.

Data Sources: West Virginia Office of Miners' Health, Safety and Training; West Virginia Department of Environmental Protection; West Virginia State Tax Department, West Virginia Department of Revenue; U.S. Bureau of Economic Analysis; U.S. Bureau of Labor Statistics; U.S. Census Bureau and Office of Trade and Economic Analysis, U.S. Department of Commerce; U.S. Department of Energy, Energy Information Administration; National Institute for Occupational Safety and Health; States in Profile, Indiana Business Research Center at Indiana University; West Virginia University, Bureau of Business and Economic Research; West Virginia Coal Association; and Office of Surface Mining Reclamation and Enforcement, U.S. Department of the Interior.

III. Overview of the Public Participation Opportunities in the Oversight Process

During the EY, CHFO took the following steps to facilitate public participation in the SMCRA program:

- Sent letters and e-mails to citizens and groups advising them the annual report was available and offering to meet with groups at any time, even after business hours, to discuss SMCRA issues;
- Requested public participation in the State program amendment process through **Federal Register** announcements and Federal and State agency notification letters;
- Posted AML National Environmental Policy Act decisions for Reclamation Projects, Annual Reports, work plans, and the complete text of detailed oversight reports on the CHFO website as these documents were completed. The CHFO website includes a State-specific page that contains relevant information about the oversight of West Virginia's Program. The site is accessible on OSM's home page at: <https://www.osmre.gov/regulating-coal-mines/oversight/appalachian-division/charleston-field-office>
- Conducted telephone calls with individuals from special interest groups to discuss oversight topics and other issues of concern;
- Participated in numerous meetings with non-profit organizations working on watershed restoration projects;
- Responded to Freedom of Information Act requests;
- Routinely participated in discussions with the Special Reclamation Fund Advisory Council that represents multiple interests;
- Routinely interacted with the State's Permitting Quality Assurance Quality Control Panel that represents multiple interests; and,
- Routinely interacted with citizens who call or write seeking information about abandoned mine lands, surface coal mining, and reclamation activities or requirements.

To measure the State's success in meeting the environmental protection goals and public safety provisions of SMCRA, OSM and WVDEP cooperatively developed a Performance Agreement. The agreement focuses on measuring the on-the-ground success of the approved program and identifying the need for financial, technical, and other program assistance during the evaluation year. The agreement contains the basic framework for oversight activities for a two-year period. The current agreement covers the period starting July 1, 2021, and ending on June 30, 2023, and

is available to the public at the web address provided above. When developing a new Performance Agreement, OSM solicits input from the public and other State and Federal agencies to identify program areas to review.

West Virginia's approved Regulatory and AML Programs provide additional opportunities for public participation:

- The WVDEP AML Program provides the public an opportunity at least once per year to submit comments on projects selected for reclamation during the upcoming years.
- Filing written citizen complaints concerning specific issues (both for the Regulatory and AML programs) gives citizens the opportunity to participate in the inspection and enforcement process at mine sites, and/or to have mining conditions evaluated to determine eligibility for reclamation through the AML Program.
- Through its rulemaking process, WVDEP routinely notifies and solicits comments from the public on all proposed revisions to its rules (either AML or Regulatory).
- Under the Regulatory Program permitting process, the State requires applicants to advertise each new or revised permit application and provide interested citizens the opportunity to comment. Citizens may request WVDEP conduct an informal conference to discuss a permit application before deciding to issue or deny the permit. A similar process also applies to completed surface mining and reclamation operations at the time of bond release. They may also seek administrative review of WVDEP decisions by the West Virginia Surface Mine Board and judicial review through the State and Federal court systems.

IV. Accomplishments and Innovations

- Developed and implemented a procedure for I&E staff to annually sample WV SMCRA surface water monitoring sites. The lab analyses from this sampling are being reported on MR-6 Mine Inspection Reports.
- Developed and implemented a procedure to remotely conduct informal conferences for Notices of Violation and Cessation Orders.
- Developed and implemented a procedure to remotely conduct public hearings for permit applications.
- Conducted two industry training sessions with the topics of threatened/ endangered species and NPDES permitting for coal mining operations.
- Participated in and supported the QA/QC panel. WVDEP has implemented its

recommendations, such as reducing the backlog of e-Certs; conducting two industry training sessions; continuing to encourage industry to submit timely bond release applications when a permit meets reclamation requirements; and encouraging industry, at the appropriate time in the reclamation process, to pursue post-mining effluent limits, removal of water retention structures, and deletion of NPDES outfalls;

- Due to the COVID-19 pandemic, WVDEP transitioned office staff to work remotely. SMCRA permitting staff have maintained a positive efficiency rating for final action of permitting applications while working remotely.
- WVDEP and OSM entered a Cooperative Assistance Work Plan to use in-stream continuous data loggers to gather measurements of turbidity, temperature, specific conductance, and total suspended solids in streams located within watersheds of known threatened and endangered crayfish presence.

Measured Success in Achieving the Purposes of SMCRA

A. Off-Site Impacts

Introduction: The OSM REG-8 Directive requires the evaluation of off-site impacts found on non-forfeited and forfeited sites. This study evaluated the effectiveness of the West Virginia regulatory program in protecting the environment and public from off-site impacts resulting from surface coal mining and reclamation operations. Summary tables of off-site impacts are shown in Table 5.

Methodology: OSM reviewed the State inspection reports, inspector enforcement statements, and enforcement actions on the 1,640 non-forfeited permits during the review period of July 1, 2020, through June 30, 2021, for off-site impacts. The State's Office of Special Reclamation (OSR) evaluated all 329 of the forfeited sites for off-site impacts.

A.1. Bonded Sites

The State's 1,640 non-forfeited permits were evaluated for off-site impacts by reviewing the inspection and enforcement data contained in the State's Environmental Resources Information System (ERIS). During this review period, all 955 enforcement actions and 21,030 inspections were evaluated for off-site impacts. Off-site impacts were found on 87 permits or 5.3% of the State's permitted population. Therefore, the majority (94.7%) of the permitted sites were free of off-site impacts.

The violations identified on these 87 permits contributed to the 183 off-site impacts, indicating the average number of impacts would be one for every 115 inspections. As part of the evaluation of off-site impacts and based on the State data, OSM determined that the primary cause is operator negligence. These impacts were categorized as to type of impact, resources affected, and degree

of impact as required by Table 5 in REG-8.

Type of Impact	Number of Impacts	% of Impacts
Hydrology	102	56
Encroachment	44	24
Land Stability	29	16
Blasting	8	4
Total	183	100

CHART 1. —Summary of Off-site Impacts.

As shown in Chart 1, Hydrology represents 56% of the type of impacts affected this year and remains the most common type of impact affected by the mining operations. This category decreased from last year's 64%. The hydrology category includes violations such as exceeding effluent limits, black water spills, and breached diversion ditches.

Encroachment is the second most frequently cited impact, representing 24% of the type of impact affected, which is less than last year's 31%. Land Stability represents 16% of the type of impact affected this year, which is more than last year's 11%. Blasting represents 4% of the type of impact affected this year, which is slightly more than last year's 3%.

Resources Affected	Impacts	% of Impacts
People	38	14
Land	65	23
Water	126	46
Structure	48	17
Total	277	100

CHART 2. —Resources affected by various impacts.

As shown in Chart 2, there were 38 impacts on People; these included 18 moderate and 20 major impacts. Most of these impacts were from coal trucks tracking mud onto county highways or creating fugitive dust causing unsafe driving conditions and blasting operations.

Land had a total of 65 impacts, with 34 moderate and 31 major impacts. Most of these impacts were related to mining off the permit, landslides caused by down slope spoil placement, and breached perimeter diversions causing erosion and sedimentation.

Water had a total of 126 impacts, with 82 moderate and 44 major impacts. Most of these impacts were related to violations of effluent limitations or State water quality standards, black water spills due to slurry line ruptures or other breaches, and other mine discharges that resulted in water quality problems.

Structures had a total of 48 impacts, with 21 moderate and 27 major impacts.

Overall, Minor impacts were zero percent of the total, Moderate 56%, and Major 44%. There were 152 impacts found during the EY, which increased by 6% over last year's 143 offsite impacts. The number of permits with off-site impacts stayed the same from last year with 87 permits.

A.2. Forfeited Sites

The State's Office of Special Reclamation (OSR) conducted an off-site impact review of forfeited sites this evaluation period. During this time, 27 bond forfeitures were added to the inventory, bringing the total number of bond forfeiture permits in WV to 329. 21 Permit Reinstatement Applications were received for review to recover those permits from the bond forfeiture permit inventory. (Note: At the time of report data compilation, 16 of the revoked permits had been reinstated.)

The OSR completed land reclamation on seven bond forfeiture permits and installed active or passive water treatment on three permits during the review period. Treatment is currently making improvements to the water quality, but off-site impacts due to the poor water quality have not been eliminated.

The OSR maintains an inventory of the State's forfeited permits and handles the reclamation of those permits. The number of off-site impacts associated with those permits totaled 21 during the review period. Of these 21 impacts, 15 off-site impacts are related to water quality, and six related to land (three Land Stability, two Encroachment, and one Other). The State's un-reclaimed bond forfeiture sites were 93.6% free of off-site impacts during EY 2021.

B. Reclamation Success



Fish and Wildlife Post-mining Land Use, Mingo County, WV

Introduction: The success of the State program for achieving reclamation success is based on the number of acres meeting State bond release standards. The State releases reclamation bonds in three phases. Phase I bond release indicates backfilling is complete and the topography is returned to its approximate original contour (AOC), unless there is an approved variance. The Phase II release verifies vegetative cover or other erosion control measures adequately stabilize the surface from erosion and soil resources are adequate to support that cover. In addition, the site is not contributing suspended solids to streamflow or runoff outside the permit area. Finally, Phase III, or final bond release, confirms the mine site is fully reclaimed, meeting the required maintenance period, and the approved post mining land use has been achieved. Complete restoration of land and water resources affected by mining is shown by this release.

Methodology: OSM conducted 32 oversight bond release inspections on permits where the permittee had requested a phase release during the evaluation year. Field conditions were compared to the reclamation plan contained in the approved permit. Eighteen inspections were on

Phase III releases, three on Phase II, and eleven on Phase I. OSM applied the information from WVDEP's "*Completed Applications Report for Phase Releases Approved*" for completing Table 6.

Findings: The State approved 32 of the 39 release applications reviewed by OSM by the end of the evaluation year. The permittees withdrew six of the remaining requests for release, and one was denied.

There were 62 Phase I bond releases, of which 37 were incremental releases, totaling 6,813.38 acres, and 53 Phase II bond releases, of which 19 were incremental bond releases, totaling 6,272.33 acres. During the evaluation year, WVDEP approved 72 Phase III bond releases, of which 39 were incremental releases, totaling 4,537.25 acres, as reported in Table 6.

The State's Office of Special Reclamation (OSR) completed land reclamation on seven bond forfeiture permits and installed active or passive water treatment systems on three forfeiture permits. The OSR continues to maintain an inventory of the State's bond forfeiture permits and oversees the reclamation of these sites.

V. General Oversight Topic Reviews

A. Oversight Inspections

A.1. General Oversight Inspections

During EY21, CHFO completed 174 inspections, less than the target of 325 due to the continuing restrictions of the COVID-19 pandemic. This included eight oversight inspections in response to rain events exceeding a 1yr/24hr storm event. Also, as part of the oversight inspection process, CHFO conducted a review of West Virginia's bond release activities as well as inspections on bond forfeiture sites reclaimed by the WVDEP Office of Special Reclamation. OSM's evaluation activity is detailed in Appendix 1, Table 13.¹

There was a total of 78 violations of the State program identified during the oversight inspections. Twenty-one violations were deferred to state action, two violations resulted in Ten Day Notices (TDNs) being issued, 49 were previously sited by the State, and six were abated during or before the completion of OSM's oversight.

A.1.a. Bond Release

¹ OSM notes a software reporting anomaly prevents the numbers displayed in Table 13 from aligning with the numbers reported here which are compliant with the requirements of the current REG-8 directive dated May 2020. Pursuant to this Directive, OSM counts various inspection types as oversight inspections. The reporting software counts numbers as per the previous version of REG-8 where only inspection type codes beginning with "O" were counted. Therefore, the additional 75 violations identified are in relation to document review inspection reports (inspection type "DR"). OSM is in the process of recoding the reporting software needed to accurately generate Table 13.

This review consisted of on-the-ground inspections of bond released sites. These inspections consisted of sites in varying stages of bond release. In addition to randomly selecting sites for bond release review, if the site is listed on the acid mine drainage inventory, OSM conducts an inspection of that site. OSM conducted an on-the-ground review of 32 sites requesting any phase of bond release. In-person reviews were conducted on bond release sites, with 17 sites requesting a Phase III, three sites requesting Phase II, 12 sites requesting Phase I, and two additional inspections with multiple increments or phases of release. One violation of West Virginia's approved program was observed during OSM's evaluation and was deferred to the State for action. Overall, the sites inspected demonstrated satisfactory reclamation and shows West Virginia is conducting its bond release program in accordance with applicable laws, regulations, and policies.

A.1.b. Citizen Complaints

The CHFO received seven citizen complaints during the evaluation year. Under the new INE-35 directive, OSM investigated all readily available documents and after discussions with the WVDEP, only one TDN was issued. The OSM determined WVDEP took appropriate action on six complaints. The remaining complaint is being reviewed.

A.2. Impoundment Oversight Inspections

During EY 2021, OSM continued the review of slurry impoundments and refuse compaction. Three impoundment inspections were conducted as part of OSM's random oversight selection. One violation was observed; the violation was abated during or before completion of the OSM inspection. The following were inspected:

- October 12, 2020 Ramaco Slurry Impoundments, P-0590-06 Upper Old House Coal Refuse Disposal Facility, Lower Old House Refuse Disposal Facility – Active
- March 9, 2021 – Hanover Resources, LLC., Campbells Creek Slurry Impoundment O-3015-93 – Active
- March 30, 2021 – Pinnacle Creek Company, Smith Branch Impoundment, O-4022-92 -- Idle

A.3. State Inspection Frequency Activity

During EY 2021, WVDEP had 1,954 permanent program Inspectable Units (IU). Inspections are a requirement on these units (permits) with a frequency set by WVDEP's Program. This requires inspections of active, inactive, and abandoned (forfeited) permits on a set frequency. The data demonstrates WVDEP is conducting a sufficient number of inspections.

	Complete Inspections Required	Partial Inspections Required	Conducted Complete Inspections	Conducted Partial Inspections
Active	3,884	7,768	3,982	8,848
Inactive	2,616	0	2,653	1,816
Abandoned (forfeited)	329	0	810	2,921
Totals	6,829	7,768	7,445	13,585

CHART 3.—Frequency for EY 2021 IUs.

- Active sites require the State to complete one inspection and two partial inspections quarterly.
- Inactive sites require one complete inspection every quarter.
- Forfeited abandoned sites require one complete inspection per year.
- Not Started sites require one complete inspection per quarter per the State's policy.

While the above chart shows WVDEP completes more inspections than required, OSM examined each permit individually to determine if completed inspections were conducted each month during the quarter as required by *inspection frequency*. In other words, if WVDEP performed two inspections for a permit, but were within the same month during that quarter they will be credited as 1/3 successful in inspections. This is to ensure permits are visited every month if active or once a quarter if inactive. OSM found WVDEP completed the correct number of inspections 97 percent of the time, a slight decrease from last year's 98 percent.

When considering all inspections conducted during the EY irrespective of the monthly individual permit review requirement, data shows WVDEP conducted nine percent (616) more complete inspections than required, along with 75 percent (5,817) more partial inspections than required by the program.

B. Program Amendment Status/Program Maintenance

B.1. Program Amendment Status

B.1.a. Alternative Bonding System Revisions (WV-115)

On May 28, 2009, WVDEP submitted a proposed statutory amendment to its alternative bonding system (Administrative Record No. WV-1521). The amendment consists of Committee Substitute for SB 600 which amends §22-3-11(h) of the West Virginia Code concerning the State's alternative bonding system, commonly referred to as the Special Reclamation Fund. This bill passed the West Virginia Legislature on April 10, 2009, and the Governor signed on May 4, 2009, with an effective date of July 1, 2009. In its letter, WVDEP acknowledged that Committee Substitute for SB 600 amends §22-3-11 of the Code of West Virginia to implement actuarial

recommendations relating to the continued fiscal sustainability of the Special Reclamation Fund. The legislation consolidates what has been known as the “7-and- 7.4 tax” (the 7.4 portion of which is currently subject to annual renewal) into a 14.4 cents tax per ton of clean coal mined, reviewable every two years by the Legislature.

OSM is combining WV-115 and WV-116 and will publish its final decision in the **Federal Register**.

B.1.c. Statutory/Regulatory Revisions (WV-116)

By letter dated May 11, 2009, WVDEP submitted an amendment to its regulatory program, which included Committee Substitute for SB 153. This bill modified the State’s Surface Mining Reclamation Regulations concerning the continued oversight of “approved” persons who prepare, sign, or certify mining permit applications and related materials. The bill also proposes to modify incidental boundary revisions (IBRs) to existing permits, clarify certain types of collateral activities, delete the bonding matrix forms, change the term “bio-oil” to biofuel, and clarify standards for hayland and pasture use (Administrative Record Number WV-1522).

On May 22, 2009, WVDEP submitted copies of SB 436. The SB 436 amends West Virginia Code 22-3-8 by changing references to “the commissioner of the Bureau of Employment Programs” to “executive director of Workforce West Virginia” and “the executive director of the workers’ compensation commission” to “Insurance Commissioner” (Administrative Record Number WV-1521).

On July 6, 2009, WVDEP also submitted a copy of SB 1011. The SB 1011 amends West Virginia Code by requiring surface mine reclamation plans to comport with approved master land use plans and authorizing surface mine reclamation plans to contain alternative post-mining land uses (Administrative Record Number WV-1523).

The OSM will combine WV-115 and WV-116 and publish its final decision in the **Federal Register**.

The OSM will combine WV-115 and WV-116 and publish its final decision in the Federal Register.

B.1.d. Statutory/Regulatory Revisions (WV-117)

On May 2, 2011, WVDEP submitted revisions to its permanent surface coal mining regulatory program (Administrative Record Number WV-1557). The amendment consists of statutory revisions to the State’s Surface Coal Mining and Reclamation Act as authorized by Enrolled Committee Substitute for House Bill (HB) 2955 and regulatory revisions to the State’s Surface Mining Reclamation Regulations as authorized by Enrolled Committee Substitute for SB 121.

The West Virginia Legislature adopted HB 2955 on March 18, 2011, and the Governor approved it on April 5, 2011. The HB 2955 increased the filing fee for the State's surface mining permit to \$3,500, the permit renewal fee to \$3,000, established a notice of intent to prospect fee of \$2,000, a significant permit revision fee of \$2,000, a permit amendment fee of \$550, a permit transfer fee of \$1,500, a permit assignment fee of \$1,500, and an inactive status approval fee of \$2,000.

The SB 121 passed the West Virginia Legislature on March 18, 2011, and the Governor signed on March 30, 2011. The SB 121 authorized WVDEP to publicize several revisions to its Surface Mining Reclamation Regulations. The SB 121 authorizes regulatory revisions, which, among other things, provide for a minimum incremental bonding rate of \$10,000 per increment at CSR 38-2-11.4. a.2. Section 22-3-11(a) of WVSCMRA currently requires mining operators to furnish a minimum bond of \$10,000, regardless of acreage. Under the revised provision, an operator will have to post a minimum bond of \$10,000 for each increment mined.

The OSM intends to combine its decision on the State's modification relating to incremental bonding with WV-118. As discussed below, the **Federal Register** will publish the combination of the permanently increased fees with WV-121 and the final rules.

On Friday, November 6, 2021, the **Federal Register** published a final decision approving WV-119 interim rule with the State's WV-121 program amendment. (85 FR 70972). The **Federal Register** posting of this amendment can be found on www.federalregister.gov and searching (85 FR 70972) or WV-121

B.1.e. Regulatory Revisions (WV-118)

On May 2, 2011, WVDEP submitted regulatory revisions to the State's Surface Mining Reclamation Regulations as authorized by Enrolled Committee Substitute for Senate Bill No. 121 (SB 121) (Administrative Record Number WV-1561).

In addition to the minimum incremental bonding rate of \$10,000 per increment as discussed above, SB 121 authorized WVDEP to modify its Surface Mining Reclamation Regulations by codifying an emergency rule filed on December 2009 relating to the establishment of trust funds and annuities. It clarifies the format and information necessary for a complete permit application submittal and for the renewal process to consider WVDEP's electronic filing process. It provides that an approved person must maintain the capability of submitting maps, plans and all other technical data in an electronic format proscribed by the Secretary. In addition, it provides that pre-subsidence surveys will be confidential and only used for evaluating damage relating to subsidence and clarifying that bonding for a permit in inactive status shall remain in effect for the life of the operation. It also provides the Secretary shall issue e-mail notice of a Show-cause Order to members of the public who have subscribed to the Secretary's e-mail notification service and otherwise provide notice to any person whose citizen complaint has resulted in the issuance of any enforcement action that led to the issuance of a Show-cause Order.

As mentioned above, OSM intends to combine WV-117 regarding incremental bonding with WV-118 and publish a final rule on both amendments in the **Federal Register**.

B.1.f. Special Reclamation Tax Revisions (WV-119)

By letter dated April 27, 2012, WVDEP submitted a proposed statutory amendment to its alternative bonding system (Administrative Record No. WV-1577). The amendment consists of Enrolled SB 579, which amends §22-3-11(h) of the West Virginia Code concerning the State's alternative bonding system, commonly referred to as the Special Reclamation Fund. The bill passed the West Virginia Legislature on March 9, 2012, and the Governor signed it on March 30, 2012, with an effective date of July 1, 2012. As detailed in WVDEP's transmittal letter, "Senate Bill 579 amends § 22-3-11 of the Code of West Virginia to implement actuarial recommendations relating to the continuing fiscal viability of the Special Reclamation Fund." A substantial amendment made to Subsection 22-3-11(h) (1) of the WVSCMRA it increases the amount of the special reclamation tax to twenty-seven and nine-tenths cents per ton of clean coal mined. The former special reclamation tax, effective as of July 1, 2009, required remittance of fourteen and four-tenths cents per ton of clean coal mined. Additionally, the amended language requires fifteen cents per ton of the collected twenty-seven and nine-tenths cents per ton be deposited in the Special Reclamation Water Trust Fund (SRWTF).

On Friday, November 6, 2021, the Federal Register published a final decision approving WV-119 interim rule with the State's WV-121 program amendment. (85 FR 70972). The Federal Register posting of this amendment can be found on www.federalregister.gov and searching (85 FR 70972) or WV-121

B.1.g. State-Federal Cooperative Agreement (WV-120)

In 2009, WVDEP expressed an interest in revising its State-Federal Cooperative Agreement. West Virginia entered a cooperative agreement with OSM in 1983 to regulate coal mining on Federal lands within the State. However, the initial agreement does not allow the State to regulate all mining activities on Federal lands, especially those involving federally leased coal.

The OSM will publish a **Federal Register** notice announcing receipt of the revised State-Federal Cooperative Agreement and provide an opportunity for a public hearing and comment on the proposed amendment. Once published, the proposed agreement will be subject to the rulemaking provisions at 30 CFR Part 745. If the amendment is consistent with the Federal requirements, the Secretary (or his designee) and the Governor will sign the agreement or a revision. The **Federal Register** will publish a copy of the final decision with a copy of the executed agreement.

B.1.h. Award of Attorney Fees and Costs (WV-121)

On September 11, 2013, WVDEP submitted revisions to its permanent surface coal mining regulatory program (Administrative Record Number WV-1584). The amendment consists of

statutory revisions to West Virginia’s Surface Coal Mining and Reclamation Act, as authorized by Enrolled Senate Bill No. 497 (SB 497) relating to the award of attorney fees and costs by the State’s Surface Mine Board and circuit courts under West Virginia’s approved regulatory program.

The West Virginia Legislature adopted SB 497 on March 10, 2012, and the Governor signed it on March 30, 2012. The purpose of SB 497 is to authorize the Surface Mine Board or the reviewing Circuit Court to award attorney fees and costs in administrative proceedings arising under the WVSCMRA.

On Friday, November 6, 2021, the Federal Register published a final decision approving WV-119 interm rule with the State’s WV-121 program amendment. (85 FR 70972). The Federal Register posting of this amendment can be found on www.federalregister.gov and searching (85 FR 70972) or WV-121

B.1.i. Office of Explosives and Blasting, Blasting Rule, Hydrologic Protection and Stormwater Runoff Analysis (WV-123)

On April 4, 2016, WVDEP notified OSM of the adoption of HB 4726, which passed the West Virginia Legislature on March 11, 2016, and was approved by the Governor on April 1, 2016, with an effective date of June 9, 2016. The HB 4726 terminated the Office of Explosives and Blasting (OEB) with the passage of Section 22-3-34 of the West Virginia Code and transferred the duties and responsibilities relating to blasting to the Division of Mining and Reclamation (DMR). The HB 4726 also provides that DMR would continue to enforce OEB’s Blasting Rule at Code of State Regulations (CSR) 199-1 until DMR could promulgate its own blasting rules for legislative approval.

Furthermore, HB 4726, at Section 22-3-13(g) of the West Virginia Code, authorizes WVDEP to revise its rules regarding hydrologic protection and storm water runoff analyses for mining operations and to promulgate rules that conform with Federal requirements to minimize disturbances to the prevailing hydrologic balance at a mine site and in associated off-site areas. The bill also provides that WVDEP may conduct a cumulative hydrologic impact assessment and requires a statement of probable hydrologic consequences and to prevent flooding. WVDEP is to conform these rules to the Federal regulations at 30 CFR 816.41 and 816.45 through 816.47 when proposing the State rule, and it cannot propose rules that are more stringent than the Federal requirements.

The OSM was in the process of preparing a proposed rule announcing receipt of the proposed State program amendment when WVDEP requested that OSM temporarily delay action on WV-123. The WVDEP advised OSM that it planned to make additional revisions to its blasting statute beyond those in WV-123. In addition, there are delays to its revisions of the proposed blasting rules. As mentioned above, the West Virginia Legislature authorized WVDEP to implement OEB’s Blasting Rule until it could promulgate its own blasting rules for legislative approval. In the past, OSM has encouraged WVDEP to submit both its statutory and regulatory revisions

together to ensure an accurate and complete review of all program requirements. As discussed below under WV-125, WVDEP submitted proposed revisions to its pre-blast survey statutory provisions. To avoid confusion and to keep West Virginia's pre-blast survey requirements together, OSM has combined those statutory provisions in WV-125 with WV- 123, given that the pre-blast survey requirements in WV-125 modify the provisions mentioned herein.

In addition, as discussed below under WV-126, on May 2, 2018, WVDEP submitted Senate Bill 163 (SB 163) to OSM. The SB 163 authorized WVDEP to consolidate all its blasting regulations under its Surface Mining Reclamation Regulations. SB 163 modified section 6 relating to blasting in general and created new sections 25 through 27 relating to certification of blasters, blasting damage claim and arbitration for blasting damage claims and explosive material fee, respectively. WVDEP plans to incorporate these revised regulations into WV-123. By combining these amendments, the public will have an opportunity to evaluate and comment on WV's blasting laws and regulations in WV-123, WV-125, and WV-126.

The **Federal Register** published the proposed rule of the combined amendments on Monday, February 10, 2021 (85 FR 7475) and closed comments on March 11, 2021. OSM is currently working on drafting the final notice and addressing comments received.

B.1.k. Inactive Status, Bonding, Topsoil, and Contemporaneous Reclamation (WV-124)

By letter dated June 14, 2016, and received by OSM on June 21, 2016, WVDEP submitted an amendment to its permanent regulatory program under SMCRA (Administrative Record No. WV-1606). The proposed amendment consists of regulatory revisions to West Virginia's Surface Mining Reclamation Regulations.

As mentioned previously, the West Virginia Legislature adopted SB 357 on March 3, 2015, and the Governor approved it on March 12, 2015. On March 25, 2015, WVDEP notified OSM of the passage of SB 357 (Administrative Record No. WV-1604). The SB 357 authorized WVDEP to promulgate several revisions to its Surface Mining Reclamation Regulations. The SB 357 amended West Virginia Code Sections 22-3-13 and 19, and authorized WVDEP to promulgate revisions to its contemporaneous reclamation and inactive status regulations.

On July 10, 2015, OSM notified WVDEP that the statutory revisions regarding contemporaneous reclamation and inactive status, also known as temporary cessation, did not need submission, because they only authorized WVDEP to promulgate revision to its regulatory requirements (Administrative Record No. WV-1605). However, OSM advised WVDEP that any revisions to its inactive status or contemporaneous reclamation regulations required submission to OSM as a program amendment.

The West Virginia Legislature passed Committee Substitute for HB 117 on June 2, 2016, effective immediately. According to State officials, HB 117 provides that the legislative rule filed by WVDEP in the State Register on July 27, 2015, that includes revisions regarding contemporaneous

reclamation, inactive status, and topsoil, received authorization by the West Virginia Legislature. In addition, amendments regarding bonding requirements for permit renewals and incremental bonding for permit renewals also received authorization by the Legislature. In accordance with HB 117, WVDEP filed revised regulations with the Secretary of State that had an effective date of July 1, 2016.

On April 3, 2020, OSM published a notice in the **Federal Register** announcing the receipt of proposed revisions to WVDEP's bonding, inactive status, topsoil and contemporaneous reclamation requirements (64 FR 12984-12987). The proposed rule also provides for a public comment period and opportunity for hearing on the State's proposed regulatory revisions. The public comment period closed on May 3, 2020.

On April 5, 2020, various Federal and State agencies received notification and invitation to comment on the proposed State amendment. The **Federal Register** will publish OSM's final decision.

B.1.I. Pre-Blast Surveys, Bond Release and Other Bonding Requirements, and Payments from the Special Reclamation Water Trust Fund (WV-125)

On May 3, 2017, WVDEP submitted Enrolled SB 687 to OSM for approval. The proposed amendment consists of statutory revisions relating to pre-blast survey requirements, bond release and bonding requirements, and Special Reclamation Water Trust Fund payments (Administrative Record Number WV-1608).

The West Virginia Legislature adopted SB 687 on April 8, 2017, and the Governor approved it on April 9, 2017. These provisions took effect from the date of passage on April 8, 2017.

Enrolled Senate Bill 687 amends West Virginia Code §§22-3-11(g) (1) and (2), 22-3-13a (a) and (b), 22-3-13a (f) and (h), and 22-3-23 (c) and (i) providing that money be paid from the Special Reclamation Water Trust Fund to assure a reliable source of capital and operating expenses for the treatment of discharges from bond forfeited sites; modifying notification requirements for pre-blast surveys for surface mining operations and certain other blasting activities; and removing minimum bond requirements related to certain reclamation work.

As mentioned above, the revisions relating to blasting have been incorporated into a proposed rule that will include WV-123, 125 126. On April 8, 2020, OSM published a proposed rule in the **Federal Register** that announced the receipt of the proposed State program amendments and provided for a public comment period, and the opportunity for a hearing on the remaining State program revisions (67 FR 13853-13855). The public comment period closed on May 8, 2020.

On April 10, 2020, OSM invited various Federal and State agencies to comment on the proposed State revisions. Once OSM completes its review of the proposed amendments relating to bond

release, bonding requirements, and disbursement of funds from the State's Special Reclamation Water Trust Fund, and addresses and comments received the **Federal Register** will publish a final notice.

B.1.m. Advertisement, Informal Conference, Blasting, Certification of Blasters, Blasting Damage Claim and Arbitration for Blasting Damage Claims, Explosives Material Fee, Complete Reclamation, Environmental Security Account for Water Quality, Water Quality Enhancement, Incremental Bonding, Requirement to Release Bonds, Forfeiture of Bond and Effluent Limitations (WV-126).

On May 2, 2018, WVDEP submitted two separate amendments to its permanent surface coal mining regulatory program (Administrative Record Number WV-1613). The first amendment consists of statutory revisions to the WVSCMRA as authorized by Enrolled SB 626 and the second amendment consists of regulatory revisions to the State's Surface Mining Reclamation Regulations as authorized by Enrolled SB 163.

The SB 626 includes proposed statutory revisions that amend §§22-3-9 and 22-3-20 of the West Virginia Code. The SB 626 includes new public notice requirements regarding permit applications. The revisions at §22-3-9 provide an applicant's advertisement for public notice be published on a form and in a manner prescribed by the Secretary of WVDEP, which may be electronic. Additional revisions to §22-3-20 provide similar public notice requirements for the informal conference.

The West Virginia Legislature adopted SB 626 on March 8, 2018, and the Governor approved it on March 20, 2018. These provisions took effect 90 days from the date of passage on June 6, 2018.

The West Virginia Legislature passed SB 163 on February 16, 2018, and the Governor signed it on February 27, 2018, with an effective date of February 16, 2018. The SB 163 authorized WVDEP to promulgate the legislative rule filed by WVDEP in the State Register on July 27, 2017. The SB 163 consolidates all State blasting requirements under its Surface Mining Reclamation Regulations, deletes certain sections of those rules that have no Federal counterparts, and modifies certain sections to make them analogous to their Federal counterparts. The amendment modifies section 6 relating to blasting and creates new sections 25 through 27 relating to certification of blasters, blasting damage claim and arbitration for blasting damage claims, and explosive material fee, respectively. It also modifies the notification requirements for pre-blast surveys to be consistent with changes made in §22-3-13a, as discussed above under WV-123 and WV-125. The amendment also deletes subsection 2.37 relating to the definition of complete reclamation, entire section 11.6 relating to the Environmental Security Account for Water Quality, and section 12.5 relating to Water Quality Enhancement in its entirety. According to WVDEP, none of these requirements have Federal counterparts. Furthermore, SB 163 modified the State's incremental bonding requirements at section 11.4, its bond release requirements at subsections 12.2.a.3 and a.4, its bond forfeiture requirements at section 12.4, and its effluent limitation requirements at

subsection 14.5.b to make them analogous to their Federal counterparts. In accordance with SB 163, WVDEP filed its revised regulations with the Secretary of State with an effective date of July 1, 2018.

As discussed above under WV-123, OSM intends to combine and announce in a proposed rule all State statutory and regulatory blasting requirements WVDEP submitted under WV-125 and WV-126. The OSM will announce those State provisions unrelated to blasting separately.

The **Federal Register** published on Friday, February 14, 2021, the proposed rule WV-126-FOR (85 FR 8497) announcing a public comment period which closed on March 2, 2021. OSM is drafting the final rule and addressing comments published in this proposed notice.

B.1.n. Owner compensation of material damages due to subsidence and/or structures and facilities: Revise language of requirements to U.S. Treasury's listing of approved sureties. (WV-127).

On May 5, 2020 (Administrative Record Number WV-1640), WVDEP submitted House Bill 4217 (HB 4217) which was signed by the Governor on March 25, 2020. HB 4217 proposes to modify language relating to owner compensation of material damages from subsidence to an owner's structures or facilities.

- At CSR 32-2-11.3a.3 West Virginia seeks to revise its language relating to the existing requirements for any company that executes surety bonds in the State to be included on the United States Department of the Treasury's listing of approved sureties or to be diligently pursuing such listing. The proposed revision would remove the requirement to be diligently pursuing listing on the Treasury Department's listing of approved sureties for any surety company that submits proof to the West Virginia Department of Environmental Protection that it holds a valid license issued by the West Virginia Insurance Commissioner, and agrees to submit on at least a quarterly basis a certificate of good standing from the West Virginia Insurance Commissioner and such other evidence from the insurance regulator of its domiciliary state, if other than West Virginia, demonstrating that it is also in good standing in that state.
- At CSR 38-2-16.2.c.2. the proposal alters the existing requirement of either repairing the damage or compensating the owner for the full amount of diminution in value resulting from the subsidence, by eliminating the option to repair and replacing that option with compensating the owner in the amount of the cost to repair the damage not to exceed one hundred and twenty percent of the premining value of the structure or facility.

On Wednesday, December 16, 2020, the **Federal Register** published the proposed rule for public comment. Public comments closed on January 15, 2021. (85 FR 81436). The **Federal Register** posting of this amendment can be found on www.federalregister.gov and searching (85 FR 81436) or WV-127.

B.2. Program Maintenance

B.2.a. Required Program Amendments

With the approval of an amendment on March 2, 2006, the State resolved all outstanding required amendments on its permanent regulatory program (FR 10764-10790).

B.2.b. 30 CFR Part 732 Notifications

The OSM does not have any 732 notifications outstanding to WVDEP.

C. Notices of Intent to Sue (NOIs) Filed Against OSM

C.1. Notice of Intent to Sue (NOI), 30 CFR Part 732 Request Regarding the State's Bonding Program

On February 24, 2016, the West Virginia Highlands Conservancy, Ohio Valley Environmental Coalition, and the Sierra Club (WVHC et al.) notified the DOI and OSM that they intend to file a lawsuit pursuant to §520(a) (2) of SMCRA for failing to enforce violations of non-discretionary duties under 30 CFR Part 732 concerning West Virginia's alternative bonding system. In addition, WVHC et al. requested that OSM conduct an evaluation of the State's bonding program pursuant to 30 CFR 733.12(a) (2).

The WVHC et al. state that SMCRA provides that an alternative bonding system must assure that the regulatory authority will have enough funds available to complete the reclamation plan for any areas possibly in default at any time. The NOI then lists several "facts" which WVHC et al. contend demonstrate the State program has been changed sufficiently to cause OSM to require a program amendment under OSM's non-discretionary duties established under 30 CFR Part 732 and/or initiate a program evaluation under 30 CFR Part 733. To date, a lawsuit has not been filed against OSM for the allegations presented in the NOI.

C.2. Notice of Intent to Sue (NOI), Violations of the Endangered Species Act regarding continued reliance on the 1996 Biological Opinion; and Conference Report on Surface Coal Mining and Reclamation Operations under SMCRA

On May 10, 2020, the Center for Biological Diversity, the Sierra Club, the West Virginia Highlands Conservancy, and the Ohio Valley Environmental Coalition (Center for Biological Diversity, et al.) filed a 60-day NOI against OSM, U.S. Fish and Wildlife Service (FWS) and WVDEP for violations of the Endangered Species Act (ESA), concerning those agencies continued reliance on the 1996 Biological Opinion and Conference Report on Surface Coal Mining Operations under SMCRA and accompanying incidental take statement (ITS) to comply with the agencies' ESA duties regarding the impact to listed species from activities regulated pursuant to the SMCRA Regulatory Program.

D. 30 CFR Part 733 Allegation Validation

D.1. Original Petition and Findings

On June 24, 2013, 18 environmental, civic and religious groups filed a petition with OSM demanding the Federal Government takeover regulation of surface coal mining and reclamation activities in West Virginia because of alleged chronic failures by WVDEP in properly administering its approved regulatory program in 19 specific areas. The parties filed the petition in accordance with the Federal regulations at 30 CFR Part 733. On December 30, 2013, OSM found 14 of the allegations did not rise to the level of reason to believe there were program failures, but OSM agreed to continue the validation process on five other program areas. The five program areas OSM agreed required further evaluation resulted in the development of four work plans including the evaluation of the State's storm water runoff analysis procedures; its topsoil protection, removal and redistribution procedures, including topsoil substitutes; its operational and permit changes to correct water quality issues as identified by exceedances of National Pollutant Discharge Elimination System (NPDES) effluent limitations, including selenium discharges; and its cumulative hydrologic impact assessment (CHIA) procedures, with an emphasis on the cumulative impact area and the identification and prevention of selenium discharges. The NPDES and CHIA teams reached an agreement that both teams would evaluate the selenium.

While the 30 CFR Part 733 evaluations found some issues with West Virginia's implementation of its approved regulatory program, none of the issues identified rose to the level of program failures. In addition, when considering the nature of the actions WVDEP had taken or promised to take in the future, OSM concluded the issues identified during the 30 CFR Part 733 evaluations did not represent program failures justifying further steps toward OSM withdrawing approval of part or all of West Virginia's approved regulatory program. The OSM's formal decision on this 30 CFR Part 733 evaluation is found at <https://www.odocs.OSM.gov/> (ID 3313 and 3314) in 2017 evaluation documents for West Virginia. Because actions planned by WVDEP required further details and schedules, OSM agreed to oversee and provide technical assistance to WVDEP in developing and implementing those plans, and as a commitment to the citizens who filed the original petition.

As discussed in our EY 2018 annual report, WVDEP took appropriate action to achieve all the objectives and complete all the tasks related to the State's procedures on storm water runoff analysis and topsoil removal, protection, and redistribution. Therefore, no further action is required for those Part 733 topics. However, WVDEP's plans and schedules to make further improvements in its remaining Part 733 topics are set forth below in subsections D.2.a and b below.

D.2. Follow-Up State Improvement Commitments

D.2.a. CHIA

In response to OSM's Part 733 CHIA evaluation, the WVDEP proposed changes to its CHIA process. The WVDEP proposed eight program objectives to improve its CHIA permitting process and has reported to OSM the following: (OSM will perform oversight on changes to the CHIA process in the near future.)

1. Update its existing draft CHIA policy/guidance document with assistance from the State's QA/QC panel and existing DMR permit review CHIA writers. The QA/ QC panel provided comments in 2017. The draft CHIA policy was updated and distributed to all review geologists. Additionally, an official CHIA checklist was developed and distributed to all geologists to help insure CHIA consistency across regions and time. Training on these documents occurred October 2019 at DMR's annual training conference. OSM considers this item complete.
2. Delineation of Cumulative Impact Areas (CIA) for surface and groundwater. This task involved training DMR staff to ensure all potential impacts from all mining operations on surface and groundwater within the permit CIA are addressed and all anticipated mining operations are identified and incorporated in the CIA and discussed in the CHIA narratives. As previously reported, DMR completed this item.
3. Review the development of material handling plans for acid/toxic overburden material for proper placement of these materials and topsoil substitutes. This task involves training DMR staff to ensure the identification of acid/toxic strata in the overburden and to validate the applicant's permit special handling plan that may contain problematic overburden. This task involves the utilization of acid-base accounting and other analytical tests to determine the adequacy of material handling plans for overburden placement and proper nutrient analyses to characterize the permit's topsoil so suitable substitutes can be used. As previously reported, DMR completed this item.
4. Perform trend analysis for monitored CIA watersheds utilizing TMDL reports and recognizing stream use designations. This task would involve training DMR staff in accessing and utilizing gathered WVDEP trend station data from the past decade. The new CHIA Trend Analysis toolbar is operational and can be used by all interested parties, the public included. The web address is: <https://tagis.dep.wv.gov/mining/>. The lead geologist in each region has received training on this toolbar. As previously reported, DMR has completed this item.
5. Perform updates to trends analysis on CHIAs every year. This task would involve the selection of six active permits that are selected at renewal or midterm review. The conclusions of the CHIA, the PHC and the HRP (Hydrologic Reclamation Plan) for the selected permits will be assessed by senior reviewers to determine if the predicted results are being attained. As previously reported, the State implemented this task. OSM will continue to monitor over time.
6. Perform quality control assessments on completed CHIAs. This task would involve the review of newly drafted CHIAs for surface mine applications and amendments by senior reviewers using the proposed developed CHIA policy to ensure consistency in writing CHIA narratives. As previously reported, this task was implemented by the State. In EY 2022 OSM will analyze the

State's findings during the past three years regarding the consistency of staff CHIA narratives, and the results will be reported in the 2022 Annual Evaluation Report.

7. WVDEP's staff performed assessments to ensure overburden testing for selenium in an applicant's permit is occurring, and special handling plans are adequate to isolate the problematic overburden strata occurring in certain permits. This task involved training for WVDEP geologists to review proper procedures identifying and validating an applicant's material handling plan when selenium occurs in the permit overburden. DMR has completed this item, including training which was held in October 2020. In EY 2022 OSM will analyze the State's findings, and the results will be reported in the 2022 AER.

8. Update the State's selenium policy once new fish tissue-based selenium limits upon finalization and implementation by WVDEP. This task would involve training of DMR staff in the final selenium policy/guidance that reflects the outcomes of the new fish tissue-based selenium limits. As previously reported, DMR has completed this item. WVDEP will coordinate with OSM staff in 2022 to provide similar training that State personnel received.

D.2.b. SMCRA Actions Relative to Exceedances of NPDES Effluent Limitations

The Office of Surface Mining Reclamation and Enforcement (OSM), during its routine oversight inspections conducted a review of mine site water discharge with special emphasis on discharge with a history of violations or where the permittee self-reported water quality exceedance. This effort was undertaken to partly satisfy a commitment OSM made in its 2017 response to a 733 Petition to monitor this part of the State's program to ensure compliance.

Based on the findings from the Part 733 evaluation relative to NPDES violations, WVDEP initiated a series of actions to improve its SMCRA inspection and enforcement procedures regarding exceedances of NPDES effluent limitations. In 2018, WVDEP-Division of Mining and Reclamation (DMR) instituted quarterly enforcement actions under the West Virginia Water Pollution Control Act (WVWPCA) to address non-receipt of discharge monitoring reports, self-reported effluent violations, and single event violations (SEV's) cited by inspectors. This enforcement process has resulted in 120 Formal Administrative Enforcement Actions and several Civil Judicial cases. DMR uses the ranking structure recognized by EPA called the Quarterly Non-compliance Report (QNCR) analysis to develop cases based on the number of Monthly Average Significant Non-compliances recognized in a quarter.

This study found WVDEP enforcement actions are effectively being addressed under the State's revised guidelines developed in response to the 733.

E. Acid Mine Drainage (AMD) Inventory of Active Permits

The WVDEP continues to develop and maintain an AMD inventory of active permits. The WVDEP and OSM executed a work plan in 2006 to assist the State in the development of an

ongoing inventory of active mining operations requiring AMD treatment and to implement procedures allowing for the collection of raw water data at those sites on a regular basis. The team identified approximately 370 active permits in the State with appreciable water treatment costs. This project had some success, but inadequate data regarding pump discharge rates at underground mines and inadequate flow and chemistry data to estimate water treatment costs proved problematic and the project was never completed. Estimating project cost for both land and water treatment is critical to assessing the solvency of the SRF.

As in past years, WVDEP continues to provide OSM an updated list of all permits within the State with AMD that required water treatment during the prior year. The OSM inspectors use and modify the listing based on any water quality data OSM provides WVDEP.

The State does have water treatment cost data at most bond forfeiture sites, but it lacks complete data for active sites. The OSM continues to be concerned that some of the costs of existing forfeitures entail smaller mines and may not be representative of many of the larger mines, newer mines with different water quality standards, or large mine pools associated with underground mines. When evaluating the State's SRF, OSM suggests WVDEP consider impact these differences might have on future risks and costs.

During 2020, WVDEP took steps to improve its water treatment inventory of active permits. As it did last year, WVDEP tasked its inspection staff to validate the number of sites treating water after active mining operations have ceased. The WVDEP began assessing water treatment cost data for its AMD Inventory on an outlet basis. Once final, actuaries will have access to this information to better assess State bond forfeiture liabilities in the future.

F. Reforestation Activities

During EY 2021, the WVDEP issued 15 surface mine permits and 11 surface mine permit amendments covering 4,334.41 acres. Twenty-five of the 26 permits issued propose forestland as the post mine land use, and one more is to be returned to fish and wildlife habitat. Zero additional permits are combining forestland with fish and wildlife or other land uses. Ninety-six percent of all permits issued, covering 4,319.91 acres, contain reclamation plans requiring the implementation of the Forestry Reclamation Approach (FRA).

In the spring of 2021, 928,188 trees were planted on approximately 903 acres of West Virginia mine sites where the FRA is required by the permit. However, over-compaction of the growth medium and heavy ground cover is still commonly observed. OSM reclamation specialists continue to work with WVDEP inspectors and coal operators to ensure the proper growth medium is being placed, loose grading is performed to prevent over-compaction, and native non-competitive ground covers are seeded. There were 4,715.02 acres approved for Phase III bond release in EY 2021. Of that, 4,290.47 acres (91 percent) were planted in trees for either forestland (2,553.48 acres) or fish and wildlife habitat (1,736.99 acres) post mining land uses.



FORESTRY POSTMINING LAND USE

OSM AND WVDEP PRESENTED THE ARRI *EXCELLENCE IN REFORESTATION AWARD* FOR 2020 TO COAL-MAC LLC'S LOGGY BRANCH SURFACE MINE, LOCATED IN MINGO COUNTY.

The Office of Special Reclamation did not contract for any tree planting on bond forfeited permits in 2021.

The Office of Abandoned Mine Lands and Reclamation did not include tree planting on any of its projects in EY 2021.

OSM and WVDEP presented the ARRI *Excellence in Reforestation Award* for 2020 to Coal-Mac LLC's Loggy Branch Surface Mine, located in Mingo county.

The 14th annual ARRI Reforestation Conference was scheduled to be held in Elkins, WV in July of 2021, but was cancelled due to the Covid-19 pandemic. To view further information concerning the Appalachian Regional Reforestation Initiative (ARRI) refer to: <https://arri.osmre.gov/About/AboutARRI.shtm>.

G. State Regulatory Staffing/Program Funding

During EY 2021, the State had an approved regulatory program staff of 212.51 Full-Time Equivalent (FTE) positions, 20.95 are vacancies, resulting in only 191.56 FTE filled positions as shown in Table 8. Ninety-eight percent of the vacancies are in the critical mission areas of permitting and inspection and enforcement.

During EY 2021, the State submitted its proposed three-month budget estimate for FY 2022. The WVDEP has informed OSM its FTE's will decline as they remove fifteen vacant positions that were determined unneeded. With approximately 30 percent of the existing regulatory staff eligible to retire, State officials are anticipating its vacancy problem will continue with more positions to fill in the future.

As discussed in Subsection VI.B.1.d above, the State amended WVSCMRA to increase the filing fee for surface mining permits and to increase or establish new fees for other permitting actions. The State uses revenue from these fees to administer the State's Regulatory Program. However, State officials agree the revenue from those fees is insufficient to offset the revenue lost due to the repeal of the synfuels tax in December 2007. The WVDEP, in coordination with OSM, continues to evaluate other potential sources of revenue for permanent funding of the State's administration of its approved Regulatory Program.

The WVDEP was able to meet its matching requirements under its regulatory grant in FY 2021. State officials have acknowledged that WVDEP should be able to cover its 50 percent matching requirement under its Administration and Enforcement (A&E) Grant through FY 2023. As mentioned, higher than expected permit fees and coal tax revenue estimates caused WVDEP to increase prior projections. However, OSM is concerned this source of funding is only a temporary fix, and WVDEP will have to identify other sources of revenue if it is to meet its future funding obligations under its grant. The WVDEP recently acknowledged needing additional program funding prior to FY 2023.

Although recent revenues were above projections, most coal models project State coal production will continue to decline well into the future. Informal assessments show the continued decline in State coal production will result in a revenue loss of about \$4 million annually for the Regulatory Program.

The OSM is encouraged State revenue estimates now show that WVDEP should be able to meet its funding obligations under its A&E Grant through 2023. However, given that any State proposal to increase revenue requires legislative approval, WVDEP must act during 2022 to find a permanent source of revenue for its Regulatory Program to resolve this ongoing concern.

H. State Bond Forfeiture Administration Grant Reimbursement Rate

The WVDEP reclaims bond forfeiture sites through its Office of Special Reclamation. Section 3-

01-20 of the Federal Assistance Manual (FAM) provides only those bond forfeiture costs not directly associated with site-specific activities are allowable under the State's A&E Grant. The OSM and WVDEP agreed on funding 45 percent of the field staff for the OSR under the A&E Grant, but this funding rate still requires OSM grants validation.

I. Litigation

This section includes a discussion of existing cases in four categories of litigation:

- Litigation against OSM;
- Litigation involving WVDEP;
- Litigation involving various coal companies; and
- Bankruptcy filings of coal companies operating in West Virginia.

Although only two of the cases discussed herein named OSM as a litigant, we find it useful to monitor these cases to assist our oversight of the West Virginia program. Outcomes of some lawsuits may influence future rulings. We monitor citizen suits against coal companies involving both the CWA and SMCRA. The OSM also monitors NOIs filed by SMCRA or the CWA ahead of a citizen suit, but do not address the NOIs. For a discussion of NOIs filed against OSM, please refer to Section VI.C above.

I.1. Litigation Involving OSM

I.1.a. Ongoing Litigation Regarding the State's Bonding Program and Required Amendments to the State's Program

OVEC et al. v. Glenda Owns, Acting Director, OSM, Civil Action No 3:21-cv-00301, USDC Southern District WV Huntington Division filed May 17, 2021

On May 17, 2021, the Ohio Valley Environmental Coalition, West Virginia Highlands Conservancy, and The Sierra Club filed a complaint in the USDC Southern District, Huntington, WV alleging that OSMRE has failed to make the required determination of whether an amendment to West Virginia's SMCRA Program is necessary within the 30-day period following receipt of notice from the West Virginia Department of Environmental Protection ("WVDEP").

On December 30, 2020, the State notified OSM of the possible occurrence of a significant event that could affect the implementation, administration, or enforcement of the West Virginia approved State financial assurance programs.

On January 29, 2021, OSM acknowledged the complexity of these circumstances and the potential impacts on the West Virginia approved State program, particularly to the solvency of WVDEP's financial assurance program that ensures funds are available to carry out reclamation responsibilities if a permittee is no longer able to do so.

On August 23, 2021, OSM determined that West Virginia was required to submit a program amendment that will ensure tracking of existing reclamation liabilities (including water treatment) at mining operations. Pursuant to the Federal regulations, within 60 days of notification, West Virginia must submit to OSM "either a proposed written amendment or a description of an amendment to be proposed that meets the requirements of the Act and this chapter, and a timetable for enactment which is consistent with established administrative or legislative procedures in the State." 30 C.F.R. § 732.17(f)(1). The WVDEP provided OSM an interim response on October 18, 2021, with explanations of their proposed actions including draft language for a program amendment.

I.2. Litigation Involving the WVDEP

I.2.a. Litigation notice of intent to sue WVDEP v. Ohio Valley Environmental Coalition, West Virginia Highlands Conservancy, and Sierra Club for inadequacy of the bond forfeiture fund.

According to information provided by WVDEP, receivership action brought by WVDEP against ERP. OVEC then filed action against WVDEP in federal court for compliance with the 732 process which was resolved when WVDEP notified OSM of condition which could affect on the approved program. For more information on West Virginia's Alternative Bonding System (ABS) refer to section J of this report.

I.3. Litigation Filed Against Various Coal Companies

I.4. Bankruptcy Filings of Coal Companies Operating in West Virginia

I.4.a. Murray Energy Corporation - Case No. 2:19-bk-56885

On October 29, 2020, Murray Energy Holdings Co. and 98 affiliated debtors each filed a voluntary petition for relief under Chapter 11 of the United States Bankruptcy Code in the United States Bankruptcy Court for the Southern District of Ohio, Western Division. The cases are pending before the Honorable John E. Hoffman Jr and are jointly administered under Case No. 19-56885. As part of the reorganization, the group of creditors, who hold about 60 percent of \$1.7 billion in claims against the company, will also provide \$350 million to allow Murray Energy to continue operating in bankruptcy, subject to Court approval. Robert Murray is expected to remain as Chairman of the Board. However, Robert Moore is to assume the role of Chief Operating Officer and President. Under the restructuring agreement, the creditor group will form a new entity called Murray New Co. that will seek to acquire the company's assets through a stalking horse bid. Murray Energy currently has 93 active permits operating within seven states. Eighty-eight percent of Murray Energy's active permits are in Kentucky, Illinois, Pennsylvania and West Virginia.

On January 9, 2021, the Bankruptcy Court entered an order approving the bidding procedures in connection with the sale of all or substantially all the Debtors' assets.

On April 25, 2021, the Debtors filed the solicitation versions of the Debtors' First Amended Joint Plan Pursuant to Chapter 11 of the Bankruptcy Code at which time the Debtors commenced solicitation of acceptances and rejections of the Plan.

I.4.b Mission Coal Wind Down Co, LLC, et al. - Case No. 18-04177

On October 14, 2018 (the "Petition Date"), Mission Coal Wind Down Co, LLC (aka Mission Coal Company, LLC) and ten of its subsidiaries filed voluntary petitions in the United States Bankruptcy Court for the Northern District of Alabama seeking relief under the provisions of Chapter 11 of the United States Bankruptcy Code. The Debtors continue to operate their business and manage their properties as debtors-in-possession.

I.4.c. Revelation Energy Holdings, LLC – Case No. 3:2020-bk-30291 and Blackjewel, L.L.C. et al. – Case No. 3: 19-bk-30289 (the Lead Case).

On July 1, 2020, Revelation Energy Holdings, LLC filed a voluntary petition for Chapter 11 Bankruptcy with the U.S. Bankruptcy Court for the Southern District of West Virginia. The deadline for filing claims is November 4, 2020, and the deadline for objecting to discharge is October 7, 2020.

On July 3, 2020, U.S. District Bankruptcy Judge Volk issued an operating order to Revelation Energy Holdings, LLC. It prescribed the format and procedures for future filings in this bankruptcy case.

On July 3, 2020, the U.S. Bankruptcy Court for the Southern District of West Virginia entered an Order directing the procedural consolidation and joint administration of the Chapter 11 cases of Blackjewel, L.L.C. (0823); Blackjewel Holdings L.L.C. (4745); Revelation Energy Holdings, LLC (8795); Revelation Management Corporation (8908) and Revelation Energy, LLC (4605). Parties must file all further pleadings, other papers, and make all further docket entries in the Chapter 11 case of Blackjewel, L.L.C. – Case No. 3:19-bk-30289, which was designated the lead case by the Bankruptcy Court.

As of June 30, 2020, Revelation Energy, LLC had seven (7) surface mining and six (6) underground mining operations in West Virginia. The State granted one of the underground mining operations a Phase I bond release and granted two other underground mines inactive status. Other mining operations associated with Revelation Energy are in Virginia and Kentucky. Its affiliate, Blackjewel, has mining operations in the State of Wyoming.

On July 1, 2020, Blackjewel, L.L.C. and four affiliated debtors each filed a voluntary petition for relief under Chapter 11 of the United States Bankruptcy Code in the United States Bankruptcy Court for the Southern District of West Virginia. The cases are pending before the Honorable Frank W. Volk and are jointly administered under Case No. 19-30289.

On July 24, 2020, six additional debtors each filed a voluntary petition for relief under Chapter 11 of the United States Bankruptcy Court for the Southern District of West Virginia.

I.4.d Living Lands, LLC and D.C Chapman Ventures vs Jack Cline, Brady Cline Coal Co., and Spruce Run Coal Co., and Harold Ward (WVDEP) Case No. 3:20-cv-00275

Among others, the Living Lands case revolves around three primary claims. The first of which being that unlined treatment ponds, unlined AMD sludge drying pits for treated sludge, and unlined conveyance ditches allow for infiltration and pollution of groundwater and are therefore point sources requiring individual NPDES permits. The second being that the material in the treatment ponds and the treated sludge in the sludge drying pits are hazardous wastes and/or solid wastes under RCRA, therefore triggering the relevant waste handling and disposal requirements. The third being that the material in the unlined treatment ponds, unlined sludge drying pits, and unlined conveyance ditches is AMD contaminated mining waste under CERCLA, therefore triggering financial responsibility requirements for potential responsible parties, including but not limited to the DEP.

The implications of the DEP losing on the first issue would be that similarly situated ponds across the state of West Virginia could be required to install liners and obtain NPDES permits, at a huge cost. A loss on the second issue would completely upend how the DEP, and all other entities who generate, store, or dispose of AMD sludge currently operate. A loss on the third issue would expose the DEP, as well as any other potential responsible parties in the handling history of the material, to massive financial liability for the cleanup and remediation of this site, and very likely many others. A loss on any of these claims is likely to impact similar operations in other states, as a precedent would allow for similar challenges in courts across the nation.

DEP has filed a pretrial motion to dismiss based on procedural grounds. The case is currently in the discovery phase, with a trial date of March 2022.

I.5. Impact of Bankruptcies on West Virginia

OSM is currently monitoring coal-mining companies in chapter 11 bankruptcy and the impact on the West Virginia program. Currently, a small number of permits have been forfeited with one large company being in receivership of the State. OSM will provide updated analysis of bankruptcies in the 2022 annual report.

J. Monitoring and Improvements to West Virginia's Alternative Bonding System (ABS)

J.1. Alternative Bonding System

During EY 2021, the Special Reclamation Fund Advisory Council (Advisory Council), in coordination with WVDEP and OSM, continued monitoring the State's ABS, commonly known

as the Special Reclamation Fund (SRF). Several noteworthy events occurred during the year and are discussed below.

During the reporting period, the Advisory Council, through the WVDEP, contracted with Taylor & Mulder, Inc. of Potomac, Maryland to complete an actuarial study of the ABS. The actuarial review will be completed by late 2021, and the study will be provided to the Legislature in early 2021. By law, an actuarial study is to be conducted on the State's ABS every two years, and informal reviews are to be done annually.

State law authorizes the Advisory Council to make recommendations to the Legislature regarding the financial adequacy of the State's SRF. In its 2020 SRF Annual Report, the Advisory Council recommended that the current reclamation tax of 27.9 cents remain in force. The Advisory Council recommended the Legislature form a panel to examine elements of the State code that result in uncontrolled liabilities, how other states deal with such issues, and finally to propose a State legislative initiative to rationalize water quality regulations to meet the conditions of the Federal Clean Water Act (CWA), while adding rationality and certainty to the process. The Advisory Council is concerned about the default transfer of water treatment liability to the SRF when opportunities exist to pursue responsible parties under the CWA.

During this EY, the Advisory Council commissioned the completion of a Consensus Coal Production Forecast for West Virginia by the Center for Business and Economic Research at Marshall University. Taylor & Mulder will use the forecast completed in 2021, a consensus of four other forecasts, in its actuarial study which will be produced in late 2021. The study shows no expectation for improvement in the long-term trend in State coal production.

J.2. Actuarial Analysis

In 2008, the West Virginia Legislature established a separate Special Reclamation Water Trust Fund (SRWTF). Beginning in 2012, coal tax revenue based on a coal tax rate of 15.0 cents per ton was paid into the SRWTF. The WVDEP decided to allow this fund to increase in value and not use revenue from it for water treatment purposes until after 2020. In addition, coal tax revenue based on a 12.9 cents per ton tax rate was paid into the SRF, which is currently being used by the State for both land and water reclamation. As mentioned above, the State contracted Taylor and Mulder, Inc. to conduct an actuarial study of the State's ABS in 2019. Pinnacle Actuarial Resources, Inc. (Pinnacle) conducted an actuarial review of the State's SRF and SRWTF in February 2017. Pinnacle's review showed that the SRF would develop a negative cash balance in 2021. However, because the actuary projected both funds combined to maintain a positive cash balance through 2052, they recommend the transfer of \$38 million in assets from the SRWTF to the SRF. The SRF would be able to maintain a positive balance position throughout the projected period without causing the SRWTF to move into a negative balance position. In lieu of transferring the funds, WVDEP and the Advisory Council decided to monitor both funds and transfer funds from the SRWTF to the SRF as it became necessary to maintain a minimum balance of 10 million dollars in the SRF.

During the reporting period, the Advisory Council, through the WVDEP, contracted with Taylor & Mulder, Inc. of Potomac, Maryland to complete an actuarial study of the ABS. The actuarial review will be completed by late 2021, and the study will be provided to the Legislature in early 2022.

J.3. Special Reclamation/Water Trust Funds

Through the State Investment Management Board (IMB), the Advisory Council continued to invest the Special Reclamation Water Trust Fund (SRWTF) revenue in long-term bond investments. The SRF revenue, used to fund land reclamation and water treatment activities, is currently invested in short-term financial instruments. The adoption of this investment strategy has resulted in increased rates of return for the SRWTF and to a lesser extent for the SRF. As of June 30, 2021, the SRF had a balance of \$32.5 million a reduction of 27% from last year due to no transfers from the SRWTF and additional expenditures for land and water reclamation performed during the year. The SRWTF had a balance totaling \$164 million a 31.5% increase from last year from coal tax and interest gains.

Long-term investments, like the SRWTF, are invested at 40 percent in stock, 40 percent in fixed income and 20 percent in Hedge Funds. The SRF is mostly invested in short-term assets, such as money market securities.

During the reporting period, the Office of Special Reclamation (OSR) used State Regulatory inspectors to inspect completed bond forfeiture sites to ensure compliance with approved reclamation plans, and upon request, DMR issues letters terminating jurisdiction over the sites. WVDEP retains jurisdiction over any bond forfeiture site, or portions thereof, that require treatment of discharges emanating from such sites and are required to obtain an NPDES permit any discharges (Keeley Decision 1/14/2009 - WVHC versus Huffman).

As mentioned below, WVDEP in coordination with the United States Environmental Protection Agency (EPA) and OSM continued an alternative means project for treating water within the Muddy Creek and Sandy Creek Watersheds (Preston and Barbour Counties, WV). Rather than treating water discharges from bond forfeiture sites on a site-by-site basis, WVDEP petitioned EPA to conduct in-stream treatment, thus addressing both pre-law and post-law AMD problems, while improving each stream's biological integrity. In 2017, EPA approved WVDEP's request for a variance for Muddy Creek.

In 2018 EPA approved WVDEP's request for variances for Maple Run and the Left Fork of Little Sandy, two tributaries within the Sandy Creek watershed.

A watershed-based NPDES permit will cover water treatment sites within the watersheds where the variances are applied, and WVDEP will be required to meet in-stream water quality standards at predetermined stream locations. WVDEP is considering other locations to pursue similar

opportunities to conduct in-stream treatment. In-stream treatment will be conducted at equivalent cost to those of treating at each article 3 permitted site with these watersheds.

On May 8, 2021, a notice of intent to sue was filed with the WVDEP over the SRF/SRWTF for inadequacy of funds to address outstanding bond liabilities of Earth Restoration Project Environmental Fund, LLC permits. This topic is discussed in section VI.I.2.b of this report.

J.4. AMD Remediation: Muddy Creek & Sandy Creek

WVDEP in coordination with the United States Environmental Protection Agency (EPA) and OSM continued an alternative means project for treating water within the Muddy Creek and Sandy Creek Watersheds (Preston and Barbour Counties, WV). Rather than treating water discharges from bond forfeiture sites on a site-by-site basis, WVDEP petitioned EPA to conduct in-stream treatment, at equivalent cost, thus addressing both pre-law and post-law AMD problems, while improving each stream's biological integrity. In June 2017, and February 2018, the EPA approved WVDEP's request for variances within Muddy Creek and Sandy Creek respectively.

Watershed-based NPDES permits now cover bond forfeiture water treatment sites within these watersheds where the variance is applied, and WVDEP will be required to meet instream water quality standards at predetermined stream locations. WVDEP is considering other locations to pursue similar opportunities to conduct in-stream treatment.

J.4.a Muddy Creek

AMD from Bond forfeiture sites within Martin Creek, a tributary of Muddy Creek (Preston Co., direct drain to the Cheat River), accounted for roughly 16% of the total acid loads at the mouth. AML sources were responsible for the remaining 84%. The NPDES permit for the Muddy Creek Watershed Restoration Project was approved July 29, 2020 and is located at the mouth of this tributary. This in-stream permit now supersedes four WVDEP NPDES permits throughout the Martin Creek watershed. The NPDES permit for the T&T Fuels Treatment Facility, located on Muddy Creek approximately one mile downstream of Martin Creek, remained active. This facility took on some overwhelming AMD loads from within Martin Creek, including AML sources. Since the combined, in-stream/at-source treatment approach took effect conditions within Muddy Creek have improved substantially. Muddy Creek is now net alkaline with a circumneutral pH, and the fish population went from zero to over 1400 in 2020, including some moderately sensitive fish species such as mottled sculpin and rainbow trout. In March 2021, a high flow event occurred from the T&T mine releasing raw AMD to Muddy Creek. This resulted in a depressed pH at the mouth of Muddy Creek for a 3 to 4 day period. Although outside of the EY, a recent DEP biological survey conducted at the mouth of Muddy Creek revealed multiple fish species with a total count of 150. Further upstream, five different fish species were found with a count of 20.

J.4.b. Sandy Creek

The WVDEP is taking a similar permitting approach in the Sandy Creek watershed (Barbour Co, direct drain to the Tygart River) as it did for the Muddy Creek Watershed. By obtaining instream NPDES permits at the mouths of two tributaries of Little Sandy Creek, Left Fork of Little Sandy (LFLS) and Maple Run, using the in-stream treatment approach, the WVDEP is able to treat all AMD sources within these two tributaries. The LFLS accounts for 91 percent of the downstream loadings in Little Sandy, yet the one bond forfeiture site in this watershed contributes a mere two percent, and the three bond forfeitures in Maple Run only account for approximately 11 percent of the loadings of this tributary. The WVDEP obtained NPDES permits for these two tributaries December 13, 2020. Although travel restrictions due to COVID-19 in 2020 did not allowed for fish surveys, conditions appear favorable for stream recovery.

Before treatment began, a biological study conducted in 2015 resulted in zero fish capture. Although outside of the EY, a recent DEP biological survey conducted near the mouth of Sandy Creek revealed multiple fish species with a total count of 725. Little Sandy Creek netted a total of 180 fish in the survey.

J.5. Rare Earth Elements (REEs)

During EY 2020, WVDEP continued to collaborate with West Virginia University (WVU) in evaluating the concentrations of REEs in AMD sludge that is present on several bond forfeiture sites throughout the State. According to WVU, test results show that the concentrations of REEs in AMD sludge were of commercial grade, and no uranium or thorium was present in the samples evaluated. In addition, about 77 percent of the REEs present contain heavy versus light metals. Typically, AMD sludge with a low pH contains better quality REEs.

Recent research conducted by WVU has shown that AMD is enriched in REE and the critical mineral cobalt. It has been found that AMD has an average total REE concentration of about 287 µg/L (0.287 ppm), ranging from negligible to 2,000 µg/L. WVU has created a concentrate of 80% REE derived from AMD treatment precipitates. The strategy of using raw AMD as the feedstock to their acid leaching/solvent extraction (ALSX) refining process was demonstrated on a bench scale level and also in the field where a mobile field unit was deployed at a conventional AMD treatment plant operated by WVDEP.

WVDEP engineers designed an AMD treatment facility at a Buffalo Coal bond forfeiture site located on the Grant and Tucker County line near Mount Storm, WV. The engineers then worked closely with WVU to incorporate a full-scale AMLER REE extraction component to the treatment plant. Rockwell Automation Corporation is providing the sensors and control technologies for the AMLER plant to process the sludge predicted to hold REEs in commercial quantities for future development. Construction of the AMLER project began November 12, 2020 and is expected to be complete in the fall of 2021. Due to nationwide shortages of various construction materials, the project is now expected to be completed by spring of 2022.

Studies show that the Appalachian basin could produce 800 tons of REEs per year or the same

amount the defense industry needs annually.

Ownership of the REEs remains a legal issue that still needs to be determined.

J.6. Tax Incentives to Reclaim Bond Forfeiture Sites

As discussed in Subsection VI.B.1.i, WVDEP submitted a statutory revision to provide tax incentives for mine operators to reclaim bond forfeiture sites within the State. Pursuant to WV Code §22-3-11(h), the State Tax Department is authorized to promulgate rules to carry out the purposes of this law. On June 6, 2014, the State Tax Department filed its rules with the Secretary of State. On November 13, 2014, OSM published a **Federal Register** notice that reopened the comment period on the Special Reclamation Tax Credit Rule. The comment period closed on November 24, 2014. In section VI.B.1.a of this report WV-113-FOR was published May 7, 2021 and finalized in the **Federal Register**. Operators can use the tax credit to offset their special reclamation tax liability by completing reclamation on other bond forfeiture sites. Part of the intent is to free up OSR personnel to work on other bond forfeiture sites throughout the State.

J.7. Bond Forfeiture NPDES Permits

As discussed in Subsection VI.I.2.a, the U.S. Fourth Circuit Court of Appeals upheld a U.S. District Court decision finding the State was violating the CWA by emitting pollutants from a point source without a permit and ordered WVDEP to obtain NPDES permits for discharges from 21 bond forfeiture sites within the State. Due to this decision, the State entered a Consent Decree approved by both the Northern and Southern District Courts. At the end of the EY 2021, WVDEP had obtained 162 NPDES permits for 201 bond forfeiture permits because of the Consent Decree.

J.8. Timeliness of Bond Forfeiture Reclamation

During the review period, OSM conducted a study to evaluate the timeliness of bond forfeiture reclamation by OSR. The 38 CSR 2-12.4.c provides that after the notice of forfeiture has been served, the Secretary shall in a timely manner, but not later than 180 days after such notice, initiate reclamation operations to reclaim the site in accordance with the approved reclamation plan or modification thereof, including action to remediate any acid mine drainage from the site. This study will be finalized in EY2021 and will be published in next EY report.

As discussed above under Subsection VI.B.1.m, the West Virginia Legislature adopted Enrolled SB 163 on February 16, 2018, and the Governor approved it on February 27, 2018. As a result of this action, WVDEP proposes to remove subsection 12.4.c from its regulations. This amendment is pending OSM approval.

K. Trend Station/Watershed Health Oversight

During EY 2017, two AmeriCorps members, along with OSM's CHFO developed tools to

investigate the possibility of post-SMCRA mining contributing to stream degradation. Work has continued to develop a procedure using existing water quality monitoring programs to prioritize inspections. Using water quality information available from NPDES, WVDEP WAB, and WVDEP Trend Station programs, mining operation site inspections were conducted to determine potential contributors to worsening iron impairment of Scott's Run and Mod Run. OSM CHFO is investigating these two watersheds as part of the ongoing study to determine if post-SMCRA mining is contributing to the increased iron concentrations. This study was not completed before the end of the EY and will be reported in the 2022 EY report.

L. Incidental Boundary Revisions (IBR)

As previously reported, CHFO evaluated the State's implementation of its IBR requirements. The evaluation found WVDEP was performing many aspects of its IBR process well, adding all new acreage under an IBR or amendment. In addition, WVDEP recognized an IBR application did not fit the profile of a minor boundary revision and treated such requests as significant permit revisions with public comment periods.

However, many of the IBRs in the review were combined with other operational changes, and the IBR acreage limits for surface mines were exceeded, making the classification of all the changes subject to question as an IBR. Some of the problems identified in the study relate to the State's IBR policy, which, in some instances, does not require all the necessary information or conflicts with State program requirements. That policy provides waivers reserved for underground mining operations being used for coal refuse disposal or coal preparation operations, where the activity directly facilitates underground mining operations. The OSM found examples where waivers granted in those situations do not meet program requirements.

Because WVDEP submitted a program amendment to OSM that may resolve some of these concerns, OSM and WVDEP agreed to complete processing the program amendment before taking any action on this issue. A complete review of WVDEP's IBR modification is part of a larger effort and was pending OSM's approval at the end of the reporting period. For further information regarding the status of this effort, see Subsection VI.B.1.c above. Once a final decision is rendered on the State's proposed IBR modification, additional action may be needed to address the issues described in the IBR oversight evaluation. The relevant program amendment was not approved or finalized before the end of the review period. This evaluation will be considered for action during the next EY subject to the program amendment being approved.

M. Land Unsuitable Mining Petitions - Blair Mountain Battlefield

On June 27, 2018, Joy Beasley, National Park Service's Keeper of the Register, issued a Decision Memorandum remanding the 2009 decision removing the Blair Mountain Battlefield from the National Register of Historic Places. The West Virginia State Historic Preservation officer nominated the site to the National Register in 2005. The National Register subsequently listed the site in 2009 but removed it months later. More than 10,000 union coal miners fought with coal

company guards along the Blair Mountain Ridge, between Boone and Logan Counties in 1921. Many consider Blair Mountain Battlefield as the site of the largest armed confrontation in the United States labor history.

In her decision, Ms. Beasley determined the Keeper's December 30, 2009, decision to remove Blair Mountain Battlefield from the National Register was erroneous, because she determined that 66.26 percent of the private property owners did not object prior to the listing, as alleged by the coal industry. Therefore, she confirmed on June 27, 2018, the National Register of Historic Places once again listed Blair Mountain Battlefield.

On July 31, 2018, Dr. Charles Keeney, Friends of Blair Mountain, Inc., sent a letter to Harold Ward, Director, DMR, WVDEP, requesting WVDEP protect Blair Mountain from mining by declaring the 1,669-acre battlefield area and the 500-acre Northwest Flank of the battlefield unsuitable for mining because the area is part of the National Register of Historic Places. During EY 2019, WVDEP participated in meetings concerning the request; however, at the end of the evaluation year, WVDEP had not responded officially to the Keeney letter. There was no change in the status of this issue during the EY. OSM will continue to monitor actions of WVDEP during EY 2021.

N. Underground Mine Hydrology Field Review

The OSM is continuing to work with WVDEP to evaluate underground bond releases to ensure post closure hydrology will not create a long-term pollution source and outcrop barriers are sufficient to prevent blowouts.

During the timeframe of July 1, 2018 to June 30, 2021, OSM conducted an oversight study to document WVDEPs consideration of potential hydrologic impacts associated with underground mines at the time of bond release. The oversight study was designed to document whether underground mine permits held adequate information on elevation, water quality of the mine pool or mine pool discharge, etc. and whether this information was carefully considered during bond release assessment. The study evaluated the hydrologic consequences section of the approved permit in to find if the first prediction for the final mine pool elevation was accurate. OSM did not complete the study report during the review period. It will be completed in EY 2022, posted to OSM's website and summarized in the EY2022 AER.

VII. Regulatory Program Problems and Issues

A. Acid Mine Drainage Inventory of Active Permits

The WVDEP continues to develop and maintain its AMD inventory of active permits. The WVDEP and OSM executed a work plan in 2006 to assist the State in the development of an

ongoing inventory of active mining operations requiring AMD treatment and to implement procedures allowing for the collection of raw water data at those sites on a regular basis. The team identified approximately 370 active permits in the State with appreciable water treatment costs. This project had some success, but inadequate data regarding pump discharge rates at underground mines and inadequate flow and chemistry data to estimate water treatment costs proved insurmountable and the project was never completed. Determining current reclamation liability of active permits for both land and water treatment is critical to assessing the solvency of the SRF.

The WVDEP continues to provide OSM an updated list of all permits within the State with AMD and/or required water treatment during the prior year. The OSM inspectors use and modify the listing based on any water quality data OSM provides WVDEP.

The State does have water treatment cost data at most bond forfeiture sites but lacks complete data for active sites. The OSM continues to be concerned about the reclamation liabilities of existing forfeitures entail smaller mines and may not represent many larger mines or newer mines with different water quality standards. When evaluating the State's SRF, OSM suggests WVDEP consider the impact these differences might have on future risks and costs.

During 2020, WVDEP took steps to improve its water treatment inventory of active permits. The WVDEP tasked its inspection staff with validating the number of sites likely to be treating water after active mining operations have ceased. The WVDEP began assessing water treatment cost data for its AMD Inventory on an outlet basis. Once finalized, actuaries will have access to this information to better assess State bond forfeiture liabilities in the future.

B. State Regulatory Staffing and Program Funding

As discussed in Subsection G, during EY 2021, the State had an approved regulatory program staff of 212.51 Full-Time Equivalent (FTE) positions, but there are 20.95 vacant positions, resulting in only 191.56 FTE filled positions as shown in Table 8. Ninety-eight percent of the vacancies are in the critical mission areas of permitting and inspection and enforcement.

In EY 2021 WVDEP informed OSM FTE's will decline as they remove 15 vacancies determined to not be needed. With approximately 30 percent of the existing regulatory staff eligible to retire, State officials are anticipating the vacancy problem will continue with newly vacant positions to fill.

As discussed in Subsection VI.B.1.d above, the State amended WVSMCRA to increase the filing fee for surface mining permits and to increase or establish new fees for other permitting actions. The State uses revenue from these fees to administer the State's Regulatory Program. However, State officials agree revenue from those fees is insufficient to offset the revenue lost due to the repeal of the synfuels tax in December 2007. The WVDEP, in cooperation with OSM, is continuing to evaluate other potential sources of revenue for permanent funding of the State's administration of the approved Regulatory Program.

The WVDEP was able to meet its matching requirements under its regulatory grant in FY2021. State officials have acknowledged WVDEP should be able to cover its 50 percent matching requirement under its Administration and Enforcement (A&E) Grant through FY2024. As mentioned above, higher than expected permit fees and coal tax revenue estimates caused them to increase prior projections. However, OSM is concerned this source of funding is only a temporary fix and WVDEP will need to identify other revenue sources to meet its future funding obligations under the grant.

Although recent revenues were above projections, most coal models project the State coal production will continue to decline in the future. Informal assessments show the continued decline in State coal production will result in a revenue loss of about \$4 million annually for the Regulatory Program and associated costs.

The OSMRE is encouraged State Revenue estimates show WVDEP should be able to meet its funding obligations under the A&E grant through FY 2024. However, given any State proposal to increase revenue requires legislative approval, WVDEP must act in 2022 to find a permanent source of revenue for the Regulatory Program. OSM will continue to monitor this closely.

C. Acid Mine Drainage Prediction-Underground Mining and Expansions – Underground Mine Monitoring

During a previous study, OSM and WVDEP completed a review of nine underground mine permits where AMD had developed. The design of the review was to determine whether AMD formation could have been predicted and properly addressed through better informed permitting considerations and decisions. The review found State permit reviewers could use available data to more consistently predict and/or prevent AMD issues and that revised CHIA should be required with significant underground mine expansions. This action is consistent with the guidance and recommendations put forth by a 2007 joint Quality Assessment Quality Control (QAQC) panel that was comprised of WVDEP/OSM/industry specialists that completed CHIA guidance for Division of Mining and Reclamation (DMR) permit reviewers.

The WVDEP agreed to take several actions to improve how to address AMD issues in the future. These included updating of the WVDEP CHIA Guidance document. A WVDEP/OSM task group also developed a Guidance Manual for Monitoring Underground Coal Mining Operations for use by WVDEP's DMR Permit Review Staff and the coal industry. This manual addresses issues concerning the prediction and monitoring of potential hydrologic impacts from underground coal mining operations. In EY 2013, a joint OSM and WVDEP task group completed a draft of the Guidance Manual.

During EY 2019, CHFO worked with WVDEP's DMR in reviewing, editing, and completing the document to finish this project. During EY 2020, WVDEP's DMR advised that it would use portions of the manual for training purposes. WVDEP did document that several training sessions

were held during 2020 using the guidance manual. The OSM was unable to follow up with DEP in EY 2021 to determine progress on implementing and using the manual in its day-to-day operations due to the Covid-19 Pandemic.

D. Financial Adequacy of the Special Reclamation Fund (SRF)

As discussed in Section VI.J, the Advisory Council, through WVDEP, contracted Taylor & Mulder, Inc. to conduct an actuarial study of the State's SRF and SRWTF in 2019. By law, the State contracts an actuarial study every two years, and completes informal reviews annually. The State's prior actuarial analysis conducted by Pinnacle Actuarial Resources (2017) showed the SRF would develop a negative cash balance in 2021. Pinnacle recommend transferring \$38 million in assets from the SRWTF to the SRF. The SRF would be able to maintain a positive balance position throughout the projected period without causing the SRWTF to move into a negative balance position. In lieu of transferring the funds, WVDEP and the Council decided to closely monitor both funds and transfer funds if necessary to maintain a minimum balance of \$10,000,000 in the SRF. In 2019 Taylor & Mulder, Inc. projected both funds to maintain a positive cash balance through 2039; .

As noted in Subsection VI.I.5, coal companies in some stage of bankruptcy during 2016-2017 own 59 percent of the State's active and inactive permits. At the time of this writing, none of the bankruptcies had resulted in a revoked permit or forfeited bond. However, some bankruptcies continued into EY 2021, and the State faces potential reclamation liability well into the future as a result. In Section II, this report acknowledges a continued declining long-term trend in State coal production, which is the primary source of funding for the SRF and SRWTF. Furthermore, as discussed in Section VI.J, the Consensus Coal Production Forecast commissioned by the Advisory Council during EY 2020 shows no expectation that the long-term trend in State coal production will improve. As discussed in VII.A, WVDEP has taken action to improve its assessment of water treatment liabilities at active permitted sites and in the future will use this information to improve its assessment of bond forfeiture water treatment liabilities. Finally, as described in Section VI.B, OSM continues to support the various efforts taken by the State to improve its SRF and SRWTF to date and we will continue in EY 2021 working with WVDEP to improve the financial stability of its bonding program.

As discussed in OSM's April 2015 letter to WVDEP, when projecting future liabilities about the State's alternative bonding system, actuarial firms have relied extensively on historic bond forfeiture reclamation data. However, given the nature and cost of existing bond forfeiture reclamation, we strongly believe it would be prudent for WVDEP and the Advisory Council to consider the risk of failure of some active sites with unusual reclamation liabilities, such as selenium, reverse osmosis, etc., that are not reflected in current bond forfeiture reclamation data used by actuarial firms today.

VIII. OSM Assistance – Regulatory Program

A. Underground Mine Monitoring – Technical Guidance Manual

The OSM assisted WVDEP with the preparation of a Guidance Manual to promote consistency and efficiency in the preparation and review of the hydrologic portions of underground mine permit information. A draft of this document was completed in May 2013, and during EY 2017-2018, CHFO in conjunction with WVDEP's DMR management reviewed and completed editing the document. The WVDEP management received the document for final review and comment, but during EY 2020, the document was still going through the final reviews. It is anticipated the finalized document will be guidance or used as a training module during EY 2021.

B. Technical Training – Technical Innovation and Professional Services (TIPS) and National Technical Training Program (NTTP)

The OSM organizes and conducts in the classroom training courses throughout the year for State and Federal program staff. The courses are specifically oriented toward the latest technologies useful for the regulation of active mining and reclamation of abandoned mines. OSM's NTTP and TIPS Program administers these courses. During EY 2021, 85 WVDEP regulatory staff attended NTTP courses and 53 WVDEP employees attended TIPS courses.

C. Lexington Coal Company

Horizon Natural Resources Company (Horizon) filed for Chapter 11 bankruptcy protection in November 2002, resulting in the largest coal company bankruptcy in United States history at the time. In August 2004, the U.S. Bankruptcy Court in Kentucky approved the company's reorganization plan, which included the formation of Lexington Coal Company, LLC (LCC). LCC's primary responsibility was to complete land reclamation on the remaining permits and to provide for the treatment of any pollution discharges found to be present.

Due to the bankruptcy, there were 16 sites, involving 13 permits, in West Virginia requiring land reclamation by LCC. LCC completed land reclamation of all those sites by EY 2014.

LCC also created three Trust Fund Agreements to treat water at four of the reclaimed mine sites. During EY 2019, LCC continued water treatment activities at the four sites. An enforcement follow-up was conducted by WVDEP and OSM on September 13, 2019 for one of the four sites. WVDEP issued two NPDES single event violations (SEV's) at the time of the inspection, for conditions not allowable in State waters and for exceeding limits of pH. On September 19, 2019 the SEV's were terminated after meeting pH compliance and removing the white precipitate in the creek. The four sites are being monitored by WVDEP routine inspections.

The LCC submits summaries of its operation, maintenance, and capital improvement costs at sites requiring water treatment to WVDEP. Pursuant to the Trust Fund and Bond Agreements, WVDEP

and LCC review and update the water treatment cost estimates and adjust the bond amounts based on the Primary and Capital Trust and Target valuations set forth in the Agreements. Based on this review, monies within the Trust Funds can be adjusted over time. If the Trust valuations are less than the Target valuations, WVDEP can request that LCC add monies to the Funds. However, if the Trust valuations are more than the Target valuations used in managing the trust funds, WVDEP is required to instruct the Trustee to disburse the excess funds to LCC.

The State's Investment Management Board (IMB) invests the three trust funds for WVDEP. According to the IMB, the three trust funds had a value of \$9,119,159 as of May 31, 2020. In March 2019, LCC requested that WVDEP reimburse it for operation and maintenance and capital costs that it incurred during 2019 at these three sites. During this evaluation period, WVDEP reviewed LCC's request and applied it to a model previously developed by OSM for evaluating trust funds. Based on its review, WVDEP's results show that LCC was due a funds reimbursement at its three sites for 2019. The WVDEP determined that LCC's total Trust valuations were greater than its target valuations, thus making them eligible for reimbursement in 2019. The WVDEP's final decision for LCC's request for reimbursement was granted and made in the amount of \$337,765.

The WVDEP and OSM continue to monitor and report on LCC's water reclamation activities on these permits.

D. The Quality Assessment Quality Control Panel (QAQC Panel)

The Bragg vs. Robertson Lawsuit Consent Decree entered in the U.S. District Court for Southern West Virginia on December 22, 1999, created a QAQC Panel, with the purpose of "reviewing surface mining permits and to visit mine sites, as appropriate, to apprise the Director of WVDEP respecting administrative completeness of permits and to help assure consistent application of policies and procedures." The Consent Decree also specified that the Director create and post new positions to include a biologist (with at least a master's degree in biology) and trained and qualified (professional) engineer with at least a Bachelor of Science Degree in mining or civil engineering. Five personnel make up the QAQC Panel: two coal industry representatives, two environmental representatives, and one WVDEP representative. The WVDEP also provides a full-time "Approximate Original Contour (AOC) Engineer" and other WVDEP representatives, if needed, to assist and support the Panel. The OSM is not a member of the Panel, but often has a representative to attend meetings as an observer and resource to the team.

The Panel is required to meet nine times per year. This generally consists of four, two-day sessions at WVDEP regional offices and two one-half-day sessions to prepare and present the Panel's annual report to the Director and his staff at WVDEP headquarters. The calendar year 2021 represents the QAQC Panel's 22nd year in existence.

While the Panel reviews and monitors the overall completeness and quality of permit applications, examples of specific technical areas on which it has concentrated in the past include:

- AOC calculations, determinations, and compliance certifications;
- AOC variances and alternate post-mining land use justifications;
- Contemporaneous reclamation plans and variances;
- Topsoil substitute waivers;
- Endangered Species issues;
- Storm Water Runoff Analyses (SWROAs);
- Drainage control designs;
- Slurry impoundment construction plans;
- §404 Clean Water Act delineation and mitigation requirements; and
- Field application of specific reclamation techniques (such as forestland and ARRI).

The Panel annually reviews permitting statistics, reports on recent trends and permit practices, reviews user issues, and makes overall recommendations to WVDEP to improve permit quality and the efficiency of permit reviews. Over the past several years, the panel has identified and commented on general completeness and any potential deficiencies needing to be addressed. At the request of WVDEP staff, the Panel has also reviewed specific state policies and/or proposed guidelines, offered assistance with the development or revision of various certification forms, assisted with industry training sessions, and recommended measures to clarify/update WVDEP's e-permitting system (now called ESS or Electronic Submission System).

The panel's plans and goals for the calendar year 2021 included:

- Visit each regional office as practical.
- Continue to review most recently submitted SMA's by region
- Conduct site visits, approximately 1-2 meeting days;
 - Re-visit site(s) previously visited by the Panel in early stages of mining in order to review progress and current compliance;
 - Visit Alternative Post Mining Land Use (PMLU) sites;
- Prepare a SWROA Frequently Asked Questions (FAQ) document/help file, based on the results of last year's most common SWROA deficiency project:
- Assist WVDEP with training seminars/sessions, as requested; and
- Take on any special project or review of issues requested by the Director or Secretary.
- Prepared and presented End of Year (EOY) Report to the Director.

Panel postponed during the first half of 2021 due to the Covid-19 pandemic.

- Continue to review most recently submitted SMAs or Amendments in each region:
- Continuing work on SWROA FAQ project:
- Assist WVDEP with draft policy on submission standards for .pdf files of permit application maps and drawings; and,
- Assist WVDEP with 2021 Industry Training sessions and/or planning.

The QAQC Panel expects to present its annual report to the Director in early December 2021; the report will summarize 2021 activities, recent permitting trends, plans for 2022, and any Panel recommendations to WVDEP.

E. ESA Stream Assessment for the Guyandotte and Big Sandy Crayfish

The WVDEP requested OSM provide technical assistance to determine if environmental controls on surface mine operations are adequate to protect the Guyandotte River Crayfish (*Cambarus veteranus*) and the Big Sandy Crayfish (*Cambarus callainus*), both listed in early 2016 under the Endangered Species Act due to declining range and habitat loss.

The OSM currently assists in reviewing water-monitoring data from existing mining operations, other available sources, and collects new data as part of an on-the-ground field project. This analysis will include end-of-pipe data at drainage structures, stream monitoring, and potential watershed impacts from other sources.

The project is ongoing with OSM field staff collecting data and performing literature reviews. The OSM will provide updates and recommendations to WVDEP and coordinate with FWS on continuing fieldwork.

Abandoned Mine Lands Reclamation Program

A. General

A.1. Introduction

The mission of the Abandoned Mine Lands Reclamation Program is to reclaim AML sites by abating hazards, reducing or mitigating the adverse effects of past mining, and restoring adversely affected lands and water to beneficial uses. The WVDEP's OAMLRL is successfully carrying out this mission by addressing the most serious of the health and safety issues created by these AML problems. There are many more AML problems on West Virginia landscapes and streams needing to be addressed and ultimately abated. The OAMLRL conducts all the AML reclamation in West Virginia.

A.2. Program Administration

The OSMRE has approved four primary AML components to the West Virginia Program:

- The regular construction program abates high priority, non-emergency problems caused by past mining practices. The OSMRE approved the regular abandoned mined lands construction program on February 23, 1981.
- The State's Emergency Program abates problems caused by past coal mining practices. These must be expedited because the health and safety issues result from a sudden occurrence too serious to be addressed under the regular construction program. The OSMRE approved the State's Emergency Program section on August 26, 1988. In FY 2011, OSMRE stopped providing specific funding for emergency projects, but OAMLRL continues to address emergency issues with its regular grant funding and continues to operate an Emergency Program as it did prior to the elimination of direct, Federal emergency funding.
- Potable water supply provisions allow the State to repair or replace water supplies when the damage from past mining practices occurred primarily before August 3, 1977. The OSMRE approved this program provision on July 25, 1990.
- The Acid Mine Drainage Abatement and Treatment Program (AMD set-aside) allows the State to use a percentage of its annual grant allocation to reclaim watersheds impacted by AMD. The OSMRE originally approved this program component on March 26, 1993 and limited the amount of the "set-aside" to ten percent. The 2006 Reauthorization of the AML program allowed the State to increase the amount of funding in the set-aside for AMD treatment and abatement to 30 percent of its annual grant.

An additional function of the OAMLRL Program is the administration of the Abandoned Mine Land

Economic Revitalization Program (AMLER). During FY 2016, as part of The Consolidated Appropriation Act of 2016 (Public Law 114-113), \$30 million was made available to WVDEP to partner with other entities to develop economic revitalization projects focused in areas of the State severely impacted by the economic downturn in the coal market. The focus of these grant monies is to accelerate the remediation of AML sites with economic and community development end uses, and to explore strategies to convert legacy coal sites into productive land uses. During FY 2017, FY 2018, FY 2019 and FY 2020, \$25 million was made available to the WVDEP for each of these FYs, through subsequent AMLER grants. Throughout these five FYs, the WVDEP has submitted 52 potential projects for OSMRE's review. At the time of this writing, the WVDEP has applied for its portion of the FY 21 AMLER Grant.

The OAMLR utilized the administrative portion of their 2021 grant to fund a staff of 62 positions. At the time of the grant approval, there were 10 of the 62 positions vacant. The WVDEP plans to fill only half of these positions in this grant year, if possible.

A.3. Enhanced Abandoned Mine Land Inventory System Update

On December 12, 2012, OSMRE finalized Directive, AML-1, which outlines the policies and procedures for developing and maintaining the enhanced-AMLIS (e-AMLIS). The OAMLR staff continues to develop Problem Area Description (PAD) forms, and associated documents, for inclusion into AMLIS. The OAMLR submits these PADs, along with significant changes to existing PADs, to OSMRE for approval. The e-AMLIS allows for multiple maps and documents to be uploaded to the system and linked directly to problem areas. This information, as well as completion data, can now be easily accessed later through queries and downloads. The OAMLR staff continues to amend existing information within e-AMLIS to reflect existing conditions more accurately in the field, and update AMLIS with completion data as sites are reclaimed. This information is available to the public at <https://eamlis.osmre.gov>

Programs developed within e-AMLIS allow users to enter problem type units, such as number of portals, gallons of water, or feet of highwall, and the program equates those problems to a predetermined number of acres for a problem type. A consistent measurement such as this allows users to get a general idea of the overall status of reclamation throughout the nation. The chart labeled "Figure 1" shows the status of reclamation in West Virginia and the changes that have occurred in recent years.

Last EY, the OAMLR entered 136 new PADs into AMLIS for OSMRE's approval. This year, OAMLR submitted 93 new or significantly revised PADs into AMLIS for OSMRE's approval. As outlined in last year's EY, many of these new PAD entries is a continued effort by OAMLR to include an existing inventory of abandoned AML eligible highwalls into the system. This effort will continue until this data update is completed. The OAMLR then proposes to add a large mine fire inventory to AMLIS.

There is also a concerted effort on the part of OAMLRL to enter completion data into AMLIS as soon as possible after project completion to ensure that the database contains the most accurate data possible.

The OSMRE recognizes that many changes in the local communities, including the proliferation of off-road utility vehicles, has led to a greater public access to areas previously considered too remote to be considered a Priority 1 or 2 hazard.

Unfunded OAMLRL Liabilities vs. Completed OAMLRL Projects (2006-Present)

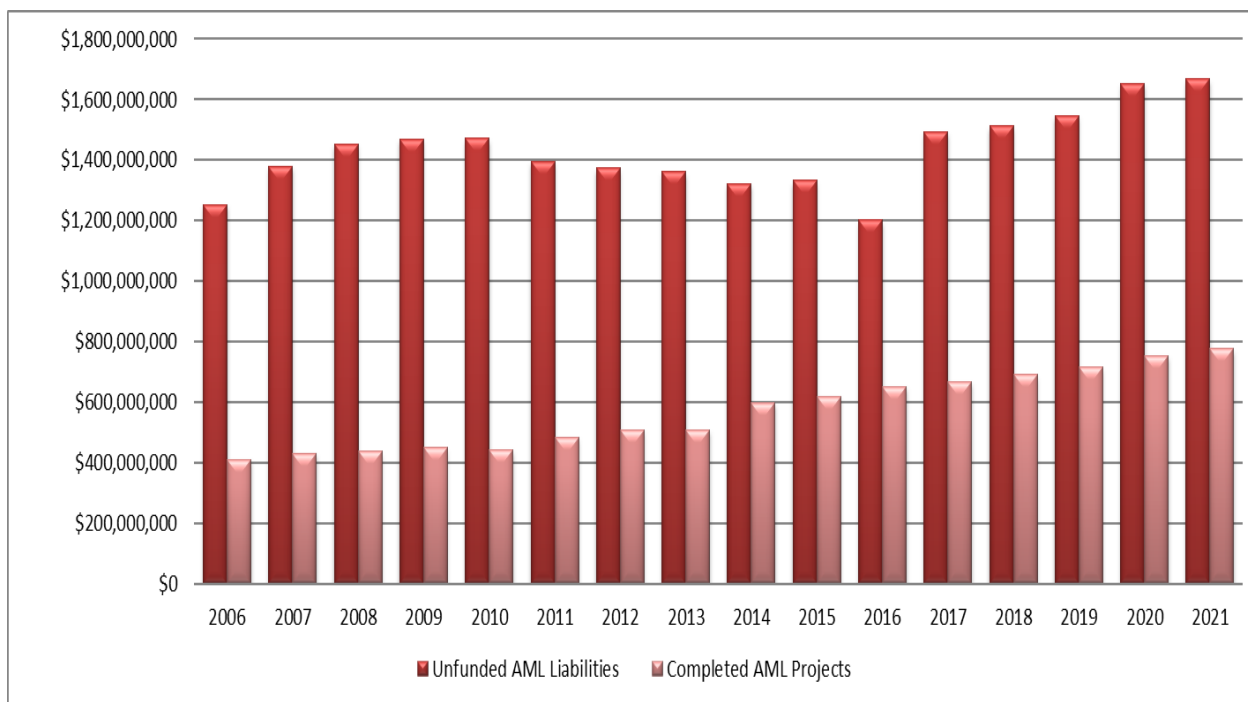


CHART 4—UNFUNDED AML LIABILITIES VS. COMPLETED AML PROJECTS AND THE CUMULATIVE AMOUNTS BETWEEN YEARS.

As presented above, completed AML projects (reclaimed sites, including a variety of project types – Priority 1, Priority 2, and elevated Priority 3) continue to increase yearly as OAMLRL addresses more projects. Figure 1 also shows that unfunded AML liabilities (problem areas which are inventoried sites that require reclamation) continue to heavily outweigh completed projects which abate these liabilities. An increase in AML funding occurred after 2007, due to the 2006 reauthorization. Over the past several years, a decrease in grant funding occurred, largely the result of a federally required sequestration, less income into the State share of the AML fund because of reduced mining, and the decline of coal sales due to the significant drop in the coal market. The OAMLRL continues to complete AML projects, and the upward trend in completed

projects shown on the graph reflects a continued focus on water supply projects, AMD stream treatment projects, and emergency projects. An important factor regarding the West Virginia AML inventory is the liability costs associated with the large number of highwalls, AMD stream treatment sites, and underground mine fires that do not presently appear on the inventory. The OAMLRL has initiated an effort to update AMLIS with eligible abandoned highwall information. These highwalls, and the other AML features indicated above, will be added to the inventory to accurately display the State's reclamation liabilities. Addition of the abandoned mine fire inventory will likely double the State's unfunded reclamation costs which will be reflected in subsequent AER's.

Below is summary of the current West Virginia AML inventory costs as reflected in eAMLIS. The detailed AML tables attached to this report provide an in-depth look at the State AML inventory and the status of the State's reclamation accomplishments.

West Virginia Inventory Summary (as currently reported in AMLIS)

Unfunded OAMLRL Liability Status (AML Problems Requiring Reclamation):
\$ 1,668,866,326

Funded OAMLRL Liability Status (Current AML Projects under, or proposed for, reclamation):
\$ 42,241,113

Completed OAMLRL Liability Status (Completed AML Projects):
\$ 777,138,631

A.4. AMLER Economic Development Projects

As outlined earlier in this report, CHFO has received 52 potential AMLER projects for review. To date, CHFO has approved (vetted) eight projects proposing to utilize FY 2016 AMLER AMLER funding, 12 projects that propose to utilize FY 2017 AMLER funding, and 11 which propose to utilize FY 2018 funding, 13 that propose to utilize FY 2019 AMLER funding, and 7 that propose to utilize FY 2020 AMLER funding. The WVDEP has completed its request for the FY 2021 AML AMLER grant. Of these vetted AMLER projects, CHFO has issued 26 authorization-to-proceeds.

B.1. WebAML Updates

In EY 2008, West Virginia OAMLRL began the development of a new information database and management system known as WebAML. In April 2010, WebAML became a reality, allowing AML management and staff to store and manage data electronically. The system is the primary

source for information for all aspects of the AML program and continues to be utilized by CHFO staff on a regular basis. WebAML continues to improve and expand from the basic framework to include access to more data and programs. This EY, time was spent on data quality, operational adjustments, security adjustments, and user support. B.2. Monthly OAML/CHFO Meetings

During EY 2021, the OAML continued monthly project meetings via Teams conferencing with CHFO to discuss the progress, and any issues, related to any of the activities within the AML program. These meetings were originally proposed to discuss AML AMLER projects; however, they have expanded to discussion any aspect relating to the program. These meetings have been extremely beneficial to CHFO and OAML and will continue.

B.3. OAML Training

The eighth annual statewide OAML training was conducted via Team conferencing in February 2021 for the majority of its employees in the OAML and other related WVDEP programs. The CHFO participated in this training, discussing results of OSMRE studies, issues, and successes observed in oversight inspections, and the role of CHFO in the State's AML Program. CHFO plans to resume attending this meeting in February 2022 at an off-site location chosen by the OAML, pending OSMRE travel restriction revisions.

B.4. U.S. Army Corp of Engineers (USACE) Meetings

As noted in the last AER, the USACE issued its new regional general permit on February 22, 2018, and it is valid until February 22, 2023. There were no USACE meetings conducted this EY or issues identified.

B.5. AMD Set-Aside Projects

West Virginia continues to have over 500 streams, with a combined length of approximately 2,700 miles, that are impaired due to AMD from pre-law mining. The SMCRA allows up to 30 percent of the State and historic coal share funding set-aside into an AMD abatement and treatment fund. The fund, including all interest, is specifically for the abatement of the causes and treatment of the effects of AMD in a comprehensive manner within qualified hydrologic units affected by past coal mining practices.

OAML did not dedicate any of its 2021 AML grant funding to the set aside subaccount through its initial grant request due to a decrease in grant funding available, and the number of proposed AML construction projects planned for reclamation. According to OAML, they plan to transfer a portion of its unobligated funding from previous grants to the set aside fund. The CHFO encourages OAML to make every attempt to add funding to this account on an annual basis due to the significant need in West Virginia for cleaning up AMD impacted streams.

The AML Chart 7 of this report outlines the annual accomplishments by OAML utilizing its set-

aside funding. However, AER AML Table 4 (EY 2021 Completed Projects) does not include most of this data since the expenditures of this funding is a project maintenance type requirement to continue to treat AMD impacted streams at several of their established water treatment facilities.

Project Name	GPRA Acres Reclaimed	Number of People with Reduced Exposure	EY 2021 Expenditures
Dream Mt. (FOC) Stone	40	220	\$81,699
Abram Creek AMD Treatment	14,633	53	\$ \$18,179
Flatbush Limestone Sand	6350	75	\$5,862
Grassy Run AMD Treatment	2,090	3,000	\$6,963
Middle Fork Limestone Sand Treatment	12,096	155	\$71,962
Three Forks Creek Watershed Restoration	82,085	223	\$135,419
Total	117,294	3,726	\$320,084

FIGURE 5 -AMD TREATMENT PROJECTS IN WHICH EAMLIS INDICATE SET-ASIDE FUNDING SPENT DURING THE PAST YEAR.

As outlined earlier in this report, OAMLRL is now utilizing a new funding mechanism to accrue interest on the AMD abatement and treatment fund. Leaving the principal amount in the fund, the OAMLRL uses only the accrued interest to fund the approximately \$350,000 annual operation and maintenance costs associated with its AMD treatment facilities. Under this new investment strategy, most funds have been included in the State of West Virginia's Investment Management (IMB) financial investment pool. Traditionally, the State of West Virginia allowed investments in money market and short-term bond accounts. These types of investments normally provided a minimal yearly return rate, often less than one percent annually. This new investment mechanism allows the AMD set-aside funding to grow at a more substantial rate. However, since this investment strategy is subject to overall market activity, the fund is subject to both positive and negative market conditions. To date, this approach has yielded overall positive results for the set-aside fund. The CHFO will continue to monitor this revised investment program and reports its progress in subsequent AERs.

C. Utilization of OSMRE Technical Assistance

C.1. Technical Training

The OSM conducts classroom-style courses throughout the year in the latest technology related to active and abandoned mine regulations. OSM, as a direct result of the COVID-19 Pandemic, made many of these courses available through online training. Those courses not conducive to an online platform were cancelled. Administration of courses is through OSM's NTTP and the TIPS programs. During EY 2021, OAMLRL had 0 employees participate in NTTP classes and 16 employees participate in TIPS classes. Additionally, 3 employees, who perform both regulatory and AML duties, participated in TIPS courses.

C.2. OSMRE/Fish & Wildlife Programmatic Consultation Update

In April 2008, OSMRE and FWS signed an agreement, titled "Programmatic Consultation on the Abandoned Mine Lands Reclamation Program" (Programmatic Agreement). The agreement allows AML to conduct project activities without prior notification to the FWS for specific actions the agencies agree would have no effect on federally listed species or critical habitats. On March 19, 2013, a new agreement went into effect, which was valid for five years (until March 19, 2018)

During EY 18, CHFO worked with the FWS to complete revisions to the current Programmatic Agreement. To date, FWS has not approved the revised document. The FWS allows OAMLRL to operate under the expired agreement in the interim period.

D. Public Participation and Outreach

Refer to Section III., Overview of the Public Participation Opportunities in the Oversight Process, located near the beginning of this report. The CHFO combines both the Regulatory and AML Programs in the AER and in our outreach efforts so that the public and stakeholders are aware of all OSMRE activities in West Virginia.

E. Results of Evaluation Year 2021 Reviews

E.1. Regular AML Construction Program

During EY 2021, OAMLRL initiated 22 non-water construction projects (up 9 last EY) and completed reclamation at 19 projects (up 7 projects from last EY).

As part of their water supply restoration program, the OAMLRL, whether entirely or in partnership with another entity, initiated one water supply project during EY 2021. This number was down by two over the last EY. See Chart 8 on the following page for more information.

Water Supply Project Name	OAMLR Funding Amount	Number of Customers Served
Kingwood Water Works (Herring Subareas 1 & 3)	\$1,450,000	50

CHART 6. —Water supply projects funded over the past EY.

As outlined below, OAMLR issued 22 construction contracts during the past year, up 9 from last EY. As can be seen in Chart 9 below, the number of construction projects requesting an ATP from CHFO decreased by three from last EY.

<i>EY</i>	Authorizations-to-Proceed	Completed Designs	Construction Contracts Issued	Construction Contracts Complete*
EY 2021	11	21	22	19
EY 2020	14	2	13	12
EY 2019	28	9	17	11
EY 2018	24	15	17	23
EY 2017	22	26	33	36
EY 2016	21	24	13	29
EY 2015	16	27	17	34
EY 2014	22	28	29	24
EY 2013	42	39	28	42
EY 2012	44	48	54	38
EY 2011	56	64	50	41
EY 2010	53	60	45	39
EY 2009	62	55	31	20
EY 2008	12	36	21	14
EY 2007	16	18	10	17
Total	443	472	400	399
Average	29.5	31.5	26.7	26.6

CHART 7. —Number of construction projects requesting an ATP.

* This number reflects projects possibly implemented under preceding grant years.

The actual accomplishments of the on-ground reclamation are accessible in e-AMLIS. The e-AMLIS provides the units of problem areas reclaimed for all work completed and is publicly available on the OSMRE website. The AML tables at the end of this report also provide specific information concerning the actual accomplishments.

E.2. Emergency Program

During EY 2021, OAMLRL's program investigated 613 citizen's complaints, resulting in the declaration of 22 emergencies, down 8 from last EY. All emergency projects began in a timely manner, with most projects reaching completion within days or weeks of the Authorization-to-Proceed. The larger projects, such as landslide abatement projects, required a longer performance period to address the emergency aspects of the project.

Evaluation Year	Complaints Investigated	Emergency Declarations Issued
EY 2021	613	22
EY 2020	534	30
EY 2019	461	45
EY 2018	353	26
EY 2017	280	31
EY 2016	281	21
EY 2015	278	28
EY 2014	249	33
EY 2013	213	22
EY 2012	261	30
EY 2011	260	33
EY 2010	306	34

CHART 8. —Number of complaint investigations and emergency declarations issued.

E.3. OAMLRL Project Oversight

During this EY, CHFO conducted oversight inspections of OAMLRL reclamation projects in various stages of construction, including 65 site visits on 30 abandoned mine land reclamation projects, AML Enhancement projects, West Virginia AMLRL projects, and one WVDEP Special Reclamation Project. The CHFO completed oversights during the pre-bid, construction, post-construction, and the completion phases of the projects.

E.3.a. AML Emergency Project Oversight

The following emergency projects received CHFO oversight inspections this EY:

- Rockhouse Creek (Pack) Burning Refuse (one oversight)
- Shrewsbury (Pritt) Landslide Phase I & II (two oversights)
- Witcher Creek Landslide (one oversight)
- Babcock Subsidence (one oversight)

- Verner (Grimmett) Landslide (one oversight)
- Summersville (Little) Open Portal

Overall, CHFO found minimal issues with the construction activities and the overall contract requirements of these projects.

E.3.b. Non-Emergency Project Oversight

The following non-emergency projects received CHFO oversight inspections this EY:

- Venus (Kinder) Refuse Piles and Portals (one oversight)
- Buffalo (Sloan) Portals (one oversight)

Overall, CHFO found minimal issues with the construction activities and the overall contract requirements of these projects.

The CHFO continues to emphasize the adherence to the project plans and specifications when completing all AML funded projects. It is also noteworthy that the OAMLRL has indicated that OSMRE field inspections provide a significant benefit toward staff development, and the quality of reclamation projects. The OAMLRL continues to request an increase in the frequency of field reviews by the CHFO.

CHFO also performed one oversight at the Royal Scot Minerals, Inc. Permit #31-72. This bond forfeiture site is utilizing geomorphic landform design to assess the applicability of this land reclamation technique throughout Appalachia. The project design utilizing this technique was a collaboration between the WVDEP, West Virginia University and OSMRE through a Applied Science Cooperative Agreement grant.

E.3.c. AMLER Project Oversight

As mentioned earlier in this AER, CHFO currently has 52 AML AMLER projects in some stage of progress, from applicant preparation of NEPA documents for ATP requests, to some projects nearing completion. To date, CHFO has issued 26 ATPs to the WVDEP to initiate construction on AMLER projects. The AMLER projects that received CHFO oversights this EY are as follows:

- Aquaponics on AML
- WV Elk Restoration Project
- I-79 Technology Park
- Buzz Foods
- Patriot Guardens Golden Delicious Apple Project
- ATV Camp at Coaldale
- Renaissance Village
- Ashland Resort ATV Tourism Park

- Berwind Water Treatment Plant
- Triadelphia ATV Resort
- Ivy Branch Off Road Development Park
- Ivy Branch Trail System

There were no reportable issues found during these CHFO oversights. However, during the upcoming EY, CHFO anticipates that most of the AMLER projects vetted to date will be in some phase of construction. CHFO proposes to stay engaged in the progress of the AMLER projects and perform periodic project evaluations throughout project completion. The OSM report on all AMLER projects may be found at: <http://www.odocs.osmre.gov/>

E.3.d. AML Enhancement Project Oversight:

The AML Enhancement projects that received CHFO oversight inspections this EY were as follows:

- Bearwallow Branch Refuse (2 oversights)
- Bottom Creek Refuse (2 oversights)
- Caretta Mining (1 oversights)
- Clear Fork Refuse 2 (5 oversights)
- Stonecoal Site 2 (1 oversight)
- Stonecoal R06-07 (1 oversight)
- Gooney Otter Refuse (1 oversight)

This EY, CHFO continued to focus a portion of our oversight efforts on AML Enhancement projects due to the culmination of the OAMLRL Enhancement and 3.14 Oversight Study (completed in EY 18). Currently, there are five active projects being performed, one that has been given an ATP, but has not started, and one proposed AML Enhancement project under consideration by OAMLRL at this time.

As noted in last EY's AER, CHFO's oversights continue to document several issues with the majority of the AML Enhancement projects. However, the OAMLRL's implementation of several of the items outlined in the EY 18 Enhancement and 3.14 Study have resulted in some improvement over last year's oversight findings. The OAMLRL completed the process of revoking the operator's performance bond at the Clear Fork Site 2 Enhancement Site, and reclamation will be completed by the OAMLRL. Also, OAMLRL engineering staff is ensuring that all stormwater permits are in force, and the WVDEP's Office of Water and Waste Management Environmental Enforcement Section is engaged in project inspection, as required.

Section F contains additional information regarding issues, and improvements, regarding the OAMLRL's AML enhancement program.

The CHFO continues to work with OAMLRL to address any issues found during our oversight

E.4. Project Maintenance Program Oversight

During EY 2017, a plan was developed, and accepted, by OAMLRL for an oversight study on its project maintenance program, which is used to correct deficiencies found on AML project completed in past years. Included in this review will be an evaluation of the policy/procedures used by OAMLRL to determine when maintenance is required, maintenance program planning, types of maintenance, funding, construction, inspection, procurement, and payment for services. This oversight will also include an analysis of whether maintenance projects should be subject to updated NEPA reviews, or not. This study is ongoing. This work plan will be on OSMRE's website at: www.odocs.osmre.gov.

E.5. Culverted Bat Gate Study

During EY 21, CHFO completed its oversight study to evaluate the WVDEP's success as it pertains to the installation of culverted-type bat access gates, as part of Title IV reclamation projects, in accordance with SMCRA (Public Law 95-87), the ESA (87 Stat. 884, as amended; 16 U.S.C 1531 *et seq.*), and the 2013 Programmatic Agreement between the USFWS and OSM CHFO. Also, as part of this study, OSM staff reviewed available scientific literature to assess suitability of culverted gates, as installed, as compared to alternative technologies to mitigate damage to bat habitat, while providing for human safety. Efforts focused on evaluating nineteen (19) AML reclamation projects in terms of the overall design of the culverted bat gates in relation to the requirements of the USFWS Programmatic Agreement, compliance with the project plans and specifications, any existing and foreseeable maintenance issues, and possible opportunities for alternative bat access structures at the sites.

The study found several design related issues with nine of the projects reviewed, including inadequately sized culverts in relation to the original opening size, the usage of unapproved bat gating structures, and gating of portals not conducive to bat hibernaculum. Additional issues included inadequate backfill, maintenance needs due to theft or vandalism, and one instance of a landowner destroying a gate after completion of reclamation. The majority of the issues identified were not caused by construction activities. In fact, of the 126 culverted bat gates evaluated in this study, 124 gates appeared to be constructed in accordance with the project plans, although several of the design plans were found to be flawed, as it related to proper culvert sizing versus original mine portal opening size.

Prior to and since the initiation of this study, the OAMLRL, working with CHFO, has initiated measures to abate several of the issues outlined in this document. Among those are:

- OAMLRL has increased its use of Phase 1 Habitat Assessments to identify portals not conducive to bat hibernaculum and reduce the installation of unnecessary bat gate

structures. From this time forward, entirely collapsed portals that have no connection to mine workings will hereafter be designated as entirely collapsed portals (“sealed,” inaccessible), in accordance with the AML Inventory Manual. This will ensure clear and effective communication with USFWS during consultations. Additionally, these assessments provide information on portal dimensions and conditions that is crucial during the design phase to ensure the most appropriate gating method and size is chosen.

- OAMLRL has improved its adherence to USFWS consultation recommendations and conservation plan objectives by only utilizing approved bat gating structures.
- OAMLRL no longer installs culverted bat gates with metal gating, but instead relies on HDPE plastic. Until recently, this change had resulted in a decrease in maintenance due to vandalism and theft.
- Also, this EY CHFO, in coordination with the OAMLRL, utilized an AmeriCorps to complete a full inventory of bat gates installed at reclamation sites throughout the state. This GIS based inventory allows access to site locations, installation dates, type of gates installed, and other features that can be updated, as required, by the OAMLRL field staff.

In conclusion, OSMRE recommended OAMLRL discontinue its routine assumption of presence and associated reliance on culverted bat gate installation, for a more portal specific assessment of bat suitability and corresponding analysis of reclamation method alternatives. OAMLRL agreed with the recommendation and proposes to discontinue its routine assumption of presence and resume the use of bat surveys to definitively determine whether threatened and endangered bats utilize a portal. Portals without confirmed threatened and endangered bat species usage may then be reclaimed through traditional methods, permanently eliminating the threat to human health and safety. CHFO will continue to monitor the implementation of bat gate installation through our normal federal oversight process. The complete 2019 AML Culverted Bat Gate Construction Oversight report can be found on OSM’s website at: www.odocs.osmre.gov.

F. OAMLRL Program Problems and Issues

F.1. AML Enhancement and Refuse Removal (3.14) Oversight Follow-up

As outlined in the EY 18 AER, CHFO completed an AML Enhancement and Refuse Removal Oversight Report Study. Due to the study, WVDEP’s OAMLRL proposed the development of an improvement plan that is outlined in the EY 2019 and EY 2020 AERs. This improvement plan has been implemented by the OAMLRL and will be monitored by CHFO through project oversights.

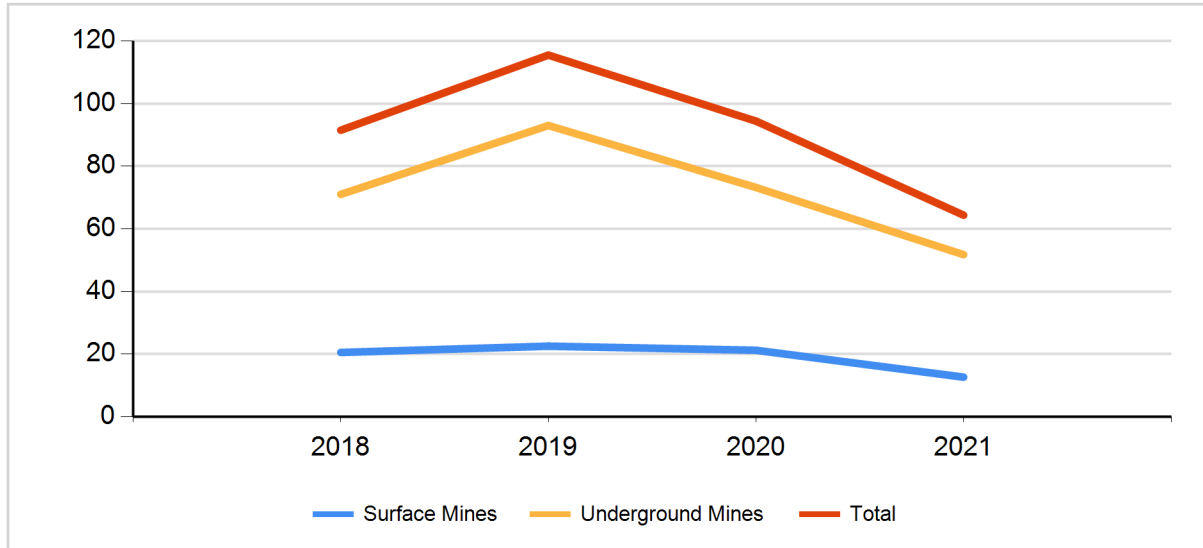
Appendix 1: Summary of Core Data to Characterize the Program

TABLE 1

COAL PRODUCED FOR SALE, TRANSFER, OR USE^A (Millions of short tons)			
Calendar Year	Surface Mines	Underground Mines	Total
2017	20.5	71.0	91.5
2018	22.5	93.0	115.5
2019	21.2	73.2	94.4
2020	12.6	51.7	64.4

^A Coal production is the gross tonnage (short tons) and includes coal produced during the calendar year (CY) for sale, transfer or use. The coal produced in each CY quarter is reported by each mining company to OSM during the following quarter on line 8(a) of form OSM-1, "Coal Reclamation Fee Report." Gross tonnage does not provide for a moisture reduction. OSM verifies tonnage reported through routine auditing of mining companies. This production may vary from that reported by other sources due to varying methods of determining and reporting coal production.

TABLE 1
COAL PRODUCED FOR SALE, TRANSFER, OR USE
DURING THE CALENDAR YEAR
 (Millions of short tons)



COAL PRODUCED FOR SALE, TRANSFER, OR USE^A
 (Millions of short tons)

Calendar Year	Surface Mines	Underground Mines	Total
2017	20.5	71.0	91.5
2018	22.5	93.0	115.5
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CHART 2A HISTORICAL TRENDS
NUMBER OF INITIAL PROGRAM SITES AND PERMANENT PROGRAM PERMITS

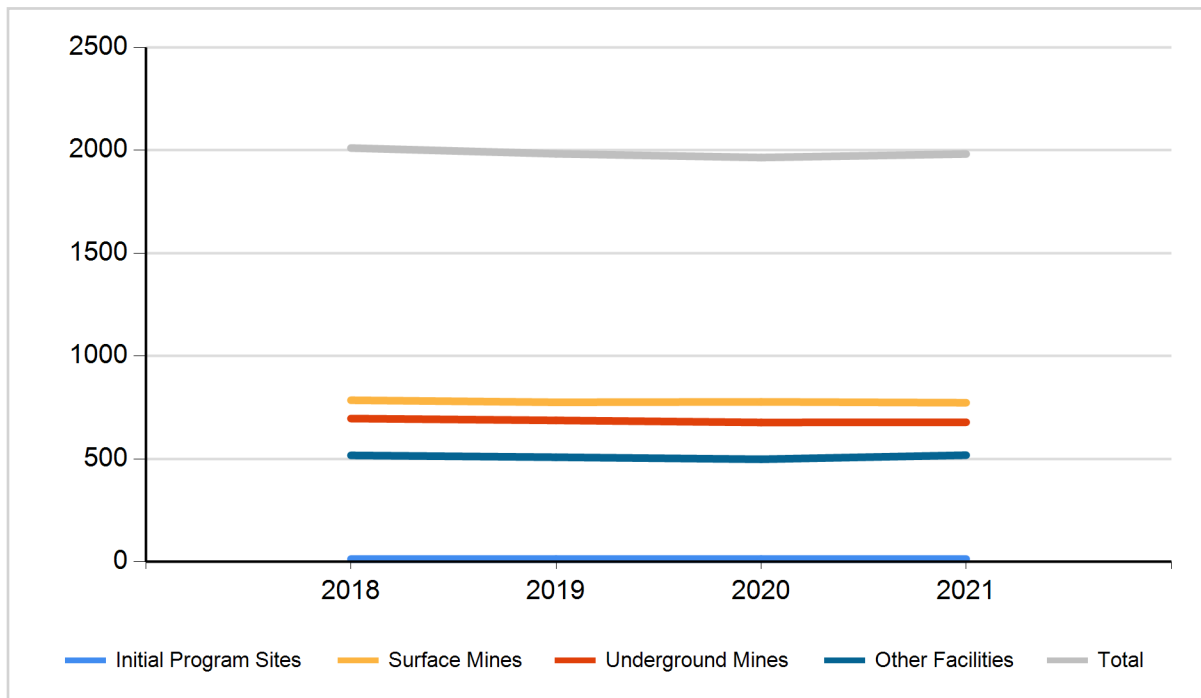


TABLE 2A

NUMBER OF INITIAL PROGRAM SITES AND PERMANENT PROGRAM PERMITS					
Year	Initial Program Sites	Permanent Program Permits			Total
		Surface Mines	Underground Mines	Other Facilities	
2018	13	785	696	517	2011
2019	13	775	687	508	1983
2020	13	777	677	498	1965
2021	13	773	678	518	1982

CHART 2B HISTORICAL TRENDS
AREA OF INITIAL PROGRAM SITES AND PERMANENT PROGRAM PERMITS

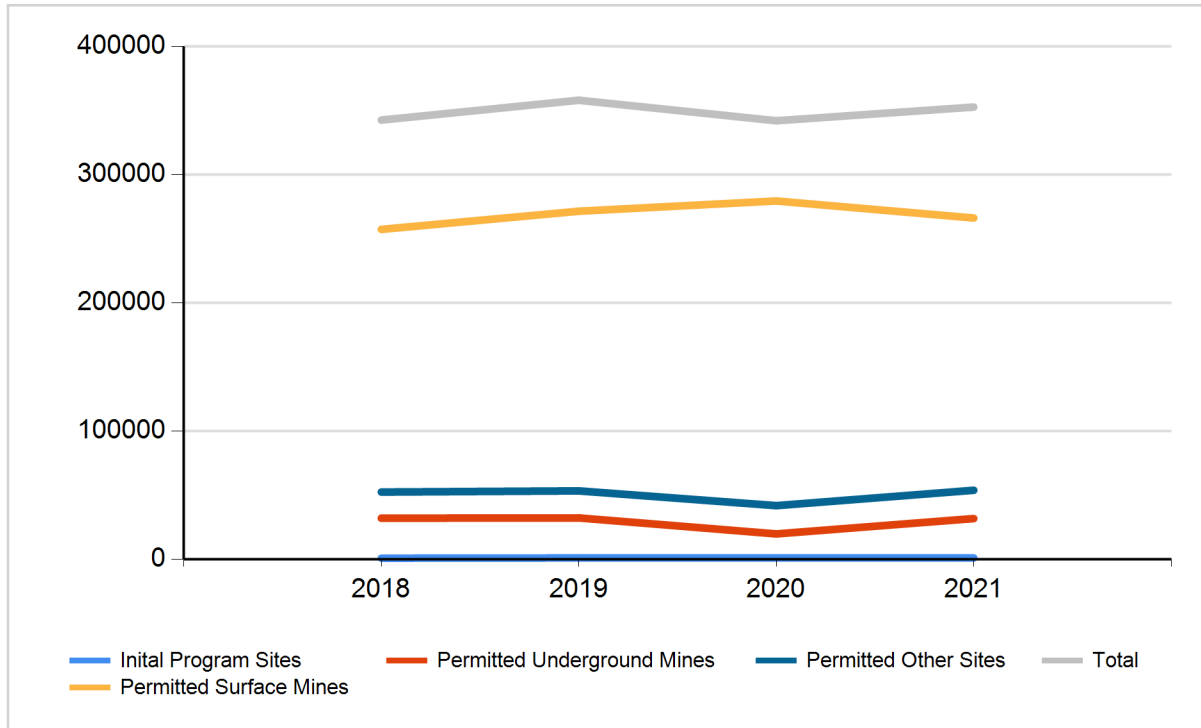


TABLE 2B

AREA OF INITIAL PROGRAM SITES AND PERMANENT PROGRAM PERMITS					
Year	Initial Program Sites	Permanent Program Permits			Total
		Surface Mines	Underground Mines	Other Facilities	
2018	817.0	257203.0	32031.0	52379.0	342430.0
2019	998.0	271375.0	32222.0	53301.0	357896.0
2020	998.0	279359.0	19755.0	41803.0	341915.0
2021	998.0	266081.0	31727.0	53785.0	352591.0

TABLE 3

PERMITS ALLOWING SPECIAL CATEGORIES OF MINING			
Special Category of Mining	30 CFR Citation Defining Permits Allowing Special Mining Practices	Numbers of Permits	
		Issued During EY	Total Active and Inactive Permits
Experimental Practice	785.13(d)	0	0
Mountaintop Removal Mining	785.14(c)(5)	0	164
Steep Slope Mining	785.15(c)	2	126
AOC Variances for Steep Slope Mining	785.16(b)(2)	0	31
Prime Farmlands Historically Used for Cropland	785.17(e)	0	0
Contemporaneous Reclamation Variances	785.18(c)(9)	2	133
Mining on or Adjacent to Alluvial Valley Floors	785.19(e)(2)	0	0
Auger Mining	785.20(c)	6	263
Coal Preparation Plants Not Located at a Mine Site	785.21(c)	0	0
In-Situ Processing	785.22(c)	0	0
Remining	773.15(m) and 785.25	0	6
Activities in or Within 100 Feet of a Perennial or Intermittent Stream	780.28(d) and/or (e) 784.28(d) and/or (e)	16	912

CHART 3A HISTORICAL TRENDS
PERMITS ALLOWING SPECIAL CATEGORIES OF MINING

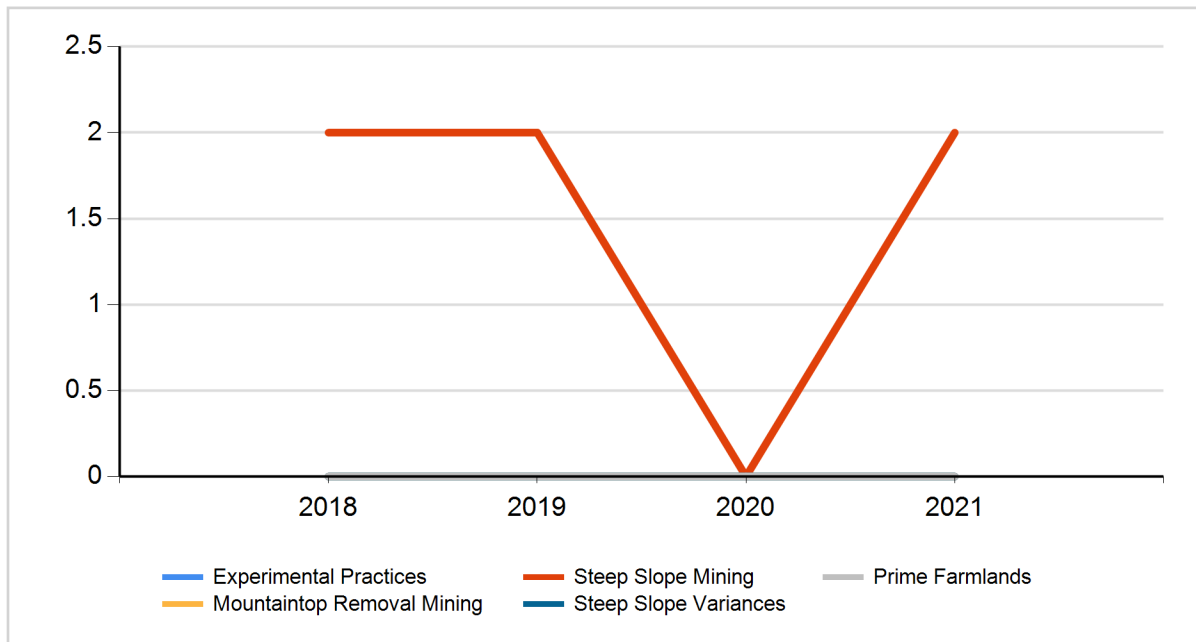


TABLE 3A

NUMBER OF PERMITS ISSUED AND REVISIONS APPROVED					
Year	Experimental Practices	Mountaintop Removal Mining	Steep Slope Mining	Steep Slope Variances	Prime Farlands
2018	0	0	2	0	0
2019	0	0	2	0	0
2020	0	0	0	0	0
2021	0	0	2	0	0

CHART 3B HISTORICAL TRENDS
PERMITS ALLOWING SPECIAL CATEGORIES OF MINING

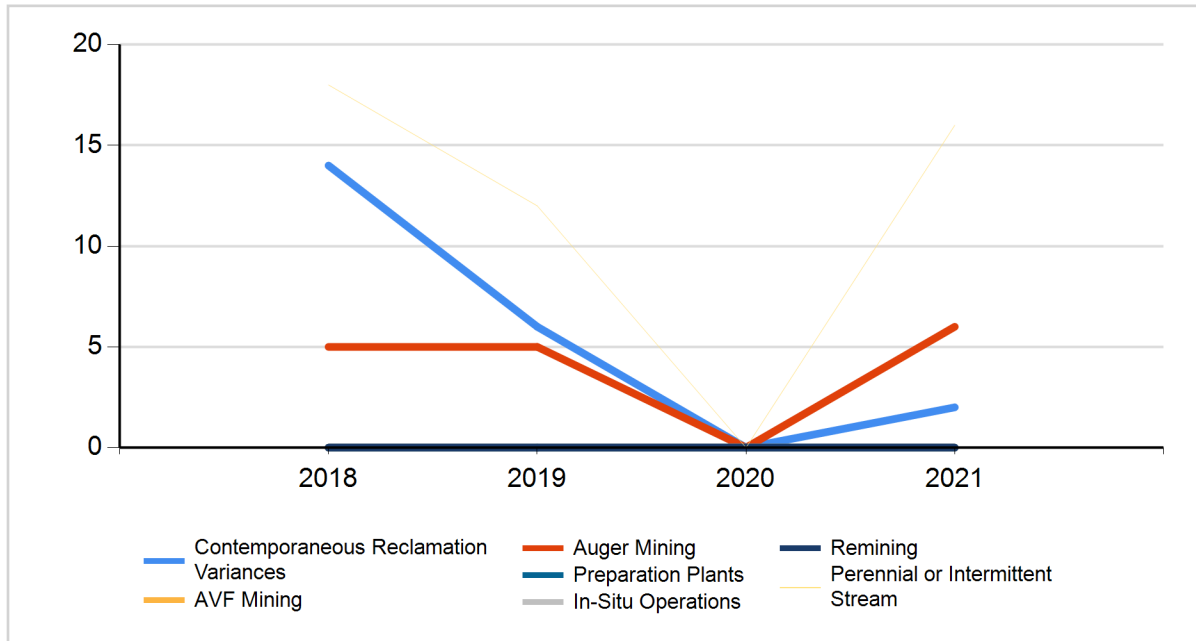


TABLE 3B

NUMBER OF PERMITS ISSUED AND REVISIONS APPROVED							
Year	Contemporaneous Reclamation Variances	AVF Mining	Auger Mining	Preparation Plants Not at Mine Site	In-Situ Operations	Remining	Perennial/ Intermittent Streams
2018	14	0	5	0	0	0	18
2019	6	0	5	0	0	0	12
2020	0	0	0	0	0	0	0
2021	2	0	6	0	0	0	16

TABLE 4

PERMITTING ACTIVITY												
Type of Application	Surface Mines			Underground Mines			Other Facilities			Totals		
	App. Rec.	Issued/ Appvd	Acres	App. Rec.	Issued/ Appvd	Acres¹	App. Rec.	Issued/ Appvd	Acres	App. Rec.	Issued/ Appvd	Acres
New Permits	14	7	3,751	4	7	76	3	1	44	21	15	3,871
Renewals	59	54		54	62		39	42		152	158	
Transfers, sales, and assignments of permit rights	96	81		81	65		47	47		224	193	
Small operator assistance	0	0		0	0		0	0		0	0	
Exploration permits										0	0	
Exploration notices²											33	
Revisions that do not add acreage to the permit area	171	163		177	133		86	87		434	383	
Revisions that add acreage to the permit area but are not incidental boundary revisions	9	11	853	0	0	0	0	0	0	9	11	853
Incidental boundary revisions	53	55	(1,931)	71	57	(46)	55	42	69	179	154	(1,908)
Totals	402	371	2,673	387	324	30	230	219	113	1,019	947	2,816
<div> <div>Permits terminated for failure to initiate operations:</div> <div>Number: 0</div> <div>Acres: 0.0</div> </div>												
<div> <div>Acres of Phase III bond releases (Areas no longer considered to be disturbed):</div> <div></div> <div>Acres: 4,537.0</div> </div>												
<div> <div>Permits in temporary cessation</div> <div>Notices received: 106</div> <div>Terminations: 0</div> </div>												
<div> <div>Midterm permit reviews completed</div> <div>Number: 574</div> <div></div> </div>												
<div> <div>¹Includes only the number of acres of proposed surface disturbance</div> <div>²State approval not required. Involves removal of less than 250 tons of coal and does not affect lands designated unsuitable for mining.</div> </div>												

**CHART 4A HISTORICAL TRENDS
NEW PERMITS ISSUED**

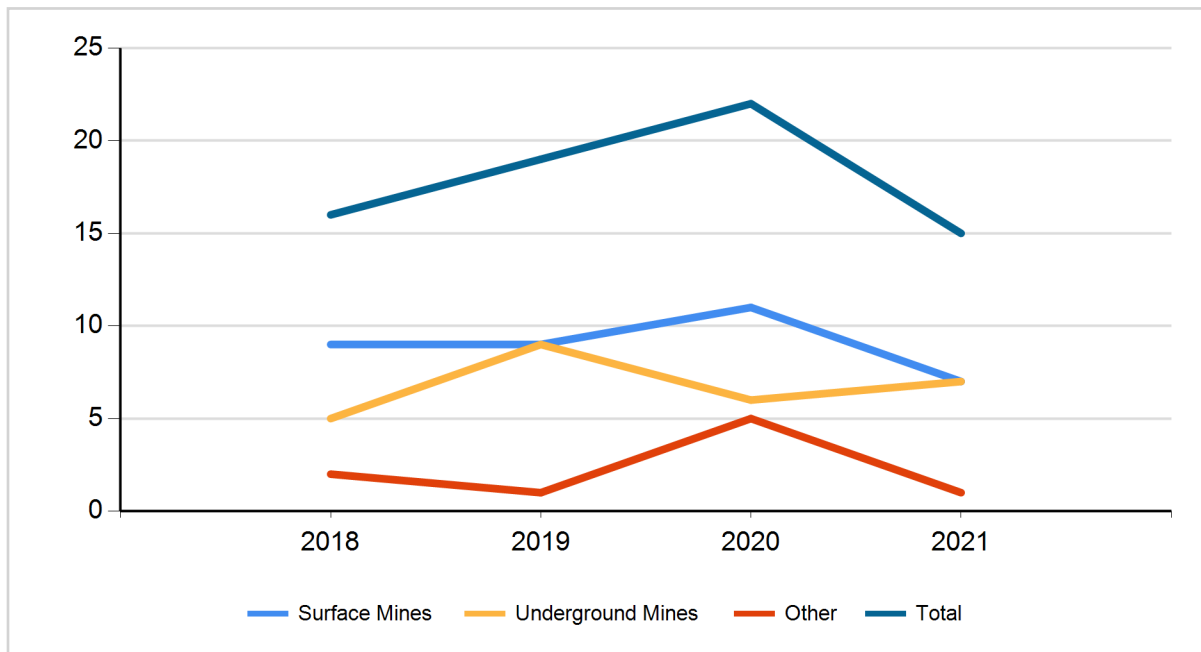


TABLE 4A

NEW PERMITS ISSUED

Year	Surface Mines	Underground Mines	Other	Total
2018	9	5	2	16
2019	9	9	1	19
2020	11	6	5	22
2021	7	7	1	15

**CHART 4B HISTORICAL TRENDS
NEW ACREAGE PERMITTED**

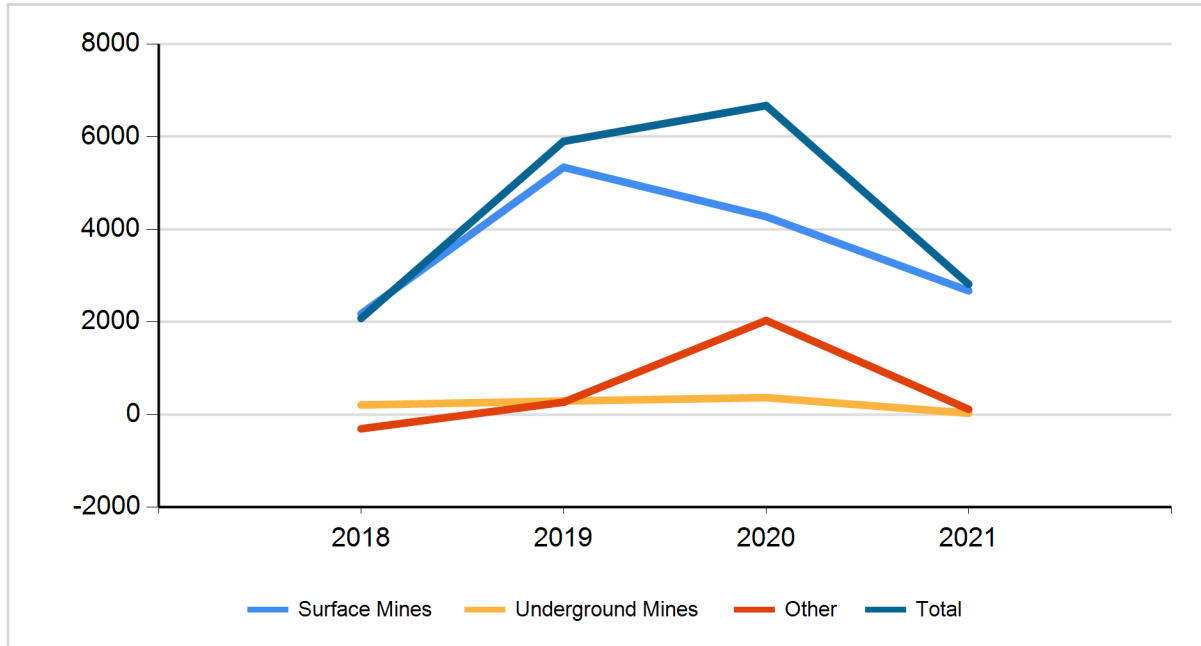


TABLE 4B

NEW ACREAGE PERMITTED

Year	Surface Mines	Underground Mines	Other	Total
2018	2176.0	207.0	(307.0)	2076.0
2019	5340.0	293.0	268.0	5901.0
2020	4275.0	366.0	2032.0	6673.0
2021	2673.0	30.0	113.0	2816.0

TABLE 5

**OFF-SITE IMPACTS
EXCLUDING BOND FORFEITURE SITES**

RESOURCES AFFECTED		People			Land			Water			Structures		
DEGREE OF IMPACT		Minor	Moderate	Major	Minor	Moderate	Major	Minor	Moderate	Major	Minor	Moderate	Major
TYPE OF IMPACT EVENT	NUMBER OF EVENTS												
Blasting	8	0	6	0	0	3	0	0	3	0	0	1	0
Land Stability	29	0	1	8	0	12	13	0	8	7	0	5	10
Hydrology	102	0	3	6	0	6	12	0	62	33	0	6	11
Encroachment	44	0	8	6	0	13	6	0	9	4	0	9	6
Other	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	183	0	18	20	0	34	31	0	82	44	0	21	27

Total Number of Inspectable Units¹: 1754

Inspectable Units with one or more off-site impacts: 87

Exploration Inspectable Units with one or more off-site impacts²: 0

Inspectable Units free of off-site impacts: 1667 % of Inspectable Units free of off-site impacts⁴: 95

¹ Total number of Inspectable Units is (1) the number of active and inactive inspectable units at the end of the Evaluation Year and (2) the number of Inspectable Units that were final bond released or removed during the Evaluation Year

² Exploration Inspectable Units with one or more off-site impacts is a subset of Inspectable Units with one or more off-site impacts

OFF-SITE IMPACTS AT BOND FORFEITURE SITES

RESOURCES AFFECTED		People			Land			Water			Structures		
DEGREE OF IMPACT		Minor	Moderate	Major	Minor	Moderate	Major	Minor	Moderate	Major	Minor	Moderate	Major
TYPE OF IMPACT EVENT	NUMBER OF EVENTS												
Blasting	0	0	0	0	0	0	0	0	0	0	0	0	0
Land Stability	3	0	0	0	2	1	0	0	0	0	0	0	0
Hydrology	16	0	0	0	0	0	0	2	9	5	0	0	0
Encroachment	2	0	0	0	0	2	0	0	0	0	0	0	0
Other	1	0	0	0	0	0	0	1	0	0	0	0	0
Total	22	0	0	0	2	3	0	3	9	5	0	0	0

Total Number of Inspectable Units³: 282

Inspectable Units with one or more off-site impacts: 22

Inspectable Units free of off-site impacts: 260 % of Inspectable Units free of off-site impacts⁴: 92

³ Total number of Inspectable Units is (1) the number of bond forfeiture sites that were reclaimed during the Evaluation Year and (2) the number of bond forfeiture sites that were unreclaimed at the end of the Evaluation Year

TABLE 5
(Continued)

TOTAL OFF-SITE IMPACTS INCLUDING BOND FORFEITURE SITES													
RESOURCES AFFECTED		People			Land			Water			Structures		
DEGREE OF IMPACT		Minor	Moderate	Major	Minor	Moderate	Major	Minor	Moderate	Major	Minor	Moderate	Major
TYPE OF IMPACT EVENT	NUMBER OF EVENTS												
Blasting	8	0	6	0	0	3	0	0	3	0	0	1	0
Land Stability	32	0	1	8	2	13	13	0	8	7	0	5	10
Hydrology	118	0	3	6	0	6	12	2	71	38	0	6	11
Encroachment	46	0	8	6	0	15	6	0	9	4	0	9	6
Other	1	0	0	0	0	0	0	1	0	0	0	0	0
Total	205	0	18	20	2	37	31	3	91	49	0	21	27
<p>Total Number of Inspectable Units⁵: 2036</p> <p>Inspectable Units with one or more off-site impacts: 109</p> <p>Exploration Inspectable Units with one or more off-site impacts: 0</p> <p>Inspectable Units free of off-site impacts: 1927 % of Inspectable Units free of off-site impacts⁴: 95</p>													
<p>⁴ % of Inspectable Units free of off-site impacts is based on the number of Inspectable Units during the Evaluation Year. The number of Inspectable Units may vary during the Evaluation Year.</p>													
<p>⁵ Total number of Inspectable Units is (1) the number of active and inactive Inspectable Units at the end of the Evaluation Year and (2) the number of Inspectable Units that were final bond released or removed during the Evaluation Year and (3) the number bond forfeiture sites that were reclaimed during the Evaluation Year and (4) the number of bond forfeiture sites that were unreclaimed at the end of the Evaluation Year.</p>													

CHART 5A HISTORICAL TRENDS
PERCENT OF INSPECTABLE UNITS FREE OF OFF-SITE
IMPACTS

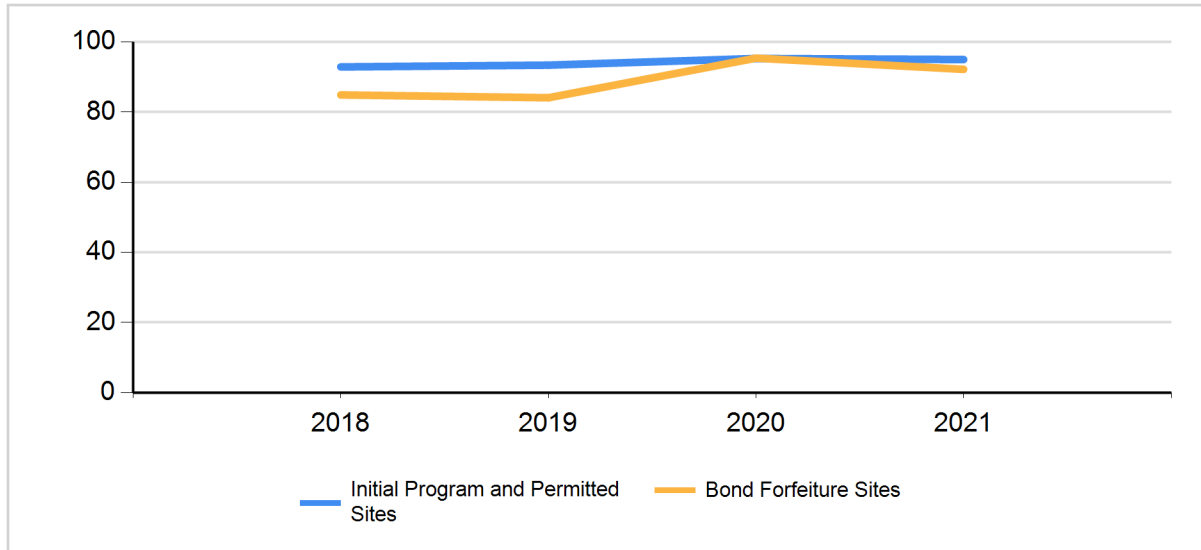


TABLE 5A

PERCENT OF INSPECTABLE UNITS FREE OF OFF-SITE IMPACTS		
Year	Initial Program and Permanent Program Permits	Bond Forfeiture Sites
2018	92.9	84.9
2019	93.4	84.1
2020	95.3	95.4
2021	95.0	92.2

TABLE 6

SURFACE COAL MINING AND RECLAMATION ACTIVITY							
Areas of Phase I, II, and III Bond Releases During the Evaluation Year (EY)							
Phase I Releases	Phase II Releases		Phase III Releases			Total Acres Released During the EY	
Total Acres Released in Approved Phase I Releases	Total Acres Released in Approved Phase II Releases	Acres not previously released under Phase I	Total Acres Released in Approved Phase III Releases	Acres not previously released under Phase II	Acres not previously released under Phase I or II		
4,764		1,025			1,025	Phase I	6,814
	4,286			1,987		Phase II	6,273
			4,537			Phase III	4,537
Number of Permanent Program Permits with Jurisdiction Terminated Under Phase III Bond Release During the Evaluation Year					47	Other Releases - Acres	
Initial Program Sites with Jurisdiction Terminated During the Evaluation Year					0	Administrative Adjustments	152
Number of Inspectable Units Removed					47	Bond Forfeiture	569
Areas of Permits Bonded for Disturbance by Surface Coal Mining and Reclamation Operations							

	Total Acres at Start of EY	Total Acres at End of EY	Change in Acres During EY
New Area Bonded for Disturbance			3,891
Total Area Bonded for Disturbance	341,466	340,172	(1,294)
Area Bonded for Disturbance without Phase I Bond Release	259,870	279,190	19,320
Area Bonded for Disturbance for which Phase I Bond Release Has Been Approved	54,143	47,160	(6,983)
Area Bonded for Disturbance for which Phase II Bond Release Has Been Approved	12,106	9,176	(2,930)
Area Bonded for Disturbance with Bonds Forfeited During Evaluation Year			496
Area Bonded for Remining	0	0	0
Areas of Permits Disturbed by Surface Coal Mining and Reclamation Operations			
Disturbed Area	136,536	136,264	(272)

**CHART 6A HISTORICAL TRENDS
ACRES OF PHASE I, II, AND III BOND RELEASES**

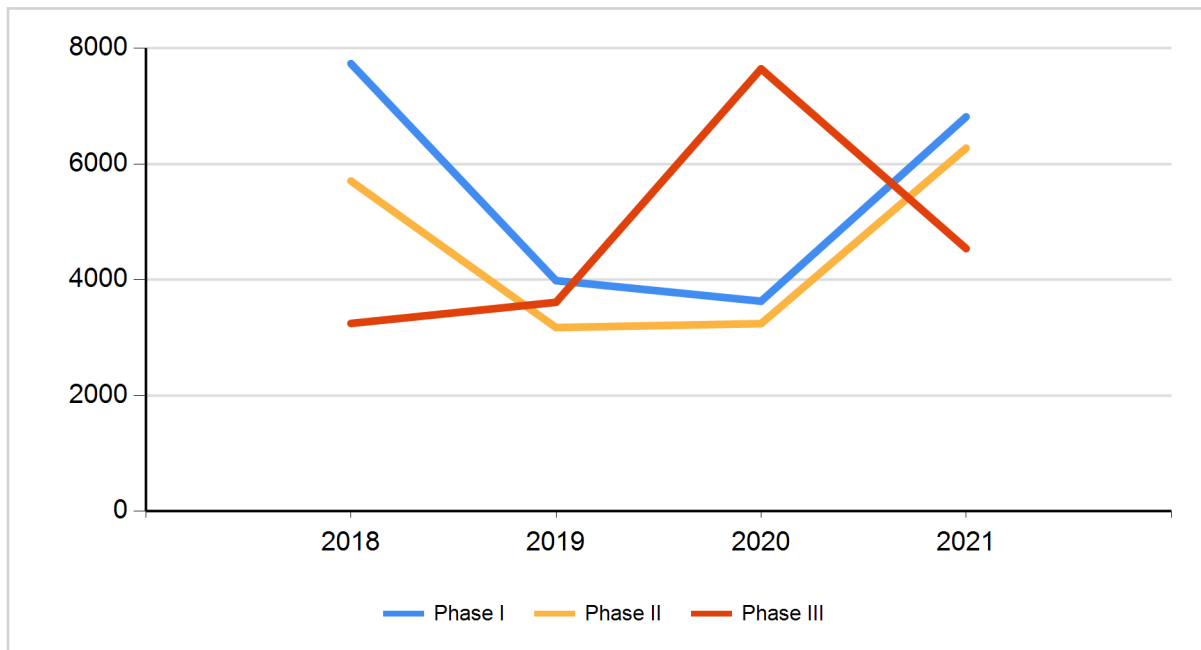


TABLE 6A

ACRES OF PHASE I, II, AND III BOND RELEASES			
Year	Phase III	Phase II	Phase I
2018	3244	5705	7733
2019	3609	3173	3984
2020	7643	3241	3628
2021	4537	6273	6814

**CHART 6B HISTORICAL TRENDS
ACRES BONDED FOR DISTURBANCE AND DISTURBED AREA**

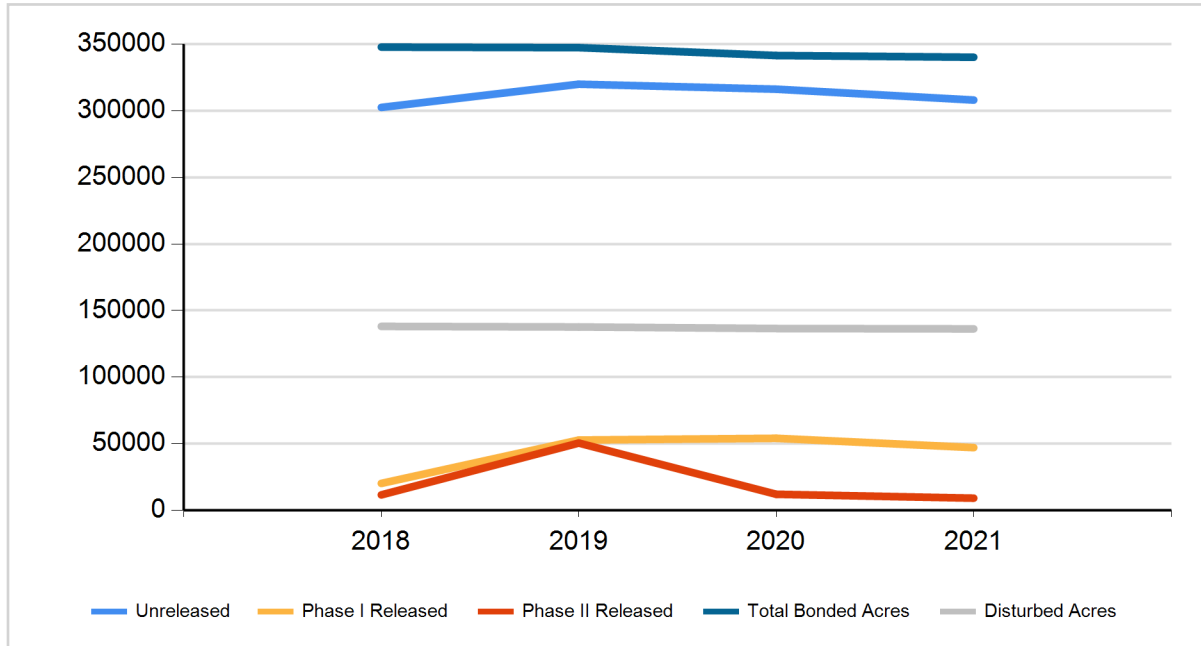


TABLE 6B

AREAS BONDED FOR DISTURBANCE AND DISTURBED AREA					
Year	ACRES BONDED FOR DISTURBANCE				Disturbed Area
	Unreleased	Phase I Released	Phase II Released	Total Bonded Area	
2018	302505.0	20280.0	11652	347796.0	138119.0
2019	319942.0	52810.0	50553	347390.0	137707.0
2020	316188.0	54143.0	12106	341466.0	136536.0
2021	308036.0	47160.0	9176	340172.0	136264.0

TABLE 7

BOND FORFEITURE ACTIVITY (Permanent Program Permits)			
Bond Forfeiture and Reclamation Activity	Number of Sites	Dollars	Acres
Sites with bonds forfeited and collected that were un-reclaimed at the start of the current Evaluation Year (i.e. end of previous Evaluation Year) ¹	278		22,899
Sites with bonds forfeited and collected during the current Evaluation Year	4	1,610,440	496
Sites with bonds forfeited and collected that were re-permitted during the current Evaluation Year	0		0
Sites with bonds forfeited and collected that were reclaimed during the current Evaluation Year	7		569
Sites with bonds forfeited and collected that were un-reclaimed at the end of the current Evaluation Year ¹	275		22,826
Sites with bonds forfeited but un-collected at the end of the current Evaluation Year	21		3,434
Forfeiture Sites with Long-Term Water Pollution			
Bonds forfeited, lands reclaimed, but water pollution is still occurring	108		
Bonds forfeited, lands reclaimed, and water treatment is ongoing	221		
Surety/Other Reclamation Activity In Lieu of Forfeiture			
Sites being reclaimed by surety/other party at the start of the current Evaluation Year (i.e., the end of previous Evaluation Year) ²	5		719
Sites where surety/other party agreed during the current Evaluation Year to do reclamation	0		0
Sites being reclaimed by surety/other party that were re-permitted during the current Evaluation Year	0		0
Sites with reclamation completed by surety/other party during the current Evaluation Year ³	0		0
Sites being reclaimed by surety/other party at the end of the current Evaluation Year ²	5		719
¹ Includes data only for those forfeiture sites not fully reclaimed. ² Includes all sites where surety or other party has agreed to complete reclamation and the site is not fully reclaimed. ³ These sites are also reported in Table 6, Surface Coal Mining and Reclamation Activity, because Phase III bond release would be granted on these sites.			

**CHART 7A HISTORICAL TRENDS
NUMBER OF BOND FORFEITURE SITES**

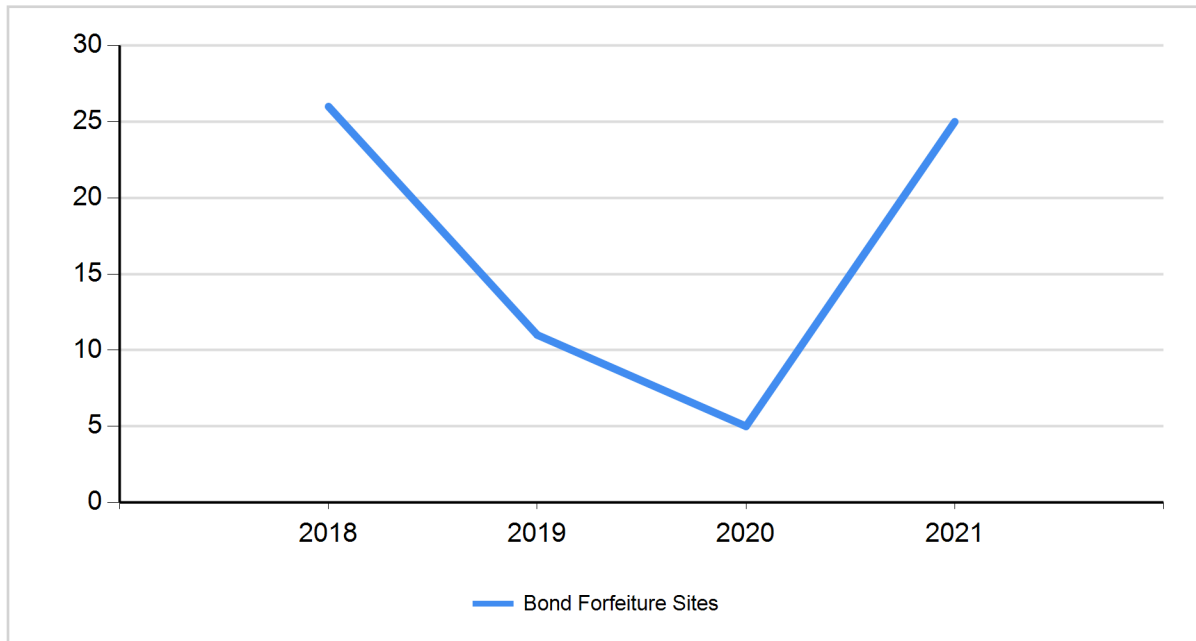


TABLE 7A

NUMBER OF BOND FORFEITURE SITES	
Year	Bond Forfeiture Sites
2018	26
2019	11
2020	5
2021	25

**CHART 7B HISTORICAL TRENDS
ACREAGE OF BOND FORFEITURE SITES**

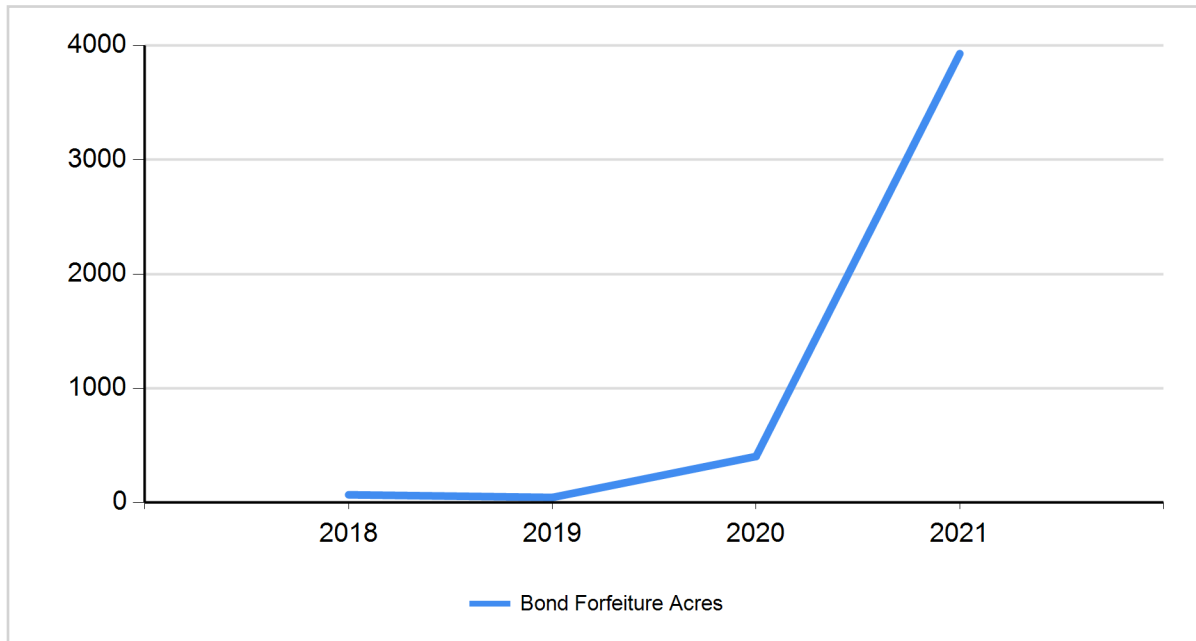


TABLE 7B

ACREAGE OF BOND FORFEITURE SITES	
Year	Acres
2018	67
2019	44
2020	403
2021	3930

**CHART 7C HISTORICAL TRENDS
NUMBER OF SITES WITH WATER POLLUTION STILL
OCCURRING**

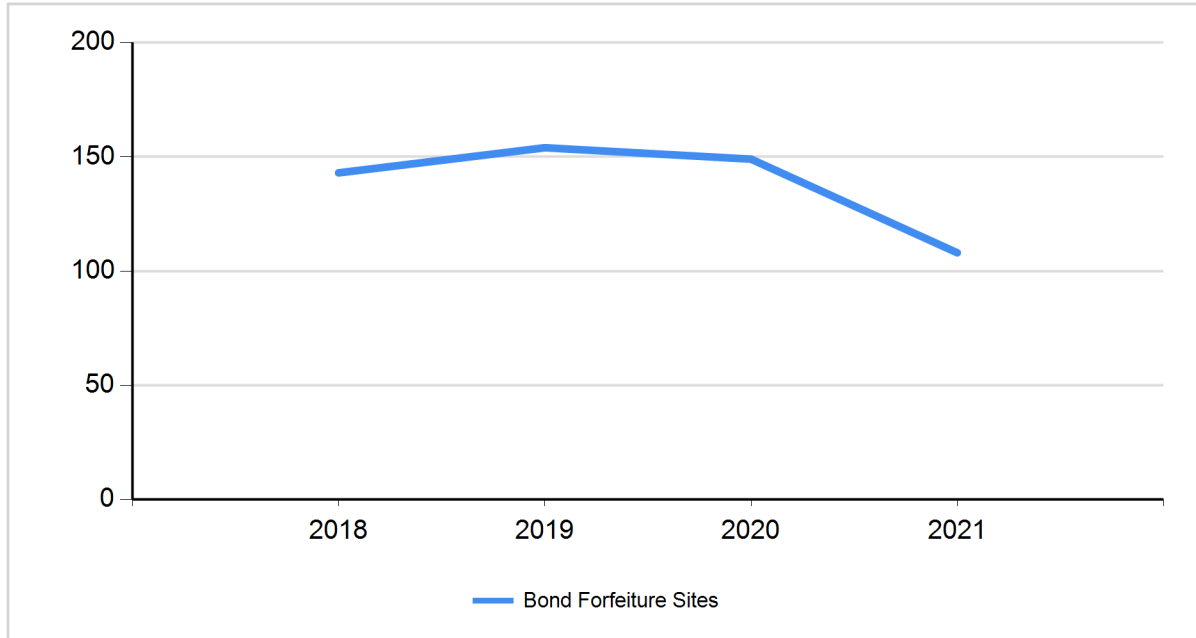


TABLE 7C

NUMBER OF SITES WITH WATER POLLUTION STILL OCCURRING	
Year	Sites
2018	143
2019	154
2020	149
2021	108

CHART 7D HISTORICAL TRENDS
NUMBER OF SITES WITH WATER TREATMENT ONGOING

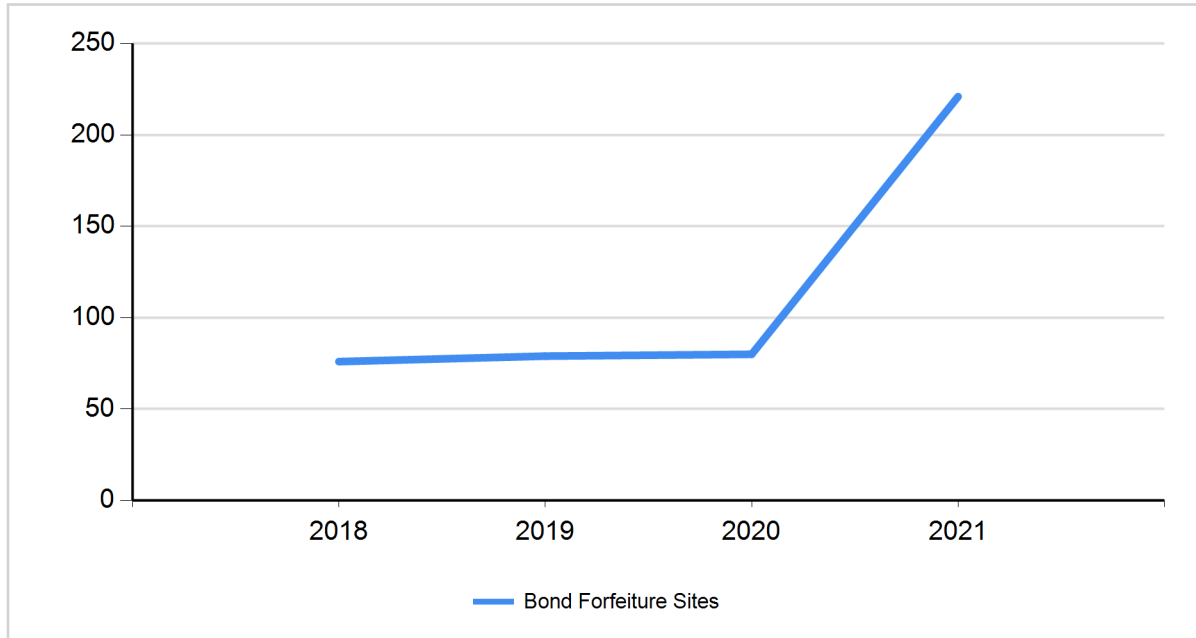


TABLE 7D

NUMBER OF SITES WITH WATER TREATMENT ONGOING	
Year	Sites
2018	76
2019	79
2020	80
2021	221

TABLE 8

REGULATORY AND AML PROGRAMS STAFFING	
Function	Number of FTEs
Regulatory Program	
Permit Review and Maintenance	57.50
Inspection	88.90
Other (supervisory, clerical, administrative, fiscal, personnel, etc.)	46.66
Regulatory Program Total	193.06
AML Program Total	62.00
TOTAL	255.06

**CHART 8A HISTORICAL TRENDS
REGULATORY AND AML PROGRAMS STAFFING**

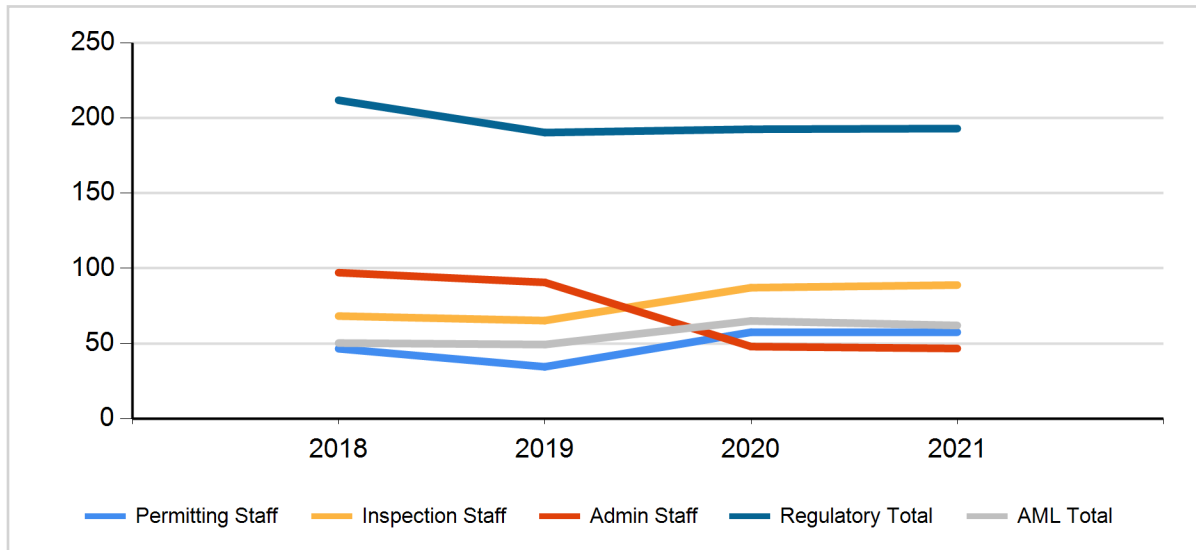


TABLE 8A

REGULATORY AND AML PROGRAMS STAFFING					
	Regulatory Program				
Year	Permitting	Inspection	Admin	Total	AML Program
2018	47	68	97	212	50
2019	35	65	91	190	49
2020	58	87	48	193	65
2021	58	89	47	193	62

TABLE 9

FUNDS GRANTED TO STATE OR TRIBE BY OSM (Actual Dollars Rounded to the Nearest Dollar)			
Type of Funding	Federal Funds Awarded	Total Program Cost	Federal Funds Awarded as a Percentage of Total Program Costs
Regulatory Funding			
Administration and Enforcement Grant	10,587,795		
Other Regulatory Funding, if applicable	0		
Subtotal (Regulatory Funding)	10,587,795	21,175,589	50
Small Operator Assistance Program Grant Funding	0	0	
Abandoned Mine Land Reclamation Funding	18,913,351	18,913,351	100
Watershed Cooperative Agreement Program	431,025	431,025	100
TOTAL	29,932,171		

**CHART 9A HISTORICAL TRENDS
FUNDS GRANTED TO STATE OR TRIBE BY OSM**

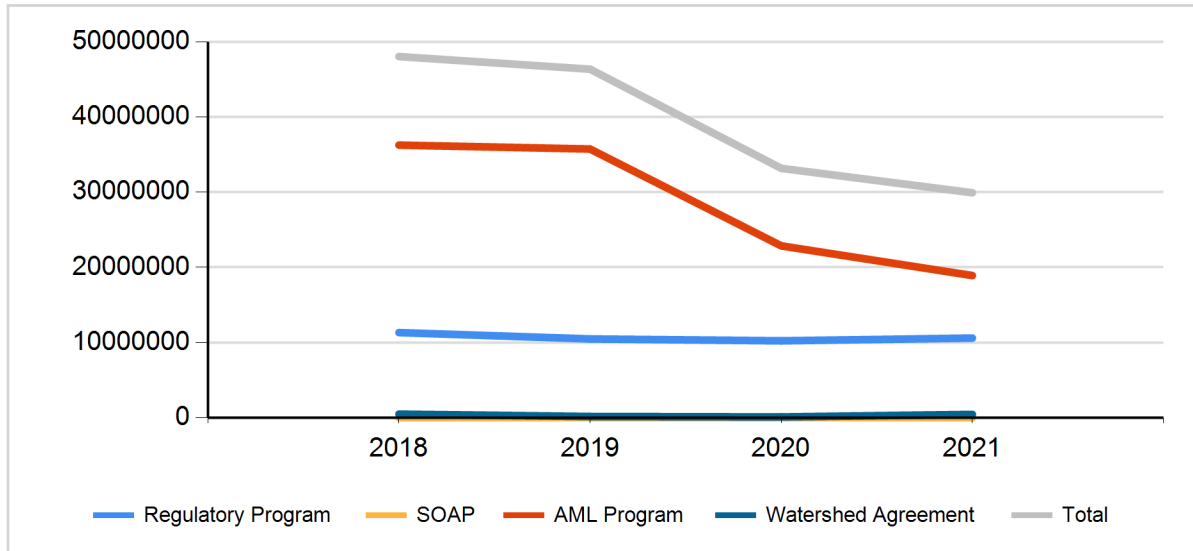


TABLE 9A

FUNDS GRANTED TO STATE OR TRIBE BY OSM				
Year	Regulatory Program	SOAP	AML Program	Total
2018	11,320,305	0	36,274,249	48,061,054
2019	10,476,486	0	35,754,311	46,382,797
2020	10,226,486	0	22,865,581	33,185,667
2021	10,587,795	0	18,913,351	29,932,171

TABLE 10

STATE INSPECTION ACTIVITY
INSPECTABLE UNITS FOR WHICH STATE MET REQUIRED INSPECTION FREQUENCY ON AN
INSPECTABLE UNIT-BY-INSPECTABLE UNIT BASIS'

Inspectable Units (IUs)	Total number of inspectable units ²	Number of inspections required annually		Number of inspections conducted		IUs Met Complete Inspection Frequency Requirement		IUs Met Partial Inspection Frequency Requirement		IUs Met Complete and Partial Inspection Frequency Requirements		
		Complete inspections	Partial inspections	Complete inspections	Partial inspections	Number	Percent	Number	Percent	Total number of IUs	Number that met inspection frequency	Percent
COAL MINES AND FACILITIES												
Active	971	3884	7768	3982	8848	968	100	956	98	971	955	98
Inactive	654	2616	0	2653	1816	639	98	654	100	654	643	98
Abandoned	329	329	0	810	2921	329	100	329	100	329	329	100
TOTALS ³	1954	6829	7768	7445	13585	1936	99	1939	99	1954	1927	99
Coal Exploration Activities ⁴		Complete Inspections							Partial Inspections			
Exploration sites with permits		0							0			
Exploration sites with notices		110							15			

¹ Calculated on a site-specific basis.

² Total number includes both permanent program permits and initial program sites.

³ OSM is assuming that all states have gone through the process described in 30 CFR 840.11(h) and 842.11(f) to reduce inspection frequency on abandoned/forfeited sites

⁴ Includes all valid notices and permits. No inspection frequency data are provided since SMCRA does not establish a minimum numerical inspection frequency for coal exploration activities.

⁵ NA - Not Available

**CHART 10A HISTORICAL TRENDS
STATE OR TRIBAL INSPECTION ACTIVITY**

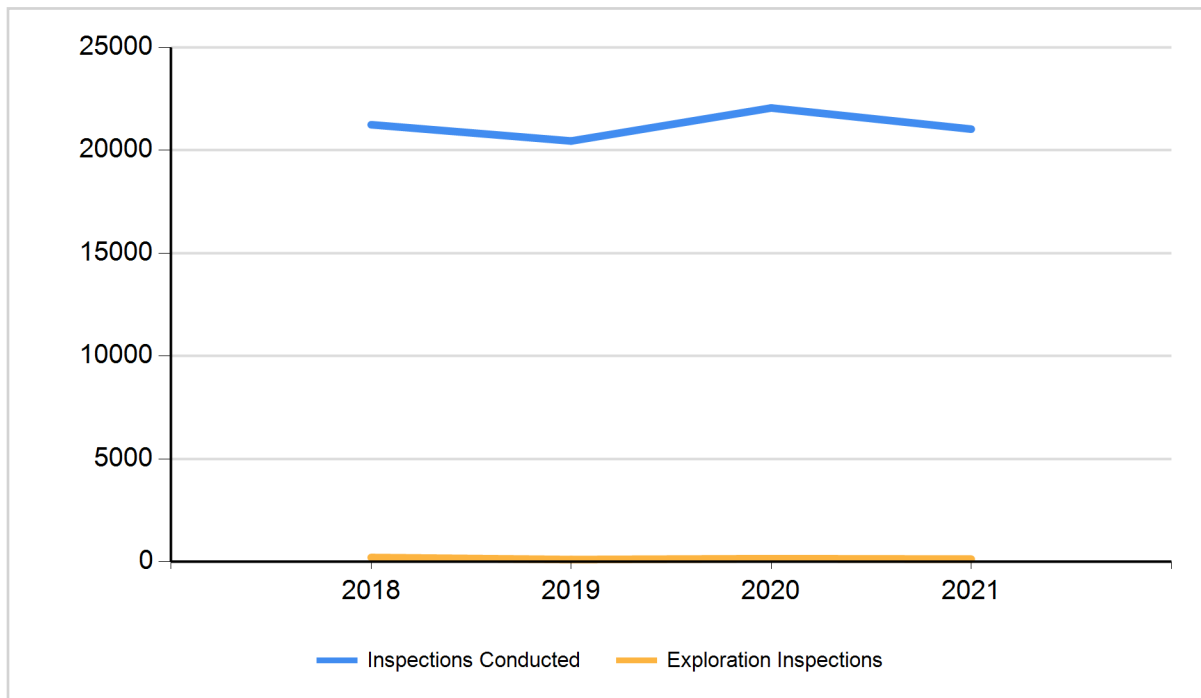


TABLE 10A

STATE OR TRIBAL INSPECTION ACTIVITY		
Year	Inspections Conducted	Exploration Inspections
2018	21243	205
2019	20453	105
2020	22058	150
2021	21030	125

TABLE 11

STATE OR TRIBAL ENFORCEMENT ACTIVITY		
Type of Enforcement Action	Number of Actions ¹	Number of Violations ¹
Notice of Violation	805	805
Failure-to-Abate Cessation Order	143	143
Imminent Harm Cessation Order	7	7
¹ Does not include actions and violations that were vacated.		

**CHART 11A HISTORICAL TRENDS
STATE OR TRIBAL ENFORCEMENT ACTIVITY**

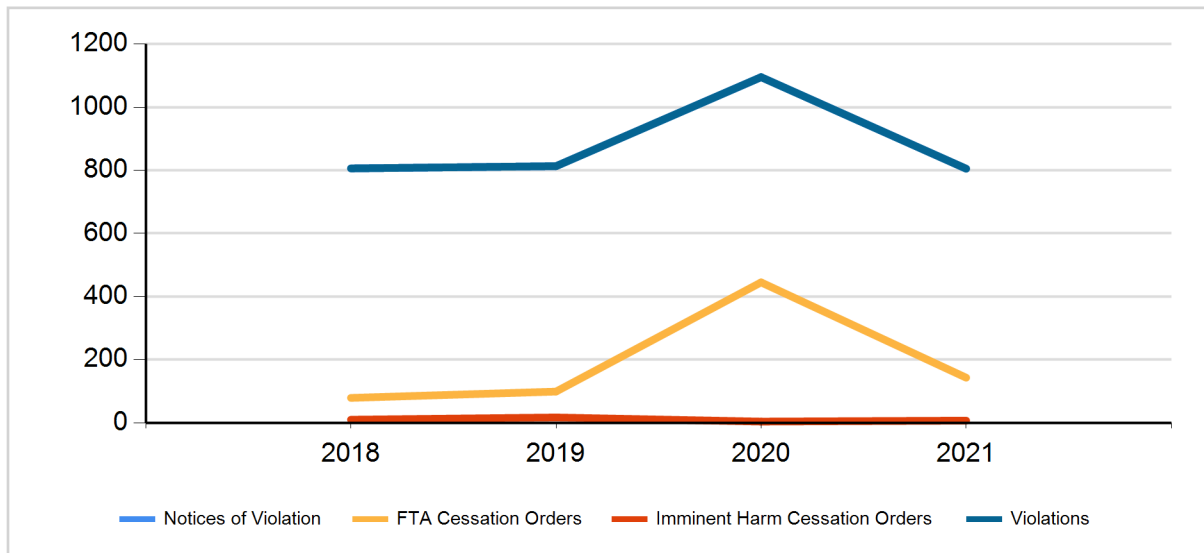


TABLE 11A

STATE OR TRIBAL ENFORCEMENT ACTIVITY				
Year	Notices of Violation	Violations	FTA Cessation Orders	Imminent Harm Cessation Orders
2018	806	806	79	10
2019	813	813	99	17
2020	1095	1095	445	4
2021	805	805	143	7

TABLE 12

LANDS UNSUITABLE ACTIVITY		
Activity	Number	Acres
Petitions Received	0	
Petitions Rejected	0	
Petitions Accepted	0	
Decisions Denying Petition	0	
Decisions Declaring Lands Unsuitable	0	0
Decisions Terminating Unsuitable Designations	0	0

**CHART 12A HISTORICAL TRENDS
LANDS UNSUITABLE ACTIVITY**

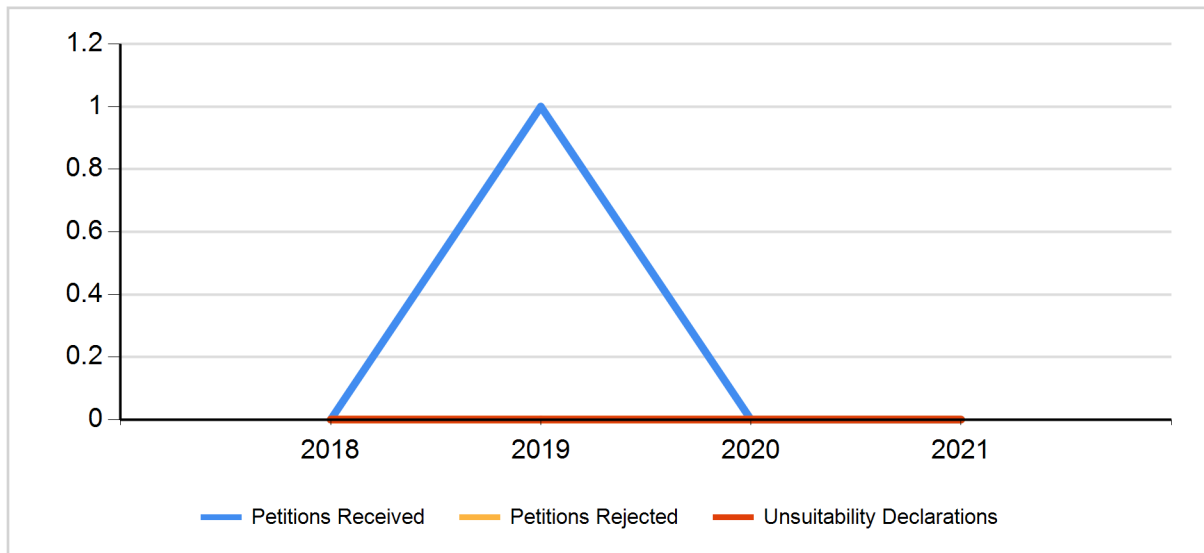


TABLE 12A

LANDS UNSUITABLE ACTIVITY			
Year	Petitions Received	Petitions Rejected	Unsuitability Declarations
2018	0	0	0
2019	1	0	0
2020	0	0	0
2021	0	0	0

**CHART 12B HISTORICAL TRENDS
ACRES DECLARED UNSUITABLE**

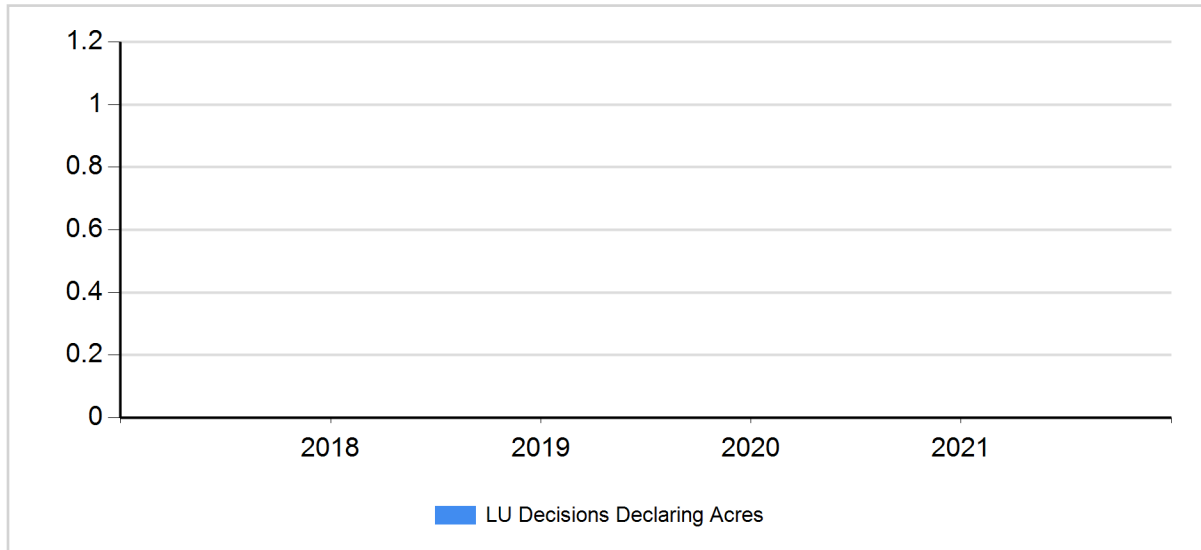
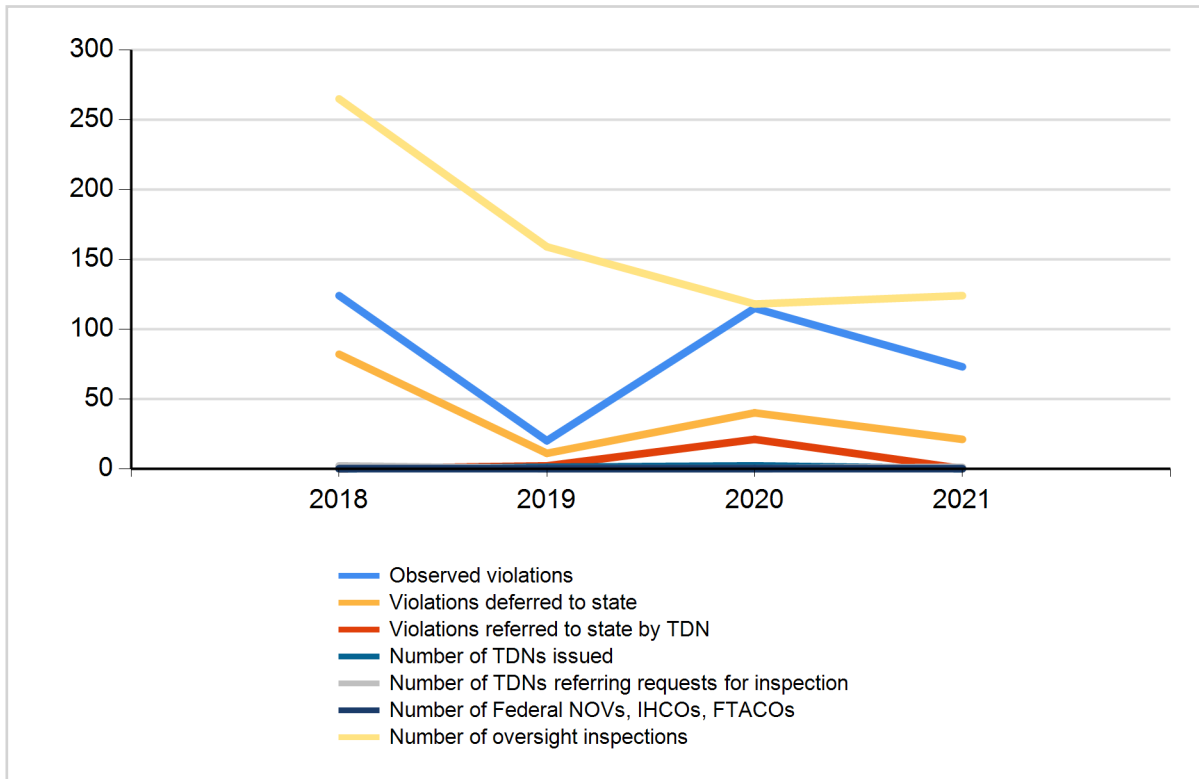


TABLE 12B

ACRES DECLARED UNSUITABLE	
Year	Acres Declared Unsuitable
2018	0.0
2019	0.0
2020	0.0
2021	0.0

TABLE 13

OSM OVERSIGHT ACTIVITY					
Oversight Inspections and Site Visits					
	Complete		Partial		
	Joint	Non-Joint	Joint	Non-Joint	Total
Oversight Inspections	27	3	73	21	124
	Technical Assistance		Other		Total
Site Visits	14		36		50
Violations Observed by OSM and Citizen Requests for Inspection¹					
Type of Action					Total number of each action
How many violations were observed by OSM on oversight inspections?					73
Of the violations observed, how many did OSM defer to State action during inspections?					21
Of the violations observed, how many did OSM refer to the State through Ten-Day Notices? ²					0
How many Ten-Day Notices did OSM Issue for observed violations? ³					0
How many Ten-Day Notices did OSM issue to refer citizen requests for inspection?					1
How many Notices of Violation did OSM issue?					0
How many Failure-to-Abate Cessation Orders did OSM issue?					0
How many Imminent Harm Cessation Orders did OSM issue?					0
OSM Action for Delinquent Reporting or Non-Payment of Federal AML Reclamation Fees					
How many Ten-Day Notices for delinquent reporting or non-payment of Federal AML reclamation fees did OSM issue?					0
How many Notices of Violation for delinquent reporting or non-payment of Federal AML reclamation fees did OSM issue?					0
How many Federal Failure-to-Abate Cessation Orders for delinquent reporting or non-payment of Federal AML reclamation fees did OSM issue?					0
¹ This section does not include actions for delinquent reporting or non-payment of Federal AML fees that are reported in the last section of the table. ² Number of violations contained in Ten-Day Notices not including those issued to refer citizen requests for inspection. ³ Number of Ten-Day Notices issued not including those to refer citizen requests for inspection.					

**CHART 13A HISTORICAL TRENDS
OSM OVERSIGHT ACTIVITY****TABLE 13A**

Year	Number of violations observed on OSM oversight inspections	Number of violations deferred to state action	Number of violations referred to state by TDN	Number of TDN's issued	Number of TDN's issued to refer requests for inspection	Number of Federal NOV, IHCOs, FTACOs, & issued	Number of oversight inspections
2018	124	82	0	0	2	0	265
2019	20	11	2	1	0	0	159
2020	115	40	21	2	0	0	118
2021	73	21	0	0	1	0	124

TABLE 14

STATUS OF ACTION PLANS						
Action Plan ID	Problem Type ¹	Problem Title	Problem Description	Date Action Plan Initiated	Scheduled Completion Date	Actual Completion Date
None						
¹ Problem Type: "PA" indicates a required Program change under subchapter T or 732 "RP" indicates a Regulatory Program implementation or administrative problem						

TABLE 15
(Optional)

POST-MINING LAND USE ACREAGE OF SITES FULLY RECLAIMED (Phase III bond release or termination of jurisdiction under the Initial Program)	
Land Use¹	Acres Released
Cropland	0.00
Pasture/Hayland	0.00
Grazingland	0.00
Forestry	4,319.91
Residential	0.00
Industrial/Commercial	0.00
Recreation	0.00
Fish & Wildlife Habitat	14.50
Developed Water Resources	0.00
Undeveloped land or no current use or land management	0.00
Other - Public Utilities	0.00
Other -	0.00
Other -	0.00
Other -	0.00
Other -	0.00
Other -	0.00
Other -	0.00
Other -	0.00
Sub-Total Other	0.00
Total	4,334.41
¹ Land uses as defined in 30 CFR 701.5 or "Other" as defined under the state or tribal program	

**CHART 15A HISTORICAL TRENDS
POST MINING LAND USE ACREAGES**

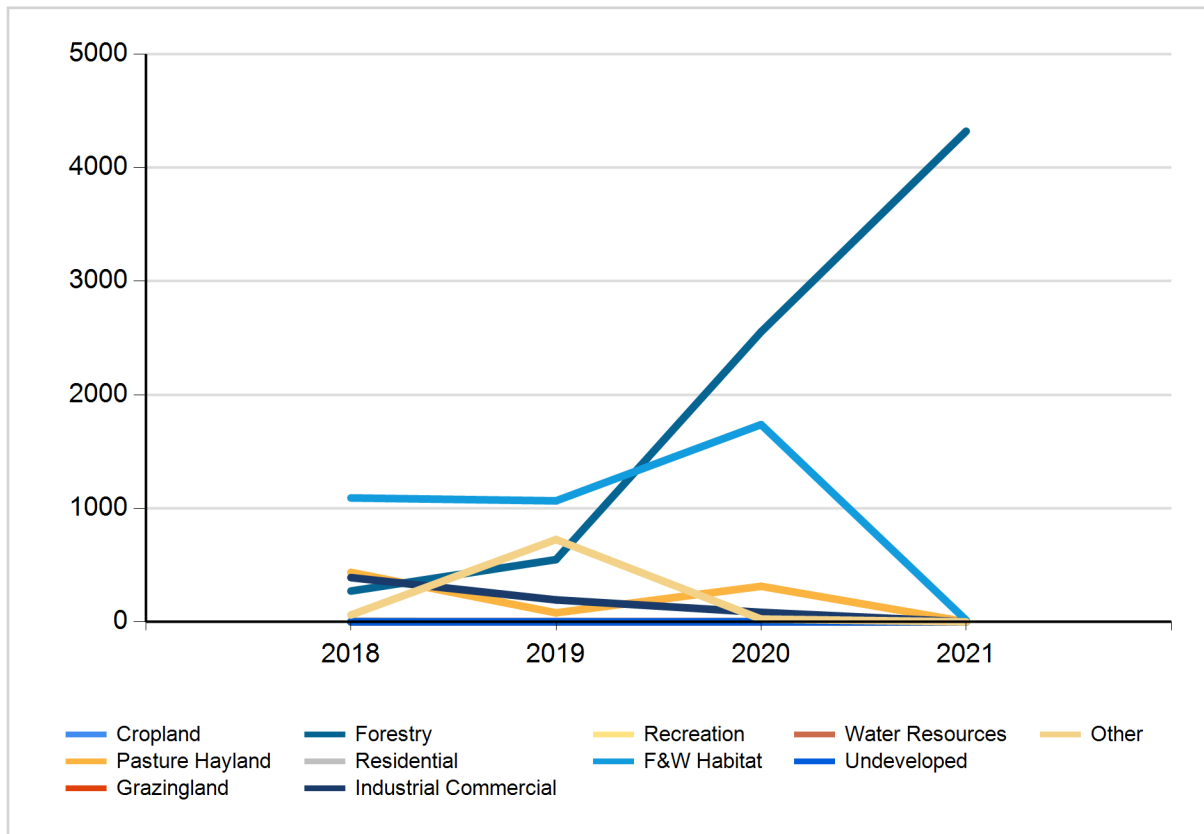


TABLE 15A

Year	Cropland	Pasture Hay	Grazing Land	Forest	Residential	Industrial Comm.	Recreation	F&W Hab.	Water Resources	Undeveloped	Other
2018	0	436	0	272	8	390	0	1091	0	0	61
2019	0	80	0	548	0	194	0	1066	0	0	725
2020	0	313	0	2553	3	84	0	1737	0	0	25
2021	0	0	0	4320	0	0	0	15	0	0	0

Table 1 – (State/Tribe) Status of AML Inventory all Priority 1, 2, and 3 Hazards on June 30, 2021

	High Priority		Elevated Priority 3	Stand-Alone Priority 3	Total
	Priority 1	Priority 2		(Not adjacent or in conjunction w/ P1&2)	
UNFUNDED					
GPRA Acres	2,445	84,214	N/A	2,072,890	2,159,549
Dollars	65,765,031	1,067,822,243	N/A	535,279,052	1,668,866,326
FUNDED					
GPRA Acres	189	6,221	15	117	6,542
Dollars	2,522,572	39,197,900	220,641	300,000	42,241,113
COMPLETED					
GPRA Acres	31,991	125,573	844	212,371	370,779
Dollars	206,136,799	543,350,784	4,317,232	23,333,816	777,138,631

Table 2 - (State/Tribe) Accomplishments in Eliminating Health and Safety Hazards Related to Past Mining Priority 1 and 2 Hazards (As of June 30, 2021)

PROBLEM TYPE (keyword)																		
	Clogged Stream (CS) (miles)	Clogged Stream Lands (CSL) (acres)	Dangerous Pile or Embankment (DPE)(acres)	Dangerous Highwall (DH) (feet)	Dangerous Impoundment (DI) (count)	Dangerous Slide (DS) (acres)	Gases: Hazardous /Explosive (GHE) (count)	Hazardous Equip. /Facilities (HEF) (count)	Hazardous Water Body (HWP) (count)	Industrial/Residential Waste (IRW) (acres)	Portal (P) (count)	Polluted Water:Agri/Industrial (PWA/I)(count)	Polluted Water: Human Consumption (PWHC)(count)	Subsidence (S) (acres)	Surface Burning (SB) (acres)	Underground Mine Fire (UMF) (acres)	Vertical Opening (VO) (count)	TOTAL
UNRECLAIMED/REMAINING HAZARDS (Unfunded)																		
Units	5,016	109	2,369	2,497,544	1,176	400	2	651	32	8	2,305	148	931	754	94	4,703	139	N/A
GPRA Acres	25,062	146	2,368	41,594	5,885	388	2	69	160	8	235	739	4,655	752	94	4,703	14	86,875
Dollars	14,768,151	2,629,049	50,634,207	564,101,175	28,491,643	32,118,080	260,000	8,025,535	1,139,710	59,356	28,886,019	60,478,702	58,246,735	60,617,584	6,061,156	214,597,720	4,352,554	1,135,467,376
ANNUAL RECLAMATION - EY2021 only (Completed)																		
Units			38	76	150	3	1	0	3		1		2,260	2		10	0	N/A
GPRA Acres			38	5,325	30	3	1	1	1		12		452	2		10	3	5,877
Dollars			2,655,164	1,142,088	187,060	1,753,253	50,060	2,000	33,824		232,317		1,398,571	458,684		2,263,158	322,215	10,498,394
HISTORICAL RECLAMATION - EY1978 - 2021 (Completed)																		
Units	73	173	5,600	388,531	2,047	731	12	754	34	51	3,599	88	26,484	629	565	49	224	N/A
GPRA Acres	350	178	5,600	5,694	10,235	731	12	75	168	50	360	439	132,420	619	564	49	22	157,566
Dollars	20,117,971	6,456,784	174,564,569	62,367,526	54,645,477	72,345,231	488,731	9,885,532	1,008,926	831,981	39,501,966	14,639,452	183,064,155	63,374,990	30,089,462	9,218,888	6,885,943	749,487,584

Table 3 - (State/Tribe) Accomplishments in Eliminating Environmental Problems Related to Past Mining Priority 3 and SMCRA section 403(b) Hazards (As of June 30, 2021)

PROBLEM TYPE (keyword)															
	Bench , Solid Bench, Fill Bench (BE) (acres)	Industrial/Residential Waste Dump (DP) (acres)	Equipment and Facilities (EF) (count)	Gob (GO) (acres)	Highwall (H) (feet)	Haul Road (HR) (acres)	Mine Opening (MO) (count)	Pit, Open Pit, Strip Pit (PI) (acres)	Spoil, Spoil Bank (SA) (acres)	Slurry (SL) (acres)	Slump (SP) (acres)	Water (WA) (gallons)	Other (specify)	Water Supplies (WS) – Section 403(b) (count)	TOTAL
UNRECLAIMED/REMAINING HAZARDS (Unfunded)															
Units	200	19	99	1,194	3,403,680	14	131	47	595	10	32	2,040,563	153		N/A
GPRA Acres	200	18	10	1,193	48,634	14	13	47	594	10	32	2,031,201	0		2,081,965
Dollars	781,401	125,354	671,974	11,755,138	532,362,576	416,501	1,504,891	316,868	3,534,234	12,001	2,666,902	23,101,097	750,749		577,999,685
ANNUAL RECLAMATION - EY2021 only (Completed)															
Units				0.50			1.00	8.00				115,904.00			N/A
GPRA Acres				0.50			0.10	8.00				115,904.00			115,913
Dollars				33,824.00			13,486.16	20,000.00				342,160.74			409,470
HISTORICAL RECLAMATION - EY1978 - 2021 (Completed)															
Units	44	34	20	192	48,363	11	25	14	1,048	2	25	211,754	0		N/A
GPRA Acres	44	34	2	190	691	11	3	14	1,048	2	25	211,152	0		213,216
Dollars	180,866	272,786	115,416	2,542,058	6,412,087	107,234	187,701	60,000	6,835,634	40,000	835,906	10,086,359	0		27,676,047

**Table 4 – (State/Tribe) Public Well-Being Enhancement
(All Priority 1, 2, and 3 AML projects completed during EY 2021)**

#	PAD Number	Project Name	Problem Type(s) Reclaimed	GPRA Acres	Cost	Number of People with Reduced Exposure Potential (State Estimated /or/ Census Data)
1	WV000122	Robinette Branch Phase II	DPE	3	\$325,853.10	217
2	WV000122	Robinette Branch Phase II	VO	0.1	\$50,860.00	
3	WV000834	Rockhouse Creek (Pack) Burning Refuse	P	0.4	\$38,000.00	235
4	WV002367	Craig Hollow Refuse Pile	DPE	12	\$1,363,082.06	249
5	WV002367	Craig Hollow Refuse Pile	P	0.3	\$60,000.00	
6	WV002367	Craig Hollow Refuse Pile	DI	5	\$45,000.00	
7	WV007032	Sand Run (Arbogast) Vertical Opening	VO	0.1	\$121,355.00	155
8	WV001764	Bull Run #27 Phase II	DI	130	\$26,000.00	340
9	WV001764	Bull Run #27 Phase II	DH	20.4	\$350,000.00	
10	WV001764	Bull Run #27 Phase II	P	0.3	\$9,000.00	
11	WV001764	Bull Run #27 Phase II	GO	0.5	\$33,824.00	
12	WV001764	Bull Run #27 Phase II	HWB	2.5	\$33,824.00	
13	WV007042	Valley Point (Martin) Portal	P	0.1	\$18,662.44	220
14	WV007042	Valley Point (Martin) Portal	HEF	0.1	\$2,000.00	
15	WV007042	Valley Point (Martin) Portal	S	0.1	\$2,000.00	
16	WV004832	Rivesville (Moore) Subsidence	S	0.1	\$62,142.40	584
17	WV004535	Independence Waterline Extension - Town of Newburg	PWHC	75	\$396,424.50	60
18	WV007041	Howesville (Greaser) Portal	P	0.1	\$106,654.60	450
19	WV006802	Scotch Hill (Jennings) UMF Phase III	UMF	10	\$2,263,158.00	217
20	WV003182	Ed Gower Highwall #2	DH	55.7	\$792,087.55	240
21	WV003182	Ed Gower Highwall #2	PI	8	\$20,000.00	
22	WV003182	Ed Gower Highwall #2	DI	10	\$50,000.00	
23	WV006889	Bethlehem (Gifford) Subsidence	S	0.5	\$136,368.80	469
24	WV005893	Stonecoal Creek Refuse Pile No. 2 ENH	DPE	6	\$0.00	195
25	WV007044	Francis (Davis) Subsidence	S	0.1	\$5,089.50	396
26	WV007051	Clarksburg (Fernandez) Subsidence	S	0.1	\$60,000.00	2086
27	WV007051	Clarksburg (Fernandez) Subsidence	MO	0.1	\$13,486.16	
28	WV007058	Smithers (Cavalier) Landslide	DS	3	\$1,753,253.42	493
29	WV006654	Liberty (Hardman) Subsidence II	S	0.1	\$136,989.45	2086
30	WV006132	Adrian (Perrine) Subsidence II	S	0.1	\$5,336.50	154
31	WV006606	Bethlehem (Rose) Subsidence IV	S	0.1	\$8,880.00	469
32	WV007053	Long Run (Raines) Air Shaft	VO	0.1	\$150,000.00	141
33	WV007053	Long Run (Raines) Air Shaft	GHE	1	\$50,060.40	
34	WV006918	Flatwoods-Canoe Run PSD Exchange Area Waterline	PWHC	95	\$995,184.00	101
35	WV005543	Enterprise (Swiger) Subsidence III	S	0.1	\$10,750.00	469
36	WV007054	Farmington (Efaw) Subsidence	S	0.1	\$9,496.60	912
37	WV007061	Masontown (Woods) Mine Blowout	DI	5	\$66,060.30	340
38	WV007065	Adamsville (Potesta) Subsidence	S	0.1	\$6,225.76	396
39	WV007072	Shinnston (Smith) Subsidence	S	0.1	\$4,918.40	2201
40	WV007076	Adamsville (Boring) Subsidence	S	0.1	\$5,396.60	396
41	WV004278	Summerlee Refuse Pile-Phase II	DPE	16.5	\$966,229.00	1202
TOTAL				0	\$10,553,652.54	15,473

Table 5 – (State/Tribe) - Partnership Financial Resources Dedicated to Protecting the Public from Adverse Effects of Past Mining (AML projects completed during EY 2021)									
#	PAD Number	Project Name	SMCRA Program Funding Source	Total SMCRA funding	Alternate Non-SMCRA Funding Source	Total non-SMCRA Funding	In-Kind Services	Total Project Funding	Comments
1	WV-6844	Swamp Run #2	WCAP	\$99,900.00		\$216,453.00	\$1,229.00	\$317,582.00	
2	WV-6088	Sandy Run Renovation	WCAP	\$100,000.00		\$258,500.00	\$31,000.00	\$389,500.00	
3	WV-5784	Beaver Creek at Auman Road	WCAP	\$131,025.00		\$175,100.00	\$26,000.00	\$332,125.00	
TOTAL				\$330,925.00		\$650,053.00	\$58,229.00	\$1,039,207.00	

Table 6 – (State/Tribe) – Reclamation Projects Started and/or Completed (AML projects started and/or Completed during EY 2021)

Project Type	Projects Started	Projects Completed
State/Tribe (EY 2021):	22	19
Federal (EY 2021):	0	0
Total (EY 2021):	22	19

**Table 7 – (State/Tribe) – AML Program Grant Awards and Staffing
(State/Tribe)
AML Program Grant Awards and Staffing
(During EY 2021)**

AML Program Costs	
Administration	\$6,608,780.00
Construction	\$9,527,895.00
Water Supply Construction	\$2,776,676.00
AMD Set-Aside	\$0.00
Other(s) (Specify)	
Total AML Funding	\$18,913,351.00
AML Program Staffing (full-time equivalents on June 30, 2021):	62

Appendix 2: Summary of State Comments on Report Draft

2021 AER Responses to WVDEP Comments

Section A.1., Page 22

Comments from WVDEP:

- “Does OSM consider the inspectors seriousness rating of NOV assessment score in their determination? Out of 205 instances, 0 were minor?”
- “Out of 205 resources impacted, none were deemed minor. All were considered moderate or major...Impacts generally did not interfere with land use, did not jeopardize public safety, and did not cause damage(s) to structures of restricted areas.”
- “small amount(s) of disturbance outside of permit or authorized area or small amount(s) of sediment, flyrock, or erosion outside permit or authorized area.”
- “low volume or short duration water discharge that marginally exceeded effluent limits and resulted in a marginally negative impact on receiving stream water quality;”

CHFO Response: Yes, the inspectors seriousness rating was considered along with the corresponding MR-6. CHFO incorporated the other suggested comments from WVDEP

Section A.2., Page 23

Comment from WVDEP:

- “During the Evaluation Year 27 additional permits were revoked but prior to the end of the reporting period 21 Permit Reinstatement Applications had been received for review to recover these permits from the bond forfeiture permit inventory. Note: At the time of data compilation for this report (September, 2021) 16 of the permits revoked within the reporting period had been reinstated.”

CHFO Response: CHFO incorporated the suggested comment from WVDEP.

Section I.2.a Page 44

Comment from WVDEP:

- “Receivership action brought by WVDEP against ERP. OVEC then filed action against WVDEP in federal court for compliance with the 732 process which was resolved when WVDEP notified OSM of condition which could have an effect on the approved program.”

CHFO Response: CHFO has adjusted the sentence accordingly.

VII. A Page 55

Comment from WVDEP:

- “This statement needs better defined. Estimating project costs of what? Where? Why estimate? OSR has decades of realized cost data.”

CHFO Response: CHFO has adjusted the sentence accordingly.

VII.B Page 56

Comment from WVDEP:

- “First sentence in paragraph says DEP is able to cover grant match through FY 2024.”

CHFO Response: CHFO has adjusted the sentence accordingly.

VII.B Page 57

Comment from WVDEP:

- “Even though this paragraph references an unspecified letter it was not included in the OSM report until EY 2019. It is unclear as to what letter this paragraph references and why after being in existence for over 4 years it is now included by OSM. A copy of the letter should be provided, and its content and authority reviewed before including this language in the report.”

CHFO Response: CHFO has adjusted the sentence accordingly. This was reported in both 2019 and 2020 and will continue to be covered until issue is resolved.

A.3 Page 71:

Comment from WVDEP:

- “Concurs with who?”

CHFO Response: change “concurs” to “recognizes”

B.5 Page 74

Comment from WVDEP:

- “Source of info?”

CHFO Response: Charleston Field Office