

**REPORT OF THE
SPECIAL RECLAMATION FUND
ADVISORY COUNCIL**

January 31, 2012



2011 SRF Advisory Council Annual Report

EXECUTIVE SUMMARY

The Special Reclamation Fund Advisory Council (the “Council”) was established by the Legislature in 2001 in order to ensure the effective, efficient and financially stable operation of the Special Reclamation Fund (the “Fund”). (W.Va. Code § 22-1-17). The Fund is designated by the Legislature for the reclamation and rehabilitation of lands subject to permitted surface mining operations and abandoned after 1977, where the bond posted is insufficient to cover the cost of reclamation. The Special Reclamation Water Trust Fund was created “for the purpose of assuring a reliable source of capital to reclaim and restore water treatment systems on forfeited sites.” (W.Va. Code § 22-3-11).

The Secretary of the Department of Environmental Protection is required to conduct formal actuarial studies every two years and conduct informal reviews annually on the Special Reclamation Fund and Special Reclamation Water Trust Fund.

The Fund is presently funded by a tax of 14.4 cents per ton of clean coal mined in West Virginia. From this revenue, funds based on a tax rate of 1.5 cents per ton are being paid into the Special Reclamation Water Trust Fund, while coal tax revenues based on 12.9 cents per ton are being paid into the Special Reclamation Fund. According to W.Va. Code § 22-3-11, “Beginning with the tax period commencing on July 1, 2009, and every two years thereafter, the special reclamation tax shall be reviewed by the Legislature to determine whether the tax should be continued: *Provided*, That the tax may not be reduced until the Special Reclamation Fund and Special Reclamation Water Trust Fund have sufficient moneys to meet the reclamation responsibilities of the state established in this section.”

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The Council is also required to make a report to the Legislature every year on the financial condition of the Fund. (W.Va. Code § 22-1-17). The report is to include: “A recommendation as to whether or not any adjustments to the special reclamation tax should be made considering the cost, timeliness and adequacy of bond forfeiture reclamation, including water treatment [and] A discussion of the council's required study issues.”

In accordance with the statutory requirements, the Council submits the following:

- 1. Recommendation:** Based upon the current status of the fund, as determined by the most recent actuarial analysis (the “Actuarial Valuation of the Special Reclamation Fund and Special Reclamation Water Trust Fund” conducted by Pinnacle Actuarial Resources, dated January, 2012) (the “Actuarial Valuation”), the unanimous recommendation of the Council is that the special reclamation tax remain at the present 12.9 cents per ton of coal, dedicated to the Special Reclamation Fund (SRF), and that the special reclamation tax be increased to 15 cents per ton of coal, dedicated to the Special Reclamation Water Trust Fund (SRWTF), for a total tax of 27.9 cents per ton. The Council believes that this incremental approach, as recommended by the Actuary, to achieve a projected fully funded status in the SRWTF, is a valid approach due to the need to continue to update actual costs, future forfeiture rates and the coal production from currently issued permits. This ongoing collection of new information allows for the various estimates and assumptions to be tested.
- 2. Study issues:** Pursuant to W.Va. Code §22-1-17, the Council is also required to “Identify and define problems associated with the special reclamation

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fund.” The Council conducted a range of studies during 2011 to better assess the current and future financial condition of the funds:

- a. Actuarial Valuation of the Special Reclamation Fund & Special Reclamation Water Trust Fund by Pinnacle Actuarial Resources, Inc.
- b. Consensus Coal Production and Price Forecast for West Virginia: 2011 Update by Dr. George Hammond of West Virginia University Bureau of Business and Economic Research.
- c. Development of Data Fields to Support Actuarial Analysis by Christine Risch of Marshall University Center for Business and Economic Research (CBER).
- d. Decision Tree for Optimizing AMD Treatment at Special Reclamation Sites by Dr. Paul Ziemkiewicz of West Virginia University Water Research Institute (WRI).
- e. Natural Attenuation of Major Mine Drainage Pollutants by Dr. Paul Ziemkiewicz of West Virginia University Water Research Institute (WRI).
- f. Alternative Enforcement Evaluation by DEP.

Findings of these studies are outlined in the body of the report.

The Council recommends that the Legislature continue to examine the implications of the recent court rulings and subsequent lawsuit settlements on the Special Reclamation Fund, Abandoned Mine Lands, and voluntary efforts by citizen-led watershed groups to address historic mining-reclamation related liabilities. The Council further recommends that the

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Legislature examine the mine reclamation and bonding programs of other states and as implemented in Tennessee by the federal Office of Surface Mining in order to determine if the statute and regulations creating the SRF and SRWTF in West Virginia have inappropriately structured SMCRA to assume long-term CWA liabilities. The Council further recommends the Legislature examine the separate and distinct authorities of the Clean Water Act (CWA) in assessing the eligibility of future forfeitures for transfer of liabilities to the SRWTF. The Council is concerned about default transfer of water treatment liability to the SRWTF when opportunities exist to pursue responsible parties under the CWA per the requirements of an NPDES (CWA Section 402) permit.

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BACKGROUND ON THE SPECIAL RECLAMATION FUND

Article 1, Chapter 22 of the Code of West Virginia was amended by the West Virginia Legislature in 2001, creating an eight member Special Reclamation Fund Advisory Council (the “Council”) with the responsibility of ensuring the effective, efficient and financially stable operation of the Special Reclamation Fund. The legislation establishing the Council also increased the tax on clean coal mined in West Virginia, from three to seven cents per ton (the “Continuing Tax”), and levied an additional seven cents per ton (the “Temporary Tax”), to be deposited into the Fund. The revenues of the Fund were designated to pay for reclamation on post-1977 bond-forfeited sites.

The 2001 legislation provided for the Temporary Tax to be in effect for thirty-nine months. As a result of a 2005 actuarial report finding that the expiration of the Temporary Tax would result in nearly immediate insolvency of the fund, the Temporary Tax was extended by the Legislature in 2005, for an additional eighteen months. A 2007 actuarial study commissioned by the Council found that the failure to extend the Temporary Tax again would result in insolvency for the Fund. Accordingly, in 2008 the Legislature, through SB 751, enacted a temporary, twelve month tax of 7.4 cents to be allocated between the Fund and a Special Reclamation Water Trust Fund (the “SRWTF.”) An updated actuarial study in 2008 concluded that terminating the tax would result in insolvency within a few years. In response, in the 2009 legislative session, the Legislature amended W.Va. Code § 22-3-11 to remove the expiration date for the Temporary Tax and provided instead for biennial review of the Tax by the Legislature. (Acts of the Legislature 2009, chapter 216).

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Membership Status of the Special Reclamation Fund Advisory Council

On June 7, 2011, Christine Risch, Marshall University, Center for Business and Economic Research, was appointed to the SRFAC serving as the Actuary/Economist member. Carolyn Atkinson serves as the member representing the Treasurer of the State of West Virginia. Dr. Paul Ziemkiewicz serves as the member representing the Director of the National Mine Land Reclamation Center at West Virginia University. Bill Raney serves as the member representing the interests of the coal industry. John Morgan serves as the member representing the interest of environmental protection organizations. Ronald Pauley serves as the member representing the interests of coal miners. The SRFAC member representing the interests of the general public is currently vacant.

FINANCES OF THE SPECIAL RECLAMATION FUND

This section of the Report to the Legislature outlines the financial status of the Special Reclamation Fund for calendar year 2011 and provides comments regarding the future financial position of the fund. The three key factors that have the most effect on the adequacy of the Special Reclamation Fund are the coal production levels in West Virginia, the risk of future forfeitures, and the cost of reclaiming existing and future bond-forfeited sites.

To summarize the data and analysis that follow, it should be noted that the Special Reclamation Fund (SRF) will cover all costs for both land reclamation and water treatment through June 2018. Starting in July 2018, the Special Reclamation Water Trust Fund (SRWTF) will begin covering the cost for water treatment—both water capital costs and ongoing water treatment costs. The SRF is presently solvent and the funded status is projected by the 2011 Actuarial Valuation to be over 100 percent funded using a 20-year

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cash flow basis and 97 percent funded using a 35-year cash flow basis. The SRWTF is currently accumulating 1.5 cent per ton coal tax revenue and interest, and is projected by the 2011 Actuarial Valuation to be 18 percent funded using a 20-year cash flow basis and 9 percent funded using a 35-year cash flow basis. Since 2001, despite a very aggressive reclamation schedule, the SRF and SRWTF have been serving the people of West Virginia well through providing for the reclamation of bond-forfeited sites. At the time of the initial legislation in 2001, there were 392 forfeited permits requiring reclamation, including some requiring water treatment. Since passage of that legislation, an additional 161 permits have forfeited as well, bringing the total to 553 permits requiring reclamation. Of those, work has been completed on 419 permits. With regard to water treatment, the Fund is treating water at 128 sites and has an additional 72 sites under review or construction; 76 sites have been determined to have no conditions requiring treatment, or have completed treatment. As of September 30, 2011, the Special Reclamation Fund had accumulated assets of \$68.6 million while the Special Reclamation Water Trust Fund had accumulated \$8.7 million in assets.

The Council finds that, based upon projections under the 2011 Actuarial Valuation performed by Pinnacle Actuarial Resources, LLC the SRF is sufficiently funded under the current 12.9 cent tax dedicated to the SRF. However, the Council is concerned that, based upon projections under the 2011 Actuary Valuation, as the SRWTF begins making payments for water capital and ongoing water treatment in Fiscal Year 2019, as currently projected, “the SRWTF will fall into a deficit position in the second year of operation-2020.” (Actuarial Valuation, page 3). Declining coal production projected by the 2011 Consensus Coal Production Forecast, and the significant increase

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in water treatment costs resulting from court rulings in two cases, are contributing factors in the projected insolvency of the SRWTF.

Graphic summaries of the status of the Funds as well as potential future concerns are outlined in the following figures. First, historical revenues are presented. Cash flow projections are included in the attached Pinnacle Actuarial Valuation.

The SRF cash flow projection presents the basis for the positive outlook regarding the long-term adequacy of the SRF. However, the SRFWTF cash flow projection shows that the SRWTF will fall into a deficit position in the second year of operation. The status of the SRWTF is the basis of the Advisory Council's recommendations in this year's Report.

Closed Actuarial Valuation

The Council believes it is important to note that this Actuarial Valuation is a "closed" valuation in that it only considers liabilities associated with permits that have already been issued. The estimated Funds' liabilities account for both known forfeitures and anticipated forfeitures from permits issued before July 1, 2011. Similarly, the revenue projections limit the expected coal tax revenues to the portion of the total expected coal tax revenues that are attributable to the permits issued prior to July 1, 2011.

Pinnacle prepared a measurement of current liabilities and assets in accordance with the guidance set out in Governmental Accounting Standard Number 10, an excerpt of which is:

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State and local governmental entities other than public entity risk pools are required to report an estimated loss from a claim as an expenditure/expense and as a liability if both of these conditions are met:

a. Information available before the financial statements are issued indicates that it is probable that an asset had been impaired or a liability had been incurred at the date of the financial statements. It is implicit in this condition that it must be probable that one or more future events will also occur, confirming the fact of the loss.

b. The amount of the loss can be reasonably estimated.

It is Pinnacle's position that the Fund should provide for liabilities on existing permits that may come under the responsibility of the fund. Permits that have not yet been issued are not the responsibility of the Fund until they become issued. While an "open" study may provide some interesting information, it is not relevant in defining a liability as of a certain date.

The actual revenues to the Fund in future years will be a combination of receipts from permits issued prior to July 1, 2011 and those issued afterwards.

The future balance of the Fund is dependent on both the forfeiture rate of the currently issued permits and the prospective forfeiture of permits issued after July 1, 2011 combined with the tax revenue from all active and future permits.

Water Treatment Funding

The current main funding mechanism for bond-forfeited sites is the 14.4 cent tax per ton of clean coal mined. In 2008, the Legislature authorized, but did not separately fund, the Special Reclamation Water Trust Fund ("SRWTF"). In reliance on the SRWTF

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statutory authorization, beginning in July 2008, coal tax revenues based on a tax rate of 1.5 cents per ton are being paid into the SRWTF. In addition, coal tax revenues based on 12.9 cents per ton are being paid into the SRF. Unless modified in response to future legislation, for budgeting and analysis purposes the DEP plans to continue paying all costs for both land and water reclamation work out of the SRF through FY 2018. Funding the water reclamation and treatment from the SRF will allow the SRWTF to build up assets, although it is not anticipated to be solvent without future continuing funding. The Council is continuing to look at alternatives for water treatment funding. The current balance in the SRWTF is \$8.7M as of September 30, 2011. The projections from the 2011 Actuarial Valuation (p.24) show that a dedicated revenue of 20.56 cents per ton of coal would result in solvency for the SRWTF under this scenario through the year 2046. However, the Actuarial Valuation does “suggest an incremental approach toward the adequacy target be taken to allow the various estimates and assumptions to be tested”.

Figure 1

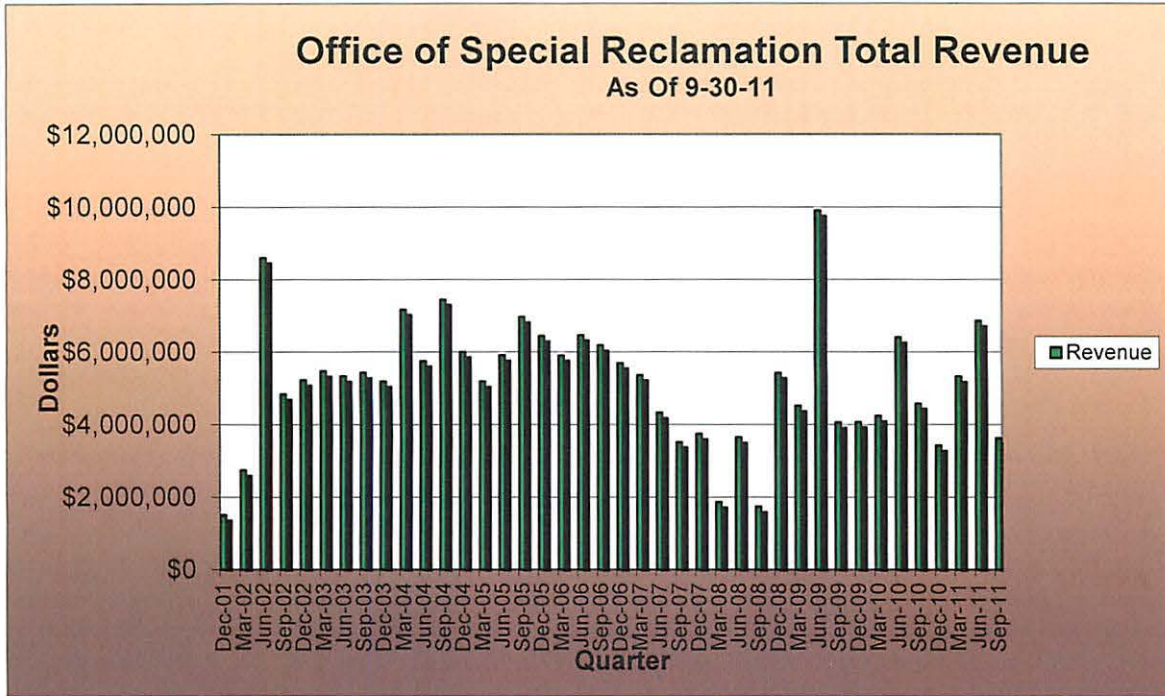
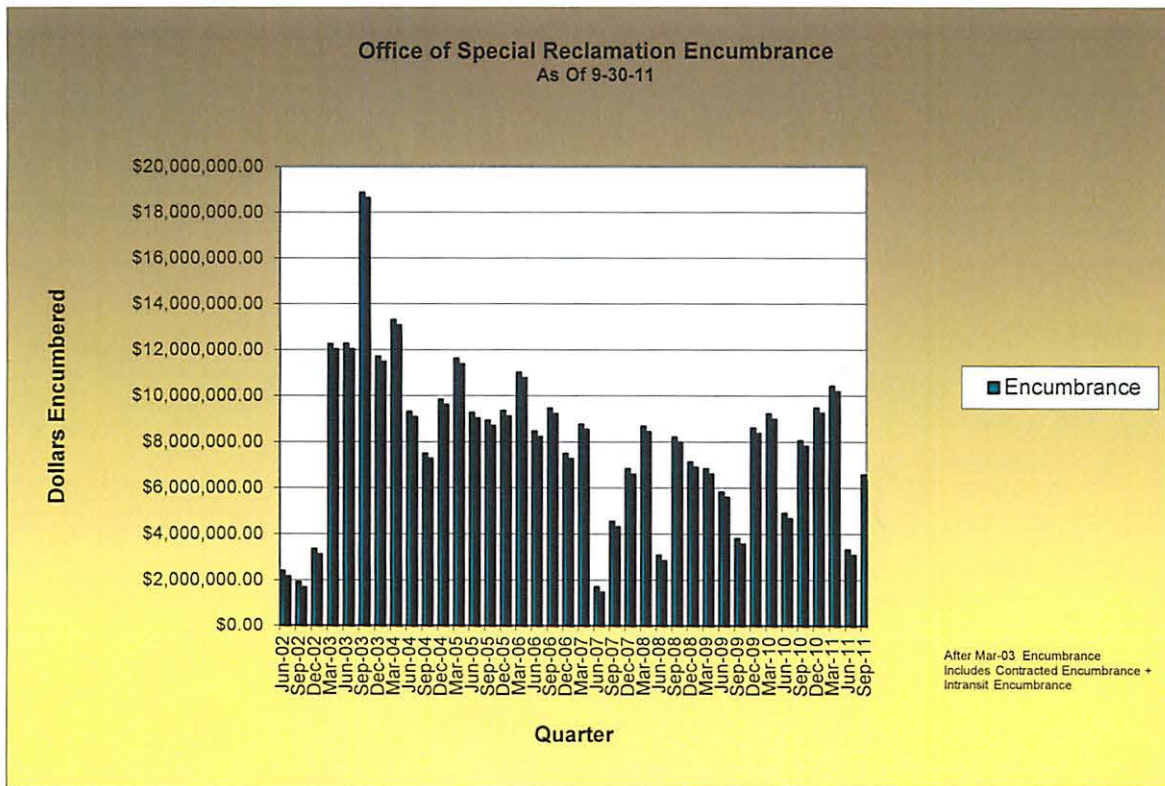
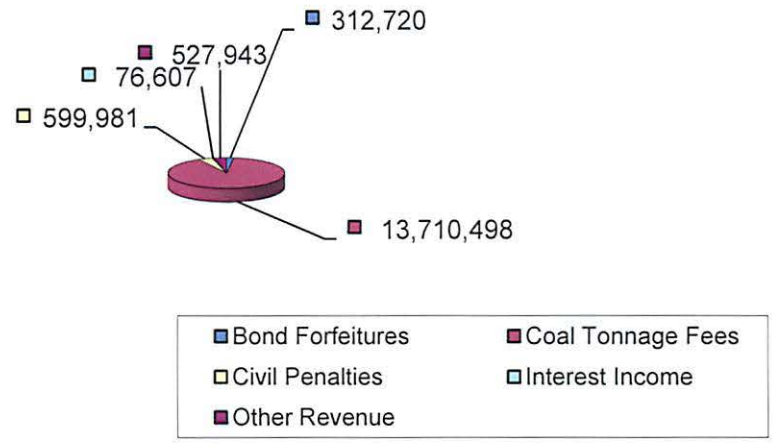


Figure 2



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Figure 3. Revenue Sources



Study Issues

1. The SRF through FY 2018 and the SRWTF starting in FY 2019 has acquired liability for additional water treatment as a result of lawsuits filed against the DEP, as described below.

Identical complaints were filed in the Northern and Southern District Courts, Civil Actions No. 07-cv-87 (the “Northern District Case”) and No. 2:07-0410 (the “Southern District Case”), assigned to Judge Irene Keeley and Judge John T. Copenhaver, Jr., respectively. Both cases were styled *West Virginia Highland Conservancy and West Virginia Rivers Coalition v. Randy C. Huffman, Secretary, West Virginia Department of Environmental Protection*.

The two suits alleged that the West Virginia Department of Environmental Protection (DEP) had violated, and continues to violate, the federal Clean Water Act (the Act) by failing to obtain West Virginia National Pollutant Discharge Elimination System (WV/NPDES) permits when the Division of Land Restoration reclaims and treats water at bond forfeited sites as directed by state law. The Northern District Case named 18 specific bond forfeited sites and the Southern District Case named 3 sites.

On March 26, 2009, the Northern District Court entered summary judgment in favor of Plaintiffs in the Northern District Case, and granted a permanent injunction. The injunction requires DEP to apply for, process, and issue WV/NPDES permits to itself for the discharge into waters and streams of pollutants from the eighteen bond-forfeited, coal mining sites at issue in the case, whose reclamation the agency is required to manage. DEP appealed this decision to the United States Court of Appeals for the Fourth Circuit (“Fourth Circuit Court of Appeals”). By order dated November 8, 2010, the Fourth Circuit Court of Appeals affirmed the Northern District Court’s ruling.

Similarly, a motion for summary judgment in the Southern District Case was granted by Order dated August 24, 2009. The Southern District Court found that the Secretary of the DEP was “in violation of the National Pollutant Discharge Elimination System permitting requirements of the Clean Water Act.” The Southern District Court ordered the Secretary to “apply for, and obtain, NPDES permits for all sites at issue in this action,” and the parties subsequently submitted a joint stipulation agreeing to the

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same injunctive relief and timeframes for compliance set forth in the Northern District litigation. The Southern District Court entered final judgment August 31, 2010.

On January 11, 2010, the same Plaintiffs (West Virginia Highlands Conservancy and West Virginia Rivers Coalition) and the Sierra Club submitted a letter giving DEP notice of their intent to sue DEP regarding discharges from 131 additional bond forfeited sites on the same legal basis as the previous suits. Based on the outcome of the previous litigation, DEP engaged in settlement negotiations with the Plaintiffs and reached agreement regarding the permitting of the 21 sites in the previous litigation and the additional 131 sites. In August 2011, the Plaintiffs filed two new suits regarding the additional sites, *West Virginia Rivers Coalition, et al v. Huffman*, Civil Action No. 1:11-cv-118 (N.D. W.Va.), and *West Virginia Rivers Coalition, et al v. Huffman*, Civil Action No. 2:11-cv-524 (S.D. W.Va.), and lodged a proposed Consent Decree with both courts. The Northern District Court entered the Consent Decree on October 12, 2011. The Southern District Court has not yet entered the Consent Decree. A list of all bond forfeited sites at issue in all four suits is attached to the Consent Decree as Attachment A.

The Consent Decree resolves all four suits filed by the Plaintiffs regarding bond forfeited sites. The Consent Decree requires DEP to obtain WV/NPDES permits for all 21 bond forfeiture sites cited in the initial litigation by September 1, 2011. Thereafter, DEP will issue draft WV/NPDES permits for 50 additional sites by the end of each calendar year, beginning in 2012. The Consent Decree requires DEP to issue draft WV/NPDES permits for all bond forfeited sites listed in Attachment A to the Consent Decree by December 31, 2015. As required by the Consent Decree on December 1, 2011, DEP submitted a Treatment Cost Report to Plaintiffs and SRFAC, in which DEP determined the capital cost and annual operating and maintenance costs for water discharges from each bond forfeiture site to meet applicable water quality based effluent limitations. The DEP estimates these costs will amount to \$33.1 million for one-time capital construction costs and \$6 million in annual operations and maintenance costs.

Further, a third case presents potential for future litigation, should the legislature not adequately fund the SRF and SRWTF. *West Virginia Highlands Conservancy v. Secretary Salazar, DOI*, Civil Action No. 2:00-1062 (S.D. W.Va.). The West Virginia Highlands Conservancy (WVHC) had filed a motion with the U.S. District Court for the

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Southern District of West Virginia to reopen the case and schedule further proceedings on the grounds that the recommendations of the Special Reclamation Advisory Council were not being followed with regard to funding the Special Reclamation Fund. Based upon the Legislature's extension of funding through the Continuing and Temporary taxes, the case was placed on the court's inactive docket as of May 2008; however, the court allowed the possibility of a renewed motion if the Legislature does not continue to provide sufficient monies for the Fund to remain solvent.

In March 2011, the WVHC moved once again to have the litigation reopened alleging continuing problems with the Fund. A status conference was held on August 5, and the court ordered the filing of a joint status report. On August 25, 2011, the WVHC and the Defendants filed a joint status report with the court. The WVHC stated that the court should not delay reopening the case until the new actuarial report and Advisory Council recommendations are issued, whereas the Defendants recommended that it was premature for the court to reopen this matter prior to the close of the 2012 legislative session.

2. Actuarial Valuation of the Special Reclamation Fund & Special Reclamation Water Trust Fund by Pinnacle Actuarial Resources, Inc.

While in many respects the 2011 analysis is similar to the analysis performed in 2010, there are a number of changes to key assumptions included in this year's analysis.

- Release and Forfeiture rates - based upon a review of the actual experience of permits in West Virginia since 1977, we developed revised expected release and forfeiture rates from those used in prior studies. Anticipated future forfeiture rates are now developed and applied by calendar year rather than based upon the year the permit was issued.
- Investment and Discount rates – we based the expected future investment returns and discount rates upon the most recent United States Treasury rates for short and long term durations.
- Expected land reclamation costs – future costs were based upon actual recent historical costs through June 30, 2011

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- The future expected costs of water capital and water treatment are now based upon the costs of the currently open forfeited permits rather than the costs of the permits where the water treatment process has been completed.
- We have reflected the increased costs of water capital and water treatment necessary to achieve compliance with NPDES water quality standards. The increase costs were based upon the estimates developed by a joint effort of a team from West Virginia University and the Office of Special Reclamation.
- Based upon input from the Office of Special Reclamation, the length of time required for water treatment to achieve full compliance was increased from 17 years to at least the 35 years contemplated in our study. Thus, any water abandonment costs fall beyond the time horizon of our projections and would be in addition to the estimated costs.
- Since the costs of “Legacy Water Treatment permits” are included in the estimated costs to comply with the NPDES standards, the costs of the Legacy permits are included within the Water Treatment costs of permits forfeited prior to July 1st, 2011 rather than as a separate category.

3. Consensus Coal Production and Price Forecast for West Virginia: 2011

Update by Dr. George Hammond of West Virginia University Bureau of Business and Economic Research.

Coal production in West Virginia declined drastically in 2009. The state produced just 137.2 million short tons of coal in 2009, which was a 13.1 percent decrease from 2008. State coal production fell again in 2010, to 135.7 million tons. That was an additional 1.1 percent decline, which left state production 14.0 percent below 2008 (pre-recession) levels. The drop in state production during the past two years was likely related to a number of factors, including the economic downturn, lost production due to the Upper Big Branch mine explosion, as well as rising costs due to increasingly challenging geologic conditions and new safety regulations, a shortage of skilled workers, and increasing scrutiny of surface mine permits. Coal production in both northern and southern West Virginia decreased in 2009, but the drop was more severe in the south.

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Coal production in the southern region declined to 98.8 million short tons of coal in 2009 from 116.7 million short tons in 2008. This translated into a 15.3 percent decrease in production from 2008 to 2009. Coal production also decreased in the northern region from 2008 (41.1 million tons) to 2009 (38.4 million tons), which was a 6.6 percent decline. Production trends within West Virginia diverged in 2010, with the northern region posting an increase of 7.9 percent, while production in the southern region declined by an additional 4.6 percent. These trends have continued into the first nine months of 2011, with northern coal production up by 8.3 percent compared to the same period in 2010. In contrast, southern coal production is up just 0.1 percent compared to the first nine months of 2010. This likely reflects a number of factors, including the loss of production due to the Upper Big Branch mine explosion, increasingly challenging geologic conditions, increasing regulatory scrutiny of surface mining permits (which primarily impacts the southern coal fields), and the impact of installation of pollution control equipment at power plants that allows the burning of higher sulfur coals produced in northern Appalachia and elsewhere.

The consensus forecast calls for state coal production to rise from 135.7 million tons in 2010 to 138.4 million tons in 2011, an increase of 2.0 percent. Rising coal production in 2011 is partly driven by strong export demand, particularly for metallurgical coal. Coal production declines in 2012 to 135.8 million tons and again in 2013 to 129.5 million tons. Thereafter, coal production continues to decline through the forecast period, reaching 115.6 million tons by 2030.

4. Development of Data Fields to Support Actuarial Analysis by Christine Risch of Marshall University Center for Business and Economic Research (CBER).

MU CBER collected a data field describing ownership type classification for all open and forfeited permits. The classification defines whether a permit is publically or privately held. For forfeited permits the assignment was applied based on the permit's ownership at the time of forfeiture. This information was supplied to the actuary. The intent of the data was to provide additional information upon which to evaluate risk of forfeiture, with the assumption that publically-traded firms are less likely to forfeit. The actuary was unable

to include the information in this year's analysis because they determined that they also need that field for released permits in order to do a complete analysis. CBER is working on that data set for inclusion in the next actuarial study. The purpose of this addition will be to refine estimates of the near to mid-term adequacy of revenues received by the SRF and the SRWFT by incorporating risk based on permit ownership. As permits are increasingly held by highly capitalized firms the risk of forfeiture is expected to decline. A data field for number of permit transfers was also collected for CBER's internal analysis. This field was collected for open, closed and released permits. This data will be incorporated in a binomial analysis of the probability of forfeiture by permit. MU CBER also provided data comparing various forecasts of annual acres forfeited to the SRF to actual acres forfeited for 2006-2010. This mini analysis allowed the Council to take a retrospective look at the short-term accuracy of one component of various actuarial forecasts.

**5. Decision Tree for Optimizing AMD Treatment at Special Reclamation Sites
by Dr. Paul Ziemkiewicz of West Virginia University Water Research
Institute (WRI).**

Every decision to build an AMD treatment system begins with development of a treatment strategy to meet water treatment objectives. There are dozens of methods for treating acid mine drainage and successful treatment systems often employ several methods in series. This study developed a decision tree for selecting mine drainage treatment methods based on site conditions and discharge water quality requirements in order to comply with the Clean Water Act. The decision tree winnows down the potential treatment options and estimates their construction cost. This project was completed in early 2011 and the decision tree was used to support DEP/OSR's planning process for estimating future water quality liabilities.

**6. Natural Attenuation of Major Mine Drainage Pollutants by Dr. Paul
Ziemkiewicz of West Virginia University Water Research Institute (WRI).**

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Legislation requires that SRFAC provides periodic actuarial studies to assess future demands on the SRWTF. Those future demands are driven by two factors that will increase the SRWTF liability: new forfeitures and new water quality treatment requirements. One factor will cause the liability to decrease: the natural attenuation of pollutants. Currently the actuarial study has no basis for estimating attenuation. Natural attenuation refers to the rate at which weathering removes pollutants from mined rock. The rate of natural attenuation is likely a function of pollutant, rock type and mine type. This project is identifying the natural attenuation rates for common mine settings in West Virginia that affect the SRWTF: surface mines, underground mines and refuse facilities. The project is scheduled for completion in July 2012. A search of international literature and available data from West Virginia sites indicated that the attenuation rate of sulfate, a major indicator of pyrite oxidation and TDS formation is between 2.0 and 2.5%/year. The latter value was used in the 2011 SRFAC Actuarial Report. This number will be validated by field sampling and evaluation of results from WVDEP's Discharge Monitoring Reports in 2012.

7. Alternative Enforcement Evaluation by DEP.

The DEP has begun to re-examine previous bond forfeitures to determine whether there are any persons or entities who may have liability for some or all of the Special Reclamation Fund's reclamation and water treatment costs from whom the DEP could pursue cost recovery. Initially, the DEP has identified the twenty largest Special Reclamation liabilities and referred these to OSM for assistance in investigating and identifying persons who controlled the companies which forfeited these bonds. OSM has provided the DEP with preliminary results for the first two of its investigations. The DEP has assigned legal counsel from its Office of Legal Services to review these preliminary investigations to determine whether any person/entity identified is worth pursuing. As investigations are conducted, the DEP will also be providing feedback to OSM to help OSM perform work that will be of the greatest value to the DEP.

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The DEP also monitors and participates in bankruptcy proceedings of permit holders to, among other things, reduce or avoid revocation of permits that have reclamation liabilities in excess of the bond amount. By participating in a bankruptcy proceeding, DEP is sometimes able to encourage/facilitate the transfer (to a capable party) of sites with reclamation liability in excess of the bond amount. Other agency efforts in bankruptcy proceedings include filing and pursuing claims for reclamation costs and penalties, objecting to proposed sales or abandonments structured to avoid reclamation liability, collecting bonds and seeking recovery of reclamation costs, objecting to plans filed by debtors, persisting in informing those involved in the proceeding that a debtor must comply with environmental laws, and continuing to enforce environmental laws through the exercise of police powers, notwithstanding the bankruptcy “automatic stay”.

Special Reclamation Fund Advisory Council Recommendations to the Legislature

Based upon conclusions drawn from information included in this report, the Council makes the following recommendations to the Legislature:

Consistent with the Actuarial Valuation recommendation to utilize an incremental approach, the Council recommends that the present 12.9 cent per ton tax dedicated to the SRF remain in force and that the tax dedicated to the SRWTF be increased to 15 cents per ton.

As a partial alternative to fully funding the SRWTF through a future increase in the tax, the Special Reclamation Fund Advisory Council recommends that, if possible, the Legislature commit a portion of excess coal severance tax or other revenues to the SRWTF, so it can begin to build value and help offset the cost of future water reclamation and ongoing treatment.

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The Council recommends that the Legislature continue to examine the implications of the recent court rulings and subsequent lawsuit settlements on the Special Reclamation Fund, Abandoned Mine Lands, and voluntary efforts by citizen-led watershed groups to address historic mining-reclamation related liabilities. The Council further recommends that the Legislature examine the mine reclamation and bonding programs of other states and as implemented in Tennessee by the federal Office of Surface Mining in order to determine if the statute and regulations creating the SRF and SRWTF in West Virginia have inappropriately structured SMCRA to assume long-term CWA liabilities. The Council further recommends the Legislature examine the separate and distinct authorities of the Clean Water Act (CWA) in assessing the eligibility of future forfeitures for transfer of liabilities to the SRWTF. The Council is concerned about default transfer of water treatment liability to the SRWTF when opportunities exist to pursue responsible parties under the CWA per the requirements of an NPDES (CWA Section 402) permit.

The Council recommends an effort to investigate better returns with the State Investment Board.

The Council recommends the utilization of the model developed by Christine Risch to more effectively predict future forfeitures.

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Special Reclamation Fund Advisory Council Annual Report to the Legislature January 1, 2012



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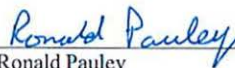
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**Appendices for 2011 SRF Advisory Council Annual Report
(All Appendices as of 9-30-11)**

A. OSR Graphs:

Total of Land and Water Permits Scheduled by Quarter
Land Permits To Be Contracted
Land Liabilities To Be Contracted
Permits Forfeited Since 6-30-01
Reclamation Projects Started Since 6-30-01
Contract Dollars Encumbered
Cash Balance
Total Revenue
Revenue by Source: Cumulative Bond Collected, Civil Penalties, Tax

B. OSR Estimated Land Liability-WQ Capital Dollars vs. Contract Amount

C. Reports Commissioned by the Council

Report for the WV Department of Environmental Protection
Office of Special Reclamation
An Actuarial Valuation of the Special Reclamation Fund and
Special Reclamation Water Trust Fund as of June 30, 2011
By Pinnacle Actuarial Resources, Inc., December 2011

Consensus Coal Production and Price Forecast for West Virginia:
2011 Update
By George W. Hammond, Ph.D.
Bureau of Business and Economic Research,
College of Business and Economics
West Virginia University, December 2010

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Center for Business and Economic Research
Marshall University

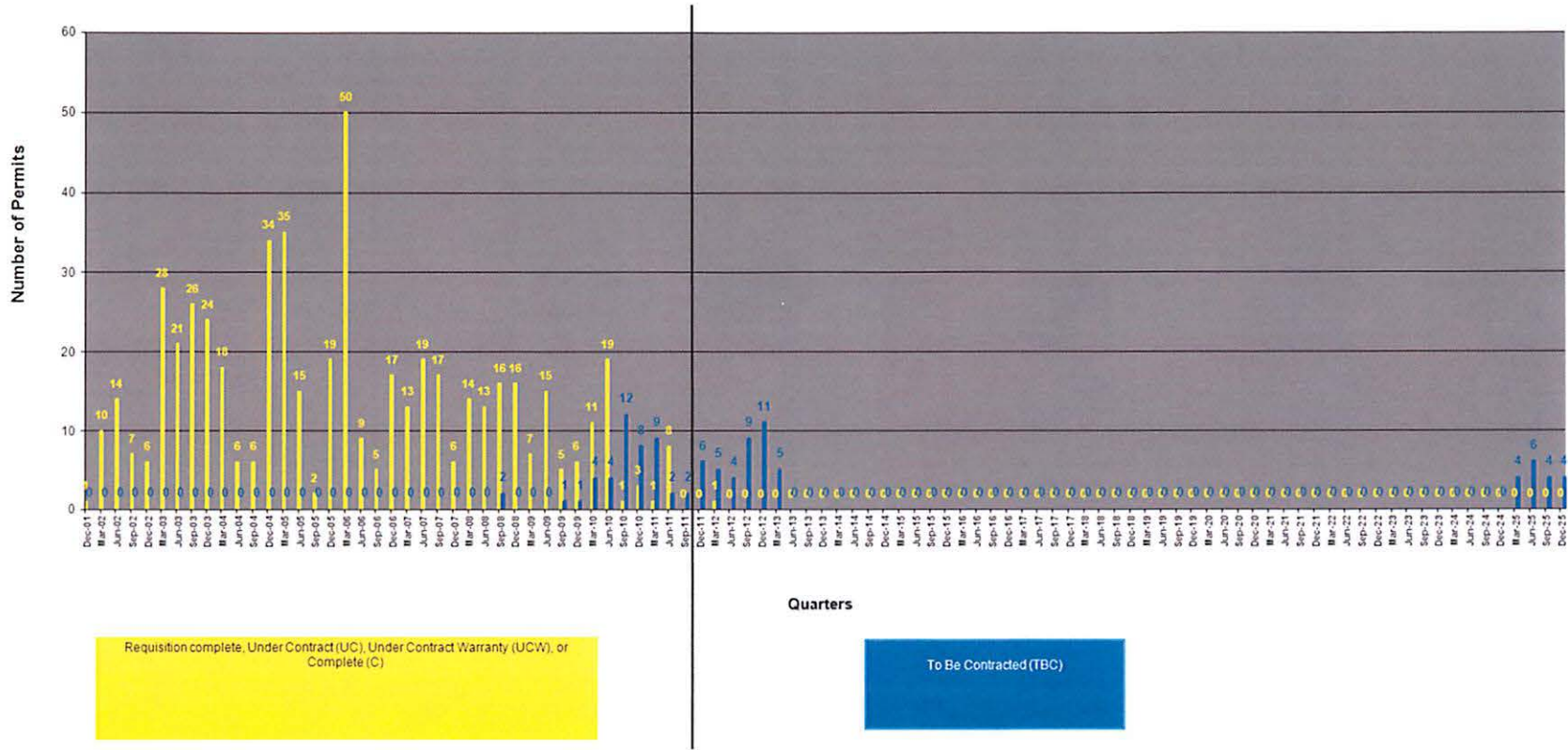
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Various Reports generated by Paul Ziemkiewicz
West Virginia Water Research Institute
West Virginia University

Appendix A

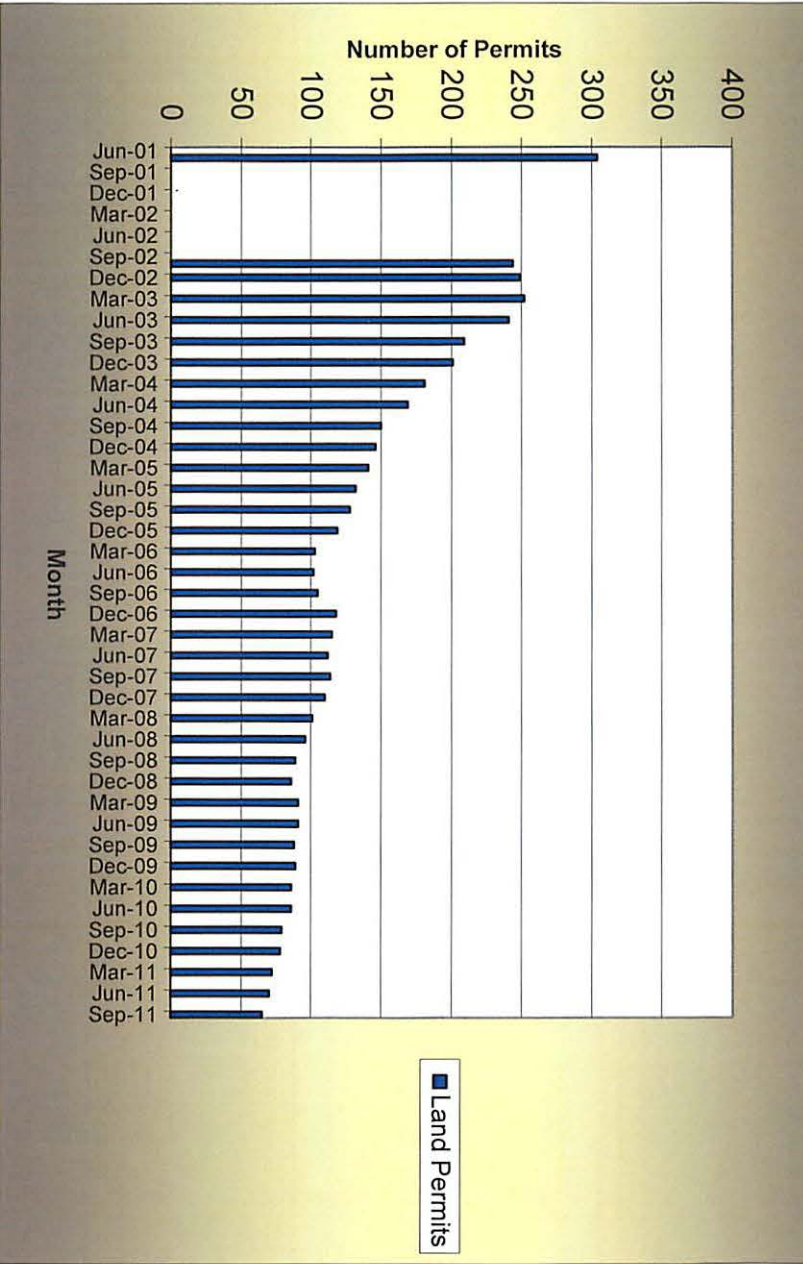
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Total of Land and Water Permits Scheduled by Quarter
As Of September 30, 2011

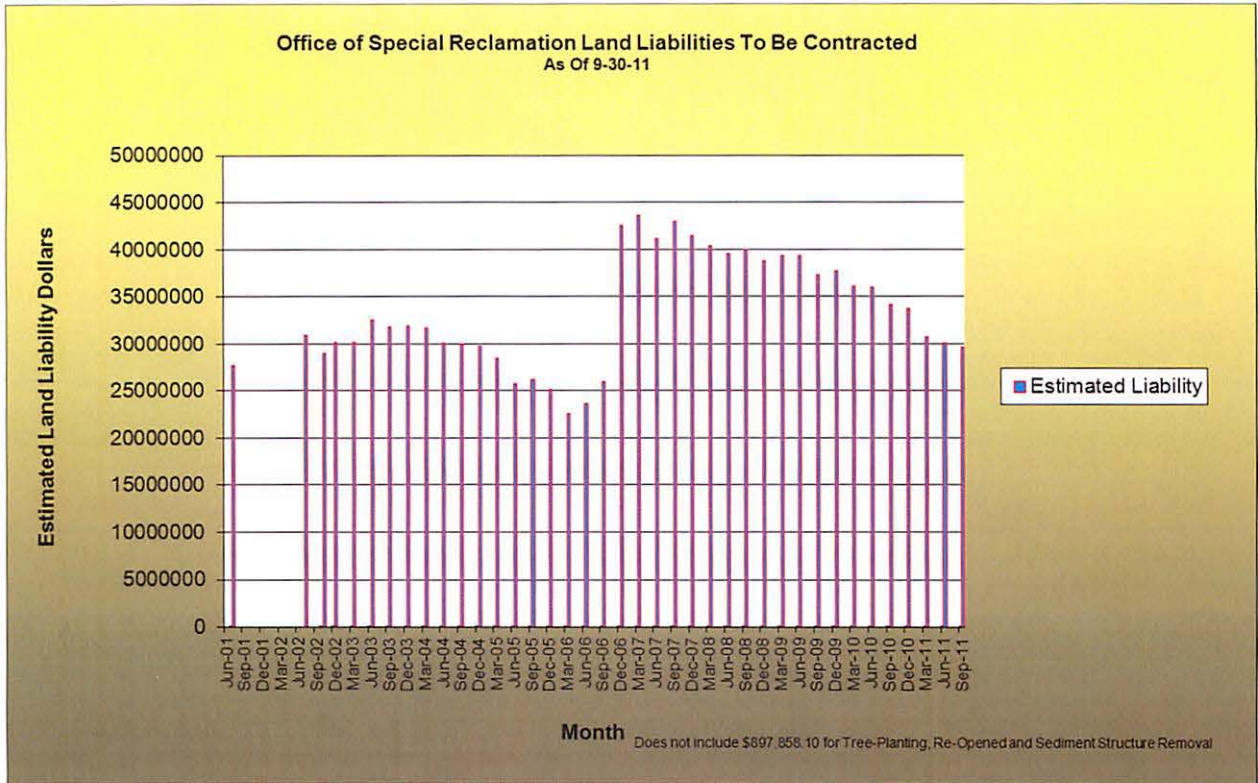


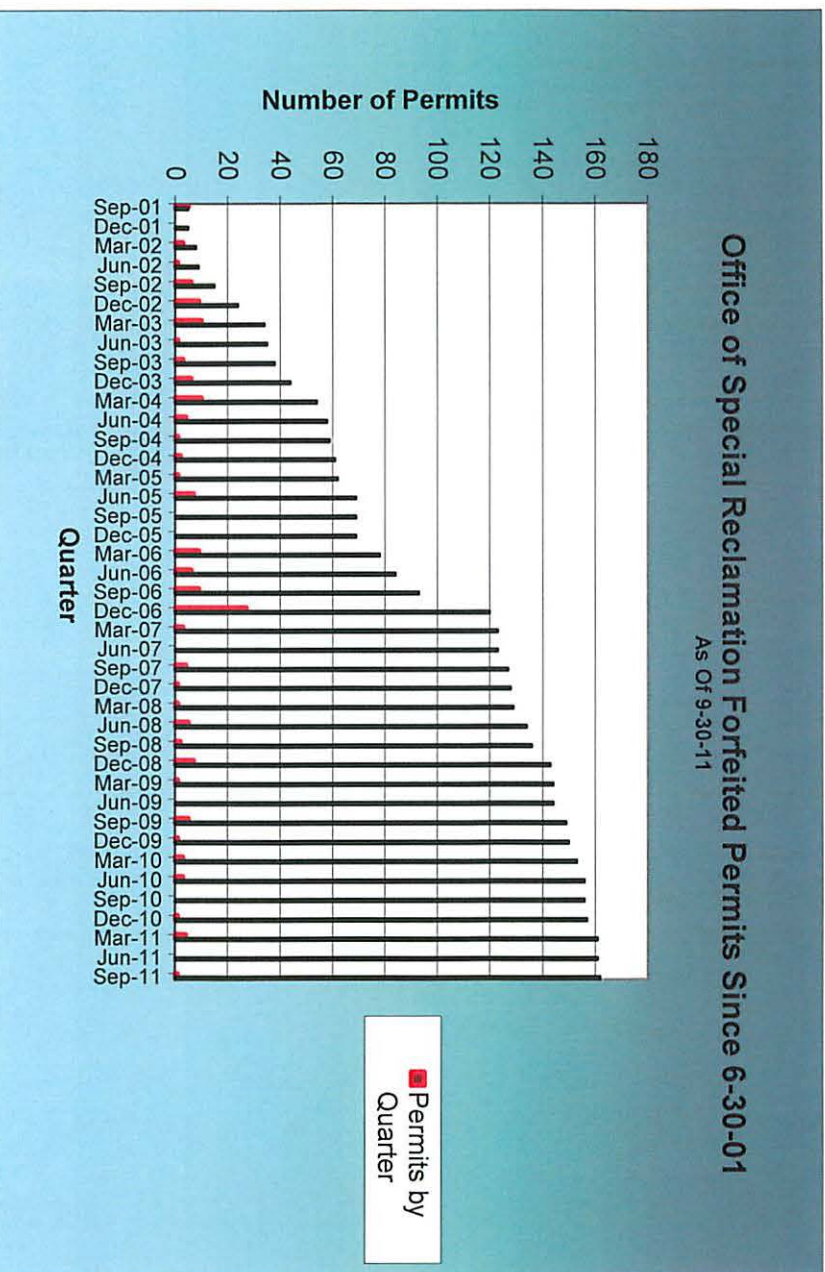
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Office of Special Reclamation Land Permits To Be Contracted
As Of 9-30-11

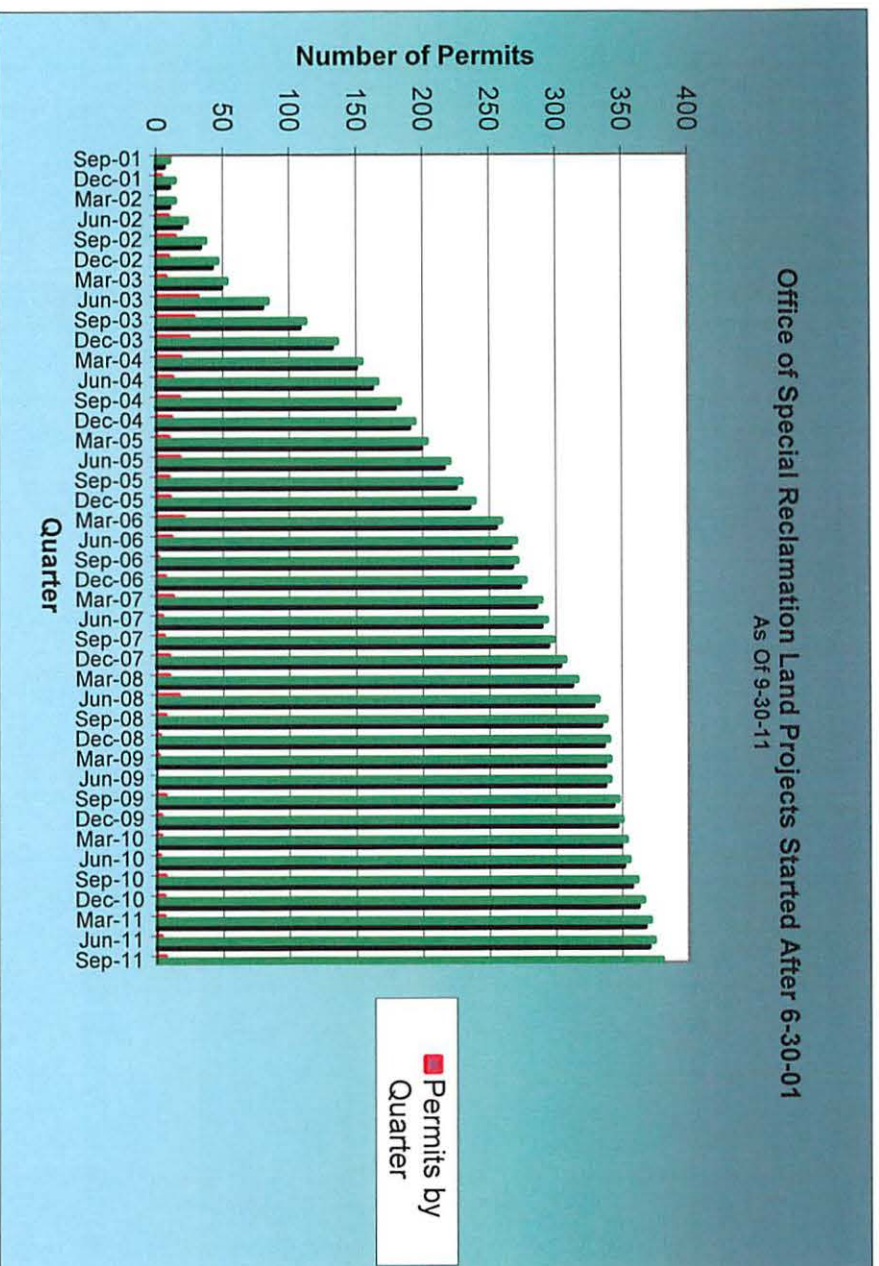


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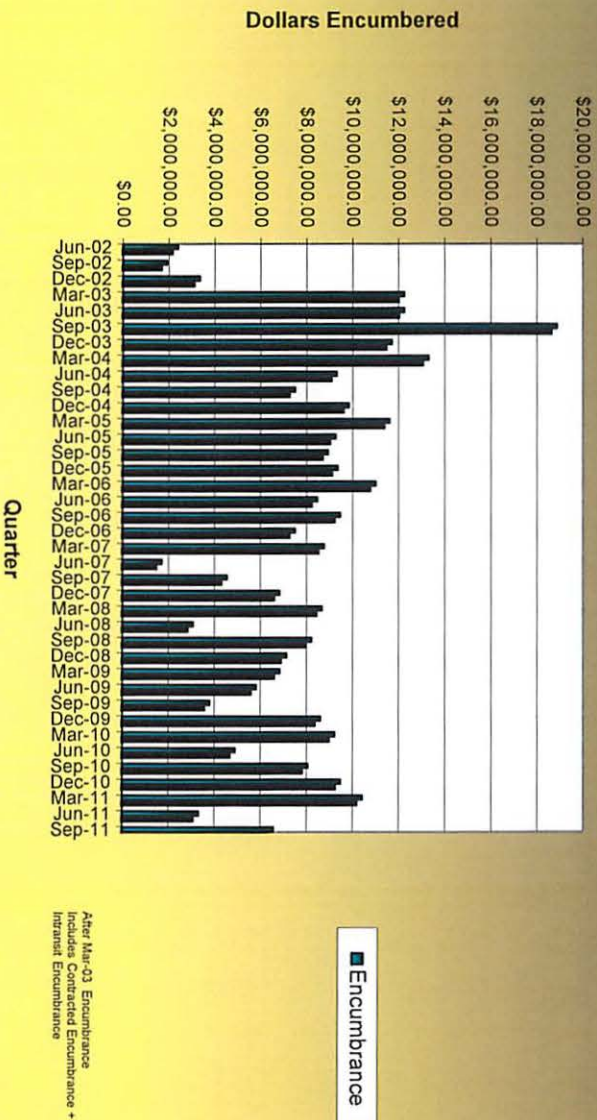


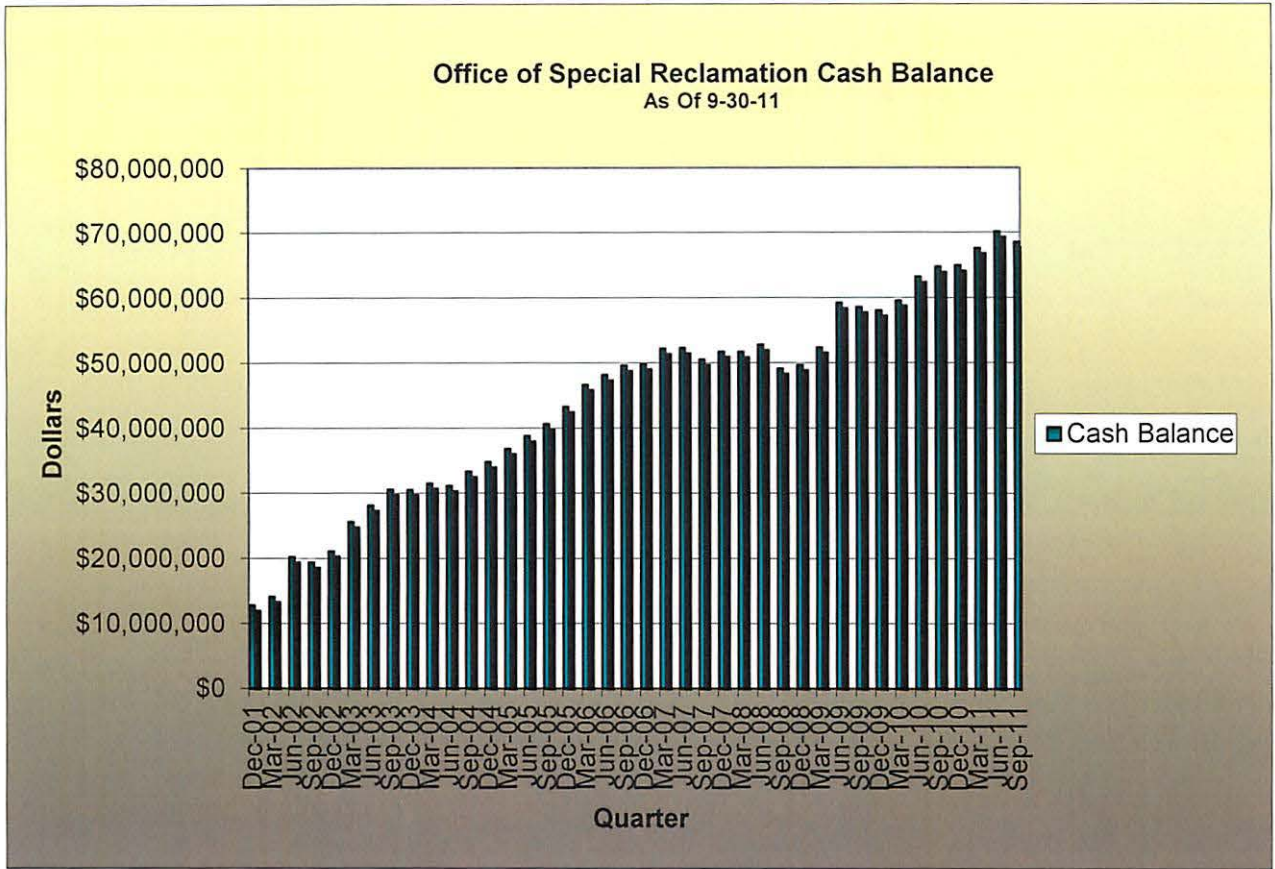
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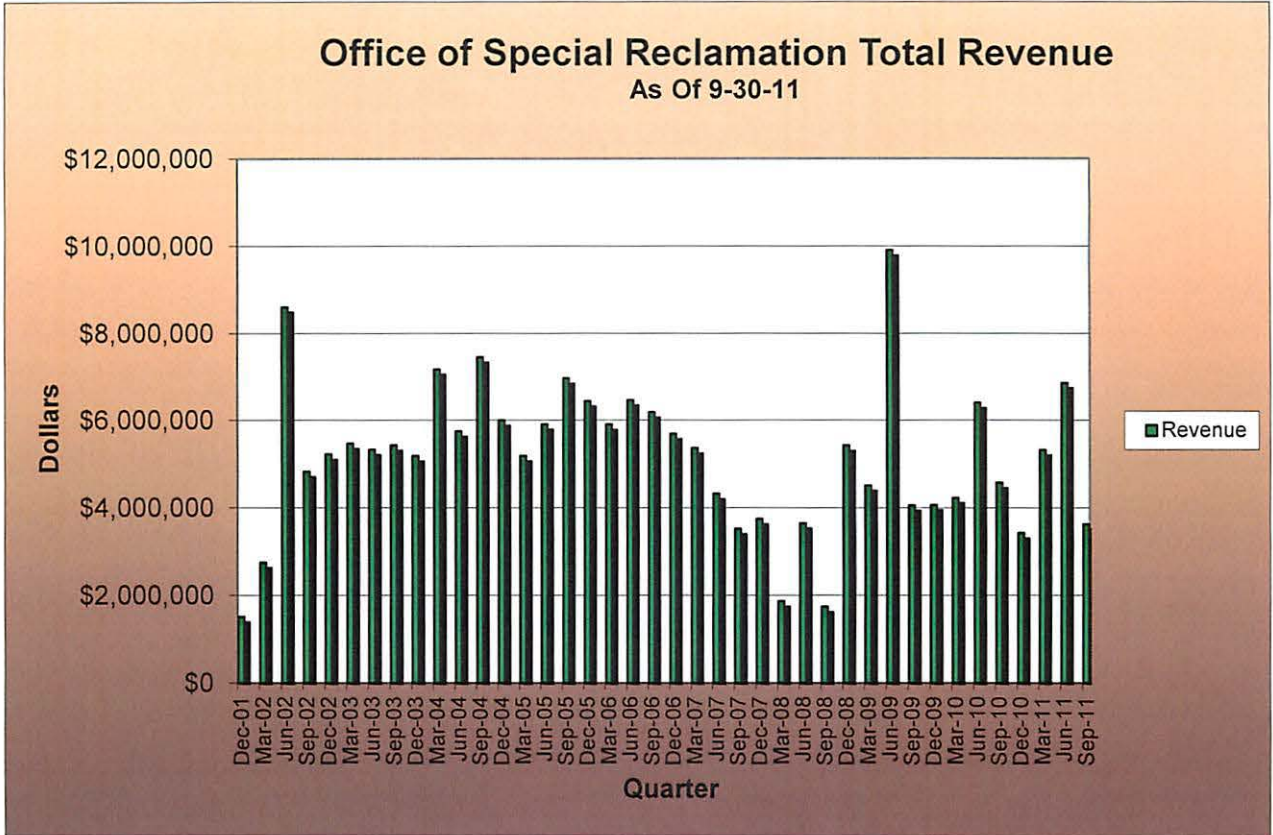


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Office of Special Reclamation Encumbrance As Of 9-30-11

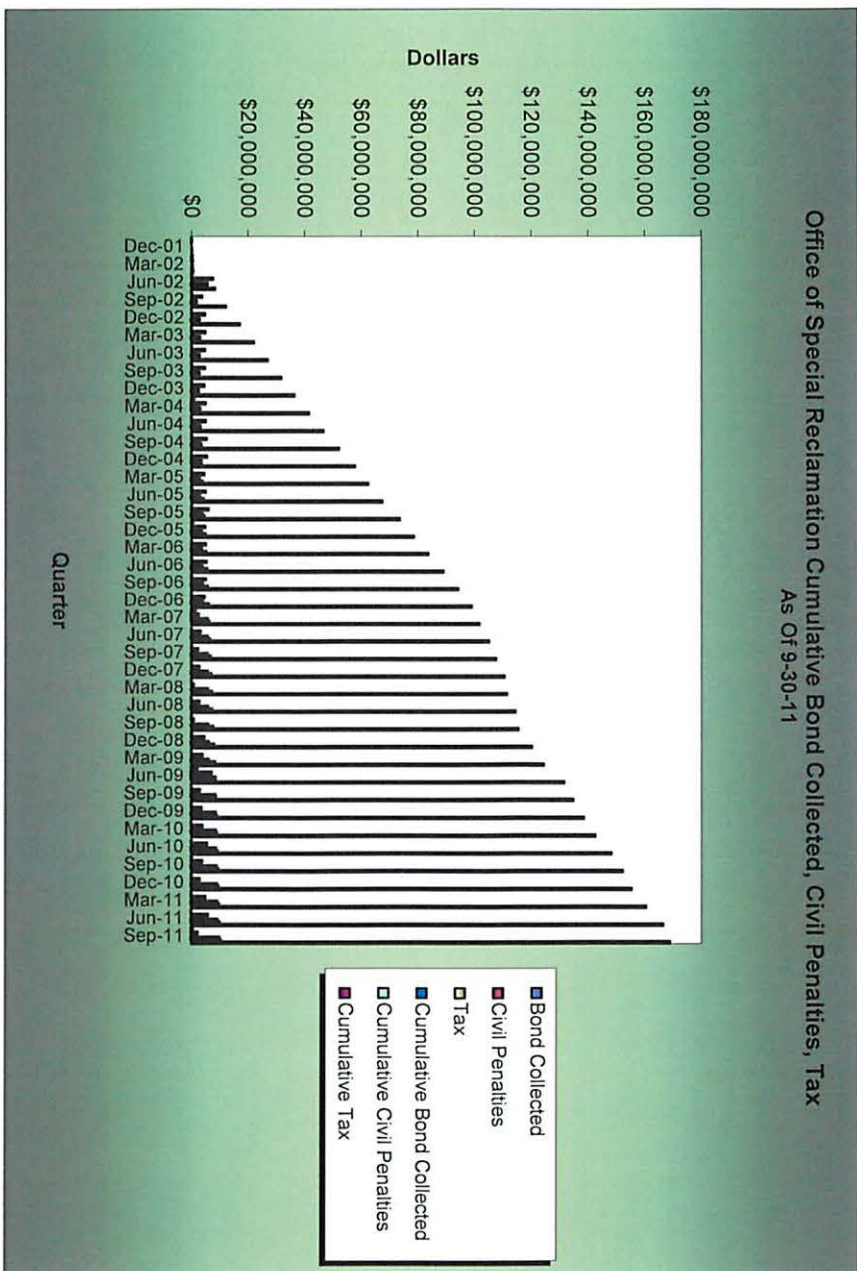






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Office of Special Reclamation Cumulative Bond Collected, Civil Penalties, Tax
As Of 9-30-11



Appendix B

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OSR Land Liability vs. Land Contract Amount as of 09-30-11
For Contracts Awarded After 1-1-2000

REC START DATE	OFFICE	PERMIT	LAND STATUS	LIAB REPT POST DATE	EST LIABILITY	LAND CONTRACT AMOUNT
7/27/2000	N	EM-118	C	8/22/2001	\$212,200.00	\$298,585.47
7/28/2000	S	149-79	SSR	5/22/2001	\$262,140.00	\$171,553.80
12/12/2000	S	EM-133	C	5/22/2001	\$150,285.00	\$344,513.00
12/12/2000	S	P-731	C	5/22/2001	\$213,724.00	\$416,210.00
12/13/2000	S	P-751	C	4/23/2001	\$269,401.00	\$321,755.00
12/13/2000	S	R-734	C	5/22/2001	\$367,048.00	\$358,431.00
1/22/2001	S	S-3003-92	C	5/22/2001	\$442,000.00	\$737,054.40
1/30/2001	N	S-68-82	C	1/31/1996	\$300,000.00	\$146,309.70
2/26/2001	N	S-1032-86	C	4/20/1993	\$39,400.00	\$35,780.00
8/23/2001	S	D-108-82	C	5/10/1996	\$3,770.00	\$24,920.18
8/24/2001	S	U-4005-90	C	10/3/2003	\$7,700.00	\$2,490.00
9/19/2001	S	U-53-85	C	10/8/2003	\$90,800.00	\$128,002.06
10/25/2001	S	U-4012-86	C	4/10/2001	\$224,637.00	\$310,746.50
10/25/2001	S	U-4029-89	C	5/19/1997	\$118,510.00	\$108,841.20
11/28/2001	N	S-1006-92	C	11/17/1999	\$30,000.00	\$89,910.00
1/16/2002	N	U-1012-93	C	6/9/2000	\$40,000.00	\$67,096.90
4/5/2002	N	U-125-83	C	7/12/1996	\$105,000.00	\$149,168.65
5/1/2002	C	O-69-82	C	9/15/2003	\$14,720.00	\$14,720.00
5/2/2002	C	U-140-82	C	9/15/2003	\$11,745.00	\$11,745.00
5/2/2002	C	U-5027-86	C	9/16/2003	\$6,605.00	\$2,925.00
5/19/2002	C	UO-353	C	9/16/2003	\$10,075.00	\$10,075.00
6/24/2002	N	U-2037-86	C	2/29/2000	\$72,000.00	\$48,921.00
7/2/2002	S	S-3024-87	C	10/15/1999	\$38,000.00	\$67,396.00
7/2/2002	S	U-3003-89	C	10/15/1999	\$30,000.00	\$66,978.00
7/2/2002	S	U-3023-87	C	10/15/1999	\$22,000.00	\$14,600.00
7/3/2002	C	U-5035-87	SSR	4/23/1999	\$123,000.00	\$156,900.00
7/3/2002	C	S-5034-87	SSR	4/23/1999	\$72,000.00	\$73,900.00
8/14/2002	N	O-2044-88	C	6/9/2000	\$297,000.00	\$235,592.80
8/14/2002	N	S-2021-87	C	9/29/2000	\$50,000.00	\$10,750.00
8/14/2002	N	S-2052-86	C	11/8/1999	\$60,000.00	\$49,200.00
8/14/2002	N	U-2005-88	C	11/8/1999	\$70,000.00	\$109,830.00
8/14/2002	N	S-2006-93	C	10/15/1999	\$37,500.00	\$54,140.00
9/16/2002	S	S-96-85	C		\$50,000.00	\$162,100.00
9/16/2002	S	U-3046-87	C	4/17/2001	\$225,000.00	\$233,900.00
10/31/2002	S	U-3042-89	C	3/22/2002	\$130,000.00	\$130,565.00
10/31/2002	S	S-113-85	C	5/28/2001	\$40,000.00	\$9,100.00
10/31/2002	S	U-3031-93	C	5/29/2001	\$201,000.00	\$146,000.00
10/31/2002	S	U-4011-88	C	2/22/1999	\$110,700.00	\$115,022.50
11/22/2002	S	O-36-84	C	8/25/2000	\$49,378.00	\$183,690.00
11/22/2002	S	R-7-81	C	8/25/2000	\$615,020.00	\$783,862.00
12/4/2002	S	U-4011-90	C	10/15/1999	\$3,500.00	\$7,210.00
1/30/2003	S	U-42-85	C	10/15/1999	\$8,200.00	\$12,872.50

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2/20/2003	S	S-3035-87	C	10/15/1999	\$178,500.00	\$637,700.00
2/20/2003	S	U-3036-87	C	10/15/1999	\$42,000.00	\$357,500.00
2/24/2003	C	S-5046-88	C	10/15/1999	\$60,500.00	\$48,185.00
4/15/2003	S	UO-727	C	12/12/1997	\$18,720.00	\$13,459.50
4/15/2003	S	UO-252	C	5/22/2003	\$6,655.00	\$4,758.46
4/18/2003	S	U-107-83	C	5/26/2000	\$133,580.00	\$249,700.00
4/18/2003	S	U-3066-88	C	5/26/2000	\$83,275.00	\$378,185.00
4/23/2003	S	EM-71	C	6/30/1998	\$14,365.00	\$12,100.16
4/23/2003	S	UO-623	C	10/15/1999	\$10,500.00	\$8,856.34
4/30/2003	S	S-682	C	5/26/2000	\$27,735.00	\$40,400.00
5/1/2003	N	S-1024-88	C	3/1/2000	\$97,600.00	\$92,937.00
5/1/2003	S	S-3050-86	C	5/26/2000	\$160,492.00	\$177,000.00
5/1/2003	S	S-65-76	C	5/26/2000	\$24,842.00	\$134,800.00
5/15/2003	S	D-125-82	C	5/26/2000	\$79,360.00	\$191,311.75
5/15/2003	S	U-3020-86	C	5/26/2000	\$9,480.00	\$71,500.00
5/15/2003	S	UO-571	C	5/26/2000	\$19,775.00	\$26,800.00
5/20/2003	S	S-3011-88	C	5/26/2000	\$89,830.00	\$130,900.00
5/22/2003	S	32-81	C	5/26/2000	\$71,500.00	\$105,770.00
5/22/2003	S	U-3074-87	C	5/26/2000	\$176,760.00	\$517,520.00
6/5/2003	S	56-81	SSR	5/26/2000	\$173,992.00	\$319,245.00
6/5/2003	S	R-3078-86	C	5/26/2000	\$130,104.00	\$237,536.00
6/10/2003	S	U-3017-87	C	5/26/2000	\$77,737.00	\$157,231.85
6/19/2003	S	U-3078-87	C	10/15/1999	\$55,000.00	\$62,600.00
6/19/2003	S	S-33-81	C	10/15/1999	\$58,000.00	\$68,500.00
6/19/2003	S	D-32-81	C	5/26/2000	\$100,090.00	\$88,000.00
6/19/2003	S	O-103-83	C	5/26/2000	\$54,605.00	\$109,125.00
7/29/2003	S	S-60-83	C	5/26/2000	\$99,112.50	\$74,750.00
8/6/2003	S	S-176-75	C	5/26/2000	\$41,450.00	\$76,510.00
8/6/2003	S	S-65-85	C	5/26/2000	\$502,360.00	\$944,770.00
8/13/2003	S	U-171-83	C	8/30/2002	\$40,000.00	\$70,839.90
8/13/2003	S	U-50-85	C	8/30/2002	\$36,000.00	\$41,496.40
8/14/2003	S	S-3020-88	C		\$15,000.00	\$27,467.50
8/14/2003	S	D-5-82	C	5/14/2003	\$18,760.00	\$11,007.50
9/2/2003	N	D-75-82	C	11/8/2001	\$55,300.00	\$115,000.00
9/2/2003	N	S-2002-92	C	11/26/2001	\$164,600.00	\$186,380.00
9/2/2003	N	U-1041-91	C	11/26/2001	\$21,800.00	\$77,300.00
9/12/2003	N	S-2009-89	C	8/3/2001	\$75,000.00	\$121,230.00
9/12/2003	S	S-90-82	C	5/26/2000	\$63,200.00	\$94,300.00
9/12/2003	S	U-3046-88	C	5/26/2000	\$709,800.00	\$1,145,450.00
9/18/2003	C	U-5006-95	C	5/22/2001	\$62,000.00	\$94,635.00
9/19/2003	S	D-10-81	C	9/10/2003	\$28,200.00	\$46,365.00
9/29/2003	S	S-99-83	C	5/26/2000	\$46,950.00	\$142,140.00
9/29/2003	S	U-40-85	C	5/26/2000	\$136,505.00	\$255,500.00
10/8/2003	S	O-3077-87	C	5/6/2003	\$49,335.00	\$27,750.00
10/14/2003	S	S-119-85	C	11/24/2003	\$85,500.00	\$66,600.00
10/17/2003	S	S-3009-89	C	5/26/2000	\$118,040.00	\$220,160.00
10/17/2003	S	S-3012-93	C	5/26/2000	\$20,975.00	\$71,684.00
10/17/2003	S	S-3070-88	C	5/26/2000	\$62,450.00	\$127,624.00
10/20/2003	S	U-3006-87	C	5/28/2003	\$114,000.00	\$72,900.00
10/31/2003	C	U-82-84	C	10/15/1999	\$10,400.00	\$13,597.50

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11/12/2003	C	U-1-85	C	10/15/1999	\$36,000.00	\$21,659.88
11/13/2003	C	UO-406	C	2/3/1999	\$32,000.00	\$23,312.50
12/24/2003	N	S-1028-86	C	10/15/1999	\$42,000.00	\$40,800.00
12/24/2003	N	S-62-85	C	10/15/1999	\$35,900.00	\$99,180.00
12/24/2003	S	O-104-83	C	5/26/2000	\$122,750.00	\$94,254.90
12/24/2003	S	O-67-82	C	5/26/2000	\$23,005.00	\$72,566.10
12/24/2003	S	U-22-85	C	11/20/2002	\$382,360.00	\$449,007.49
1/9/2004	S	UO-694	C	10/15/1999	\$54,300.00	\$139,000.00
1/9/2004	S	UO-383	C	3/12/1999	\$153,340.00	\$255,500.00
2/5/2004	S	U-4012-94	C	3/10/2003	\$180,000.00	\$119,801.00
2/5/2004	S	U-4017-91	C	3/10/2003	\$37,466.00	\$40,201.00
2/5/2004	S	U-85-83	C	10/15/1999	\$53,940.00	\$152,201.00
2/5/2004	S	UO-439	C	10/15/1999	\$100,380.00	\$155,501.00
2/23/2004	S	S-3076-86	C	5/26/2000	\$354,915.00	\$749,003.00
3/2/2004	S	U-231-83	C	4/2/1999	\$24,700.00	\$110,835.00
3/2/2004	S	UO-155	C	5/13/1996	\$89,573.00	\$389,389.00
3/4/2004	C	P-654	C	6/5/2002	\$171,000.00	\$149,700.00
3/10/2004	S	R-721	C	4/14/2004	\$40,000.00	\$27,345.00
3/30/2004	N	O-46-84	C	6/9/2000	\$90,000.00	\$268,350.00
3/30/2004	N	O-46-85	C	6/9/2000	\$56,000.00	\$144,720.00
4/1/2004	N	U-1008-92	RO	7/29/2003	\$550,000.00	\$431,360.00
4/12/2004	S	S-3031-87	C	5/20/1996	\$18,200.00	\$20,615.00
4/26/2004	S	S-3019-87	C		\$20,000.00	\$49,140.00
5/4/2004	N	R-722	C	10/15/1999	\$5,400.00	\$3,620.00
5/4/2004	N	U-138-83	C	10/15/1999	\$265,370.00	\$844,390.00
5/24/2004	N	UO-380	C	6/9/2000	\$50,000.00	\$69,410.00
7/20/2004	S	D-60-82	C	5/20/1996	\$30,000.00	\$91,450.00
7/21/2004	N	S-24-83	C	11/8/2001	\$127,000.00	\$53,767.50
7/22/2004	S	13-79	C		\$25,000.00	\$46,750.00
8/30/2004	C	O-5059-86	C	4/10/2001	\$65,436.00	\$47,050.00
9/3/2004	C	U-6012-88	C	5/16/2003	\$25,025.00	\$24,573.00
9/4/2004	C	O-40-82	C	5/9/2003	\$10,000.00	\$54,700.00
9/4/2004	C	O-45-82	C	5/9/2003	\$24,315.00	\$57,700.00
11/12/2004	C	S-94-82	C	6/5/2002	\$200,000.00	\$91,502.00
11/12/2004	S	U-4013-88	C	4/23/2003	\$211,211.00	\$158,700.00
11/24/2004	S	U-26-83	C	3/22/2001	\$132,370.00	\$197,360.00
2/4/2005	S	S-3016-92	C	3/29/2004	\$1,185,363.40	\$1,191,550.00
3/29/2005	S	O-58-83	C	3/22/2002	\$1,900,000.00	\$2,373,659.00
5/12/2005	S	EM-116	C	4/23/2003	\$465,000.00	\$378,000.00
5/12/2005	S	U-4017-89	C	5/28/2003	\$133,700.00	\$108,000.00
5/12/2005	S	U-4002-94	C	4/10/2001	\$100,958.00	\$210,500.00
5/31/2005	S	U-4018-86	C	10/15/1999	\$173,710.00	\$207,316.00
6/8/2005	S	U-4027-88	C	4/10/2001	\$274,588.00	\$250,582.00
9/22/2005	S	S-3010-98	C	2/10/2004	\$794,257.10	\$370,900.00
12/29/2005	S	S-35-81	C	5/20/1996	\$67,200.00	\$122,600.00
1/3/2006	S	S-3028-87	C		\$35,000.00	\$138,000.00
1/3/2006	S	U-4020-87	C	6/28/2000	\$53,690.00	\$64,650.00
1/16/2006	S	R-4030-86	C		\$469,240.00	\$921,430.19
1/20/2006	S	U-3040-87	C	4/12/2001	\$368,410.00	\$610,470.00
1/20/2006	S	U-3045-86	C	5/7/2003	\$376,722.00	\$356,000.00

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2/14/2006	S	S-3055-88	C	5/29/1996	\$257,774.00	\$254,860.00
2/14/2006	S	U-69-85	C	5/29/1996	\$140,000.00	\$217,400.00
3/13/2006	N	U-1012-93	C	6/9/2000	\$40,000.00	\$50,604.80
4/14/2006	C	S-6029-86	UCW		\$50,000.00	\$224,000.00
5/4/2006	S	U-154-83	C	10/15/1999	\$54,635.00	\$188,575.00
6/28/2006	C	U-5069-87	C	5/26/2000	\$151,000.00	\$186,750.00
1/8/2007	S	U-3053-88	C	5/27/1999	\$33,375.00	\$164,625.00
1/12/2007	S	U-3010-87	C	6/27/2006	\$271,500.00	\$232,140.00
1/17/2007	S	U-3003-86	C	6/16/2006	\$157,488.00	\$208,965.00
1/17/2007	S	UO-223	C	6/16/2006	\$218,120.00	\$199,035.00
3/19/2007	N	S-29-80	C	10/15/1999	\$49,500.00	\$26,200.00
3/19/2007	N	S-41-84	C	10/15/1999	\$35,900.00	\$50,400.00
3/19/2007	N	S-55-85	C	10/15/1999	\$51,600.00	\$175,300.00
3/19/2007	N	S-72-84	C	10/15/1999	\$138,300.00	\$124,510.00
4/13/2007	N	S-2023-92	UCW	12/13/2006	\$2,620,101.00	\$1,202,392.00
5/17/2007	S	D-73-82	C	5/9/2001	\$117,200.00	\$131,999.00
11/5/2007	S	P-664	C	8/31/2005	\$177,000.00	\$114,741.00
1/8/2008	S	O-172-83	C	2/10/2004	\$111,000.00	\$37,900.00
2/1/2008	S	I-544	C	1/30/2001	\$5,000.00	\$34,000.00
2/1/2008	S	O-20-85	C	11/6/2006	\$34,580.00	\$31,546.00
2/20/2008	C	O-16-82	SSR		\$50,000.00	\$138,600.00
2/20/2008	C	O-16-85	C		\$50,000.00	\$583,680.00
3/24/2008	S	U-4019-92	C	9/1/1998	\$500,000.00	\$96,000.00
3/26/2008	S	S-3031-90	C	3/29/2007	\$602,000.00	\$241,500.00
4/10/2008	S	187-74	C	10/15/1999	\$192,810.00	\$396,800.00
4/21/2008	S	P-61-83	C	10/15/1999	\$49,300.00	\$62,925.00
6/26/2008	S	S-23-77	C	10/15/1999	\$934,080.00	\$1,571,650.00
6/30/2008	N	S-1012-87	C	10/15/1999	\$92,900.00	\$158,150.00
6/30/2008	N	S-20-83	C	10/15/1999	\$39,700.00	\$31,160.00
7/10/2008	S	O-169-83	C	10/15/1999	\$60,800.00	\$99,870.00
7/10/2008	S	U-225-83	C		\$76,800.00	\$354,730.00
8/7/2008	S	S-19-85	UCW	1/26/2004	\$101,500.00	\$47,050.00
11/26/2008	C	120-79	UCW		\$30,000.00	\$330,694.00
7/22/2009	N	S-2003-03	UCW	3/29/2007	\$2,096,350.00	\$820,111.00
10/15/2009	S	O-3012-07	UCW	3/25/2009	\$337,820.00	\$117,300.00
1/26/2010	N	S-2009-01	UCW	8/31/2006	\$2,069,075.00	\$533,000.00
2/9/2010	N	S-1002-99	UCW	8/31/2006	\$287,610.00	\$151,460.00
5/21/2010	N	S-2018-88	UCW	12/31/2006	\$864,543.00	\$318,774.00
6/9/2010	N	U-2002-95	UCW	4/27/2007	\$335,924.00	\$251,909.00
7/22/2010	C	O-6013-88	UC	8/27/2003	\$1,355,000.00	\$1,391,557.00
7/22/2010	C	O-6021-89	UC	2/26/2003	\$11,400.00	\$25,000.00
7/22/2010	C	S-73-85	UC	8/27/2003	\$258,000.00	\$223,500.00
7/22/2010	C	U-6018-86	UC	2/26/2003	\$13,000.00	\$24,000.00
8/24/2010	N	U-2010-94	UCW	12/22/2008	\$136,230.00	\$183,420.00
11/30/2010	N	P-741	UC	8/4/2004	\$400,000.00	\$326,000.00
1/12/2011	N	S-100-84	UC	3/29/2007	\$792,000.00	\$1,366,126.00
1/12/2011	N	S-2004-02	UC	12/13/2006	\$3,590,402.00	\$2,571,571.00
1/12/2011	N	S-1004-88	UC	9/10/2003	\$472,500.00	\$369,000.00
1/12/2011	N	S-1019-87	UC	9/10/2003	\$20,000.00	\$149,000.00
1/12/2011	N	UO-401	UCW	9/22/2008	\$1,476,730.00	\$644,250.00

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5/17/2011	N	S-1005-95	UC	9/10/2003	\$565,000.00	\$511,405.00
7/21/2011	C	U-5049-87	UC	11/4/2002	\$145,100.00	\$587,554.00
7/22/2011	N	U-2005-97	UC	1/22/2009	\$131,000.00	\$207,025.00
7/23/2011	C	S-41-80	UC	6/5/2002	\$156,000.00	\$392,477.00

Total: 196 \$43,000,234.00 \$46,971,702.88
Variance: 9.24%

Note: Excludes 10 permits where the variance exceeds 2 standard deviations under the mean or no Est Liability in database.

Total Unskewed: 180 \$42,287,319.00 \$43,032,590.70
Variance Unskewed: 1.76%

Note: The variance of these 16 permits exceeds 2 standard deviations over the mean. Increased liability over time, more detailed investigation prior to requisition, general inflation, increased costs for specific goods and services are contributing factors in the variance. Without these 16 permits, the Estimated Liability vs. Land Contract Amount variance is 1.76%.

Variance = (Contract Amount - Est Liability) / Est Liability

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OSR WQ Cap vs. Water Contract Amount as of 09-30-11
For Contracts Awarded After 1-1-2000

DATE WQ CONST STARTED	OFFICE	PERMIT	LAND STATUS	WATER STATUS	LIAB REPT POST DATE	WQ TOTAL CAPITAL DOLLARS	WATER CONTRACT AMOUNT
9/16/2002	S	S-96-85	C	P		\$67,500.00	\$128,240.00
10/17/2002	N	S-26-85	C	ACT		\$398,250.00	\$243,705.23
12/19/2002	N	S-1032-86	C	ACT	4/20/1993	\$364,500.00	\$209,784.66
2/20/2003	N	S-60-84	C	ACT		\$175,500.00	\$282,062.00
4/25/2003	N	EM-32	C	ACT		\$243,000.00	\$168,890.00
5/1/2003	N	S-1024-88	C	ACT	3/1/2000	\$209,250.00	\$173,178.00
5/15/2003	N	176-77	C	ACT	5/26/2000	\$54,000.00	\$312,000.00
5/21/2003	N	S-10-81	C	ACT	7/21/2000	\$452,250.00	\$643,142.22
6/5/2003	S	EM-97	C	ACT	9/16/2003	\$175,500.00	\$341,775.00
6/5/2003	S	R-3078-86	C	ACT	5/26/2000	\$209,250.00	\$91,000.00
6/19/2003	S	D-32-81	C	ACT	5/26/2000	\$209,250.00	\$260,500.00
8/25/2003	N	40-81	C	ACT		\$398,250.00	\$413,962.40
8/27/2003	N	S-1063-86	C	ACT		\$87,750.00	\$324,561.00
9/29/2003	S	U-40-85	C	P	5/26/2000	\$175,500.00	\$89,500.00
10/8/2003	N	S-37-81	C	P		\$364,500.00	\$118,000.00
10/14/2003	N	65-78	C	ACT		\$170,100.00	\$1,142,151.00
10/14/2003	N	S-65-82	C	ACT	7/21/2000	\$315,900.00	\$1,600,000.00
10/14/2003	S	S-119-85	C	P	11/24/2003	\$398,250.00	\$150,000.00
11/4/2003	N	S-17-82	C	ACT	10/15/1999	\$209,250.00	\$589,265.32
11/7/2003	N	UO-519	C	ACT	3/14/2001	\$398,250.00	\$581,592.00
1/22/2004	N	O-1035-87	C	ACT		\$173,677.50	\$406,440.00
1/22/2004	N	O-43-85	C	ACT		\$121,500.00	\$202,975.00
1/22/2004	N	O-86-82	C	ACT	9/24/2003	\$35,572.50	\$35,125.00
2/5/2004	S	U-3055-87	C	P	10/28/2003	\$209,250.00	\$251,300.00
2/5/2004	S	S-86-85	C	ACT	7/24/2000	\$209,250.00	\$467,500.00
6/22/2004	N	S-1087-86	C	P		\$209,250.00	\$97,400.00
7/22/2004	S	19-75	C	P		\$209,250.00	\$116,710.00
8/16/2004	N	S-1030-86	C	P		\$209,250.00	\$87,794.00
8/17/2004	S	U-3083-87	C	P	3/19/1998	\$195,750.00	\$220,161.00
9/8/2004	C	O-1-81	C	ACT	10/26/1998	\$324,000.00	\$499,795.00
10/1/2004	N	S-52-83	C	ACT		\$155,250.00	\$298,745.00
2/10/2005	N	S-61-82	C	ACT		\$121,500.00	\$245,392.00
3/4/2005	N	237-76	C	ACT		\$109,250.00	\$503,239.00
3/4/2005	N	S-1035-86	C	ACT		\$100,000.00	\$449,125.00
5/12/2005	S	R-3-81	C	ACT		\$175,500.00	\$487,750.00
5/17/2005	N	S-1041-89	C	ACT	8/31/2000	\$364,500.00	\$312,985.00
5/24/2005	N	60-79	C	P		\$54,000.00	\$95,980.00
6/8/2005	N	U-2024-87	C	ACT		\$184,997.92	\$348,350.00
12/28/2005	N	S-21-84	C	ACT		\$175,500.00	\$208,543.30
12/29/2005	S	S-35-81	C	P	5/20/1996	\$209,250.00	\$284,400.00
1/3/2006	S	S-3028-87	C	P		\$67,500.00	\$412,280.00
4/14/2006	C	S-6029-86	UCW	ACT		\$87,750.00	\$2,497,373.00
5/4/2006	N	S-64-83	RO	ACT		\$243,000.00	\$316,385.00
6/7/2006	N	34-81	C	ACT		\$175,500.00	\$297,685.00

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6/27/2006	N	D-35-82	TBC	ACT	8/4/2002	\$2,892,400.00	\$2,856,667.00
9/1/2006	N	S-2003-86	C	P		\$364,500.00	\$80,052.50
10/18/2006	S	S-99-83	C	P	5/26/2000	\$95,500.00	\$107,100.00
11/1/2006	S	S-3026-89	C	P	6/29/1998	\$247,800.00	\$420,500.00
11/9/2006	S	O-3086-87	C	P	7/25/2001	\$87,750.00	\$285,500.00
11/9/2006	S	O-43-84	C	ACT	7/25/2001	\$87,750.00	\$276,000.00
12/15/2006	N	65-77	C	P		\$209,250.00	\$308,028.50
12/15/2006	N	S-1009-88	C	P		\$87,750.00	\$159,608.00
5/3/2007	N	U-109-83	C	P		\$209,250.00	\$139,880.00
8/9/2007	N	67-78	C	ACT		\$121,500.00	\$321,000.00
9/21/2007	N	192-77	C	ACT		\$2,070.90	\$2,300.00
9/21/2007	N	S-1009-86	C	ACT		\$396,179.10	\$611,723.00
11/27/2007	N	S-122-80	C	ACT	12/13/2006	\$548,012.00	\$395,158.00
1/9/2008	N	184-77	C	UC		\$153,983.70	\$380,167.00
1/9/2008	N	S-2004-86	C	P		\$21,516.30	\$139,798.75
2/12/2008	C	UO-396	C	ACT		\$87,750.00	\$435,825.00
2/20/2008	C	O-69-82	C	P	9/15/2003	\$87,750.00	\$287,225.00
3/26/2008	S	S-3031-90	C	P	3/29/2007	\$159,000.00	\$137,500.00
5/1/2008	S	U-4013-91	C	P	5/22/2001	\$157,010.00	\$132,987.00
5/23/2008	S	P-656	C	ACT	6/30/2005	\$778,000.00	\$997,400.00
6/12/2008	N	3-72	C	P		\$324,000.00	\$123,985.00
8/7/2008	S	S-19-85	UCW	P	1/26/2004	\$225,000.00	\$429,106.00
8/29/2008	N	S-1008-89	C	UC		\$243,000.00	\$446,825.00
9/15/2008	N	S-1045-87	C	ACT	10/15/1999	\$209,250.00	\$664,207.00
11/26/2008	C	120-79	UCW	ACT		\$209,250.00	\$744,924.00
1/6/2009	C	U-5071-86	C	ACT		\$243,000.00	\$677,795.00
3/25/2009	C	S-6020-87	C	P		\$209,250.00	\$414,800.00
3/25/2009	S	149-79	SSR	P	5/22/2001	\$377,230.00	\$359,750.00
3/31/2009	N	51-78	C	ACT		\$209,250.00	\$299,900.80
6/1/2009	C	S-6033-86	C	UC	7/25/2001	\$209,250.00	\$415,235.40
6/1/2009	N	S-28-83	C	ACT		\$209,250.00	\$347,902.50
6/15/2010	N	S-2003-88	TBC	UC	12/13/2006	\$716,414.00	\$589,630.00
7/22/2010	C	O-6013-88	UC	UC	8/27/2003	\$2,467,307.00	\$932,400.00
7/22/2010	C	S-73-85	UC	UC	8/27/2003	\$235,000.00	\$95,700.00
8/30/2010	C	S-6-85	C	UC	4/27/1999	\$243,000.00	\$497,000.00
1/12/2011	N	P-177-85	C	UC		\$121,500.00	\$311,940.00
2/18/2011	N	S-1018-88	C	UC	12/8/2000	\$209,250.00	\$594,960.00
5/17/2011	N	S-1005-95	UC	UC	9/10/2003	\$276,000.00	\$805,210.00

Total: 82 \$22,927,170.92 \$34,232,431.58
Variance: 49.31%

Note: Excludes 4 permits where the variance exceeds 2 standard deviations under the mean.

Total Unskewed: 71 \$21,428,154.62 \$25,190,505.83
Variance Unskewed: 17.56%

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Note: The variance of these 11 permits exceeds 2 standard deviations over the mean. Sparse WQ data at time of Tiff Hilton's liability estimation, new seeps found after estimation, additional roads, more and larger ponds required after original estimation are the factors in the variance. For S-6029-86 a large underground AMD pool and other problems were discovered during requisition planning, which were not addressed in the initial liability estimate. Without these 11 permits, the variance is 17.56%.

Variance = (Water Contract Amt - WQ Total Cap Dollars) / WQ Total Cap Dollars

Appendix C