

Predicting Post-Mining Hydrologic Effects of Underground Coal Mines in Ohio through
Multivariate Statistical Analyses and GIS Tool Building

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This thesis titled
Predicting Post-Mining Hydrologic Effects of Underground Coal Mines in Ohio through
Multivariate Statistical Analyses and GIS Tool Building

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ABSTRACT

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Predicting Post-Mining Hydrologic Effects of Underground Coal Mines in Ohio through Multivariate Analyses and GIS Tool Building

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Coal mining activities can result in a variety of environmental issues and, worldwide, one of the greatest threats from coal mining is acid mine drainage (AMD). In the eastern U.S. coal bearing regions, AMD is a wide spread environmental impairment to waterways, especially from abandoned or closed underground coal mines. Pollutational discharge can result from flooding of underground mines, or mine pools, resulting in reactions that create AMD and discharge to surface water. Research has focused on improving reclamation and treatment methods for AMD to address ongoing pollution problems, but there is a need for more reliable prediction methods for use in continued permitting of lands for coal mining. Under the Surface Mining Control and Reclamation Act (SMCRA), coal companies are required to estimate the post-mining water levels to determine if a mine pool will form and if there may be a pollutational discharge, but there is a lack of a science-based method for determining the hydrologic response to mining.

This thesis sought to address the gap in prediction by expanding previously explored parameters of mine pool formation in post-SMCRA mines through expanding previous multivariate statistical analyses. Analyses were done in both the Unscrambler X and Neuroshell. An algorithm produced in Neuroshell, an artificial neural network program, resulted in the least amount of error and was incorporated into a tool for

modeling post-mining potentiometric head elevation through ArcGIS Pro model building function. The predictive tool developed in ArcGIS Pro was made to output points of predicted post-mining water levels. The tool only requires input of data that would be required for an underground mine permit application. This work has continued the work of an ongoing project to provide mine companies and regulators with a predictive ArcGIS tool that determines if a mine pool will form and discharge to the surface. This project's final output is an empirically predictive ArcGIS tool that is publicly available for download to be used as a new approach to science-based estimation of underground mining effects on area hydrology. Methods used to develop both the algorithm and the tool in ArcGIS Pro can be used in other coal bearing regions around the world to develop a similarly useful tool for understanding connections between hydrology and underground mining.

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CHAPTER 1: INTRODUCTION

Worldwide, pollutional discharges from coal mining have been and continue to be an environmental issue (Younger, 2000; Underwood et al., 2014; Lottermoser, 2015). Coal extraction has been a dominant industry providing the United States with energy since the 1800s, and with this long-term extraction comes long term environmental degradation (Crowell, 2005). Underground mining can specifically harm surface water in the area of the mine through alteration of the local hydrology and formation of mine pools that can discharge to the surface. Coal extraction can result in a variety of chemical reactions with the minerals previously underground in anoxic conditions, now exposed to the surface. Acid mine drainage (AMD) has been and continues to be a major environmental threat in the eastern U.S. in areas with a history of coal mining. Research in recent years has focused on remediation techniques (Wei et al., 2017). In addition to the focus on remediation, the high complexity of the system variables influencing AMD generation limits progress on research of such systems. Thus, research is lacking on the prediction of AMD, resulting in a lack of understanding the systems and influences of this environmental hazard. Reliable prediction of the formation of mine pools and the possibility of acid generation at the permit level would prevent initial degradation and remove the need for and cost of remediation efforts. Research into understanding major variables determining the formation of underground mine pools and their discharge to the surface is needed in order to propose updated methods and tools for decreasing environmental harm from continued coal mining.

Study Area: Eastern Ohio

The eastern portion of Ohio sits in the Appalachian basin which, along with Pennsylvania and West Virginia, host the Appalachian coal field. The coal formed in this area of the country is high in sulfur content and thus not as pure or high quality as western coal (Crowell, 2005). The elevated sulfur and common occurrence of pyrite (FeS_2) is highly reactive when in contact with atmospheric oxygen and water, resulting in AMD. The occurrence of AMD can form naturally from mineral exposure to the surface, but also commonly forms during mining activities, both surface and underground. Surface mining can mitigate AMD through capping waste piles, preventing water run-off, and diverting flow from passing through the mine area where minerals are exposed (Akcil and Koldas, 2006). Pollution from underground mining is difficult to mitigate, as AMD forms when a mine potentially fills with water and air, while sealing and/or collapsing mines does help reduce possible acid generation, it does not remove the possibility (Singer and Stumm, 1970).

This project focuses on post-SMCRA underground coal mines in eastern Ohio, shown in Figure 1. The Surface Mining Control and Reclamation Act (SMCRA) of 1977 made it mandatory for companies to obtain a land permit prior to coal mining. The applications for mine permits require providing plans and finances for environmental protection and reclamation if pollution were to occur in the permitted area. Companies are required by SMCRA to determine if a mine pool will form or not in the applications for a mine permit as part of the plans for environmental protection. If a mine pool is determined likely to form, and that the pool may form a pollutorial discharge to the

surface, the permit application may be denied. There has never been a permit denied in Ohio for a coal mine, but mines have formed pools post-closure, possibly indicating that regulators' and mine companies' methods for determining the post-mining hydrology are insufficient. A previous study (discussed in [Previous Study](#)) has collected and analyzed data for post-SMCRA underground mines, and this study expands that analysis and develops the tool for application.

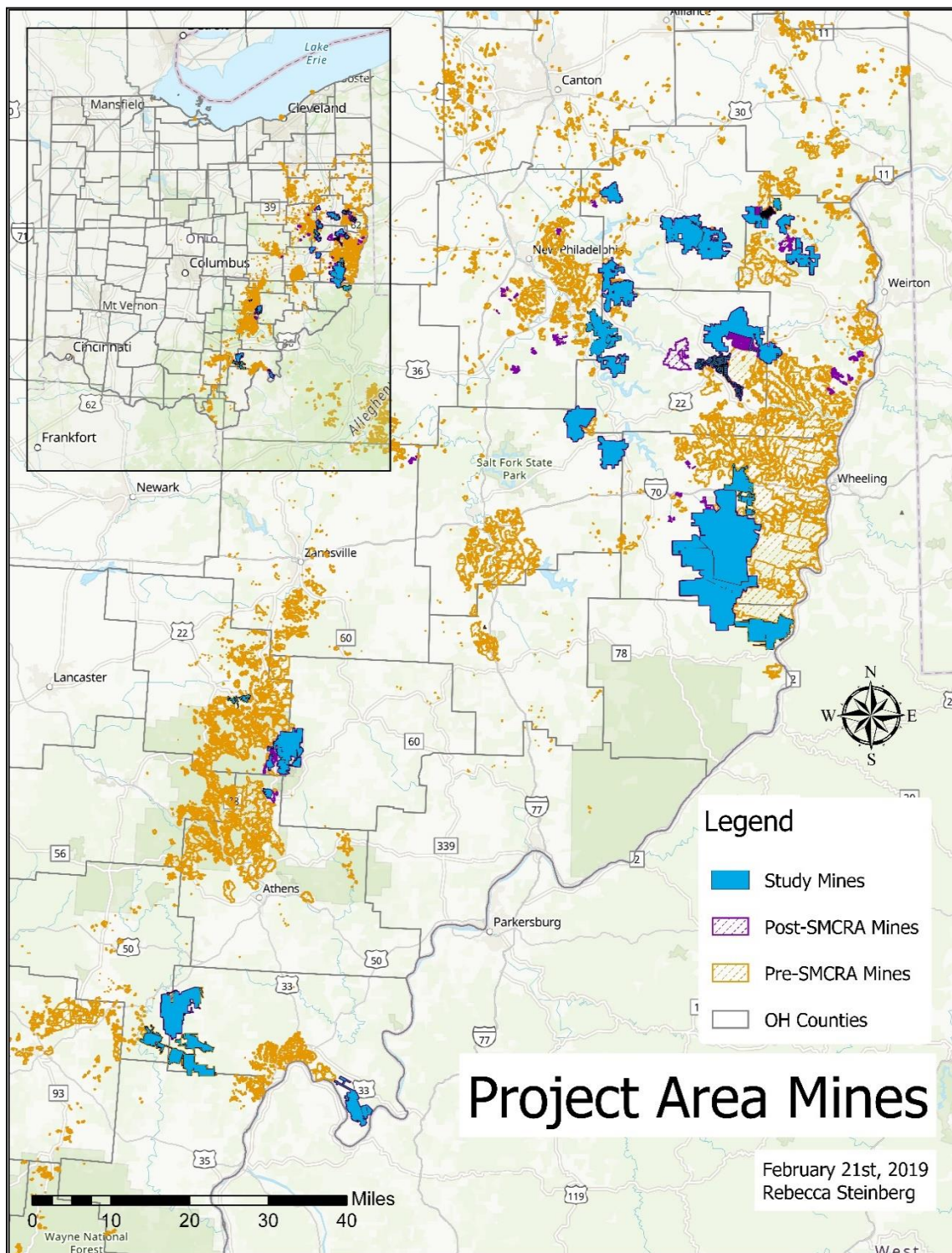


Figure 1 - Map of study area with pre-SMCRA, post-SMCRA and specific post-SMCRA study mines highlighted that are the focus of this project

Need for Prediction Methods

Under the federal regulations that require mine companies to obtain a mine permit, as part of the remediation plans included, they are to provide a characterization of area geology and hydrology. This study of hydrology includes determining where the water will rise to within the mine void post-mining, determining if the mine will form a mine pool and have the possibility of creating a pollutional discharge to surface waters. Mining companies do not have a strong science-based method for determining post-mining water levels and instead currently use the top elevation of the coal seam being mined as an estimate for post-mining water levels.

Along with the lack of a science-based method for determining post-mining water levels, the cost of treating AMD is costly (Underwood et al., 2014). Post-SMCRA mine permit applicants are required to provide proof of funds for remediation and treatment plans if AMD is caused, but often mines are still left without a source of funding for treatment after closure. When pre-SMCRA mines were closed no one was held responsible for their conditions post-mining and thus funding is difficult to find for remediation of abandoned mines. If successful prediction methods can be developed and implemented for both mine pooling and resulting discharge, the need and cost for remediation of AMD related issues could be reduced.

An on-going project funded by the federal Office of Surface Mining Reclamation and Enforcement (OSMRE) with Ohio University's Department of Geological Science and the Voinovich School of Leadership and Public Affairs is addressing this need for prediction methods. The goal of this project was to collect and compare large amounts of

hydrologic and geologic mining data to develop an empirical predictive method for determining post-mining water levels and hydrologic conditions. This thesis project was a continuation of the initial work done on the OSMRE funded project and was part of the end goal in providing an ArcGIS tool for predicting post-mining water levels to the mining companies of Ohio.

Project Goals

In proposing a new coal mine, mining companies are required to determine if there will be a pollutional discharge after mining is complete and the mine is closed. Currently, the mining companies determine if a mine will discharge based on an approximation using the elevation of the top of the coal seam being mined or the highest point of the mine compared to the surface elevation. This project looks to address the issue and provide a method to companies for determining the likelihood of mine pooling and resulting pollutional surface discharge through empirical multivariate statistical models.

The main research question addressed is *Can post-mining water level be predicted, within acceptable error, through multivariate analysis of hydrologic and geologic parameters and spatial interpolation?* This question is approached in several stages; first through testing approaches for multivariate analysis to determine relationships of hydrologic and geologic parameters and develop an algorithm to predict post-mining water levels using these relationships, and secondly through applying spatial interpolation methods for creating a surface of predicted post-mining water levels based on point predictions. These two approaches are finally incorporated in a user-friendly

ArcGIS tool that automatically runs point predictions and risk areas as part of the ongoing OSMRE funded project.

The goals for addressing this question are to: 1) use individual potentiometric head measurements instead of averages to obtain larger data set for multivariate analysis, 2) determine best spatial interpolation method for expanding point predictions to area predictions, 3) develop functioning tool for ArcGIS that extracts variables, applies prediction algorithm, and runs spatial analysis to predict risk area surfaces, and 4) determine the range of acceptable error in both algorithm and interpolation surface in the empirical model. The major outcome of this project is the GIS-based tool for predicting post-mining water levels and risk for mine pool formation and surface discharge in the coal bearing region of Eastern Ohio. The method for developing the prediction tool and risk areas will be applicable to other coal producing regions with slight regional adjustments in the weighting of variables in the development of the prediction equation. The development of this empirical method for predicting post-mining water levels will thus not only address Ohio's regulatory gap of a science-based method of prediction, but also provide a greater understanding of hydrologic effects of underground mining to be applied in regions globally.

CHAPTER 2: LITERATURE REVIEW

Ohio Geology

Most of Ohio's western and northern portions were glaciated during the last ice age, leaving behind surface deposits of till. Where the glaciation terminated, the hilly foothills of the Appalachian Mountains begin and make up eastern and southeastern Ohio. The western portion of Ohio is underlain by older aged deposits and, as seen in Figure 2, the eastern side has Pennsylvanian and Mississippian aged deposits (Coogan, 1996). The majority of the coal mined in Ohio is in Pennsylvanian/Mississippian aged deposits. These deposits consist of shale, limestone, clay, and sandstone, with multiple coal layers (Figure 3). Coal in Ohio has a 3.5 percent or greater sulfur content, making it less economically desirable coal than other coal locations that have less sulfur content due to regulations on sulfur dioxide emissions (Crowell, 2005).

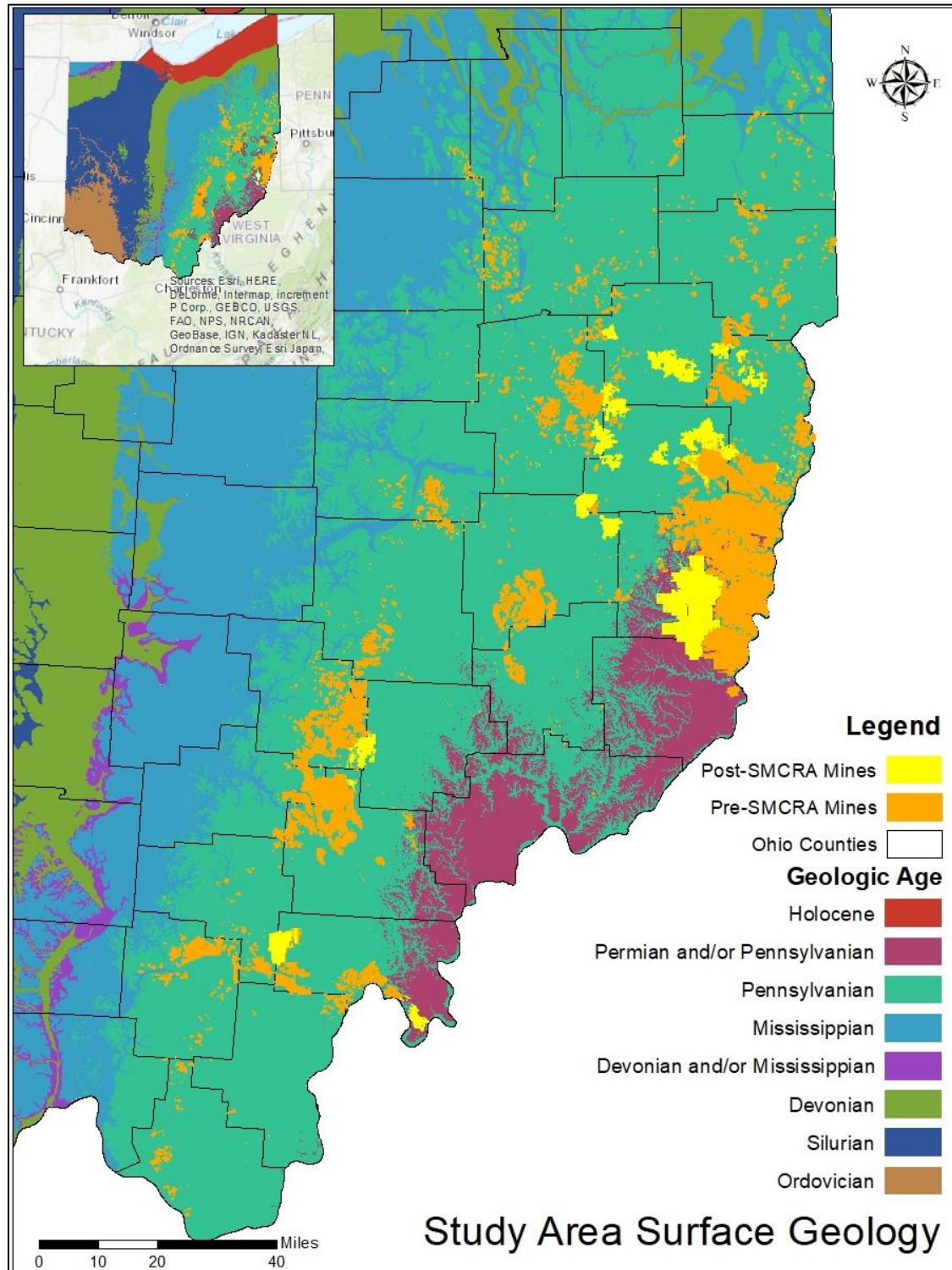


Figure 2- Map of surface geology in eastern Ohio in relation to pre-SMCRA and post-SMCRA underground coal mines, data from (ODNR Geographic Information Systems, 1997; ODNR, 2019)

PERMIAN	Dunkard Group*	Greene Formation*	Nineveh limestone and shale*
		Washington Formation*	Creston shale* Lower Washington limestone*
PERMIAN			Washington (No. 12) coal* Mount Morris limestone* Elm Grove limestone* Cassville shale*
PENNSYLVANIAN	Monongahela Group		Waynesburg (No. 11) coal Uniontown limestone*
			Benwood limestone* Meigs Creek (No. 9) coal* Pittsburgh (No. 8) coal
	Conemaugh Group*		Upper Pittsburgh limestone and shale* Summerfield limestone* Skelley limestone* Gaysport limestone* Ames limestone and shale* Ewing limestone* Portersville shale and limestone* Cambridge limestone and shale* Brush Creek limestone and shale* Mahoning sandstone*
			Upper Freeport (No. 7) coal* Dorr Run shale* Washingtonville shale* Middle Kittanning (No. 6) coal* Columbiana shale* Vanport limestone and shale* Zaleski flint* Putnam Hill limestone and shale* Brookville (No. 4) coal
Pottsville Group		Homewood sandstone and shale* Upper Mercer limestone and shale* Lower Mercer limestone and shale* Boggs limestone* Poverty Run limestone* Quakertown (No. 2) coal* Lowellville limestone and shale* Sharon sandstone and conglomerate Harrison ore*	
MISS.			Maxville Formation*
			Logan Formation*

Figure 3 - Stratigraphic column of typical eastern Ohio geology of limestones, shales, sandstones, and coals (Coogan, 1996)

Ohio History of Coal Mining

Coal was first reported in Ohio in 1748, but coal mining in Ohio began around 1800 and has continued since. The early method of extraction was exclusively underground mining, and it was not until 1948 that other methods such as surface mining were developed and practiced (Crowell, 2005). With the industrial revolution, the demand for coal and ability to extract coal increased dramatically as new technologies were developed beginning in the mid 1800s, with peak demand during the 1960-70s. As of 2005, the Ohio counties with the greatest amount of coal extraction are Belmont, where 824.9 million tons have been extracted since 1816, followed by the counties of Harrison, Jefferson, Perry, Athens, Tuscarawas, Guernsey, Meigs, Muskingum, and Noble (Crowell, 2005). This density of coal mining in the eastern part of Ohio is displayed in the study area mines in Figure 2.

More recently, the demand for coal in Ohio and in the U.S. has begun to decrease for several reasons. Higher quality (less sulfur) coal has been mined the western U.S. and resulted in decreased demand from the Appalachian coal fields. Another contributing factor to the decline was the introduction of the Clean Air Act of 1970, implementing emissions reductions from the burning of fossil fuels across the U.S. (Crowell, 2005). This act also helped spur the development of renewable energy sources to take the place of fossil fuels. Increased demand for natural gas over coal has also played a part in the decrease in coal extraction. While coal mining is in decline, it is continuing to occur as a complete switch to renewables will take time. The argument also exists that, while new energy sources are arising, the increase energy demands of our growing population will

keep the demand for coal in existence (Crowell, 2005). With new mines opening each year in addition to the many active and abandoned mines, understanding the impacts of coal extraction remains an important area of research.

Surface Mining Control and Reclamation Act

The Surface Mining Control and Reclamation Act (SMCRA) was enacted in 1977 and established OSMRE to implement the act. This act places responsibility on the coal companies to mine and to reclaim the permitted land within environmental standards (“OSMRE Laws, Regulations, and Guidance”; U.S. Department of the Interior, 2012). As of August 3, 1977, any new or continuing mines were placed under this regulation within the U.S. Part of this act is a per ton tax on current coal extraction that funds the reclamation of abandoned mine land and water that occurred pre-law.

While this is a federal act, it is left to the individual states to decide how to implement and enforce SMCRA (U.S. Department of the Interior, 2012). In Ohio, permitting of coal mines is regulated by the Ohio Department of Natural Resources (ODNR), where mining companies are required to display their plan and financial ability to reclaim the mined lands, their preliminary characterization of the hydrology and geology in the area, and plans for mining in the least environmentally damaging way (Skousen and Zipper, 2014; Ohio Administrative Code, 2016). This characterization of area hydrology and geology includes determining the hydrologic consequences of mining to determine post-mining implications for mine pools and discharge. Currently, ODNR requires for underground mining permit applications a “...minimum of one test hole per

one hundred sixty acres” and does not list a number of wells required to provide the listed hydrologic sampling (Ohio Administrative Code, 2016).

Mine Pools

Underground mines leave a large void space that can be infiltrated by groundwater moving through the surrounding strata (Lambert et al., 2004; McDonough et al., 2005). Post-mining, the water infiltrating the mines is no longer pumped out and the void space can eventually fill with water to the point of flooding and possibly discharging flow from the mine to the surface. Figure 4 is a conceptual diagram of the stages of mining and how mine pools form in mines below the water table. The pre-mining stage displays an undisturbed coal seam that has a non-pollutional seep to the surface water because the coal is not exposed to the atmosphere, resulting in no reaction and thus no surface water impacts (Figure 4). The second stage, during mining, shows how water attempts to fill the mine but is pumped out to the surface to prevent pooling during extraction, as well as how fractures in the surrounding strata are starting to appear (Figure 4). Finally, the post-mining stage shows water filling the mine is no longer pumped to the surface and a pool forms, shown here discharging AMD to the surface water due to the reaction from the exposure of minerals to the atmosphere and water (Figure 4). This mine water discharge can carry AMD pollution generated in the mine void, thus understanding how and when mine pools form is important to understanding the generation of AMD. There is the possibility of natural neutralization of these discharges by the overlying lithology that the water passes through, such as limestone layers.

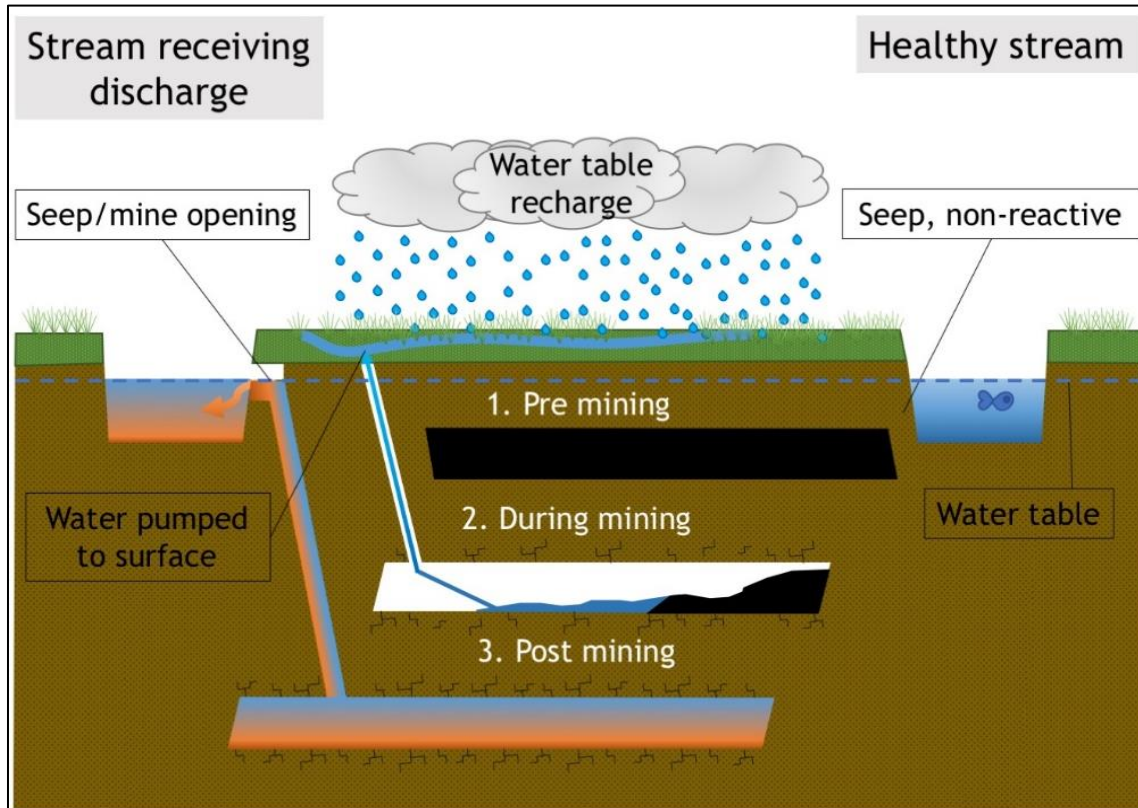
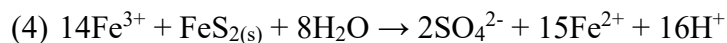
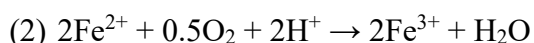
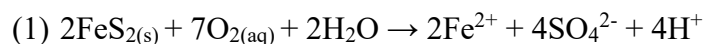


Figure 4 - Diagram displaying the stages of pool formation and AMD generation with stages of coal extraction

Subsurface hydrology and mine pool formation are a complex problem, making prediction a challenge. The degree of flooding in a mine is thought to have a large impact on the duration of AMD from the mine, as fully flooding a mine reduces access to oxygen and limits reactions (Lambert et al., 2004). Water can also move more quickly into these areas post-mining due to fracturing in the above strata from mining activity (Pigati and López, 1999). Similarly to a fully flooded mine, the degree of AMD can be neutralized by limestone buffers in the area geology (Akcil and Koldas, 2006).

Acid Mine Drainage

Acid mine drainage (AMD) is a chemical reaction of the exposure of sulfur containing minerals to water and oxygen that occurs both naturally and resulting from coal mining. This reaction is characterized by low pH and often has associated metal precipitates in receiving waterways. AMD can form in any coal extraction method, since extraction results in the exposure of sulfide minerals to the atmosphere. As seen in the reactions (1-3) below, iron sulfides break down and form iron oxides and hydrogen ions. Reaction (1) is the rate determining step of AMD production as it is dependent on the availability of enough oxygen and water for a reaction to occur (Singer and Stumm, 1970). Reaction (3) shows to continuing oxidization of ferric iron and precipitating amorphous hydrous ferric oxide, which is the orange or yellow precipitate that is associated with AMD streams and coats the bottom of the water way (Lambert et al., 2004).



Various factors can determine the degree and rate of AMD produced. Primarily, the rate is determined by: pH, temperature, oxygen content, water saturation, surface area of metal sulfide exposed, required activation energy, and bacterial activity (Akcil and Koldas, 2006). The duration of acid generation is also variable, while some abandoned underground mines have continued to discharge for more than 30 years others have

naturally stopped generating in 10 years (Lambert et al., 2004). The natural recovery of these AMD systems is discussed in Lambert et al 2007 as directly linked to the degree and type of flooding that occurs in the underground mines based on their 25-year study.

Treatment

Recent research has been focused on developing treatment methods for existing AMD impaired streams (Wei et al., 2017). Types of treatments are either active, requiring continued input of work or chemicals, or passive, requiring no continued input and minimal maintenance (Underwood et al., 2014). A variety of treatment methods exist, with the most common passive method a treatment with a base substance, such as lime dust, to neutralize the waters pH downstream from the site of treatment (Akcil and Koldas, 2006).

Treatment methods are often a costly solution to AMD. In one watershed in Ohio alone, Raccoon Creek, an estimated \$12,000,000 has been put into remediation of abandoned mines between 1999 and 2014, with the largest tributary an estimated \$6,500,000 of the total (Underwood et al., 2014). There is also often no source of funding for implementing and maintaining the remediation systems, allowing for the environmental degradation to continue (Younger, 2000; Akcil and Koldas, 2006; Underwood et al., 2014).

Prediction Methods

Fewer methods for prediction of post-mining pollution exist than treatment methods, most of which require extensive sampling and testing for each proposed extraction area. Some sampling methods used for determining AMD potential are: static

tests such as acid base accounting (ABA), and kinetic tests such as net acid generation pH (NAGpH) (Akabzaa et al., 2007; Bouzahzah et al., 2014). Static and kinetic tests, originally developed in the 1970s, are still widely used by industry today. Static tests determine the difference between the acid generating and acid neutralizing reactions of a sample to determine acid generating potential (AGP), and kinetic tests more accurately predict AGP through long term reaction comparisons (Weber et al., 2004; Bouzahzah et al., 2014; Lottermoser, 2015). These are strictly tests characterizing the chemistry of the area and not taking into account the many other parameters that cause AMD (Lottermoser, 2015). There is a need for more comprehensive testing methods, but also risk determining methods that do not require the same degree of sampling equipment and time.

For predicting post-mining water level, a variety of variables are taken into consideration. The dip of the mine needs to be considered, as down-dip mines will flood because water cannot flow down and out of the mine as in up-dip mines (Lambert et al., 2004). Determining the location of aquifers above the mine and the potentiometric head are also important factors in characterizing area hydrology. Characterizing the aquifers helps determine the hydrologic connections and interactions that can be impacted or caused by mining, such as impacts of pumping during mining (Hawkins and Dunn, 2007). Area precipitation also has an impact on the groundwater hydrology through recharge (Burbey et al., 2000; McDonough et al., 2005).

Area geology is also an important factor due to the permeability of various strata and the depth to the coal layers being mined. The degree of mining in the area and type of

mining can also influence the area permeability due to fracturing of the surrounding strata or collapsed mine pillars (Burbey et al., 2000; Hawkins and Dunn, 2007). Permeability of the surrounding strata is also an important influence because mine water becomes reactive from contact with water and oxygen (Younger, 2000; Akcil and Koldas, 2006; Wei et al., 2017).

GIS Applications

Previous studies have applied geographic information systems (GIS) to prediction problems to form a perspective of the geographical relationships. A few examples of GIS applications are its use to determine the transport of contaminants from abandoned mine areas (Yenilmez et al., 2011), to create a vulnerability map applying models used to determine parameters of groundwater vulnerability in AMD sites (Sakala et al., 2018), to determine landslide vulnerability mapping with ModelBuilder (Jiménez-Perálvarez et al., 2009) and others. Outside of mining, GIS has also been used in creating risk maps for landslides through multivariate statistical analyses of data from known landslide events (Pradhan, 2010).

GIS can also be used to apply spatial interpolation methods to prediction of issues with in spatial data. Other studies have used various methods of spatial interpolation and compared their results and accuracy. Examples of these studies are comparing methods of kriging to predict heavy metals in soil (Milillo et al., 2017), comparing several kriging methods and inverse distance weighting methods for estimating geospatial data (Zimmerman et al., 1999), , and comparing kriging methods for incorporating surface elevation in predicting rainfall (Goovaerts, 2000). Several overview studies exists of

applying machine learning methods, geostatistical methods, and spatial interpolation methods to environmental variables (Li and Heap, 2011, 2014).

CHAPTER 3: METHODOLOGY

The main objective of this project and previous work is to better understand the hydrologic response in underground mine after closure. For the purpose of this project and the previous work, it is assumed that measures of potentiometric head in higher strata aquifers respond the same as the lower strata aquifers that contain the underground mines. While measurements in a monitoring well are clearly not the same as potentiometric head measures within the mine, area hydrology responds similarly due to the interconnectedness of groundwater hydrology (Means et al., 2018). Thus, predictions of potentiometric head measures can be extrapolated to the coal layers in the lower aquifers to gauge the hydrologic response within the mine after closure when potentiometric head data in the mined strata are lacking.

All data collected were from public data sources so results from this thesis and from the OSMRE funded project can be available for public use. The majority of data analysis and compilation was performed in ArcGIS Pro, as opposed to other open source geospatial programs or ArcMap, because ArcGIS is widely used as the standard by the state agencies and mining companies that are the target users of the project outputs. ArcGIS Pro was used opposed to ArcMap due to ArcGIS Pro set to be the replacement for ArcMap as the standard within several years. The data formats are usable in ArcMap and the tool can be modified to run in ArcMap.

Due to the large amount of data and multiple variables examined for their influence on mine pool formation, complex multivariate methods were used to understand the relationship of variables and form a predictive method. Multivariate

regression models were developed to further understand the variable relationships as well as form a predictive algorithm to use in the GIS model.

Previous Study

Previous work on the Ohio University grant project titled “Tools to predict the hydrological response and mine pool formation in underground mines” has collected vast amounts of data from public sources and recent analyses have identified several key variables in determining the formation of a mine pool (Lopez and Kruse, 2015). This thesis project is a continuation of the work done for the OSMRE funded project and includes the continuation of developing mine pool formation prediction equations and construction of the GIS tool for applying the equations. Independent variables examined in this study include: surface elevation, bottom elevation of well, overburden thickness, thickness to mined coal, thickness of shale and clay in overburden, separate thicknesses of coal, sandstone, and limestone, total coal volume extracted, acres of underground mines within 4 miles, average precipitation, and water withdrawal over distance (Schafer, 2018). Schafer (2018) and Twumasi (2018) were instrumental in developing the approach methods and analysis for the predictive model that this thesis expands upon.

The study by Schafer (2018) focused on multivariate statistical analysis and determining model parameters, with specific focus on the mine D-0360. The majority of the data extraction and format of what data was need for analysis was determined by the work of Schafer (2018). She analyzed the data set from 11 mine permits in Unscrambler using minimum, maximum, and averaged potentiometric head measurements over the period of record as well as analyses with water withdrawal data and without. She found

that using partial least squares regression using the amount of coal mined at the point of water level measurement showed a strong relationship with low error. From the analyses done in Unscrambler by Schafer (2018), the 11 variables used in this project were selected. The methods of analysis run by Schafer (2018) were followed in this thesis.

Twumasi's (2018) work focused on artificial neural network (ANN) development and modeling of groundwater of the Meigs Mine complex. He used the program MODFLOW to examine the formation and sensitivity of variables causing mine pool formation in the Meigs Mine complex. For ANN work Twumasi (2018) used the Group Method of Data Handling (GMDH) simulation to run data sets with both water withdrawal data and no water withdrawal data. This thesis also followed the methods selected for running the ANN program Neuroshell that Twumasi (2018) used in his work.

The variables determined to be significant to pool formation and determining the post mining water levels of the pools by these studies are further examined in this thesis. The relationships are then used in the formation of the predictive algorithm incorporated into the GIS tool.

Data for the previous work on this project was collected and organized by well site and an average, minimum, or maximum potentiometric head measurement was used for multiple measurements at each site. For this thesis, a new approach to data was used to expand the amount of data available to run through the analyses and to test if this would improve accuracy. Instead of each well represented as a single measurement with an average, minimum, or maximum head, each measurement in time was used, resulting in 5 times the amount of data points available for analysis.

An important assumption in these previous projects (Schafer 2018, Twumasi 2018) was the ability to extrapolate the prediction of water levels at well locations at elevations above the coal seam down to the mined coal seam. The extrapolation of the water level prediction is possible due to the discontinuous nature and interconnections of the area hydrology. This assumption of extrapolating predicted water elevations down to the coal seam is continued within this thesis as well.

Collection of Data

Significant variables to both mine pool formation were determined through various multivariate methods, similar to use in previous studies (Pradhan, 2010; Schafer, 2018; Twumasi, 2018). Variables investigated in this project were the same as used in the previous studies discussed above: potentiometric head, surface elevation, bottom of well elevation, overburden thickness, coal seam mined thickness, clay/shale thickness, limestone thickness, sandstone thickness, total coal thickness, area mined in 4-mile buffer zone, accumulative coal extracted, and annual average precipitation, for each well point.

Various sources were explored for useful data for prediction of mine pool formation in the area of Eastern Ohio. All data collected is publicly available, so tools resulting from this project can be accessed and utilized by the public. Types of data sets collected have geographic references for use in spatial analysis, some were downloaded in a shapefile format and others as a data table. The mines of focus for this study are post-SMCRA underground mines in eastern Ohio, of which there is a shapefile of digitized areas from ODNR that includes information such as area of mine, type of mining, and

coal seam(s) mined. Previously downloaded rasters of statewide elevation and top of coal elevation were also used in this study. Figure 5 displays data downloaded or extracted.

Digital Elevation Model, Coal Seam Elevations, Mine Extents

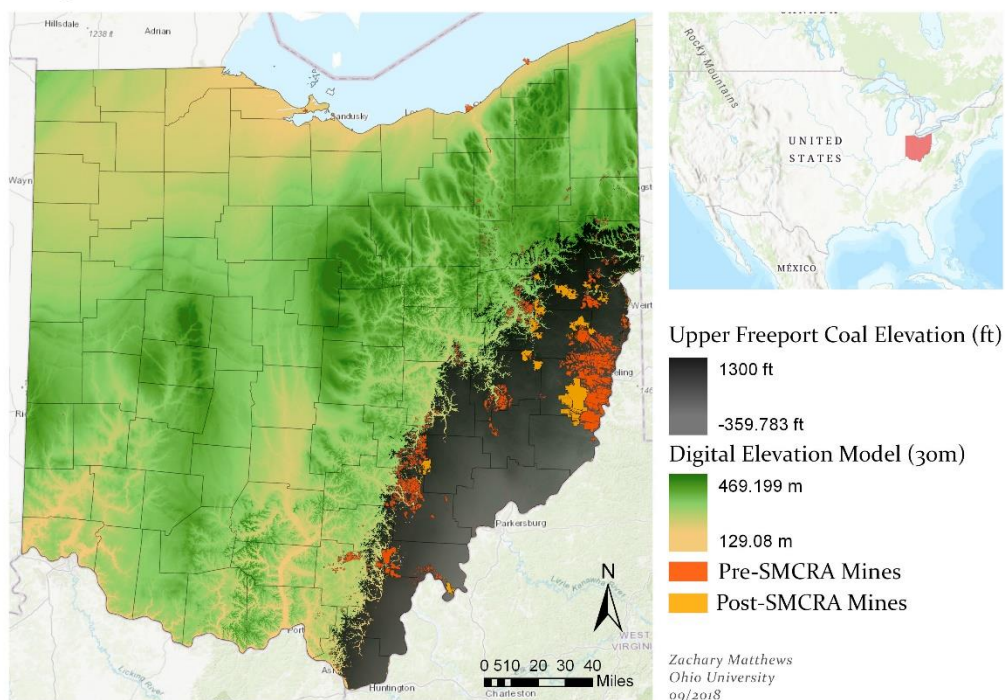


Figure 5 – A map displaying mine shape files downloaded from ODNR, as well as the raster layers of coal seams and the DEM

The majority of time dedicated to data collection was in extraction of well and borehole data from scanned PDF format mine permits. This required manual extraction of borehole and water well data from PDF documents into standardized Excel sheets. These sheets were formatted to have a standardized layout and required input data so that only useful data was collected and recorded in a way that was easy to import and merge in ArcGIS for analysis. This standard format is also used and discussed later in the user inputs for using the developed ArcGIS tool. Data extracted from the mining permits for

wells included: location data, projection (if recorded), surface elevation, depth of well, static water level, and aquifer type. Data for boreholes collected included: location data, projection (if recorded), surface elevation, bottom elevation, overburden thickness, thickness of coal mined, percent lithology of shale, limestone, sandstone, clay and coal. These percentages were later converted to total thicknesses.

For some mines with few points of well data in the main permit application, well data was also extracted from post-mining quarterly monitoring reports (QMRs) within the documents requested from ODNR. The same Excel format used in collecting well data from permit wells was used for QMR wells. This data was originally extracted for analysis by Schafer (2018) and was used in the continued analysis for this thesis.

Precipitation data was also collected for each mine, but due to the range of time the well data spans, a complete data set for local precipitation for each mine was too cumbersome to include in the analysis. Figure 6 is the map of annual average precipitation used in this analysis and in Schafer (2018) and Twumasi (2018). While the map is from a likely outdated data set from the 1990's, it was determined to be the most comprehensive and easily accessible dataset for the area of the study mines. Additionally, the precipitation across the area is not highly variable and likely would not be a significant variable between mines so averages in the area are sufficient for this analysis. This map was overlain as a tiff image and georeferenced with in ArcGIS. Precipitation values were then read off the map at each well location. Values of annual average precipitation were often the same for wells for a single mine, with the larger mines being the exception.

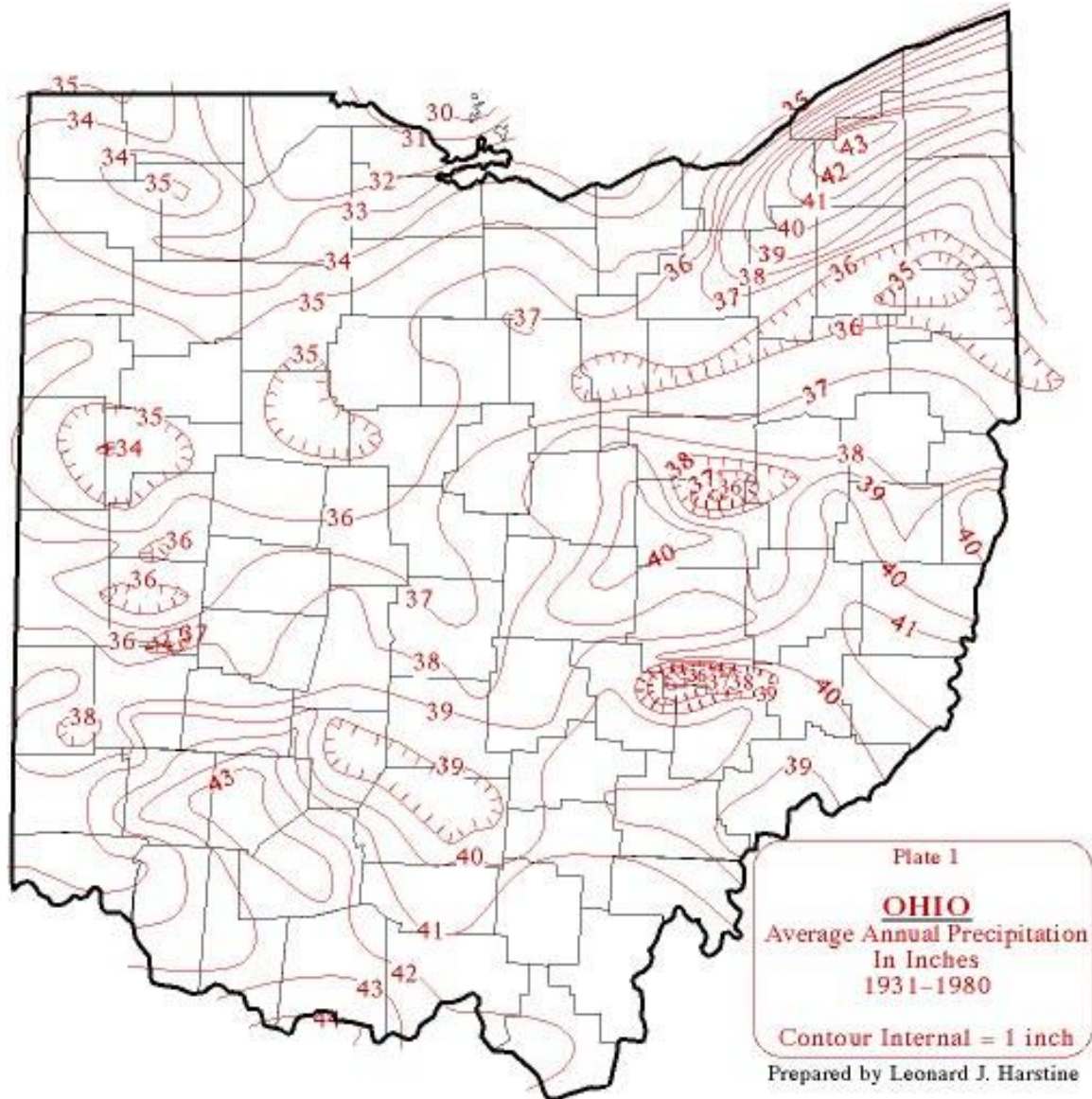


Figure 6 – Map of average annual precipitation for the state of Ohio used to extract average precipitation data for the area of mines studied, (ODNR Division of Water Resources, 1980)

Accumulative volume of coal extracted from each underground mine was also collected for use as a variable in the multivariate analyses. This variable was used to represent the amount of void space created from mining to represent how much water was pumped out of the mine. Data was downloaded for each mine permit from U.S.

Department of Labor's Mine Data Retrieval System (U.S. Department of Labor, 2019). Coal volumes are recorded quarterly, so values for each quarter were copied to Excel sheets. For each well, the date of measurement was used to determine the quarter of coal extraction to calculate the total coal extracted at the point in time. The final accumulative amount of coal extracted from closed mines was also calculated. This method for extracting the accumulative coal volume extracted was developed by the Schafer (2018) and was repeated for the data set for this thesis.

Variable Extraction from ArcGIS

Several variables used in the multivariate analyses were extracted from maps of existing or collected data in ArcGIS Pro: the nearest borehole to each well and the acres of existing underground coal mines in a buffer area around the study mine.

The nearest borehole to each well was needed to determine an approximate lithology for the area. Figure 7 displays the process in ArcGIS using the tool 'spatial join' with the parameter 'closest' used to determine which borehole was closest to each well. From this the values for borehole lithology were joined to each well, providing values for the lithology related variables (overburden thickness, coal seam mined thickness, clay/shale thickness, limestone thickness, sandstone thickness, total coal thickness). The acreage of mined area within a buffer around each mine permit area was calculated from both the pre-SMCRA and post-SMCRA mine shapefile layers acquired from ODNR. Several buffer distances were tested to determine what distance should be used for the analysis. As displayed in Figure 8, buffers of 1, 2, and 4 miles were tested. The previous studies related to this project determined that the 4 mile buffer distance from the

study mine produced the best results, likely due to the heavy influence of void space on the area hydrology (Schafer, 2018). Once a buffer was created, the pre- and post-SMCRA layers were clipped within the buffer area and those clipped shapes were used to calculate the area of void space around the study mine. This value was extracted in square feet but was converted to acres for analysis.

Distance from Wells to Nearest Borehole

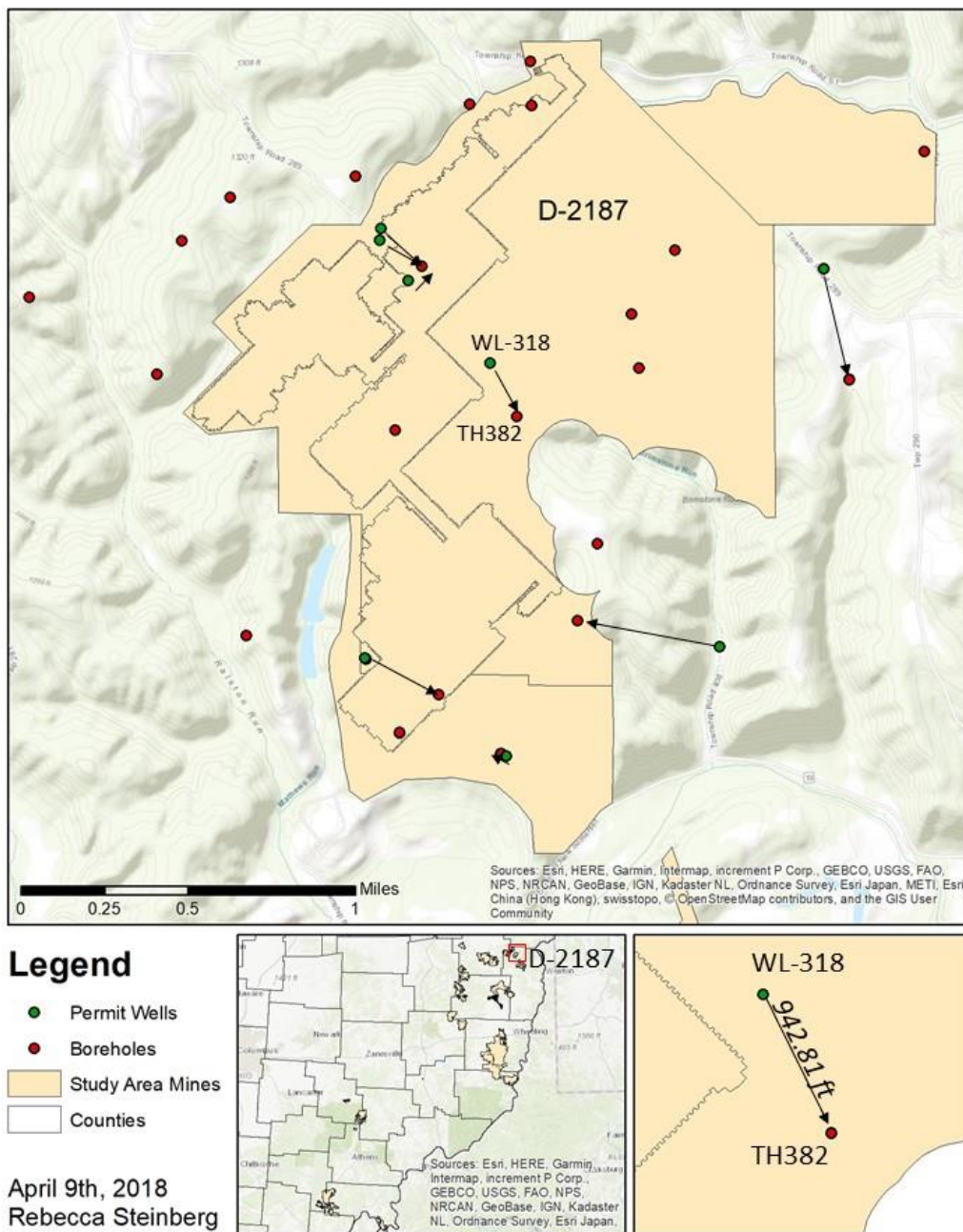
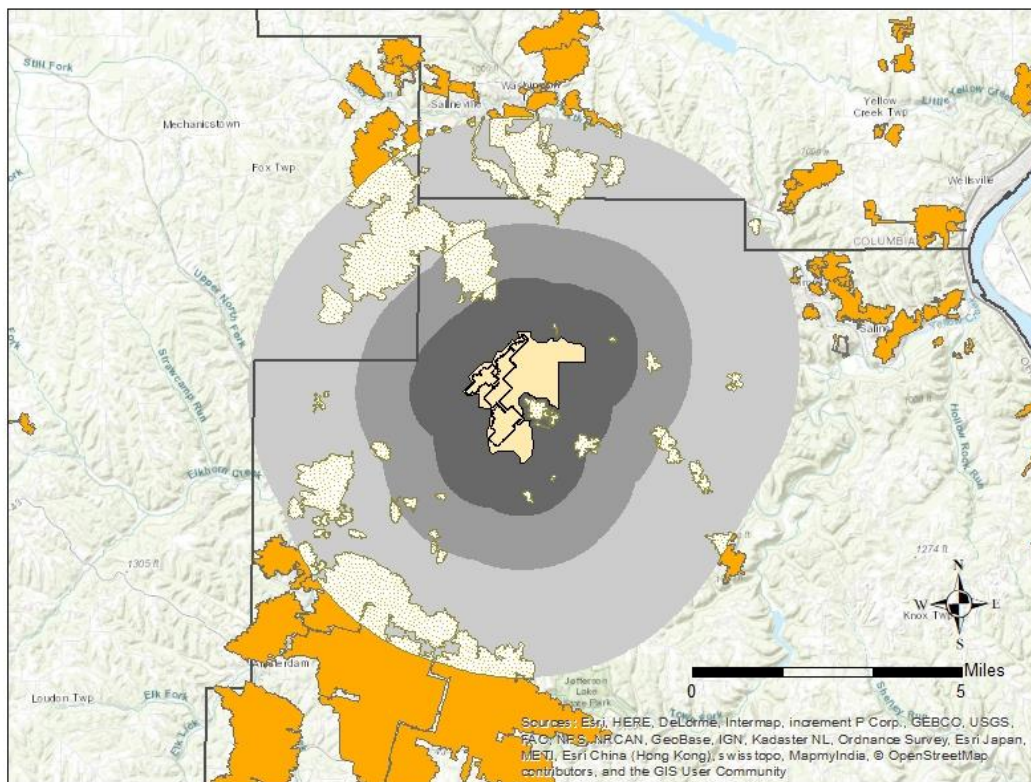








Figure 7 – Map that displays the use of the spatial join tool in ArcGIS Pro to obtain the lithology of the closest borehole and join it to the well points

Abandoned Underground Mine Buffer Zones



Legend

-  Abandoned Underground Mine Extent Within Buffer Zones
-  Study Area Mine D-2187
-  Abandoned Underground Mine Extent Outside Buffer Zones
-  1 Mile Buffer Zone
-  2 Mile Buffer Zone
-  4 Mile Buffer Zone

Zachary Matthews
April 9th, 2018

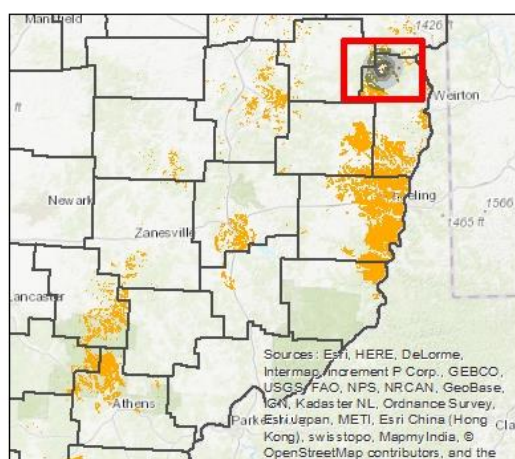


Figure 8— Map displaying the development of buffer zones, of which ultimately the 4 mile buffer zone was used, in extracting the area of underground mining activity surrounding the study mine

Multivariate Analysis and Modeling

For mine pool formation, the potentiometric head is investigated as the dependent variable for determining independent variables relationships. Multivariate regression analyses were run in several programs to determine the relationships between and significance of the variables. These analyses were run first in the multivariate statistical program The Unscrambler X version 10.5, which describes the relationship of the independent variables and provides regression equations for different regression methods. Analyses of the variables were also run in a second program, Neuroshell 2.0, which uses artificial neural networks (ANN) to determine relationships of the variables and produce a complex polynomial regression equation for determining potentiometric head post-mining. These equations were compared by their complexity and root mean squared errors to determine which equation to apply in predicting post-mining water levels through the ArcGIS tool.

Multivariate Statistical Analyses

Initial statistical analysis of the variables examined were run in the program Unscrambler X, following methods as previously developed by Schafer (2018). Methods of multivariate analysis tested were multiple linear regression (MLR), principal component regression (PCR), principal least square regression (PLS) and principal component analysis (PCA) (Schafer, 2018). These methods develop interpretations of the relationships of the variables input and produces a multivariate linear regression equation to represent those relationships. These methods were the same tested by Schafer, 2018,

but re-run with the new expanded data set to compare results and accuracy with Schafer's results, and to further develop the predictive model.

MLR was not appropriate for this data set, as it requires variables be independent of one another, which is not the case with this data set. PCA was used in defining variables and determining their relationships. MLR and PCA are explained in detail in Schafer (2018) and in CAMO (2019).

PCR is a combination of PCA and MLR, where the variances of the principal components (PC) are compared in multidimensional space as in PCA, and then form a regression using the relation of the variance of the Y component to the X components as in MLR (CAMO Software AS, 2019). Figure 9 displays this method, showing the combination of PCA and MLR methods for describing the multidimensional space of the data.

PCR procedure

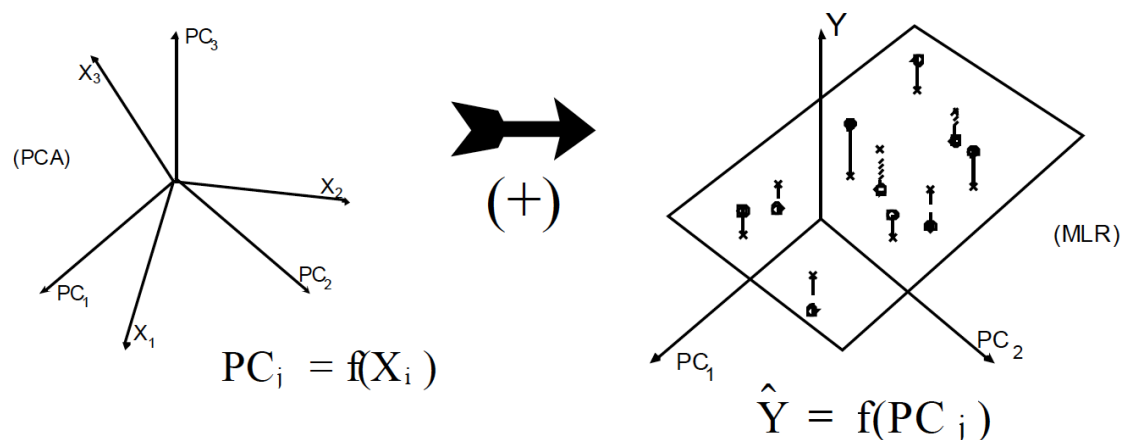


Figure 9 - Visual representation of the process of PCR, using PCs to describe the variance in the Y, (CAMO Software AS, 2006)

PLSR is a combination of PCA and MLR, but instead of comparing PCs to each other, defines the X and Y matrices as factors, which are then compared as PCs would be to define the X relationship to predicting Y. Figure 10 displays how these matrices define the Xs and Ys and then compare them. This data set though only has one Y variable.

PLS procedure

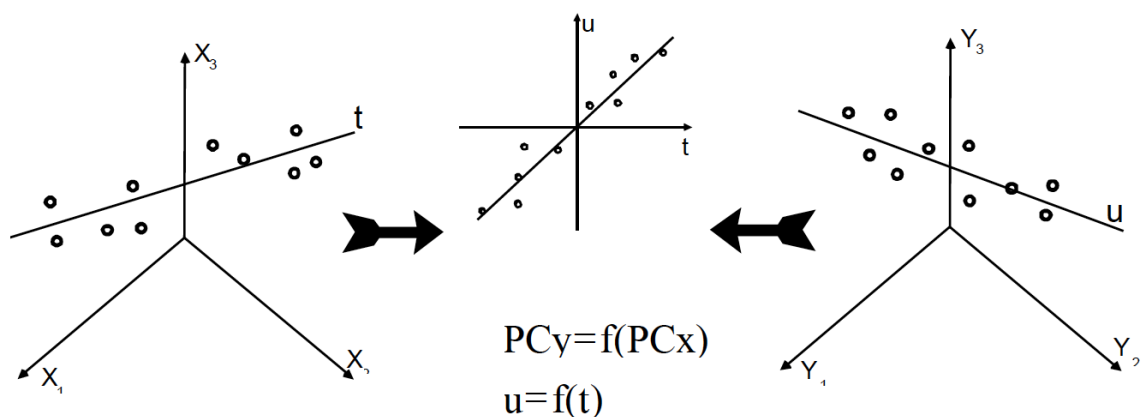


Figure 10 – Visual representation of the process of PLSR, where the X and Y variable matrices are compared as PCs, (CAMO Software AS, 2006)

PLSR and PCR previously produced the most accurate regression equations, with PLSR resulting in slightly less error, and thus were the focus for this study (Schafer, 2018). Both regression models are multivariate linear regression analyses that identify an axis in multidimensional space to represent the variance between variables and to best represent their relationships.

The PLSR and PCR analyses in the Unscrambler X also provide results that allow for identification of outliers in the data set through looking at the analysis resulting residuals. The data residuals are how far each sample is from the axis, or PC, that is

defining the variable in multidimensional space (Figure 11). Samples with large residual values may be skewing results, thus can be identified as outliers and removed (CAMO Software AS, 2006, 2019). The values of the residuals are also used to determine the model error.

Sample residuals

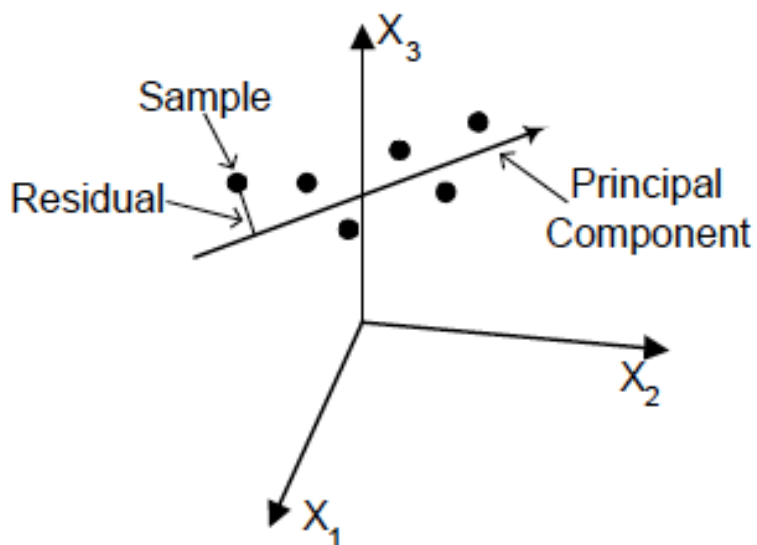


Figure 11 – Visual representation of the sample residuals along a principle component (PC) that is defining X variables in multidimensional space (CAMO Software AS, 2006)

Artificial Neural Networks

The program Neuroshell 2 version 4.0, first developed in 1993, was used as a second method for developing an algorithm to predict post-mining potentiometric head elevation. Neuroshell is a program that utilizes the construction of artificial neural networks to analyze complex non-linear relationships between input data and determine ‘weights’ for input variables to form a polynomial equation (Twumasi, 2018). An

artificial neural network is defined as a mathematical model that runs a computational simulation that imitates the behavior patterns of neurons in the human brain to perceive patterns in data, to ‘learn’ from a training data set (Sánchez-Mesa et al., 2002; Twumasi, 2018). Described in ‘Neural Network Overview’ of Ward Systems Groups Inc.’s Neuroshell 2 help document, neural networks construct neurons to develop networks of interconnected neurons from input data (input neurons) that are able to use connections through layers of hidden neurons to produce an output network (output neurons) in which the connections or weights between neurons describe the data set relationships. Figure 12 shows the input, hidden, and output neurons, with line in between them indicating the weights of the network connections, and each type of neuron representing a layer. Multiple layers of hidden neurons are often constructed to further the learning process of the network (Ward Systems Group, Inc., 2019).

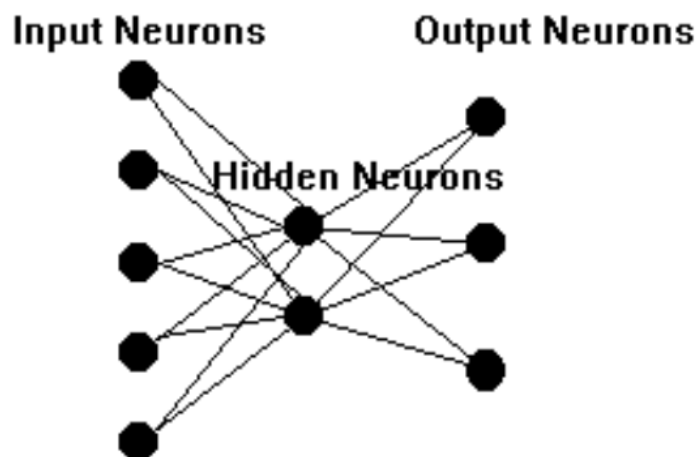


Figure 12 – Visual representation of the development of neuron layers in the creation of an artificial neural network, connected by lines representing the weighting of the network connections, (Ward Systems Group, Inc., 2019)

The learning module used for developing the equation was Group Method of Data Handling (GMDH) with the Advanced Training Criteria, the same as previously used successfully in Twumasi (2018). The advanced training option for GMDH allows the user greater freedom in selection of training criteria. These training criteria options determine how the program selects or removes ‘neurons’, or polynomial factors, from ‘layers’ in the construction of the algorithm (Ward Systems Group, Inc., 2019). Also selected from the Advanced Training Criteria were the ‘schedule type’ as Asymptotic with ‘decrease in maximum number of survivors’ as Gentle. For this project, only the options ‘selection criteria’ and model optimization’ were varied.

Selection criteria is the most important parameter when designing a GMDH model as the options determine how neuron ‘survivors’ are selected (Ward Systems Group, Inc., 2019). For selection criterion, Prediction Squared Error (PSE), Full Complexity Prediction Squared Error (FCPSE), Minimal Description Length (MDL), Generalized Cross Validation (GCV), Final Prediction Error (FPE), and Regulatory (calibration) were all tested, with each option for model optimization as well. PSE is a combination of two terms in determining selection, the model average squared error and an overfitting penalty. FCPSE is a modified version of PSE that takes into account the model complexity instead of number of coefficients. MDL is also similar to PSE but has a greater value for the overfitting penalty. GCV is another version of applying an overfitting penalty. FPE takes into account the minimum variance of the mean-squared

error of model prediction. Regulatory is different in that it looks at the average squared error of the model when applied to a test set manually selected out of the main data set.

Model optimization options tested were Smart, Thorough, and Full. The optimization options are for improving the model by removing terms deemed unnecessary, to either improve function or accuracy, and can affect how the model determines significant variables (Ward Systems Group, Inc., 2019). Smart provides a balance between calculation speed and model quality. Thorough is similar to Smart but looks closer at selecting significant variables. Full is the most complex approach in that it examines all variables combinations at each stage of model development, resulting in a highly complex but accurate model.

ArcGIS Tool Building

A predictive ArcGIS tool for mine pool formation and post-mining water levels, while the main output goal of the previously discussed OSM mine pool project (see [Previous Study](#)), is also part of this project's outcomes. The goal for this tool is to be publicly available and used by mine companies and/or regulators to determine the post-mining water levels of a proposed permitted underground mine based on analysis of previous mining data. This prediction of post-mining water levels will aid in determining the risk of mine pool formation and possible resulting pollutional discharge to surface waters. The tool is designed to only require input of existing data or data already required to be collected for the mine permitting process. ArcGIS Pro and the incorporated ModelBuilder function make it easy to design a tool for processing the user's data apply our developed analysis model to output points of predicted water level.

ModelBuilder allows a series of geoprocessing tools to be run in a sequence, set up as a diagram of chain connected inputs, tools, and outputs (ESRI, 2019c). Parameters required for inputs and outputs are defined in the ModelBuilder platform, which when running the resulting tool are pulled in and analyzed without further input from the user. The type and format for data needed for input into ArcGIS and to be run through the tool are defined as templates to be used with running the tool.

Python Scripting

For the application of the selected prediction algorithm, a python script was written to manually apply the calculation to variables extracted by the first part of the model. The script was written in Python 2.7 and imported as a tool in ArcGIS Pro that was then able to be added to the ModelBuilder tool flow. The manual scripting allowed for clear and correct pulling of variable values and equation application. The script is included in [Appendix C](#).

Tool Validation

Running of the tool was tested using existing well and borehole data points to determine the reliability of the output of the tool as well as used for de-bugging during construction of the tool. Post-mining data from two mine complexes, the Meigs mine complex and the Corning mine complex, were explored to be used to validate the tool outputs with measured data. While the Meigs mine complex data was used in the development of the equation, the data was more complete than any other mine. The Corning mine complex was also used, but due to incomplete data, estimations were required for some variables.

Geostatistical Analysis and Spatial Interpolation

Several methods for spatial analysis of the predicted post mining water level were explored. To create a raster surface layer in ArcGIS Pro from points of predicted post-mining water level, methods for spatial interpolation were explored to estimate the values of the area surrounding the well points. Spatial interpolation is defined as “the prediction of variables at unmeasured locations based on a sampling of the same variables at known locations” (Bolstad, 2016). Methods usually rely on using the nearest known point to estimate the unknown value or a combination of values certain distance away.

The main methods explored as applicable to the kind of data analyzed in this project were Inverse Distance Weighting (IDW) and Kriging (ESRI, 2018). These methods were researched and compared with actual project data to determine which would be used in the finally stages of the GIS prediction tool in ArcGIS Pro.

IDW is a deterministic method of interpolation that uses the measurements at points and distance to nearest points (Bolstad, 2016; ESRI, 2018). The distance to each known point determines the weight of their contribution to the interpolated point, hence the farther away the point is from the prediction point the lower the influence the point has (or weight) is on the prediction (Childs, 2004; Bolstad, 2016). Figure 13-A displays the IDW method of predicting the yellow point based on the points within a certain distance, the red points within the yellow outline.

Kriging is a similar method of spatial interpolation to IDW, but differs in that kriging is a geostatistical method of spatial interpolation and incorporates autocorrelation analysis which allows from determination of error in interpolation (ESRI, 2018). Figure

13-B displays the kriging method of interpolating the red point based on the weights and relationships, lines shown connecting the points nearby. Equation 1 describes this type of weighted sum, where $Z(s_i)$ is the measured value at the i th location, λ_i is the weight of the value of the measured value at the i th location, so is the predicted location, and N is the number of measured values (McCoy et al., 2002). Kriging results can be examined with the analysis of a plot of the spatial autocorrelation of the data, called a variogram (Bolstad, 2016). A variogram plots the semi-variance of the data against the lag distance, the greater the lag distance the less influence a point has on the resulting prediction value.

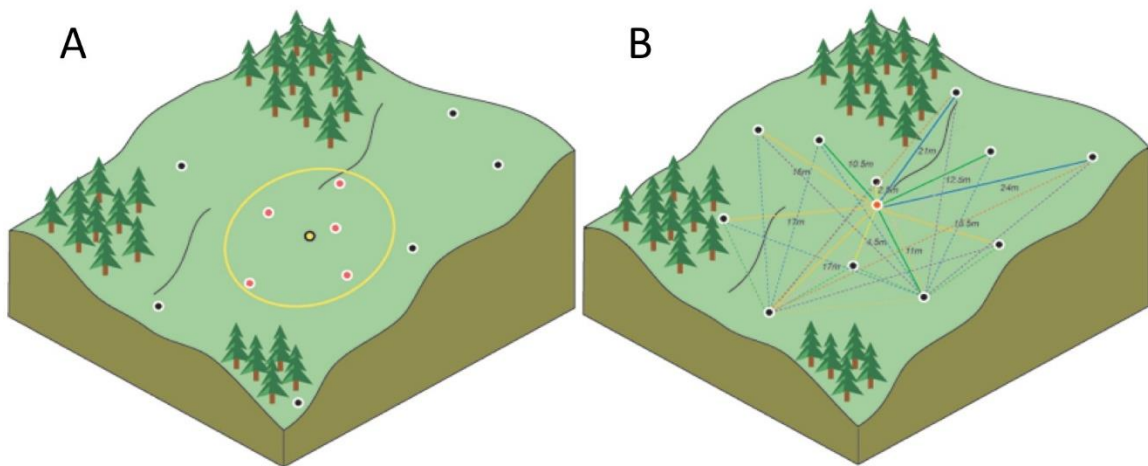


Figure 13 – Diagrams displaying methods of spatial interpolation techniques, on the left (A) IDW and on the right (B) kriging, (ESRI, 2019b, 2019a)

Equation 1:

$$\hat{Z}(s_0) = \sum_{i=1}^N \lambda_i Z(s_i)$$

These spatial interpolation methods were tested on a selected mine from the post-SMCRA mine data set that had a distributed amount of points to determine if kriging or IDW can produce a reliable prediction surface. The interpolation surfaces were compared based on errors from the differing parameters to run each analysis. The kriging analysis was evaluated for spatial autocorrelation through examining the resulting variogram.

CHAPTER 4: RESULTS

Multivariate Analysis

The two programs The Unscrambler X and Neuroshell 2 were used successfully in running the analysis on the post-SMCRA mine data. The analysis followed the model structure developed by the previous work of Schafer (2018), and Twumasi (2018), but with an expanded data set to further develop the model.

The Unscrambler X

The expanded data set was re-analyzed using the same statistical analyses used previously by Schafer (2018), to increase accuracy of the prediction equation and determine if additional data produced better results. Multivariate analysis in the Unscrambler X using PCA, PCR, PLSR regressions showed that PLSR still produced the best regression with the least amount of error. These runs were all done with the same expanded data set of 2872 data points, 2581 points used for prediction and 291 points used for validation (~10 percent of the data set).

PCA was previously used in determining variable relationships and was re-run here to check for consistency in variable relationships with the original analysis and this analysis. Figure 14 shows the results of the PCA correlation loading of the variables (all considered X variables in PCA) reflects the previous study variable relationships. The correlations loading chart displays the model variables in relation to each other, closer together the more related and vice versa. It also displays how much of the data variance the variables explain, with the outer ellipse representing 100% explained variance and the inner 50% variance. The variables surface elevation, bottom elevation, and

potentiometric head were all displayed as closely related and near to explaining 100% of the data variance. The variable for underground mining in a 4-mile buffer and limestone thickness were also important to explaining total variance.

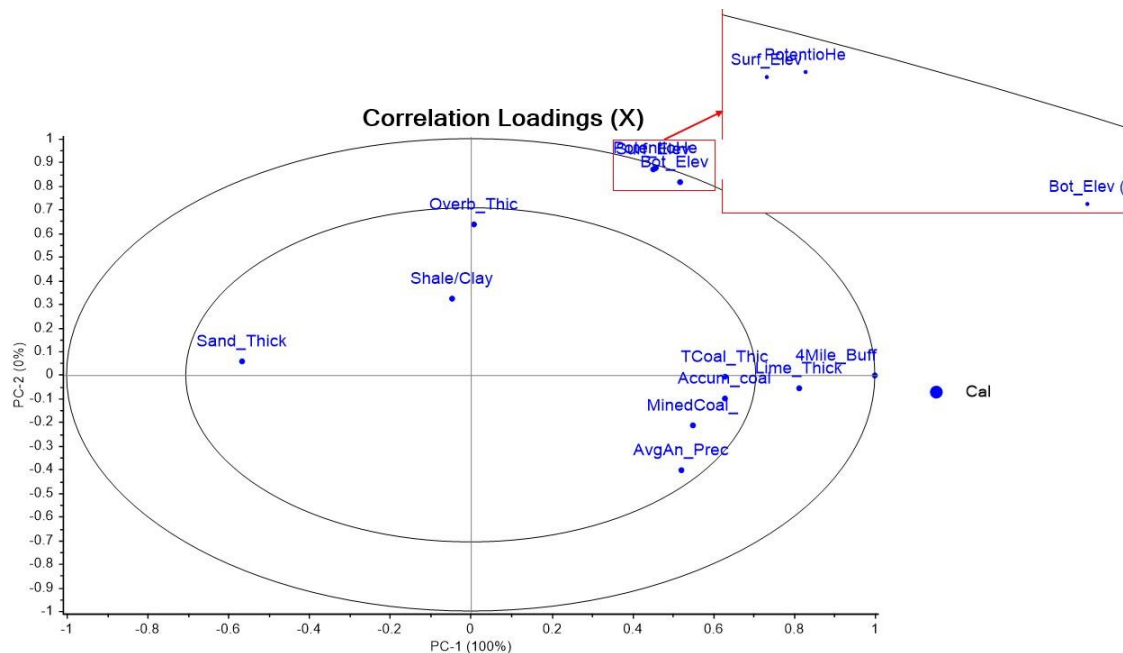


Figure 14 – Correlation loadings chart for the PCA run displaying the relationships of the variables. The outer ellipse is 100% explained variance and the inner ellipse is 50% explained variance. Variables that are closer together are more related. This displays a strong relationship between surface elevation, bottom elevation, and potentiometric head elevation.

Results from the PCR was able to explain total variance of the data by 3 PCs (Figure 15). In Figure 16 the regression's predicted values versus the actual reference values are compared, plotting both the calculation points and the 10 percent validation points, at the PC2 level where the most variance is explained. The r-squared value of 0.972 indicates an accurate regression model. The correlation's loading diagram in Figure 17 indicate a strong relationship between the X variables of surface elevation, bottom

elevation, and the Y variable of potentiometric head, just as displayed in the PCA run. Figure 18 also displays the relationships of the examined variables by displaying the weights of variables on the regression, still indicating the high level of influence from surface and bottom elevations with smaller influences from the other variables.

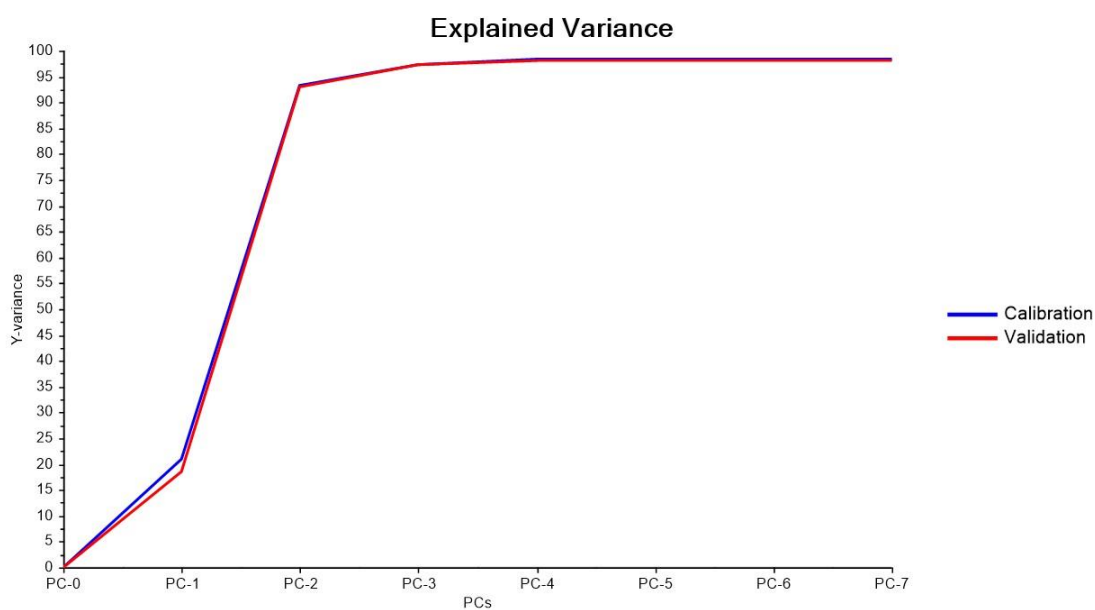


Figure 15 – Graph of explained variance in the PCR run, total explained variance required 3 PCs

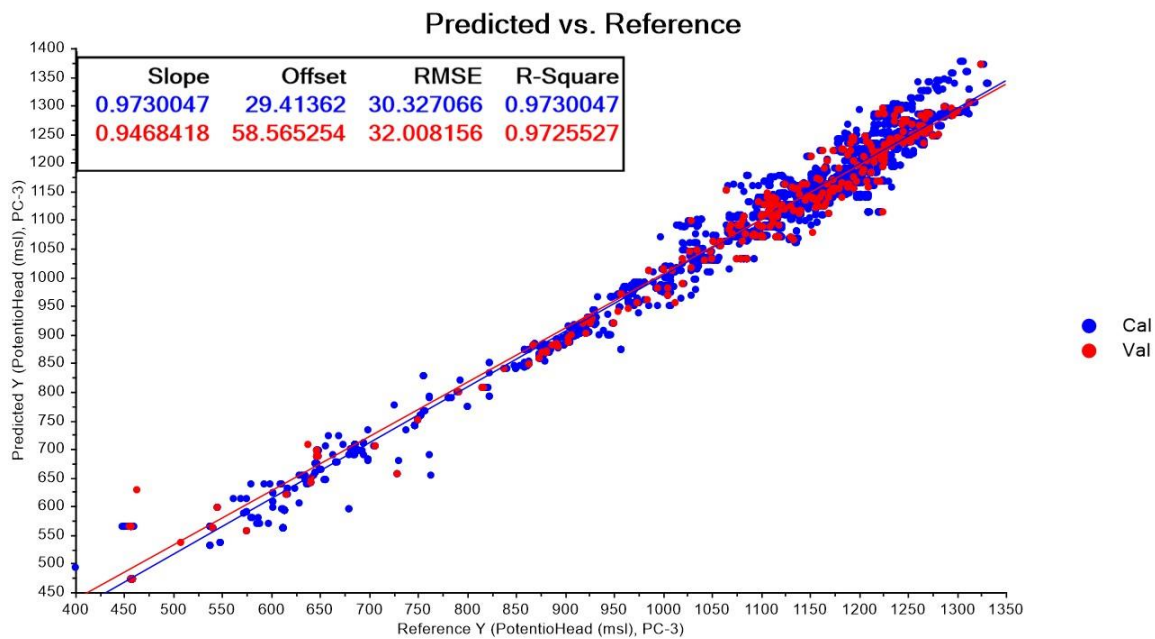


Figure 16 – Graph of predicted versus reference values for the PCR run, displaying a decent regression with r-squared value of 0.973. Calibration data set is blue, and the 10% validation set is in red

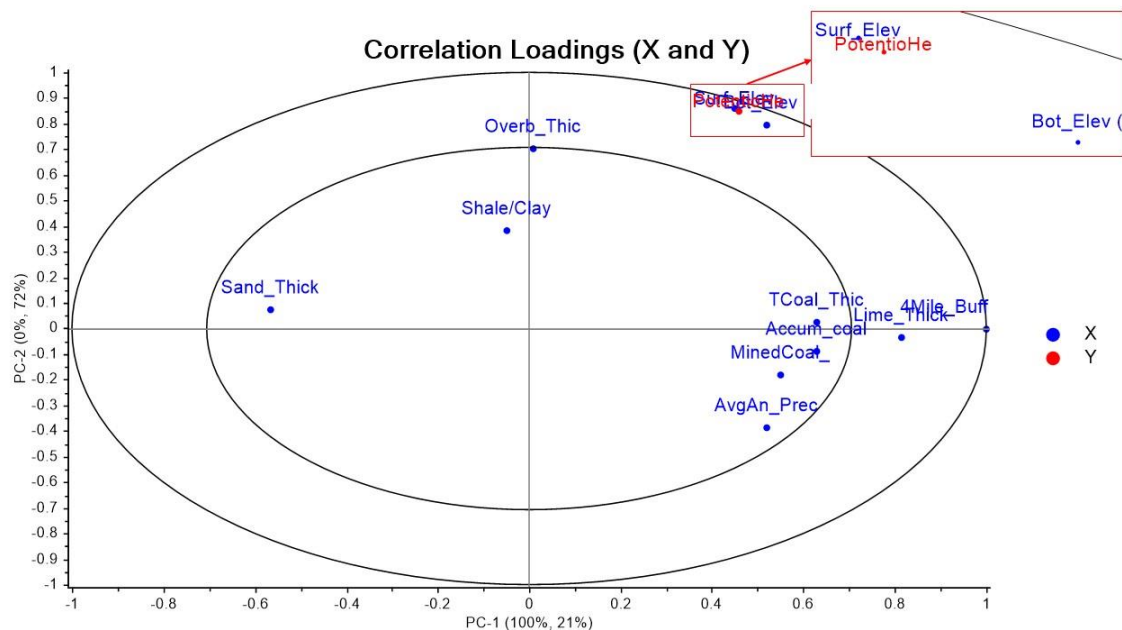


Figure 17 - Correlation loadings chart for the PCR run displaying the relationships of the variables. The outer ellipse is 100% explained variance and the inner ellipse is 50% explained variance. Variables that are closer together are more related. This again displays a strong relationship between surface elevation, bottom elevation, and potentiometric head elevation.

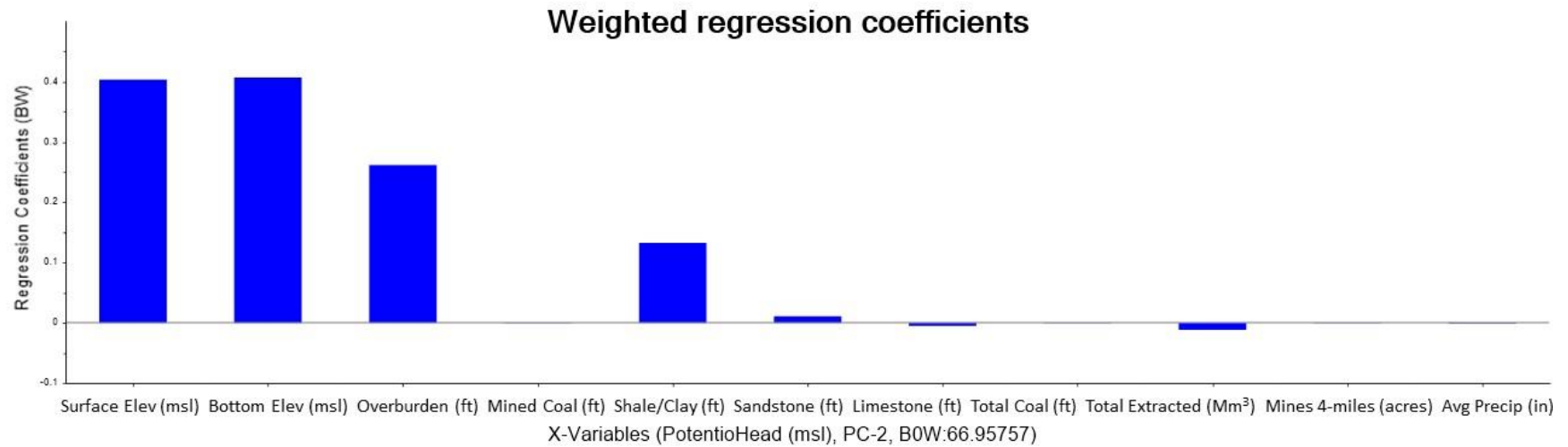


Figure 18 - Bar chart displaying the weighting of variables for the PCR run in PC2. PC1 displayed influence heavily in the variable of area of mining in the 4-mile buffer, PC2 here displays the influence from the other variables.

The results of the PLSR were similar to the PCR in that both required 3 factors/PCs to reach total explained variance (Figure 19), as well as displaying similar influences of variables (Figure 20). The correlations loadings chart from the PLSR run (Figure 21) displays the relationship of variables similar to the PCR and PCA runs in that X variables surface elevation, bottom elevation and Y variable potentiometric head are closely related and are near the outer ellipse of 100% explained variance. Also like the PCR run, the PLSR run also provided a strong regression, as seen in Figure 22 with the predicted values versus the actual reference values of the data set. Compared to the PCR run, this regression run has a slightly higher r-squared value of 0.982, and so a slightly more accurate model result. This determined PLSR as the best regression analysis in the Unscrambler X for the data set and was examined further. Table 1 displays the regression coefficients for the PLSR run with this expanded data set.

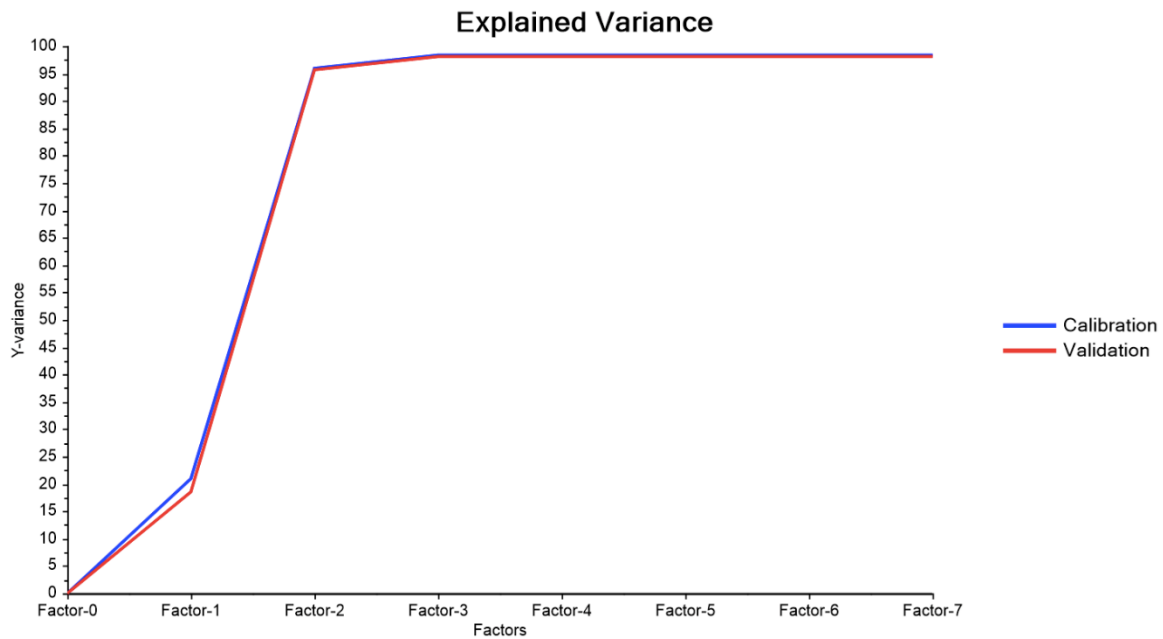


Figure 19 - Graph of explained variance in the PLSR run, total explained variance required 3 factors

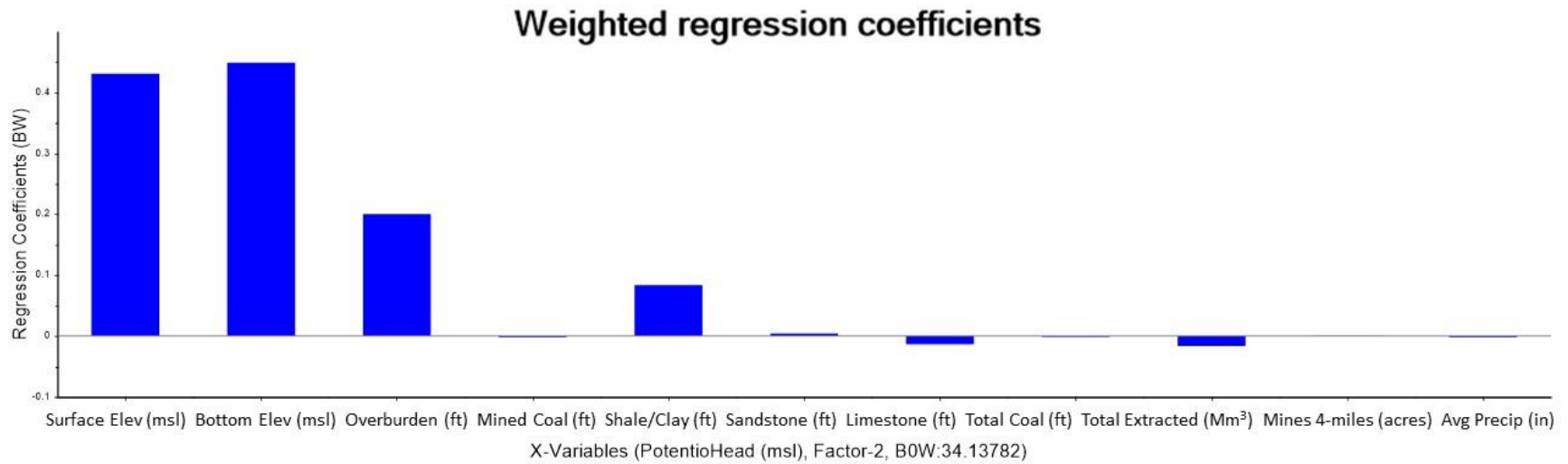


Figure 20 – Bar chart displaying the weighting of variables for the PLSR run in Factor 2. Factor 1 displayed influence heavily in the variable of area of mining in the 4-mile buffer, just as in the PCR run, Factor 2 here displays the influence from the other variable

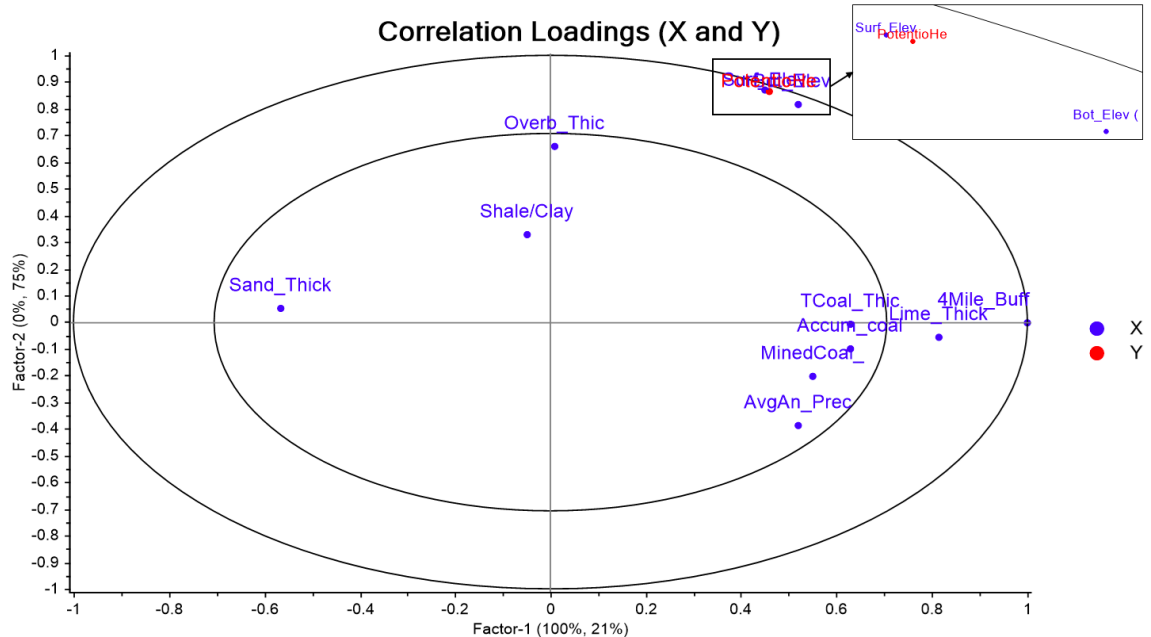


Figure 21 - Correlation loadings chart for the PLSR run displaying the relationships of the variables. The outer ellipse is 100% explained variance and the inner ellipse is 50% explained variance. Variables that are closer together are more related. This again displays a strong relationship between surface elevation, bottom elevation, and potentiometric head elevation.

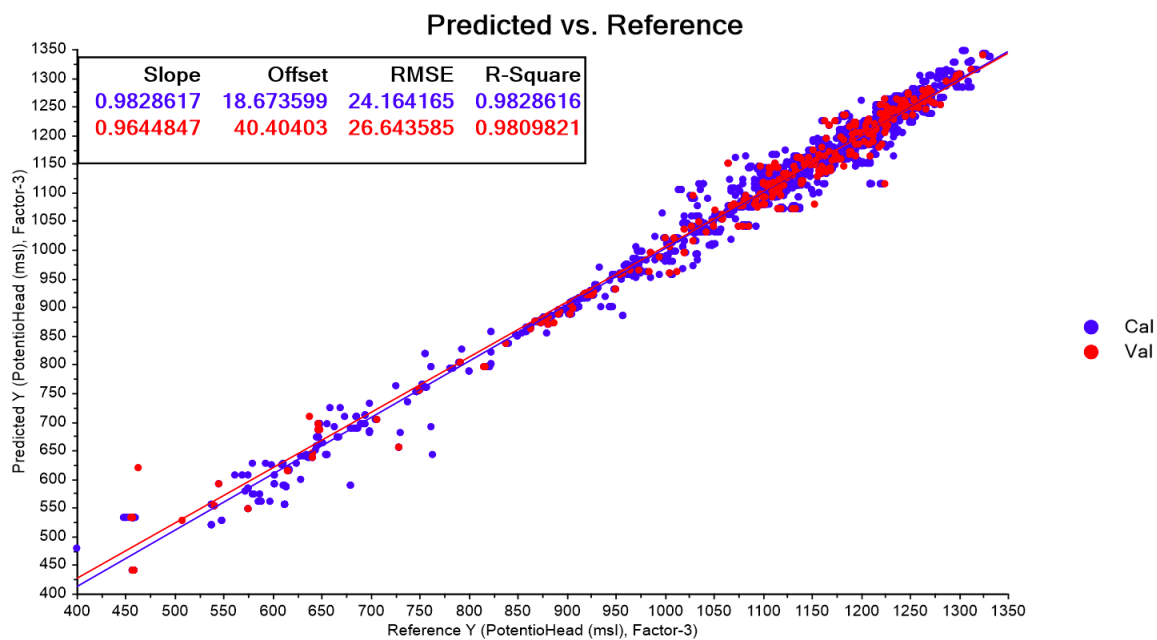


Figure 22 – Graph of predicted versus reference values for the PLSR run, displaying a decent regression with r -squared value of 0.983, better than the PCR run. Calibration data set is blue, and the 10% validation set is in red.

Table 1 - Regression variable coefficients from PLSR run

<u>Variables</u>	<u>PLS Coefficients</u>
β	-1.55728
Surface Elevation (ft msl)	0.47898
Bottom Elevation (ft msl)	0.52696
Overburden Thickness (ft)	0.03656
Mined Coal Seam Thickness (ft)	-0.00252
Shale + Clay Thickness (ft)	-0.02280
Sandstone Thickness (ft)	-0.00694
Limestone Thickness (ft)	-0.02862
Total Coal Thickness (ft)	-0.00361
Total Coal Extracted (Mm ³)	-0.02301
Underground Mines in 4 Mile Buffer (acres)	-0.00012
Average Annual Precipitation (in)	-0.00199

Also tested with the expanded dataset was the normalization of the variable values to determine if adding normalization would help decrease error any. Figure 23 displays the PLSR regression run on the normalized values with an r squared value of 0.955, less than the PLSR and PCR runs with the non-normalized values. Normalizing the dataset produced a similar resulting regression in terms of variable relationships and using 3 factors to explain total variance but produced more error than non-normalized values. From this test it was determined that non-normalized values were to be used exclusively for the remainder of the data analysis.

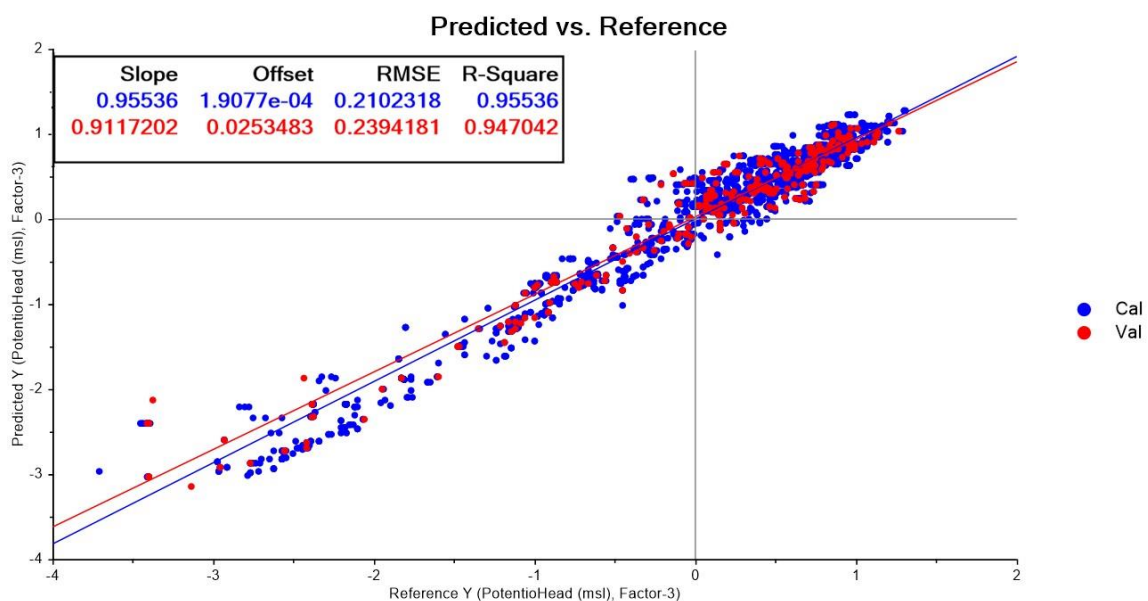


Figure 23 - Graph of predicted versus reference values for the normalized data set PLSR run, displaying a regression with r-squared value of 0.955, displaying that normalized values have not produced a better regression than the non-normalized values of this data set. Calibration data set is blue, and the 10% validation set is in red.

Outliers were identified and removed from the PLSR run through use of the Leverage vs. Residual plots produced by the Unscramble X, following the method used

by Schafer (2018). Figure 24 shows the plots with the outliers removed labeled by the red arrows and circles, selected out by the distinct distance from the grouping of points on the plots that represent the rest of the dataset. A total of 53 outliers were removed. With the exception of the first outliers removed in PLS run 1 from mine D-0360, the other outliers were from only two mines, D-1019 and D-2317.

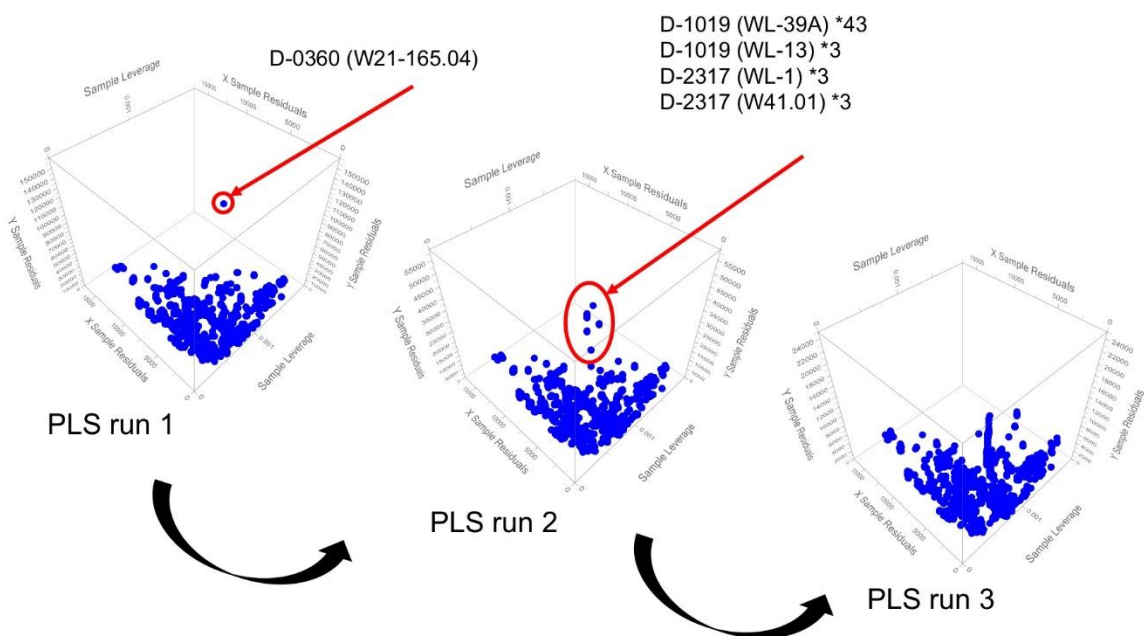


Figure 24 – Leverage versus residual 3-dimensional plots used to determine outliers from the PLSR run, re-run with the removal of the outliers to form the final regression.

Artificial Neural Network

The artificial neural network (ANN) analysis conducted by Twumasi (2018) was also re-run with the expanded data set in Neuroshell 2.0 to produce a polynomial regression equation (Table 2). As with the previous analyses by Schafer (2018) and Twumasi (2018), the ANN equation still resulted in lower error than the less complex

Table 2 – Neuroshell test runs of model optimizations and model selection criterions, sorted by the lowest number of “less significant variables”, then by the highest r squared values, and lastly by the lowest algorithm complexity. The selection of test ‘K’ is highlighted

Test	Model Optimization	Model Selection Criterion	Number of "less significant variables"	r squared	Algorithm complexity (characters)
P	Full	GCV	0	0.9909	1,377
D	Thorough	GCV	0	0.9908	1,394
J	Smart	GCV	0	0.9908	1,394
Q	Full	FPE	0	0.9907	1,176
E	Thorough	FPE	0	0.9907	1,207
K	Smart	FPE	0	0.9906	545
L	Smart	Regulatory (with test set)	0	0.9902	10,086
F	Thorough	Regulatory (with test set)	2	0.9902	11,727
R	Full	Regulatory (with test set)	0	0.9900	8,424
A	Thorough	MDL	4	0.9897	222
M	Full	MDL	4	0.9897	222
G	Smart	MDL	4	0.9896	206
B	Thorough	PSE	8	0.9891	123
C	Thorough	FCPSE	8	0.9891	123
H	Smart	PSE	8	0.9891	123
I	Smart	FCPSE	8	0.9891	123
N	Full	PSE	8	0.9891	123
O	Full	FCPSE	8	0.9891	123

PLSR regression produced in the Unscrambler X. Variable transformations in the previous ANN run were similar to the re-run results, indicating consistency in the analyses. The ANN equation was selected as the algorithm incorporated into the ArcGIS tool due to the increased complexity resulting in less error of post-mining potentiometric head prediction (r-squared values of 0.982 with PLSR vs. 0.9906 with ANN). Testing was done for each combination of model optimization and selection criterion parameters described in the section [Artificial Neural Networks](#), resulting in 18 test variations, labeled ‘A-R’ described in Table 2. The tests were compared based on three model descriptors: the number of “less significant variables” to determine which run kept the majority of

input variables, r-squared values for comparing errors, and algorithm complexity (measured as number of characters) to compare how manageable the equation would be in applying to the predication model. Table 2 was sorted by these model descriptors, starting with the lowest ‘number of “less significant variables”’, then the highest ‘r squared’, then lastly the lowest ‘algorithm complexity’. From these comparisons, equation ‘K’ was selected for further analysis to be selected as the final equation used in the ArcGIS tool, as it retains all variables determined significant to predicting post-mining water levels, has a lower complexity than other runs that retain variables and still has a high accuracy (r squared of 0.9906) like the more complex runs. The resulting equation and variable transformations for ANN run ‘K’ is displayed in Table 3.

Table 3 – Resulting equation for test 'K' with variable transformations and error results

<u>Polynomial Net (GMDH) Test 'K'</u>	
<u>Best formula:</u>	$Y=0.1*X7-4.9E-002*X11+9.2E-002-2.1E-002*X4+1.9E-002*X9+0.41*X1-1.1E-002*X3+6.5E-002*X6-0.1*X10+4.3E-002*X5+0.56*X2-0.37*X1^2-0.38*X2^2+2.5E-002*X11^2-0.14*X2^3-6.5E-002*X11^3+0.84*X1*X2-0.24*X1*X11+0.36*X2*X11+3.2E-002*X1*X2*X11-1.9E-004*X6^2+4.1E-002*X5*X6+4.3E-002*X7^2+4.E-002*X10^2-2.6E-002*X7^3+5.E-002*X10^3-0.14*X7*X10-1.1E-002*X9^2-1.6E-002*X9^3-2.5E-002*X2*X9+1.3E-002*X5^2-2.5E-002*X6^3-1.4E-002*X1^3+2.E-002*X1*X7+3.1E-002*X6*X10+2.7E-002*X1*X3+1.4E-002*X9*X11+2.9E-002*X2*X4+1.3E-002*X8^3-1.6E-002*X8*X11+6.7E-003*X4^2+4.5E-003*X1*X6$
<u>Variable Transformations:</u>	$X1=2.*(Surf_Elev (msl)-545.)/835.-1.$ $X2=2.*(Bot_Elev (msl)-244.04)/1055.96-1.$ $X3=2.*(Overb_Thick (ft)-65.)/638.1-1.$ $X4=2.*(MinedCoal_Thick (ft)-.07)/11.69-1.$ $X5=2.*(Shale/Clay_Thick (ft)-.35)/552.55-1.$ $X6=2.*Sand_Thick (ft)/262.3-1.$ $X7=2.*Lime_Thick (ft)/204.97-1.$ $X8=2.*TCoal_Thick (ft)/33.23-1.$ $X9=2.*Accum_coalextr (Mm^3)/138.61-1.$ $X10=2.*(4Mile_Buffer (acres)-2061.)/108987.5-1.$ $X11=2.*(AvgAn_Precip (in)-37.5)/3.7-1.$ $Y=2.*(PotentioHead (msl)-400.)/932.-1.$
<u>R squared:</u>	0.9906
<u>Mean squared error:</u>	324.8997
<u>Mean absolute error:</u>	12.3227
<u>Min. absolute error:</u>	0.0014
<u>Max. absolute error:</u>	147.93
<u>Correlation coefficient r:</u>	0.9953

These test runs indicate that FPE and GCV model selection criteria work best for developing an accurate algorithm with this type of data, which, described in Chapter 3, are very different approaches from the other selection criteria options. The other criteria, MDL, PSE and FCPSE, were quick to drop the geologic variables out of the equation while GCV and FPE kept all variables. This was likely due to the high influence of the hydrologic variables. And the selection of 'K' suggests that while full and thorough provide the most accurate model optimization options, the complexity was also high. Equation 'K' used the smart method which retained the model accuracy, r-squared of 0.9909-0.9907 to 'K's 0.9906, and halved the complexity. Due to the retention of low error and reasonable complexity, this led to the selection of equation 'K'.

The selected equation was then validated using actual measured post-mining water levels in the Meigs Mine No. 2, permit D-0354, reported in quarterly monitoring reports (QMRs) and compared with the predicted values produced by the equation. Table 4 displays the three points of comparison using the last measurement of the year for 'South Mains Shaft' in 2017 and 2018 and the last measurement of 'Roving Crew Shaft' in 2018. Publicly accessible data for recent post-mining water level monitoring is limited so this data from a well monitored closed mine complex was what existed to work with for validation at this stage of the project. The results of applying to model to these measurements, with lithology from nearby boreholes collected separately and coal extracted variable set to the final maximum value, indicated low percent errors between actual measured water level and the algorithm predicted value. Between these three

points of validation, the average percent error is 1.24%. With this low error, equation ‘K’ was determined to be included in the final GIS prediction model.

Table 4 – Post-mining data test wells in Meigs Mine D-0354 used for validation of ANN equation ‘K’ with calculated percent errors. Average percent error was 1.24%.

Permit	Well	Date	Measured Head (ft msl)	Predicted Head (ft msl)	Error (ft)	Percent Error
D-0354	Roving Crew Shaft	10/22/18	456.84	443.42	13.42	2.94%
D-0354	South Mains Shaft	10/22/18	455.94	458.22	-2.28	0.50%
D-0354	South Mains Shaft	9/11/17	456.88	458.22	-1.34	0.29%

GIS Model for Algorithm Application

A tool for applying the selected prediction equation was successfully created in ModelBuilder of ArcGIS Pro version 2.2 following the structured outlined in the previous section [ArcGIS Tool Building](#). Figure 25 is a screenshot of the final structure of the tool in ArcGIS Pro ModelBuilder. The tool successfully extracts and combines data from input mine permit data and mine extent shapefiles to form a complete table of variable data required to apply the developed prediction equation. From this constructed attribute table, the Python script is imported as a tool to run the prediction algorithm is able to reference specific columns in the attribute table to transform variables and apply the algorithm. The attribute table then has an added column with the predicted values of post-mining water level at each point of input. These points are then compared with nearest

point of the area DEM to determine how far above or below the surface the predicted water elevation may reach with a final column added to the output points.

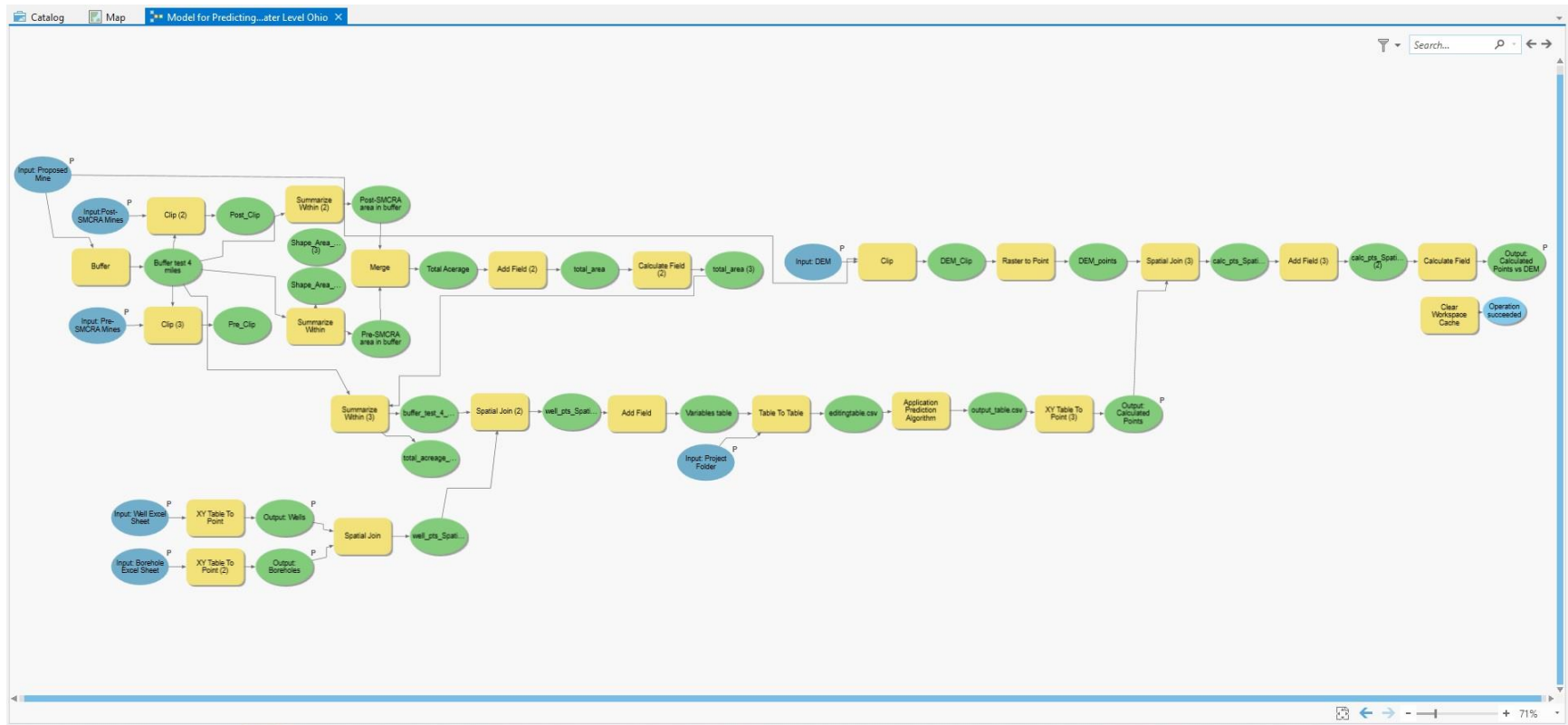


Figure 25 – A screenshot of the tool structure from within ModelBuilder in ArcGIS Pro. Inputs are blue ellipses, green ellipses are outputs, and the yellow squares are ArcGIS tools. Parameters are labeled, input and output, by the 'P' to the upper right of the shape.

Tool Design

Development of the design for the ArcGIS tool began in a work flow chart that indicates required inputs, GIS tools to be run, and outputs of the tool. Figure 26 is the working flow chart for the tool development that is a simplified version of the tool and was used for reference in building the structure in ModelBuilder of ArcGIS Pro. On the left side of Figure 26 the box labeled ‘Start’ indicates all the required inputs by the user for the tool to run. The model flows from left to right, arrows indicating which tools the inputs are pulled into, represented by the yellow diamonds. The orange circles indicate shapefiles output by the processes run in the tool, grey circles indicating shapefiles that are created internally but not added as an output to the user’s map.

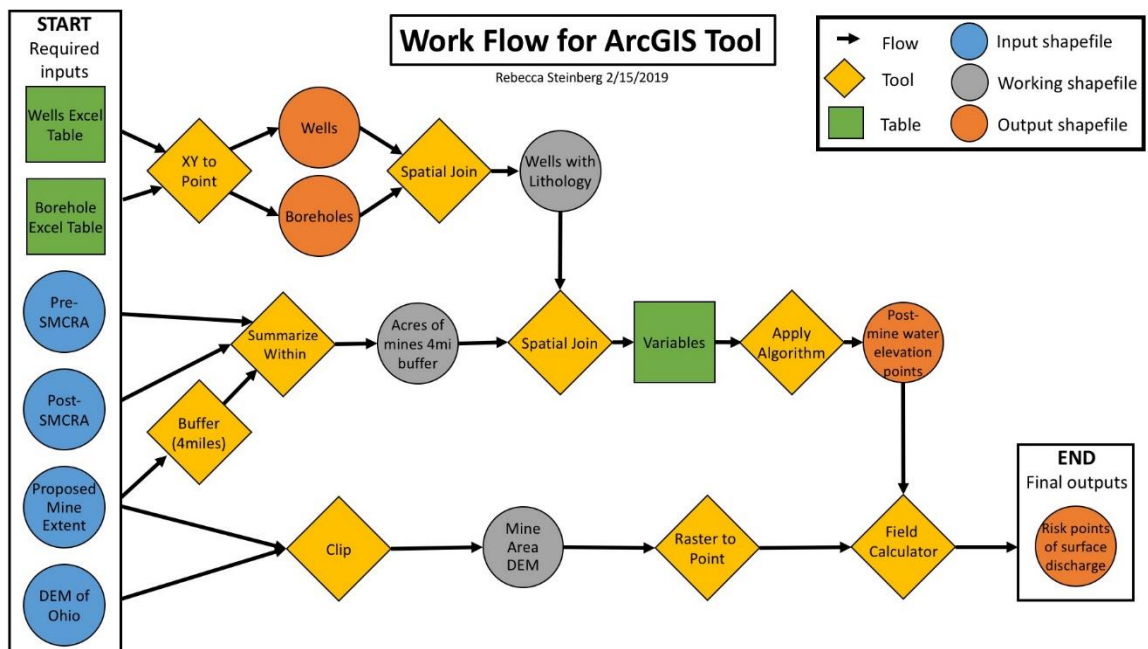


Figure 26 – Work flow diagram for the ArcGIS tool, used as a guide to develop the model in ModelBuilder of ArcGIS Pro

The required inputs are well and borehole data in standardized excel sheets, pre- and post-SMCRA underground coal mine shapefiles, proposed coal mine shapefile, and a digital elevation model (DEM) raster of the state of Ohio. From these layers, tools in ArcGIS pull the variables needed to run the prediction equation for post-mining water level. The main table is created from the combination of the projected wells and borehole points, providing lithology to each well, as was done in the data extraction ([Figure 7](#)). The wells are the points at which the algorithm will be applied, so variables are spatially joined to the well points based on the nearest borehole. The other variable extracted is the amount of acreage mined within the 4-mile buffer of the proposed mine, determined through clipping the input shapes of pre- and post-SMCRA mines to the 4-mile buffer created around the proposed mine shape ([Figure 8](#)). The tool also calculates from the input data the bottom of coal elevation that is used when the prediction equation is applied to extrapolate the predicted post-mining water level.

Once all variables are extracted and merged into a single attribute table for the point layer, the custom Python script tool for apply the prediction equation reads variables from defined columns and adds the predicted post-mining water level as another column in the table. For application of the prediction equation within the ArcGIS tool, several approaches were tested. With all variables in the same table, the possibility of using the tool ‘Calculate Field’ was explored. To use the ANN prediction equation in the field calculator required combining all variable transformations into a single equation. This leaves room for error in re-arranging a long complex polynomial equation. The alternative option to this approach was to develop a Python script that allows the equation

to be run in steps, to avoid errors in variable transformation calculations. This custom script reads in the variable table created by the first part of the ArcGIS tool, accesses defined columns for each variable, and outputs the table with predicted values added in a new column.

Due to the importance of the format of the input data, an Excel sheet template will be provided for users to organize input data in the required way. If the template is not followed, variables will not be correctly labeled and result in either failure of the tool to run or inputs to the calculation of post-mining water elevation leading to an invalid result.

The final step in the tool process is the comparison of the points of predicted post-mining water level to the DEM. The DEM is converted to points of elevation so that a spatial join to the nearest elevation point can be applied to the prediction points. With the nearest elevation value added to the variable table, the final field in the attribute table is filled with the field calculator tool as the surface elevation minus the predicted head elevation, providing a measure of how far above or below the surface the water level is predicted to be at post-mining. This field calculator step also includes a conversion of units, as the DEM (as most are) is in meters and the predictions are in feet mean sea level (ft msl). This is incorporated in the ModelBuilder so that conversion of the layer is not left to the user.

Future work can be done on the creation of a spatially interpolated surface of the water table and areas of risk as a next step from the prediction points. The development of the prediction water elevation surface requires forming a continuous surface from the point data output from the algorithm. Several methods for spatial interpolation of the

post-mining water level surface were tested to compare errors. Kriging methods and inverse distance weighting are being explored for methods of interpolation.

If continued work would be done on developing method for spatial interpolation, the surface of the predicted post-mining water level, a set of built in GIS tools can run to compare the DEM and the coal mine raster to the post-mining water level surface. The comparison of the coal seam raster and the predicted post-mining water level surface would show areas of possible mine pool formation (Figure 27). The difference between values of the DEM and the predicted post-mining water level surface will determine areas at risk of possible discharge to the surface. These risk areas are the main output of the tool, as well as the prediction surface and points of predicted post-mining water level.

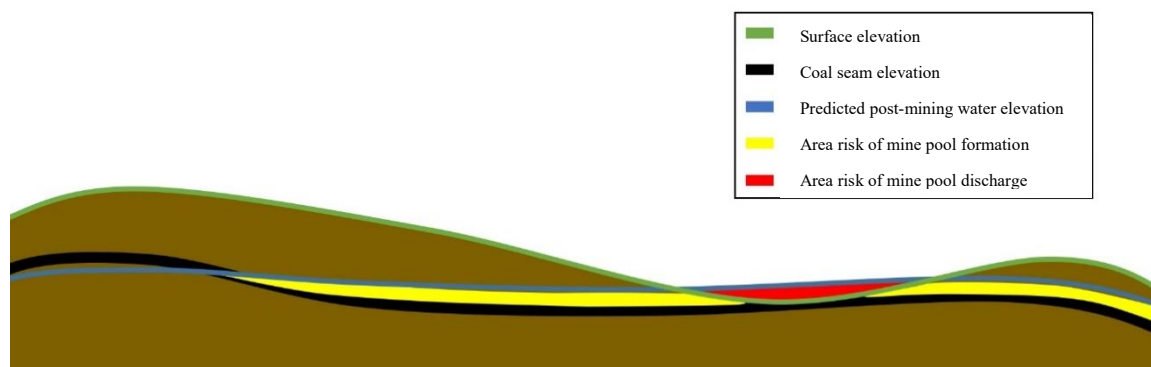


Figure 27 – Diagram to display the different elevation surfaces to be compared for determining areas at risk of mine pools and surface discharge

The model was then tested with a selected set of the post-SMCRA mine data for validation and trouble shooting. Once the model was running, a template map format was created that included the model for user download. As part of the packaged project with the map template, default layers are included for the required inputs, as well as templates

for the Excel sheets required for inputting mine permit data, and a User's Guide developed to include in step by step instruction for running the model. Successful running and packaging of the tool required trouble shooting and discovery of bug fixes, which are also included in the User's Guide developed for the tool package ([Appendix E](#)).

Model Validation

Testing of the GIS model was run with existing post-SMCRA mine data previously extracted for the data analysis. Various runs were done, but the final testing was done with the shapefile of permit D-2177 with 30 well points for prediction locations. Figure 28 displays the resulting map of this analysis run with points of prediction labeled with their predicted post-mining water level values. Output by the tool are the point shapefiles of boreholes and well points of post-mining water level prediction compared to the DEM. The predictions points are symbolized displaying blue circles as greater than zero distance to surface values and red circles as negative (or less than zero) distance to the surface. These red points of negative distance to the surface are the points of predicted post-mining water level at risk of discharging to the surface (Figure 28). In this test run on D-2177, four points of predicted post-mining water level have values greater than the surface elevation that indicate a possibility of surface discharge.

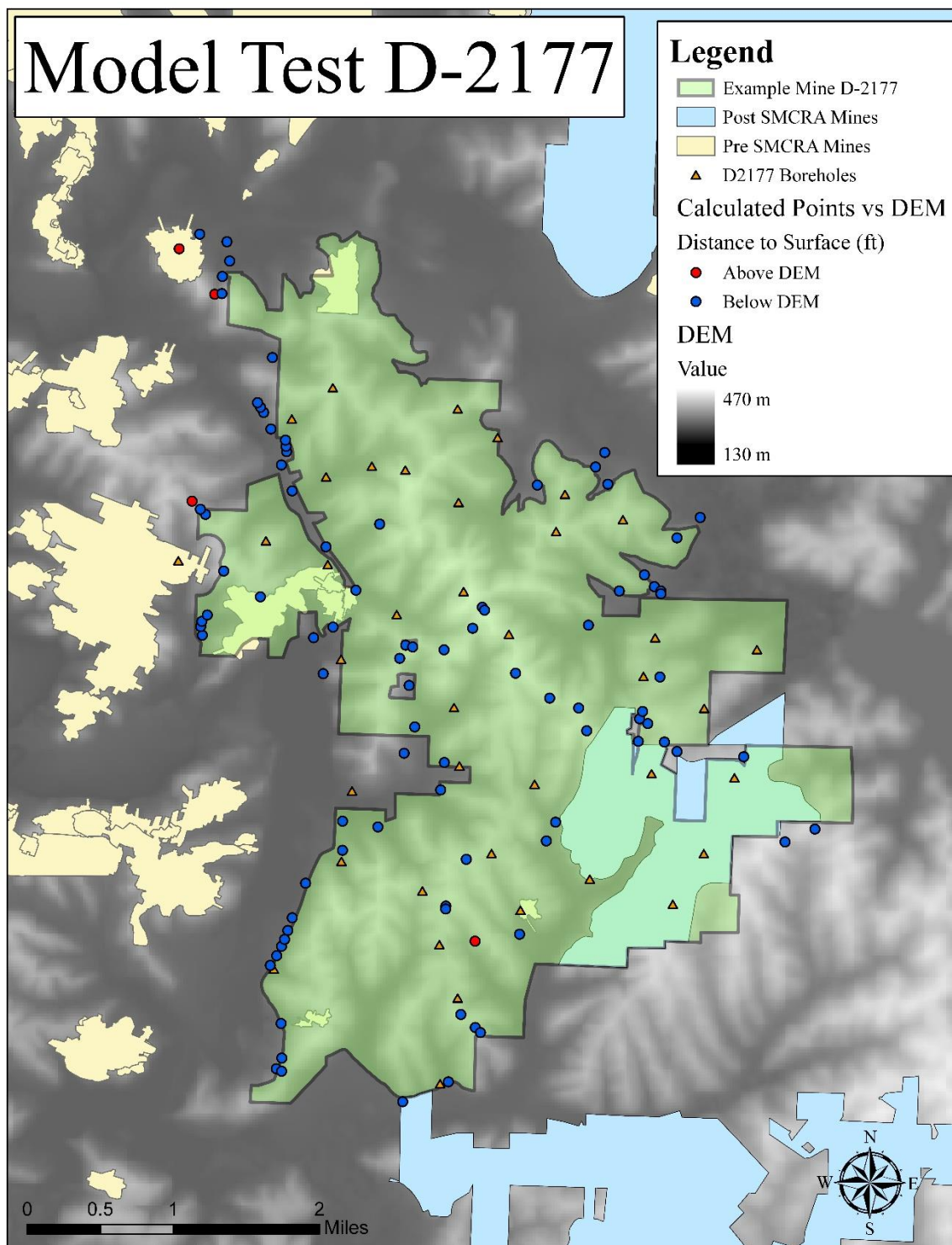


Figure 28 – Map of the final outputs of the ArcGIS model for producing points of predicted post-mining water level with a comparison to the DEM. The mine D-2177 and its permit data were used as a test for running the model.

Algorithm Application Python Script

While using existing tools, such as ‘Calculate Field’, in ArcGIS to apply the prediction equation were explored, it was ultimately determined the best way to incorporate the equation was to write a separate script to import into ArcGIS Pro ModelBuilder. Writing the script allowed for control of the exact process of extracting the correct values for each variable transformation and accurately applying the equation. Python 2.7 was used in writing the custom script.

Geostatistical Analysis

This project examined running spatial analysis on the points of predicted post-mining water levels to produce a raster surface of post-mining water level in the area of the proposed underground mine. While several methods were explored for developing a spatially interpolated surface from points of predicated post-mining water levels, the main conclusion was that the existing distribution of data points, or well and boreholes, is not dense enough to develop a clear enough spatial relationship for interpolation. In addition to the lack of data for running a sufficient spatial interpolation, it was determined that spatial interpolation would not be possible to add into the automated steps of the ArcGIS tool due to parameters for the spatial analysis needing to be adjusted and tailored to each new set of data.

Kriging Variogram Analysis

Kriging was tested on points of predicted post-mining water level developed from data extracted from the post-SMCRA mine permits. The test mine was selected based on the distribution and number of existing mine permit data, where D-2187 was the post-

SMCRA mine permit with the best spatially distributed data with possibly enough points to run spatial interpolation, based on visual evaluation. Mine D-2187 had 161 well measurements, but only 30 individual wells with in the permitted area (Figure 29).

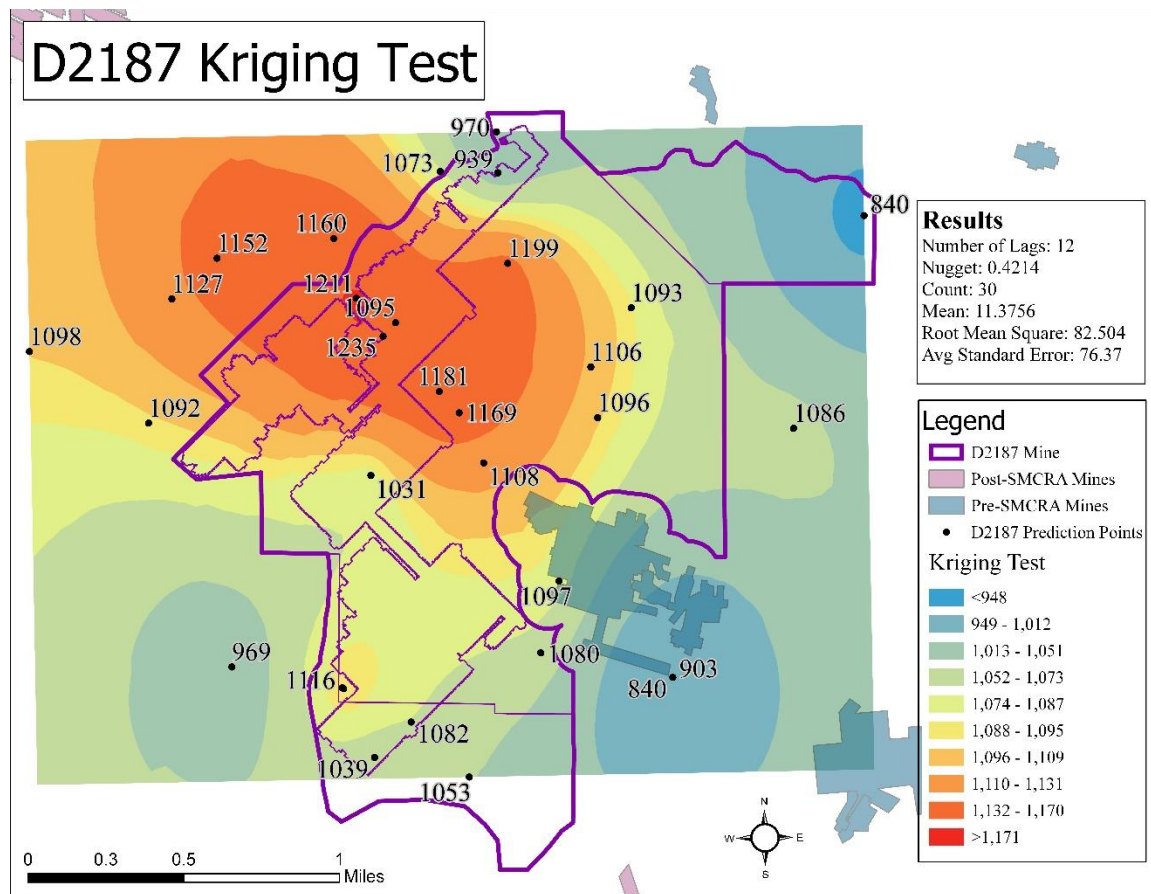


Figure 29 – Map of the kriging test on mine D-2187 with result data from the analysis

In running the initial kriging test the model was optimized automatically using the geostatistical wizard in ArcGIS Pro. From this initial test, the kriging variogram was analyzed and it displayed a lack of the expected spatial autocorrelation within the data. The structure of a standard variogram, as displayed in Figure 30, there is a ‘range’ before

the model levels out in which the data within this distance is spatially correlated (McCoy et al., 2002; ESRI, 2019b). As seen in the variogram for the test kriging analysis, this range does not exist and thus the data is not spatially correlated enough to successfully run a statistical spatial interpolation.

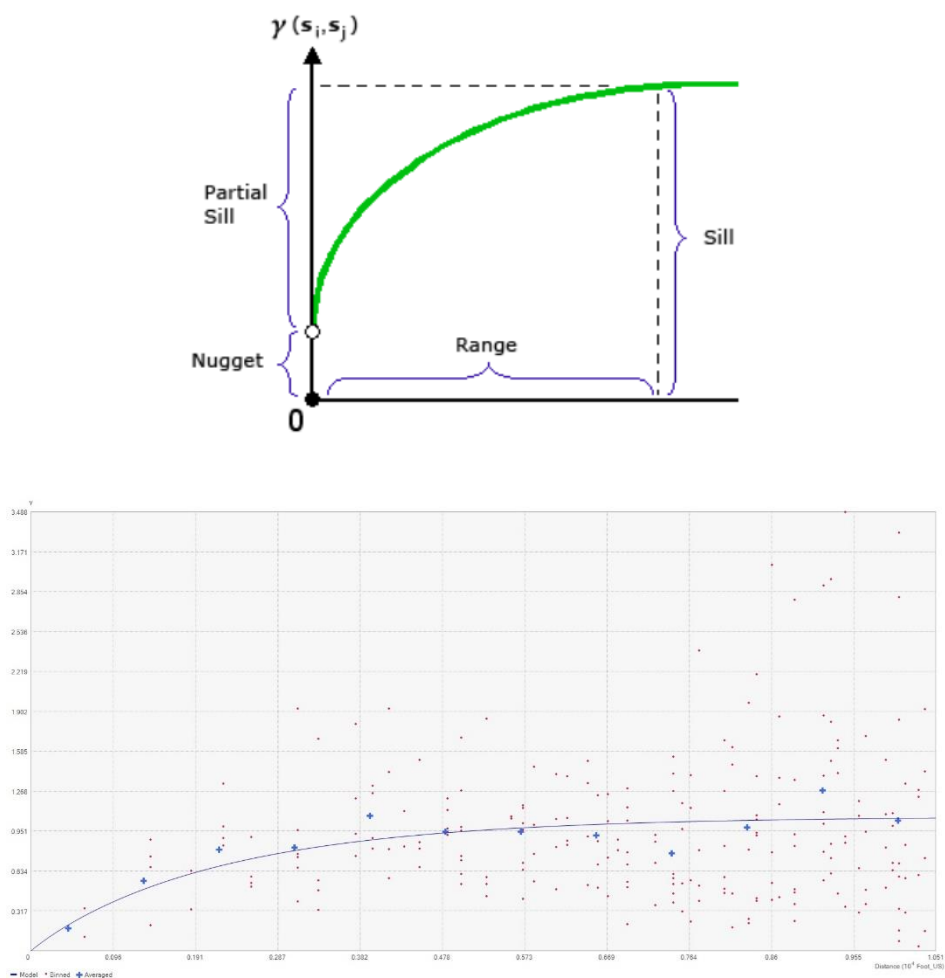


Figure 30 – Variogram analysis from the kriging test on D-2187. On top is a figure displaying the structure of a variogram analysis with a range indicating the data with spatial autocorrelation (ESRI, 2019b), and the actual analysis variogram at the bottom displaying a lack of the expected variogram structure.

Inverse Distance Weighting Results

Testing for use of inverse distance weighting (IDW) method of spatial interpolation was approached with the same data as kriging testing. The same 30 individual well points of predicted post-mining water level of D-2187 used in the kriging test were used in the IDW test. Due to the results of the variogram analysis indicating the lack of spatial autocorrelation, the results of the IDW test was not expected to be useable. Several tests were run of the IDW to determine if the RMS could be reduced. IDW does not have a direct measure of error as it is only a weighting technique of determining values between points. IDW variables were slightly altered to determine if the analysis could be improved at all, power and the max/min number of neighbors. These variations did not result in much variation between tests. Figure 31 displays the default settings of IDW analysis on mine D2187. Appendix D contains expanded results from these IDW test.

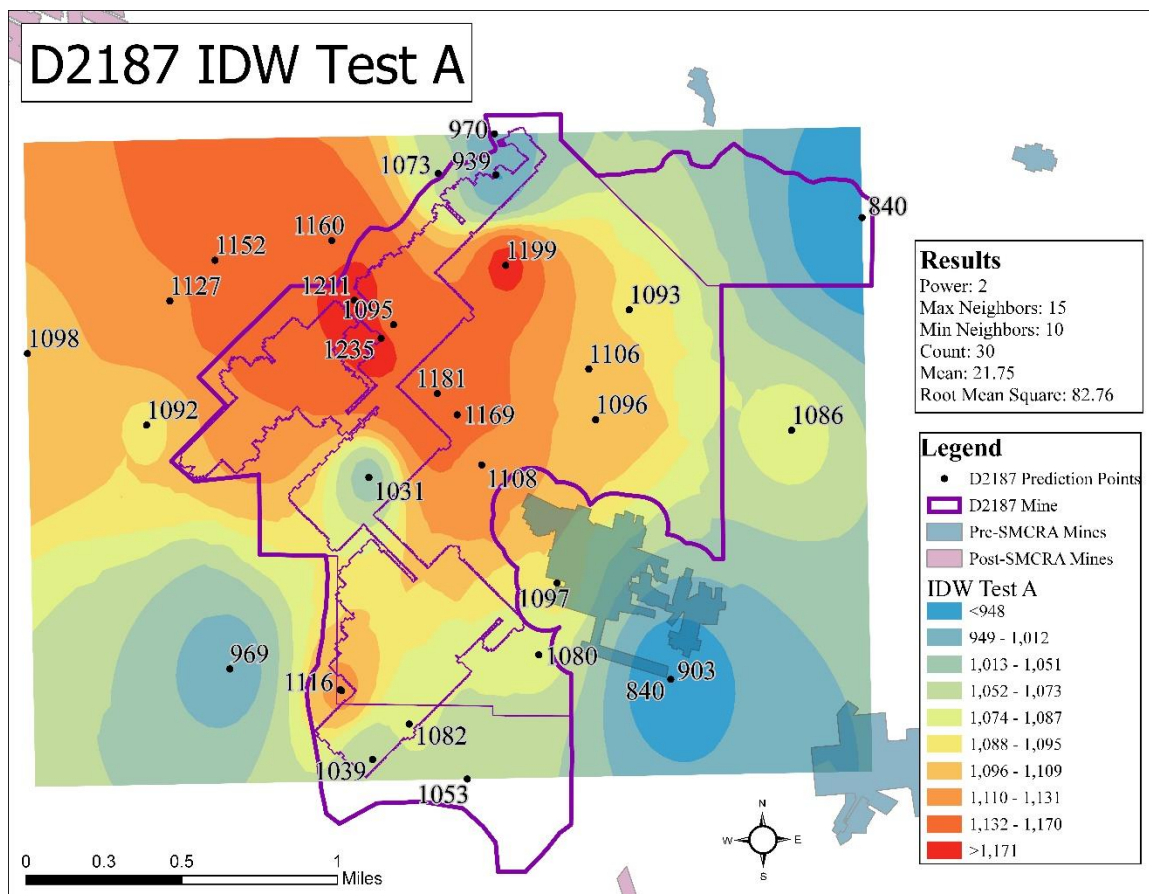


Figure 31 – Map of IDW test A on mine D-2187, along with result data from the interpolation.

CHAPTER 5: DISCUSSION

In addition to the work done by Schafer (2018) and Twumasi (2018), this thesis project has completed the work required for the objectives of the OSMRE grant titled “Tools to predict the hydrological response and mine pool formation in underground mines”. This project has successfully developed a multivariate statistically based empirical model for predicting post-mining water levels in underground coal mines of eastern Ohio.

The methods for developing this model can be applied to develop models applicable in other regions with underground coal mines but differing geologic and hydrologic parameters.

Project Outputs

Several outputs resulted from this project. The multivariate analyses have provided an improved understanding of the relationships between the many variables examined that influence the development of mine pool. In addition to this increased understanding, the ability to develop a prediction algorithm with reasonable error is a major output of the project. Along with the algorithm itself as an output is the model developed to apply the algorithm in ArcGIS Pro. While the model is specifically an empirical model not meant to develop deterministically derived values for post-mining water level, the model is useful as a planning tool for identifying possible areas at risk for surface discharging in areas where mining is being planned. Model validation indicated a low percent error of 1.24% in output predicted post-mining water levels when compared

to measured post-mining water levels, indicating that while it is an empirical model, the model can still produce predictions within reasonable error.

Model Errors

Errors in the project outputs were kept as minimal as possible through tracking percent error in the selected algorithm. The final selected algorithm from the ANN analysis had an r-squared value of 0.996, a root-mean-squared-error of 18.03, and when validated with post-mining water level data had an average error at a 1.24%.

Other areas of error possibilities are in the data itself as it is reported in the permit documents may influence the development of the model and its ability to predict post-mining water levels. There is also the aspect of human error in manual data extraction from the PDF documents into the excel sheets that could also have influences the model development. A source of error could also be in the availability of quality data in terms of the lack of water extraction values (where coal extraction was used in proxy), lack of borehole lithology at the exact location of the well points, and lack of detailed precipitation data instead of an outdated areal annual average. Another source of error exists in the assumption made that the empirical relationships developed from water level data from a variety of depths can be extrapolated in to the mined coal layer.

Comparison to Previous Studies

Figure 32 compares the previous study PLSR results from Schafer, 2018 (A), and the re-analysis of this study (B). The re-analysis of PLSR reached 100% explained variance in 3 factors, same as with the previous run. The errors are similar, but the re-analysis with a larger data set had slightly higher error. Coefficients and relationships of

the variables were also comparable to the previous run, indicating consistency in the determined relationships of variables. The correlation loading chart for the previous regression run and new regression displayed the same results in relationships of the variables (Figure 33). This re-run of the analysis validated the variable relationships with consistency between the expanded data set and the initial data set as well as a larger data set providing more reliability of the results.

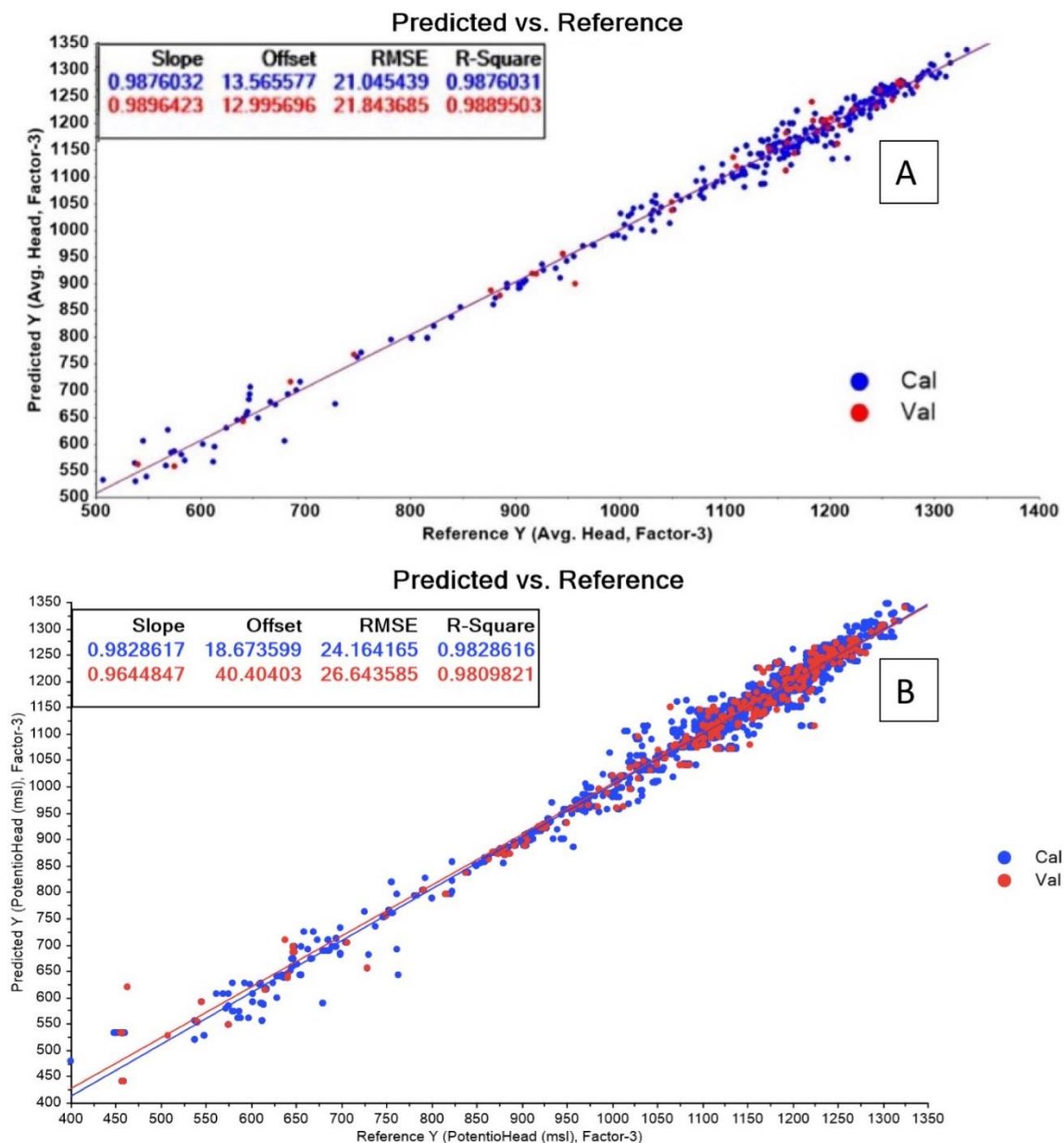


Figure 32 – Comparison of predicted versus reference regression graphs of previous PLSR analysis by Schafer, 2018 (A) and of re-run analysis (B). While r squared value was not improved, consistency was maintained with a more reliable larger data set in (B). (Schafer, 2018)

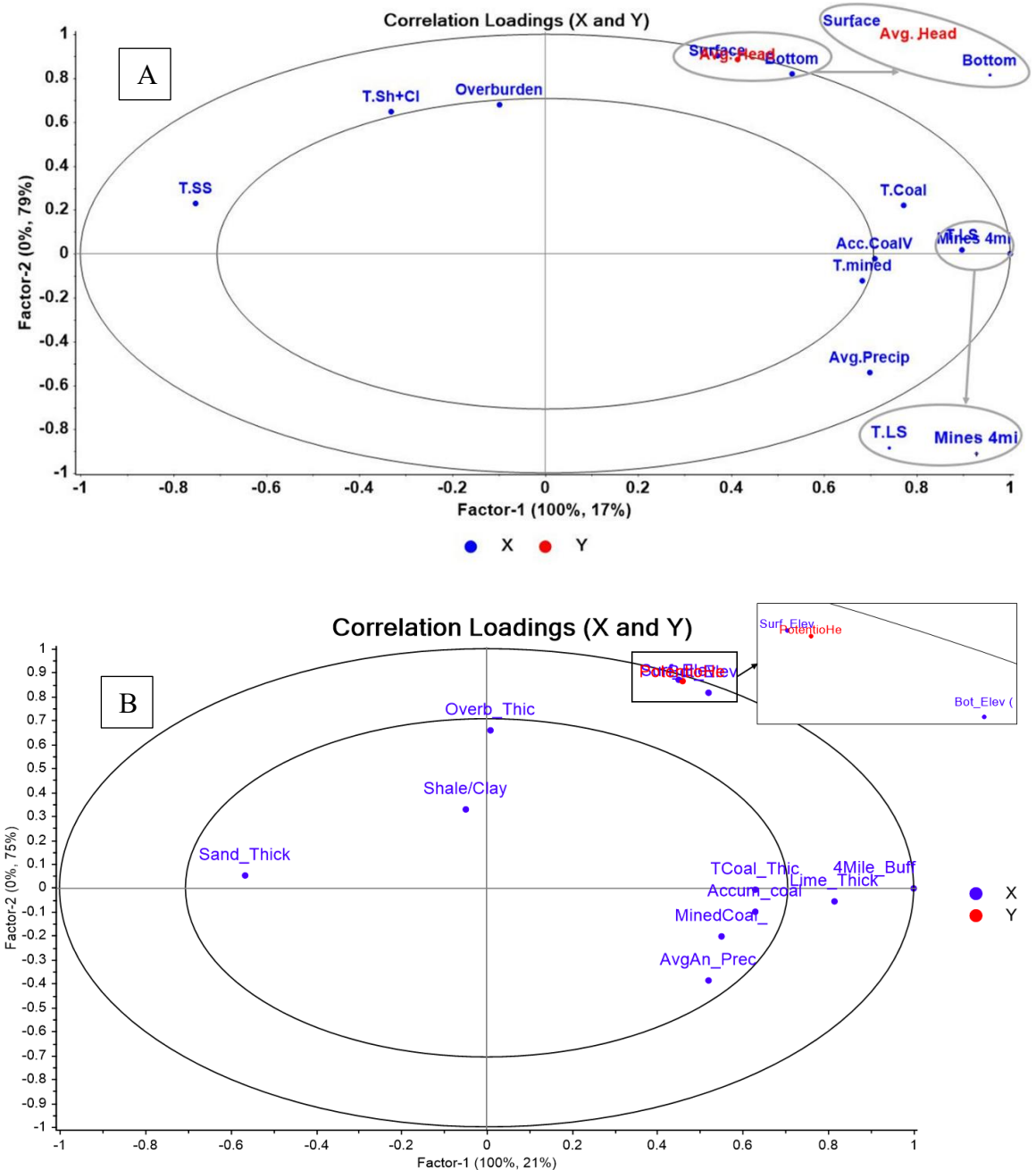


Figure 33 – Comparison of correlations loadings graphs of previous PLSR analysis run by Schafer, 2018, (A) compared to the re-run analysis (B). Again this comparison displays consistency in the relationships of the variables. (Schafer, 2018)

Limitations

Throughout this project several issues were encountered that limited further model development. The majority of these issues came from the availability, quantity, and quality of the data extracted from the post-SMCRA mine permits.

Data Availability

A common theme throughout the project was the limitation of accessible and complete recent data sets. The greatest limitation of data was the lack of evenly distributed and accurately recorded borehole and well data within the coal mining permits. Ohio code regulation for pre-mining data collection only requires one borehole for every 160 acres and does not define specific measurement requirements for well monitoring (Ohio Administrative Code, 2016). This lack of regulation or requirement for constant monitoring methods, such as piezometers, results in poorly distributed data over both time and area of the mine.

Precipitation data used as a variable in algorithm building was not as specific as desired for the time periods and areas of wells being analyzed. The most complete and comprehensive precipitation data easily accessed was an annual precipitation map for the state of Ohio within the years 1931-1980 (ODNR Division of Water Resources, 1980). Though the change in regional precipitation was deemed minimal and not likely to vary too much over the year to significantly affect the potentiometric heads of wells, the data set could still be outdated.

With mine specific data, permit files were not only non-digital formats prior to this project, but data collection was not consistent or uniform. This made data collection

complicated and introduced more estimation and possible errors in the algorithm outcome.

Data Quality

One issue encountered was the lack of consistent and quality data from the mine permits and data related to the mining activities, particularly with differences between older mine permits and new ones. Mine permits applications have only recently been digitized, so the data available for this study was in PDF format and often in the form of scanned handwritten documents. This resulted in difficulty extracting and compiling data, introducing more error than when first recorded. The consistency of when data was collected was also poor in many cases, such as the descriptions for lithology changing within the same mine, time of water measurements not consistent, coordinate projections of data not consistent within the same mine or not recorded at all, lack of measurements post-mining, etc.

While SMCRA requires characterization of hydrology and geology of the area to be mined and monitoring post-mining for reclamation purposes, the state of Ohio regulations for implementing SMCRA are not defined enough to provide sufficient quality data for reliable predictions or monitoring.

Limits to Spatial Interpolation

Due to the limited quality data, exploration of spatial interpolation of the predicted post-mining water levels was restricted. While spatial interpolation techniques were run on the best spatially distributed data set for the project post-SMCRA mines, the analyses determined the data did not have a clear enough spatial relationship to be a

reliable interpolation. Continued research is required to determine the number of and density per area of prediction points required to produce an interpolated surface with a reasonable range of error. This information could inform future policy on pre-mining data collection.

Model Use and Application

The empirical predictive model developed in this project can be directly applied to future underground mining planned within Ohio and surrounding areas of similar hydrologic and geologic characteristics. The model has been based on publicly available data, so it has remained accessible for public download and use. The packaged map template with the model along with default files and Excel sheet templates are hosted on www.watersheddata.com, along with additional resources such as the User's Guide, a fact sheet, and links to this thesis and the previous theses by Schafer (2018) and Twumasi (2018).

CHAPTER 6: CONCLUSIONS

Project Goals

This thesis project has addressed the lack of a science-based method for determining post-mining water levels in underground mines through the development of a multivariate analysis of significant parameters, used to form an empirical model that produces estimated post-mining water levels at well locations. The final algorithm selected for use in the model was determined to estimate water levels within a reasonably usable error within 1%.

The methods developed during the work on this project provide the possibility of developing similar models for different areas around the globe. If similar data for characterizing the area hydrology and geology can be collected, the analysis to develop the prediction algorithm can be re-run and the new area-specific algorithm can be input into the model. Results will depend on the quality and density of data collected, no matter the location.

The relationships discovered between the different hydrologic and geologic parameters have expanded on the overall understanding of how these underground mines effect the complex systems of groundwater. More research is required to determine why some of these variables are more significant than others.

Current Regulatory Implications

Currently, the requirements for data collection in the permitting process for underground coal mines in Ohio does not collect enough data for a thorough evaluation of area hydrology. While requirements for surface mining is slightly more defined,

underground mines only require “...a minimum of one test hole per one hundred sixty acres” and does not define a requirement for well monitoring density (Ohio Administrative Code, 2016). While predictions have been made on the available data, reliability of predictions would be improved if regulations required higher density data collection for mine permit applications. Data could also be improved by the installation of piezometers in the mined layers to consistently monitor water levels, as is done in areas of coal mining in Pennsylvania. The current requirements, as displayed by the struggles with this project, are not sufficient for complete characterization of the area hydrology and lithology.

Continued Work

With higher density and quality data, this model can be improved upon. Continued work will include improvement of the model development with additional quality data but also expansion of the model. Work can also be done to explore the possibility of spatial interpolation methods working with a data set of higher number and higher density data. A study could be done to determine a range of necessary density of data and number of points to produce an interpolated surface with low error.

In addition to further developing the model and exploring spatial interpolation possibilities, the next step to predicting if a mine will discharge is if that discharge would be polluttional. This would require determining additional variables to the predictive model related to surface water chemistry.

This prediction model is specific to the coal fields analyzed in Ohio, but methods to develop the predictive model could be used to translate the prediction model to another

area of differing geology and hydrology. In addition to applying to another area, the full extent of this model predictability would need to be determined. Continued work could be looking at how far this model can predict post-mining water levels outside of the state of Ohio but still with in similar lithology.

Methods used to develop this model and approach to predicting water levels could be applied outside of underground mining as well. Other issues in understanding the multivariate relationships impacting the change in groundwater levels could adapt the approaches used in this project to address issues in other disciplines outside of mining.

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APPENDIX A: TABLE OF EXPANDED DATA SET FOR ANALYSIS

Sample	Permit	Well	Measured Potentiometric Head (msl)	Surface Elevation (msl)	Bottom Elevation (msl)	Overburden Thickness (ft)	Mined Coal Thickness (ft)	Shale + Clay Thickness (ft)	Sandstone Thickness (ft)	Limestone Thickness (ft)	Total Coal Thickness (ft)	Accumulative Coal Extracted (Mm ³)	Underground Mining 4-Mile Buffer (acres)	Average Annual Precipitation (in)	Date
1	D-0360	DW-161	1273.00	1290.00	739.30	550.70	7.10	325.95	44.97	162.21	15.14	6.99	111048.55	40.50	1/7/91
2	D-0360	WL-721	1165.00	1229.00	800.55	428.45	7.05	259.73	45.00	112.83	14.77	138.61	111048.55	40.50	3/13/17
3	D-0360	W-587	1238.20	1245.00	983.66	261.34	4.91	129.00	22.85	104.89	13.16	138.61	111048.55	40.50	3/1/17
4	D-0360	W-609	1134.00	1162.00	863.14	298.86	5.45	166.14	34.91	78.29	9.15	128.37	111048.55	40.50	6/3/14
5	D-0360	W501.077.00	1099.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	138.61	111048.55	41.00	11/3/16
6	D-0360	W-402	1252.00	1325.00	997.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	5/22/97
7	D-0360	W-140	1263.00	1300.00	740.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	11/28/90
8	D-0360	W-438	1090.00	1145.00	827.55	317.45	7.29	204.12	2.04	78.09	10.82	41.49	111048.55	40.50	10/28/98
9	D-0360	W-410	1247.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	137.99	111048.55	40.50	6/16/16
10	D-0360	W-417	1114.00	1165.00	837.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	6/21/97
11	D-0360	W-295	1239.00	1264.00	701.40	562.60	4.58	351.36	15.02	176.44	12.24	18.09	111048.55	40.50	3/31/94
12	D-0360	W-694	1228.00	1265.00	775.29	489.71	11.76	347.06	30.83	115.94	26.19	138.61	111048.55	40.50	10/27/16
13	D-2177-03	W-24K	1078.70	1085.00	759.04	325.96	3.33	225.55	79.76	0.73	9.95	2.42	28301.29	40.00	9/11/09
14	D-0360	W-413	1240.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	134.61	111048.55	40.50	9/10/15
15	D-0425-08	WL-9	1018.00	1030.00	514.25	515.75	5.00	410.68	139.19	7.58	11.58	5.37	35708.87	39.00	2/2/01
16	D-0425-01	W-85	1066.00	1090.00	803.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	11/23/1998
17	D-0360	W-413	1253.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	3/19/97
18	D-0360	W-415	1113.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	133.14	111048.55	40.50	4/22/15
19	D-0360	W-666	1054.00	1065.00	801.65	263.35	7.00	108.55	53.31	84.24	5.91	128.37	111048.55	40.50	5/6/14
20	D-0360	W-202	1163.00	1210.00	1066.68	143.32	3.00	15.48	0.00	96.63	9.60	6.99	111048.55	40.00	1/16/91
21	D-0425-01	DW-113	1253.00	1270.00	624.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	11/24/1998
22	D-0360	DW-331	926.00	935.00	791.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	12/15/95
23	D-1180-08(7)	W-319	1136.40	1200.00	756.98	443.02	2.14	371.38	94.23	3.66	7.07	20.66	10262.20	37.75	5/28/12
24	D-0360	W-413	1253.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	2/13/97
25	D-0360	W-413	1249.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	1/23/17
26	D-0425-01	DW-19	1236.00	1260.00	728.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	11/25/1998
27	D-1180-08(6a)	W-308	1132.00	1224.00	748.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	3/28/11
28	D-0426	W-16A	1175.56	1220.00	911.25	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	10/22/15
29	D-0360	DW-129	1288.00	1305.00	937.15	166.26	6.20	166.26	55.30	131.78	11.66	6.09	111048.55	40.50	10/25/90
30	D-0360	WL-721	1163.00	1229.00	800.55	428.45	7.05	259.73	45.00	112.83	14.77	137.99	111048.55	40.50	4/19/16
31	D-2177-03	WL-115.00	930.70	937.00	800.65	136.35	3.40	78.02	15.16	0.00	4.98	2.27	28301.29	40.00	5/29/09
32	D-2317-OA	DW-42	876.50	882.00	641.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	7/9/07
33	D-2177-03	W-111.00	1224.70	1231.00	839.26	391.74	3.25	238.95	127.24	5.52	9.32	2.42	28301.29	40.00	9/17/09
34	D-1180-08(6a)	W-309	1177.00	1262.00	786.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/8/14
35	D-0425-09	DW-148.00	1244.00	1264.00	616.00	648.00	4.20	4.78	0.48	0.78	0.14	33.60	61125.67	41.00	6/6/2007
36	D-0425-05	DW-48.02	1260.00	1305.00	601.90	703.10	5.05	5.64	0.80	0.40	0.14	9.18	61125.67	41.00	12/23/2003
37	D-0360	W501.077.01	1070.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	138.61	111048.55	41.00	1/5/16
38	D-0360	WL-338	881.00	890.00	761.70	128.30	5.87	17.73	0.00	82.11	9.03	27.35	111048.55	40.00	1/23/96
39	D-1180-08(6a)	WL-101	1164.50	1185.00	742.25	442.75	3.16	325.00	117.00	0.00	7.91	15.87	10262.20	37.75	12/11/14
40	D-0425-05	W-60.01	1272.00	1290.00	622.05	667.95	4.65	4.23	1.67	0.88	0.14	9.18	61125.67	41.00	12/23/2003
41	D-0360	DW-356	1091.00	1100.00	956.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	12/15/95
42	D-0360	W-363	999.00	1095.00	885.32	209.68	4.28	93.70	32.00	105.70	7.82	26.12	111048.55	40.00	11/30/95
43	D-0360	DW-356	1092.00	1100.00	956.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	2/5/96
44	D-0360	W-410	1263.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	2/24/16
45	D-0360	W-410	1251.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	12/26/16
46	D-0360	W-415	1103.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	138.51	111048.55	40.50	8/29/16
47	D-2317-4	DW-46	685.20	693.00	452.90	240.10	5.25	188.65	56.10	0.00	5.25	0.07	2061.00	41.00	5/4/09
48	D-2269-6	WL-4	755.00	975.00	600.10	374.90	4.60	109.90	262.30	0.00	4.60	0.00	16659.24	40.00	4/8/03
49	D-0425-01	W-97	1121.00	1175.00	561.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	1/22/1999
50	D-2317-OA	W-41	578.70	610.00	369.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	8/28/07
51	D-0360	W-292	1251.00	1310.00	747.40	562.60	4.58	351.36	15.02	176.44	12.24	18.09	111048.55	40.50	2/28/94
52	D-2187	W-303	1175.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.19	14151.11	37.50	4/23/13
53	D-0425-01	DW-8	929.00	939.00	690.70	248.30	6.12	1.18	0.11	0.39	0.07	0.00	61125.67	41.00	9/24/1998
54	D-0360	W501.077.01	1070.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	131.89	111048.55	41.00	2/9/15
55	D-0360	WL-721	1160.00	1229.00	800.55	428.45	7.05	259.73	45.00	112.83	14.77	138.61	111048.55	40.50	1/2/17
56	D-2187	W-303	1177.50	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.55	14151.11	37.50	12/15/14
57	D-0360	W21-095.00	1038.20	1100.00	782.55	317.45	7.29	204.12	2.04	78.09	10.82	90.29	111048.55	40.00	7/1/08
58	D-0360	WL336.373.00	1083.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	129.65	111048.55	41.00	7/9/14

59	D-0425-01	W-123	1162.00	1240.00	929.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	11/23/1998
60	D-0360	WL-736	1116.00	1131.00	797.66	333.34	4.90	243.57	13.34	48.14	14.88	138.61	111048.55	41.00	10/13/16
61	D-2187	W-370	1203.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.77	14151.11	37.50	11/25/11
62	D-2187	W-370	1203.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.77	14151.11	37.50	12/13/11
63	D-0424	9-WL-4	1005.00	1023.00	491.07	531.93	4.50	428.40	191.57	0.89	17.78	10.56	29225.93	39.00	8/28/13
64	D-0360	WL231.362.00	1116.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	130.36	111048.55	41.00	11/11/14
65	D-0425-01	W-88	1220.00	1240.00	594.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	12/17/1998
66	D-0424	8-WL-4	1131.00	1180.00	707.50	472.50	3.00	434.47	129.19	2.52	13.75	8.41	29225.93	39.50	10/11/11
67	D-0360	W-609	1109.00	1162.00	863.14	298.86	5.45	166.14	34.91	78.29	9.15	131.89	111048.55	40.50	3/24/15
68	D-0354	South Mains Shaft	457.62	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	6/25/18
69	D-0360	W-694	1231.00	1265.00	775.29	489.71	11.76	347.06	30.83	115.94	26.19	138.61	111048.55	40.50	3/20/17
70	D-0360	W-336	904.00	918.00	774.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	2/27/96
71	D-0360	WL336.373.00	1080.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	131.89	111048.55	41.00	1/13/15
72	D-0360	W-153	1240.00	1259.00	709.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	1/29/91
73	D-0360	W-660	1134.00	1170.00	893.05	276.95	5.10	94.67	17.81	110.04	11.95	129.65	111048.55	40.50	7/9/14
74	D-1180-08(6a)	W-358	1168.50	1262.00	786.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/29/13
75	D-0425-01	WL-21	1255.00	1287.00	639.55	647.45	0.78	4.87	0.46	0.91	0.16	0.00	61125.67	41.00	1/29/1999
76	D-0425-01	W-123	1161.00	1240.00	929.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	12/31/1998
77	D-0425-01	W-85	1066.00	1090.00	803.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	10/31/1998
78	D-2317-OA	WL-12	548.00	598.00	357.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	4/30/06
79	D-2177-06	WL-39	1163.70	1170.00	815.32	354.68	3.58	188.24	146.08	0.00	11.68	3.68	28301.29	40.00	8/18/11
80	D-0360	W-706	1242.00	1290.00	809.93	480.07	7.29	317.33	35.19	104.86	16.00	67.27	111048.55	40.50	2/26/04
81	D-0360	W-159	1258.00	1290.00	730.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	10/30/90
82	D-0360	WL-736	1117.00	1131.00	797.66	333.34	4.90	243.57	13.34	48.14	14.88	138.51	111048.55	41.00	8/16/16
83	D-0360	W-204	1190.00	1200.00	1056.68	143.32	3.00	15.48	0.00	96.63	9.60	7.80	111048.55	40.00	4/17/91
84	D-0425-01	W-72	1103.00	1165.00	551.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	9/26/1998
85	D-0360	W21-083.00	1037.60	1055.00	737.55	317.45	7.29	204.12	2.04	78.09	10.82	90.29	111048.55	40.00	8/8/08
86	D-0425-01	DW-87	1218.00	1222.00	891.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	3/19/1999
87	D-0360	W21-087.00	1039.00	1068.00	750.55	317.45	7.29	204.12	2.04	78.09	10.82	90.29	111048.55	40.00	8/11/08
88	D-0425-01	W-17	1192.00	1240.00	708.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	8/8/1998
89	D-2091-4	W-624	1010.00	1020.00	814.00	206.00	3.00	66.97	125.00	7.00	9.96	1.86	11181.57	37.50	6/22/10
90	D-0424	8-W-23	999.00	1052.00	727.67	324.33	4.92	321.96	39.93	0.00	14.76	8.71	29225.93	39.00	2/23/12
91	D-0360	W-609	1137.00	1162.00	863.14	298.86	5.45	166.14	34.91	78.29	9.15	128.37	111048.55	40.50	4/22/14
92	D-2177-03	W-453.00	1085.70	1092.00	999.85	92.15	3.44	10.06	34.49	0.00	3.44	2.27	28301.29	40.00	5/22/09
93	D-0360	W-299	1246.00	1324.00	781.60	542.40	5.04	412.92	16.15	92.07	13.88	16.98	111048.55	40.50	11/18/93
94	D-0360	W-327	903.00	910.00	766.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	2/6/96
95	D-0360	W-347	1075.00	1180.00	868.34	311.66	5.89	203.68	6.59	88.74	15.19	27.35	111048.55	40.00	2/15/96
96	D-0360	W-299	1247.00	1324.00	781.60	542.40	5.04	412.92	16.15	92.07	13.88	18.09	111048.55	40.50	1/26/94
97	D-0360	W-428	1210.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	129.65	111048.55	40.00	9/3/14
98	D2317	M2A	646.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	6/11/14
99	D-1180-08(7)	WL-362	1207.00	1218.00	774.98	443.02	2.14	371.38	94.23	3.66	7.07	23.57	10262.20	37.75	5/28/13
100	D-0360	DW-679	1219.00	1235.00	963.99	271.01	6.19	157.00	0.91	85.09	13.65	126.43	111048.55	40.50	1/21/14
101	D-2317	W-64	737.50	744.00	503.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	11/8/17
102	D-0360	W-204	1185.50	1200.00	1056.68	143.32	3.00	15.48	0.00	96.63	9.60	6.09	111048.55	40.00	11/15/90
103	D-2177-01	GMW-04-4D	902.69	908.99	563.83	345.16	3.54	118.44	205.60	0.58	9.37	1.24	28301.29	40.00	4/24/07
104	D-0360	W-413	1242.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	129.65	111048.55	40.50	7/15/14
105	D-1180-07(7)	W-100	1082.00	1180.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	0.00	10262.20	37.75	3/29/06
106	D-0425-01	W-88	1189.00	1240.00	594.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	11/24/1998
107	D-2177-06	WL-39	1163.70	1170.00	815.32	354.68	3.58	188.24	146.08	0.00	11.68	0.35	28301.29	40.00	7/6/05
108	D-0360	W-22.007.00	1204.00	1240.00	750.29	489.71	11.76	347.06	30.83	115.94	26.19	138.51	111048.55	41.00	9/30/16
109	D-0355-04	MC-FR6-501 (DW1)	637.00	640.00	430.08	209.92	4.58	164.00	29.16	8.17	10.58	40.98	9430.98	41.10	4/24/96
110	D-0360	WL-721	1161.00	1229.00	800.55	428.45	7.05	259.73	45.00	112.83	14.77	138.61	111048.55	40.50	2/21/17
111	D-0360	W336.375.00	926.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	136.88	111048.55	41.00	1/5/16
112	D-0360	W501.077.00	1163.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	134.61	111048.55	41.00	9/8/15
113	D-0360	W-694	1226.00	1265.00	775.29	489.71	11.76	347.06	30.83	115.94	26.19	138.51	111048.55	40.50	7/29/16
114	D-0425-01	WL-21	1241.00	1287.00	639.55	647.45	0.78	4.87	0.46	0.91	0.16	0.00	61125.67	41.00	10/6/1998
115	D-2317-1	W-604	650.20	730.00	489.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	9/2/08
116	D-1019	W-201	1221.00	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	10/9/08
117	D2317	M2A	645.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	6/15/16
118	D-1180-09(6a)	W-100	1085.00	1180.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	14.31	10262.20	37.75	1/14/06
119	D-0360	DW-420	1220.00	1241.00	949.50	291.50	6.25	177.75	23.01	71.99	15.15	35.29	111048.55	40.50	7/19/97
120	D-0360	DW-122	1284.00	1302.00	934.15	367.85	6.20	166.26	55.30	131.78	11.66	6.99	111048.55	40.50	1/29/91

121	D-0425-09	DW-148.00	1244.00	1264.00	616.00	648.00	4.20	4.78	0.48	0.78	0.14	35.68	61125.67	41.00	8/24/2007
122	D-0425-01	W-58	1021.00	1072.00	458.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	11/27/1998
123	D-1180-08(7)	W-299	1121.60	1168.00	724.98	443.02	2.14	371.38	94.23	3.66	7.07	23.57	10262.20	37.75	5/28/13
124	D-2177-06	WL-37	1128.70	1135.00	780.32	354.68	3.58	188.24	146.08	0.00	11.68	3.83	28301.29	40.00	12/13/11
125	D-0360	W-413	1243.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	10/31/16
126	D-0360	W-314A	1202.00	1270.00	727.60	542.40	5.04	412.92	16.15	92.07	13.88	55.12	111048.55	40.50	7/21/01
127	D-0360	WL21-041.01	1258.40	1300.00	809.84	490.16	5.17	323.67	11.34	108.77	13.68	88.63	111048.55	40.50	5/1/08
128	D-0425-09	DW-153.00	1254.00	1270.00	663.30	606.70	3.80	3.37	0.31	2.13	0.13	33.60	61125.67	41.00	4/10/2007
129	D-0360	W-374	1247.00	1290.00	809.93	480.07	7.29	317.33	35.19	104.86	16.00	33.83	111048.55	40.50	6/27/97
130	D-2187	W-303	1178.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.28	14151.11	37.50	10/23/13
131	D-0360	W-666	1054.00	1065.00	801.65	263.35	7.00	108.55	53.31	84.24	5.91	128.37	111048.55	40.50	4/15/14
132	D-0360	W-410	1248.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	137.99	111048.55	40.50	4/25/16
133	D-1019	WL-18	975.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	1/5/12
134	D-0360	W-423	1125.00	1200.00	1056.68	143.32	3.00	15.48	0.00	96.63	9.60	38.09	111048.55	40.00	3/13/98
135	D-0360	W-660	1134.00	1170.00	893.05	276.95	5.10	94.67	17.81	110.04	11.95	133.14	111048.55	40.50	4/7/15
136	D-0425-05	W-29.00	1311.00	1340.00	670.60	669.40	5.90	4.38	0.61	1.65	0.21	7.86	61125.67	41.00	7/30/2003
137	D-0360	DW-126	1289.00	1311.00	943.15	367.85	6.20	166.26	55.30	131.78	11.66	6.09	111048.55	40.50	10/25/90
138	D-2177-05	WL-516.00	923.70	930.00	586.00	344.00	3.25	195.75	120.65	2.52	9.50	2.71	28301.29	40.00	2/24/10
139	D-0360	W336.375.00	926.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	133.14	111048.55	41.00	4/8/15
140	D2233	WL-936	746.00	820.00	755.00	65.00	4.20	13.90	39.70	0.00	4.20	6.10	14067.46	40.00	5/27/15
141	D-0360	W-312A	1255.00	1315.00	764.30	550.70	7.10	325.95	44.97	162.21	15.14	22.93	111048.55	40.50	2/28/95
142	D-0425-01	W-76	1151.00	1193.00	547.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	11/25/1998
143	D-1180-08(7)	W-312A	1183.30	1275.00	831.98	443.02	2.14	371.38	94.23	3.66	7.07	23.57	10262.20	37.75	5/23/13
144	D-0360	W231.356.00	1233.30	1280.00	944.55	335.45	7.45	211.84	21.69	92.72	12.98	93.68	111048.55	41.00	3/10/09
145	D-0360	W-413	1241.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	130.36	111048.55	40.50	12/12/14
146	D-0360	DW-330	955.00	960.00	750.32	209.68	4.28	93.70	32.00	105.70	7.82	26.12	111048.55	40.00	12/26/95
147	D2317	M1A	648.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	8/27/13
148	D-0354	South Mains Shaft	457.13	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	7/23/18
149	D-2177-03	WL-144.01	1163.70	1170.00	873.00	297.00	3.17	239.44	35.92	3.23	7.57	2.11	28301.29	40.00	3/3/09
150	D-1180-08(7)	W-352	1202.60	1232.00	788.98	443.02	2.14	371.38	94.23	3.66	7.07	19.89	10262.20	37.75	3/20/12
151	D-0425-01	W-25	1194.00	1240.00	909.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	12/15/1998
152	D-0360	WL-674	1101.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	133.14	111048.55	40.00	6/1/15
153	D-0425-05	DW-112.02	1130.00	1142.00	732.64	409.36	1.33	2.24	0.99	0.84	0.08	12.20	61125.67	41.00	5/24/2004
154	D-0360	DW-362	993.00	1000.00	856.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	4/23/96
155	D-0360	W-125	1276.00	1299.00	931.15	367.85	6.20	166.26	55.30	131.78	11.66	6.09	111048.55	40.50	11/27/90
156	D-1180-03(7)	W-102	1136.90	1180.00	770.00	410.00	3.08	390.50	66.00	0.00	6.00	0.00	10262.20	37.75	1/14/06
157	D-0425-01	WL-98	1248.00	1262.00	951.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	3/23/1999
158	D-2177-02	W-255	878.70	885.00	761.30	123.70	3.58	14.33	75.08	0.00	3.58	1.61	28301.29	40.00	1/10/08
159	D-0360	W21-045.01	1297.40	1340.00	1036.64	303.36	7.40	175.10	23.60	87.50	17.29	88.63	111048.55	40.50	5/1/08
160	D-0355-04	MC-FR1-501 (DW1)	616.50	620.00	282.59	337.41	3.50	230.09	86.17	7.67	4.75	40.98	9430.98	41.10	4/25/96
161	D-0360	W-350	1144.00	1218.00	1074.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	2/15/96
162	D-0360	W-291	1271.00	1275.00	732.60	542.40	5.04	412.92	16.15	92.07	13.88	19.33	111048.55	40.50	4/29/94
163	D-0425-03	WL-180A	1213.00	1240.00	664.70	575.30	5.05	2.21	1.65	1.35	0.13	0.74	61125.67	41.00	2/27/2002
164	D-0425-05	DW-53.01	1280.00	1305.00	637.85	667.15	5.93	4.36	0.71	1.51	0.18	9.18	61125.67	41.00	10/7/2003
165	D-0360	WL-338	881.00	890.00	761.70	128.30	5.87	17.73	0.00	82.11	9.03	27.35	111048.55	40.00	3/26/96
166	D-0360	WL231.362.00	1100.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	135.54	111048.55	41.00	10/1/15
167	D-1180-01(6a)	W-6	1178.00	1210.00	767.25	442.75	3.16	325.00	117.00	0.00	7.91	2.69	10262.20	37.75	4/30/02
168	D-0424	6-WL-15	1183.80	1220.00	656.30	563.70	4.70	295.09	60.57	11.78	10.68	3.37	29225.93	39.00	7/3/08
169	D-1180-07(6a)	W-100	1082.00	1180.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	14.31	10262.20	37.75	3/29/06
170	D-0360	DW-719	1175.00	1178.00	749.55	428.45	7.05	259.73	45.00	112.83	14.77	136.88	111048.55	41.00	2/9/16
171	D-2317-OA	WL-3	538.00	578.00	352.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	1/23/06
172	D-0360	WL-721	1163.00	1229.00	800.55	428.45	7.05	259.73	45.00	112.83	14.77	137.99	111048.55	40.50	6/13/16
173	D-0360	W-316	1164.00	1203.00	684.53	518.47	7.08	373.81	9.26	93.89	21.49	18.09	111048.55	40.50	3/31/94
174	D-2177-03	W-36.00	863.70	870.00	786.91	83.09	3.92	49.17	3.50	0.00	3.92	2.42	28301.29	40.00	9/17/09
175	D-2187	WL-3	1210.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	0.55	14151.11	37.50	2/24/11
176	D-0360	WL-721	1167.50	1230.00	801.55	428.45	7.05	259.73	45.00	112.83	14.77	102.27	111048.55	40.50	4/30/10
177	D-1019	WL-18	975.50	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	2/2/12
178	D-0425-01	W-129	849.00	930.00	851.42	78.58	6.76	0.35	0.02	0.39	0.11	0.00	61125.67	41.00	10/13/1997
179	D-2177-03	WL-70K	931.70	938.00	608.78	329.22	3.75	285.20	39.93	1.49	9.38	2.42	28301.29	40.00	9/15/09
180	D-0360	W501.343000	1098.00	1175.00	743.50	431.50	6.60	236.12	77.80	118.08	12.12	138.61	111048.55	41.00	3/1/17
181	D-0360	W-394	1230.00	1259.00	825.91	433.09	5.12	321.97	32.71	69.59	16.17	33.83	111048.55	40.00	6/21/97
182	D-0425-05	WL-33.00	1307.00	1355.00	685.60	669.40	5.90	4.38	0.61	1.65	0.21	7.86	61125.67	41.00	7/30/2003

183	D-0360	W336.375.00	923.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	130.36	111048.55	41.00	10/7/14
184	D-0360	WL-721	1157.00	1229.00	800.55	428.45	7.05	259.73	45.00	112.83	14.77	138.51	111048.55	40.50	9/29/16
185	D-0360	W21-183.01	1194.00	1220.00	917.97	302.03	5.68	178.44	31.29	74.71	12.42	88.63	111048.55	40.50	6/25/08
186	D-0360	W-325	947.00	975.00	831.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	1/18/96
187	D-2187	W-303	1174.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.48	14151.11	37.50	11/24/10
188	D-0425-01	W-90	1205.00	1240.00	929.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	10/13/1998
189	D-0360	W-327	903.00	910.00	766.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	4/24/96
190	D-1180-08(6a)	WL-284	1210.00	1220.00	744.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/28/13
191	D-0354	South Mains Shaft	456.07	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	4/3/18
192	D-0360	W-660	1138.00	1170.00	893.05	276.95	5.10	94.67	17.81	110.04	11.95	128.37	111048.55	40.50	6/3/14
193	D-1180-08(6a)	W-358	1181.60	1262.00	786.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	8/31/12
194	D-0360	W-414	1248.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	137.99	111048.55	40.50	6/16/16
195	D-2317-OA	W-41	586.00	610.00	369.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	4/25/07
196	D-0424	8-WL-41	1194.00	1200.00	623.17	576.83	1.33	146.66	126.16	5.50	6.18	8.05	29225.93	39.50	8/7/11
197	D-0425-01	DW-24	1198.00	1206.00	919.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	8/15/1998
198	D-2177-03	W-25.00	1123.70	1130.00	794.75	335.25	3.50	264.61	44.82	7.15	9.95	2.11	28301.29	40.00	3/2/09
199	D-0360	DW-118	1288.00	1305.00	745.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	1/29/91
200	D-0360	W-696	1194.50	1270.00	841.55	428.45	7.05	259.73	45.00	112.83	14.77	64.61	111048.55	40.50	8/4/03
201	D-0425-01	W-25	1190.00	1240.00	909.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	9/28/1998
202	D-0360	W-709	1012.00	1085.00	913.37	171.63	5.20	65.90	1.30	100.36	11.56	64.61	111048.55	41.00	9/24/03
203	D2233	WL-936	746.00	820.00	755.00	65.00	4.20	13.90	39.70	0.00	4.20	6.10	14067.46	40.00	10/6/15
204	D-2317-OA	DW-42	876.50	882.00	641.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	8/28/07
205	D-0360	W-174	1020.00	1117.00	823.10	293.90	7.12	127.60	10.23	132.06	16.83	6.09	111048.55	40.50	12/11/90
206	D-0425-05	W-37.00	1206.00	1210.00	623.70	586.30	5.97	4.12	0.36	1.31	0.21	9.18	61125.67	41.00	12/23/2003
207	D-0360	W-413	1242.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	137.99	111048.55	40.50	6/16/16
208	D-0360	W-410	1261.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	126.43	111048.55	40.50	1/23/14
209	D-0360	W-157	1259.00	1275.00	760.30	514.70	7.57	350.60	23.74	78.65	19.66	6.09	111048.55	40.00	12/27/90
210	D-0426	W-16B	1096.33	1218.55	909.80	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.50	5/14/14
211	D-0360	W501.077.00	1074.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	138.61	111048.55	41.00	2/1/17
212	D-0360	DW-406	1299.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	126.43	111048.55	40.50	3/12/14
213	D-1180-08(7)	WL-200	816.60	830.00	354.71	475.29	3.21	378.08	96.38	3.82	7.20	29.41	10262.20	37.75	3/11/15
214	D-0360	WL231.362.00	1119.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	138.61	111048.55	41.00	3/1/17
215	D-0360	W-157	1257.00	1275.00	760.30	514.70	7.57	350.60	23.74	78.65	19.66	6.09	111048.55	40.50	11/26/90
216	D-2187	W-8	1108.50	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	1.60	14151.11	37.50	2/10/15
217	D-0360	W-414	1266.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	2/13/97
218	D-0360	W-701	1269.00	1320.00	839.93	480.07	7.29	317.33	35.19	104.86	16.00	64.61	111048.55	40.50	8/5/03
219	D-0425-05	DW-120.00	1266.00	1285.00	613.67	671.33	0.07	5.83	0.58	0.92	0.09	12.20	61125.67	41.00	5/25/2004
220	D-0360	W-378	1296.00	1325.00	853.21	471.79	5.29	321.05	61.70	78.55	18.20	33.83	111048.55	40.00	6/21/97
221	D-1180-02(6a)	WL-200	818.00	830.00	354.71	475.29	3.21	378.08	96.38	3.82	7.20	11.17	10262.20	37.75	3/18/05
222	D-2177-03	W-444.00	1151.70	1158.00	1065.85	92.15	3.44	10.06	34.49	0.00	3.44	2.11	28301.29	40.00	2/3/09
223	D-2317-OA	WL-16	680.00	700.00	474.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	11/1/06
224	D2317	W3	613.00	621.00	380.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	9/4/13
225	D-0425-01	W-3	1218.00	1246.00	690.01	555.99	2.06	3.55	0.24	1.44	0.20	0.00	61125.67	41.00	7/13/1998
226	D-0360	DW-126	1289.00	1311.00	943.15	367.85	6.20	166.26	55.30	131.78	11.66	6.09	111048.55	40.50	12/27/90
227	D-0360	WL-349	1107.00	1190.00	878.34	311.66	5.89	203.68	6.59	88.74	15.19	26.12	111048.55	40.00	11/24/95
228	D-0360	W-428	1200.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	128.37	111048.55	40.00	5/15/14
229	D-2269 OA	WL-5	868.00	923.00	566.00	357.00	3.60	121.75	237.50	0.00	4.40	0.00	16659.24	40.00	4/26/04
230	D-0360	W-316	1163.00	1203.00	684.53	518.47	7.08	373.81	9.26	93.89	21.49	18.09	111048.55	40.50	2/16/94
231	D-0425-01	W-25	1193.00	1240.00	909.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	10/26/1998
232	D-0425-01	W-72	1103.00	1165.00	551.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	11/24/1998
233	D-0360	DW-406	1298.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	138.61	111048.55	40.50	12/26/16
234	D-2177-03	W-5.00	923.70	930.00	846.91	83.09	3.92	49.17	3.50	0.00	3.92	2.11	28301.29	40.00	2/26/09
235	D-0360	WL336.373.00	1081.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	133.14	111048.55	41.00	6/3/15
236	D-2177-05	WL-516.00	923.70	930.00	586.00	344.00	3.25	195.75	120.65	2.52	9.50	2.42	28301.29	40.00	9/21/09
237	D-0360	WL-319	1269.00	1325.00	774.30	550.70	7.10	325.95	44.97	162.21	15.14	18.09	111048.55	40.50	3/31/94
238	D-0360	W21-083.00	1038.00	1055.00	737.55	317.45	7.29	204.12	2.04	78.09	10.82	88.63	111048.55	40.00	5/2/08
239	D-0354	Roving Crew Shaft	458.13	637.76	248.21	389.55	4.17	77.51	258.71	3.04	5.75	39.63	20418.32	41.20	5/14/18
240	D-0360	DW-406	1299.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	136.88	111048.55	40.50	2/16/16
241	D-0360	W-327	904.00	910.00	766.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	12/18/95
242	D-0360	DW-717	1275.00	1280.00	767.67	512.33	7.27	337.40	56.38	101.13	13.43	64.61	111048.55	40.50	7/22/03
243	D-0355-04	MS-FR23-503 [DW1]	680.50	690.00	325.50	364.50	4.90	274.30	78.60	8.50	8.50	44.09	9430.98	41.10	8/8/97
244	D-0360	W-671	1095.00	1183.00	904.48	278.52	7.88	130.58	24.35	89.21	10.00	129.65	111048.55	40.50	7/10/14

245	D-0360	W-413	1248.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	4/23/97
246	D-0360	W-340	912.00	920.00	791.70	128.30	5.87	17.73	0.00	82.11	9.03	28.69	111048.55	40.00	4/22/96
247	D-0428-08	WL-206	967.00	985.00	555.17	429.83	6.00	449.44	19.98	0.00	15.58	1.61	35708.87	39.00	11/13/98
248	D-0354	South Mains Shaft	457.53	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	5/28/18
249	D-0360	W-289	1266.00	1300.00	742.26	557.74	2.40	398.53	47.72	103.50	11.13	19.33	111048.55	40.50	4/29/94
250	D-0360	W501.077.00	1102.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	138.51	111048.55	41.00	7/5/16
251	D-1180-08(7)	WL-284	1210.00	1220.00	776.98	443.02	2.14	371.38	94.23	3.66	7.07	23.57	10262.20	37.75	5/28/13
252	D-1180-08(7)	W-308	1135.60	1224.00	780.98	443.02	2.14	371.38	94.23	3.66	7.07	25.85	10262.20	37.75	2/22/14
253	D-0355-04	MC8-505 (DW)	602.00	610.00	236.54	373.46	4.46	233.53	112.24	9.08	6.12	40.98	9430.98	41.10	10/1/96
254	D-0360	W-374	1247.00	1290.00	809.93	480.07	7.29	317.33	35.19	104.86	16.00	33.83	111048.55	40.50	4/25/97
255	D-0360	WL-736	1118.00	1131.00	797.66	333.34	4.90	243.57	13.34	48.14	14.88	137.99	111048.55	41.00	4/26/16
256	D-0360	W-365	1180.00	1240.00	1096.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	3/29/96
257	D-2187	W-370	1203.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.85	14151.11	37.50	3/20/12
258	D-0360	W-417	1110.00	1165.00	837.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	4/25/97
259	D-2177-02	W-215	912.70	919.00	784.83	134.17	3.54	35.93	63.32	2.00	4.75	0.35	28301.29	40.00	9/21/05
260	D-0360	WL-338	881.00	890.00	761.70	128.30	5.87	17.73	0.00	82.11	9.03	27.35	111048.55	40.00	2/6/96
261	D-2091-1	W-202	1220.00	1270.00	986.00	284.00	3.00	104.66	137.75	47.42	0.00	0.00	11181.57	37.50	10/14/96
262	D-0360	W-350	1143.00	1218.00	1074.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	3/18/96
263	D-0360	WL336.373.00	1081.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	131.89	111048.55	41.00	3/2/15
264	D-1180-08(6a)	W-353	1193.40	1232.00	756.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	3/20/12
265	D-2177-03	W-34.00	874.70	881.00	797.91	83.09	3.92	49.17	3.50	0.00	3.92	2.11	28301.29	40.00	2/24/09
266	D-1019	W-201	1221.00	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	10/9/08
267	D-0360	W-379	1241.00	1323.00	889.91	433.09	5.12	321.97	32.71	69.59	16.17	33.83	111048.55	40.00	6/21/97
268	D-2187	WL-3	1210.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	0.85	14151.11	37.50	3/29/12
269	D-2317-0A	DW-21	668.00	678.00	437.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	4/25/07
270	D-2187	WL-3	1208.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	0.98	14151.11	37.50	9/30/12
271	D-2177-03	W-35.00	874.70	881.00	797.91	83.09	3.92	49.17	3.50	0.00	3.92	2.42	28301.29	40.00	9/17/09
272	D-0360	W-299	1251.00	1324.00	781.60	542.40	5.04	412.92	16.15	92.07	13.88	18.09	111048.55	40.50	2/28/94
273	D-0424	6-W-16	1110.50	1222.00	658.30	563.70	4.70	295.09	60.57	11.78	10.68	3.37	29225.93	39.00	8/6/08
274	D-1180-08(7)	WL-362	1209.00	1218.00	774.98	443.02	2.14	371.38	94.23	3.66	7.07	20.66	10262.20	37.75	4/10/12
275	D-0360	DW-196	1228.00	1240.00	825.84	414.16	6.47	221.29	50.89	100.31	19.91	6.09	111048.55	40.00	11/14/90
276	D-0360	W-403	1303.00	1345.00	794.30	550.70	7.10	325.95	44.97	162.21	15.14	32.60	111048.55	40.50	1/31/97
277	D-0360	WL231.362.00	1114.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	137.99	111048.55	41.00	5/2/16
278	D-0425-01	DW-8	930.00	939.00	690.70	248.30	6.12	1.18	0.11	0.39	0.07	0.00	61125.67	41.00	7/21/1998
279	D-0360	W-414	1265.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	2/9/16
280	D-0360	W-428	1218.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	131.89	111048.55	40.00	1/13/15
281	D-1180-08(6a)	W-361	1186.70	1255.00	779.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	3/6/12
282	D-0360	W-345	1239.00	1270.00	855.84	414.16	6.47	221.29	50.89	100.31	19.91	26.12	111048.55	40.00	11/22/95
283	D-1180-08(6a)	W-312	1183.60	1260.00	784.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	9/7/12
284	D-0360	W-333	904.00	908.00	764.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	4/24/96
285	D-0425-01	DW-113	1261.00	1270.00	624.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	2/27/1999
286	D-0360	W501.077.00	1164.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	131.89	111048.55	41.00	1/14/15
287	D-2187	W-303	1179.50	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.35	14151.11	37.50	2/19/14
288	D-0360	W-295	1237.00	1264.00	701.40	562.60	4.58	351.36	15.02	176.44	12.24	18.09	111048.55	40.50	2/28/94
289	D-0360	W-353	1138.00	1210.00	898.34	311.66	5.89	203.68	6.59	88.74	15.19	27.35	111048.55	40.00	1/26/96
290	D-2177-06	WL-37	1128.70	1135.00	780.32	354.68	3.58	188.24	146.08	0.00	11.68	0.35	28301.29	40.00	7/6/05
291	D-0360	W-53.01	1005.20	1010.00	828.30	181.70	7.40	100.39	2.00	91.20	12.29	114.33	111048.55	41.00	3/16/12
292	D-0424	6-W-16	1110.00	1222.00	658.30	563.70	4.70	295.09	60.57	11.78	10.68	2.95	29225.93	39.00	6/30/08
293	D-0360	DW-719	1174.00	1178.00	749.55	428.45	7.05	259.73	45.00	112.83	14.77	138.51	111048.55	41.00	7/14/16
294	D-2177-05	WL-516.00	923.70	930.00	586.00	344.00	3.25	195.75	120.65	2.52	9.50	2.71	28301.29	40.00	1/4/10
295	D-0425-01	W-118	1234.00	1260.00	614.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	2/26/1999
296	D-1180-08(7)	W-101	1144.00	1185.00	726.50	458.50	3.00	333.50	126.00	0.00	5.50	25.10	10262.20	37.75	11/8/13
297	D-0424	7-W-13	1161.00	1223.00	906.70	316.30	2.80	118.21	173.10	0.00	2.80	7.69	29225.93	38.50	4/14/11
298	D-1180-08(7)	W-361	1189.00	1255.00	811.98	443.02	2.14	371.38	94.23	3.66	7.07	20.66	10262.20	37.75	5/28/12
299	D-2177-03	W-105.00	916.70	923.00	608.58	314.42	3.04	213.48	71.33	1.25	5.55	2.11	28301.29	40.00	3/5/09
300	D-0360	DW-122	1286.00	1302.00	934.15	367.85	6.20	166.26	55.30	131.78	11.66	6.99	111048.55	40.50	2/26/91
301	D-0360	W-413	1243.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	5/21/15
302	D-1180-08(7)	W-360	1188.00	1265.00	821.98	443.02	2.14	371.38	94.23	3.66	7.07	19.89	10262.20	37.75	3/6/12
303	D-1019	WL-18	973.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	10/13/10
304	D-0425-03	DW-437	976.00	980.00	669.88	310.12	3.40	1.38	0.00	1.61	0.13	0.74	61125.67	41.00	3/29/2002
305	D-0360	DW-406	1298.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	133.14	111048.55	40.50	4/21/15
306	D-0425-01	WL-98	1231.00	1262.00	951.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	10/15/1998

307	D-0360	W-418	1169.00	1180.00	852.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	2/24/97
308	D-0355-06	MC-FR31-502 (W)	655.00	800.00	462.59	337.41	3.50	230.09	86.17	7.67	4.75	49.64	9430.98	41.10	3/21/00
309	D-1180-00(6a)	W-23	1163.00	1200.00	757.25	442.75	3.16	325.00	117.00	0.00	7.91	0.00	10262.20	37.75	5/20/96
310	D-0360	W-346	918.00	930.00	786.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	2/5/96
311	D-2177-02	W-204	913.70	920.00	796.30	123.70	3.58	14.33	75.08	0.00	3.58	0.59	28301.29	40.00	2/16/06
312	D-1180-08(7)	W-102	1133.30	1180.00	724.92	455.08	2.92	390.50	66.00	0.00	6.00	28.80	10262.20	37.75	12/11/14
313	D-0360	W-709	1012.00	1085.00	913.37	171.63	5.20	65.90	1.30	100.36	11.56	138.61	111048.55	41.00	2/16/17
314	D-0360	WL-567	1151.00	1224.00	966.54	257.46	4.90	113.13	22.11	116.39	9.10	126.43	111048.55	40.50	1/21/14
315	D-2177-01	GMW-04-1D	868.31	874.61	529.45	345.16	3.54	118.44	205.60	0.58	9.37	1.24	28301.29	40.00	4/24/07
316	D2317	W3.01	612.00	618.00	377.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	11/19/14
317	D-0360	W-226	1058.00	1080.00	768.34	311.66	5.89	203.68	6.59	88.74	15.19	6.99	111048.55	40.00	3/20/91
318	D-0360	W-666	1043.00	1065.00	801.65	263.35	7.00	108.55	53.31	84.24	5.91	130.36	111048.55	40.50	11/17/14
319	D-1019	WL-18	974.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	11/25/11
320	D-0360	W-418	1165.00	1180.00	852.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	6/21/97
321	D-2187	W-370	1213.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	1.48	14151.11	37.50	8/22/14
322	D-0360	WL231.362.00	1125.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	129.65	111048.55	41.00	7/16/14
323	D-0425-05	W-113.00	1114.00	1130.00	720.64	409.36	1.33	2.24	0.99	0.84	0.08	14.00	61125.67	41.00	8/16/2004
324	D-0360	W-401	1279.00	1318.00	990.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	1/30/97
325	D-0360	W231.356.04	1265.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	133.14	111048.55	41.00	4/1/15
326	D-2177-05	W-515.00	918.70	925.00	601.42	323.58	3.50	238.51	62.99	0.84	9.25	2.71	28301.29	40.00	1/4/10
327	D-0426	W-19A	1154.20	1214.00	905.25	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	8/23/12
328	D-0360	W501.077.00	1167.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	133.14	111048.55	41.00	5/12/15
329	D-2187-04	DW-6	840.00	845.00	447.20	397.80	3.00	350.00	48.00	0.00	6.33	0.00	14151.11	37.50	4/10/06
330	D-0360	DW21-190.00	1239.75	1248.00	945.97	302.03	5.68	178.44	31.29	74.71	12.42	88.63	111048.55	40.50	4/27/08
331	D-0360	W-660	1139.00	1170.00	893.05	276.95	5.10	94.67	17.81	110.04	11.95	128.37	111048.55	40.50	5/5/14
332	D-0360	DW-161	1273.00	1290.00	739.30	550.70	7.10	325.95	44.97	162.21	15.14	6.99	111048.55	40.50	3/11/91
333	D-1180-08(7)	WL-295	1202.80	1220.00	776.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	8/30/12
334	D-0360	W-452	1155.50	1160.00	918.60	241.40	2.31	140.36	34.51	73.45	10.11	85.34	111048.55	40.50	10/16/07
335	D2317	M2A	645.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/21/16
336	D-1180-08(7)	W-294	1169.60	1192.00	748.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	9/7/12
337	D-1180-08(7)	W-309	1177.00	1262.00	818.98	443.02	2.14	371.38	94.23	3.66	7.07	26.85	10262.20	37.75	5/8/14
338	D-0360	W-359	1105.00	1118.00	974.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	1/29/96
339	D-2177-03	WL-125.00	965.70	972.00	835.65	136.35	3.40	78.02	15.16	0.00	4.98	2.11	28301.29	40.00	2/17/09
340	D-0426	W-18C	1029.28	1164.00	690.30	473.70	3.00	246.94	55.98	2.32	7.73	12.64	35708.87	39.00	8/29/14
341	D2317	M1B	686.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	5/15/13
342	D-0360	DW-362	993.00	1000.00	856.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	12/15/95
343	D-0360	W-327	904.00	910.00	766.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	1/26/96
344	D-0360	WL231.362.00	1128.60	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	108.10	111048.55	41.00	2/23/11
345	D-0360	WL231.362.00	1121.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	131.89	111048.55	41.00	3/2/15
346	D-0360	W-609	1141.00	1162.00	863.14	298.86	5.45	166.14	34.91	78.29	9.15	126.43	111048.55	40.50	3/12/14
347	D-0426-08	WL-110	981.00	1010.00	402.00	608.00	8.00	552.90	90.98	1.02	14.64	1.61	35708.87	39.00	11/5/98
348	D-0360	WL336.373.00	1078.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	136.88	111048.55	41.00	3/3/16
349	D-0425-05	DW-34.00	1325.00	1340.00	670.60	669.40	5.90	4.38	0.61	1.65	0.21	7.86	61125.67	41.00	7/31/2003
350	D-0360	W-438	1089.00	1145.00	827.55	317.45	7.29	204.12	2.04	78.09	10.82	41.49	111048.55	40.50	11/17/98
351	D-0360	W-325	943.00	975.00	831.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	2/6/96
352	D-0425-05	W-113.00	1113.00	1130.00	720.64	409.36	1.33	2.24	0.99	0.84	0.08	12.20	61125.67	41.00	4/20/2004
353	D-0360	W-428	1196.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	129.65	111048.55	40.00	7/17/14
354	D-0360	W-620	1143.00	1178.00	879.14	298.86	5.45	166.14	34.91	78.29	9.15	130.36	111048.55	40.50	11/24/14
355	D-0360	DW-324	998.00	1000.00	790.32	209.68	4.28	93.70	32.00	105.70	7.82	28.69	111048.55	40.00	4/18/96
356	D-0360	W-125	1281.00	1299.00	931.15	367.85	6.20	166.26	55.30	131.78	11.66	6.09	111048.55	40.50	12/27/90
357	D-0425-01	WL-43	1182.00	1241.00	1162.42	78.58	6.76	0.35	0.02	0.39	0.11	0.00	61125.67	41.00	10/18/1998
358	D-0360	DW-129	1282.00	1305.00	937.15	367.85	6.20	166.26	55.30	131.78	11.66	6.99	111048.55	40.50	2/26/91
359	D-0360	W336.375.00	926.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	138.61	111048.55	41.00	11/3/16
360	D-2177-03	W-5.00	923.70	930.00	846.91	83.09	3.92	49.17	3.50	0.00	3.92	2.27	28301.29	40.00	6/3/09
361	D-2187	WL-3	1210.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	0.77	14151.11	37.50	12/9/11
362	D2317	M1A	648.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	5/15/13
363	D-2187	W-8	1110.00	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	1.35	14151.11	37.50	3/18/14
364	D-0425-01	W-122	1233.00	1260.00	949.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	3/23/1999
365	D-1180-08(6a)	W-292	1170.20	1192.00	716.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	7/29/13
366	D-0425-05	DW-95.00	1246.00	1250.00	586.14	663.86	0.17	4.92	0.76	0.94	0.14	9.18	61125.67	41.00	10/25/2003
367	D-0360	W231.356.04	1267.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	135.54	111048.55	41.00	11/2/15
368	D-2177-02	WL-181	880.70	887.00	763.30	123.70	3.58	14.33	75.08	0.00	3.58	0.18	28301.29	40.00	1/6/05

369	D-0360	W21-083.00	1035.70	1055.00	737.55	317.45	7.29	204.12	2.04	78.09	10.82	90.29	111048.55	40.00	7/1/08
370	D-0360	W21-045.01	1295.80	1340.00	1036.64	303.36	7.40	175.10	23.60	87.50	17.29	90.29	111048.55	40.50	8/6/08
371	D-0360	W-417	1116.00	1165.00	837.47	327.53	4.87	218.18	24.31	55.90	14.42	35.29	111048.55	40.50	7/19/97
372	D-0360	WL-747	1219.00	1270.00	749.60	520.40	6.58	417.07	32.62	64.63	15.68	65.85	111048.55	40.50	10/6/03
373	D-0360	W21-112.00	1031.80	1060.00	742.55	317.45	7.29	204.12	2.04	78.09	10.82	90.29	111048.55	40.00	7/8/08
374	D-2177-02	WL-181	880.70	887.00	763.30	123.70	3.58	14.33	75.08	0.00	3.58	0.12	28301.29	40.00	10/26/04
375	D-0360	W-414	1229.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	129.65	111048.55	40.50	7/15/14
376	D-0360	W-660	1136.00	1170.00	893.05	276.95	5.10	94.67	17.81	110.04	11.95	131.89	111048.55	40.50	2/2/15
377	D-0360	W-413	1246.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	133.14	111048.55	40.50	4/22/15
378	D-1180-08(6a)	W-100	1084.90	1180.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	15.87	10262.20	37.75	11/8/13
379	D-0360	W-342	879.00	885.00	756.70	128.30	5.87	17.73	0.00	82.11	9.03	26.12	111048.55	40.00	11/21/95
380	D-0360	W-333	905.00	908.00	764.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	1/29/96
381	D-2177-03	W-41.00	861.70	868.00	784.91	83.09	3.92	49.17	3.50	0.00	3.92	2.27	28301.29	40.00	5/27/09
382	D-0360	WL-692	1312.00	1355.00	798.02	556.98	7.61	404.08	9.37	114.93	14.37	67.27	111048.55	40.50	2/25/04
383	D-0425-01	W-97	1085.00	1175.00	561.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	12/14/1998
384	D-0425-01	W-63	1098.00	1152.00	547.31	604.69	0.55	4.32	0.50	1.03	0.16	0.00	61125.67	41.00	12/18/1998
385	D-0360	W-170	1055.00	1105.00	811.10	293.90	7.12	127.60	10.23	132.06	16.83	6.09	111048.55	40.50	11/2/90
386	D-0425-01	WL-2	1207.00	1236.00	680.01	555.99	2.06	3.55	0.24	1.44	0.20	0.00	61125.67	41.00	9/17/1998
387	D-0425-05	W-14.00	1282.00	1310.00	730.06	579.94	0.25	4.02	0.24	1.16	0.08	10.97	61125.67	41.00	2/26/2004
388	D-0360	W-413	1241.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	11/21/16
389	D-0360	WL-674	1098.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	138.51	111048.55	40.00	9/1/16
390	D-0360	WL-674	1097.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	53.95	111048.55	40.00	5/29/01
391	D-0360	W-410	1237.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	129.65	111048.55	40.50	7/15/14
392	D-0360	W-166	1038.00	1106.00	812.10	293.90	7.12	127.60	10.23	132.06	16.83	6.09	111048.55	40.50	12/10/90
393	D-0360	W231.356.04	1226.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	129.65	111048.55	41.00	7/17/14
394	D-1180-08(6a)	WL-362	1207.00	1218.00	742.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/28/13
395	D-0360	W-22.007.00	1214.00	1240.00	750.29	489.71	11.76	347.06	30.83	115.94	26.19	137.99	111048.55	41.00	5/17/16
396	D-0355-04	MC-16-505(WL)	730.00	760.00	553.20	206.80	5.10	137.30	56.40	5.80	8.50	40.98	9430.98	41.10	4/22/96
397	D-0425-01	W-75	1123.00	1149.00	544.31	604.69	0.55	4.32	0.50	1.03	0.16	0.00	61125.67	41.00	11/25/1998
398	D-0360	DW-406	1300.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	33.83	111048.55	40.50	6/28/97
399	D-0360	DW-406	1300.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	136.88	111048.55	40.50	3/21/16
400	D-0360	W21-160.00	1159.40	1220.00	941.00	279.00	6.90	77.16	24.69	145.59	12.54	88.63	111048.55	40.50	4/30/08
401	D-0360	W231.356.04	1227.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	126.43	111048.55	41.00	2/6/14
402	D-0425-01	WL-2	1210.00	1236.00	680.01	555.99	2.06	3.55	0.24	1.44	0.20	0.00	61125.67	41.00	7/13/1998
403	D-2187	W-303	1170.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.24	14151.11	37.50	1/6/10
404	D-2187	WL-3	1210.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	0.55	14151.11	37.50	2/24/11
405	D-0360	WL231.362.00	1116.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	130.36	111048.55	41.00	12/3/14
406	D-0360	W-353	1137.00	1210.00	898.34	311.66	5.89	203.68	6.59	88.74	15.19	26.12	111048.55	40.00	12/26/95
407	D-0355-04	MS-12-507(WL)	609.00	700.00	365.50	334.50	4.00	190.10	134.30	8.40	7.20	40.98	9430.98	41.10	10/3/96
408	D-0360	W-374	1249.00	1290.00	809.93	480.07	7.29	317.33	35.19	104.86	16.00	27.35	111048.55	40.50	1/15/97
409	D-0425-05	W-68.02	1151.00	1185.00	744.20	440.80	2.32	1.86	0.89	1.46	0.15	10.97	61125.67	41.00	3/5/2004
410	D-0360	W-681	1259.00	1312.00	907.57	404.43	7.01	276.76	17.32	84.19	12.07	65.85	111048.55	40.50	10/8/03
411	D2317	MIA	647.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/18/15
412	D-0425-04	DW-132	1041.00	1044.00	757.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	1/30/1999
413	D-2187	W-370	1213.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	1.55	14151.11	37.50	10/2/14
414	D-0360	W-413	1249.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	5/27/97
415	D-0425-05	DW-98.01	1236.00	1240.00	698.40	541.60	1.71	3.13	1.11	1.05	0.14	9.18	61125.67	41.00	10/30/2003
416	D-1180-08(6a)	W-351	1255.60	1290.00	814.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	4/8/14
417	D-0425-01	DW-38	1178.00	1204.00	590.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	12/15/1998
418	D-0360	DW-406	1301.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	138.61	111048.55	40.50	1/23/17
419	D-2187-02	WL-318	1199.00	1215.00	817.20	397.80	3.00	350.00	48.00	0.00	6.33	0.00	14151.11	37.50	1/23/04
420	D-0360	WL-729	1132.00	1160.00	885.70	274.30	7.64	160.72	7.90	89.41	14.94	64.61	111048.55	40.50	9/17/03
421	D-0360	DW-354	917.00	935.00	791.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	12/16/95
422	D-0355-04	MS-11-502(DW)	615.50	620.00	397.90	222.10	4.00	150.40	30.20	7.30	4.00	40.98	9430.98	41.10	4/17/96
423	D-0426-08	WL-125	1003.00	1030.00	422.00	608.00	8.00	552.90	90.98	1.02	14.64	5.37	35708.87	39.00	12/12/01
424	D-0360	W-363	1000.00	1095.00	885.32	209.68	4.28	93.70	32.00	105.70	7.82	28.89	111048.55	40.00	4/18/96
425	D-0360	W501.077.00	1105.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	138.61	111048.55	41.00	1/3/17
426	D-0425-01	W-42	1186.00	1223.00	1144.42	78.58	6.76	0.35	0.02	0.39	0.11	0.00	61125.67	41.00	10/14/1998
427	D-0360	WL-116	1244.00	1260.00	700.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	11/30/90
428	D-0360	W-159	1253.00	1290.00	730.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	1/4/91
429	D-2177-03	W-24K	1078.70	1085.00	759.04	325.96	3.33	225.55	79.76	0.73	9.95	2.11	28301.29	40.00	3/11/09
430	D-1180-01(7)	W-23	1149.00	1200.00	757.25	442.75	3.16	325.00	117.00	0.00	7.91	0.00	10262.20	37.75	10/23/01

431	D-0360	W-414	1264.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	2/27/17
432	D-0360	W501.343000	1125.00	1175.00	743.50	431.50	6.60	236.12	77.80	118.08	12.12	136.88	111048.55	41.00	3/1/16
433	D-2177-03	WL-20K	1083.70	1090.00	793.00	297.00	3.17	239.44	35.92	3.23	7.57	0.45	28301.29	40.00	10/29/05
434	D-0355-04	MC-FR2-503 (W)	674.00	800.00	590.08	209.92	4.58	164.00	29.16	8.17	10.58	40.98	9430.98	41.10	4/23/96
435	D-2317-0A	W-10	540.00	600.00	359.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	4/30/06
436	D-0425-01	DW-60	1144.00	1161.00	830.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	9/12/1998
437	D-0354	Rowing Crew Shaft	456.84	637.76	248.21	389.55	4.17	77.51	258.71	3.04	5.75	39.63	20418.32	41.20	10/22/18
438	D-0360	W-165	1111.00	1140.00	580.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	1/7/91
439	D-0425-01	W-88	1226.00	1240.00	594.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	1/22/1999
440	D-0360	WL231.362.00	1106.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	135.54	111048.55	41.00	12/2/15
441	D-0360	WL231.362.00	1130.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	128.37	111048.55	41.00	6/4/14
442	D-0360	W-394	1233.00	1259.00	825.91	433.09	5.12	321.97	32.71	69.59	16.17	32.60	111048.55	40.00	3/14/97
443	D-1180-08(7)	W-251	1151.40	1202.00	807.00	395.00	2.75	325.00	117.00	0.00	7.91	24.55	10262.20	37.75	9/19/13
444	D-0425-01	DW-28	1209.00	1220.00	804.84	415.16	4.00	3.18	0.77	0.21	0.11	0.00	61125.67	41.00	8/22/1998
445	D-1180-08(7)	W-311	1166.40	1265.00	821.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	9/7/12
446	D-0360	WL-351	1199.00	1225.00	1081.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	4/18/96
447	D-0425-03	WL-161	1238.00	1280.00	688.81	591.19	3.97	3.81	0.51	1.33	0.20	0.49	61125.67	41.00	10/9/2001
448	D-0425-01	W-125	1192.00	1192.00	578.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	10/29/1998
449	D2317	M2B	646.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	6/16/15
450	D-0360	W-609	1139.00	1162.00	863.14	298.86	5.45	166.14	34.91	78.29	9.15	126.43	111048.55	40.50	2/18/14
451	D-0425-01	W-42	1199.00	1223.00	1144.42	78.58	6.76	0.35	0.02	0.39	0.11	0.00	61125.67	41.00	9/28/1998
452	D-1180-03(6a)	W-102	1128.30	1180.00	724.92	455.08	2.92	390.50	66.00	0.00	6.00	13.49	10262.20	37.75	10/14/05
453	D-0360	W-413	1246.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	134.61	111048.55	40.50	7/13/15
454	D-0360	W21-029.00	1235.00	1283.00	792.84	490.16	5.17	323.67	11.34	108.77	13.68	90.29	111048.55	40.50	8/4/08
455	D-0424	6-WL-12	994.00	1020.00	769.40	250.60	3.60	111.09	3.31	5.01	3.60	3.37	29225.93	39.00	7/3/08
456	D-2177-05	W-501.00	911.70	918.00	603.58	314.42	3.04	213.48	71.33	1.25	5.55	2.42	28301.29	40.00	9/16/09
457	D-0425-01	W-122	1233.00	1260.00	949.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	12/21/1998
458	D-0360	W-414	1265.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	134.61	111048.55	40.50	7/13/15
459	D-0360	W501.077.01	1068.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	129.65	111048.55	41.00	9/9/14
460	D-0360	W231.356.00	1160.00	1280.00	944.55	335.45	7.45	211.84	21.69	92.72	12.98	93.68	111048.55	41.00	1/22/09
461	D-2187	W-303	1177.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.04	14151.11	37.50	11/15/12
462	D-2187	W-303	1178.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.40	14151.11	37.50	9/15/10
463	D-0360	W-340	902.00	920.00	791.70	128.30	5.87	17.73	0.00	82.11	9.03	27.35	111048.55	40.00	3/22/96
464	D-0360	W501.077.01	1071.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	138.51	111048.55	41.00	9/12/16
465	D-1180-08(6a)	W-352	1202.60	1232.00	756.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	3/20/12
466	D-2177-05	WL-504.00	1013.70	1020.00	676.00	344.00	3.25	195.75	120.65	2.52	9.50	2.42	28301.29	40.00	9/21/09
467	D-0360	W-394	1231.00	1259.00	825.91	433.09	5.12	321.97	32.71	69.59	16.17	32.60	111048.55	40.00	1/28/97
468	D-0360	W-336	904.00	918.00	774.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	4/24/96
469	D-0360	WL336.373.00	1074.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	135.54	111048.55	41.00	11/2/15
470	D-0425-01	W-3	1214.00	1246.00	690.01	555.99	2.06	3.55	0.24	1.44	0.20	0.00	61125.67	41.00	10/6/1998
471	D-0354	South Mains Shaft	457.21	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	5/14/18
472	D-0425-05	WL-84.00	1206.00	1242.00	801.20	440.80	2.32	1.86	0.89	1.46	0.15	10.97	61125.67	41.00	2/16/2004
473	D-1180-08(6a)	W-251	1151.40	1202.00	759.25	442.75	3.16	325.00	117.00	0.00	7.91	15.87	10262.20	37.75	9/19/13
474	D-0360	W-666	1054.00	1065.00	801.65	263.35	7.00	108.55	53.31	84.24	5.91	126.43	111048.55	40.50	3/11/14
475	D-2187	W-370	1203.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.92	14151.11	37.50	4/10/12
476	D-0360	W-333	904.00	908.00	764.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	11/20/95
477	D-0360	W-400	1270.00	1315.00	1023.50	291.50	6.25	177.75	23.01	71.99	15.15	32.60	111048.55	40.50	2/27/97
478	D-0360	DW-180	1066.00	1083.00	789.10	293.90	7.12	127.60	10.23	132.06	16.83	7.80	111048.55	40.50	4/16/91
479	D-1180-08(6a)	W-354	1183.40	1262.00	786.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	3/6/12
480	D-0360	W-153	1240.00	1269.00	709.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	3/21/91
481	D-0360	W501.343000	1120.00	1175.00	743.50	431.50	6.60	236.12	77.80	118.08	12.12	136.88	111048.55	41.00	2/3/16
482	D-2317-0A	DW-22A	847.50	860.00	619.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	2/7/08
483	D-0425-01	WL-98	1230.00	1262.00	951.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	12/21/1998
484	D-1180-08(6a)	W-361	1189.00	1255.00	779.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/28/12
485	D-0355-04	MC-FR1-501 (DW4)	756.00	760.00	422.59	337.41	3.50	230.09	86.17	7.67	4.75	40.98	9430.98	41.10	10/8/96
486	D-0360	DW-331	927.00	935.00	791.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	3/4/96
487	D-0360	W-414	1266.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	128.37	111048.55	40.50	4/17/14
488	D-0425-01	DW-62	1188.00	1215.00	610.31	604.69	0.55	4.32	0.50	1.03	0.16	0.00	61125.67	41.00	11/25/1998
489	D-1180-08(6a)	W-277	1124.80	1205.00	729.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	9/11/13
490	D-0360	W231.356.04	1264.50	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	134.61	111048.55	41.00	7/6/15
491	D2091	NW-9	1007.80	1025.80	927.17	98.63	3.92	66.50	31.00	0.00	4.04	3.21	11181.57	37.50	2/16/17
492	D-0360	W-415	1115.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	3/14/97

493	D2317	W41.02	729.00	785.00	544.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	8/27/13
494	D-0360	W231.356.04	1267.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	135.54	111048.55	41.00	10/1/15
495	D-0360	W-620	1150.00	1178.00	879.14	298.86	5.45	166.14	34.91	78.29	9.15	126.43	111048.55	40.50	1/21/14
496	D-0360	WL-674	1089.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	134.61	111048.55	40.00	8/24/15
497	D-0360	W-415	1112.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	126.43	111048.55	40.50	1/23/14
498	D-0360	WL-674	1094.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	138.61	111048.55	40.00	10/3/16
499	D-0425-01	W-95	1209.00	1240.00	929.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	2/26/1999
500	D-0360	W-426	1118.00	1160.00	626.00	534.00	7.98	316.06	23.80	187.04	13.10	39.40	111048.55	41.00	4/13/98
501	D-2187	W-8	1107.50	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	1.60	14151.11	37.50	1/22/15
502	D-2187	W-303	1174.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.85	14151.11	37.50	3/20/12
503	D-2187	W-8	1112.00	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	1.19	14151.11	37.50	5/9/13
504	D-1180-01(6a)	W-23	1149.00	1200.00	757.25	442.75	3.16	325.00	117.00	0.00	7.91	1.49	10262.20	37.75	10/23/01
505	D-0425-01	DW-19	1239.00	1260.00	728.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	8/8/1998
506	D-0425-01	W-95	1204.00	1240.00	929.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	11/23/1998
507	D-0425-01	W-75	1125.00	1149.00	544.31	604.69	0.55	4.32	0.50	1.03	0.16	0.00	61125.67	41.00	2/26/1999
508	D-1180-08(6a)	W-305	1164.60	1200.00	724.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	8/26/14
509	D-0355-04	MC-13-503 (W)	611.00	720.00	381.26	338.74	4.25	231.59	91.00	11.59	5.83	40.98	9430.98	41.10	4/25/96
510	D-1180-08(6a)	W-293	1166.80	1192.00	716.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	3/29/12
511	D-0360	W-377	1225.00	1282.00	810.21	471.79	5.29	321.05	61.70	78.55	18.20	33.83	111048.55	40.00	5/15/97
512	D-2177-03	WL-168.00	1075.70	1082.00	746.75	335.25	3.50	264.61	44.82	7.15	9.95	2.27	28301.29	40.00	6/2/09
513	D-0360	W-359	1113.00	1118.00	974.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	4/19/96
514	D2317	W3.01	612.00	618.00	377.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/5/14
515	D-0360	W-359	1104.00	1118.00	974.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	12/26/95
516	D-0360	W-660	1131.00	1170.00	893.05	276.95	5.10	94.67	17.81	110.04	11.95	129.65	111048.55	40.00	8/15/14
517	D-1180-08(7)	WL-273	1208.00	1220.00	776.98	443.02	2.14	371.38	94.23	3.66	7.07	20.66	10262.20	37.75	4/10/12
518	D-1180-08(7)	W-308	1132.00	1224.00	780.98	443.02	2.14	371.38	94.23	3.66	7.07	18.18	10262.20	37.75	3/28/11
519	D-0360	W-407	1248.00	1306.00	787.53	518.47	7.08	373.81	9.26	93.89	21.49	32.60	111048.55	40.50	3/19/97
520	D-0425-05	DW-97.01	1166.00	1170.00	729.20	440.80	2.32	1.86	0.89	1.46	0.15	10.97	61125.67	41.00	2/17/2004
521	D-0360	DW-719	1172.00	1178.00	749.55	428.45	7.05	259.73	45.00	112.83	14.77	138.51	111048.55	41.00	9/29/16
522	D-2317-1	W-600	654.50	660.00	419.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	12/6/07
523	D-0360	W-413	1249.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	136.88	111048.55	40.50	3/21/16
524	D-0360	W-365	1189.00	1240.00	1096.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	1/26/96
525	D-0360	W-429	1198.00	1210.00	652.26	557.74	2.40	398.53	47.72	103.50	11.13	38.09	111048.55	40.50	3/5/98
526	D-2269-08	WL-1638	761.00	800.00	624.00	176.00	4.80	48.00	108.20	0.00	7.80	7.34	16659.24	40.00	8/8/12
527	D2317	M2A	646.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/18/15
528	D-0425-01	W-94	1156.00	1241.00	930.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	11/23/1998
529	D-0360	W21-106.00	1048.60	1065.00	747.55	317.45	7.29	204.12	2.04	78.09	10.82	88.63	111048.55	40.00	5/3/08
530	D-0360	W-620	1148.00	1178.00	879.14	298.86	5.45	166.14	34.91	78.29	9.15	126.43	111048.55	40.50	2/18/14
531	D-0425-01	DW-8	929.00	939.00	690.70	248.30	6.12	1.18	0.11	0.39	0.07	0.00	61125.67	41.00	11/12/1998
532	D-2177-06	W-28	1171.70	1178.00	823.32	354.68	3.58	188.24	146.08	0.00	11.68	0.35	28301.29	40.00	7/6/05
533	D2233	W-13	749.00	778.00	621.87	156.13	3.41	71.09	74.83	1.33	3.51	6.10	14067.46	40.00	8/22/16
534	D-0360	W-706	1233.90	1290.00	809.93	480.07	7.29	317.33	35.19	104.86	16.00	64.61	111048.55	40.50	8/8/03
535	D-0360	W-415	1107.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	129.65	111048.55	40.50	9/4/14
536	D-0360	W-335	909.00	918.00	774.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	2/27/96
537	D-2187	W-370	1213.50	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	1.42	14151.11	37.50	4/21/14
538	D-0360	W-671	1117.00	1183.00	904.48	278.52	7.88	130.58	24.35	89.21	10.00	126.43	111048.55	40.50	1/15/14
539	D-0425-01	DW-133	1134.00	1142.00	726.84	415.16	4.00	3.18	0.77	0.21	0.11	0.00	61125.67	41.00	3/23/1999
540	D-2187	W-303	1174.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.77	14151.11	37.50	11/25/11
541	D-0425-05	DW-98.01	1237.00	1240.00	698.40	541.60	1.71	3.13	1.11	1.05	0.14	10.97	61125.67	41.00	2/18/2004
542	D-0360	DW-406	1295.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	137.99	111048.55	40.50	5/25/16
543	D2233	DW-7	753.00	774.00	617.87	156.13	3.41	71.09	74.83	1.33	3.51	6.10	14067.46	40.00	4/26/17
544	D-0360	W-379	1247.00	1323.00	889.91	433.09	5.12	321.97	32.71	69.59	16.17	32.60	111048.55	40.00	3/14/97
545	D-0360	W-174	1027.00	1117.00	823.10	293.90	7.12	127.60	10.23	132.06	16.83	6.09	111048.55	40.50	11/3/90
546	D-0360	W-403	1304.00	1345.00	794.30	550.70	7.10	325.95	44.97	162.21	15.14	32.60	111048.55	40.50	3/25/97
547	D-0360	W-140	1269.00	1300.00	740.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	12/27/90
548	D-0360	DW-702	1168.00	1190.00	908.53	281.47	7.00	172.33	25.96	70.19	7.31	65.85	111048.55	40.50	10/8/03
549	D-0426	W-18C	1027.50	1164.00	690.30	473.70	3.00	246.94	55.98	2.32	7.73	11.50	35708.87	39.00	8/15/05
550	D-0360	WL-381	1285.00	1325.00	853.21	471.79	5.29	321.05	61.70	78.55	18.20	32.60	111048.55	40.00	2/20/97
551	D-2317-OA	WL-3	538.00	578.00	352.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	4/2/06
552	D-0360	W21-155.08	1259.90	1300.00	1025.75	274.25	5.45	194.05	15.51	61.90	11.27	88.63	111048.55	40.50	6/24/08
553	D-0360	W21-155.08	1259.00	1300.00	1025.75	274.25	5.45	194.05	15.51	61.90	11.27	90.29	111048.55	40.50	8/6/08
554	D-1180-08(6a)	W-367	1165.00	1235.00	759.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	4/4/12

555	D-0360	W501.077.00	1104.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	137.99	111048.55	41.00	5/9/16
556	D-0360	W-428	1233.00	1270.00	729.60	540.40	5.50	336.95	11.82	178.25	12.88	38.09	111048.55	40.00	2/28/98
557	D-0425-01	W-90	1202.00	1240.00	929.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	11/23/1998
558	D-2177-03	W-36.00	863.70	870.00	786.91	83.09	3.92	49.17	3.50	0.00	3.92	2.27	28301.29	40.00	5/27/09
559	D-0425-01	W-123	1176.00	1240.00	929.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	3/23/1999
560	D-0360	DW-169	1081.00	1100.00	581.53	518.47	7.08	373.81	9.26	93.89	21.49	6.09	111048.55	40.50	11/2/90
561	D0424-2	WL-13	1072.00	1232.00	758.30	473.70	3.00	246.94	55.98	2.32	7.73	0.00	29225.93	38.50	8/26/91
562	D-0360	W-694	1230.00	1265.00	775.29	489.71	11.76	347.06	30.83	115.94	26.19	137.99	111048.55	40.50	4/26/16
563	D-0360	W-413	1241.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	129.65	111048.55	40.50	8/14/14
564	D-2187	WL-3	1213.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	0.24	14151.11	37.50	3/18/10
565	D-0426-08	WL-206	967.00	985.00	555.17	429.83	6.00	449.44	19.98	0.00	15.58	5.37	35708.87	39.00	12/21/01
566	D-1019	WL-18	974.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	7/25/12
567	D-0360	W-660	1133.00	1170.00	893.05	276.95	5.10	94.67	17.81	110.04	11.95	131.89	111048.55	40.50	1/12/15
568	D-0425-01	DW-13	960.00	972.00	685.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	10/6/1998
569	D-0360	W-694	1233.00	1265.00	775.29	489.71	11.76	347.06	30.83	115.94	26.19	136.88	111048.55	40.50	3/15/16
570	D-0360	W-576	1148.00	1230.00	958.99	271.01	6.19	157.00	0.91	85.09	13.65	126.43	111048.55	40.50	3/12/14
571	D-0426-08	W-124	1006.00	1030.00	514.25	515.75	5.00	410.68	139.19	7.58	11.58	1.61	35708.87	39.00	11/5/98
572	D-0360	W-159	1252.00	1290.00	730.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	2/1/91
573	D-0360	W-576	1147.00	1230.00	958.99	271.01	6.19	157.00	0.91	85.09	13.65	126.43	111048.55	40.50	2/5/14
574	D-2177-05	WL-170.00	875.70	882.00	567.58	314.42	3.04	213.48	71.33	1.25	5.55	2.11	28301.29	40.00	3/5/09
575	D-1180-09(7)	W-358	1184.60	1262.00	818.98	443.02	2.14	371.38	94.23	3.66	7.07	20.66	10262.20	37.75	5/28/12
576	D-0360	W-428	1200.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	134.61	111048.55	40.00	8/11/15
577	D-0425-05	DW-91.00	1239.00	1260.00	596.14	663.86	0.17	4.92	0.76	0.94	0.14	9.18	61125.67	41.00	12/16/2003
578	D2317	W41.02	728.00	785.00	544.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	11/19/14
579	D-0425-01	W-72	1103.00	1165.00	551.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	10/31/1998
580	D-0425-01	DW-40	1193.00	1209.00	677.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	10/9/1998
581	D-0425-01	W-86	1213.00	1222.00	891.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	3/19/1999
582	D-0425-01	DW-62	1188.00	1215.00	610.31	604.69	0.55	4.32	0.50	1.03	0.16	0.00	61125.67	41.00	10/30/1998
583	D-1180-01(7)	W-23	1149.00	1200.00	757.25	442.75	3.16	325.00	117.00	0.00	7.91	0.00	10262.20	37.75	6/20/01
584	D-1180-08(6a)	W-353	1200.60	1232.00	756.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	9/7/12
585	D-0360	WL-674	1103.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	136.88	111048.55	40.00	3/1/16
586	D-2177-02	W-123A	1145.70	1152.00	758.06	393.94	3.54	181.43	164.59	18.64	7.34	1.35	28301.29	40.00	8/1/07
587	D-0360	W-347	1070.00	1180.00	868.34	311.66	5.89	203.68	6.59	88.74	15.19	27.35	111048.55	40.00	3/19/96
588	D-2091-4	WL-113	1170.00	1215.00	1064.00	151.00	3.50	116.01	33.17	8.25	4.14	2.03	11181.57	37.50	4/21/11
589	D-0360	W-413	1245.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	131.89	111048.55	40.50	3/24/15
590	D-0360	W-335	903.00	918.00	774.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	12/22/95
591	D-0355-04	MS-17-501(DW1)	597.50	600.00	377.90	222.10	4.00	150.40	30.20	7.30	4.00	40.98	9430.98	41.10	10/2/96
592	D-2187	WL-3	1210.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	0.69	14151.11	37.50	9/13/11
593	D-2177-01	GMW-04-3D	858.85	865.15	519.99	345.16	3.54	118.44	205.60	0.58	9.37	1.47	28301.29	40.00	10/24/07
594	D-0360	W-414	1264.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	4/23/97
595	D-0425-01	DW-19	1236.00	1260.00	728.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	1/22/1999
596	D-0360	W336.375.00	926.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	138.61	111048.55	41.00	10/5/16
597	D-0425-01	W-125	1180.00	1192.00	578.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	3/19/1999
598	D-0360	W231.356.04	1265.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	130.36	111048.55	41.00	11/11/14
599	D-0426	W-16A	1174.90	1220.00	911.25	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	8/23/12
600	D-0426	W-19C	1017.63	1215.00	906.25	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	10/22/15
601	D-0355-04	MC-13-503(W)	578.50	720.00	381.26	338.74	4.25	231.59	91.00	11.59	5.83	44.09	9430.98	41.10	6/5/97
602	D-0360	WL-674	1099.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	129.65	111048.55	40.00	7/10/14
603	D-0360	W-415	1114.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	128.37	111048.55	40.50	4/17/14
604	D-0360	W-620	1145.00	1178.00	879.14	298.86	5.45	166.14	34.91	78.29	9.15	130.36	111048.55	40.50	10/6/14
605	D-0426-08	WL-106	1020.00	1045.00	437.00	608.00	8.00	552.90	90.98	1.02	14.64	1.61	35708.87	39.00	11/5/98
606	D-0425-01	W-58	1023.00	1072.00	458.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	2/10/1999
607	D-0355-04	MC-8-506(W)	602.38	610.00	236.54	373.46	4.46	233.53	112.24	9.08	6.12	40.98	9430.98	41.10	4/22/96
608	D-0360	W-620	1145.00	1178.00	879.14	298.86	5.45	166.14	34.91	78.29	9.15	129.65	111048.55	40.50	7/10/14
609	D-0360	W-358	1201.00	1225.00	1081.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	4/18/96
610	D-0354	Rowing Crew Shaft	457.91	637.76	248.21	389.55	4.17	77.51	258.71	3.04	5.75	39.63	20418.32	41.20	8/27/18
611	D-2177-01	GMW-04-3S	1036.35	1042.65	918.95	123.70	3.58	14.33	75.08	0.00	3.58	1.24	28301.29	40.00	4/24/07
612	D-2187	W-370	1212.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.29	14151.11	37.50	4/15/10
613	D-0360	W21-080.00	1029.90	1045.00	727.55	317.45	7.29	204.12	2.04	78.09	10.82	90.29	111048.55	40.00	7/10/08
614	D-0426-08	WL-203	1008.00	1030.00	422.00	608.00	8.00	552.90	90.98	1.02	14.64	6.84	35708.87	39.00	3/8/02
615	D-0360	W-694	1229.00	1265.00	775.29	489.71	11.76	347.06	30.83	115.94	26.19	137.99	111048.55	40.50	6/14/16
616	D-0360	WL-721	1202.00	1229.00	800.55	428.45	7.05	259.73	45.00	112.83	14.77	136.88	111048.55	40.50	3/14/16

617	D-2177-02	W-252	873.70	880.00	756.30	123.70	3.58	14.33	75.08	0.00	3.58	1.61	28301.29	40.00	1/10/08
618	D-0360	W-413	1247.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	137.99	111048.55	40.50	5/25/16
619	D-0360	DW-129	1284.00	1305.00	937.15	367.85	6.20	166.26	55.30	131.78	11.66	6.99	111048.55	40.50	3/20/91
620	D-0425-01	WL-21	1239.00	1287.00	639.55	647.45	0.78	4.87	0.46	0.91	0.16	0.00	61125.67	41.00	11/12/1998
621	D-2177-03	WL-181.00	918.70	925.00	795.59	129.41	3.29	84.13	9.00	0.58	5.29	2.42	28301.29	40.00	9/11/09
622	D-0360	W-415	1113.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	4/23/97
623	D-0360	W-175	1118.00	1132.00	711.83	420.17	7.53	223.66	72.28	173.45	25.63	6.99	111048.55	40.00	2/5/91
624	D-0360	W-378	1298.00	1325.00	853.21	471.79	5.29	321.05	61.70	78.55	18.20	32.60	111048.55	40.00	2/20/97
625	D-0360	DW-180	1066.00	1083.00	789.10	293.90	7.12	127.60	10.23	132.06	16.83	6.99	111048.55	40.50	2/11/91
626	D-0360	W-336	898.00	918.00	774.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	12/22/95
627	D-0360	DW-399	1294.00	1315.00	1023.50	291.50	6.25	177.75	23.01	71.99	15.15	33.83	111048.55	40.50	4/23/97
628	D-0425-01	W-90	1205.00	1240.00	929.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	2/26/1999
629	D-0360	W-402	1255.00	1325.00	997.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	4/25/97
630	D-2317-1	DW-406	690.50	700.00	459.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	9/2/08
631	D-1180-01(7)	W-23	1157.00	1200.00	757.25	442.75	3.16	325.00	117.00	0.00	7.91	0.00	10262.20	37.75	10/2/96
632	D-0425-01	W-22	1032.00	1060.00	773.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	8/15/1998
633	D-0425-01	DW-35	1215.00	1240.00	733.61	506.39	2.90	3.12	0.78	0.92	0.14	0.00	61125.67	41.00	1/22/1999
634	D-0360	W501.077.00	1169.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	136.88	111048.55	41.00	1/5/16
635	D-0354	South Mains Shaft	456.68	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	4/28/18
636	D-2177-01	GNW-04-1S	1028.81	1035.11	911.41	123.70	3.58	14.33	75.08	0.00	3.58	1.24	28301.29	40.00	4/24/07
637	D-0360	W501.077.01	1070.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	133.14	111048.55	41.00	5/12/15
638	D-0360	W-414	1255.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	126.43	111048.55	40.50	2/13/14
639	D-1019	WL-18	973.50	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	7/12/10
640	D-0360	W21-087.01	1057.00	1068.00	750.55	317.45	7.29	204.12	2.04	78.09	10.82	90.29	111048.55	40.00	7/10/08
641	D-1180-01(7)	W-23	1163.00	1200.00	757.25	442.75	3.16	325.00	117.00	0.00	7.91	0.00	10262.20	37.75	5/20/96
642	D-1180-00(7)	W-10	801.00	825.00	716.00	109.00	3.10	98.00	11.00	0.00	6.10	0.00	10262.20	37.75	5/20/96
643	D-0360	W-418	1170.00	1180.00	852.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	5/22/97
644	D-0360	W-694	1236.00	1260.00	770.29	489.71	11.76	347.06	30.83	115.94	26.19	82.28	111048.55	40.50	4/23/07
645	D-0360	W21-138.00	1194.50	1240.00	936.64	303.36	7.40	175.10	23.60	87.50	17.29	88.63	111048.55	40.50	5/3/08
646	D-1180-00(6a)	W-10	801.00	825.00	716.00	109.00	3.10	98.00	11.00	0.00	6.10	0.00	10262.20	37.75	5/20/96
647	D-0360	DW-330	956.00	960.00	750.32	209.68	4.28	93.70	32.00	105.70	7.82	26.12	111048.55	40.00	11/17/95
648	D-0360	WL-381	1283.00	1325.00	853.21	471.79	5.29	321.05	61.70	78.55	18.20	32.60	111048.55	40.00	1/27/97
649	D-0424	S-WL-4	1131.00	1180.00	707.50	472.50	3.00	434.47	129.19	2.52	13.75	8.05	29225.93	39.50	7/11/11
650	D-2177-02	WL-194	883.70	890.00	766.30	123.70	3.58	14.33	75.08	0.00	3.58	0.12	28301.29	40.00	11/1/04
651	D-0360	W-671	1079.00	1183.00	904.48	278.52	7.88	130.58	24.35	89.21	10.00	129.65	111048.55	40.50	8/19/14
652	D-1180-02(7)	WL-200	821.00	830.00	354.71	475.29	3.21	378.08	96.38	3.82	7.20	0.00	10262.20	37.75	1/18/05
653	D-0360	WL-674	1132.00	1170.00	931.95	238.05	6.60	146.59	0.00	68.14	11.96	138.61	111048.55	40.00	2/16/17
654	D-0360	WL-721	1161.00	1229.00	800.55	428.45	7.05	259.73	45.00	112.83	14.77	137.99	111048.55	40.50	5/17/16
655	D-0360	W-374	1246.00	1290.00	809.93	480.07	7.29	317.33	35.19	104.86	16.00	33.83	111048.55	40.50	5/22/97
656	D-0360	W-401	1280.00	1318.00	990.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	3/19/97
657	D-0360	W-415	1102.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	134.61	111048.55	40.50	9/10/15
658	D-0360	DW-126	1289.00	1311.00	943.15	367.85	6.20	166.26	55.30	131.78	11.66	6.99	111048.55	40.50	2/25/91
659	D-0360	W21-138.00	1215.40	1240.00	936.64	303.36	7.40	175.10	23.60	87.50	17.29	90.29	111048.55	40.50	8/4/08
660	D-0360	DW-719	1177.00	1180.00	751.55	428.45	7.05	259.73	45.00	112.83	14.77	80.34	111048.55	41.00	10/20/06
661	D-0425-05	W-114.01	1052.00	1065.00	655.64	409.36	1.33	2.24	0.99	0.84	0.08	12.20	61125.67	41.00	4/20/2004
662	D-1180-03(6a)	W-101	1125.00	1185.00	726.50	458.50	3.00	333.50	126.00	0.00	5.50	14.31	10262.20	37.75	3/29/06
663	D-0360	W-312A	1254.00	1315.00	764.30	550.70	7.10	325.95	44.97	162.21	15.14	24.01	111048.55	40.50	6/23/95
664	D-0360	DW-420	1222.00	1241.00	949.50	291.50	6.25	177.75	23.01	71.99	15.15	35.29	111048.55	40.50	8/23/97
665	D-2177-02	WL-181	880.70	887.00	763.30	123.70	3.58	14.33	75.08	0.00	3.58	0.18	28301.29	40.00	2/28/05
666	D-0425-01	DW-133	1142.00	1142.00	726.84	415.16	4.00	3.18	0.77	0.21	0.11	0.00	61125.67	41.00	10/24/1998
667	D-0360	WL-348	1111.00	1210.00	898.34	311.66	5.89	203.68	6.59	88.74	15.19	26.12	111048.55	40.00	12/18/95
668	D-0425-01	DW-40	1193.00	1209.00	677.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	8/25/1998
669	D-2187	W-370	1212.50	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	1.60	14151.11	37.50	1/20/15
670	D-0360	W-413	1248.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	126.43	111048.55	40.50	3/13/14
671	D-1180-01(7)	W-6	1175.00	1210.00	767.25	442.75	3.16	325.00	117.00	0.00	7.91	0.00	10262.20	37.75	10/2/96
672	D2233	WL-936	746.00	820.00	755.00	65.00	4.20	13.90	39.70	0.00	4.20	6.10	14067.46	40.00	4/26/17
673	D-0360	W-382	1273.00	1350.00	916.91	433.09	5.12	321.97	32.71	69.59	16.17	32.60	111048.55	40.00	3/19/97
674	D-0425-05	DW-115.00	1127.00	1140.00	642.62	497.38	0.43	2.86	1.39	0.53	0.07	12.20	61125.67	41.00	5/24/2004
675	D-1019	WL-18	973.50	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	11/24/10
676	D-1019	W-242	1137.00	1190.00	892.00	298.00	3.00	125.09	149.81	29.51	9.14	3.84	11184.92	37.50	1/20/10
677	D-2269 CA	WL-6	695.00	710.00	639.30	70.70	6.70	3.60	48.70	0.00	6.70	0.00	16659.24	40.00	6/12/05
678	D-0360	W-410	1250.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	131.89	111048.55	40.50	2/20/15

679	D-0425-04	DW-132	1041.00	1044.00	757.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	2/10/1999
680	D-0425-01	DW-80	1221.00	1241.00	595.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	9/27/1998
681	D-0360	W-415	1113.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	5/22/97
682	D-0360	W-344	1165.00	1185.00	770.84	414.16	6.47	221.29	50.89	100.31	19.91	27.35	111048.55	40.00	1/26/96
683	D-0425-01	DW-113	1263.00	1270.00	624.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	1/22/1999
684	D-1180-08(6a)	W-363	1138.60	1195.00	719.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/22/13
685	D-0425-01	DW-28	1208.00	1220.00	804.84	415.16	4.00	3.18	0.77	0.21	0.11	0.00	61125.67	41.00	12/15/1998
686	D-0360	W-660	1140.00	1170.00	893.05	276.95	5.10	94.67	17.81	110.04	11.95	126.43	111048.55	40.50	3/11/14
687	D-0354	South Mains Shaft	454.37	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	4/17/17
688	D-0360	W-609	1113.00	1162.00	863.14	298.86	5.45	166.14	34.91	78.29	9.15	133.14	111048.55	40.50	4/21/15
689	D-0360	DW-22.008.05	1257.00	1285.00	974.87	310.13	6.50	159.17	21.87	104.59	13.71	91.66	111048.55	41.00	10/8/08
690	D-0360	WL-736	1120.00	1131.00	797.66	333.34	4.90	243.57	13.34	48.14	14.88	138.61	111048.55	41.00	2/16/17
691	D-1180-08(6a)	W-354	1192.20	1232.00	756.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	9/7/12
692	D-1180-08(7)	WL-101	1166.10	1185.00	742.25	442.75	3.16	325.00	117.00	0.00	7.91	29.41	10262.20	37.75	3/27/15
693	D-2187	W-303	1178.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.55	14151.11	37.50	1/10/11
694	D-2269-08	W-1646	761.00	800.60	627.50	172.50	4.80	70.70	82.00	0.00	8.80	7.34	16659.24	40.00	8/23/12
695	D-0360	W-22.007.00	1216.20	1250.00	760.29	489.71	11.76	347.06	30.83	115.94	26.19	93.68	111048.55	41.00	1/22/09
696	D-0425-05	W-37.00	1200.00	1210.00	623.70	586.30	5.97	4.12	0.36	1.31	0.21	10.97	61125.67	41.00	2/19/2004
697	D-0425-03	DW-426	1235.00	1250.00	668.75	581.25	1.56	2.44	1.15	1.38	0.12	0.74	61125.67	41.00	3/25/2002
698	D-0426	W-16C	1039.19	1218.63	909.88	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	10/22/15
699	D-0360	W-696	1193.00	1270.00	841.55	428.45	7.05	259.73	45.00	112.83	14.77	67.27	111048.55	40.50	2/27/04
700	D-0360	DW-362	993.00	1000.00	856.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	11/30/95
701	D-0360	DW-717	1275.50	1280.00	767.67	512.33	7.27	337.40	56.38	101.13	13.43	67.27	111048.55	40.50	2/19/04
702	D-0360	W-660	1130.00	1170.00	893.05	276.95	5.10	94.67	17.81	110.04	11.95	130.36	111048.55	40.50	10/8/14
703	D-2269-08	DW-1635	971.00	1010.00	837.50	172.50	4.80	70.70	82.00	0.00	8.80	7.34	16659.24	40.00	8/8/12
704	D-0360	W231.356.04	1224.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	129.65	111048.55	41.00	8/14/14
705	D-1180-08(6a)	WL-101	1166.10	1185.00	742.25	442.75	3.16	325.00	117.00	0.00	7.91	15.87	10262.20	37.75	3/27/15
706	D-2177-03	W-141.00	1138.70	1145.00	1008.65	136.35	3.40	78.02	15.16	0.00	4.98	2.42	28301.29	40.00	9/11/09
707	D-2177-03	W-24K	1078.70	1085.00	759.04	325.96	3.33	225.55	79.76	0.73	9.95	2.27	28301.29	40.00	5/28/09
708	D-0424	DW-143	1034.00	1044.00	727.70	316.30	2.80	118.21	173.10	0.00	2.80	7.32	29225.93	38.50	3/31/11
709	D-0425-01	DW-24	1202.00	1206.00	919.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	1/29/1999
710	D-0360	W-609	1141.00	1162.00	863.14	298.86	5.45	166.14	34.91	78.29	9.15	128.37	111048.55	40.50	5/6/14
711	D-0360	DW-427	1231.00	1265.00	702.80	562.20	5.50	277.65	65.48	204.97	11.83	39.40	111048.55	40.50	5/20/98
712	D-0424	7-WL-3	1226.00	1280.00	809.40	470.60	4.40	375.29	91.88	7.02	4.39	7.69	29225.93	38.50	6/1/11
713	D-0360	W-199	1185.00	1200.00	1056.68	143.32	3.00	15.48	0.00	96.63	9.60	7.80	111048.55	40.00	4/17/91
714	D-0360	W-22.007.00	1214.00	1240.00	750.29	489.71	11.76	347.06	30.83	115.94	26.19	138.61	111048.55	41.00	3/20/17
715	D-0360	W336.375.00	926.60	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	114.33	111048.55	41.00	3/16/12
716	D-1180-08(6a)	W-251	1153.50	1202.00	759.25	442.75	3.16	325.00	117.00	0.00	7.91	15.87	10262.20	37.75	7/29/13
717	D-0426	W-19C	1016.61	1215.00	906.25	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	8/29/14
718	D-1180-03(7)	W-101	1129.00	1185.00	726.50	458.50	3.00	333.50	126.00	0.00	5.50	0.00	10262.20	37.75	10/14/05
719	D-0360	DW-330	956.00	960.00	750.32	209.68	4.28	93.70	32.00	105.70	7.82	27.35	111048.55	40.00	1/3/96
720	D-1180-08(6a)	WL-364	1197.80	1218.00	742.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	8/30/12
721	D-2177-03	W-427.00	881.70	888.00	763.54	124.46	3.54	36.37	75.17	0.00	4.46	2.42	28301.29	40.00	9/11/09
722	D-0424	8-WL-10	1106.00	1142.00	669.50	472.50	3.00	434.47	129.19	2.52	13.75	8.71	29225.93	39.50	2/23/12
723	D-0425-01	W-119	1224.00	1260.00	614.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	11/24/1998
724	D-2187-02	W-8	1108.50	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	0.00	14151.11	37.50	1/30/04
725	D-0425-01	W-118	1234.00	1260.00	614.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	12/21/1998
726	D-1180-08(6a)	WL-273	1164.60	1235.00	759.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	8/30/12
727	D-0425-01	W-76	1147.00	1193.00	547.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	12/17/1998
728	D-1180-08(7)	W-367	1165.00	1235.00	791.98	443.02	2.14	371.38	94.23	3.66	7.07	20.66	10262.20	37.75	4/4/12
729	D-0360	W501.077.01	1071.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	125.25	111048.55	41.00	11/3/13
730	D-1180-00(7)	WL-4	1160.00	1190.00	728.00	462.00	4.00	325.99	133.01	0.00	8.98	0.00	10262.20	37.75	5/20/96
731	D-0360	W-413	1245.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	126.43	111048.55	40.50	2/13/14
732	D-2187	W-370	1212.50	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	1.35	14151.11	37.50	2/24/14
733	D-1180-07(7)	W-100	1085.00	1180.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	0.00	10262.20	37.75	1/14/06
734	D-0360	DW-376	1243.00	1250.00	778.21	471.79	5.29	321.05	61.70	78.55	18.20	32.60	111048.55	40.00	1/27/97
735	D-0360	W-428	1228.00	1270.00	729.60	540.40	5.50	336.95	11.82	178.25	12.88	39.40	111048.55	40.00	4/13/98
736	D-0360	W-428	1221.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	133.14	111048.55	40.00	4/1/15
737	D-0424	8-WL-4	1131.00	1180.00	707.50	472.50	3.00	434.47	129.19	2.52	13.75	8.71	29225.93	39.50	2/23/12
738	D-0360	WL-729	1125.00	1160.00	885.70	274.30	7.64	160.72	7.90	89.41	14.94	64.61	111048.55	40.50	7/11/03
739	D-0425-10	W-438	954.00	966.00	655.88	310.12	3.40	1.38	0.00	1.61	0.13	37.54	61125.67	41.00	12/11/2007
740	D-0354	South Mains Shaft	447.60	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	1/5/17

741	D-0425-01	W-119	1228.00	1260.00	614.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	2/26/1999
742	D-0425-01	W-22	1027.00	1060.00	773.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	9/24/1998
743	D-0360	DW-129	1282.00	1305.00	937.15	367.85	6.20	166.26	55.30	131.78	11.66	6.09	111048.55	40.50	11/26/90
744	D-0426	W-18A	1134.60	1166.30	692.60	473.70	3.00	246.94	55.98	2.32	7.73	12.64	35708.87	39.00	8/23/12
745	D-0360	W21-059.00	1218.00	1255.00	951.64	303.36	7.40	175.10	23.60	87.50	17.29	88.63	111048.55	40.50	6/30/08
746	D-0360	W-723	1132.00	1180.00	946.87	233.13	7.55	117.80	5.49	98.95	10.71	64.61	111048.55	40.50	9/17/03
747	D-0360	WL-721	1167.00	1229.00	800.55	428.45	7.05	259.73	45.00	112.83	14.77	136.88	111048.55	40.50	1/19/16
748	D-0360	W501.077.00	1166.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	131.89	111048.55	41.00	3/4/15
749	D-2187	W-370	1211.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	1.42	14151.11	37.50	5/9/14
750	D-1180-08(6a)	W-277	1112.60	1205.00	729.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/23/13
751	D-0360	W336.375.00	926.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	129.65	111048.55	41.00	7/16/14
752	D-0360	W-410	1258.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	126.43	111048.55	40.50	2/13/14
753	D-2177-05	W-501.00	911.70	918.00	603.58	314.42	3.04	213.48	71.33	1.25	5.55	2.71	28301.29	40.00	2/24/10
754	D-1180-08(7)	W-309	1173.60	1265.00	821.98	443.02	2.14	371.38	94.23	3.66	7.07	22.53	10262.20	37.75	3/29/13
755	D-0360	WL-674	1103.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	137.99	111048.55	40.00	4/4/16
756	D-0360	W-415	1110.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	12/26/16
757	D-2187	W-303	1173.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.69	14151.11	37.50	9/19/11
758	D-0360	W-415	1114.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	6/27/97
759	D-0360	W-413	1247.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	6/28/97
760	D-0425-01	DW-14	947.00	957.00	670.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	9/24/1998
761	D-0360	W-382	1265.00	1350.00	916.91	433.09	5.12	321.97	32.71	69.59	16.17	33.83	111048.55	40.00	6/21/97
762	D-0355-04	MS-11-501 (W)	628.00	640.00	417.90	222.10	4.00	150.40	30.20	7.30	4.00	40.98	9430.98	41.10	4/9/96
763	D-0426-08	W-124	1008.00	1030.00	514.25	515.75	5.00	410.68	139.19	7.58	11.58	5.37	35708.87	39.00	12/12/01
764	D-0360	DW-420	1225.00	1241.00	949.50	291.50	6.25	177.75	23.01	71.99	15.15	32.60	111048.55	40.50	3/22/97
765	D-1180-08(7)	W-343	1151.60	1262.00	818.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	8/31/12
766	D-0360	W-334	907.00	913.00	769.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	12/22/95
767	D-0360	DW-118	1288.00	1305.00	745.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	2/25/91
768	D-2177-03	W-141.00	1138.70	1145.00	1008.65	136.35	3.40	78.02	15.16	0.00	4.98	2.11	28301.29	40.00	3/4/09
769	D-0360	WL336.373.00	1066.30	1100.00	566.00	534.00	7.98	316.06	23.80	187.04	13.10	108.10	111048.55	41.00	1/17/11
770	D-2091-0A	W-202	1222.00	1270.00	986.00	284.00	3.00	104.66	137.75	47.42	0.00	0.00	11181.57	37.50	2/15/00
771	D-1180-03(6a)	WL-2	965.00	1000.00	594.09	405.91	3.33	400.00	3.00	0.00	9.33	14.31	10262.20	37.75	1/14/06
772	D-0360	W-295	1228.00	1264.00	701.40	562.60	4.58	351.36	15.02	176.44	12.24	18.09	111048.55	40.50	1/26/94
773	D-0360	W21-187.00	1220.60	1240.00	937.97	302.03	5.68	178.44	31.29	74.71	12.42	88.63	111048.55	40.50	5/1/08
774	D-2177-03	W-111.00	1224.70	1231.00	839.26	391.74	3.25	238.95	127.24	5.52	9.32	2.11	28301.29	40.00	3/3/09
775	D-0354	South Mains Shaft	457.93	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	6/11/18
776	D-0425-01	DW-13	960.00	972.00	685.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	11/12/1998
777	D-2177-02	W-182	877.70	884.00	760.30	123.70	3.58	14.33	75.08	0.00	3.58	0.18	28301.29	40.00	1/6/05
778	D-0360	W-404	1112.00	1130.00	802.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	1/31/97
779	D-0360	W-691	1259.00	1275.00	846.55	428.45	7.05	259.73	45.00	112.83	14.77	64.61	111048.55	40.50	8/31/03
780	D-2177-03	DW-62.01	894.70	891.00	807.57	83.43	3.25	29.67	19.92	0.00	3.25	2.11	28301.29	40.00	2/18/09
781	D-2317-1	W-604	649.00	730.00	489.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	12/7/07
782	D-0360	W-170	1052.00	1105.00	811.10	293.90	7.12	127.60	10.23	132.06	16.83	7.80	111048.55	40.50	4/8/91
783	D-0360	W-415	1106.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	133.14	111048.55	40.50	6/18/15
784	D-0425-01	W-58	1021.00	1072.00	458.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	12/14/1998
785	D-0360	W-609	1102.00	1162.00	863.14	298.86	5.45	166.14	34.91	78.29	9.15	133.14	111048.55	40.50	5/11/15
786	D-0360	W-175	1118.00	1132.00	711.83	420.17	7.53	223.66	72.28	173.45	25.63	6.99	111048.55	40.00	3/11/91
787	D-1180-08(7)	WL-102	1137.80	1180.00	737.25	442.75	3.16	325.00	117.00	0.00	7.91	29.41	10262.20	37.75	3/27/15
788	D2317	W3	613.00	621.00	380.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	6/15/16
789	D-2177-03	W-37.00	858.70	865.00	781.91	83.09	3.92	49.17	3.50	0.00	3.92	2.11	28301.29	40.00	2/24/09
790	D-0360	DW-406	1301.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	33.83	111048.55	40.50	5/27/97
791	D-0360	W-344	1166.00	1185.00	770.84	414.16	6.47	221.29	50.89	100.31	19.91	28.69	111048.55	40.00	4/25/96
792	D-0360	W-295	1229.00	1264.00	701.40	562.60	4.58	351.36	15.02	176.44	12.24	16.98	111048.55	40.50	11/17/93
793	D-0360	W-694	1233.00	1265.00	775.29	489.71	11.76	347.06	30.83	115.94	26.19	138.61	111048.55	40.50	2/17/17
794	D-2177-03	WL-70K	931.70	938.00	608.78	329.22	3.75	285.20	39.93	1.49	9.38	2.27	28301.29	40.00	5/27/09
795	D-2177-03	W-127.00	1133.70	1140.00	945.50	194.50	4.21	103.26	69.34	0.00	5.39	2.27	28301.29	40.00	6/1/09
796	D-0360	WL-116	1244.00	1260.00	700.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	2/25/91
797	D-0360	W-709	1010.30	1085.00	913.37	171.63	5.20	65.90	1.30	100.36	11.56	67.27	111048.55	41.00	2/18/04
798	D-0360	W-428	1196.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	133.14	111048.55	40.00	5/4/15
799	D-0360	W-415	1112.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	136.88	111048.55	40.50	1/16/16
800	D-0354	South Mains Shaft	456.87	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	8/27/18
801	D-0360	W-410	1239.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	138.51	111048.55	40.50	7/25/16
802	D-1180-08(6a)	W-343	1159.60	1262.00	786.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/28/13

803	D-1180-08(6a)	W-367	1136.60	1195.00	719.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	8/30/12	
804	D-1180-08(7)	W-354	1192.20	1232.00	788.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	9/7/12	
805	D-2317-0A	DW-22	643.50	650.00	409.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	4/23/07	
806	D-0360	W501.077.00	1161.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	130.36	111048.55	41.00	12/5/14	
807	D2317	M2B	647.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/18/15	
808	D-1180-08(6a)	W-352	1247.60	1290.00	814.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/23/13	
809	D-0425-01	W-94	1189.00	1241.00	930.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	1/29/1999	
810	D-0360	W-402	1260.00	1325.00	997.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	3/14/97	
811	D-0425-01	W-95	1210.00	1240.00	929.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	1/29/1999	
812	D-0360	W21-173.01	1211.00	1220.00	941.00	279.00	6.90	77.16	24.69	145.59	12.54	88.63	111048.55	40.50	4/29/08	
813	D-2317	W-134	601.80	639.00	398.90	240.10	5.25	188.65	56.10	0.00	5.25	0.07	2061.00	41.00	5/6/09	
814	D-0360	WL-721	1157.00	1229.00	800.55	428.45	7.05	259.73	45.00	112.83	14.77	138.61	111048.55	40.50	12/22/16	
815	D-1180-00(6a)	W-3	1158.00	1198.00	736.00	462.00	4.00	325.99	133.01	0.00	8.98	0.00	10262.20	37.75	5/20/96	
816	D-2317-4	DW-13	783.30	800.00	559.90	240.10	5.25	188.65	56.10	0.00	5.25	0.07	2061.00	41.00	5/4/09	
817	D-0360	WL-721	1157.00	1229.00	800.55	428.45	7.05	259.73	45.00	112.83	14.77	138.51	111048.55	40.50	8/16/16	
818	D-0360	W21-481.00	1150.00	1185.00	1036.43	148.57	6.55	43.93	0.00	95.92	9.60	90.29	111048.55	40.50	7/8/08	
819	D2091	W-26	1166.70	1225.00	891.30	333.70	3.00	91.60	226.43	18.28	2.06	3.21	11181.57	37.50	9/15/16	
820	D-0425-05	DW-58.00	986.00	990.00	634.45	355.55	4.55	1.63	0.14	1.60	0.16	12.20	61125.67	41.00	4/20/2004	
821	D-0360	DW-118	1289.00	1305.00	745.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	10/24/90	
822	D-0355-04	MC8-506 (W)	601.50	610.00	236.54	373.46	4.46	233.53	112.24	9.08	6.12	40.98	9430.98	41.10	10/1/96	
823	D-2091-4	W-624	1011.00	1020.00	814.00	206.00	3.00	66.97	125.00	7.00	9.96	2.03	11181.57	37.50	4/21/11	
824	D-2187	W-303	1183.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.48	14151.11	37.50	7/16/14	
825	D-0360	W-404	1115.00	1130.00	802.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	4/25/97	
826	D-0360	W-166	1035.00	1106.00	812.10	293.90	7.12	127.60	10.23	132.06	16.83	6.99	111048.55	40.50	2/5/91	
827	D-0360	DW-324	999.00	1000.00	790.32	209.68	4.28	93.70	32.00	105.70	7.82	26.12	111048.55	40.00	11/14/95	
828	D-0425-01	W-118	1234.00	1260.00	614.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	10/17/1998	
829	D-0360	W-170	1053.00	1105.00	811.10	293.90	7.12	127.60	10.23	132.06	16.83	6.09	111048.55	40.50	12/11/90	
830	D-0360	DW-196	1233.00	1240.00	825.84	414.16	6.47	221.29	50.89	100.31	19.91	7.80	111048.55	40.00	4/17/91	
831	D-0360	W336.375.00	925.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	133.14	111048.55	41.00	6/9/15	
832	D-0360	W336.375.00	926.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	128.37	111048.55	41.00	6/17/14	
833	D-0360	DW-196	1232.00	1240.00	825.84	414.16	6.47	221.29	50.89	100.31	19.91	6.99	111048.55	40.00	2/13/91	
834	D-0360	WL336.373.00	1077.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	136.88	111048.55	41.00	2/1/16	
835	D-2177-06	WL-37	1128.70	1135.00	780.32	354.68	3.58	188.24	146.08	0.00	11.68	0.45	28301.29	40.00	11/9/05	
836	D-2177-03	W-60.00	915.70	922.00	808.08	113.92	3.38	44.70	17.00	0.00	3.38	2.27	28301.29	40.00	5/28/09	
837	D-2091-4	W-628	957.20	960.70	779.70	181.00	3.00	74.39	99.17	13.43	0.00	1.97	11181.57	37.50	2/24/11	
838	D-0360	W-415	1113.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	131.89	111048.55	40.50	3/24/15	
839	D-0360	W-410	1250.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	131.89	111048.55	40.50	1/22/15	
840	D-0360	WL-747	1215.00	1270.00	749.60	520.40	6.58	417.07	32.62	64.63	15.68	64.61	111048.55	40.50	8/11/03	
841	D-1180-03(6a)	WL-2	965.00	1000.00	594.09	405.91	3.33	400.00	3.00	0.00	9.33	14.31	10262.20	37.75	3/30/06	
842	D-0425-03	W-423	1192.00	1220.00	628.81	591.19	3.97	3.81	0.51	1.33	0.20	5.52	61125.67	41.00	3/31/2003	
843	D-0360	W21-183.01	1195.60	1220.00	917.97	302.03	5.68	178.44	31.29	74.71	12.42	88.63	111048.55	40.50	4/29/08	
844	D-0426	W-19C	1017.58	1215.00	906.25	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	5/14/14	
845	D-0360	W-432	1193.00	1265.00	702.80	562.20	5.50	277.65	65.48	204.97	11.83	39.40	111048.55	40.50	5/20/98	
846	D-0360	W-414	1235.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	131.89	111048.55	40.50	2/20/15	
847	D-0426	B-7/M-6	1067.55	1075.00	601.30	473.70	3.00	246.94	55.98	2.32	7.73	12.64	35708.87	39.00	5/14/14	
848	D-2187	W-8	1110.00	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	1.66	14151.11	37.50	8/19/15	
849	D-0360	DW-719	1174.00	1178.00	749.55	428.45	7.05	259.73	45.00	112.83	14.77	65.85	111048.55	41.00	10/3/03	
850	D-0425-09	DW-148.00	1249.00	1264.00	616.00	648.00	4.20	4.78	0.48	0.78	0.14	33.60	61125.67	41.00	4/10/2007	
851	D-0425-01	W-86	1208.00	1222.00	891.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	10/2/1998	
852	D-0360	WL231.362.00	1115.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	136.88	111048.55	41.00	3/3/16	
853	D-0360	W-690	1313.00	1366.00	809.02	556.98	7.61	404.08	9.37	114.93	14.37	65.85	111048.55	40.50	10/3/03	
854	D-0360	WL-674	1101.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	128.37	111048.55	40.00	6/3/14	
855	D-2187	W-370	1212.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	1.60	14151.11	37.50	3/9/15	
856	D-0360	DW-126	1290.00	1311.00	943.15	367.85	6.20	228.00	205.50	3.00	131.78	11.66	6.09	111048.55	40.50	11/27/90
857	D-2177-03	W-144.00	1160.70	1167.00	763.43	403.57	3.88	281.43	99.19	12.66	6.79	2.42	28301.29	40.00	9/15/09	
858	D-2187	W-303	1178.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.60	14151.11	37.50	1/22/15	
859	D-0360	DW-406	1298.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	133.14	111048.55	40.50	6/18/15	
860	D-0360	W-696	1193.00	1270.00	841.55	428.45	7.05	259.73	45.00	112.83	14.77	65.85	111048.55	40.50	10/6/03	
861	D-0360	W-345	1238.00	1270.00	855.84	414.16	6.47	221.29	50.89	100.31	19.91	27.35	111048.55	40.00	2/5/96	
862	D-2187-02	W-8	1102.00	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	0.00	14151.11	37.50	7/29/03	
863	D-0425-01	DW-13	960.00	972.00	685.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	12/9/1998	
864	D-1180-08(6a)	W-300	1201.40	1240.00	764.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	3/20/12	

865	D-0360	W-22.007.00	1204.00	1240.00	750.29	489.71	11.76	347.06	30.83	115.94	26.19	138.61	111048.55	41.00	11/22/16
866	D-0360	DW-376	1244.00	1250.00	778.21	471.79	5.29	321.05	61.70	78.55	18.20	33.83	111048.55	40.00	4/10/97
867	D-1180-08(6a)	W-312A	1181.40	1275.00	799.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	9/7/12
868	D-0360	W-345	1240.00	1270.00	855.94	414.16	6.47	221.29	50.89	100.31	19.91	27.35	111048.55	40.00	3/14/96
869	D-0425-01	W-72	1106.00	1165.00	551.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	2/10/1999
870	D-0355-04	MC-FR6-501 (DW1)	636.00	640.00	430.08	209.92	4.58	164.00	29.16	8.17	10.58	40.98	9430.98	41.10	10/8/96
871	D-0426	W-19A	1082.00	1214.00	905.25	308.75	4.00	230.75	38.14	0.00	8.10	11.50	35708.87	39.00	8/15/05
872	D-0424	6-WL-7	1161.00	1199.00	635.30	563.70	4.70	295.09	60.57	11.78	10.68	2.95	29225.93	39.00	5/14/08
873	D-0426-08	WL-110	981.00	1010.00	402.00	608.00	8.00	552.90	90.98	1.02	14.64	5.37	35708.87	39.00	12/21/01
874	D2317	M3B	645.00	660.00	419.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	11/26/16
875	D-0360	W-199	1179.00	1200.00	1056.68	143.32	3.00	15.48	0.00	96.63	9.60	6.99	111048.55	40.00	1/16/91
876	D-0425-01	W-94	1186.00	1241.00	930.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	3/23/1999
877	D-1180-08(7)	W-100	1084.90	1180.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	25.10	10262.20	37.75	11/8/13
878	D-1180-08(6a)	W-319	1134.20	1200.00	724.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	8/31/12
879	D-0360	W-225	1137.00	1148.00	836.34	311.66	5.89	203.68	6.59	88.74	15.19	6.99	111048.55	40.00	3/20/91
880	D2317	M1B	686.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	9/3/14
881	D-0425-05	W-124.00	1051.00	1075.00	665.64	409.36	1.33	2.24	0.99	0.84	0.08	14.00	61125.67	41.00	8/16/2004
882	D-0360	WL-674	1101.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	128.37	111048.55	40.00	4/15/14
883	D-1019	WL-18	975.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	4/1/11
884	D-0360	W-690	1313.00	1366.00	809.02	556.98	7.61	404.08	9.37	114.93	14.37	67.27	111048.55	40.50	2/24/04
885	D-2091-0A	W-10	1035.00	1115.00	909.00	206.00	3.00	66.97	125.00	7.00	9.96	0.00	11181.57	37.50	10/14/96
886	D-0360	WL336.373.00	1081.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	128.37	111048.55	41.00	5/13/14
887	D-0360	W-336	905.00	918.00	774.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	1/29/96
888	D-0360	W-728	1116.00	1140.00	906.87	233.13	7.55	117.80	5.49	98.95	10.71	67.27	111048.55	40.50	2/19/04
889	D-0360	W-620	1149.00	1178.00	879.14	298.86	5.45	166.14	34.91	78.29	9.15	126.43	111048.55	40.50	3/12/14
890	D-0355-04	MC-FR1-501 (DW4)	757.50	760.00	422.59	337.41	3.50	230.09	86.17	7.67	4.75	40.98	9430.98	41.10	4/25/96
891	D-0360	DW-391	1098.00	1120.00	832.55	287.45	6.85	195.67	43.79	129.97	13.52	32.60	111048.55	40.00	1/28/97
892	D-0360	DW-719	1176.10	1180.00	751.55	428.45	7.05	259.73	45.00	112.83	14.77	102.27	111048.55	41.00	4/30/10
893	D-0360	W-414	1240.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	130.36	111048.55	40.50	12/12/14
894	D-0425-05	WL-94.00	1196.00	1240.00	576.14	663.86	0.17	4.92	0.76	0.94	0.14	10.97	61125.67	41.00	2/16/2004
895	D-1180-08(7)	W-299	1118.40	1168.00	724.98	443.02	2.14	371.38	94.23	3.66	7.07	19.89	10262.20	37.75	3/20/12
896	D-0360	W501.077.00	1166.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	131.89	111048.55	41.00	2/9/15
897	D-0360	W-229A	1262.00	1305.00	742.40	562.60	4.58	351.36	15.02	176.44	12.24	6.99	111048.55	40.50	1/26/91
898	D-0424	6-W-16	1114.00	1222.00	658.30	563.70	4.70	295.09	60.57	11.78	10.68	2.95	29225.93	39.00	5/11/08
899	D-2317-1	W-600	654.80	660.00	419.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	4/24/08
900	D-2177-05	WL-170.00	875.70	882.00	567.58	314.42	3.04	213.48	71.33	1.25	5.55	2.71	28301.29	40.00	1/4/10
901	D-1180-08(6a)	WL-365	1158.40	1202.00	726.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	8/30/12
902	D-0360	W-666	1045.00	1065.00	801.65	263.35	7.00	108.55	53.31	84.24	5.91	130.36	111048.55	40.50	12/5/14
903	D-0360	WL336.373.00	1082.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	128.37	111048.55	41.00	4/22/14
904	D-0360	W-114	1263.00	1306.00	746.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	3/21/91
905	D-1180-00(7)	W-3	1158.00	1198.00	736.00	462.00	4.00	325.99	133.01	0.00	8.98	0.00	10262.20	37.75	5/20/96
906	D-0425-01	WL-9	962.00	983.00	696.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	7/21/1998
907	D-0360	WL-736	1120.00	1131.00	797.66	333.34	4.90	243.57	13.34	48.14	14.88	65.85	111048.55	41.00	10/3/03
908	D-0360	W-426	1117.00	1160.00	626.00	534.00	7.98	316.06	23.80	187.04	13.10	39.40	111048.55	41.00	5/22/98
909	D-0425-05	W-37.00	1205.00	1210.00	623.70	586.30	5.97	4.12	0.36	1.31	0.21	9.18	61125.67	41.00	10/20/2003
910	D-2317-0A	WL-21	575.00	600.00	374.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	9/12/05
911	D2317	M1B	686.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	6/11/14
912	D-2091-4	W-628	956.70	960.70	779.70	181.00	3.00	74.39	99.17	13.43	0.00	2.12	11181.57	37.50	10/18/11
913	D-0360	W-414	1228.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	129.65	111048.55	40.50	8/14/14
914	D-0425-01	W-122	1233.00	1260.00	949.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	11/24/1998
915	D-2187	W-8	1113.00	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	1.48	14151.11	37.50	8/26/14
916	D-0426-08	WL-105	971.00	990.00	560.17	429.83	6.00	449.44	19.98	0.00	15.58	5.37	35708.87	39.00	11/21/01
917	D-0360	W-378	1298.00	1325.00	853.21	471.79	5.29	321.05	61.70	78.55	18.20	32.60	111048.55	40.00	3/12/97
918	D-0360	W501.343000	1117.00	1175.00	743.50	431.50	6.60	236.12	77.80	118.08	12.12	136.88	111048.55	41.00	1/7/16
919	D-0360	WL-736	1121.00	1131.00	797.66	333.34	4.90	243.57	13.34	48.14	14.88	136.88	111048.55	41.00	1/13/16
920	D-0360	WL336.373.00	1079.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	137.99	111048.55	41.00	4/4/16
921	D-0360	WL-674	1099.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	129.65	111048.55	40.00	8/19/14
922	D2091	W-26	1171.80	1225.00	891.30	333.70	3.00	91.60	226.43	18.28	2.06	3.21	11181.57	37.50	11/29/16
923	D-0355-04	MC-16-505 (WL)	699.00	760.00	553.20	206.80	5.10	137.30	56.40	5.80	8.50	40.98	9430.98	41.10	10/2/96
924	D-2317-4	DW-24	640.20	645.00	404.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	10/30/08
925	D2091	W-626	948.00	970.00	789.00	181.00	3.00	74.39	99.17	13.43	0.00	3.20	11181.57	37.50	3/24/16
926	D-1180-08(7)	WL-364	1197.80	1218.00	774.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	8/30/12

927	D-0360	WL-351	1201.00	1225.00	1081.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	3/18/96
928	D-0360	DW-162	1270.00	1296.00	736.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	2/8/91
929	D-0360	W-428	1225.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	131.89	111048.55	40.00	2/11/15
930	D-0360	W-22.007.00	1206.00	1240.00	750.29	489.71	11.76	347.06	30.83	115.94	26.19	138.51	111048.55	41.00	7/29/16
931	D-0360	WL-351	1194.00	1225.00	1081.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	11/24/95
932	D-0355-04	MS-12-509 (W)	611.50	620.00	397.90	222.10	4.00	150.40	30.20	7.30	4.00	40.98	9430.98	41.10	5/2/96
933	D-0360	WL-674	1099.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	55.12	111048.55	40.00	8/31/01
934	D-0426	W-18B	1098.62	1167.00	693.30	473.70	3.00	246.94	55.98	2.32	7.73	12.64	35708.87	39.00	5/14/14
935	D-0360	W-350	1144.00	1218.00	1074.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	11/24/95
936	D-0425-01	DW-80	1219.00	1241.00	595.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	10/30/1998
937	D-0360	DW-178	1202.00	1225.00	810.84	414.16	6.47	221.29	50.89	100.31	19.91	6.99	111048.55	40.00	1/4/91
938	D-0360	W-428	1201.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	128.37	111048.55	40.00	4/29/14
939	D-0360	W-413	1242.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	133.14	111048.55	40.50	6/18/15
940	D-0360	W-170	1053.00	1105.00	811.10	293.90	7.12	127.60	10.23	132.06	16.83	6.99	111048.55	40.50	3/4/91
941	D-0360	DW-331	928.00	935.00	791.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	11/20/95
942	D-0425-01	W-86	1211.00	1222.00	891.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	1/23/1999
943	D-2317-OA	W-10	540.00	600.00	359.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	5/21/06
944	D-2317-OA	W-18	545.00	665.00	424.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	5/21/06
945	D-2187-04	DW-6	838.00	845.00	447.20	397.80	3.00	350.00	48.00	0.00	6.33	0.00	14151.11	37.50	10/14/06
946	D-0360	DW-318	1286.00	1294.00	775.53	518.47	7.08	373.81	9.26	93.89	21.49	16.98	111048.55	40.50	12/15/93
947	D-0425-03	DW-426	1230.00	1250.00	668.75	581.25	1.56	2.44	1.15	1.38	0.12	4.14	61125.67	41.00	10/30/2002
948	D-2177-06	WL-23K	1116.70	1123.00	797.04	325.96	3.33	225.55	79.76	0.73	9.95	2.11	28301.29	40.00	3/4/09
949	D-0425-01	W-65	1222.00	1222.00	806.84	415.16	4.00	3.18	0.77	0.21	0.11	0.00	61125.67	41.00	1/28/1999
950	D-1180-01(6a)	W-6	1195.00	1210.00	767.25	442.75	3.16	325.00	117.00	0.00	7.91	0.00	10262.20	37.75	5/20/96
951	D-0360	WL231.362.00	1114.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	137.99	111048.55	41.00	6/1/16
952	D-0425-01	W-88	1230.00	1240.00	594.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	3/23/1999
953	D-0425-01	W-72	1103.00	1165.00	551.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	12/29/1998
954	D-0360	W-159	1255.00	1290.00	730.96	559.04	6.47	398.42	36.41	91.79	19.89	7.80	111048.55	40.50	4/10/91
955	D2317	M2A	647.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	11/20/13
956	D-0360	WL336.373.00	1075.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	135.54	111048.55	41.00	12/3/15
957	D-0360	WL336.373.00	1070.30	1100.00	566.00	534.00	7.98	316.06	23.80	187.04	13.10	104.05	111048.55	41.00	8/25/10
958	D-0425-01	W-97	1119.00	1175.00	561.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	2/10/1999
959	D-0360	DW-717	1275.00	1280.00	767.67	512.33	7.27	337.40	56.38	101.13	13.43	65.85	111048.55	40.50	10/3/03
960	D-0425-03	WL-161	1238.00	1280.00	688.81	591.19	3.97	3.81	0.51	1.33	0.20	0.74	61125.67	41.00	1/10/2002
961	D-0425-01	W-90	1209.00	1240.00	929.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	1/29/1999
962	D-0360	WL-674	1102.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	136.88	111048.55	40.00	1/4/16
963	D2317	W3.01	612.00	618.00	377.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	5/28/14
964	D-0360	WL336.373.00	1081.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	129.65	111048.55	41.00	8/4/14
965	D-0360	WL-319	1263.00	1325.00	774.30	550.70	7.10	325.95	44.97	162.21	15.14	21.82	111048.55	40.50	11/30/94
966	D-2177-03	WL-94.00	890.70	897.00	600.00	297.00	3.17	239.44	35.92	3.23	7.57	2.11	28301.29	40.00	3/6/09
967	D-0360	DW-122	1288.00	1302.00	934.15	367.85	6.20	166.26	55.30	131.78	11.66	6.09	111048.55	40.50	12/27/90
968	D-1019	WL-18	970.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	8/28/12
969	D-0360	W-22.007.00	1221.30	1250.00	760.29	489.71	11.76	347.06	30.83	115.94	26.19	93.68	111048.55	41.00	3/9/09
970	D-0360	WL336.373.00	1071.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	130.36	111048.55	41.00	11/11/14
971	D-0426-08	WL-9	1018.00	1030.00	514.25	515.75	5.00	410.68	139.19	7.58	11.58	3.50	35708.87	39.00	10/12/00
972	D-1180-08(6a)	W-344	1191.60	1285.00	809.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	9/7/12
973	D-2187	W-303	1178.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.55	14151.11	37.50	10/2/14
974	D-0424	S-W-23	997.00	1052.00	727.67	324.33	4.92	321.96	39.93	0.00	14.76	8.41	29225.93	39.00	10/18/11
975	D-2187	W-370	1203.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.77	14151.11	37.50	10/5/11
976	D-0360	WL-348	1115.00	1210.00	898.34	311.66	5.89	203.68	6.59	88.74	15.19	27.35	111048.55	40.00	3/19/96
977	D-1180-08(7)	W-358	1168.50	1262.00	818.98	443.02	2.14	371.38	94.23	3.66	7.07	23.57	10262.20	37.75	5/29/13
978	D-1180-08(7)	WL-364	1159.60	1202.00	758.98	443.02	2.14	371.38	94.23	3.66	7.07	23.57	10262.20	37.75	6/3/13
979	D-0360	WL-419	1234.00	1261.00	969.50	291.50	6.25	177.75	23.01	71.99	15.15	35.29	111048.55	40.50	7/19/97
980	D-2177-03	WL-100.00	1153.70	1160.00	768.26	391.74	3.25	238.95	127.24	5.52	9.32	2.11	28301.29	40.00	3/3/09
981	D-0360	WL-116	1244.00	1260.00	700.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	3/21/91
982	D-2177-02	W-209	973.70	980.00	823.42	156.58	3.42	56.78	70.42	1.92	6.95	0.59	28301.29	40.00	2/16/06
983	D-2177-02	W-209	973.70	980.00	823.42	156.58	3.42	56.78	70.42	1.92	6.95	0.35	28301.29	40.00	9/21/05
984	D-0360	W-414	1266.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	131.89	111048.55	40.50	3/24/15
985	D-0425-01	DW-62	1188.00	1215.00	610.31	604.69	0.55	4.32	0.50	1.03	0.16	0.00	61125.67	41.00	12/18/1998
986	D-0360	W-346	921.00	930.00	786.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	11/24/95
987	D-0360	WL-674	1097.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	138.61	111048.55	40.00	11/1/16
988	D-0425-03	W-423	1192.00	1220.00	628.81	591.19	3.97	3.81	0.51	1.33	0.20	2.59	61125.67	41.00	7/2/2002

989	D-0360	W-410	1250.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	137.99	111048.55	40.50	5/31/16
990	D-0360	WL-739	1258.00	1340.00	839.24	500.76	7.61	275.70	57.23	136.09	33.23	67.27	111048.55	40.50	2/23/04
991	D-0425-05	DW-121.00	1121.00	1125.00	684.11	440.89	0.50	2.82	0.70	0.76	0.11	12.20	61125.67	41.00	4/23/2004
992	D-2177-03	W-182.00	918.70	925.00	795.59	129.41	3.29	84.13	9.00	0.58	5.29	2.11	28301.29	40.00	2/23/09
993	D-0424	8-WL-36	1151.00	1160.00	687.50	472.50	3.00	434.47	129.19	2.52	13.75	8.05	29225.93	39.50	8/5/11
994	D-0360	W-202	1158.00	1210.00	1066.68	143.32	3.00	15.48	0.00	96.63	9.60	6.09	111048.55	40.00	11/15/90
995	D-2187	W-370	1203.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	1.35	14151.11	37.50	1/13/14
996	D-2269-08	WL-1005	823.00	862.00	695.50	166.50	4.30	15.30	128.00	0.00	6.30	7.34	16659.24	40.00	8/6/12
997	D-0360	W-425	1226.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	38.09	111048.55	41.00	3/5/98
998	D2317	M1A	648.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	11/20/13
999	D-0360	W-410	1238.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	35.29	111048.55	40.50	7/20/97
1000	D-1019	WL-18	972.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	8/13/10
1001	D-2317-OA	WL-12	548.00	598.00	357.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	5/21/06
1002	D-2177-03	W-17.00	873.70	880.00	775.50	104.50	3.50	68.50	6.00	0.00	5.50	2.42	28301.29	40.00	9/11/09
1003	D-0360	W21-180.01	1194.20	1220.00	941.00	279.00	6.90	77.16	24.69	145.59	12.54	90.29	111048.55	40.50	8/6/08
1004	D-0360	DW-318	1287.00	1294.00	775.53	518.47	7.08	373.81	9.26	93.89	21.49	16.98	111048.55	40.50	11/30/93
1005	D-0425-01	W-42	1203.00	1223.00	1144.42	78.58	6.76	0.35	0.02	0.39	0.11	0.00	61125.67	41.00	8/25/1998
1006	D-2187	W-303	1179.60	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.48	14151.11	37.50	8/14/14
1007	D-2177-03	W-169.00	1153.70	1160.00	959.86	200.14	3.63	143.12	40.17	0.00	8.72	2.11	28301.29	40.00	3/10/09
1008	D-0360	W-140	1266.00	1300.00	740.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	10/24/90
1009	D-1180-03(6a)	W-101	1129.00	1185.00	726.50	458.50	3.00	333.50	126.00	0.00	5.50	13.49	10262.20	37.75	10/14/05
1010	D-0360	DW-354	916.00	935.00	791.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	11/25/95
1011	D-2177-03	W-112.00	1180.70	1187.00	795.26	391.74	3.25	238.95	127.24	5.52	9.32	2.42	28301.29	40.00	9/17/09
1012	D-0354	South Mains Shaft	457.62	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	7/16/18
1013	D-0360	DW-719	1174.00	1178.00	749.55	428.45	7.05	259.73	45.00	112.83	14.77	138.61	111048.55	41.00	2/21/17
1014	D-2317-OA	WL-12	548.00	598.00	357.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	10/17/06
1015	D-0425-05	WL-90.00	1255.00	1305.00	641.14	663.86	0.17	4.92	0.76	0.94	0.14	10.97	61125.67	41.00	2/16/2004
1016	D-2187	W-370	1203.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.92	14151.11	37.50	6/5/12
1017	D-0425-01	W-86	1207.00	1222.00	891.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	12/29/1998
1018	D-0360	W-292	1245.00	1310.00	747.40	562.60	4.58	351.36	15.02	176.44	12.24	18.09	111048.55	40.50	1/26/94
1019	D-0360	W501.077.00	1166.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	129.65	111048.55	41.00	7/16/14
1020	D-0360	W-402	1244.00	1325.00	997.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	6/27/97
1021	D-1019	WL-18	974.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	6/10/10
1022	D2317	M1B	686.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	12/2/14
1023	D-0425-01	DW-60	1144.00	1161.00	830.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	10/14/1998
1024	D-0360	W-347	1067.00	1180.00	888.34	311.66	5.89	203.68	6.59	88.74	15.19	26.12	111048.55	40.00	11/24/95
1025	D-0360	WL-348	1117.00	1210.00	898.34	311.66	5.89	203.68	6.59	88.74	15.19	27.35	111048.55	40.00	2/16/96
1026	D-2177-05	WL-514.00	918.70	925.00	601.42	323.58	3.50	238.51	62.99	0.84	9.25	2.42	28301.29	40.00	9/15/09
1027	D-0425-01	DW-62	1198.00	1215.00	610.31	604.69	0.55	4.32	0.50	1.03	0.16	0.00	61125.67	41.00	1/23/1999
1028	D-0360	DW-354	916.00	935.00	791.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	2/6/96
1029	D-0425-09	DW-158.00	1198.00	1205.00	524.10	680.90	3.40	5.17	0.64	0.68	0.19	33.60	61125.67	41.00	4/18/2007
1030	D-0360	W-410	1251.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	131.89	111048.55	40.50	3/24/15
1031	D-0360	DW-393	1318.00	1330.00	896.91	433.09	5.12	321.97	32.71	69.59	16.17	32.60	111048.55	40.00	2/24/97
1032	D-0425-03	DW-425	1280.00	1300.00	720.06	579.94	0.25	4.02	0.24	1.16	0.08	4.14	61125.67	41.00	10/3/2002
1033	D-0426	W-19B	1093.88	1215.00	906.25	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	8/29/14
1034	D-2317-1	W-600	654.80	660.00	419.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	9/2/08
1035	D-0360	WL-736	1119.00	1130.00	796.66	333.34	4.90	243.57	13.34	48.14	14.88	64.61	111048.55	41.00	9/30/03
1036	D-0360	W-413	1240.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	138.51	111048.55	40.50	9/26/16
1037	D-0425-01	W-22	1028.00	1060.00	773.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	1/30/1999
1038	D-0360	W-609	1136.00	1162.00	863.14	298.86	5.45	166.14	34.91	78.29	9.15	129.65	111048.55	40.50	8/18/14
1039	D-1180-08(7)	WL-365	1158.40	1202.00	758.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	8/30/12
1040	D-2177-03	WL-115.00	930.70	937.00	800.65	136.35	3.40	78.02	15.16	0.00	4.98	2.11	28301.29	40.00	2/17/09
1041	D-0360	W-382	1272.00	1350.00	916.91	433.09	5.12	321.97	32.71	69.59	16.17	32.60	111048.55	40.00	2/20/97
1042	D-0425-01	W-25	1191.00	1240.00	909.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	11/27/1998
1043	D-0360	W336.375.00	924.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	129.65	111048.55	41.00	9/9/14
1044	D-0360	W-377	1253.00	1282.00	810.21	471.79	5.29	321.05	61.70	78.55	18.20	32.60	111048.55	40.00	2/20/97
1045	D-0360	W21-111.00	1032.80	1040.00	722.55	317.45	7.29	204.12	2.04	78.09	10.82	88.63	111048.55	40.00	5/2/08
1046	D-2177-03	W-464.00	1098.70	1105.00	910.50	194.50	4.21	103.26	69.34	0.00	5.39	2.11	28301.29	40.00	3/14/09
1047	D-0360	DW-118	1289.00	1305.00	745.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	12/27/90
1048	D2233	DW-7	753.00	774.00	617.87	156.13	3.41	71.09	74.83	1.33	3.51	6.10	14067.46	40.00	5/27/15
1049	D-1180-08(6a)	WL-295	1202.80	1220.00	744.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	8/30/12
1050	D-0425-05	DW-53.01	1283.00	1305.00	637.85	667.15	5.93	4.36	0.71	1.51	0.18	9.18	61125.67	41.00	12/30/2003

1051	D-0360	W-335	908.00	918.00	774.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	1/29/96
1052	D-0360	W21-195.00	1225.80	1280.00	977.97	302.03	5.68	178.44	31.29	74.71	12.42	90.29	111048.55	40.50	8/23/08
1053	D-0360	W21-265.00	1147.90	1180.00	876.64	303.36	7.40	175.10	23.60	87.50	17.29	88.63	111048.55	40.50	5/5/08
1054	D-0360	W231.356.04	1266.60	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	134.61	111048.55	41.00	8/25/15
1055	D-0360	W-410	1260.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	128.37	111048.55	40.50	5/8/14
1056	D-0426	W-18B	1097.33	1167.00	693.30	473.70	3.00	246.94	55.98	2.32	7.73	12.64	35708.87	39.00	8/29/14
1057	D-0360	W-660	1143.00	1170.00	893.05	276.95	5.10	94.67	17.81	110.04	11.95	126.43	111048.55	40.50	1/14/14
1058	D-1180-08(6a)	W-279	1174.00	1202.00	726.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	7/29/13
1059	D-0360	W-165	1110.00	1140.00	580.96	559.04	6.47	398.42	36.41	91.79	19.89	7.80	111048.55	40.50	4/19/91
1060	D-0425-05	DW-97.01	1166.00	1170.00	729.20	440.80	2.32	1.86	0.89	1.46	0.15	9.18	61125.67	41.00	10/25/2003
1061	D-0360	W501.077.01	1070.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	133.14	111048.55	41.00	6/5/15
1062	D-2187	W-303	1177.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.85	14151.11	37.50	2/2/12
1063	D-0360	W-609	1101.00	1162.00	863.14	298.86	5.45	166.14	34.91	78.29	9.15	131.89	111048.55	40.50	2/20/15
1064	D-1019	WL-18	975.50	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	9/17/08
1065	D-0425-01	W-11	970.00	976.00	689.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	10/6/1998
1066	D-0425-01	W-123	1175.00	1240.00	929.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	1/30/1999
1067	D2233	WL-936	746.00	820.00	755.00	65.00	4.20	13.90	39.70	0.00	4.20	6.10	14067.46	40.00	6/14/16
1068	D-0360	DW-399	1294.00	1315.00	1023.50	291.50	6.25	177.75	23.01	71.99	15.15	32.60	111048.55	40.50	2/27/97
1069	D-1180-03(6a)	W-102	1135.60	1180.00	724.92	455.08	2.92	390.50	66.00	0.00	6.00	14.31	10262.20	37.75	3/29/06
1070	D-0425-01	W-97	1085.00	1175.00	561.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	10/15/1998
1071	D2317	MZA	646.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	8/27/13
1072	D-0360	W-666	1053.00	1065.00	801.65	263.35	7.00	108.55	53.31	84.24	5.91	128.37	111048.55	40.50	6/3/14
1073	D-0360	WL-567	1152.00	1224.00	966.54	257.46	4.90	113.13	22.11	116.39	9.10	126.43	111048.55	40.50	2/5/14
1074	D-0360	W501.077.00	1098.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	136.88	111048.55	41.00	2/3/16
1075	D-2187	W-370	1212.50	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	1.69	14151.11	37.50	12/7/15
1076	D-0355-04	MC-13-501 (DW)	628.50	650.00	311.26	338.74	4.25	231.59	91.00	11.59	5.83	44.09	9430.98	41.10	8/7/97
1077	D-0424	6-WL-15	1184.00	1220.00	656.30	563.70	4.70	295.09	60.57	11.78	10.68	3.37	29225.93	39.00	8/11/08
1078	D-0360	DW-406	1298.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	126.43	111048.55	40.50	2/13/14
1079	D-0360	DW-679	1221.00	1235.00	963.99	271.01	6.19	157.00	0.91	85.09	13.65	126.43	111048.55	40.50	3/12/14
1080	D-1180-07(7)	W-100	1080.00	1180.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	0.00	10262.20	37.75	10/14/05
1081	D-2177-02	W-182	877.70	884.00	760.30	123.70	3.58	14.33	75.08	0.00	3.58	0.12	28301.29	40.00	10/26/04
1082	D-0360	W21-066.00	1163.00	1165.00	905.82	259.18	7.05	122.95	13.10	106.91	11.26	90.29	111048.55	40.50	7/22/08
1083	D-0425-01	WL-78	1218.00	1260.00	614.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	11/24/1998
1084	D-0360	W21-043.00	1203.20	1242.00	938.64	303.36	7.40	175.10	23.60	87.50	17.29	90.29	111048.55	40.50	7/10/08
1085	D-2317-OA	W-18	545.00	665.00	424.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	10/17/06
1086	D-0425-01	W-75	1125.00	1149.00	544.31	604.69	0.55	4.32	0.50	1.03	0.16	0.00	61125.67	41.00	1/28/1999
1087	D-0360	DW-679	1220.00	1235.00	963.99	271.01	6.19	157.00	0.91	85.09	13.65	128.37	111048.55	40.50	4/15/14
1088	D-0360	W-335	909.00	918.00	774.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	11/20/95
1089	D-0360	W21-111.00	1032.90	1040.00	722.55	317.45	7.29	204.12	2.04	78.09	10.82	90.29	111048.55	40.00	7/1/08
1090	D-2177-03	WL-63.00	863.70	870.00	756.08	113.92	3.38	44.70	17.00	0.00	3.38	2.11	28301.29	40.00	2/24/09
1091	D-1180-08(6a)	W-303	1162.60	1200.00	724.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/23/13
1092	D-2187	W-9	1111.00	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	1.63	14151.11	37.50	5/19/15
1093	D-0360	W-415	1109.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	137.99	111048.55	40.50	4/25/16
1094	D-2177-03	WL-20K	1083.70	1090.00	793.00	297.00	3.17	239.44	35.92	3.23	7.57	0.28	28301.29	40.00	4/20/05
1095	D-0360	DW-22.008.05	1263.00	1285.00	974.87	310.13	6.50	159.17	21.87	104.59	13.71	93.68	111048.55	41.00	3/11/09
1096	D-0425-01	W-42	1201.00	1223.00	1144.42	78.58	6.76	0.35	0.02	0.39	0.11	0.00	61125.67	41.00	11/25/1998
1097	D-0360	W-415	1104.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	138.51	111048.55	40.50	7/25/16
1098	D-0355-04	MC-FR30-502 (NWL)	669.00	810.00	596.57	213.43	5.00	141.59	50.33	6.67	6.42	40.98	9430.98	41.10	4/26/96
1099	D-2187	W-303	1177.50	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.60	14151.11	37.50	2/10/15
1100	D-0355-04	MS-FR23-503 (DW1)	686.50	690.00	325.50	364.50	4.90	274.30	78.60	8.50	8.50	40.98	9430.98	41.10	4/8/96
1101	D-0360	W-413	1246.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	12/26/16
1102	D-2187	WL-3	1208.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	0.92	14151.11	37.50	5/24/12
1103	D-0360	W501.077.01	1072.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	138.51	111048.55	41.00	8/1/08
1104	D-0360	W-323	1076.00	1138.00	619.53	518.47	7.08	373.81	9.26	93.89	21.49	20.78	111048.55	40.50	7/26/94
1105	D-0424	6-WL-12	1006.50	1020.00	769.40	250.60	3.60	111.09	3.31	5.01	3.60	3.37	29225.93	39.00	8/11/08
1106	D-0425-01	DW-35	1215.00	1240.00	733.61	506.39	2.90	3.12	0.78	0.92	0.14	0.00	61125.67	41.00	11/25/1998
1107	D-2187	W-303	1175.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.19	14151.11	37.50	5/22/13
1108	D-0360	W-415	1111.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	136.88	111048.55	40.50	2/9/16
1109	D-0360	DW-180	1067.00	1083.00	789.10	293.90	7.12	127.60	10.23	132.06	16.83	6.99	111048.55	40.50	1/14/91
1110	D-0360	DW-719	1173.00	1178.00	749.55	428.45	7.05	259.73	45.00	112.83	14.77	138.61	111048.55	41.00	12/22/16
1111	D-0360	W-414	1246.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	137.99	111048.55	40.50	4/25/16
1112	D-1180-08(7)	W-251	1152.20	1202.00	807.00	395.00	2.75	325.00	117.00	0.00	7.91	19.89	10262.20	37.75	3/29/12

1113	D-0360	W336.367.00	886.10	900.00	636.95	263.05	7.55	115.24	35.79	109.05	13.01	108.10	111048.55	41.00	1/17/11
1114	D-1180-08(7)	W-303	1201.00	1240.00	796.98	443.02	2.14	371.38	94.23	3.66	7.07	27.76	10262.20	37.75	8/26/14
1115	D-0360	W-157	1258.00	1275.00	760.30	514.70	7.57	350.60	23.74	78.65	19.66	6.99	111048.55	40.50	1/29/91
1116	D2317	W3	613.00	621.00	380.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	11/27/16
1117	D-1180-08(7)	W-363	1138.60	1195.00	751.98	443.02	2.14	371.38	94.23	3.66	7.07	23.57	10262.20	37.75	5/22/13
1118	D-0360	W-407	1250.00	1306.00	787.53	518.47	7.08	373.81	9.26	93.89	21.49	32.60	111048.55	40.50	2/13/97
1119	D-0355-04	MC13-503 (W)	593.00	720.00	381.26	338.74	4.25	231.59	91.00	11.59	5.93	40.98	9430.98	41.10	10/9/96
1120	D-2269-6	WL4	755.00	975.00	600.10	374.90	4.60	109.90	262.30	0.00	4.60	0.00	16659.24	40.00	5/20/04
1121	D2317	M1B	685.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	6/16/15
1122	D-0360	W-415	1112.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	3/20/17
1123	D2233	DW-7	753.00	774.00	617.87	156.13	3.41	71.09	74.83	1.33	3.51	6.10	14067.46	40.00	2/8/17
1124	D-0360	W-576	1148.00	1230.00	958.99	271.01	6.19	157.00	0.91	85.09	13.65	126.43	111048.55	40.50	1/21/14
1125	D-0360	W-413	1247.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	136.88	111048.55	40.50	1/13/16
1126	D-0354	South Mains Shaft	456.99	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	8/13/18
1127	D-0360	W-335	908.00	918.00	774.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	4/24/96
1128	D-0360	W-609	1138.00	1162.00	863.14	298.86	5.45	166.14	34.91	78.29	9.15	129.65	111048.55	40.50	9/2/14
1129	D2317	W3	613.00	621.00	380.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/25/15
1130	D-2317-4	DW-24	641.20	645.00	404.90	240.10	5.25	188.65	56.10	0.00	5.25	0.07	2061.00	41.00	5/4/09
1131	D-0360	W-400	1267.00	1315.00	1023.50	291.50	6.25	177.75	23.01	71.99	15.15	32.60	111048.55	40.50	3/22/97
1132	D-0360	W-694	1222.00	1265.00	775.29	489.71	11.76	347.06	30.83	115.94	26.19	138.51	111048.55	40.50	9/30/16
1133	D-0360	W-722	1330.00	1380.00	823.02	556.98	7.61	404.08	9.37	114.93	14.37	65.85	111048.55	40.50	10/3/03
1134	D2233	W-13	749.00	778.00	621.87	156.13	3.41	71.09	74.83	1.33	3.51	6.10	14067.46	40.00	7/20/15
1135	D-0360	W21-043.00	1201.90	1242.00	938.64	303.36	7.40	175.10	23.60	87.50	17.29	88.63	111048.55	40.50	5/1/08
1136	D-0360	DW-457	1050.00	1070.00	782.55	287.45	6.85	195.67	43.79	129.97	13.52	46.26	111048.55	40.00	11/22/99
1137	D-0360	DW-702	1167.00	1190.00	908.53	281.47	7.00	172.33	25.96	70.19	7.31	67.27	111048.55	40.50	2/25/04
1138	D-0425-01	DW-19	1238.00	1260.00	728.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	9/25/1998
1139	D-2177-05	WL-511.00	908.70	915.00	571.00	344.00	3.25	195.75	120.65	2.52	9.50	2.42	28301.29	40.00	9/15/09
1140	D-1180-08(6a)	WL-200	816.40	830.00	354.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	8/25/14
1141	D-0360	W336.375.00	927.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	138.51	111048.55	41.00	7/5/16
1142	D-0360	W231.356.04	1228.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	128.37	111048.55	41.00	6/4/14
1143	D-0425-05	W-112.01	1106.00	1142.00	732.64	409.36	1.33	2.24	0.99	0.84	0.08	61.66	61125.67	41.00	4/20/11
1144	D-2187	W-8	1111.00	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	1.55	14151.11	37.50	10/2/14
1145	D-0354	South Mains Shaft	456.12	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	10/8/18
1146	D-1180-08(7)	W-354	1183.40	1262.00	818.98	443.02	2.14	371.38	94.23	3.66	7.07	19.89	10262.20	37.75	3/6/12
1147	D-0425-01	DW-14	947.00	957.00	670.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	8/29/1998
1148	D-0425-01	WL-78	1216.00	1260.00	614.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	12/17/1998
1149	D-0360	W336.375.00	923.20	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	117.86	111048.55	41.00	9/21/12
1150	D-0360	W-289	1268.00	1300.00	742.26	557.74	2.40	398.53	47.72	103.50	11.13	18.09	111048.55	40.50	1/26/94
1151	D-1019	W-201	1210.00	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	4/23/09
1152	D-0360	W-22.007.00	1204.00	1240.00	750.29	489.71	11.76	347.06	30.83	115.94	26.19	138.61	111048.55	41.00	10/18/16
1153	D-0360	WL336.373.00	1079.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	130.36	111048.55	41.00	12/3/14
1154	D-2187	W-370	1203.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.40	14151.11	37.50	9/15/10
1155	D-0360	DW-393	1316.00	1330.00	896.91	433.09	5.12	321.97	32.71	69.59	16.17	32.60	111048.55	40.00	3/14/97
1156	D-0425-05	W-114.01	1049.00	1065.00	655.64	409.36	1.33	2.24	0.99	0.84	0.08	14.00	61125.67	41.00	8/16/2004
1157	D-0360	W-378	1297.00	1325.00	853.21	471.79	5.29	321.05	61.70	78.55	18.20	33.83	111048.55	40.00	4/10/97
1158	D-0354	Roving Crew Shaft	457.71	637.76	248.21	389.55	4.17	77.51	258.71	3.04	5.75	39.63	20418.32	41.20	9/24/18
1159	D-0360	W-199	1183.00	1200.00	1056.68	143.32	3.00	15.48	0.00	96.63	9.60	6.99	111048.55	40.00	3/13/91
1160	D-0360	WL-721	1157.60	1230.00	801.55	428.45	7.05	259.73	45.00	112.83	14.77	117.86	111048.55	40.50	9/21/12
1161	D-0425-05	DW-96.03	1156.00	1175.00	734.20	440.80	2.32	1.86	0.89	1.46	0.15	10.97	61125.67	41.00	2/17/2004
1162	D-0360	W501.077.01	1070.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	131.89	111048.55	41.00	3/4/15
1163	D2233	DW-7	753.00	774.00	617.87	156.13	3.41	71.09	74.83	1.33	3.51	6.10	14067.46	40.00	6/14/16
1164	D-0425-04	W-590	1022.00	1080.00	728.10	351.90	6.25	1.73	0.69	1.15	0.13	4.14	61125.67	41.00	10/10/2002
1165	D-0360	WL231.362.00	1106.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	138.61	111048.55	41.00	12/1/16
1166	D-0360	W231.356.04	1239.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	130.36	111048.55	41.00	12/3/14
1167	D-0425-01	DW-40	1193.00	1209.00	677.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	9/25/1998
1168	D2317	W3.01	612.00	618.00	377.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/22/16
1169	D-2187-02	W-352	1253.00	1290.00	851.33	438.67	2.92	228.00	205.50	3.00	4.09	0.00	14151.11	37.50	4/8/04
1170	D-0425-01	DW-62	1198.00	1215.00	610.31	604.69	0.55	4.32	0.50	1.03	0.16	0.00	61125.67	41.00	2/10/1999
1171	D-0360	W21-160.00	1160.30	1220.00	941.00	279.00	6.90	77.16	24.69	145.59	12.54	88.63	111048.55	40.50	6/24/08
1172	D-2187	W-8	1110.00	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	1.35	14151.11	37.50	2/26/14
1173	D-0360	W-620	1146.00	1178.00	879.14	298.86	5.45	166.14	34.91	78.29	9.15	128.37	111048.55	40.50	5/6/14
1174	D-0360	WL-739	1258.00	1340.00	839.24	500.76	7.61	275.70	57.23	136.09	33.23	65.85	111048.55	40.50	10/3/03

1175	D-2187	W-370	1212.50	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	1.66	14151.11	37.50	8/19/15
1176	D-2187	W-303	1174.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.98	14151.11	37.50	7/17/12
1177	D-0360	W-402	1253.00	1325.00	997.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	2/24/97
1178	D-0426-08	WL-125	1002.00	1030.00	422.00	608.00	8.00	552.90	90.98	1.02	14.64	1.61	35708.87	39.00	11/5/98
1179	D-0360	DW-180	1064.00	1083.00	789.10	293.90	7.12	127.60	10.23	132.06	16.83	6.09	111048.55	40.50	11/14/90
1180	D-2317-1	W-125	584.50	590.00	349.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	4/17/07
1181	D-0360	DW-129	1283.00	1305.00	937.15	367.85	6.20	166.26	55.30	131.78	11.66	6.99	111048.55	40.50	1/29/91
1182	D-0425-01	DW-113	1253.00	1270.00	624.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	12/17/1998
1183	D-0360	W-707	1216.00	1235.00	1001.87	233.13	7.55	117.80	5.49	98.95	10.71	64.61	111048.55	40.50	7/7/03
1184	D-0360	W-404	1111.00	1130.00	802.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	6/21/97
1185	D-0360	W-428	1199.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	128.37	111048.55	40.00	6/4/14
1186	D-0360	WL-116	1246.00	1260.00	700.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	12/27/90
1187	D-0425-01	W-63	1108.00	1152.00	547.31	604.69	0.55	4.32	0.50	1.03	0.16	0.00	61125.67	41.00	1/23/1999
1188	D2317	M2A	647.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/12/14
1189	D-0425-05	WL-86.00	1214.00	1265.00	824.20	440.80	2.32	1.86	0.89	1.46	0.15	10.97	61125.67	41.00	3/5/2004
1190	D-0360	W21-045.01	1297.70	1340.00	1036.64	303.36	7.40	175.10	23.60	87.50	17.29	88.63	111048.55	40.50	6/22/08
1191	D-1180-03(6a)	W-101	1162.00	1185.00	726.50	458.50	3.00	333.50	126.00	0.00	5.50	14.31	10262.20	37.75	1/14/06
1192	D-0360	W21-260.00	1142.50	1180.00	876.64	303.36	7.40	175.10	23.60	87.50	17.29	88.63	111048.55	40.50	5/6/08
1193	D-0360	DW-399	1294.00	1315.00	1023.50	291.50	6.25	177.75	23.01	71.99	15.15	32.60	111048.55	40.50	1/30/97
1194	D-0360	W-414	1230.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	129.65	111048.55	40.50	9/4/14
1195	D-0360	W-292	1232.00	1310.00	747.40	562.60	4.58	351.36	15.02	176.44	12.24	18.09	111048.55	40.50	3/31/94
1196	D-2187	W-370	1203.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.85	14151.11	37.50	1/10/12
1197	D-1019	WL-18	974.50	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	6/17/11
1198	D-0425-05	DW-121.00	1119.00	1125.00	684.11	440.89	0.50	2.82	0.70	0.76	0.11	14.00	61125.67	41.00	8/16/2004
1199	D-1180-03(7)	WL-2	965.00	1000.00	594.09	405.91	3.33	400.00	3.00	0.00	9.33	0.00	10262.20	37.75	10/26/05
1200	D-0360	W-166	1035.00	1106.00	812.10	293.90	7.12	127.60	10.23	132.06	16.83	6.99	111048.55	40.50	3/5/91
1201	D-0360	W-344	1164.00	1185.00	770.84	414.16	6.47	221.29	50.89	100.31	19.91	27.35	111048.55	40.00	3/26/96
1202	D-0360	WL-692	1311.00	1355.00	798.02	556.98	7.61	404.08	9.37	114.93	14.37	64.61	111048.55	40.50	8/1/03
1203	D-0360	W21-029.00	1233.00	1283.00	792.84	490.16	5.17	323.67	11.34	108.77	13.68	88.63	111048.55	40.50	6/24/08
1204	D-2317-0A	WL-16	680.00	700.00	474.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	1/29/07
1205	D2317	M1A	647.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	12/2/14
1206	D-2177-03	W-11.00	920.70	927.00	843.91	83.09	3.92	49.17	3.50	0.00	3.92	2.42	28301.29	40.00	9/16/09
1207	D-0360	DW-324	998.00	1000.00	790.32	209.68	4.28	93.70	32.00	105.70	7.82	26.12	111048.55	40.00	12/18/95
1208	D-1180-08(6a)	W-363	1152.40	1195.00	719.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	4/4/12
1209	D-0425-05	W-30.00	1295.00	1338.00	670.85	667.15	5.93	4.36	0.71	1.51	0.18	9.18	61125.67	41.00	10/13/2003
1210	D-0360	W-413	1243.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	131.89	111048.55	40.50	1/28/15
1211	D-2091-1	W-202	1220.00	1270.00	986.00	284.00	3.00	104.66	137.75	47.42	0.00	0.00	11181.57	37.50	6/8/99
1212	D-0360	W-404	1112.00	1130.00	802.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	2/27/97
1213	D-0425-01	WL-9	960.00	983.00	696.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	9/24/1998
1214	D-1019	WL-18	975.50	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	11/11/08
1215	D-0426	W-16B	1088.35	1218.55	909.80	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	8/23/12
1216	D-0354	Roving Crew Shaft	458.36	637.76	248.21	389.55	4.17	77.51	258.71	3.04	5.75	39.63	20418.32	41.20	4/29/18
1217	D-0360	DW-162	1272.00	1296.00	736.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	12/31/90
1218	D-0360	W21-265.00	1148.20	1180.00	876.64	303.36	7.40	175.10	23.60	87.50	17.29	90.29	111048.55	40.50	8/19/08
1219	D-2177-03	W-141.00	1138.70	1145.00	1008.65	136.35	3.40	78.02	15.16	0.00	4.98	2.27	28301.29	40.00	6/1/09
1220	D2317	W3.01	612.00	618.00	377.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	9/4/13
1221	D-1180-08(6a)	W-303	1164.20	1200.00	724.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	3/29/12
1222	D-0360	WL231.362.00	1103.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	134.61	111048.55	41.00	9/1/15
1223	D-0360	DW-324	997.00	1000.00	790.32	209.68	4.28	93.70	32.00	105.70	7.82	27.35	111048.55	40.00	2/3/96
1224	D-0360	W-694	1233.00	1265.00	775.29	489.71	11.76	347.06	30.83	115.94	26.19	138.61	111048.55	40.50	1/23/17
1225	D-0360	W-226	1058.00	1080.00	768.34	311.66	5.89	203.68	6.59	88.74	15.19	6.09	111048.55	40.00	12/26/90
1226	D-0360	W231.356.04	1267.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	135.54	111048.55	41.00	12/3/15
1227	D-0360	DW-330	955.00	960.00	750.32	209.68	4.28	93.70	32.00	105.70	7.82	28.69	111048.55	40.00	4/15/96
1228	D-0426	W-18C	1029.70	1164.00	690.30	473.70	3.00	246.94	55.98	2.32	7.73	12.64	35708.87	39.00	10/22/15
1229	D-2187	W-370	1211.50	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	1.63	14151.11	37.50	6/10/15
1230	D-0360	DW-180	1066.00	1083.00	789.10	293.90	7.12	127.60	10.23	132.06	16.83	6.99	111048.55	40.50	3/19/91
1231	D-0360	WL-319	1266.00	1325.00	774.30	550.70	7.10	325.95	44.97	162.21	15.14	18.09	111048.55	40.50	2/28/94
1232	D-0425-01	DW-35	1216.00	1240.00	733.61	506.39	2.90	3.12	0.78	0.92	0.14	0.00	61125.67	41.00	9/28/1998
1233	D-0425-01	DW-10	968.00	981.00	694.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	8/29/1998
1234	D2317	M2B	647.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	6/11/14
1235	D-2177-03	W-11.00	920.70	927.00	843.91	83.09	3.92	49.17	3.50	0.00	3.92	2.27	28301.29	40.00	5/26/09
1236	D-0426	W-18A	1137.13	1166.30	692.60	473.70	3.00	246.94	55.98	2.32	7.73	12.64	35708.87	39.00	8/29/14

1237	D-0360	W-671	1091.00	1183.00	904.48	278.52	7.88	130.58	24.35	89.21	10.00	129.65	111048.55	40.50	9/3/14
1238	D-0425-05	DW-58.00	986.00	990.00	634.45	355.55	4.55	1.63	0.14	1.60	0.16	12.20	61125.67	41.00	5/25/2004
1239	D-0360	DW-399	1293.00	1315.00	1023.50	291.50	6.25	177.75	23.01	71.99	15.15	33.83	111048.55	40.50	5/22/97
1240	D-0360	DW-393	1317.00	1330.00	896.91	433.09	5.12	321.97	32.71	69.59	16.17	33.83	111048.55	40.00	6/28/97
1241	D-0360	DW-129	1286.00	1305.00	937.15	367.85	6.20	166.26	55.30	131.78	11.66	6.09	111048.55	40.50	12/27/90
1242	D-0360	W-609	1097.00	1162.00	863.14	298.86	5.45	166.14	34.91	78.29	9.15	133.14	111048.55	40.50	6/1/15
1243	D-0360	W-425	1228.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	39.40	111048.55	41.00	5/20/98
1244	D-0425-01	W-76	1148.00	1193.00	547.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	9/26/1998
1245	D-0425-01	DW-35	1217.00	1240.00	733.61	506.39	2.90	3.12	0.78	0.92	0.14	0.00	61125.67	41.00	8/22/1998
1246	D-0425-01	W-75	1127.00	1149.00	544.31	604.69	0.55	4.32	0.50	1.03	0.16	0.00	61125.67	41.00	9/27/1998
1247	D-0360	W-325	944.00	975.00	831.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	3/14/96
1248	D-2187	W-303	1179.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.48	14151.11	37.50	10/13/10
1249	D2233	WL-936	746.00	820.00	755.00	65.00	4.20	13.90	39.70	0.00	4.20	6.10	14067.46	40.00	11/15/16
1250	D-0360	W-609	1136.00	1162.00	863.14	298.86	5.45	166.14	34.91	78.29	9.15	129.65	111048.55	40.50	7/10/14
1251	D-2187	W-303	1179.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.19	14151.11	37.50	6/21/13
1252	D-0360	W231.356.04	1267.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	131.89	111048.55	41.00	3/25/15
1253	D-0360	WL-736	1119.00	1131.00	797.66	333.34	4.90	243.57	13.34	48.14	14.88	138.61	111048.55	41.00	3/13/17
1254	D-0360	W-204	1189.00	1200.00	1056.68	143.32	3.00	15.48	0.00	96.63	9.60	6.99	111048.55	40.00	1/16/91
1255	D-0360	WL-419	1243.00	1261.00	969.50	291.50	6.25	177.75	23.01	71.99	15.15	32.60	111048.55	40.50	3/22/97
1256	D-0360	W-153	1240.00	1269.00	709.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	2/26/91
1257	D-1180-08(6a)	W-360	1168.40	1262.00	786.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	9/7/12
1258	D-0425-03	W-179	1211.00	1240.00	664.70	575.30	5.05	2.21	1.65	1.35	0.13	0.74	61125.67	41.00	2/27/2002
1259	D2233	W-13	749.00	778.00	621.87	156.13	3.41	71.09	74.83	1.33	3.51	6.10	14067.46	40.00	6/14/16
1260	D-0426	W-19AR	1174.38	1214.00	905.25	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	10/22/15
1261	D-0360	W-576	1149.00	1230.00	958.99	271.01	6.19	157.00	0.91	85.09	13.65	128.37	111048.55	40.50	4/15/14
1262	D-0425-05	W-14.00	1281.00	1310.00	730.06	579.94	0.25	4.02	0.24	1.16	0.08	7.86	61125.67	41.00	7/28/2003
1263	D-2317-OA	DW-11A	575.00	585.00	344.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	4/30/06
1264	D-0360	W21-160.00	1160.80	1220.00	941.00	279.00	6.90	77.16	24.69	145.59	12.54	90.29	111048.55	40.50	8/6/08
1265	D-1019	WL-18	977.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	8/5/08
1266	D-0360	W-204	1188.00	1200.00	1056.68	143.32	3.00	15.48	0.00	96.63	9.60	6.99	111048.55	40.00	3/13/91
1267	D-2177-03	W-25.00	1123.70	1130.00	794.75	335.25	3.50	264.61	44.82	7.15	9.95	2.27	28301.29	40.00	5/26/09
1268	D-2187-01	WL-3	1231.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	0.00	14151.11	37.50	4/25/05
1269	D-0360	DW502-338.08	1221.00	1230.00	740.29	489.71	11.76	347.06	30.83	115.94	26.19	93.68	111048.55	41.00	1/22/09
1270	D-2187	WL-3	1225.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	1.13	14151.11	37.50	1/27/13
1271	D-0425-05	W-37.02	1193.00	1215.00	628.70	586.30	5.97	4.12	0.36	1.31	0.21	9.18	61125.67	41.00	10/20/2003
1272	D-0425-01	DW-19	1236.00	1260.00	728.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	12/14/1998
1273	D-0360	W21-059.00	1210.50	1255.00	951.64	303.36	7.40	175.10	23.60	87.50	17.29	90.29	111048.55	40.50	8/9/08
1274	D-0425-01	W-42	1210.00	1223.00	1144.42	78.58	6.76	0.35	0.02	0.39	0.11	0.00	61125.67	41.00	1/22/1999
1275	D-0360	W-660	1132.00	1170.00	893.05	276.95	5.10	94.67	17.81	110.04	11.95	131.89	111048.55	40.50	3/2/15
1276	D-0425-01	W-65	1222.00	1222.00	896.84	415.16	4.00	3.18	0.77	0.21	0.11	0.00	61125.67	41.00	2/1/1999
1277	D-0425-01	W-122	1233.00	1260.00	949.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	2/26/1999
1278	D-1180-08(7)	W-353	1203.60	1232.00	788.98	443.02	2.14	371.38	94.23	3.66	7.07	23.57	10262.20	37.75	5/28/13
1279	D-0425-03	WL-161	1238.00	1280.00	688.81	591.19	3.97	3.81	0.51	1.33	0.20	0.74	61125.67	41.00	2/22/2002
1280	D-2269-OA	WL-276	698.00	718.00	589.66	128.34	8.98	32.74	99.85	0.00	9.28	0.00	16659.24	40.00	4/25/04
1281	D-0425-05	WL-86.00	1215.00	1265.00	824.20	440.80	2.32	1.86	0.89	1.46	0.15	9.18	61125.67	41.00	10/25/2003
1282	D-2177-03	W-27.00	898.70	905.00	821.91	83.09	3.92	49.17	3.50	0.00	3.92	2.27	28301.29	40.00	5/26/09
1283	D-0360	WL-348	1097.00	1210.00	898.34	311.66	5.89	203.68	6.59	88.74	15.19	26.12	111048.55	40.00	11/29/95
1284	D-1180-08(6a)	WL-364	1159.40	1202.00	726.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	4/2/12
1285	D-0360	W-344	1164.00	1185.00	770.84	414.16	6.47	221.29	50.89	100.31	19.91	26.12	111048.55	40.00	12/26/95
1286	D-0360	W-153	1240.00	1269.00	709.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	11/29/90
1287	D-0360	W-229A	1250.00	1305.00	742.40	562.60	4.58	351.36	15.02	176.44	12.24	6.99	111048.55	40.50	2/26/91
1288	D-2187	W-370	1203.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.40	14151.11	37.50	7/12/10
1289	D-1180-01(7)	W-23	1144.00	1200.00	757.25	442.75	3.16	325.00	117.00	0.00	7.91	0.00	10262.20	37.75	3/16/03
1290	D2233	WL-936	746.00	820.00	755.00	65.00	4.20	13.90	39.70	0.00	4.20	6.10	14067.46	40.00	7/20/15
1291	D-1019	W-201	1221.00	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	1/10/11
1292	D-0360	W-358	1192.00	1225.00	1081.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	12/27/95
1293	D-2177-02	W-209	973.70	980.00	823.42	156.58	3.42	56.78	70.42	1.92	6.95	0.45	28301.29	40.00	12/5/05
1294	D-0360	W-426	1119.00	1160.00	626.00	534.00	7.98	316.06	23.80	187.04	13.10	38.09	111048.55	41.00	2/27/98
1295	D-0360	W-289	1267.00	1300.00	742.26	557.74	2.40	398.53	47.72	103.50	11.13	16.98	111048.55	40.50	11/15/93
1296	D-0360	W-325	945.00	975.00	831.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	11/14/95
1297	D-1019	W-201	1210.00	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	1/17/09
1298	D-0360	W-438	1085.00	1145.00	827.55	317.45	7.29	204.12	2.04	78.09	10.82	41.49	111048.55	40.50	12/18/98

1299	D-0360	W501.077.00	1164.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	133.14	111048.55	41.00	6/5/15
1300	D-0425-01	DW-10	971.00	981.00	694.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	7/14/1998
1301	D-0360	WL231.362.00	1120.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	104.05	111048.55	41.00	8/25/10
1302	D-1180-08(6a)	W-361	1186.40	1265.00	789.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	8/31/12
1303	D2317	W3	613.00	621.00	380.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	5/28/14
1304	D-0360	W21-057.00	1224.90	1260.00	956.64	303.36	7.40	175.10	23.60	87.50	17.29	90.29	111048.55	40.50	8/12/08
1305	D-0360	W21-195.00	1216.80	1280.00	977.97	302.03	5.68	178.44	31.29	74.71	12.42	90.29	111048.55	40.50	7/17/08
1306	D-0360	W501.077.01	1071.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	138.61	111048.55	41.00	10/5/16
1307	D-0426-08	WL-105	985.50	990.00	560.17	429.83	6.00	449.44	19.98	0.00	15.58	1.61	35708.87	39.00	11/5/98
1308	D-0360	W-415	1113.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	136.88	111048.55	40.50	3/21/16
1309	D-0360	W-368	1140.00	1185.00	1041.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	6/26/96
1310	D-2177-02	W-193	858.70	865.00	733.68	131.32	1.83	28.32	79.83	0.00	1.83	0.18	28301.29	40.00	2/28/05
1311	D-0360	W-204	1186.00	1200.00	1056.68	143.32	3.00	15.48	0.00	96.63	9.60	6.09	111048.55	40.00	12/13/90
1312	D2233	WL-936	746.00	820.00	755.00	65.00	4.20	13.90	39.70	0.00	4.20	6.10	14067.46	40.00	2/8/17
1313	D-0425-01	DW-8	929.00	939.00	690.70	248.30	6.12	1.18	0.11	0.39	0.07	0.00	61125.67	41.00	8/29/1998
1314	D-0355-04	MS-12-509 (W)	611.00	620.00	397.90	222.10	4.00	150.40	30.20	7.30	4.00	40.98	9430.98	41.10	10/20/96
1315	D2317	W3.01	612.00	618.00	377.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	6/15/16
1316	D-0360	W-157	1263.00	1275.00	760.30	514.70	7.57	350.60	23.74	78.65	19.66	6.99	111048.55	40.50	2/25/91
1317	D-0425-09	DW-144.00	1287.00	1307.00	635.67	671.33	0.07	5.83	0.58	0.92	0.09	35.68	61125.67	41.00	8/24/2007
1318	D-0360	W-394	1231.00	1259.00	825.91	433.09	5.12	321.97	32.71	69.59	16.17	32.60	111048.55	40.00	2/20/97
1319	D-0360	W-413	1246.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	137.99	111048.55	40.50	4/25/16
1320	D-0425-01	DW-13	960.00	972.00	685.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	7/14/1998
1321	D-0425-05	DW-120.00	1267.00	1285.00	613.67	671.33	0.07	5.83	0.58	0.92	0.09	12.20	61125.67	41.00	4/21/2004
1322	D-0360	W231.356.04	1267.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	133.14	111048.55	41.00	6/3/15
1323	D-0360	DW-122	1286.00	1302.00	934.15	367.85	6.20	166.26	55.30	131.78	11.66	6.99	111048.55	40.50	3/20/91
1324	D-0354	South Mains Shaft	449.42	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	2/9/17
1325	D-1019	WL-18	974.50	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	7/7/11
1326	D-0360	W-400	1271.00	1315.00	1023.50	291.50	6.25	177.75	23.01	71.99	15.15	32.60	111048.55	40.50	1/30/97
1327	D-1180-02(6a)	WL-200	821.00	830.00	354.71	475.29	3.21	378.08	96.38	3.82	7.20	11.17	10262.20	37.75	1/18/05
1328	D-2177-02	W-182	877.70	884.00	760.30	123.70	3.58	14.33	75.08	0.00	3.58	0.18	28301.29	40.00	2/28/05
1329	D-0360	WL231.362.00	1114.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	137.99	111048.55	41.00	4/4/16
1330	D-0360	WL-674	1102.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	137.99	111048.55	40.00	6/1/16
1331	D-1180-08(7)	W-353	1193.40	1232.00	788.98	443.02	2.14	371.38	94.23	3.66	7.07	19.89	10262.20	37.75	3/20/12
1332	D-0360	W-414	1265.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	3/20/17
1333	D-0360	W-705	1221.00	1270.00	789.93	480.07	7.29	317.33	35.19	104.86	16.00	67.27	111048.55	40.50	2/27/04
1334	D-0354	Roving Crew Shaft	456.81	637.76	248.21	389.55	4.17	77.51	258.71	3.04	5.75	39.63	20418.32	41.20	5/16/18
1335	D-0360	W-358	1199.00	1225.00	1081.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	2/16/96
1336	D-0354	South Mains Shaft	456.05	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	4/16/18
1337	D-0425-01	W-86	1207.00	1222.00	891.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	11/23/1998
1338	D-2317	WL-4	400.00	580.00	354.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	10/17/06
1339	D-0360	W21-183.01	1193.00	1220.00	917.97	302.03	5.68	178.44	31.29	74.71	12.42	90.29	111048.55	40.50	8/6/08
1340	D-0360	W-226	1057.00	1080.00	768.34	311.66	5.89	203.68	6.59	88.74	15.19	6.99	111048.55	40.00	1/21/91
1341	D-1180-03(7)	W-102	1128.30	1180.00	724.92	455.08	2.92	390.50	66.00	0.00	6.00	0.00	10262.20	37.75	10/14/05
1342	D-0360	W-660	1131.00	1170.00	893.05	276.95	5.10	94.67	17.81	110.04	11.95	129.65	111048.55	40.50	9/3/14
1343	D-0425-05	DW-38.00	1271.00	1300.00	713.70	586.30	5.97	4.12	0.36	1.31	0.21	9.18	61125.67	41.00	12/23/2003
1344	D-2177-01	GMW-04-1S	1028.81	1035.11	911.41	123.70	3.58	14.33	75.08	0.00	3.58	1.47	28301.29	40.00	10/24/07
1345	D-0354	Roving Crew Shaft	457.63	637.76	248.21	389.55	4.17	77.51	258.71	3.04	5.75	39.63	20418.32	41.20	4/3/18
1346	D-2317	WL-5	695.00	730.00	504.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	10/17/06
1347	D-2177-05	W-515.00	918.70	925.00	601.42	323.58	3.50	238.51	62.99	0.84	9.25	2.42	28301.29	40.00	9/15/09
1348	D-0360	W-401	1280.00	1318.00	990.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	2/24/97
1349	D-0360	W21-080.00	1032.00	1045.00	727.55	317.45	7.29	204.12	2.04	78.09	10.82	88.63	111048.55	40.00	5/3/08
1350	D-0425-04	DW-132	1037.00	1044.00	757.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	10/28/1998
1351	D-0360	W336.375.00	927.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	138.51	111048.55	41.00	9/12/16
1352	D-1180-08(6a)	W-311	1166.40	1265.00	789.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	9/7/12
1353	D-2177-03	W-37.00	858.70	865.00	781.91	83.09	3.92	49.17	3.50	0.00	3.92	2.27	28301.29	40.00	5/28/09
1354	D-1019	W-201	1210.00	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	1/17/09
1355	D-0360	W-312A	1255.00	1315.00	764.30	550.70	7.10	325.95	44.97	162.21	15.14	22.93	111048.55	40.50	1/30/95
1356	D-0360	W-414	1266.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	136.88	111048.55	40.50	1/13/16
1357	D-0360	W-378	1298.00	1325.00	853.21	471.79	5.29	321.05	61.70	78.55	18.20	32.60	111048.55	40.00	1/27/97
1358	D-2091-1	W-202	1221.00	1270.00	986.00	284.00	3.00	104.66	137.75	47.42	0.00	0.00	11181.57	37.50	2/24/00
1359	D-0355-04	MC-FR30-502 (DW)	790.50	810.00	596.57	213.43	5.00	141.59	50.33	6.67	6.42	44.09	9430.98	41.10	8/7/97
1360	D-0425-01	W-91	1189.00	1241.00	930.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	10/13/1998

1361	D-0360	W-225	1141.00	1148.00	836.34	311.66	5.89	203.68	6.59	88.74	15.19	6.99	111048.55	40.00	1/21/91
1362	D-0360	WL231.362.00	1125.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	129.65	111048.55	41.00	8/4/14
1363	D-0425-01	DW-80	1216.00	1241.00	595.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	11/25/1998
1364	D-0425-01	W-65	1222.00	1222.00	806.84	415.16	4.00	3.18	0.77	0.21	0.11	0.00	61125.67	41.00	9/23/1998
1365	D-0425-05	DW-48.02	1271.00	1305.00	601.90	703.10	5.05	5.64	0.80	0.40	0.14	9.18	61125.67	41.00	10/13/2003
1366	D-0360	W-709	1011.00	1085.00	913.37	171.63	5.20	65.90	1.30	100.36	11.56	138.61	111048.55	41.00	1/19/17
1367	D-0360	W-583	1158.00	1245.00	973.99	271.01	6.19	157.00	0.91	85.09	13.65	126.43	111048.55	40.50	3/12/14
1368	D-0425-01	W-17	1195.00	1240.00	708.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	10/26/1998
1369	D-1180-08(7)	W-300	1201.40	1240.00	796.98	443.02	2.14	371.38	94.23	3.66	7.07	19.89	10262.20	37.75	3/20/12
1370	D-0360	DW-393	1314.00	1330.00	896.91	433.09	5.12	321.97	32.71	69.59	16.17	33.83	111048.55	40.00	4/10/97
1371	D-0425-01	DW-38	1179.00	1204.00	590.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	10/26/1998
1372	D-0360	W-701	1270.00	1320.00	839.93	480.07	7.29	317.33	35.19	104.86	16.00	67.27	111048.55	40.50	2/26/04
1373	D-0360	W-333	905.00	908.00	764.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	2/27/96
1374	D-0360	DW21-156.00	1222.00	1225.00	950.75	274.25	5.45	194.05	15.51	61.90	11.27	88.63	111048.55	40.50	4/27/08
1375	D-0360	W-295	1231.00	1264.00	701.40	562.60	4.58	351.36	15.02	176.44	12.24	16.98	111048.55	40.50	12/14/93
1376	D-1180-00(7)	W-5	1160.00	1220.00	762.50	457.50	3.00	364.51	87.98	0.00	8.02	0.00	10262.20	37.75	5/20/96
1377	D-0360	W-414	1230.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	134.61	111048.55	40.50	8/24/15
1378	D-0425-10	W-44.00	965.00	982.00	671.88	310.12	3.40	1.38	0.00	1.61	0.13	37.54	61125.67	41.00	12/11/2007
1379	D-0360	DW-161	1273.00	1290.00	739.30	550.70	7.10	325.95	44.97	162.21	15.14	6.09	111048.55	40.50	10/30/90
1380	D-0360	W501.077.01	1073.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	136.88	111048.55	41.00	3/1/16
1381	D-0360	W-175	1117.00	1132.00	711.83	420.17	7.53	223.66	72.28	173.45	25.63	6.09	111048.55	40.00	11/8/90
1382	D-0360	W-229A	1271.00	1305.00	742.40	562.60	4.58	351.36	15.02	176.44	12.24	6.99	111048.55	40.50	3/23/91
1383	D-1019	WL-18	976.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	10/9/08
1384	D-0360	W-157	1263.00	1275.00	760.30	514.70	7.57	350.60	23.74	78.65	19.66	6.99	111048.55	40.50	3/21/91
1385	D-1180-08(7)	W-343	1192.60	1285.00	841.98	443.02	2.14	371.38	94.23	3.66	7.07	20.66	10262.20	37.75	4/16/12
1386	D-0360	WL-736	1120.00	1131.00	797.66	333.34	4.90	243.57	13.34	48.14	14.88	136.88	111048.55	41.00	2/8/16
1387	D-0360	W501.343000	1068.00	1175.00	743.50	431.50	6.60	236.12	77.80	118.08	12.12	138.61	111048.55	41.00	1/3/17
1388	D-0425-05	W-29.00	1309.00	1340.00	670.60	669.40	5.90	4.38	0.61	1.65	0.21	9.18	61125.67	41.00	10/13/2003
1389	D-0360	W501.077.00	1161.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	130.36	111048.55	41.00	10/7/14
1390	D-0360	W-400	1271.00	1315.00	1023.50	291.50	6.25	177.75	23.01	71.99	15.15	33.83	111048.55	40.50	6/27/97
1391	D-2177-02	W-193	858.70	865.00	733.68	131.32	1.83	28.32	79.83	0.00	1.83	0.18	28301.29	40.00	1/6/05
1392	D-2317-OA	DW-22B	892.00	900.00	659.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	2/7/08
1393	D-0360	DW-162	1269.00	1296.00	736.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	3/18/91
1394	D-0360	WL-674	1092.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	52.68	111048.55	40.00	3/30/01
1395	D-2177-03	W-27.00	898.70	905.00	821.91	83.09	3.92	49.17	3.50	0.00	3.92	2.11	28301.29	40.00	3/4/09
1396	D-0360	W-289	1268.00	1300.00	742.26	557.74	2.40	398.53	47.72	103.50	11.13	18.09	111048.55	40.50	2/28/94
1397	D-2187	W-303	1175.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.13	14151.11	37.50	3/29/13
1398	D-0360	W-368	1139.00	1185.00	1041.68	143.32	3.00	15.48	0.00	96.63	9.60	29.98	111048.55	40.00	7/26/96
1399	D-0360	W21-112.00	1032.00	1060.00	742.55	317.45	7.29	204.12	2.04	78.09	10.82	90.29	111048.55	40.00	8/11/08
1400	D-0360	DW-169	1082.00	1100.00	581.53	518.47	7.08	373.81	9.26	93.89	21.49	6.09	111048.55	40.50	12/11/90
1401	D-1019	WL-18	968.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	2/10/11
1402	D-0360	W-683	1022.00	1030.00	858.37	171.63	5.20	65.90	1.30	100.36	11.56	67.27	111048.55	41.00	2/23/04
1403	D-2177-06	W-28	1171.70	1178.00	823.32	354.68	3.58	188.24	146.08	0.00	11.68	3.68	28301.29	40.00	8/18/11
1404	D-0360	DW-318	1286.50	1294.00	775.53	518.47	7.08	373.81	9.26	93.89	21.49	18.09	111048.55	40.50	2/16/94
1405	D-2177-03	W-103.00	906.70	913.00	598.58	314.42	3.04	213.48	71.33	1.25	5.55	2.42	28301.29	40.00	9/15/09
1406	D-0360	DW-122	1288.00	1302.00	934.15	367.85	6.20	166.26	55.30	131.78	11.66	6.09	111048.55	40.50	11/26/90
1407	D-0360	W-401	1276.00	1318.00	990.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	5/22/97
1408	D-0360	W-414	1232.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	133.14	111048.55	40.50	5/21/15
1409	D-0425-03	DW-435B	1235.00	1240.00	707.95	532.05	3.24	3.32	0.65	1.25	0.13	6.69	61125.67	41.00	6/7/2003
1410	D-0360	WL231.362.00	1110.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	138.61	111048.55	41.00	1/2/17
1411	D-0360	DW-330	956.00	960.00	750.32	209.68	4.28	93.70	32.00	105.70	7.82	27.35	111048.55	40.00	3/4/96
1412	D-0425-05	DW-119.01	1236.00	1260.00	617.30	642.70	4.75	4.28	1.20	1.05	0.13	14.00	61125.67	41.00	8/17/2004
1413	D-0360	DW-391	1098.00	1120.00	832.55	287.45	6.85	195.67	43.79	129.97	13.52	33.83	111048.55	40.00	5/15/97
1414	D-0426	W-19C	1036.50	1215.00	906.25	308.75	4.00	230.75	38.14	0.00	8.10	11.50	35708.87	39.00	8/15/05
1415	D-0360	WL-721	1159.00	1229.00	800.55	428.45	7.05	259.73	45.00	112.83	14.77	138.51	111048.55	40.50	7/14/16
1416	D-0355-04	MC-FR36-503 (DW)	705.00	710.00	496.57	213.43	5.00	141.59	50.33	6.87	6.42	40.98	9430.98	41.10	5/7/96
1417	D-0360	WL-349	1111.00	1190.00	878.34	311.66	5.89	203.68	6.59	88.74	15.19	27.35	111048.55	40.00	3/19/96
1418	D-0360	W-415	1112.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	137.99	111048.55	40.50	5/25/16
1419	D-0424	6-WL-12	1008.00	1020.00	769.40	250.60	3.60	111.09	3.31	5.01	3.60	2.95	29225.93	39.00	5/14/08
1420	D-2317-1	DW-406	693.30	700.00	459.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	4/24/08
1421	D-2177-03	WL-145	1193.70	1200.00	796.43	403.57	3.88	281.43	99.19	12.66	6.79	0.00	28301.29	40.00	4/26/2002
1422	D-2177-03	WL-170.00	878.70	885.00	570.58	314.42	3.04	213.48	71.33	1.25	5.55	2.11	28301.29	40.00	3/5/09

1423	D-2317-4	DW-46	680.00	693.00	452.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	10/30/08
1424	D-0426	W-18B	1097.00	1167.00	693.30	473.70	3.00	246.94	55.98	2.32	7.73	11.50	35708.87	39.00	8/15/05
1425	D-0360	W-418	1169.00	1180.00	852.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	4/25/97
1426	D-2187	W-370	1204.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.63	14151.11	37.50	6/27/11
1427	D-2177-06	W-24K	1078.70	1085.00	759.04	325.96	3.33	225.55	79.76	0.73	9.95	2.42	28301.29	40.00	9/11/09
1428	D-0360	W-379	1246.00	1323.00	889.91	433.09	5.12	321.97	32.71	69.59	16.17	32.60	111048.55	40.00	2/20/97
1429	D-0360	DW-178	1186.00	1225.00	810.84	414.16	6.47	221.29	50.89	100.31	19.91	6.09	111048.55	40.00	11/6/90
1430	D-0425-01	W-3	1215.00	1246.00	690.01	555.99	2.06	3.55	0.24	1.44	0.20	0.00	61125.67	41.00	8/29/1998
1431	D-0360	W-359	1105.00	1118.00	974.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	2/9/96
1432	D-1180-08(6a)	WL-200	815.20	830.00	354.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	10/24/14
1433	D-2269-08	DW-1006	698.00	737.00	570.50	166.50	4.30	15.30	128.00	0.00	6.30	4.38	16659.24	40.00	9/2/09
1434	D-0426-08	W-7	1028.00	1035.00	519.25	515.75	5.00	410.68	139.19	7.58	11.58	3.50	35708.87	39.00	10/12/00
1435	D-0360	W-291	1272.00	1275.00	732.60	542.40	5.04	412.92	16.15	92.07	13.88	18.09	111048.55	40.50	3/21/94
1436	D-0360	W21-087.01	1050.10	1068.00	750.55	317.45	7.29	204.12	2.04	78.09	10.82	88.63	111048.55	40.00	5/5/08
1437	D-0426	W-18A	1135.80	1166.30	692.60	473.70	3.00	246.94	55.98	2.32	7.73	11.50	35708.87	39.00	8/15/05
1438	D-0360	W-415	1103.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	130.36	111048.55	40.50	10/16/14
1439	D2317	M2A	646.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	5/15/13
1440	D-0360	W-428	1197.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	134.61	111048.55	40.00	9/4/15
1441	D-0360	W-426	1120.00	1160.00	626.00	534.00	7.98	316.06	23.80	187.04	13.10	38.09	111048.55	41.00	3/5/98
1442	D-2177-01	GMW-04-4D	902.69	908.99	563.83	345.16	3.54	118.44	205.60	0.58	9.37	1.47	28301.29	40.00	10/24/07
1443	D-0360	WL-674	1100.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	131.89	111048.55	40.00	3/2/15
1444	D-1019	W-201	1211.00	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	4/29/10
1445	D-2187	W-370	1202.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.48	14151.11	37.50	10/13/10
1446	D-0360	DW-399	1294.00	1315.00	1023.50	291.50	6.25	177.75	23.01	71.99	15.15	32.60	111048.55	40.50	3/22/97
1447	D-0360	W-620	1149.00	1178.00	879.14	298.86	5.45	166.14	34.91	78.29	9.15	128.37	111048.55	40.50	6/3/14
1448	D-0360	W-414	1231.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	128.37	111048.55	40.50	6/13/14
1449	D-0424	W-66	1212.00	1230.00	736.62	493.38	6.06	393.79	161.68	1.00	10.55	2.52	29225.93	38.50	2/4/08
1450	D-0360	DW-719	1175.00	1178.00	749.55	428.45	7.05	259.73	45.00	112.83	14.77	138.61	111048.55	41.00	3/13/17
1451	D-0360	W-415	1105.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	133.14	111048.55	40.50	5/21/15
1452	D-0360	W-114	1264.00	1306.00	746.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	10/23/90
1453	D-0360	WL231.362.00	1108.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	138.51	111048.55	41.00	7/5/16
1454	D-0360	W21-095.00	1019.30	1100.00	782.55	317.45	7.29	204.12	2.04	78.09	10.82	90.29	111048.55	40.00	8/9/08
1455	D-0360	WL231.362.00	1113.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	136.88	111048.55	41.00	1/15/16
1456	D-2269-08	DW-1648	793.00	832.00	659.50	172.50	4.80	70.70	82.00	0.00	8.80	2.33	16659.24	40.00	8/23/12
1457	D-0425-01	W-11	971.00	976.00	689.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	7/14/1998
1458	D-0360	WL-338	881.00	890.00	761.70	128.30	5.87	17.73	0.00	82.11	9.03	26.12	111048.55	40.00	11/20/95
1459	D-0360	W-229A	1257.00	1305.00	742.40	562.60	4.58	351.36	15.02	176.44	12.24	7.80	111048.55	40.50	6/14/91
1460	D-0360	W-396	1266.00	1305.00	1013.50	291.50	6.25	177.75	23.01	71.99	15.15	33.83	111048.55	40.50	6/27/97
1461	D-0360	WL231.362.00	1124.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	133.14	111048.55	41.00	4/1/15
1462	D-0360	WL-736	1116.00	1131.00	797.66	333.34	4.90	243.57	13.34	48.14	14.88	137.99	111048.55	41.00	5/11/16
1463	D-0425-01	DW-80	1231.00	1241.00	595.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	2/27/1999
1464	D-0425-01	WL-98	1245.00	1262.00	951.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	2/26/1999
1465	D-1019	W-242	1137.00	1190.00	892.00	298.00	3.00	125.09	149.81	29.51	9.14	3.84	11184.92	37.50	5/2/12
1466	D-0425-05	W-113.00	1114.00	1130.00	720.64	409.36	1.33	2.24	0.99	0.84	0.08	12.20	61125.67	41.00	5/24/2004
1467	D-0360	W-415	1107.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	129.65	111048.55	40.50	7/15/14
1468	D-0360	W-340	912.00	920.00	791.70	128.30	5.87	17.73	0.00	82.11	9.03	27.35	111048.55	40.00	1/23/96
1469	D-2177-06	WL-39	1163.70	1170.00	815.32	354.68	3.58	188.24	146.08	0.00	11.68	0.45	28301.29	40.00	10/29/05
1470	D-0360	W-403	1298.00	1345.00	794.30	550.70	7.10	325.95	44.97	162.21	15.14	33.83	111048.55	40.50	5/24/97
1471	D-0425-01	W-88	1215.00	1240.00	594.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	10/6/1998
1472	D-2177-03	WL-44.00	931.70	938.00	772.47	165.53	3.77	111.13	26.92	0.00	9.62	2.11	28301.29	40.00	2/26/09
1473	D-2177-03	W-27.00	898.70	905.00	821.91	83.09	3.92	49.17	3.50	0.00	3.92	2.42	28301.29	40.00	9/17/09
1474	D-0360	W-159	1252.00	1290.00	730.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	12/10/90
1475	D-0360	WL231.362.00	1114.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	136.88	111048.55	41.00	2/1/16
1476	D-0360	W-413	1241.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	130.36	111048.55	40.50	10/16/14
1477	D-0360	W-204	1187.00	1200.00	1056.68	143.32	3.00	15.48	0.00	96.63	9.60	6.99	111048.55	40.00	2/13/91
1478	D-0425-01	W-17	1204.00	1240.00	708.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	1/22/1999
1479	D-0360	W-403	1304.00	1345.00	794.30	550.70	7.10	325.95	44.97	162.21	15.14	32.60	111048.55	40.50	2/27/97
1480	D-0425-01	DW-28	1209.00	1220.00	804.84	415.16	4.00	3.18	0.77	0.21	0.11	0.00	61125.67	41.00	1/30/1999
1481	D-0360	W-166	1037.00	1106.00	812.10	293.90	7.12	127.60	10.23	132.06	16.83	6.99	111048.55	40.50	1/4/91
1482	D2317	M1B	686.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/12/14
1483	D-0425-01	W-122	1233.00	1260.00	949.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	10/21/1998
1484	D-0360	DW-180	1066.00	1083.00	789.10	293.90	7.12	127.60	10.23	132.06	16.83	6.09	111048.55	40.50	12/19/90

1485	D2317	W3	613.00	621.00	380.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	11/19/14
1486	D-0360-08	W-2	822.20	834.90	571.85	263.05	7.55	115.30	35.80	109.05	13.00	0.00	111048.55	40.50	2/24/84
1487	D-0360	W-379	1241.00	1323.00	889.91	433.09	5.12	321.97	32.71	69.59	16.17	33.83	111048.55	40.00	4/10/97
1488	D2317	M2A	645.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	11/26/16
1489	D-0425-01	WL-43	1181.00	1241.00	1162.42	78.58	6.76	0.35	0.02	0.39	0.11	0.00	61125.67	41.00	11/25/1998
1490	D-0360	WL-319	1265.00	1325.00	774.30	550.70	7.10	325.95	44.97	162.21	15.14	18.09	111048.55	40.50	1/26/94
1491	D-0425-05	W-37.02	1191.00	1215.00	628.70	586.30	5.97	4.12	0.36	1.31	0.21	10.97	61125.67	41.00	2/19/2004
1492	D-0426	W-16C	1039.63	1218.63	909.88	308.75	4.00	230.75	38.14	0.00	8.10	11.50	35708.87	39.00	8/15/05
1493	D-0360	W-53.01	1007.50	1010.00	828.30	181.70	7.40	100.39	2.00	91.20	12.29	112.92	111048.55	41.00	12/29/11
1494	D-0354	Roving Crew Shaft	458.21	637.76	248.21	389.55	4.17	77.51	258.71	3.04	5.75	39.63	20418.32	41.20	5/15/18
1495	D-0360	W-347	1070.00	1180.00	868.34	311.66	5.89	203.68	6.59	88.74	15.19	28.69	111048.55	40.00	4/19/96
1496	D-0425-09	DW-145.00	1297.00	1305.00	633.67	671.33	0.07	5.83	0.58	0.92	0.09	33.60	61125.67	41.00	4/4/2007
1497	D-1180-08(7)	W-277	1124.80	1205.00	761.98	443.02	2.14	371.38	94.23	3.66	7.07	24.55	10262.20	37.75	9/11/13
1498	D-0425-05	W-114.01	1051.00	1065.00	655.64	409.36	1.33	2.24	0.99	0.84	0.08	12.20	61125.67	41.00	5/24/2004
1499	D-0426-08	WL-9	1018.00	1030.00	514.25	515.75	5.00	410.68	139.19	7.58	11.58	5.37	35708.87	39.00	12/26/01
1500	D-0360	W-359	1104.00	1118.00	974.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	11/29/95
1501	D-0425-01	DW-10	967.00	981.00	694.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	10/6/1998
1502	D-2317-1	WL-601	640.25	648.00	422.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	12/6/07
1503	D-0360	W-407	1250.00	1306.00	787.53	518.47	7.08	373.81	9.26	93.89	21.49	33.83	111048.55	40.50	5/27/97
1504	D-0360	W-199	1187.00	1200.00	1056.68	143.32	3.00	15.48	0.00	96.63	9.60	6.99	111048.55	40.00	2/13/91
1505	D-0425-10	W-44.00	969.00	983.00	672.88	310.12	3.40	1.38	0.00	1.61	0.13	39.31	61125.67	41.00	2/18/2008
1506	D-0426	W-18B	1097.40	1167.00	693.30	473.70	3.00	246.94	55.98	2.32	7.73	12.64	35708.87	39.00	8/23/12
1507	D-1180-08(7)	W-352	1247.60	1290.00	846.98	443.02	2.14	371.38	94.23	3.66	7.07	23.57	10262.20	37.75	5/23/13
1508	D-0360	WL-674	1078.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	138.61	111048.55	40.00	12/1/16
1509	D-0360	W-413	1241.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	134.61	111048.55	40.50	8/24/15
1510	D-0425-05	DW-38.00	1270.00	1300.00	713.70	586.30	5.97	4.12	0.36	1.31	0.21	9.18	61125.67	41.00	10/20/2003
1511	D-2317-0A	WL-21	575.00	600.00	374.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	1/24/06
1512	D-2317-1	WL-8	569.20	730.00	504.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	8/28/08
1513	D-0425-01	WL-21	1201.00	1287.00	639.55	647.45	0.78	4.87	0.46	0.91	0.16	0.00	61125.67	41.00	9/17/1998
1514	D-0360	W-410	1243.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	134.61	111048.55	40.50	9/16/15
1515	D-2187	W-370	1203.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.98	14151.11	37.50	7/17/12
1516	D-0360	W-336	904.00	918.00	774.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	3/25/96
1517	D-0360	W-340	912.00	920.00	791.70	128.30	5.87	17.73	0.00	82.11	9.03	27.35	111048.55	40.00	2/21/96
1518	D-0360	W-175	1118.00	1132.00	711.83	420.17	7.53	223.66	72.28	173.45	25.63	6.99	111048.55	40.00	1/14/91
1519	D-2317-1	DW-406	690.00	700.00	459.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	12/5/07
1520	D-2187	W-303	1180.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.85	14151.11	37.50	1/10/12
1521	D-0425-05	W-68.02	1154.00	1185.00	744.20	440.80	2.32	1.86	0.89	1.46	0.15	9.18	61125.67	41.00	11/8/2003
1522	D-1180-08(7)	W-352	1248.60	1290.00	846.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	8/30/12
1523	D-0360	W21-106.00	1045.60	1065.00	747.55	317.45	7.29	204.12	2.04	78.09	10.82	90.29	111048.55	40.00	8/11/08
1524	D-0360	DW-162	1270.00	1296.00	736.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	11/27/90
1525	D-2177-03	W-60.00	915.70	922.00	808.08	113.92	3.38	44.70	17.00	0.00	3.38	2.42	28301.29	40.00	9/15/09
1526	D-0425-01	WL-98	1239.00	1262.00	951.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	11/23/1998
1527	D-1180-08(7)	W-311	1186.40	1260.00	816.98	443.02	2.14	371.38	94.23	3.66	7.07	22.53	10262.20	37.75	3/29/13
1528	D-2177-03	W-88.00	1085.70	1092.00	795.00	297.00	3.17	239.44	35.92	3.23	7.57	2.11	28301.29	40.00	3/11/09
1529	D-0360	W501.077.00	1167.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	128.37	111048.55	41.00	6/18/14
1530	D-0425-01	W-58	1035.00	1072.00	458.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	1/23/1999
1531	D-0360	W-170	1053.00	1105.00	811.10	293.90	7.12	127.60	10.23	132.06	16.83	6.99	111048.55	40.50	2/5/91
1532	D-0425-01	WL-78	1238.00	1260.00	614.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	1/22/1999
1533	D-0360	W501.077.00	1165.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	134.61	111048.55	41.00	8/17/15
1534	D-0425-05	DW-94.01	1226.00	1240.00	576.14	663.86	0.17	4.92	0.76	0.94	0.14	9.18	61125.67	41.00	10/25/2003
1535	D-0360	W-455	1020.00	1080.00	792.55	287.45	6.85	195.67	43.79	129.97	13.52	42.66	111048.55	40.00	3/27/99
1536	D-1180-01(7)	W-6	1178.00	1210.00	767.25	442.75	3.16	325.00	117.00	0.00	7.91	0.00	10262.20	37.75	4/30/02
1537	D-0425-01	DW-133	1134.00	1142.00	726.84	415.16	4.00	3.18	0.77	0.21	0.11	0.00	61125.67	41.00	2/10/1999
1538	D-1180-08(7)	WL-101	1164.50	1185.00	742.25	442.75	3.16	325.00	117.00	0.00	7.91	28.80	10262.20	37.75	12/11/14
1539	D-1019	WL-18	973.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	9/25/12
1540	D-2177-03	DW-19.00	878.70	885.00	780.50	104.50	3.50	68.50	6.00	0.00	5.50	2.11	28301.29	40.00	3/4/09
1541	D-0360	W501.343000	1077.00	1175.00	743.50	431.50	6.60	236.12	77.80	118.08	12.12	138.61	111048.55	41.00	2/1/17
1542	D-2317-0A	DW-21	665.50	678.00	437.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	8/29/07
1543	D-0355-04	MC-FR36-505 (WL)	663.00	780.00	566.57	213.43	5.00	141.59	50.33	6.67	6.42	40.98	9430.98	41.10	10/3/96
1544	D-2317-0A	DW-11A	575.00	585.00	344.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	11/1/06
1545	D-0360	W501.077.00	1073.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	138.61	111048.55	41.00	1/3/17
1546	D2233	DW-7	753.00	774.00	617.87	156.13	3.41	71.09	74.83	1.33	3.51	6.10	14067.46	40.00	10/6/15

1547	D-2317-OA	DW-23	624.20	630.00	389.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	4/23/07
1548	D-2187	W-370	1202.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.98	14151.11	37.50	9/25/12
1549	D-0360	W336.375.00	926.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	138.61	111048.55	41.00	12/1/16
1550	D-2177-03	W-176	873.70	880.00	748.68	131.32	1.83	28.32	79.83	0.00	1.83	2.11	28301.29	40.00	2/25/09
1551	D-0425-01	DW-133	1134.00	1142.00	726.84	415.16	4.00	3.18	0.77	0.21	0.11	0.00	61125.67	41.00	1/30/1999
1552	D-0360	W-350	1144.00	1218.00	1074.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	4/19/96
1553	D-2187	W-8	1110.00	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	1.60	14151.11	37.50	3/9/15
1554	D-2187	W-303	1174.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.69	14151.11	37.50	8/10/11
1555	D-0360	W6-6	1235.00	1256.00	992.95	263.05	7.55	115.24	35.79	109.05	13.01	38.09	111048.55	41.00	2/20/98
1556	D-0360	W336.367.00	882.70	900.00	636.95	263.05	7.55	115.24	35.79	109.05	13.01	104.05	111048.55	41.00	8/25/10
1557	D-0360	W-691	1263.00	1275.00	846.55	428.45	7.05	259.73	45.00	112.83	14.77	65.85	111048.55	40.50	10/3/03
1558	D-0360	W-225	1139.00	1148.00	836.34	311.66	5.89	203.68	6.59	88.74	15.19	6.09	111048.55	40.00	11/19/90
1559	D-0425-01	WL-2	1207.00	1236.00	680.01	555.99	2.06	3.55	0.24	1.44	0.20	0.00	61125.67	41.00	10/6/1998
1560	D2233	WL-936	746.00	820.00	755.00	65.00	4.20	13.90	39.70	0.00	4.20	6.10	14067.46	40.00	3/17/15
1561	D-2317-OA	DW-11A	575.00	585.00	344.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	5/21/06
1562	D-1180-08(7)	W-353	1200.60	1232.00	788.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	9/7/12
1563	D-0360	W-140	1263.00	1300.00	740.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	3/21/91
1564	D-2177-03	WL-126.00	1136.70	1143.00	948.50	194.50	4.21	103.26	69.34	0.00	5.39	2.11	28301.29	40.00	2/26/09
1565	D-0360	WL-674	1101.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	126.43	111048.55	40.00	2/18/14
1566	D-0360	WL336.373.00	1079.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	134.61	111048.55	41.00	7/6/15
1567	D-0360	W336.375.00	927.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	137.99	111048.55	41.00	4/7/16
1568	D-0360	W-294	1083.00	1125.00	606.53	518.47	7.08	373.81	9.26	93.89	21.49	16.98	111048.55	40.50	11/17/93
1569	D-1019	W-201	1210.00	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	7/14/09
1570	D-0360	W21-111.00	1032.20	1040.00	722.55	317.45	7.29	204.12	2.04	78.09	10.82	90.29	111048.55	40.00	8/8/08
1571	D-0360	WL-419	1237.00	1261.00	969.50	291.50	6.25	177.75	23.01	71.99	15.15	33.83	111048.55	40.50	6/27/97
1572	D-0360	DW-362	993.00	1000.00	856.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	3/18/96
1573	D-0424	8-WL-51	1018.00	1032.00	781.40	250.60	3.60	111.09	3.31	5.01	3.60	8.05	29225.93	39.00	7/19/11
1574	D-0425-01	W-122	1233.00	1260.00	949.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	1/29/1999
1575	D-1180-08(7)	W-100	1075.80	1180.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	27.76	10262.20	37.75	9/3/14
1576	D-0360	W-341	893.00	920.00	791.70	128.30	5.87	17.73	0.00	82.11	9.03	27.35	111048.55	40.00	1/23/96
1577	D-0425-01	W-11	969.00	976.00	689.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	9/24/1998
1578	D-0360	DW-406	1301.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	134.61	111048.55	40.50	7/2/15
1579	D-1180-08(6a)	WL-362	1209.00	1218.00	742.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	4/10/12
1580	D-0360	W-226	1058.00	1080.00	768.34	311.66	5.89	203.68	6.59	88.74	15.19	6.99	111048.55	40.00	2/19/91
1581	D-0425-01	W-124	1242.00	1260.00	949.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	10/21/1998
1582	D-0425-10	W-438	953.00	965.00	654.88	310.12	3.40	1.38	0.00	1.61	0.13	35.68	61125.67	41.00	9/20/2007
1583	D2233	W-13	749.00	778.00	621.87	156.13	3.41	71.09	74.83	1.33	3.51	6.10	14067.46	40.00	10/6/15
1584	D-0360	W-292	1236.00	1310.00	747.40	562.60	4.58	351.36	15.02	176.44	12.24	16.98	111048.55	40.50	11/16/93
1585	D-0425-01	W-91	1190.00	1241.00	930.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	2/26/1999
1586	D-0360	W-345	1240.00	1270.00	855.84	414.16	6.47	221.29	50.89	100.31	19.91	27.35	111048.55	40.00	1/26/96
1587	D-1180-08(7)	W-312	1188.60	1260.00	816.98	443.02	2.14	371.38	94.23	3.66	7.07	23.57	10262.20	37.75	5/22/13
1588	D-0425-05	DW-115.00	1131.00	1140.00	642.62	497.38	0.43	2.86	1.39	0.53	0.07	12.20	61125.67	41.00	4/21/2004
1589	D-0426	W-16B	1086.55	1218.55	909.80	308.75	4.00	230.75	38.14	0.00	8.10	11.50	35708.87	39.00	8/15/05
1590	D-1180-08(6a)	W-319	1136.40	1200.00	724.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/28/12
1591	D-0360	WL-736	1120.00	1131.00	797.66	333.34	4.90	243.57	13.34	48.14	14.88	138.61	111048.55	41.00	1/19/17
1592	D-0360	DW-719	1174.00	1178.00	749.55	428.45	7.05	259.73	45.00	112.83	14.77	67.27	111048.55	41.00	2/24/04
1593	D-0360	W-723	1131.00	1180.00	946.87	233.13	7.55	117.80	5.49	98.95	10.71	67.27	111048.55	40.50	2/7/04
1594	D-0360	W21-502.00	1141.80	1165.00	1008.50	156.50	7.10	92.72	0.00	41.26	9.32	90.29	111048.55	40.50	8/26/08
1595	D-2187	W-303	1177.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.28	14151.11	37.50	12/11/13
1596	D-0425-05	DW-96.03	1157.00	1175.00	734.20	440.80	2.32	1.86	0.89	1.46	0.15	9.18	61125.67	41.00	12/22/2003
1597	D-1180-08(6a)	W-256	1124.60	1205.00	670.34	534.66	3.50	466.43	41.58	18.76	4.63	15.87	10262.20	37.75	3/29/13
1598	D-1180-03(6a)	W-100	1082.00	1180.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	14.31	10262.20	37.75	3/29/06
1599	D-0360	WL-674	1093.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	130.36	111048.55	40.00	12/3/14
1600	D-0425-01	W-63	1091.00	1152.00	547.31	604.69	0.55	4.32	0.50	1.03	0.16	0.00	61125.67	41.00	10/30/1998
1601	D-0425-01	W-76	1150.00	1193.00	547.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	1/28/1999
1602	D-0425-01	DW-14	948.00	957.00	670.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	11/12/1998
1603	D-0360	DW-406	1297.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	135.54	111048.55	40.50	12/17/15
1604	D-0425-01	W-97	1122.00	1175.00	561.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	3/19/1999
1605	D-0360	W336.375.00	925.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	133.14	111048.55	41.00	5/12/15
1606	D-1180-08(6a)	W-294	1169.60	1192.00	716.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	9/7/12
1607	D-2177-02	W-254	882.70	889.00	765.30	123.70	3.58	14.33	75.08	0.00	3.58	1.61	28301.29	40.00	1/10/08
1608	D-0426	W-18C	1025.90	1164.00	690.30	473.70	3.00	246.94	55.98	2.32	7.73	12.64	35708.87	39.00	8/23/12

1609	D-2177-06	W-24K	1078.70	1085.00	759.04	325.96	3.33	225.55	79.76	0.73	9.95	2.27	28301.29	40.00	5/28/09
1610	D-1180-08(7)	W-256	1124.60	1205.00	670.34	534.66	3.50	466.43	41.58	18.76	4.63	22.53	10262.20	37.75	3/29/13
1611	D-0360	DW-406	1302.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	32.60	111048.55	40.50	3/19/97
1612	D-0360	W-694	1208.00	1260.00	770.29	489.71	11.76	347.06	30.83	115.94	26.19	117.86	111048.55	40.50	9/18/12
1613	D-0360	W-289	1267.00	1300.00	742.26	557.74	2.40	398.53	47.72	103.50	11.13	18.09	111048.55	40.50	3/31/94
1614	D-0426	W-168	1096.46	1218.55	909.80	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	8/29/14
1615	D-1180-08(7)	W-315	1134.60	1200.00	756.98	443.02	2.14	371.38	94.23	3.66	7.07	20.66	10262.20	37.75	4/20/12
1616	D-0360	W-690	1312.00	1366.00	809.02	556.98	7.61	404.08	9.37	114.93	14.37	64.61	111048.55	40.50	7/31/03
1617	D-2177-06	WL-37	1128.70	1135.00	780.32	354.68	3.58	188.24	146.08	0.00	11.68	0.28	28301.29	40.00	4/19/05
1618	D-0360	W-312A	1255.00	1315.00	764.30	550.70	7.10	325.95	44.97	162.21	15.14	22.93	111048.55	40.50	3/29/95
1619	D-0360	W-666	1041.00	1065.00	801.65	263.35	7.00	108.55	53.31	84.24	5.91	129.65	111048.55	40.50	8/15/14
1620	D0424-2	WL-11	1064.00	1220.00	746.30	473.70	3.00	246.94	55.98	2.32	7.73	0.00	29225.93	38.50	8/26/91
1621	D-0360	W-705	1224.00	1270.00	789.93	480.07	7.29	317.33	35.19	104.86	16.00	65.85	111048.55	40.50	10/4/03
1622	D-0360	WL-736	1118.00	1131.00	797.66	333.34	4.90	243.57	13.34	48.14	14.88	138.51	111048.55	41.00	7/29/16
1623	D-0426-08	WL-106	1020.00	1045.00	437.00	608.00	8.00	552.90	90.98	1.02	14.64	5.37	35708.87	39.00	11/21/01
1624	D2317	W3.01	612.00	618.00	377.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	11/13/13
1625	D-0360	W336.375.00	925.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	129.65	111048.55	41.00	8/14/14
1626	D-1180-08(6a)	W-102	1135.30	1180.00	724.92	455.08	2.92	390.50	66.00	0.00	6.00	15.87	10262.20	37.75	11/8/13
1627	D-0360	W231.356.04	1226.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	126.43	111048.55	41.00	3/12/14
1628	D-0425-05	W-60.01	1270.00	1290.00	622.05	667.95	4.65	4.23	1.67	0.88	0.14	10.97	61125.67	41.00	2/20/2004
1629	D-2177-03	WL-58.00	892.70	899.00	815.57	83.43	3.25	29.67	19.92	0.00	3.25	2.11	28301.29	40.00	2/18/09
1630	D-0426	W-18A	1138.23	1166.30	692.60	473.70	3.00	246.94	55.98	2.32	7.73	12.64	35708.87	39.00	5/14/14
1631	D-2177-03	W-454.00	1087.70	1094.00	1001.85	92.15	3.44	10.06	34.49	0.00	3.44	2.11	28301.29	40.00	1/20/09
1632	D-1180-08(6a)	W-251	1152.20	1202.00	759.25	442.75	3.16	325.00	117.00	0.00	7.91	15.87	10262.20	37.75	3/29/12
1633	D-1180-00(6a)	WL-8	1184.00	1245.00	855.00	390.00	3.00	319.02	68.98	0.00	3.01	0.00	10262.20	37.75	5/20/96
1634	D-0425-03	WL-180	1246.00	1260.00	678.75	581.25	1.56	2.44	1.15	1.38	0.12	0.74	61125.67	41.00	1/17/2002
1635	D-0360	W-414	1265.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	133.14	111048.55	40.50	6/18/15
1636	D-2187	W-9	1115.00	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	1.42	14151.11	37.50	5/9/14
1637	D-2269-08	WL-1005	823.00	862.00	695.50	166.50	4.30	15.30	128.00	0.00	6.30	7.34	16659.24	40.00	8/27/09
1638	D2233	W-13	749.00	778.00	621.87	156.13	3.41	71.09	74.83	1.33	3.51	6.10	14067.46	40.00	4/26/17
1639	D-0425-01	DW-40	1198.00	1209.00	677.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	1/22/1999
1640	D-0360	DW-324	998.00	1000.00	790.32	209.68	4.28	93.70	32.00	105.70	7.82	27.35	111048.55	40.00	3/4/96
1641	D-2177-06	WL-23K	1116.70	1123.00	797.04	325.96	3.33	225.55	79.76	0.73	9.95	2.27	28301.29	40.00	5/28/09
1642	D-2187	W-370	1203.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.55	14151.11	37.50	1/10/11
1643	D-2091-4	W-624	1009.50	1020.00	814.00	206.00	3.00	66.97	125.00	7.00	9.96	2.07	11181.57	37.50	9/1/11
1644	D-0360	W21-087.01	1045.80	1068.00	750.55	317.45	7.29	204.12	2.04	78.09	10.82	90.29	111048.55	40.00	8/11/08
1645	D-0360	W-368	1140.00	1185.00	1041.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	4/26/96
1646	D-2177-03	W-429.00	875.70	882.00	757.54	124.46	3.54	36.37	75.17	0.00	4.46	2.27	28301.29	40.00	6/1/09
1647	D-0425-03	DW-437	974.00	980.00	669.88	310.12	3.40	1.38	0.00	1.61	0.13	2.59	61125.67	41.00	7/1/2002
1648	D-2177-03	WL-181.00	918.70	925.00	795.59	129.41	3.29	84.13	9.00	0.58	5.29	2.11	28301.29	40.00	2/23/09
1649	D-0360	W21-171.00	1180.00	1220.00	941.00	279.00	6.90	77.16	24.69	145.59	12.54	88.63	111048.55	40.50	6/24/08
1650	D-1019	W-201	1210.00	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	4/11/11
1651	D-0360	W21-187.00	1219.00	1240.00	937.97	302.03	5.68	178.44	31.29	74.71	12.42	88.63	111048.55	40.50	6/25/08
1652	D-0360	W21-173.01	1205.50	1220.00	941.00	279.00	6.90	77.16	24.69	145.59	12.54	90.29	111048.55	40.50	8/7/08
1653	D-0425-01	W-124	1242.00	1260.00	949.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	12/21/1998
1654	D-0360	WL-721	1165.00	1229.00	800.55	428.45	7.05	259.73	45.00	112.83	14.77	138.61	111048.55	40.50	10/13/16
1655	D-0360	W-325	945.00	975.00	831.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	4/23/96
1656	D-2317-4	WL-154	537.00	602.00	376.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	10/30/08
1657	D-1180-08(6a)	W-311	1173.00	1265.00	789.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/22/13
1658	D-1180-03(6a)	W-100	1080.00	1180.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	13.49	10262.20	37.75	10/14/05
1659	D2317	M2B	647.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	11/20/13
1660	D-0355-04	MS-12-509 (DW)	616.75	620.00	397.90	222.10	4.00	150.40	30.20	7.30	4.00	40.98	9430.98	41.10	5/2/96
1661	D-0360	W-346	922.00	930.00	786.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	1/18/96
1662	D-0360	W-415	1114.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	1/23/17
1663	D-0425-05	DW-84.01	1228.00	1240.00	576.14	663.86	0.17	4.92	0.76	0.94	0.14	9.18	61125.67	41.00	12/23/2003
1664	D-0360	WL-747	1219.00	1270.00	749.60	520.40	6.58	417.07	32.62	64.63	15.68	67.27	111048.55	40.50	2/25/04
1665	D2317	M1B	686.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	11/20/13
1666	D-2187	W-303	1175.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.24	14151.11	37.50	2/19/10
1667	D-1019	W-201	1223.00	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	10/5/11
1668	D-1180-08(6a)	WL-200	816.60	830.00	354.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	3/11/15
1669	D-2187	W-303	1180.50	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.63	14151.11	37.50	6/27/11
1670	D-0425-05	WL-84.00	1209.00	1242.00	801.20	440.80	2.32	1.86	0.89	1.46	0.15	60.10	61125.67	41.00	1/5/11

1671	D-2177-03	W-434.00	873.70	880.00	787.85	92.15	3.44	10.06	34.49	0.00	3.44	2.11	28301.29	40.00	1/20/09
1672	D-2317-4	DW-13	780.20	800.00	559.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	11/4/08
1673	D2091	W-26	1173.50	1225.00	891.30	333.70	3.00	91.60	226.43	18.28	2.06	3.20	11181.57	37.50	3/11/16
1674	D-1180-08(6a)	W-308	1135.60	1224.00	748.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	8/26/14
1675	D-0425-01	DW-10	967.00	981.00	694.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	9/24/1998
1676	D-0425-01	W-22	1028.00	1060.00	773.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	11/12/1998
1677	D-0425-05	WL-33.00	1305.00	1355.00	685.60	669.40	5.90	4.38	0.61	1.65	0.21	10.97	61125.67	41.00	2/26/2004
1678	D-0425-01	DW-47	1192.00	1220.00	688.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	12/14/1998
1679	D-2317-1	W-604	648.90	730.00	489.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	4/24/08
1680	D-0360	W-666	1041.00	1065.00	801.65	263.35	7.00	108.55	53.31	84.24	5.91	130.36	111048.55	40.50	10/8/14
1681	D-1180-08(7)	W-312	1183.60	1260.00	816.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	9/7/12
1682	D-1180-00(7)	W-23	1163.00	1200.00	757.25	442.75	3.16	325.00	117.00	0.00	7.91	0.00	10262.20	37.75	5/20/96
1683	D-0424	8-WL-19	1092.00	1150.00	677.50	472.50	3.00	434.47	129.19	2.52	13.75	8.05	29225.93	39.50	7/18/11
1684	D-2091-1	W-10	990.00	1115.00	909.00	206.00	3.00	66.97	125.00	7.00	9.96	0.39	11181.57	37.50	2/27/04
1685	D-0360	W-344	1164.00	1185.00	770.84	414.16	6.47	221.29	50.89	100.31	19.91	27.35	111048.55	40.00	2/12/96
1686	D-0425-01	DW-38	1179.00	1204.00	590.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	8/22/1998
1687	D-0360	W-414	1231.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	130.36	111048.55	40.50	11/19/14
1688	D-1180-00(7)	W-6	1195.00	1210.00	767.25	442.75	3.16	325.00	117.00	0.00	7.91	0.00	10262.20	37.75	5/20/96
1689	D-2177-03	W-35.00	874.70	881.00	797.91	83.09	3.92	49.17	3.50	0.00	3.92	2.27	28301.29	40.00	5/26/09
1690	D-2091-1	W-201	1145.00	1260.00	976.00	284.00	3.00	104.66	137.75	47.42	0.00	0.00	11181.57	37.50	5/4/99
1691	D-0360	W-374	1248.00	1290.00	809.93	480.07	7.29	317.33	35.19	104.86	16.00	32.60	111048.55	40.50	3/22/97
1692	D-0360	W-583	1157.00	1245.00	973.99	271.01	6.19	157.00	0.91	85.09	13.65	126.43	111048.55	40.50	2/5/14
1693	D-0360	WL21-041.01	1252.10	1300.00	809.84	490.16	5.17	323.67	11.34	108.77	13.68	90.29	111048.55	40.50	8/8/08
1694	D-0360	W-620	1146.00	1178.00	879.14	298.86	5.45	166.14	34.91	78.29	9.15	129.65	111048.55	40.50	8/18/14
1695	D2233	DW-7	753.00	774.00	617.87	156.13	3.41	71.09	74.83	1.33	3.51	6.10	14067.46	40.00	8/22/16
1696	D-1180-08(6a)	W-352	1248.60	1290.00	814.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	8/30/12
1697	D-0360	DW-719	1174.00	1178.00	749.55	428.45	7.05	259.73	45.00	112.83	14.77	137.99	111048.55	41.00	6/13/16
1698	D-2187	W-8	1110.00	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	1.19	14151.11	37.50	6/21/13
1699	D-0360	W21-481.00	1148.60	1185.00	1036.43	148.57	6.55	43.93	0.00	95.92	9.60	90.29	111048.55	40.50	9/2/08
1700	D-1180-08(6a)	WL-102	1137.80	1180.00	737.25	442.75	3.16	325.00	117.00	0.00	7.91	15.87	10262.20	37.75	3/27/15
1701	D-0360	W-428	1234.00	1270.00	729.60	540.40	5.50	336.95	11.82	178.25	12.88	38.09	111048.55	40.00	3/5/98
1702	D-0360	W-660	1142.00	1170.00	893.05	276.95	5.10	94.67	17.81	110.04	11.95	126.43	111048.55	40.50	2/11/14
1703	D-2177-03	WL-437.00	1114.70	1121.00	768.79	352.21	3.50	105.37	235.07	0.00	4.60	2.11	28301.29	40.00	2/5/09
1704	D-1019	W-201	1220.50	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	10/13/10
1705	D-1019	WL-18	975.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	3/20/12
1706	D-0360	WL-381	1281.00	1325.00	853.21	471.79	5.29	321.05	61.70	78.55	18.20	33.83	111048.55	40.00	6/21/97
1707	D-0425-01	WL-21	1231.00	1287.00	639.55	647.45	0.78	4.87	0.46	0.91	0.16	0.00	61125.67	41.00	8/15/1998
1708	D-1019	W-201	1220.00	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	10/7/09
1709	D-0426-08	W-120	968.00	1000.00	554.33	445.67	4.00	421.17	4.01	22.41	8.99	1.61	35708.87	39.00	11/5/98
1710	D-0426	W-16C	1034.53	1218.63	909.88	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	8/23/12
1711	D-1180-08(6a)	W-343	1151.60	1262.00	786.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	8/31/12
1712	D-0360	W-414	1231.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	130.36	111048.55	40.50	9/10/15
1713	D-2177-01	GMW-04-2D	869.33	875.63	530.47	345.16	3.54	118.44	205.60	0.58	9.37	1.47	28301.29	40.00	10/24/07
1714	D-0360	WL-419	1236.00	1281.00	969.50	291.50	6.25	177.75	23.01	71.99	15.15	35.29	111048.55	40.50	8/23/97
1715	D-0360	DW-196	1233.00	1240.00	825.84	414.16	6.47	221.29	50.89	100.31	19.91	6.99	111048.55	40.00	3/11/91
1716	D-0360	W-334	906.00	913.00	769.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	4/24/96
1717	D-2177-03	WL-115.00	930.70	937.00	800.65	136.35	3.40	78.02	15.16	0.00	4.98	2.42	28301.29	40.00	9/11/09
1718	D-2269-08	CMP-03	726.00	765.00	373.90	391.10	3.90	200.10	176.00	0.00	8.90	7.99	16659.24	40.00	3/20/13
1719	D-0425-01	W-119	1224.00	1260.00	614.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	12/21/1998
1720	D-0360	W336.375.00	923.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	130.36	111048.55	41.00	11/12/14
1721	D-0425-05	DW-96.03	1157.00	1175.00	734.20	440.80	2.32	1.86	0.89	1.46	0.15	9.18	61125.67	41.00	10/27/2003
1722	D-0425-01	DW-13	960.00	972.00	685.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	8/29/1998
1723	D-0425-01	W-90	1203.00	1240.00	929.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	12/21/1998
1724	D-0360	DW-406	1299.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	131.89	111048.55	40.50	3/24/15
1725	D-0360	W-202	1166.00	1210.00	1066.68	143.32	3.00	15.48	0.00	96.63	9.60	6.09	111048.55	40.00	12/11/90
1726	D-1180-08(6a)	WL-273	1165.00	1235.00	759.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	7/30/13
1727	D-0360	W-404	1113.00	1130.00	802.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	5/22/97
1728	D-0360	WL231.362.00	1127.30	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	108.10	111048.55	41.00	1/17/11
1729	D-2187	W-370	1203.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	1.04	14151.11	37.50	11/15/12
1730	D-2177-03	W-25.00	1123.70	1130.00	794.75	335.25	3.50	264.61	44.82	7.15	9.95	2.42	28301.29	40.00	9/16/09
1731	D-0425-01	WL-78	1220.00	1260.00	614.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	9/17/1998
1732	D-0425-01	W-91	1188.00	1241.00	930.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	11/23/1998

1733	D-2317-4	DW-46	683.30	693.00	452.90	240.10	5.25	188.65	56.10	0.00	5.25	0.02	2061.00	41.00	1/14/09
1734	D-0425-05	WL-84.00	1202.00	1242.00	801.20	440.80	2.32	1.86	0.89	1.46	0.15	9.18	61125.67	41.00	10/25/2003
1735	D-1180-02(7)	WL-200	818.00	830.00	354.71	475.29	3.21	378.08	96.38	3.82	7.20	0.00	10262.20	37.75	3/18/05
1736	D-2177-03	W-435.00	885.70	892.00	799.85	92.15	3.44	10.06	34.49	0.00	3.44	2.11	28301.29	40.00	1/20/09
1737	D-0360	W-294	1072.00	1125.00	606.53	518.47	7.08	373.81	9.26	93.89	21.49	19.33	111048.55	40.50	4/28/94
1738	D-1180-00(7)	W-9	1202.00	1265.00	776.00	489.00	4.00	388.99	99.00	0.00	8.02	0.00	10262.20	37.75	5/20/96
1739	D-0360	W501.077.01	1076.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	129.65	111048.55	41.00	7/16/14
1740	D-0360	W21-106.00	1047.80	1065.00	747.55	317.45	7.29	204.12	2.04	78.09	10.82	90.29	111048.55	40.00	7/1/08
1741	D-2187-01	W-5	1162.00	1265.00	826.33	438.67	2.92	228.00	205.50	3.00	4.09	0.00	14151.11	37.50	8/8/06
1742	D-0360	W-417	1116.00	1165.00	837.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	3/14/97
1743	D-2177-02	WL-194	883.70	890.00	766.30	123.70	3.58	14.33	75.08	0.00	3.58	0.18	28301.29	40.00	2/28/05
1744	D-0360	W-323	1079.00	1138.00	619.53	518.47	7.08	373.81	9.26	93.89	21.49	19.33	111048.55	40.50	6/25/94
1745	D-0360	W501.077.01	1070.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	134.61	111048.55	41.00	7/8/15
1746	D-0360	DW-354	917.00	935.00	791.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	1/24/96
1747	D-0354	South Mains Shaft	459.28	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	6/26/17
1748	D-0360	W231.356.04	1263.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	134.61	111048.55	41.00	9/7/15
1749	D-1180-08(6a)	W-101	1144.00	1185.00	726.50	458.50	3.00	333.50	126.00	0.00	5.50	15.87	10262.20	37.75	11/8/13
1750	D-0360	W231.356.04	1224.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	129.65	111048.55	41.00	9/3/14
1751	D-0360	W-410	1256.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	126.43	111048.55	40.50	3/13/14
1752	D-2177-06	WL-23K	1116.70	1123.00	797.04	325.96	3.33	225.55	79.76	0.73	9.95	2.42	28301.29	40.00	9/11/09
1753	D-2091-4	W-628	956.70	960.70	779.70	181.00	3.00	74.39	99.17	13.43	0.00	2.07	11181.57	37.50	7/25/11
1754	D-1180-03(7)	W-100	1085.00	1180.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	0.00	10262.20	37.75	1/14/06
1755	D-1180-08(6a)	WL-273	1208.00	1220.00	744.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	4/10/12
1756	D-2177-03	WL-62K	943.70	950.00	749.86	200.14	3.63	143.12	40.17	0.00	8.72	2.11	28301.29	40.00	2/25/09
1757	D-1019	W-201	1210.00	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	7/7/11
1758	D-0360	W-334	907.00	913.00	769.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	11/20/95
1759	D-0425-05	DW-60.02	1279.00	1285.00	617.05	667.95	4.65	4.23	1.67	0.88	0.14	10.97	61125.67	41.00	2/20/2004
1760	D-2177-03	W-43.01	1129.70	1136.00	846.20	289.80	3.71	227.86	49.10	2.16	6.87	2.11	28301.29	40.00	3/6/09
1761	D-0360	WL-736	1119.00	1131.00	797.66	333.34	4.90	243.57	13.34	48.14	14.88	64.61	111048.55	41.00	7/21/03
1762	D-0360	W21-187.00	1218.10	1240.00	937.97	302.03	5.68	178.44	31.29	74.71	12.42	90.29	111048.55	40.50	8/7/08
1763	D-0360	DW-406	1297.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	128.37	111048.55	40.50	4/17/14
1764	D-0360	W-6	1231.30	1256.00	992.95	263.05	7.55	115.24	35.79	109.05	13.01	114.33	111048.55	41.00	3/12/12
1765	D-0360	W336.375.00	924.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	135.54	111048.55	41.00	10/12/15
1766	D-0360	W-335	908.00	918.00	774.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	3/25/96
1767	D-0425-05	W-68.02	1159.00	1185.00	744.20	440.80	2.32	1.86	0.89	1.46	0.15	9.18	61125.67	41.00	12/26/2003
1768	D-2317-OA	WL-5	695.00	730.00	504.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	5/21/06
1769	D-0425-04	DW-132	1038.00	1044.00	757.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	11/23/1998
1770	D-2177-01	GMW-04-3S	1036.35	1042.65	918.95	123.70	3.58	14.33	75.08	0.00	3.58	1.47	28301.29	40.00	10/24/07
1771	D-0360	W-377	1252.00	1282.00	810.21	471.79	5.29	321.05	61.70	78.55	18.20	33.83	111048.55	40.00	4/10/97
1772	D-0360	W-341	892.00	920.00	791.70	128.30	5.87	17.73	0.00	82.11	9.03	27.35	111048.55	40.00	3/22/96
1773	D-0360	W21-171.00	1173.20	1220.00	941.00	279.00	6.90	77.16	24.69	145.59	12.54	90.29	111048.55	40.50	8/6/08
1774	D-2187-01	W-2	1217.00	1260.00	821.33	438.67	2.92	228.00	205.50	3.00	4.09	0.00	14151.11	37.50	10/31/02
1775	D-0360	W-350	1133.00	1218.00	1074.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	12/15/95
1776	D-0360	DW-161	1273.00	1290.00	739.30	550.70	7.10	325.95	44.97	162.21	15.14	7.80	111048.55	40.50	4/24/91
1777	D-0360	W-414	1265.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	12/26/16
1778	D-0425-01	W-58	1019.00	1072.00	458.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	9/12/1998
1779	D-0360	W-166	1023.00	1106.00	812.10	293.90	7.12	127.60	10.23	132.06	16.83	7.80	111048.55	40.50	4/8/91
1780	D-0425-01	DW-35	1216.00	1240.00	733.61	506.39	2.90	3.12	0.78	0.92	0.14	0.00	61125.67	41.00	10/26/1998
1781	D-0360	DW-169	1081.00	1100.00	581.53	518.47	7.08	373.81	9.26	93.89	21.49	6.99	111048.55	40.50	1/7/91
1782	D-0360	DW-391	1098.00	1120.00	832.55	287.45	6.85	195.67	43.79	129.97	13.52	32.60	111048.55	40.00	2/20/97
1783	D-2177-06	W-24K	1078.70	1085.00	759.04	325.96	3.33	225.55	79.76	0.73	9.95	2.11	28301.29	40.00	3/11/09
1784	D-0360	W-403	1303.00	1345.00	794.30	550.70	7.10	325.95	44.97	162.21	15.14	33.83	111048.55	40.50	4/11/97
1785	D-0425-01	W-65	1222.00	1222.00	806.84	415.16	4.00	3.18	0.77	0.21	0.11	0.00	61125.67	41.00	10/31/1998
1786	D-0360	WL336.373.00	1065.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	133.14	111048.55	41.00	4/1/15
1787	D-1019	WL-18	973.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	11/15/12
1788	D-0425-01	WL-9	961.00	983.00	696.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	8/29/1998
1789	D-0360	W-377	1252.00	1282.00	810.21	471.79	5.29	321.05	61.70	78.55	18.20	32.60	111048.55	40.00	1/27/97
1790	D-2177-03	W-103.00	906.70	913.00	598.58	314.42	3.04	213.48	71.33	1.25	5.55	2.27	28301.29	40.00	6/3/09
1791	D-0425-01	W-63	1079.00	1152.00	547.31	604.69	0.55	4.32	0.50	1.03	0.16	0.00	61125.67	41.00	9/26/1998
1792	D-1180-01(6a)	W-23	1144.00	1200.00	757.25	442.75	3.16	325.00	117.00	0.00	7.91	4.60	10262.20	37.75	3/16/03
1793	D-2317-OA	WL-5	695.00	730.00	504.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	10/17/06
1794	D-2177-02	W-204	913.70	920.00	796.30	123.70	3.58	14.33	75.08	0.00	3.58	0.35	28301.29	40.00	9/21/05

1795	D-2187	W-303	1183.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.29	14151.11	37.50	6/14/10
1796	D-0425-04	DW-132	1038.00	1044.00	757.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	12/9/1998
1797	D-0425-01	W-3	1214.00	1246.00	690.01	555.99	2.06	3.55	0.24	1.44	0.20	0.00	61125.67	41.00	9/17/1998
1798	D-0360	W-666	1052.00	1065.00	801.65	263.35	7.00	108.55	53.31	84.24	5.91	129.65	111048.55	40.50	7/9/14
1799	D-0360	WL-351	1200.00	1225.00	1081.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	2/15/96
1800	D2317	M1A	647.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	9/3/14
1801	D-0360	W-620	1145.00	1178.00	879.14	298.86	5.45	166.14	34.91	78.29	9.15	128.37	111048.55	40.50	4/22/14
1802	D-0360	DW-122	1288.00	1302.00	934.15	367.85	6.20	166.26	55.30	131.78	11.66	6.09	111048.55	40.50	10/26/90
1803	D-0426-08	W-205	1002.00	1025.00	417.00	608.00	8.00	552.90	90.98	1.02	14.64	1.61	35708.87	39.00	11/5/98
1804	D-0425-01	W-63	1066.00	1152.00	547.31	604.69	0.55	4.32	0.50	1.03	0.16	0.00	61125.67	41.00	2/10/1999
1805	D-0425-01	W-91	1195.00	1241.00	930.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	1/29/1999
1806	D-0425-01	W-97	1087.00	1175.00	561.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	11/24/1998
1807	D2317	M3B	645.00	660.00	419.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	8/27/13
1808	D-0360	W-22.007.00	1212.00	1240.00	750.29	489.71	11.76	347.06	30.83	115.94	26.19	137.99	111048.55	41.00	4/27/16
1809	D-0355-04	MC-FR30-502 (WL)	658.00	810.00	596.57	213.43	5.00	141.59	50.33	6.67	6.42	40.98	9430.98	41.10	10/9/96
1810	D-0360	DW-406	1298.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	126.43	111048.55	40.50	1/23/14
1811	D-1180-03(6a)	W-102	1136.90	1180.00	724.92	455.08	2.92	390.50	66.00	0.00	6.00	14.31	10262.20	37.75	1/14/06
1812	D-0360	DW-719	1175.00	1178.00	749.55	428.45	7.05	259.73	45.00	112.83	14.77	137.99	111048.55	41.00	4/12/16
1813	D-0425-01	DW-10	966.00	981.00	694.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	11/12/1998
1814	D-0360	DW-354	916.00	935.00	791.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	3/14/96
1815	D-0360	W-413	1247.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	136.88	111048.55	40.50	2/9/16
1816	D-2177-03	W-139.01	1143.70	1150.00	758.26	391.74	3.25	238.95	127.24	5.52	9.32	2.11	28301.29	40.00	3/14/09
1817	D-1180-08(6a)	W-300	1117.60	1168.00	692.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	8/31/12
1818	D-2177-03	W-455.00	1078.70	1085.00	992.85	92.15	3.44	10.06	34.49	0.00	3.44	2.11	28301.29	40.00	1/20/09
1819	D-2177-03	WL-181.00	918.70	925.00	795.59	129.41	3.29	84.13	9.00	0.58	5.29	2.27	28301.29	40.00	6/3/09
1820	D-0360	W-734	1187.00	1205.00	871.66	333.34	4.90	243.57	13.34	48.14	14.88	64.61	111048.55	40.50	7/18/03
1821	D-0360	WL336.373.00	1085.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	128.37	111048.55	41.00	6/4/14
1822	D-0360	W-415	1110.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	35.29	111048.55	40.50	7/20/97
1823	D-0360	W-722	1330.00	1380.00	823.02	556.98	7.61	404.08	9.37	114.93	14.37	64.61	111048.55	40.50	7/26/03
1824	D-0360	W-413	1240.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	129.65	111048.55	40.50	9/4/14
1825	D-0360	W-414	1267.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	136.88	111048.55	40.50	3/21/16
1826	D-0360	DW-719	1177.00	1180.00	751.55	428.45	7.05	259.73	45.00	112.83	14.77	81.60	111048.55	41.00	1/24/07
1827	D-0426	B-7/M/6	1066.90	1075.00	601.30	473.70	3.00	246.94	55.98	2.32	7.73	12.64	35708.87	39.00	8/23/12
1828	D-0360	W-174	1035.00	1117.00	823.10	293.90	7.12	127.60	10.23	132.06	16.83	6.99	111048.55	40.50	3/4/91
1829	D-1180-08(7)	W-292	1170.20	1192.00	748.98	443.02	2.14	371.38	94.23	3.66	7.07	24.55	10262.20	37.75	7/29/13
1830	D2233	WL-936	746.00	820.00	755.00	65.00	4.20	13.90	39.70	0.00	4.20	6.10	14067.46	40.00	8/22/16
1831	D-2177-03	W-60.00	915.70	922.00	808.08	113.92	3.38	44.70	17.00	0.00	3.38	2.11	28301.29	40.00	2/25/09
1832	D-0360	WL-419	1243.00	1261.00	969.50	291.50	6.25	177.75	23.01	71.99	15.15	33.83	111048.55	40.50	4/25/97
1833	D-0425-01	WL-9	961.00	983.00	696.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	12/9/1998
1834	D-0360	W-174	1032.00	1117.00	823.10	293.90	7.12	127.60	10.23	132.06	16.83	6.99	111048.55	40.50	2/5/91
1835	D-0425-01	W-91	1194.00	1241.00	930.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	3/23/1999
1836	D-0425-01	W-3	1223.00	1246.00	690.01	555.99	2.06	3.55	0.24	1.44	0.20	0.00	61125.67	41.00	11/12/1998
1837	D-0360	DW-719	1172.00	1178.00	749.55	428.45	7.05	259.73	45.00	112.83	14.77	138.61	111048.55	41.00	10/13/16
1838	D-2187-02	WL-318	1198.50	1215.00	817.20	397.80	3.00	350.00	48.00	0.00	6.33	0.00	14151.11	37.50	3/6/04
1839	D-0360	W-709	1012.00	1085.00	913.37	171.63	5.20	65.90	1.30	100.36	11.56	138.61	111048.55	41.00	3/13/17
1840	D-0360	W-299	1254.00	1324.00	781.60	542.40	5.04	412.92	16.15	92.07	13.88	18.09	111048.55	40.50	3/31/94
1841	D-1180-00(6a)	W-6	1195.00	1210.00	767.25	442.75	3.16	325.00	117.00	0.00	7.91	0.00	10262.20	37.75	5/20/96
1842	D-2177-05	WL-503.02	863.70	870.00	526.00	344.00	3.25	195.75	120.65	2.52	9.50	2.42	28301.29	40.00	9/15/09
1843	D-2091-1	W-202	1219.00	1270.00	986.00	284.00	3.00	104.66	137.75	47.42	0.00	0.00	11181.57	37.50	7/12/99
1844	D-0360	W336.375.00	928.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	137.99	111048.55	41.00	6/7/16
1845	D-2177-03	WL-94.00	890.70	897.00	600.00	297.00	3.17	239.44	35.92	3.23	7.57	2.27	28301.29	40.00	6/4/09
1846	D-0360	W-340	912.00	920.00	791.70	128.30	5.87	17.73	0.00	82.11	9.03	26.12	111048.55	40.00	11/21/95
1847	D-0425-01	W-11	970.00	976.00	689.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	8/29/1998
1848	D-0360	W-347	1097.00	1180.00	868.34	311.66	5.89	203.68	6.59	88.74	15.19	26.12	111048.55	40.00	12/15/95
1849	D-0360	W-291	1271.00	1275.00	732.60	542.40	5.04	412.92	16.15	92.07	13.88	18.09	111048.55	40.50	1/26/94
1850	D-1180-08(7)	W-360	1189.60	1265.00	821.98	443.02	2.14	371.38	94.23	3.66	7.07	20.66	10262.20	37.75	5/28/12
1851	D2317	W3.01	612.00	618.00	377.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	11/27/16
1852	D-0360	WL-301	1256.00	1303.00	760.60	542.40	5.04	412.92	16.15	92.07	13.88	18.09	111048.55	40.50	3/21/94
1853	D-0360	WL-736	1119.00	1131.00	797.66	333.34	4.90	243.57	13.34	48.14	14.88	67.27	111048.55	41.00	2/18/04
1854	D-1019	W-242	1137.00	1190.00	892.00	298.00	3.00	125.09	149.81	29.51	9.14	3.84	11184.92	37.50	10/9/08
1855	D-0425-01	W-94	1186.00	1241.00	930.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	2/26/1999
1856	D0424-2	W-17	998.00	1108.00	634.30	473.70	3.00	246.94	55.98	2.32	7.73	0.00	29225.93	38.50	9/18/91

1857	D-2177-03	WL-94.00	890.70	897.00	600.00	297.00	3.17	239.44	35.92	3.23	7.57	2.42	28301.29	40.00	9/15/09
1858	D2317	M2B	646.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/21/16
1859	D-0360	DW502-338.08	1215.70	1230.00	740.29	489.71	11.76	347.06	30.83	115.94	26.19	91.66	111048.55	41.00	10/29/08
1860	D-0360	W-410	1259.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	128.37	111048.55	40.50	4/17/14
1861	D-0360	WL-721	1168.00	1230.00	801.55	428.45	7.05	259.73	45.00	112.83	14.77	104.05	111048.55	40.50	7/27/10
1862	D-0360	W-410	1254.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	4/23/97
1863	D-0360	W-694	1230.00	1265.00	775.29	489.71	11.76	347.06	30.83	115.94	26.19	137.99	111048.55	40.50	5/17/16
1864	D-2177-03	W-41.00	861.70	968.00	784.91	83.09	3.92	49.17	3.50	0.00	3.92	2.11	28301.29	40.00	2/24/09
1865	D-0360	W-413	1250.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	128.37	111048.55	40.50	5/8/14
1866	D-0360	DW-719	1173.00	1178.00	749.55	428.45	7.05	259.73	45.00	112.83	14.77	138.61	111048.55	41.00	11/22/16
1867	D-2269-6	DW-1300	934.00	973.00	613.00	360.00	5.40	293.60	51.00	2.00	5.40	2.33	16659.24	40.00	3/6/11
1868	D-0360	W-716	1310.00	1320.00	807.67	512.33	7.27	337.40	56.38	101.13	13.43	67.27	111048.55	40.50	2/19/04
1869	D-0424	S-WL-11	1087.00	1147.00	674.50	472.50	3.00	434.47	129.19	2.52	13.75	8.05	29225.93	39.50	7/12/11
1870	D-0360	W501.077.01	1070.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	131.89	111048.55	41.00	1/14/15
1871	D-0360	W21.180.01	1193.70	1220.00	941.00	279.00	6.90	77.16	24.69	145.59	12.54	88.63	111048.55	40.50	4/29/08
1872	D-0360	W336.375.00	925.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	134.61	111048.55	41.00	7/6/15
1873	D-0360	W-396	1269.00	1305.00	1013.50	291.50	6.25	177.75	23.01	71.99	15.15	32.60	111048.55	40.50	3/22/97
1874	D-0425-01	W-25	1198.00	1240.00	909.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	1/27/1999
1875	D-0360	DW-178	1186.00	1225.00	810.84	414.16	6.47	221.29	50.89	100.31	19.91	7.80	111048.55	40.00	4/9/91
1876	D2317	M1B	685.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/21/16
1877	D2317	M1A	646.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	6/16/15
1878	D-0360	W-53.01	1000.00	1010.00	828.30	181.70	7.40	100.39	2.00	91.20	12.29	75.58	111048.55	41.00	11/4/05
1879	D-0425-01	DW-40	1192.00	1209.00	677.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	11/25/1998
1880	D-0360	WL-721	1162.00	1229.00	800.55	428.45	7.05	259.73	45.00	112.83	14.77	136.88	111048.55	40.50	2/11/16
1881	D-0425-05	DW-126.01	1186.00	1195.00	514.10	680.90	3.40	5.17	0.64	0.68	0.19	12.20	61125.67	41.00	4/23/2004
1882	D-0360	W-728	1115.00	1140.00	906.87	233.13	7.55	117.80	5.49	98.95	10.71	64.61	111048.55	40.50	7/15/03
1883	D-2269-6	WL-4	755.00	975.00	600.10	374.90	4.60	109.90	262.30	0.00	4.60	0.00	16659.24	40.00	10/11/02
1884	D-0360	DW-356	1092.00	1100.00	956.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	4/23/96
1885	D-0360	W501.077.00	1165.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	129.65	111048.55	41.00	8/14/14
1886	D-0360	W-429	1194.00	1210.00	652.26	557.74	2.40	398.53	47.72	103.50	11.13	39.40	111048.55	40.50	5/22/98
1887	D-0360	W501.077.00	1098.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	138.51	111048.55	41.00	9/12/16
1888	D-1180-08(7)	W-344	1191.60	1285.00	841.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	9/7/12
1889	D-0425-01	W-94	1175.00	1241.00	930.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	12/21/1998
1890	D-1180-08(6a)	W-315	1134.60	1200.00	724.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	4/20/12
1891	D-1019	WL-18	974.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	3/15/11
1892	D-0424	S-WL-6	1063.00	1131.00	658.50	472.50	3.00	434.47	129.19	2.52	13.75	8.05	29225.93	39.50	7/11/11
1893	D-0360	W-199	1184.50	1200.00	1056.68	143.32	3.00	15.48	0.00	96.63	9.60	6.09	111048.55	40.00	12/13/90
1894	D-0360	W-415	1107.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	130.36	111048.55	40.50	12/12/14
1895	D-2317-OA	DW-42	876.90	882.00	641.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	4/25/07
1896	D-0360	W-334	908.00	913.00	769.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	2/27/96
1897	D-0360	W-336	904.00	918.00	774.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	11/20/95
1898	D-0426	B-7/M-6	1067.65	1075.00	601.30	473.70	3.00	246.94	55.98	2.32	7.73	12.64	35708.87	39.00	8/29/14
1899	D-0360	W-175	1117.00	1132.00	711.83	420.17	7.53	223.66	72.28	173.45	25.63	7.80	111048.55	40.00	4/9/91
1900	D-2317-4	WL-154	537.00	602.00	376.30	225.70	4.00	156.00	60.00	0.00	4.00	0.07	2061.00	41.00	5/6/09
1901	D-0360	W-382	1268.00	1350.00	916.91	433.09	5.12	321.97	32.71	69.59	16.17	33.83	111048.55	40.00	4/10/97
1902	D-2269-OA	WL-276	698.00	718.00	589.66	128.34	8.98	32.74	99.85	0.00	9.28	0.00	16659.24	40.00	7/1/04
1903	D-1180-03(7)	W-101	1125.00	1185.00	771.50	413.50	2.50	333.50	126.00	0.00	5.50	0.00	10262.20	37.75	3/29/06
1904	D-0360	WL-674	1100.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	136.88	111048.55	40.00	2/1/16
1905	D-0360	W-316	1151.00	1203.00	684.53	518.47	7.08	373.81	9.26	93.89	21.49	16.98	111048.55	40.50	11/29/93
1906	D-0360	W-415	1112.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	126.43	111048.55	40.50	3/13/14
1907	D-0425-01	W-125	1180.00	1192.00	578.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	1/22/1999
1908	D-0360	WL-674	1098.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	130.36	111048.55	40.00	10/15/14
1909	D-0425-05	W-30.00	1296.00	1338.00	670.85	667.15	5.93	4.36	0.71	1.51	0.18	10.97	61125.67	41.00	2/23/2004
1910	D-0425-05	DW-48.02	1272.00	1305.00	601.90	703.10	5.05	5.64	0.80	0.40	0.14	10.97	61125.67	41.00	2/20/2004
1911	D-1180-08(6a)	W-363	1185.80	1255.00	779.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	8/31/12
1912	D-1180-08(6a)	W-100	1092.40	1180.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	15.87	10262.20	37.75	3/25/15
1913	D-0360	W-359	1108.00	1118.00	974.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	3/26/96
1914	D-1180-08(7)	W-354	1194.60	1232.00	788.98	443.02	2.14	371.38	94.23	3.66	7.07	23.57	10262.20	37.75	5/28/13
1915	D-2177-03	WL-119.00	853.70	860.00	735.54	124.46	3.54	36.37	75.17	0.00	4.46	2.11	28301.29	40.00	2/25/09
1916	D-0425-05	DW-98.01	1239.00	1240.00	698.40	541.60	1.71	3.13	1.11	1.05	0.14	10.97	61125.67	41.00	1/5/2004
1917	D-0360	W21-171.00	1177.60	1220.00	941.00	279.00	6.90	77.16	24.69	145.59	12.54	88.63	111048.55	40.50	4/30/08
1918	D-0360	W-382	1266.00	1350.00	916.91	433.09	5.12	321.97	32.71	69.59	16.17	33.83	111048.55	40.00	5/20/97

1919	D-0360	DW-161	1273.00	1290.00	739.30	550.70	7.10	325.95	44.97	162.21	15.14	6.99	111048.55	40.50	2/6/91
1920	D-0360	DW-719	1175.00	1178.00	749.55	428.45	7.05	259.73	45.00	112.83	14.77	136.88	111048.55	41.00	3/14/16
1921	D-0355-04	MS-12-501 (WL)	762.50	780.00	448.90	331.10	3.70	183.50	132.50	9.30	4.70	40.98	9430.98	41.10	4/25/96
1922	D-0425-01	DW-35	1215.00	1240.00	733.61	506.39	2.90	3.12	0.78	0.92	0.14	0.00	61125.67	41.00	12/14/1998
1923	D-0425-05	DW-91.00	1235.00	1260.00	596.14	663.86	0.17	4.92	0.76	0.94	0.14	9.18	61125.67	41.00	10/25/2003
1924	D-0425-05	DW-119.01	1242.00	1260.00	617.30	642.70	4.75	4.28	1.20	1.05	0.13	12.20	61125.67	41.00	5/25/2004
1925	D-0360	DW-356	1093.00	1100.00	956.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	1/18/96
1926	D-0426	W-18B	1097.07	1167.00	693.30	473.70	3.00	246.94	55.98	2.32	7.73	12.64	35708.87	39.00	10/22/15
1927	D-0425-05	DW-120.00	1263.00	1285.00	613.67	671.33	0.07	5.83	0.58	0.92	0.09	14.00	61125.67	41.00	8/17/2004
1928	D-0360	W231.356.04	1225.40	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	93.68	111048.55	41.00	3/10/09
1929	D-0360	WL336.373.00	1072.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	130.36	111048.55	41.00	10/2/14
1930	D-0360	W-660	1142.00	1170.00	893.05	276.95	5.10	94.67	17.81	110.04	11.95	128.37	111048.55	40.50	4/14/14
1931	D-0360	WL336.373.00	1083.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	133.14	111048.55	41.00	5/4/15
1932	D-0360	W501.077.01	1071.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	137.99	111048.55	41.00	5/9/16
1933	D-0424	9-WL-4	1005.00	1023.00	491.07	531.93	4.50	428.40	191.57	0.89	17.78	10.56	29225.93	39.00	7/25/13
1934	D-0425-01	W-65	1222.00	1222.00	806.84	415.16	4.00	3.18	0.77	0.21	0.11	0.00	61125.67	41.00	12/30/1998
1935	D-0425-01	DW-47	1192.00	1220.00	688.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	11/28/1998
1936	D-0360	W-403	1299.00	1345.00	794.30	550.70	7.10	325.95	44.97	162.21	15.14	33.83	111048.55	40.50	6/28/97
1937	D-2187	WL-3	1210.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	0.48	14151.11	37.50	11/24/10
1938	D-2177-03	W-19K	1083.70	1090.00	793.00	297.00	3.17	239.44	35.92	3.23	7.57	2.11	28301.29	40.00	3/4/09
1939	D-0426-04	WL-23	1144.00	1190.00	646.58	543.42	5.00	305.26	221.00	18.24	9.01	0.00	35708.87	39.00	5/21/90
1940	D-0360	WL-349	1108.00	1190.00	878.34	311.66	5.89	203.68	6.59	88.74	15.19	27.35	111048.55	40.00	1/23/96
1941	D-0360	W501.077.00	1162.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	129.65	111048.55	41.00	9/9/14
1942	D-2177-02	W-204	913.70	920.00	796.30	123.70	3.58	14.33	75.08	0.00	3.58	0.45	28301.29	40.00	12/5/05
1943	D-0360	W-345	1237.00	1270.00	855.94	414.16	6.47	221.29	50.89	100.31	19.91	26.12	111048.55	40.00	12/18/95
1944	D-0360	DW-126	1289.00	1311.00	943.15	367.85	6.20	166.26	55.30	131.78	11.66	6.99	111048.55	40.50	3/20/91
1945	D-0360	DW-719	1175.40	1178.00	749.55	428.45	7.05	259.73	45.00	112.83	14.77	137.99	111048.55	41.00	5/17/16
1946	D-0355-04	MS-12-507 (WL)	599.00	700.00	365.50	334.50	4.00	190.10	134.30	8.40	7.20	40.98	9430.98	41.10	4/24/96
1947	D-0426-08	WL-40	1004.00	1010.00	553.48	456.52	6.00	309.23	246.60	2.52	11.67	5.37	35708.87	39.00	11/24/01
1948	D-0425-01	DW-13	959.00	972.00	685.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	9/24/1998
1949	D-0360	DW-719	1175.00	1178.00	749.55	428.45	7.05	259.73	45.00	112.83	14.77	136.88	111048.55	41.00	1/21/16
1950	D2317	MIA	647.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	6/11/14
1951	D-2177-03	W-144.00	1160.00	1167.00	763.43	403.57	3.88	281.43	99.19	12.66	6.79	2.11	28301.29	40.00	3/3/09
1952	D-2177-03	W-429.00	875.70	882.00	757.54	124.46	3.54	36.37	75.17	0.00	4.46	2.42	28301.29	40.00	9/4/09
1953	D-2177-01	GMW-04-3D	858.85	865.15	519.99	345.16	3.54	118.44	205.60	0.58	9.37	1.24	28301.29	40.00	4/24/07
1954	D-0360	W231.356.04	1223.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	130.36	111048.55	41.00	10/2/14
1955	D-1180-08(7)	W-363	1185.80	1255.00	811.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	8/31/12
1956	D-2177-03	W-105.00	916.70	923.00	608.58	314.42	3.04	213.48	71.33	1.25	5.55	2.27	28301.29	40.00	5/29/09
1957	D-0360	W21-066.00	1162.50	1165.00	905.82	259.18	7.05	122.95	13.10	106.91	11.26	90.29	111048.55	40.50	8/21/08
1958	D-0360	WL-674	1091.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	131.89	111048.55	40.00	2/5/15
1959	D-2091-4	W-626	950.00	970.00	789.00	181.00	3.00	74.39	99.17	13.43	0.00	1.97	11181.57	37.50	2/24/11
1960	D-2177-03	W-5.00	923.70	930.00	846.91	83.09	3.92	49.17	3.50	0.00	3.92	2.42	28301.29	40.00	9/17/09
1961	D-2091-1	W-202	1185.00	1270.00	986.00	284.00	3.00	104.66	137.75	47.42	0.00	0.00	11181.57	37.50	9/30/99
1962	D-0360	WL336.373.00	1075.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	126.43	111048.55	41.00	3/25/14
1963	D-0360	DW-427	1226.00	1265.00	702.80	562.20	5.50	277.65	65.48	204.97	11.83	39.40	111048.55	40.50	4/13/98
1964	D-0425-01	DW-87	1209.00	1222.00	891.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	11/23/1998
1965	D-0360	DW-169	1081.00	1100.00	581.53	518.47	7.08	373.81	9.26	93.89	21.49	6.99	111048.55	40.50	2/5/91
1966	D-0360	W-365	1180.00	1240.00	1096.68	143.32	3.00	15.48	0.00	96.63	9.60	31.28	111048.55	40.00	12/29/95
1967	D-2177-05	W-501.00	911.70	918.00	603.58	314.42	3.04	213.48	71.33	1.25	5.55	2.71	28301.29	40.00	1/4/10
1968	D-0360	W-428	1220.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	126.43	111048.55	40.00	3/13/14
1969	D-1019	W-201	1210.00	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	7/14/09
1970	D-2187	W-303	1183.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.29	14151.11	37.50	4/15/10
1971	D-2177-03	WL-168.00	1075.70	1082.00	746.75	335.25	3.50	264.61	44.82	7.15	9.95	2.11	28301.29	40.00	3/2/09
1972	D-0360	W-325	935.00	975.00	831.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	12/15/95
1973	D-0425-01	W-127	1203.00	1258.00	1179.42	78.58	6.76	0.35	0.02	0.39	0.11	0.00	61125.67	41.00	12/29/1993
1974	D-2187	WL-3	1220.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	1.04	14151.11	37.50	10/29/12
1975	D-0425-01	WL-43	1192.00	1241.00	1162.42	78.58	6.76	0.35	0.02	0.39	0.11	0.00	61125.67	41.00	1/21/1999
1976	D-1180-08(7)	W-303	1162.60	1200.00	756.98	443.02	2.14	371.38	94.23	3.66	7.07	23.57	10262.20	37.75	5/23/13
1977	D-0360	W-429	1194.00	1210.00	652.26	557.74	2.40	398.53	47.72	103.50	11.13	38.09	111048.55	40.50	2/28/98
1978	D-0425-01	DW-60	1143.00	1161.00	830.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	12/14/1998
1979	D-2177-06	WL-39	1163.70	1170.00	815.32	354.68	3.58	188.24	146.08	0.00	11.68	0.28	28301.29	40.00	4/27/05
1980	D-0355-04	MC-8-505 (DW)	601.61	610.00	236.54	373.46	4.46	233.53	112.24	9.08	6.12	40.98	9430.98	41.10	4/22/96

1981	D-0425-01	W-90	1207.00	1240.00	929.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	3/23/1999
1982	D-0360	W21-064.00	1201.80	1260.00	956.64	303.36	7.40	175.10	23.60	87.50	17.29	90.29	111048.55	40.50	7/10/08
1983	D-0360	W21-066.00	1163.00	1165.00	905.82	259.18	7.05	122.95	13.10	106.91	11.26	88.63	111048.55	40.50	5/1/08
1984	D-0425-01	W-85	1068.00	1090.00	803.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	12/9/1998
1985	D-0360	W-694	1234.00	1265.00	775.29	489.71	11.76	347.06	30.83	115.94	26.19	138.61	111048.55	40.50	12/22/16
1986	D-0425-01	W-95	1204.00	1240.00	929.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	12/21/1998
1987	D-2187	W-303	1179.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.29	14151.11	37.50	5/10/10
1988	D-0360	W501.077.01	1071.00	1180.00	944.55	335.45	7.45	211.84	21.69	92.72	12.98	138.61	111048.55	41.00	12/1/16
1989	D-0360	DW-406	1300.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	32.60	111048.55	40.50	2/13/97
1990	D-0360	W-202	1160.00	1210.00	1066.68	143.32	3.00	15.48	0.00	96.63	9.60	6.99	111048.55	40.00	2/13/91
1991	D-0425-05	DW-95.00	1244.00	1250.00	586.14	663.86	0.17	4.92	0.76	0.94	0.14	10.97	61125.67	41.00	2/16/2004
1992	D-0425-01	DW-87	1210.00	1222.00	891.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	10/2/1998
1993	D-0425-05	DW-38.00	1271.00	1300.00	713.70	586.30	5.97	4.12	0.36	1.31	0.21	10.97	61125.67	41.00	2/19/2004
1994	D-0360	W21-502.00	1143.90	1165.00	1008.50	156.50	7.10	92.72	0.00	41.26	9.22	90.29	111048.55	40.50	7/16/08
1995	D-1180-08(7)	W-351	1255.60	1290.00	946.98	443.02	2.14	371.38	94.23	3.66	7.07	26.85	10262.20	37.75	4/8/14
1996	D-0360	W-414	1266.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	128.37	111048.55	40.50	5/8/14
1997	D-0360	DW-387	1241.00	1260.00	972.55	287.45	6.85	195.67	43.79	129.97	13.52	33.83	111048.55	40.00	6/28/97
1998	D-0360	W-225	1139.00	1148.00	836.34	311.66	5.89	203.68	6.59	88.74	15.19	6.09	111048.55	40.00	12/26/90
1999	D-0425-03	DW-184A	1255.00	1260.00	674.61	585.39	1.89	4.37	0.16	1.22	0.12	6.69	61125.67	41.00	6/3/2003
2000	D-0360	W-413	1241.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	138.51	111048.55	40.50	7/25/16
2001	D-0360	W-707	1226.00	1235.00	1001.87	233.13	7.55	117.80	5.49	98.95	10.71	64.61	111048.55	40.50	9/24/03
2002	D-0360	W-425	1226.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	39.40	111048.55	41.00	4/13/98
2003	D-2177-03	DW-23.01	1095.70	1102.00	809.90	292.10	3.42	225.26	49.17	3.00	10.59	2.11	28301.29	40.00	3/2/09
2004	D-0360	WL-674	1099.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	129.65	111048.55	40.00	9/3/14
2005	D-1019	WL-18	974.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	1/20/10
2006	D-2317-1	WL-8	574.20	730.00	504.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	12/13/07
2007	D-0425-01	W-118	1234.00	1260.00	614.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	1/29/1999
2008	D-0425-01	W-85	1077.00	1090.00	803.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	1/30/1999
2009	D-1180-08(7)	W-319	1153.70	1262.00	818.98	443.02	2.14	371.38	94.23	3.66	7.07	19.89	10262.20	37.75	2/28/12
2010	D-0360	WL-349	1104.00	1190.00	878.34	311.66	5.89	203.68	6.59	88.74	15.19	26.12	111048.55	40.50	12/15/95
2011	D-0360	DW-481	1148.00	1155.00	913.60	241.40	2.31	140.36	34.51	73.45	10.11	55.12	111048.55	40.00	7/18/01
2012	D-2187	W-303	1181.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.42	14151.11	37.50	5/9/14
2013	D-0360	WL-351	1192.00	1225.00	1081.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	12/15/95
2014	D-2317-4	DW-13	780.40	800.00	559.90	240.10	5.25	188.65	56.10	0.00	5.25	0.02	2061.00	41.00	1/16/09
2015	D-0360	W231.356.04	1226.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	128.37	111048.55	41.00	4/22/14
2016	D-1180-08(7)	W-367	1136.60	1195.00	751.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	8/30/12
2017	D-0360	W-410	1244.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	6/28/97
2018	D-0360	W-341	892.00	920.00	791.70	128.30	5.87	17.73	0.00	82.11	9.03	27.35	111048.55	40.00	2/21/96
2019	D-0425-01	W-22	1029.00	1060.00	773.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	12/9/1998
2020	D-0425-03	W-281	1226.00	1240.00	664.70	575.30	5.05	2.21	1.65	1.35	0.13	6.69	61125.67	41.00	6/6/2003
2021	D-0360	W-410	1257.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	5/27/97
2022	D2317	M3B	645.00	660.00	419.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	11/20/13
2023	D-0425-01	DW-8	929.00	939.00	690.70	248.30	6.12	1.18	0.11	0.39	0.07	0.00	61125.67	41.00	12/9/1998
2024	D-1180-08(7)	W-279	1174.00	1202.00	758.98	443.02	2.14	371.38	94.23	3.66	7.07	24.55	10262.20	37.75	7/29/13
2025	D-0355-04	MS-17-501(DW1)	587.50	600.00	377.90	222.10	4.00	150.40	30.20	7.30	4.00	40.98	9430.96	41.10	4/30/96
2026	D-0425-01	DW-133	1142.00	1142.00	726.84	415.16	4.00	3.18	0.77	0.21	0.11	0.00	61125.67	41.00	11/23/1998
2027	D-0425-09	DW-58.02	1249.00	1250.00	602.00	648.00	4.20	4.78	0.48	0.78	0.14	33.60	61125.67	41.00	4/19/2007
2028	D-0425-01	WL-78	1233.00	1260.00	614.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	2/27/1999
2029	D-0360	WL-674	1133.00	1170.00	931.95	238.05	6.60	146.59	0.00	68.14	11.96	138.61	111048.55	40.00	3/13/17
2030	D-2177-03	W-112.00	1180.70	1187.00	795.26	391.74	3.25	238.95	127.24	5.52	9.32	2.11	28301.29	40.00	3/3/09
2031	D-0360	W-410	1249.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	2/22/17
2032	D-1180-03(7)	W-100	1080.00	1180.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	0.00	10262.20	37.75	10/14/05
2033	D-2269 OA	WL-5	868.00	923.00	566.00	357.00	3.60	121.75	237.50	0.00	4.40	0.00	16659.24	40.00	6/24/04
2034	D-0425-01	W-129	850.00	930.00	851.42	78.58	6.76	0.35	0.02	0.39	0.11	0.00	61125.67	41.00	5/17/1999
2035	D-1180-00(7)	WL-8	1184.00	1245.00	855.00	390.00	3.00	319.02	68.98	0.00	3.01	0.00	10262.20	37.75	5/20/96
2036	D-0360	W-701	1269.00	1320.00	839.93	480.07	7.29	317.33	35.19	104.86	16.00	65.85	111048.55	40.50	10/8/03
2037	D-0360	W-415	1105.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	134.61	111048.55	40.50	7/13/15
2038	D-2177-06	W-28	1171.70	1178.00	823.32	354.68	3.58	188.24	146.08	0.00	11.68	0.45	28301.29	40.00	10/29/05
2039	D-0424	6-WL-14	1179.00	1235.00	671.30	563.70	4.70	295.09	60.57	11.78	10.68	2.95	29225.93	39.00	5/14/08
2040	D-0425-01	DW-38	1182.00	1204.00	590.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	11/27/1998
2041	D-0425-01	W-85	1212.00	1222.00	891.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	2/10/1999
2042	D-0426-08	W-120	970.00	1000.00	554.33	445.67	4.00	421.17	4.01	22.41	8.99	5.37	35708.87	39.00	11/24/01

2043	D-1019	W-201	1210.00	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	7/8/08
2044	D-0425-05	DW-95.00	1248.00	1250.00	586.14	663.86	0.17	4.92	0.76	0.94	0.14	9.18	61125.67	41.00	12/16/2003
2045	D-0424	8-WL-10	1104.50	1142.00	669.50	472.50	3.00	434.47	129.19	2.52	13.75	8.05	29225.93	39.50	7/12/11
2046	D-0360	W-165	1110.00	1140.00	580.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	12/10/90
2047	D-0360	WL-674	1100.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	138.51	111048.55	40.00	8/1/16
2048	D-0360	W231.356.04	1267.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	136.88	111048.55	41.00	3/3/16
2049	D-0360	W-22.007.00	1208.00	1240.00	750.29	489.71	11.76	347.06	30.83	115.94	26.19	138.61	111048.55	41.00	12/21/16
2050	D-0424	8-WL-10	1104.00	1142.00	669.50	472.50	3.00	434.47	129.19	2.52	13.75	8.41	29225.93	39.50	10/19/11
2051	D-1180-02(6a)	WL-200	819.00	830.00	354.71	475.29	3.21	378.08	96.38	3.82	7.20	12.63	10262.20	37.75	8/19/05
2052	D-1180-08(6a)	W-344	1192.00	1285.00	809.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/28/13
2053	D-0360	DW-169	1081.00	1100.00	581.53	518.47	7.08	373.81	9.26	93.89	21.49	7.80	111048.55	40.50	4/8/91
2054	D-2177-03	W-41.00	861.70	868.00	784.91	83.09	3.92	49.17	3.50	0.00	3.92	2.42	28301.29	40.00	9/15/09
2055	D-2187-01	W-2	1217.00	1260.00	821.33	438.67	2.92	228.00	205.50	3.00	4.09	0.00	14151.11	37.50	7/31/03
2056	D-0360	W-410	1259.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	1/30/17
2057	D-0425-01	DW-14	947.00	957.00	670.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	7/14/1998
2058	D-0425-05	DW-115.00	1127.00	1140.00	642.62	497.38	0.43	2.86	1.39	0.53	0.07	14.00	61125.67	41.00	8/16/2004
2059	D-0360	W-407	1250.00	1306.00	787.53	518.47	7.08	373.81	9.26	93.89	21.49	33.83	111048.55	40.50	4/23/97
2060	D-2187	WL-3	1223.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	1.04	14151.11	37.50	12/24/12
2061	D-0360	W6-6	1228.60	1256.00	992.95	263.05	7.55	115.24	35.79	109.05	13.01	114.33	111048.55	41.00	2/6/12
2062	D-0360	DW-387	1241.00	1260.00	972.55	287.45	6.85	195.67	43.79	129.97	13.52	33.83	111048.55	40.00	4/25/97
2063	D-0360	WL231.362.00	1106.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	134.61	111048.55	41.00	8/11/15
2064	D-0360	W21-138.00	1212.00	1240.00	936.64	303.36	7.40	175.10	23.60	87.50	17.29	88.63	111048.55	40.50	6/30/08
2065	D-0425-01	W-75	1124.00	1149.00	544.31	604.69	0.55	4.32	0.50	1.03	0.16	0.00	61125.67	41.00	10/30/1998
2066	D-0360	W21-452.00	1156.80	1190.00	1033.50	156.50	7.10	92.72	0.00	41.26	9.32	90.29	111048.55	40.50	7/18/08
2067	D-0425-01	W-118	1234.00	1260.00	614.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	11/24/1998
2068	D-0360	W-345	1239.00	1270.00	855.84	414.16	6.47	221.29	50.89	100.31	19.91	28.69	111048.55	40.00	4/18/96
2069	D-2317-1	WL-601	639.80	648.00	422.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	9/2/08
2070	D-0360	W336.375.00	924.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	134.61	111048.55	41.00	9/8/15
2071	D-2187	W-370	1212.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	1.48	14151.11	37.50	7/16/14
2072	D-2317-1	DW-414	571.50	580.00	339.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	12/6/07
2073	D-0360	W-396	1268.00	1305.00	1013.50	291.50	6.25	177.75	23.01	71.99	15.15	32.60	111048.55	40.50	1/30/97
2074	D-0425-09	DW-146.00	1228.00	1240.00	592.00	648.00	4.20	4.78	0.48	0.78	0.14	33.60	61125.67	41.00	4/5/2007
2075	D-0354	South Mains Shaft	457.18	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	7/31/17
2076	D-0360	WL-381	1282.00	1325.00	853.21	471.79	5.29	321.05	61.70	78.55	18.20	33.83	111048.55	40.00	5/27/97
2077	D2233	W-13	749.00	778.00	621.87	156.13	3.41	71.09	74.83	1.33	3.51	6.10	14067.46	40.00	3/17/15
2078	D-0360	WL231.362.00	1107.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	138.61	111048.55	41.00	11/1/16
2079	D-0426-08	W-7	1029.00	1035.00	519.25	515.75	5.00	410.68	139.19	7.58	11.58	5.37	35708.87	39.00	2/8/01
2080	D-0425-01	W-119	1231.00	1260.00	614.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	3/23/1999
2081	D-0360	WL-674	1131.00	1170.00	931.95	238.05	6.60	146.59	0.00	68.14	11.96	138.61	111048.55	40.00	1/19/17
2082	D-0425-01	DW-87	1209.00	1222.00	891.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	12/29/1998
2083	D-0360	W231.356.04	1267.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	131.89	111048.55	41.00	2/11/15
2084	D-0360	W-199	1180.00	1200.00	1056.68	143.32	3.00	15.48	0.00	96.63	9.60	6.09	111048.55	40.00	11/14/90
2085	D-0360	W-410	1238.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	129.65	111048.55	40.50	8/14/14
2086	D-0360	W-22.007.00	1210.00	1240.00	750.29	489.71	11.76	347.06	30.83	115.94	26.19	137.99	111048.55	41.00	6/14/16
2087	D-0360	W-609	1094.00	1162.00	863.14	298.86	5.45	166.14	34.91	78.29	9.15	131.89	111048.55	40.50	1/20/15
2088	D-0360	W-382	1268.00	1350.00	916.91	433.09	5.12	321.97	32.71	69.59	16.17	32.60	111048.55	40.00	1/27/97
2089	D-0425-01	W-119	1230.00	1260.00	614.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	1/29/1999
2090	D-0425-01	DW-38	1189.00	1204.00	590.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	1/27/1999
2091	D-0426	W-16A	1178.73	1220.00	911.25	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	5/14/14
2092	D-1180-08(7)	WL-273	1165.00	1235.00	791.98	443.02	2.14	371.38	94.23	3.66	7.07	24.55	10262.20	37.75	7/30/13
2093	D-2091-1	W-201	1139.00	1260.00	976.00	284.00	3.00	104.66	137.75	47.42	0.00	0.00	11181.57	37.50	3/15/00
2094	D-0425-01	W-95	1210.00	1240.00	929.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	3/23/1999
2095	D-0360	W-660	1129.00	1170.00	893.05	276.95	5.10	94.67	17.81	110.04	11.95	130.36	111048.55	40.50	11/4/14
2096	D-0360	W-568	1172.00	1222.00	964.54	257.46	4.90	113.13	22.11	116.39	9.10	126.43	111048.55	40.50	3/12/14
2097	D-0425-05	W-124.00	1054.00	1075.00	665.64	409.36	1.33	2.24	0.99	0.84	0.08	12.20	61125.67	41.00	4/30/2004
2098	D2317	M18	686.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/18/15
2099	D-0360	WL-739	1255.00	1340.00	839.24	500.76	7.61	275.70	57.23	136.09	33.23	64.61	111048.55	40.50	7/23/03
2100	D-0360	W-428	1212.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	130.36	111048.55	40.00	12/3/14
2101	D-2187	W-370	1212.50	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	1.69	14151.11	37.50	11/4/15
2102	D-1180-08(7)	W-311	1173.00	1265.00	821.98	443.02	2.14	371.38	94.23	3.66	7.07	23.57	10262.20	37.75	5/22/13
2103	D-2187	W-370	1212.50	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	1.66	14151.11	37.50	9/3/15
2104	D-0360	W-358	1195.00	1225.00	1081.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	1/26/96

2105	D-0360	WL231.362.00	1133.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	126.43	111048.55	41.00	3/25/14
2106	D-2187	WL-3	1208.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	0.85	14151.11	37.50	3/29/12
2107	D-1180-01(6a)	W-23	1163.00	1200.00	757.25	442.75	3.16	325.00	117.00	0.00	7.91	0.00	10262.20	37.75	5/20/96
2108	D2091	WL-18	975.00	1005.00	906.37	98.63	3.92	66.50	31.00	0.00	4.04	3.21	11181.57	37.50	2/16/17
2109	D-0360	W-340	911.00	920.00	791.70	128.30	5.87	17.73	0.00	82.11	9.03	26.12	111048.55	40.00	12/26/95
2110	D-0360	W501.077.00	1097.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	138.61	111048.55	41.00	12/2/16
2111	D-0360	W-428	1231.00	1270.00	729.60	540.40	5.50	336.95	11.82	178.25	12.88	39.40	111048.55	40.00	5/20/98
2112	D-2187-02	W-8	1107.00	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	0.00	14151.11	37.50	4/24/03
2113	D-0360	W231.356.04	1266.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	136.88	111048.55	41.00	2/21/16
2114	D-0360	DW-719	1174.00	1178.00	749.55	428.45	7.05	259.73	45.00	112.83	14.77	64.61	111048.55	40.50	7/26/03
2115	D-0424	6-WL-15	1187.90	1220.00	656.30	563.70	4.70	295.09	60.57	11.78	10.68	2.95	29225.93	39.00	5/15/08
2116	D-1019	WL-18	974.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	6/5/12
2117	D-1019	W-201	1210.00	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	4/23/09
2118	D-0360	W21-260.00	1142.00	1180.00	876.64	303.36	7.40	175.10	23.60	87.50	17.29	90.29	111048.55	40.50	7/16/08
2119	D-2177-03	WL-23K	1116.70	1123.00	797.04	325.96	3.33	225.55	79.76	0.73	9.95	2.27	28301.29	40.00	6/2/09
2120	D-0360	W336.375.00	923.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	130.36	111048.55	41.00	12/5/14
2121	D-0360	W-694	1223.00	1265.00	775.29	489.71	11.76	347.06	30.83	115.94	26.19	138.61	111048.55	40.50	11/22/16
2122	D-2187	W-303	1178.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.48	14151.11	37.50	9/2/14
2123	D-0360	W-114	1265.00	1306.00	746.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	1/29/91
2124	D-1180-01(7)	W-30	1131.00	1225.00	775.00	450.00	3.00	311.00	132.00	0.00	8.00	0.00	10262.20	37.75	9/16/02
2125	D-0360	W-415	1115.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	128.37	111048.55	40.50	5/8/14
2126	D-0360	W-314A	1234.00	1270.00	727.60	542.40	5.04	412.92	16.15	92.07	13.88	56.31	111048.55	40.50	10/2/01
2127	D-0360	W-428	1208.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	136.88	111048.55	40.00	1/5/16
2128	D-0360	W-377	1236.00	1282.00	810.21	471.79	5.29	321.05	61.70	78.55	18.20	33.83	111048.55	40.00	6/21/97
2129	D-0360	DW-391	1097.00	1120.00	832.55	287.45	6.85	195.67	43.79	129.97	13.52	33.83	111048.55	40.00	4/10/97
2130	D-0360	W-413	1243.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	131.89	111048.55	40.50	2/20/15
2131	D-1180-03(7)	W-102	1135.60	1180.00	770.00	410.00	3.08	390.50	66.00	0.00	6.00	0.00	10262.20	37.75	3/29/06
2132	D-0425-05	DW-97.01	1166.00	1170.00	729.20	440.80	2.32	1.86	0.89	1.46	0.15	9.18	61125.67	41.00	12/22/2003
2133	D-0360	W-414	1267.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	137.99	111048.55	40.50	5/25/16
2134	D-0360	W-671	1102.00	1183.00	904.48	278.52	7.88	130.58	24.35	89.21	10.00	126.43	111048.55	40.50	3/12/14
2135	D-0424	8-W-23	997.00	1052.00	727.67	324.33	4.92	321.96	39.93	0.00	14.76	8.05	29225.93	39.00	7/19/11
2136	D-0425-01	DW-28	1208.00	1220.00	804.84	415.16	4.00	3.18	0.77	0.21	0.11	0.00	61125.67	41.00	9/28/1998
2137	D-0360	W-414	1261.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	131.89	111048.55	40.50	1/28/15
2138	D-0360	WL231.362.00	1128.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	131.89	111048.55	41.00	2/3/15
2139	D-0360	W-174	1034.00	1117.00	823.10	293.90	7.12	127.60	10.23	132.06	16.83	6.99	111048.55	40.50	1/18/91
2140	D-0360	W-358	1194.00	1225.00	1081.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	11/28/95
2141	D-0425-01	DW-113	1255.00	1270.00	624.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	10/17/1998
2142	D-0425-05	DW-121.00	1121.00	1125.00	684.11	440.89	0.50	2.82	0.70	0.76	0.11	12.20	61125.67	41.00	5/24/2004
2143	D-0425-09	DW-144.00	1292.00	1306.00	634.67	671.33	0.07	5.83	0.58	0.92	0.09	33.60	61125.67	41.00	6/7/2007
2144	D-0360	W-365	1184.00	1240.00	1096.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	4/26/96
2145	D-0360	W-316	1161.00	1203.00	684.53	518.47	7.08	373.81	9.26	93.89	21.49	19.33	111048.55	40.50	4/28/94
2146	D-0360	DW-22.004.00	1117.00	1125.00	852.91	272.09	7.81	114.19	33.51	114.10	11.82	93.88	111048.55	41.00	1/22/09
2147	D-0360	W501.077.01	1075.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	137.99	111048.55	41.00	4/5/16
2148	D2233	DW-7	753.00	774.00	617.87	156.13	3.41	71.09	74.83	1.33	3.51	6.10	14067.46	40.00	3/17/15
2149	D-0360	DW-391	1097.00	1120.00	832.55	287.45	6.85	195.67	43.79	129.97	13.52	33.83	111048.55	40.00	6/21/97
2150	D2317	M2B	647.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/12/14
2151	D-1180-03(7)	W-101	1162.00	1185.00	771.50	413.50	2.50	333.50	126.00	0.00	5.50	0.00	10262.20	37.75	1/14/06
2152	D-0360	W-401	1276.00	1318.00	990.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	6/28/97
2153	D-0425-01	DW-62	1188.00	1215.00	610.31	604.69	0.55	4.32	0.50	1.03	0.16	0.00	61125.67	41.00	9/23/1998
2154	D-0360	W-723	1130.00	1180.00	946.87	233.13	7.55	117.80	5.49	98.95	10.71	64.61	111048.55	40.50	7/11/03
2155	D-0360	DW-162	1270.00	1296.00	736.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	1/22/91
2156	D-0425-04	W-436	990.00	1020.00	724.42	295.58	3.84	1.49	0.33	0.72	0.10	0.74	61125.67	41.00	3/26/2002
2157	D-0360	WL-674	1102.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	126.43	111048.55	40.00	3/12/14
2158	D0424-2	W-14	1123.00	1203.00	729.30	473.70	3.00	246.94	55.98	2.32	7.73	0.00	29225.93	38.50	8/26/91
2159	D-0360	W-705	1223.80	1270.00	789.93	480.07	7.29	317.33	35.19	104.86	16.00	64.61	111048.55	40.50	8/6/03
2160	D-0426-04	WL-17	1176.00	1195.00	802.65	392.35	3.00	152.94	213.01	6.30	5.73	0.00	35708.87	39.00	5/21/90
2161	D-0360	W21-180.01	1193.00	1220.00	941.00	279.00	6.90	77.16	24.69	145.59	12.54	88.63	111048.55	40.50	6/24/08
2162	D-0360	W-294	1082.00	1125.00	606.53	518.47	7.08	373.81	9.26	93.89	21.49	18.09	111048.55	40.50	3/31/94
2163	D-0360	DW-331	927.00	935.00	791.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	4/15/96
2164	D-0360	W-423	1126.00	1200.00	1056.68	143.32	3.00	15.48	0.00	96.63	9.60	38.09	111048.55	40.00	2/18/98
2165	D-0360	WL-351	1203.00	1225.00	1081.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	1/23/96
2166	D-0426-04	W-16	1150.00	1190.00	797.65	392.35	3.00	152.94	213.01	6.30	5.73	0.00	35708.87	39.00	5/21/90

2167	D-0360	W-341	891.00	920.00	791.70	128.30	5.87	17.73	0.00	82.11	9.03	28.69	111048.55	40.00	4/22/96
2168	D-0425-05	W-37.02	1195.00	1215.00	628.70	586.30	5.97	4.12	0.36	1.31	0.21	9.18	61125.67	41.00	12/23/2003
2169	D-2187	WL-3	1213.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	0.29	14151.11	37.50	5/20/10
2170	D2317	MIA	646.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/21/16
2171	D-0360	W336.375.00	928.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	136.88	111048.55	41.00	2/3/16
2172	D-0360	W-347	1092.00	1180.00	868.34	311.66	5.89	203.68	6.59	88.74	15.19	27.35	111048.55	40.00	1/23/96
2173	D-1019	WL-18	974.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	5/4/12
2174	D-2177-03	WL-70K	931.70	938.00	608.78	329.22	3.75	285.20	39.93	1.49	9.38	2.11	28301.29	40.00	2/25/09
2175	D-2187	WL-3	1208.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	0.98	14151.11	37.50	7/26/12
2176	D-0360	W-344	1163.00	1185.00	770.84	414.16	6.47	221.29	50.89	100.31	19.91	26.12	111048.55	40.00	11/22/95
2177	D-0360	DW-393	1312.00	1330.00	896.91	433.09	5.12	321.97	32.71	69.59	16.17	32.60	111048.55	40.00	1/28/97
2178	D-0360	WL-674	1100.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	134.61	111048.55	40.00	7/1/15
2179	D-0360	W-368	1117.00	1185.00	1041.68	143.32	3.00	15.48	0.00	96.63	9.60	29.98	111048.55	40.00	9/13/96
2180	D-2269-08	WL-27	822.00	930.00	781.30	148.70	4.30	63.40	83.80	0.00	9.80	0.00	16659.24	40.00	10/25/02
2181	D-0360	W-374	1249.00	1290.00	809.93	480.07	7.29	317.33	35.19	104.86	16.00	32.60	111048.55	40.50	2/27/97
2182	D-0426	W-16C	1038.81	1218.63	909.88	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	8/29/14
2183	D-2187	W-370	1209.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.98	14151.11	37.50	8/22/12
2184	D-0425-01	W-58	1021.00	1072.00	458.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	10/16/1998
2185	D-0360	WL-301	1256.00	1303.00	760.60	542.40	5.04	412.92	16.15	92.07	13.88	18.09	111048.55	40.50	2/28/94
2186	D-0355-04	MC-13-501 (DW)	631.00	650.00	311.26	338.74	4.25	231.59	91.00	11.59	5.83	40.98	9430.98	41.10	10/3/96
2187	D-2187	W-303	1180.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.48	14151.11	37.50	12/20/10
2188	D-1180-08(6a)	WL-364	1159.60	1202.00	726.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.50	6/3/13
2189	D-0360	W-327	903.00	910.00	766.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	3/18/96
2190	D-0360	W501.077.01	1034.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	136.88	111048.55	41.00	2/3/16
2191	D-0360	W-407	1247.00	1306.00	787.53	518.47	7.08	373.81	9.26	93.89	21.49	35.29	111048.55	40.50	7/20/97
2192	D-0360	W-429	1198.00	1210.00	652.26	557.74	2.40	398.53	47.72	103.50	11.13	39.40	111048.55	40.50	4/13/98
2193	D-0360	DW-406	1301.00	1322.00	1080.50	291.50	6.25	177.75	23.01	71.99	15.15	136.88	111048.55	40.50	1/12/16
2194	D-0360	W-415	1102.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	10/31/16
2195	D-0360	WL-692	1310.00	1355.00	798.02	556.98	7.61	404.08	9.37	114.93	14.37	65.85	111048.55	40.50	10/6/03
2196	D-0360	DW-178	1195.00	1225.00	810.84	414.16	6.47	221.29	50.89	100.31	19.91	6.09	111048.55	40.00	12/11/90
2197	D-1180-08(7)	W-305	1164.60	1200.00	756.98	443.02	2.14	371.38	94.23	3.66	7.07	27.76	10262.20	37.75	8/26/14
2198	D-0425-01	DW-80	1236.00	1241.00	595.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	1/28/1999
2199	D-0425-01	W-65	1222.00	1222.00	806.84	415.16	4.00	3.18	0.77	0.21	0.11	0.00	61125.67	41.00	11/24/1998
2200	D-2187-02	W-352	1250.00	1290.00	851.33	438.67	2.92	228.00	205.50	3.00	4.09	0.00	14151.11	37.50	7/31/03
2201	D-0360	WL-721	1157.00	1229.00	800.55	428.45	7.05	258.73	45.00	112.83	14.77	138.61	111048.55	40.50	11/22/16
2202	D-0360	W21-195.00	1227.50	1280.00	977.97	302.03	5.68	178.44	31.29	74.71	12.42	88.63	111048.55	40.50	5/1/08
2203	D-0425-05	DW-91.00	1237.00	1260.00	596.14	663.86	0.17	4.92	0.76	0.94	0.14	10.97	61125.67	41.00	2/16/2004
2204	D-2187	W-303	1180.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.69	14151.11	37.50	7/14/11
2205	D-1180-08(7)	W-361	1186.40	1265.00	821.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	8/31/12
2206	D-1180-00(6a)	WL-4	1160.00	1190.00	728.00	462.00	4.00	325.99	133.01	0.00	8.98	0.00	10262.20	37.75	5/20/96
2207	D-1180-03(6a)	WL-2	965.00	1000.00	594.09	405.91	3.33	400.00	3.00	0.00	9.33	13.49	10262.20	37.75	10/26/05
2208	D-0360	W501.077.00	1168.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	133.14	111048.55	41.00	4/8/15
2209	D2317	W3.01	612.00	618.00	377.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/25/15
2210	D-0360	W21-112.00	1032.40	1060.00	742.55	317.45	7.29	204.12	2.04	78.09	10.82	88.63	111048.55	40.00	5/8/08
2211	D-0360	W336.375.00	923.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	135.54	111048.55	41.00	12/2/15
2212	D-2187	W-8	1109.00	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	1.66	14151.11	37.50	9/2/15
2213	D-0360	DW-318	1283.00	1294.00	775.53	518.47	7.08	373.81	9.26	93.89	21.49	18.09	111048.55	40.50	1/24/94
2214	D-0360	W-428	1213.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	137.99	111048.55	40.00	4/14/16
2215	D-0425-01	DW-38	1179.00	1204.00	590.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	9/30/1998
2216	D-0360	W-402	1252.00	1325.00	997.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	1/30/97
2217	D-0360	W-414	1265.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	5/27/97
2218	D-2187	W-3	1210.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	0.40	14151.11	37.50	8/27/10
2219	D2091	W-26	1167.20	1225.00	891.30	333.70	3.00	91.60	226.43	18.28	2.06	3.21	11181.57	37.50	5/23/16
2220	D-0360	WL231.362.00	1128.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	133.14	111048.55	41.00	5/4/15
2221	D-0425-01	DW-14	948.00	957.00	670.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	12/9/1998
2222	D-0425-01	W-88	1230.00	1240.00	594.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	2/27/1999
2223	D-2187	W-303	1183.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.55	14151.11	37.50	3/15/11
2224	D-2187	W-303	1177.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.55	14151.11	37.50	11/13/14
2225	D-0425-05	W-124.00	1052.00	1075.00	665.64	409.36	1.33	2.24	0.99	0.84	0.08	12.20	61125.67	41.00	5/24/2004
2226	D-0355-04	MC-FR30-502 (DW)	791.00	810.00	596.57	213.43	3.00	141.59	50.33	6.67	6.42	40.98	9430.98	41.10	10/9/96
2227	D-0360	W-423	1122.00	1200.00	1056.68	143.32	3.00	15.48	0.00	96.63	9.60	39.40	111048.55	40.00	4/22/98
2228	D-2317-0A	WL-3	538.00	578.00	352.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	8/25/05

2229	D-0360	W6-6	1226.40	1256.00	992.95	263.05	7.55	115.24	35.79	109.05	13.01	98.99	111048.55	41.00	10/7/09
2230	D-0360	W501.077.00	1098.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	138.61	111048.55	41.00	10/5/16
2231	D-0360	W21-481.00	1148.80	1185.00	1036.43	148.57	6.55	43.93	0.00	95.92	9.60	88.63	111048.55	40.50	5/5/08
2232	D-2177-03	W-103.00	906.70	913.00	598.58	314.42	3.04	213.48	71.33	1.25	5.55	2.11	28301.29	40.00	3/5/09
2233	D-2317-OA	DW-21	665.50	678.00	437.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	7/9/07
2234	D-0360	W21-155.08	1261.00	1300.00	1025.75	274.25	5.45	194.05	15.51	61.90	11.27	88.63	111048.55	40.50	4/30/08
2235	D-0355-04	MC-FR36-505 (WL)	761.00	780.00	566.57	213.43	5.00	141.59	50.33	6.67	6.42	40.98	9430.98	41.10	4/18/96
2236	D-0360	W-583	1159.00	1245.00	973.99	271.01	6.19	157.00	0.91	85.09	13.65	126.43	111048.55	40.50	1/21/14
2237	D-0426-08	WL104	981.50	990.00	560.17	429.83	6.00	449.44	19.98	0.00	15.58	5.37	35708.87	39.00	11/21/01
2238	D-0360	W21-260.00	1142.90	1180.00	876.64	303.36	7.40	175.10	23.60	87.50	17.29	90.29	111048.55	40.50	8/19/08
2239	D-0425-01	W-125	1178.00	1192.00	578.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	2/10/1999
2240	D-0360	W-620	1147.00	1178.00	879.14	298.86	5.45	166.14	34.91	78.29	9.15	129.65	111048.55	40.50	9/2/14
2241	D-0360	DW-178	1191.00	1225.00	810.84	414.16	6.47	221.29	50.89	100.31	19.91	6.99	111048.55	40.00	2/6/91
2242	D-2177-03	W-429.00	875.70	882.00	757.54	124.46	3.54	36.37	75.17	0.00	4.46	2.11	28301.29	40.00	3/12/09
2243	D-0360	W-363	1001.00	1095.00	885.32	209.68	4.28	93.70	32.00	105.70	7.82	27.35	111048.55	40.00	1/24/96
2244	D-0425-01	WL-2	1207.00	1236.00	680.01	555.99	2.06	3.55	0.24	1.44	0.20	0.00	61125.67	41.00	12/9/1998
2245	D-0360	DW-118	1288.00	1305.00	745.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	3/20/91
2246	D-0360	W21-064.00	1199.60	1260.00	956.64	303.36	7.40	175.10	23.60	87.50	17.29	90.29	111048.55	40.50	8/13/08
2247	D-0360	W-414	1245.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	6/28/97
2248	D-1019	WL-18	974.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	10/11/11
2249	D-2187	W-303	1182.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.13	14151.11	37.50	2/5/13
2250	D-0360	W-428	1207.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	134.61	111048.55	40.00	7/6/15
2251	D-0425-01	DW-14	947.00	957.00	670.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	10/6/1998
2252	D-0360	WL-319	1261.00	1325.00	774.30	550.70	7.10	325.95	44.97	162.21	15.14	19.33	111048.55	40.50	4/28/94
2253	D-1180-08(7)	W-308	1135.60	1224.00	780.98	443.02	2.14	371.38	94.23	3.66	7.07	27.76	10262.20	37.75	8/26/14
2254	D-0360	W-568	1171.00	1222.00	964.54	257.46	4.90	113.13	22.11	116.39	9.10	126.43	111048.55	40.50	2/5/14
2255	D-0360	W-153	1240.00	1269.00	709.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	10/27/90
2256	D-0360	DW-376	1246.00	1250.00	778.21	471.79	5.29	321.05	61.70	78.55	18.20	33.83	111048.55	40.00	6/21/97
2257	D-0425-10	W-44.00	962.00	981.00	670.88	310.12	3.40	1.38	0.00	1.61	0.13	35.68	61125.67	41.00	9/10/2007
2258	D-0360	W21-059.00	1220.00	1255.00	951.64	303.36	7.40	175.10	23.60	87.50	17.29	88.63	111048.55	40.50	5/3/08
2259	D-0360	DW-427	1231.00	1265.00	702.80	562.20	5.50	277.65	65.48	204.97	11.83	38.09	111048.55	40.50	3/5/98
2260	D-0360	W-334	908.00	913.00	769.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	1/29/96
2261	D-0360	W-415	1105.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	137.99	111048.55	40.50	6/16/16
2262	D-0425-01	DW-24	1196.00	1206.00	919.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	11/12/1998
2263	D-0360	W501.077.00	1106.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	137.99	111048.55	41.00	6/7/16
2264	D-2317-OA	W-41	580.70	610.00	369.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	7/9/07
2265	D-0355-04	MC-FR36-503 (DW)	705.50	710.00	496.57	213.43	5.00	141.59	50.33	6.67	6.42	44.09	9430.98	41.10	8/7/97
2266	D-0360	WL-674	1102.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	128.37	111048.55	40.00	5/7/14
2267	D2233	DW-7	753.00	774.00	617.87	156.13	3.41	71.09	74.83	1.33	3.51	6.10	14067.46	40.00	11/15/16
2268	D-0360	W-363	1000.00	1095.00	885.32	209.68	4.28	93.70	32.00	105.70	7.82	26.12	111048.55	40.00	12/18/95
2269	D-0360	WL-567	1152.00	1224.00	966.54	257.46	4.90	113.13	22.11	116.39	9.10	126.43	111048.55	40.50	3/12/14
2270	D-0360	W-734	1188.00	1205.00	871.66	333.34	4.90	243.57	13.34	48.14	14.88	67.27	111048.55	40.50	2/19/04
2271	D-2187	W-370	1202.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.40	14151.11	37.50	8/13/10
2272	D-0425-09	DW-144.00	1291.00	1305.00	633.67	671.33	0.07	5.83	0.58	0.92	0.09	33.60	61125.67	41.00	4/5/2007
2273	D-2177-03	W-35.00	874.70	881.00	797.91	83.09	3.92	49.17	3.50	0.00	3.92	2.11	28301.29	40.00	2/24/09
2274	D-2091-4	W-624	1011.50	1020.00	814.00	206.00	3.00	66.97	125.00	7.00	9.96	1.97	11181.57	37.50	3/3/11
2275	D2317	M1B	686.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	8/27/13
2276	D-0424	6-WL-14	1179.00	1235.00	671.30	563.70	4.70	295.09	60.57	11.78	10.68	2.95	29225.93	39.00	4/6/08
2277	D-0425-01	DW-40	1192.00	1209.00	677.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	12/14/1998
2278	D-0360	WL-381	1285.00	1325.00	853.21	471.79	5.29	321.05	61.70	78.55	18.20	32.60	111048.55	40.00	3/12/97
2279	D-0425-01	WL-43	1183.00	1241.00	1162.42	78.58	6.76	0.35	0.02	0.39	0.11	0.00	61125.67	41.00	8/25/1998
2280	D-0360	DW-318	1276.00	1294.00	775.53	518.47	7.08	373.81	9.26	93.89	21.49	18.09	111048.55	40.50	3/31/94
2281	D-2269-08	WL-27	822.00	930.00	781.30	148.70	4.30	63.40	83.80	0.00	9.80	0.00	16659.24	40.00	4/12/03
2282	D-0360	W231.356.04	1267.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	133.14	111048.55	41.00	5/4/15
2283	D-0360	W-346	920.00	930.00	786.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	4/15/96
2284	D-0360	W-353	1136.00	1210.00	898.34	311.66	5.89	203.68	6.59	88.74	15.19	26.12	111048.55	40.00	11/24/95
2285	D-0424	5-DW-1	1067.00	1080.00	763.70	316.30	2.79	118.20	173.09	0.00	2.80	5.01	29225.93	38.50	7/17/09
2286	D-0360	W-410	1242.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	129.65	111048.55	40.50	9/4/14
2287	D-2187	W-303	1178.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.40	14151.11	37.50	7/12/10
2288	D-0360	WL231.362.00	1116.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	138.61	111048.55	41.00	2/1/17
2289	D-0360	WL336.373.00	1070.70	1100.00	566.00	534.00	7.98	316.06	23.80	187.04	13.10	108.10	111048.55	41.00	2/23/11
2290	D-2177-01	GNW-04-1D	868.31	874.61	529.45	345.16	3.54	118.44	205.60	0.58	9.37	1.47	28301.29	40.00	10/24/07

2291	D-0360	W-410	1248.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	136.88	111048.55	40.50	1/27/16
2292	D-0360	W-425	1225.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	38.09	111048.55	41.00	2/27/98
2293	D-2187	W-370	1213.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.24	14151.11	37.50	1/6/10
2294	D-1180-08(7)	W-312A	1181.40	1275.00	831.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	9/7/12
2295	D-2177-03	W-37.00	858.70	865.00	781.91	83.09	3.92	49.17	3.50	0.00	3.92	2.42	28301.29	40.00	9/15/09
2296	D-0360	WL231.362.00	1116.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	130.36	111048.55	41.00	10/2/14
2297	D-0360	W-363	1000.00	1095.00	885.32	209.68	4.28	93.70	32.00	105.70	7.82	27.35	111048.55	40.00	2/27/96
2298	D-0360	WL-674	1101.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	138.51	111048.55	40.00	7/5/16
2299	D-0360	W-396	1268.00	1305.00	1013.50	291.50	6.25	177.75	23.01	71.99	15.15	33.83	111048.55	40.50	4/25/97
2300	D-0360	DW-420	1222.00	1241.00	949.50	291.50	6.25	177.75	23.01	71.99	15.15	33.83	111048.55	40.50	5/26/97
2301	D2317	M2A	646.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	12/2/14
2302	D2091	W-625	938.50	960.00	779.00	181.00	3.00	74.39	99.17	13.43	0.00	3.20	11181.57	37.50	3/24/16
2303	D-0360	DW-126	1288.00	1311.00	943.15	367.85	6.20	166.26	55.30	131.78	11.66	6.99	111048.55	40.50	1/29/91
2304	D-0354	South Mains Shaft	456.88	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	9/11/17
2305	D-2187	W-303	1182.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.63	14151.11	37.50	5/12/11
2306	D-2187	WL-3	1210.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	0.63	14151.11	37.50	4/7/11
2307	D-1180-08(7)	W-298	1160.80	1205.00	761.98	443.02	2.14	371.38	94.23	3.66	7.07	19.89	10262.20	37.75	3/21/12
2308	D-0354	Rowing Crew Shaft	457.28	637.76	248.21	389.55	4.17	77.51	258.71	3.04	5.75	39.63	20418.32	41.20	8/13/18
2309	D-0425-01	DW-60	1147.00	1161.00	830.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	2/10/1999
2310	D-0425-01	DW-10	966.00	981.00	694.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	12/19/1998
2311	D-0360	W-414	1232.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	138.51	111048.55	40.50	8/29/16
2312	D-0360	W21-110.01	1029.60	1050.00	732.55	317.45	7.29	204.12	2.04	78.09	10.82	90.29	111048.55	40.00	8/8/08
2313	D-0360	W-428	1212.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	136.88	111048.55	40.00	3/3/16
2314	D-1019	W-201	1210.00	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	7/8/08
2315	D-0360	WL-349	1108.00	1190.00	878.34	311.66	5.89	203.68	6.59	88.74	15.19	27.35	111048.55	40.00	2/15/96
2316	D-0360	DW-406	1299.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	35.29	111048.55	40.50	7/20/97
2317	D-0360	W-346	919.00	930.00	786.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	3/14/96
2318	D-1180-08(7)	WL-273	1164.60	1235.00	791.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	8/30/12
2319	D-2177-03	W-112.00	1180.70	1187.00	795.26	391.74	3.25	238.95	127.24	5.52	9.32	2.27	28301.29	40.00	6/1/09
2320	D-0425-01	W-17	1194.00	1240.00	708.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	9/25/1998
2321	D-0360	W-428	1194.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	129.65	111048.55	40.00	8/14/14
2322	D-0360	W-365	1179.00	1240.00	1096.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	11/30/95
2323	D-0360	WL-419	1237.00	1261.00	969.50	291.50	6.25	177.75	23.01	71.99	15.15	33.83	111048.55	40.50	5/26/97
2324	D-0360	W501.077.01	1070.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	130.36	111048.55	41.00	12/9/14
2325	D-0425-01	W-17	1194.00	1240.00	708.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	11/5/1998
2326	D-0360	W-353	1136.00	1210.00	898.34	311.66	5.89	203.68	6.59	88.74	15.19	27.35	111048.55	40.00	2/28/96
2327	D-0360	W21-087.00	1039.50	1068.00	750.55	317.45	7.29	204.12	2.04	78.09	10.82	88.63	111048.55	40.00	5/5/08
2328	D-0425-05	W-60.01	1270.00	1290.00	622.05	667.95	4.65	4.23	1.67	0.88	0.14	9.18	61125.67	41.00	10/7/2003
2329	D-0360	W-413	1241.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	130.36	111048.55	40.50	11/19/14
2330	D-0360	WL231.362.00	1136.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	128.37	111048.55	41.00	4/22/14
2331	D-1180-08(7)	W-312	1183.60	1275.00	831.98	443.02	2.14	371.38	94.23	3.66	7.07	19.89	10262.20	37.75	3/29/12
2332	D-1180-08(7)	W-344	1192.00	1285.00	841.98	443.02	2.14	371.38	94.23	3.66	7.07	23.57	10262.20	37.75	5/28/13
2333	D-0360	W501.077.01	1071.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	138.51	111048.55	41.00	7/5/16
2334	D-1180-08(7)	W-100	1082.00	1180.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	0.00	10262.20	37.75	3/29/06
2335	D-0360	DW-427	1230.00	1265.00	702.80	562.20	5.50	277.65	65.48	204.97	11.83	38.09	111048.55	40.50	2/27/98
2336	D-0360	WL-736	1115.00	1131.00	797.66	333.34	4.90	243.57	13.34	48.14	14.88	138.61	111048.55	41.00	11/14/16
2337	D-0425-05	WL-86.00	1218.00	1265.00	824.20	440.80	2.32	1.86	0.89	1.46	0.15	10.97	61125.67	41.00	1/5/2004
2338	D-0360	W-418	1163.00	1180.00	852.47	327.53	4.87	218.18	24.31	55.90	14.42	35.29	111048.55	40.50	7/19/97
2339	D-0425-01	DW-87	1218.00	1222.00	891.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	2/10/1999
2340	D-1180-08(6a)	W-311	1186.40	1260.00	784.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	3/29/13
2341	D-0425-01	W-118	1234.00	1260.00	614.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	3/23/1999
2342	D-0360	W-202	1160.00	1210.00	1066.68	143.32	3.00	15.48	0.00	96.63	9.60	6.99	111048.55	40.00	3/13/91
2343	D-0360	W336.375.00	925.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	134.61	111048.55	41.00	8/17/15
2344	D-0425-01	WL-9	961.00	983.00	696.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	11/12/1998
2345	D-0360	W-691	1260.00	1275.00	846.55	428.45	7.05	259.73	45.00	112.83	14.77	67.27	111048.55	40.50	2/24/04
2346	D-0360	W-428	1210.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	130.36	111048.55	40.00	11/11/14
2347	D-0425-01	DW-87	1221.00	1222.00	891.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	1/23/1999
2348	D-2091-4	WL-113	1170.00	1215.00	1064.00	151.00	3.50	116.01	33.17	8.25	4.14	2.07	11181.57	37.50	7/7/11
2349	D-0360	W-294	1081.00	1125.00	606.53	518.47	7.08	373.81	9.26	93.89	21.49	18.09	111048.55	40.50	1/27/94
2350	D-1180-08(6a)	W-303	1201.00	1240.00	764.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	8/26/14
2351	D-0360	W-165	1096.00	1140.00	580.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	2/6/91
2352	D2317	M2B	648.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	5/15/13

2353	D-0360	WL231.362.00	1106.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	138.51	111048.55	41.00	9/1/16
2354	D2317	M2A	645.00	720.00	479.90	240.10	5.25	188.85	56.10	0.00	5.25	1.60	2061.00	41.00	6/16/15
2355	D-0360	DW-430	1254.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	39.40	111048.55	41.00	5/20/98
2356	D-0426	W-19C	1014.50	1215.00	906.25	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	8/23/12
2357	D-0360	W-312A	1254.00	1315.00	764.30	550.70	7.10	325.95	44.97	162.21	15.14	24.01	111048.55	40.50	5/31/95
2358	D-2187	W-370	1203.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.63	14151.11	37.50	4/11/11
2359	D2233	DW-7	753.00	774.00	617.87	156.13	3.41	71.09	74.83	1.33	3.51	6.10	14067.46	40.00	7/20/15
2360	D-0425-01	W-124	1242.00	1260.00	949.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	11/24/1998
2361	D-2187	W-370	1204.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.63	14151.11	37.50	5/12/11
2362	D-0360	W-666	1055.00	1065.00	801.65	263.35	7.00	108.55	53.31	84.24	5.91	126.43	111048.55	40.50	2/25/14
2363	D-0360	W-666	1055.00	1065.00	801.65	263.35	7.00	108.55	53.31	84.24	5.91	126.43	111048.55	40.50	1/13/14
2364	D-1019	W-201	1220.00	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	10/7/09
2365	D-0425-01	W-95	1207.00	1240.00	929.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	10/13/1998
2366	D-2177-03	W-33.00	875.70	882.00	798.91	83.09	3.92	49.17	3.50	0.00	3.92	2.11	28301.29	40.00	3/2/09
2367	D-0360	W-394	1231.00	1259.00	825.91	433.09	5.12	321.97	32.71	69.59	16.17	33.83	111048.55	40.00	5/27/97
2368	D-0354	Rowing Crew Shaft	457.63	637.76	248.21	389.55	4.17	77.51	258.71	3.04	5.75	39.63	20418.32	41.20	10/8/18
2369	D-0360	W-414	1267.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	1/23/17
2370	D-0360	W-568	1171.00	1222.00	964.54	257.46	4.90	113.13	22.11	116.39	9.10	126.43	111048.55	40.50	1/21/14
2371	D-0425-01	W-42	1197.00	1223.00	1144.42	78.58	6.76	0.35	0.02	0.39	0.11	0.00	61125.67	41.00	12/14/1998
2372	D-0360	W-378	1297.00	1325.00	853.21	471.79	5.29	321.05	61.70	78.55	18.20	33.83	111048.55	40.00	5/20/97
2373	D-0360	WL-381	1283.00	1325.00	853.21	471.79	5.29	321.05	61.70	78.55	18.20	33.83	111048.55	40.00	4/10/97
2374	D-0360	WL231.362.00	1136.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	128.37	111048.55	41.00	5/13/14
2375	D-0360	W-428	1222.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	126.43	111048.55	40.00	2/20/14
2376	D-0360	W-400	1261.00	1315.00	1023.50	291.50	6.25	177.75	23.01	71.99	15.15	33.83	111048.55	40.50	5/26/97
2377	D-2177-03	W-105.00	916.70	923.00	608.58	314.42	3.04	213.48	71.33	1.25	5.55	2.42	28301.29	40.00	9/15/09
2378	D-0360	W-341	893.00	920.00	791.70	128.30	5.87	17.73	0.00	82.11	9.03	26.12	111048.55	40.00	12/26/95
2379	D-0360	W-368	1138.00	1185.00	1041.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	5/29/96
2380	D-0360	W336.375.00	928.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	137.99	111048.55	41.00	5/2/16
2381	D-0425-01	W-72	1109.00	1165.00	551.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	1/22/1999
2382	D-1180-08(7)	W-343	1159.60	1262.00	818.98	443.02	2.14	371.38	94.23	3.66	7.07	23.57	10262.20	37.75	5/28/13
2383	D-0360	W-174	1054.00	1117.00	823.10	293.90	7.12	127.60	10.23	132.06	16.83	7.80	111048.55	40.50	4/8/91
2384	D-0425-05	DW-53.01	1280.00	1305.00	637.85	667.15	5.93	4.36	0.71	1.51	0.18	10.97	61125.67	41.00	2/23/2004
2385	D-0360	W21-087.00	1038.80	1068.00	750.55	317.45	7.29	204.12	2.04	78.09	10.82	90.29	111048.55	40.00	7/10/08
2386	D-0425-05	W-14.00	1282.00	1310.00	730.06	579.94	0.25	4.02	0.24	1.16	0.08	9.18	61125.67	41.00	10/13/2003
2387	D-2177-02	WL-194	883.70	890.00	766.30	123.70	3.58	14.33	75.08	0.00	3.58	0.18	28301.29	40.00	1/6/05
2388	D-1180-08(6a)	W-319	1153.70	1262.00	786.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	2/28/12
2389	D-0425-05	W-116.00	1110.00	1150.00	740.64	409.36	1.33	2.24	0.99	0.84	0.08	14.00	61125.67	41.00	8/16/2004
2390	D-0426-04	WL-13	1158.00	1190.00	797.65	392.35	3.00	152.94	213.01	6.30	5.73	0.00	35708.87	39.00	5/21/90
2391	D-0360	DW-430	1250.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	39.40	111048.55	41.00	4/13/98
2392	D-1019	WL-18	974.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	8/10/11
2393	D-0360	W-414	1231.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	130.36	111048.55	40.50	10/16/14
2394	D-0425-05	DW-60.02	1280.00	1285.00	617.05	667.95	4.65	4.23	1.67	0.88	0.14	9.18	61125.67	41.00	12/30/2003
2395	D-0360	W21-173.01	1207.00	1220.00	941.00	279.00	6.90	77.16	24.69	145.59	12.54	88.63	111048.55	40.50	6/25/08
2396	D-0425-01	W-11	970.00	976.00	689.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	11/12/1998
2397	D-0424	8-WL-52	1029.00	1037.00	786.40	250.60	3.60	111.09	3.31	5.01	3.60	8.05	29225.93	39.00	8/10/11
2398	D-0360	DW21-190.00	1236.20	1248.00	945.97	302.03	5.68	178.44	31.29	74.71	12.42	90.29	111048.55	40.50	8/22/08
2399	D-0360	WL-736	1117.00	1131.00	797.66	333.34	4.90	243.57	13.34	48.14	14.88	138.61	111048.55	41.00	12/22/16
2400	D-0354	South Mains Shaft	456.88	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	9/10/18
2401	D-2187-01	W-2	1218.00	1260.00	821.33	438.67	2.92	228.00	205.50	3.00	4.09	0.00	14151.11	37.50	4/16/02
2402	D-1180-01(6a)	W-23	1149.00	1200.00	757.25	442.75	3.16	325.00	117.00	0.00	7.91	0.36	10262.20	37.75	6/20/01
2403	D-0355-04	MC-13-501 (DW)	635.00	650.00	311.26	338.74	4.25	231.59	91.00	11.59	5.83	40.98	9430.98	41.10	4/17/96
2404	D-0360	W-365	1183.00	1240.00	1096.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	2/23/96
2405	D-2177-01	GMW-04-2D	869.33	875.63	530.47	345.16	3.54	118.44	205.60	0.58	9.37	1.24	28301.29	40.00	4/24/07
2406	D-0425-01	WL-98	1244.00	1262.00	951.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	1/30/1999
2407	D-0360	W-229A	1272.00	1305.00	742.40	562.60	4.58	351.36	15.02	176.44	12.24	7.80	111048.55	40.50	4/26/91
2408	D-0425-01	WL-43	1181.00	1241.00	1162.42	78.58	6.76	0.35	0.02	0.39	0.11	0.00	61125.67	41.00	9/28/1998
2409	D-0425-01	W-125	1192.00	1192.00	578.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	12/14/1998
2410	D-0360	WL231.362.00	1116.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	133.14	111048.55	41.00	6/3/15
2411	D-0360	W-734	1188.00	1205.00	871.66	333.34	4.90	243.57	13.34	48.14	14.88	64.61	111048.55	40.50	9/30/03
2412	D-0360	W-415	1103.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	134.61	111048.55	40.50	8/24/15
2413	D-0360	WL-729	1126.00	1160.00	885.70	274.30	7.64	160.72	7.90	89.41	14.94	67.27	111048.55	40.50	2/17/04
2414	D-2317-1	WL-8	562.00	730.00	504.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	4/24/07

2415	D-0360	W-368	1120.00	1185.00	1041.68	143.32	3.00	15.48	0.00	96.63	9.60	29.98	111048.55	40.00	8/19/96
2416	D-0360	WL-338	881.00	890.00	761.70	128.30	5.87	17.73	0.00	82.11	9.03	28.69	111048.55	40.00	4/22/96
2417	D-0360	W-452	1148.00	1170.00	928.60	241.40	2.31	140.36	34.51	73.45	10.11	55.12	111048.55	40.50	7/18/01
2418	D-0360	W501.077.00	1118.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	136.88	111048.55	41.00	3/1/16
2419	D-2177-02	W-193	858.70	865.00	733.68	131.32	1.83	28.32	79.83	0.00	1.83	0.12	28301.29	40.00	11/1/04
2420	D-0360	W501.077.00	1100.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	138.51	111048.55	41.00	8/1/16
2421	D-0354	South Mains Shaft	456.58	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	8/31/17
2422	D-0426	W-19B	1044.00	1164.00	855.25	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	8/23/12
2423	D-0425-01	DW-80	1216.00	1241.00	595.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	12/17/1998
2424	D-0425-01	WL-9	961.00	983.00	696.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	10/6/1998
2425	D-0425-05	W-114.00	1072.00	1090.00	680.64	409.36	1.33	2.24	0.99	0.84	0.08	12.20	61125.67	41.00	4/20/2004
2426	D-1019	WL-18	974.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	12/21/12
2427	D-0425-03	WL-180	1246.00	1260.00	678.75	581.25	1.56	2.44	1.15	1.38	0.12	0.49	61125.67	41.00	10/9/2001
2428	D-0360	W-312A	1255.00	1315.00	764.30	550.70	7.10	325.95	44.97	162.21	15.14	21.82	111048.55	40.50	12/5/94
2429	D-0425-01	DW-60	1143.00	1161.00	830.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	11/27/1998
2430	D-0360	W501.343000	1104.50	1175.00	743.50	431.50	6.60	236.12	77.80	118.08	12.12	119.20	111048.55	41.00	11/14/12
2431	D-0360	DW-376	1246.00	1250.00	778.21	471.79	5.29	321.05	61.70	78.55	18.20	32.60	111048.55	40.00	2/20/97
2432	D-2317-4	WL-154	537.00	602.00	376.30	225.70	4.00	156.00	60.00	0.00	4.00	0.02	2061.00	41.00	1/14/09
2433	D-0360	WL231.362.00	1106.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	138.61	111048.55	41.00	10/30/16
2434	D-0360	W-394	1232.00	1259.00	825.91	433.09	5.12	321.97	32.71	69.59	16.17	33.83	111048.55	40.00	4/10/97
2435	D-0360	W-166	1037.00	1106.00	812.10	293.90	7.12	127.60	10.23	132.06	16.83	6.09	111048.55	40.50	11/2/90
2436	D-0425-05	W-29.00	1310.00	1340.00	670.60	669.40	5.90	4.38	0.61	1.65	0.21	10.97	61125.67	41.00	2/26/2004
2437	D-0360	DW-324	998.00	1000.00	790.32	209.68	4.28	93.70	32.00	105.70	7.82	27.35	111048.55	40.00	1/3/96
2438	D-0360	W-728	1116.00	1140.00	906.87	233.13	7.55	117.80	5.49	98.95	10.71	64.61	111048.55	40.50	9/17/03
2439	D-0360	W-694	1232.00	1265.00	775.29	489.71	11.76	347.06	30.83	115.94	26.19	136.88	111048.55	40.50	2/29/16
2440	D-0425-03	DW-259	1188.00	1190.00	608.75	581.25	1.56	2.44	1.15	1.38	0.12	6.69	61125.67	41.00	6/6/2003
2441	D-0360	W-414	1252.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	126.43	111048.55	40.50	3/13/14
2442	D-0425-05	W-30.00	1294.00	1338.00	670.85	667.15	5.93	4.36	0.71	1.51	0.18	7.86	61125.67	41.00	7/24/2003
2443	D-0360	W-410	1258.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	136.88	111048.55	40.50	3/21/16
2444	D-0425-05	WL-94.00	1195.00	1240.00	576.14	663.86	0.17	4.92	0.76	0.94	0.14	9.18	61125.67	41.00	10/25/2003
2445	D-0360	W501.077.01	1071.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	128.37	111048.55	41.00	6/18/14
2446	D-0360	W-165	1108.00	1140.00	580.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	3/13/91
2447	D-1180-03(7)	WL-2	965.00	1000.00	639.17	360.83	6.00	400.00	3.00	0.00	9.33	0.00	10262.20	37.75	1/14/06
2448	D-0425-01	W-76	1149.00	1193.00	547.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	2/26/1999
2449	D-1180-08(7)	W-290	1156.00	1192.00	748.98	443.02	2.14	371.38	94.23	3.66	7.07	24.55	10262.20	37.75	9/19/13
2450	D-0360	WL-301	1249.00	1303.00	760.60	542.40	5.04	412.92	16.15	92.07	13.88	16.98	111048.55	40.50	11/18/93
2451	D-1180-03(7)	WL-2	965.00	1000.00	639.17	360.83	6.00	400.00	3.00	0.00	9.33	0.00	10262.20	37.75	3/30/06
2452	D-2187	W-370	1212.50	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	1.35	14151.11	37.50	3/3/14
2453	D-0360	W-346	919.00	930.00	786.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	12/15/95
2454	D-0360	W-410	1254.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	2/13/97
2455	D-0360	W-428	1205.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	130.36	111048.55	40.00	10/2/14
2456	D-2317	DW-602	635.09	640.00	399.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	12/7/17
2457	D-1180-08(6a)	W-308	1135.60	1224.00	748.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	2/22/14
2458	D-0360	WL336.373.00	1076.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	136.88	111048.55	41.00	1/5/16
2459	D-0360	W-415	1109.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	131.89	111048.55	40.50	2/20/15
2460	D-0425-05	WL-94.00	1197.00	1240.00	576.14	663.86	0.17	4.92	0.76	0.94	0.14	9.18	61125.67	41.00	12/23/2003
2461	D-0360	W-414	1267.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	3/19/97
2462	D-0360	W21.452.00	1155.20	1190.00	1033.50	156.50	7.10	92.72	0.00	41.26	9.32	90.29	111048.55	40.50	8/19/08
2463	D-0360	WL-116	1246.00	1260.00	700.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	10/23/90
2464	D-0360	W-358	1198.00	1225.00	1081.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	3/18/96
2465	D-0425-05	DW-34.00	1328.00	1340.00	670.60	669.40	5.90	4.38	0.61	1.65	0.21	9.18	61125.67	41.00	11/13/2003
2466	D-0354	South Mains Shaft	451.11	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	3/8/17
2467	D-0426	W-16C	1038.86	1218.63	909.88	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	5/14/14
2468	D-2177-03	WL-168.00	1075.70	1082.00	746.75	335.25	3.50	264.61	44.82	7.15	9.95	2.42	28301.29	40.00	9/16/09
2469	D-0426	W-19B	1116.02	1215.02	906.27	308.75	4.00	230.75	38.14	0.00	8.10	11.50	35708.87	39.00	8/15/05
2470	D-0425-05	W-116.00	1113.00	1150.00	740.64	409.36	1.33	2.24	0.99	0.84	0.08	12.20	61125.67	41.00	5/24/2004
2471	D-2177-03	W-6K	1048.70	1055.00	729.04	325.96	3.33	225.55	79.76	0.73	9.95	2.11	28301.29	40.00	3/16/09
2472	D-0360	W-153	1242.00	1269.00	709.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	12/27/90
2473	D-0360	W-379	1244.00	1323.00	889.91	433.09	5.12	321.97	32.71	69.59	16.17	33.83	111048.55	40.00	5/21/97
2474	D-0426-08	W-205	1003.00	1025.00	417.00	608.00	8.00	552.90	90.98	1.02	14.64	5.37	35708.87	39.00	12/21/01
2475	D-0360	WL-674	1099.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	134.61	111048.55	40.00	9/16/15
2476	D-1180-01(6a)	W-30	1131.00	1225.00	775.00	450.00	3.00	311.00	132.00	0.00	8.00	3.32	10262.20	37.75	9/16/02

2477	D-1180-00(6a)	W-9	1202.00	1265.00	776.00	489.00	4.00	388.99	99.00	0.00	8.02	0.00	10262.20	37.75	5/20/96
2478	D-1180-08(7)	W-100	1092.40	1180.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	29.41	10262.20	37.75	3/25/15
2479	D-0360	W-229A	1262.00	1305.00	742.40	562.60	4.58	351.36	15.02	176.44	12.24	7.80	111048.55	40.50	5/17/91
2480	D-0426-08	W-7	1029.00	1035.00	519.25	515.75	5.00	410.68	139.19	7.58	11.58	5.37	35708.87	39.00	12/12/01
2481	D-1180-08(7)	W-319	1134.20	1200.00	756.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	8/31/12
2482	D-1180-08(7)	W-358	1181.60	1262.00	818.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	8/31/12
2483	D-0360	W-415	1113.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	2/17/17
2484	D-0354	Rowing Crew Shaft	457.48	637.76	248.21	389.55	4.17	77.51	258.71	3.04	5.75	39.63	20418.32	41.20	7/16/18
2485	D-0425-01	DW-113	1263.00	1270.00	624.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	3/23/1999
2486	D-0360	W-415	1112.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	126.43	111048.55	40.50	2/13/14
2487	D-0360	W-415	1115.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	2/13/97
2488	D-0425-05	DW-60.02	1279.00	1285.00	617.05	667.95	4.65	4.23	1.67	0.88	0.14	9.18	61125.67	41.00	10/7/2003
2489	D-0425-01	WL-2	1208.00	1236.00	680.01	555.99	2.06	3.55	0.24	1.44	0.20	0.00	61125.67	41.00	8/29/1998
2490	D-0360	W-22.007.00	1215.00	1240.00	750.29	489.71	11.76	347.06	30.83	115.94	26.19	138.61	111048.55	41.00	2/17/17
2491	D-0360	DW-330	956.00	960.00	750.32	209.68	4.28	93.70	32.00	105.70	7.82	27.35	111048.55	40.00	2/11/96
2492	D-0425-05	DW-112.02	1130.00	1142.00	732.64	409.36	1.33	2.24	0.99	0.84	0.08	14.00	61125.67	41.00	8/16/2004
2493	D-2177-03	W-23.00	1084.70	1091.00	755.75	335.25	3.50	264.61	44.82	7.15	9.95	2.11	28301.29	40.00	3/2/09
2494	D2317	W3	613.00	621.00	380.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/22/16
2495	D-1180-08(6a)	W-343	1192.60	1285.00	809.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	4/16/12
2496	D-2177-03	W-17.00	873.70	880.00	775.50	104.50	3.50	68.50	6.00	0.00	5.50	2.11	28301.29	40.00	3/2/09
2497	D-0360	W-415	1109.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	129.65	111048.55	40.50	8/14/14
2498	D-0360	W-292	1248.00	1310.00	747.40	562.60	4.58	351.36	15.02	176.44	12.24	16.98	111048.55	40.50	12/14/93
2499	D-0426	W-16A	1174.00	1220.00	911.25	308.75	4.00	230.75	38.14	0.00	8.10	11.50	35708.87	39.00	8/15/05
2500	D-0360	DW-331	928.00	935.00	791.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	1/3/96
2501	D-2177-03	WL-23K	1116.70	1123.00	797.04	325.96	3.33	225.55	79.76	0.73	9.95	2.11	28301.29	40.00	3/4/09
2502	D-0360	W-716	1310.00	1320.00	807.67	512.33	7.27	337.40	56.38	101.13	13.43	65.85	111048.55	40.50	10/3/03
2503	D-0360	DW502-338.08	1221.00	1230.00	740.29	489.71	11.76	347.06	30.83	115.94	26.19	93.68	111048.55	41.00	3/9/09
2504	D-0360	WL-674	1099.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	133.14	111048.55	40.00	4/7/15
2505	D2233	W-13	749.00	778.00	621.87	156.13	3.41	71.09	74.83	1.33	3.51	6.10	14067.46	40.00	2/8/17
2506	D-2091-4	W-626	949.00	970.00	789.00	181.00	3.00	74.39	99.17	13.43	0.00	1.86	11181.57	37.50	6/22/10
2507	D2233	W-13	749.00	778.00	621.87	156.13	3.41	71.09	74.83	1.33	3.51	6.10	14067.46	40.00	5/27/15
2508	D-2187	W-370	1213.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.29	14151.11	37.50	5/10/10
2509	D-0360	W-428	1200.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	133.14	111048.55	40.00	6/17/15
2510	D-0360	W501.077.01	1071.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	137.99	111048.55	41.00	6/7/16
2511	D-0360	DW-376	1245.00	1250.00	778.21	471.79	5.29	321.05	61.70	78.55	18.20	33.83	111048.55	40.00	5/15/97
2512	D-1180-08(6a)	W-100	1049.60	1180.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	15.87	10262.20	37.75	11/24/14
2513	D-0426	W-18A	1133.38	1166.30	692.60	473.70	3.00	246.94	55.98	2.32	7.73	12.64	35708.87	39.00	10/22/15
2514	D-0360	DW-354	916.00	935.00	791.68	143.32	3.00	15.48	0.00	96.63	9.60	28.69	111048.55	40.00	4/23/96
2515	D-0425-03	DW-425	1286.00	1300.00	720.06	579.94	0.25	4.02	0.24	1.16	0.08	0.74	61125.67	41.00	3/22/2002
2516	D-1180-08(6a)	W-358	1184.60	1262.00	786.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/28/12
2517	D-0360	W-316	1161.00	1203.00	684.53	518.47	7.08	373.81	9.26	93.89	21.49	16.98	111048.55	40.50	12/15/93
2518	D-1180-02(7)	WL-200	819.00	830.00	354.71	475.29	3.21	378.08	96.38	3.82	7.20	0.00	10262.20	37.75	8/19/05
2519	D-0360	W-114	1266.00	1306.00	746.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	12/27/90
2520	D2317	M2B	646.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	6/15/16
2521	D-0360	W501.077.01	1074.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	129.65	111048.55	41.00	8/14/14
2522	D-2187	W-303	1179.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.60	14151.11	37.50	3/9/15
2523	D-1180-08(7)	W-361	1186.70	1255.00	811.98	443.02	2.14	371.38	94.23	3.66	7.07	19.89	10262.20	37.75	3/6/12
2524	D-0360	W-410	1258.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	3/19/97
2525	D-0425-01	W-11	970.00	976.00	689.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	12/9/1998
2526	D2317	M1B	685.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	11/26/16
2527	D-0360	W-413	1243.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	128.37	111048.55	40.50	6/13/14
2528	D-0425-05	WL-33.00	1304.00	1355.00	685.60	669.40	5.90	4.38	0.61	1.65	0.21	9.18	61125.67	41.00	10/13/2003
2529	D-0360	W-294	1082.00	1125.00	606.53	518.47	7.08	373.81	9.26	93.89	21.49	18.09	111048.55	40.50	2/16/94
2530	D-0360	W-413	1247.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	3/20/17
2531	D-0425-05	WL-90.00	1255.00	1305.00	641.14	663.86	0.17	4.92	0.76	0.94	0.14	9.18	61125.67	41.00	12/16/2003
2532	D-0360	W-415	1109.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	131.89	111048.55	40.50	1/28/15
2533	D-1180-08(7)	W-300	1117.60	1168.00	724.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	8/31/12
2534	D-0360	DW-196	1229.00	1240.00	825.84	414.16	6.47	221.29	50.89	100.31	19.91	6.09	111048.55	40.00	12/11/90
2535	D-0360	WL-113	1225.00	1280.00	912.15	367.85	6.20	166.26	55.30	131.78	11.66	41.49	111048.55	40.50	11/18/98
2536	D2317	M1A	648.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/12/14
2537	D-0354	Rowing Crew Shaft	457.76	637.76	248.21	389.55	4.17	77.51	258.71	3.04	5.75	39.63	20418.32	41.20	4/16/18
2538	D-0360	WL336.373.00	1075.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	135.54	111048.55	41.00	10/1/15

2539	D-0354	Roving Crew Shaft	457.79	637.76	248.21	389.55	4.17	77.51	258.71	3.04	5.75	39.63	20418.32	41.20	7/30/18
2540	D-2187	W-8	1114.00	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	1.13	14151.11	37.50	3/29/13
2541	D-0360	W-291	1272.00	1275.00	732.60	542.40	5.04	412.92	16.15	92.07	13.88	16.98	111048.55	40.50	12/14/93
2542	D-0360	WL-349	1110.00	1190.00	878.34	311.66	5.89	203.68	6.59	88.74	15.19	28.69	111048.55	40.00	4/18/96
2543	D-0360	W21-057.00	1223.50	1260.00	956.64	303.36	7.40	175.10	23.60	87.50	17.29	90.29	111048.55	40.50	7/1/08
2544	D-0425-03	W-435A	1182.00	1220.00	687.95	532.05	3.24	3.32	0.65	1.25	0.13	6.69	61125.67	41.00	6/7/2003
2545	D-2177-03	W-427.00	881.70	888.00	763.54	124.46	3.54	36.37	75.17	0.00	4.46	2.27	28301.29	40.00	5/27/09
2546	D-0360	WL336.373.00	1078.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	137.99	111048.55	41.00	5/2/16
2547	D-0355-04	MC-FR1-501 (DW1)	616.00	620.00	282.59	337.41	3.50	230.09	86.17	7.67	4.75	40.98	9430.98	41.10	10/8/96
2548	D-0425-05	WL-90.00	1255.00	1305.00	641.14	663.86	0.17	4.92	0.76	0.94	0.14	9.18	61125.67	41.00	10/24/2003
2549	D-0360	W336.375.00	924.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	131.89	111048.55	41.00	3/9/15
2550	D-0360	W231.356.04	1225.40	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	91.66	111048.55	41.00	10/27/08
2551	D-0425-01	W-63	1110.00	1152.00	547.31	604.69	0.55	4.32	0.50	1.03	0.16	0.00	61125.67	41.00	11/25/1998
2552	D-0425-09	W-147.00	1228.00	1280.00	632.00	648.00	4.20	4.78	0.48	0.78	0.14	33.60	61125.67	41.00	4/5/2007
2553	D-1180-08(6a)	W-353	1203.60	1232.00	756.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/28/13
2554	D-0360	WL-319	1267.00	1325.00	774.30	550.70	7.10	325.95	44.97	162.21	15.14	21.82	111048.55	40.50	12/15/94
2555	D-2177-03	W-144.00	1160.70	1167.00	763.43	403.57	3.88	281.43	99.19	12.66	6.79	2.27	28301.29	40.00	6/2/09
2556	D-0360	DW21-190.00	1238.00	1248.00	945.97	302.03	5.68	178.44	31.29	74.71	12.42	90.29	111048.55	40.50	7/21/08
2557	D-2269 OA	WL-276	698.00	718.00	589.66	128.34	8.98	32.74	99.85	0.00	9.28	0.00	16659.24	40.00	10/13/04
2558	D-2177-05	WL-514.00	918.70	925.00	601.42	323.58	3.50	238.51	62.99	0.84	9.25	2.71	28301.29	40.00	2/24/10
2559	D-0354	Roving Crew Shaft	457.48	637.76	248.21	389.55	4.17	77.51	258.71	3.04	5.75	39.63	20418.32	41.20	6/25/18
2560	D-1180-08(7)	W-102	1135.30	1180.00	724.92	455.08	2.92	390.50	66.00	0.00	6.00	25.10	10262.20	37.75	11/8/13
2561	D-0360	W-722	1332.00	1380.00	823.02	556.98	7.61	404.08	9.37	114.93	14.37	67.27	111048.55	40.50	2/23/04
2562	D2317	M1B	685.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	6/15/16
2563	D-0425-01	DW-47	1194.00	1220.00	688.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	8/25/1998
2564	D-0360	DW-362	993.00	1000.00	856.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	2/5/96
2565	D-0360	DW-387	1241.00	1260.00	972.55	287.45	6.85	195.67	43.79	129.97	13.52	33.83	111048.55	40.00	5/27/97
2566	D-2177-05	DW-513.00	873.70	880.00	556.42	323.58	3.50	238.51	62.99	0.84	9.25	2.42	28301.29	40.00	9/15/09
2567	D-0360	WL21-041.01	1255.60	1300.00	809.84	490.16	5.17	323.67	11.34	108.77	13.68	88.63	111048.55	40.50	6/24/08
2568	D-0360	WL-301	1252.00	1303.00	760.60	542.40	5.04	412.92	16.15	92.07	13.88	18.09	111048.55	40.50	1/26/94
2569	D2317	M2A	646.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	9/3/14
2570	D-0425-01	W-3	1223.00	1246.00	690.01	555.99	2.06	3.55	0.24	1.44	0.20	0.00	61125.67	41.00	12/9/1998
2571	D-2187	W-8	1112.00	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	1.13	14151.11	37.50	2/5/13
2572	D2317	W3	613.00	621.00	380.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/5/14
2573	D-2317-OA	WL-5	695.00	730.00	504.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	4/30/06
2574	D-1180-08(6a)	W-299	1121.60	1168.00	692.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/28/13
2575	D-2187	W-303	1178.50	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.40	14151.11	37.50	8/13/10
2576	D-2091-OA	W-202	1220.00	1270.00	986.00	284.00	3.00	104.66	137.75	47.42	0.00	0.00	11181.57	37.50	10/14/96
2577	D-0360	W-327	902.00	910.00	766.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	11/17/95
2578	D-0360	W-415	1102.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	138.51	111048.55	40.50	9/26/16
2579	D-0360	DW-356	1092.00	1100.00	956.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	11/28/95
2580	D-0426	W-16A	1177.79	1220.00	911.25	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	8/29/14
2581	D-0360	W-428	1207.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	136.88	111048.55	40.00	2/3/16
2582	D-0424	S-WL-5	1052.00	1132.00	659.50	472.50	3.00	434.47	129.19	2.52	13.75	8.05	29225.93	39.50	7/11/11
2583	D-1180-01(6a)	W-6	1175.00	1210.00	767.25	442.75	3.16	325.00	117.00	0.00	7.91	0.00	10262.20	37.75	10/2/96
2584	D-0360	W-333	904.00	908.00	764.68	143.32	3.00	15.48	0.00	96.63	9.60	26.12	111048.55	40.00	12/22/95
2585	D-0360	DW-406	1298.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	128.37	111048.55	40.50	5/8/14
2586	D-0360	WL-348	1115.00	1210.00	898.34	311.66	5.89	203.68	6.59	88.74	15.19	27.35	111048.55	40.00	1/26/96
2587	D2317	M2B	648.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	8/27/13
2588	D-2187	WL-3	1208.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	0.98	14151.11	37.50	8/28/12
2589	D-0360	W501.077.00	1182.50	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	83.67	111048.55	41.00	7/23/07
2590	D-0354	South Mains Shaft	457.08	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	5/22/17
2591	D-0360	W231.356.04	1227.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	128.37	111048.55	41.00	5/15/14
2592	D-1180-07(6a)	W-100	1085.00	1180.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	14.31	10262.20	37.75	1/14/06
2593	D-1180-08(7)	W-363	1152.40	1195.00	751.98	443.02	2.14	371.38	94.23	3.66	7.07	20.66	10262.20	37.75	4/4/12
2594	D-0354	Roving Crew Shaft	457.72	637.76	248.21	389.55	4.17	77.51	258.71	3.04	5.75	39.63	20418.32	41.20	7/23/18
2595	D-0355-04	MC-FR30-502 (DW)	792.00	810.00	596.57	213.43	5.00	141.59	50.33	6.67	6.42	40.98	9430.98	41.10	4/26/96
2596	D-0360	WL231.362.00	1115.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	129.65	111048.55	41.00	9/3/14
2597	D-0360	W336.375.00	923.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	131.89	111048.55	41.00	1/13/15
2598	D-0426-04	DW-14	1180.00	1200.00	807.65	392.35	3.00	152.94	213.01	6.30	5.73	0.00	35708.87	39.00	5/21/90
2599	D-0360	W-707	1218.00	1235.00	1001.87	233.13	7.55	117.80	5.49	98.95	10.71	67.27	111048.55	40.50	2/17/04
2600	D-0360	W-666	1042.00	1065.00	801.65	263.35	7.00	108.55	53.31	84.24	5.91	129.65	111048.55	40.50	9/3/14

2601	D-0360	W336.375.00	923.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	131.89	111048.55	41.00	2/9/15
2602	D-0425-10	W-438	957.00	967.00	656.88	310.12	3.40	1.38	0.00	1.61	0.13	39.31	61125.67	41.00	2/18/2008
2603	D-0360	WL-674	1100.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	126.43	111048.55	40.00	1/15/14
2604	D-2177-02	W-256	876.70	883.00	759.30	123.70	3.58	14.33	75.08	0.00	3.58	1.61	28301.29	40.00	1/11/08
2605	D-0425-01	W-119	1224.00	1260.00	614.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	10/17/1998
2606	D-2177-03	W-127.00	1133.70	1140.00	945.50	194.50	4.21	103.26	69.34	0.00	5.39	2.11	28301.29	40.00	2/25/09
2607	D-1180-08(7)	WL-200	816.40	830.00	354.71	475.29	3.21	378.08	96.38	3.82	7.20	27.76	10262.20	37.75	8/25/14
2608	D-0360	W-22.007.00	1216.00	1240.00	750.29	489.71	11.76	347.06	30.83	115.94	26.19	138.61	111048.55	41.00	1/23/17
2609	D2233	W-13	749.00	778.00	621.87	156.13	3.41	71.09	74.83	1.33	3.51	6.10	14067.46	40.00	11/15/16
2610	D-1180-08(6a)	W-312	1188.60	1260.00	784.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/22/13
2611	D-2177-05	W-515.00	918.70	925.00	601.42	323.58	3.50	238.51	62.99	0.84	9.25	2.71	28301.29	40.00	2/24/10
2612	D-1180-08(6a)	W-312A	1183.30	1275.00	799.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/23/13
2613	D0424-2	WL-11	1064.00	1220.00	746.30	473.70	3.00	246.94	55.98	2.32	7.73	0.00	29225.93	38.50	9/17/92
2614	D-0360	W-414	1253.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	35.29	111048.55	40.50	7/20/97
2615	D-0360	W-706	1239.00	1290.00	809.93	480.07	7.29	317.33	35.19	104.86	16.00	65.85	111048.55	40.50	10/8/03
2616	D2317	M2B	647.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	12/2/14
2617	D-0360	W-683	1020.00	1030.00	858.37	171.63	5.20	65.90	1.30	100.36	11.56	65.85	111048.55	41.00	10/13/03
2618	D-0360	W336.375.00	924.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	135.54	111048.55	41.00	11/5/15
2619	D-0355-04	MS-12-509 (DW)	615.50	620.00	397.90	222.10	4.00	150.40	30.20	7.30	4.00	44.09	9430.98	41.10	8/8/97
2620	D-0425-01	W-75	1124.00	1149.00	544.31	604.69	0.55	4.32	0.50	1.03	0.16	0.00	61125.67	41.00	12/17/1998
2621	D-2177-02	W-200	903.70	910.00	775.83	134.17	3.54	35.93	63.32	2.00	4.75	0.35	28301.29	40.00	9/20/05
2622	D-0360	W-401	1276.00	1318.00	990.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	4/23/97
2623	D-1180-08(6a)	W-102	1133.30	1180.00	724.92	455.08	2.92	390.50	66.00	0.00	6.00	15.87	10262.20	37.75	12/11/14
2624	D2317	M1A	646.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	11/26/16
2625	D-0360	W-299	1249.00	1324.00	781.60	542.40	5.04	412.92	16.15	92.07	13.88	16.98	111048.55	40.50	12/14/93
2626	D-0360	DW-118	1287.00	1305.00	745.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	11/26/90
2627	D-0360	W-396	1267.00	1305.00	1013.50	291.50	6.25	177.75	23.01	71.99	15.15	33.83	111048.55	40.50	5/22/97
2628	D-2177-03	W-433.00	881.70	888.00	795.85	92.15	3.44	10.06	34.49	0.00	3.44	2.11	28301.29	40.00	1/20/09
2629	D-0360	W-125	1281.00	1299.00	931.15	367.85	6.20	166.26	55.30	131.78	11.66	6.09	111048.55	40.50	10/25/90
2630	D-0425-01	W-17	1194.00	1240.00	708.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	12/14/1998
2631	D-0425-01	WL-2	1207.00	1236.00	680.01	555.99	2.06	3.55	0.24	1.44	0.20	0.00	61125.67	41.00	11/12/1998
2632	D-0360	W-417	1106.00	1165.00	837.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	2/24/97
2633	D-0360	W-294	1083.00	1125.00	606.53	518.47	7.08	373.81	9.26	93.89	21.49	16.98	111048.55	40.50	12/15/93
2634	D-0360	W-438	1094.00	1145.00	827.55	317.45	7.29	204.12	2.04	78.09	10.82	42.66	111048.55	40.50	1/24/99
2635	D-0425-05	W-116.00	1111.00	1150.00	740.64	409.36	1.33	2.24	0.99	0.84	0.08	12.20	61125.67	41.00	4/21/2004
2636	D-0360	W336.375.00	927.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	114.33	111048.55	41.00	1/27/12
2637	D-0360	W-22.007.00	1214.50	1250.00	760.29	489.71	11.76	347.06	30.83	115.94	26.19	91.66	111048.55	41.00	10/29/08
2638	D-1180-08(7)	W-251	1153.50	1202.00	807.00	395.00	2.75	325.00	117.00	0.00	7.91	24.55	10262.20	37.75	7/29/13
2639	D-0360	W-291	1272.00	1275.00	732.60	542.40	5.04	412.92	16.15	92.07	13.88	18.09	111048.55	40.50	2/16/94
2640	D-2177-03	WL-23K	1116.70	1123.00	797.04	325.96	3.33	225.55	79.76	0.73	9.95	2.42	28301.29	40.00	9/2/09
2641	D-0360	W231.356.04	1225.30	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	93.68	111048.55	41.00	1/22/09
2642	D-0360	W-953	1135.00	1210.00	898.34	311.66	5.89	203.68	6.59	88.74	15.19	27.35	111048.55	40.00	3/27/96
2643	D-0360	W336.375.00	927.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	138.51	111048.55	41.00	8/1/16
2644	D-0360	W21-080.00	1029.30	1045.00	727.55	317.45	7.29	204.12	2.04	78.09	10.82	90.29	111048.55	40.00	8/18/08
2645	D-0360	DW-22.008.05	1264.00	1285.00	974.87	310.13	6.50	159.17	21.87	104.59	13.71	93.68	111048.55	41.00	1/22/09
2646	D-0425-01	WL-21	1239.00	1287.00	639.55	647.45	0.78	4.87	0.46	0.91	0.16	0.00	61125.67	41.00	12/9/1998
2647	D-0360	DW-161	1273.00	1290.00	739.30	550.70	7.10	325.95	44.97	162.21	15.14	6.09	111048.55	40.00	12/19/90
2648	D-0360	W-363	1001.00	1095.00	885.32	209.68	4.28	93.70	32.00	105.70	7.82	27.35	111048.55	40.00	3/14/96
2649	D-1180-08(7)	W-100	1049.60	1190.00	764.68	415.32	3.29	403.09	5.41	8.41	4.38	28.80	10262.20	37.75	11/24/14
2650	D-0360	WL-338	881.00	890.00	761.70	128.30	5.87	17.73	0.00	82.11	9.03	26.12	111048.55	40.00	12/26/95
2651	D-0360	DW-393	1313.00	1330.00	896.91	433.09	5.12	321.97	32.71	69.59	16.17	33.83	111048.55	40.00	5/21/97
2652	D-1180-08(6a)	W-312	1183.60	1275.00	799.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	3/29/12
2653	D-2177-03	WL-20K	1083.70	1090.00	793.00	297.00	3.17	239.44	35.92	3.23	7.57	0.35	28301.29	40.00	7/5/05
2654	D-0425-05	W-112.01	1106.00	1142.00	732.64	409.36	1.33	2.24	0.99	0.84	0.08	12.20	61125.67	41.00	5/24/2004
2655	D-0360	WL-736	1130.87	1131.00	797.66	333.34	4.90	243.57	13.34	48.14	14.88	137.99	111048.55	41.00	6/13/16
2656	D-0425-05	DW-34.00	1324.00	1340.00	670.60	669.40	5.90	4.38	0.61	1.65	0.21	10.97	61125.67	41.00	3/5/2004
2657	D-0360	WL231.362.00	1122.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	131.89	111048.55	41.00	1/13/15
2658	D-0360	W-417	1106.00	1165.00	837.47	327.53	4.87	218.18	24.31	55.90	14.42	33.83	111048.55	40.50	5/22/97
2659	D-0426	B-7/M6	1068.10	1075.00	601.30	473.70	3.00	246.94	55.98	2.32	7.73	12.64	35708.87	39.00	10/12/15
2660	D-0424	7-WL-3	1226.00	1280.00	809.40	470.60	4.40	375.29	91.88	7.02	4.39	7.32	29225.93	38.50	3/31/11
2661	D-1180-08(6a)	W-299	1118.40	1168.00	692.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	3/20/12
2662	D-2177-05	WL-514.00	918.70	925.00	601.42	323.58	3.50	238.51	62.99	0.84	9.25	2.71	28301.29	40.00	1/4/10

2663	D-2177-03	W-11.00	920.70	927.00	943.91	83.09	3.92	49.17	3.50	0.00	3.92	2.11	28301.29	40.00	3/3/09
2664	D-0360	W-709	1010.00	1085.00	913.37	171.63	5.20	65.90	1.30	100.36	11.56	64.61	111048.55	41.00	7/7/03
2665	D-0360	W-423	1122.00	1200.00	1056.68	143.32	3.00	15.48	0.00	96.63	9.60	39.40	111048.55	40.00	5/19/98
2666	D-1180-08(7)	W-303	1164.20	1200.00	756.98	443.02	2.14	371.38	94.23	3.66	7.07	19.89	10262.20	37.75	3/29/12
2667	D-0360	W-114	1265.00	1306.00	746.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	2/25/91
2668	D-2177-03	WL-442.00	892.70	899.00	806.85	92.15	3.44	10.06	34.49	0.00	3.44	2.11	28301.29	40.00	1/20/09
2669	D-0360	W-415	1109.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	128.37	111048.55	40.50	6/13/14
2670	D-0425-01	WL43	1182.00	1241.00	1162.42	78.58	6.76	0.35	0.02	0.39	0.11	0.00	61125.67	41.00	12/14/1998
2671	D-0360	DW-178	1208.00	1225.00	810.84	414.16	6.47	221.29	50.89	100.31	19.91	6.99	111048.55	40.00	3/8/91
2672	D-2187	W-303	1174.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.98	14151.11	37.50	8/22/12
2673	D-2177-06	WL-602	954.70	961.00	831.59	129.41	3.29	84.13	9.00	0.58	5.29	4.33	28301.29	40.00	11/27/12
2674	D-2317-1	WL-601	640.60	648.00	422.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	4/24/08
2675	D-2187-02	WL-318	1198.00	1215.00	817.20	397.80	3.00	350.00	48.00	0.00	6.33	0.00	14151.11	37.50	10/31/06
2676	D-2187	WL-3	1222.00	1260.00	862.20	397.80	3.00	350.00	48.00	0.00	6.33	1.04	14151.11	37.50	11/25/12
2677	D-0360	W-353	1138.00	1210.00	898.34	311.66	5.89	203.68	6.59	88.74	15.19	28.69	111048.55	40.00	4/24/96
2678	D-0360	W-291	1273.00	1275.00	732.60	542.40	5.04	412.92	16.15	92.07	13.88	16.98	111048.55	40.50	11/16/93
2679	D-0360	W-226	1059.00	1080.00	768.34	311.66	5.89	203.68	6.59	88.74	15.19	6.09	111048.55	40.00	11/20/90
2680	D-2187	W-370	1213.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.24	14151.11	37.50	2/19/10
2681	D-1180-08(6a)	W-354	1194.60	1232.00	756.71	475.29	3.21	378.08	96.38	3.82	7.07	15.87	10262.20	37.75	5/28/13
2682	D-2177-03	W-36.00	863.70	870.00	786.91	83.09	3.92	49.17	3.50	0.00	3.92	2.11	28301.29	40.00	2/24/09
2683	D-0425-01	W-22	1027.00	1060.00	773.70	286.30	5.30	1.65	0.11	1.08	0.10	0.00	61125.67	41.00	10/6/1998
2684	D-2187	W-303	1174.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.42	14151.11	37.50	4/21/14
2685	D-0360	WL-674	1092.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	131.89	111048.55	40.00	1/12/15
2686	D-0360	W-333	904.00	908.00	764.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	3/25/96
2687	D-2177-03	WL-53.00	1145.70	1152.00	822.78	329.22	3.75	285.20	39.93	1.49	9.38	2.11	28301.29	40.00	3/6/09
2688	D-1180-08(7)	W-277	1112.60	1205.00	761.98	443.02	2.14	371.38	94.23	3.66	7.07	23.57	10262.20	37.75	5/23/13
2689	D-0360	W-415	1102.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	11/21/16
2690	D-0360	WL231.362.00	1106.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	138.51	111048.55	41.00	8/1/16
2691	D-1019	W-201	1224.00	1260.00	768.83	491.17	3.00	290.97	144.46	53.56	4.99	3.84	11184.92	37.50	1/20/10
2692	D-0360	W-165	1110.00	1140.00	580.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	10/31/90
2693	D-2177-03	W-127.00	1133.70	1140.00	945.50	194.50	4.21	103.26	69.34	0.00	5.39	2.42	28301.29	40.00	9/4/09
2694	D-0360	DW-420	1222.00	1241.00	949.50	291.50	6.25	177.75	23.01	71.99	15.15	33.83	111048.55	40.50	6/27/97
2695	D-0425-01	WL-78	1220.00	1260.00	614.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	10/6/1998
2696	D-0360	W-694	1228.00	1265.00	775.29	489.71	11.76	347.06	30.83	115.94	26.19	138.51	111048.55	40.50	8/22/16
2697	D-0360	WL336.373.00	1080.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	131.89	111048.55	41.00	2/3/15
2698	D-0360	W-671	1101.00	1183.00	904.48	278.52	7.88	130.58	24.35	89.21	10.00	126.43	111048.55	40.50	2/18/14
2699	D-0360	DW-196	1234.00	1240.00	825.84	414.16	6.47	221.29	50.89	100.31	19.91	6.99	111048.55	40.00	1/16/91
2700	D-0360	W-157	1259.00	1275.00	760.30	514.70	7.57	350.60	23.74	78.65	19.66	6.09	111048.55	40.50	10/28/90
2701	D-0425-03	WL-180	1246.00	1260.00	678.75	581.25	1.56	2.44	1.15	1.38	0.12	0.74	61125.67	41.00	2/27/2002
2702	D-0425-01	W-125	1192.00	1192.00	578.25	613.75	6.85	4.04	0.67	1.26	0.15	0.00	61125.67	41.00	11/25/1998
2703	D-0360	W-396	1268.00	1305.00	1013.50	291.50	6.25	177.75	23.01	71.99	15.15	32.60	111048.55	40.50	2/27/97
2704	D-0360	W501.077.01	1153.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	82.28	111048.55	41.00	4/30/07
2705	D-0360	WL-674	1102.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	137.99	111048.55	40.00	5/2/16
2706	D-0355-04	MC-FR36-503 (DW)	706.00	710.00	496.57	213.43	5.00	141.59	50.33	6.67	6.42	40.98	9430.98	41.10	10/9/96
2707	D-0360	W-341	892.00	920.00	791.70	128.30	5.87	17.73	0.00	82.11	9.03	26.12	111048.55	40.00	11/21/95
2708	D-1180-08(7)	W-360	1168.40	1262.00	818.98	443.02	2.14	371.38	94.23	3.66	7.07	21.38	10262.20	37.75	9/7/12
2709	D-0360	W-350	1140.00	1218.00	1074.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	1/23/96
2710	D-0360	W-225	1141.00	1148.00	836.34	311.66	5.89	203.68	6.59	88.74	15.19	6.99	111048.55	40.00	2/19/91
2711	D-0360	DW-457	1049.00	1070.00	782.55	287.45	6.85	195.67	43.79	129.97	13.52	45.07	111048.55	40.00	9/7/99
2712	D-2091-4	W-626	950.00	970.00	789.00	181.00	3.00	74.39	99.17	13.43	0.00	2.12	11181.57	37.50	10/18/11
2713	D-0360	DW-331	926.00	935.00	791.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	2/5/96
2714	D-0360	W21-095.00	1035.00	1100.00	782.55	317.45	7.29	204.12	2.04	78.09	10.82	88.63	111048.55	40.00	5/2/08
2715	D-0424	8-WL-26	1013.00	1025.00	774.40	250.60	3.60	111.09	3.31	5.01	3.60	8.05	29225.93	39.00	7/19/11
2716	D-0360	W336.375.00	928.00	1000.00	736.95	263.05	7.55	115.24	35.79	109.05	13.01	136.88	111048.55	41.00	3/3/16
2717	D-0355-04	MS-12-509 (DW)	615.50	620.00	397.90	222.10	4.00	150.40	30.20	7.30	4.00	40.98	9430.98	41.10	10/20/96
2718	D-0425-01	W-91	1188.00	1241.00	930.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	12/21/1998
2719	D-0360	W501.077.00	1169.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	134.61	111048.55	41.00	7/8/15
2720	D-0360	W-22.007.00	1205.00	1240.00	750.29	489.71	11.76	347.06	30.83	115.94	26.19	138.51	111048.55	41.00	8/22/16
2721	D-0360	W-404	1112.00	1130.00	802.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	3/14/97
2722	D-0360	WL-736	1118.00	1131.00	797.66	333.34	4.90	243.57	13.34	48.14	14.88	136.88	111048.55	41.00	3/14/16
2723	D-0425-05	DW 94.01	1226.00	1240.00	576.14	663.86	0.17	4.92	0.76	0.94	0.14	10.97	61125.67	41.00	2/16/2004
2724	D-0425-05	DW-119.01	1242.00	1260.00	617.30	642.70	4.75	4.28	1.20	1.05	0.13	12.20	61125.67	41.00	4/22/2004

2725	D-0360	W-413	1241.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	138.51	111048.55	40.50	8/29/16
2726	D-2187	W-303	1177.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.92	14151.11	37.50	6/5/12
2727	D-2187	W-303	1179.50	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	1.35	14151.11	37.50	3/3/14
2728	D-0426	W-16B	1097.45	1218.55	909.80	308.75	4.00	230.75	38.14	0.00	8.10	12.64	35708.87	39.00	10/22/15
2729	D-2317-OA	WL-21	575.00	600.00	374.30	225.70	4.00	156.00	60.00	0.00	4.00	0.00	2061.00	41.00	4/3/06
2730	D-0360	WL231.362.00	1104.00	1170.00	636.00	594.00	7.98	316.06	23.80	187.04	13.10	135.54	111048.55	41.00	11/2/15
2731	D-0360	WL-348	1110.00	1210.00	898.34	311.66	5.89	203.68	6.59	88.74	15.19	28.69	111048.55	40.00	4/19/96
2732	D-2187	W-303	1179.00	1220.00	781.33	438.67	2.92	228.00	205.50	3.00	4.09	0.63	14151.11	37.50	4/11/11
2733	D2091	MW-8	1004.41	1006.74	908.11	98.63	3.92	66.50	31.00	0.00	4.04	3.21	11181.57	37.50	2/16/17
2734	D-2177-03	W-111.00	1224.70	1231.00	839.26	391.74	3.25	238.95	127.24	5.52	9.32	2.27	28301.29	40.00	5/29/09
2735	D-0360	W21-064.00	1215.60	1260.00	956.64	303.36	7.40	175.10	23.60	87.50	17.29	88.63	111048.55	40.50	5/2/08
2736	D-2187-02	W-8	1101.00	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	0.00	14151.11	37.50	9/4/03
2737	D-1180-01(6a)	W-23	1157.00	1200.00	757.25	442.75	3.16	325.00	117.00	0.00	7.91	0.00	10262.20	37.75	10/2/96
2738	D-1180-08(6a)	W-360	1188.00	1265.00	789.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	3/6/12
2739	D-0360	W-423	1125.00	1200.00	1056.68	143.32	3.00	15.48	0.00	96.63	9.60	38.09	111048.55	40.00	1/23/98
2740	D-0360	W-681	1259.50	1312.00	907.57	404.43	7.01	276.76	17.32	84.19	12.07	67.27	111048.55	40.50	2/26/04
2741	D-0360	W336.367.00	886.80	900.00	636.95	263.05	7.55	115.24	35.79	109.05	13.01	108.10	111048.55	41.00	2/23/11
2742	D-2177-03	W-427.00	881.70	888.00	763.54	124.46	3.54	36.37	75.17	0.00	4.46	2.11	28301.29	40.00	2/9/09
2743	D-0360	W-609	1140.00	1162.00	863.14	298.86	5.45	166.14	34.91	78.29	9.15	126.43	111048.55	40.50	1/21/14
2744	D-0425-01	DW-28	1208.00	1220.00	804.84	415.16	4.00	3.18	0.77	0.21	0.11	0.00	61125.67	41.00	10/24/1998
2745	D-0424	7-WL-3	1226.00	1280.00	809.40	470.60	4.40	375.29	91.88	7.02	4.39	8.05	29225.93	38.50	8/23/11
2746	D-0425-01	W-76	1151.00	1193.00	547.17	645.83	1.10	4.90	0.39	1.04	0.13	0.00	61125.67	41.00	10/30/1998
2747	D-0425-01	DW-28	1208.00	1220.00	804.84	415.16	4.00	3.18	0.77	0.21	0.11	0.00	61125.67	41.00	11/28/1998
2748	D-0360	W-379	1245.00	1323.00	889.91	433.09	5.12	321.97	32.71	69.59	16.17	32.60	111048.55	40.00	1/27/97
2749	D-0360	WL-301	1254.00	1303.00	760.60	542.40	5.04	412.92	16.15	92.07	13.88	16.98	111048.55	40.50	12/14/93
2750	D-0360	W-681	1257.00	1312.00	907.57	404.43	7.01	276.76	17.32	84.19	12.07	64.61	111048.55	40.50	7/29/03
2751	D-0360	W-413	1245.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	2/27/17
2752	D-0425-01	W-123	1164.00	1240.00	929.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	10/21/1998
2753	D-0360	DW-679	1223.00	1235.00	963.99	271.01	6.19	157.00	0.91	85.09	13.65	126.43	111048.55	40.50	2/5/14
2754	D-0360	W231.356.04	1226.00	1270.00	934.55	335.45	7.45	211.84	21.69	92.72	12.98	126.43	111048.55	41.00	1/21/14
2755	D-0360	W-414	1231.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	138.61	111048.55	40.50	10/31/16
2756	D-0425-03	W-179	1211.00	1240.00	664.70	575.30	5.05	2.21	1.65	1.35	0.13	0.74	61125.67	41.00	1/11/2002
2757	D-0425-09	DW-157.00	1236.00	1240.00	633.30	606.70	3.80	3.37	0.31	2.13	0.13	33.60	61125.67	41.00	4/10/2007
2758	D-0360	W-159	1244.00	1290.00	730.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	3/11/91
2759	D-2317-4	DW-24	640.60	645.00	404.90	240.10	5.25	188.65	56.10	0.00	5.25	0.02	2061.00	41.00	1/11/09
2760	D-2317-OA	W-10	540.00	600.00	359.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	10/17/06
2761	D-1180-08(6a)	W-298	1160.80	1205.00	729.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	3/21/12
2762	D-0360	W501.077.01	1070.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	133.14	111048.55	41.00	4/8/15
2763	D-0425-01	W-94	1165.00	1241.00	930.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	10/13/1998
2764	D-0360	WL-736	1116.00	1131.00	797.66	333.34	4.90	243.57	13.34	48.14	14.88	138.51	111048.55	41.00	9/15/16
2765	D-0360	W-170	1058.00	1105.00	811.10	293.90	7.12	127.60	10.23	132.06	16.83	6.99	111048.55	40.50	1/18/91
2766	D-0354	South Mains Shaft	457.03	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	7/30/18
2767	D-0425-01	DW-47	1193.00	1220.00	688.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	9/25/1998
2768	D-0360	W501.077.01	1070.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	134.61	111048.55	41.00	8/17/15
2769	D-1180-01(7)	W-6	1195.00	1210.00	767.25	442.75	3.16	325.00	117.00	0.00	7.91	0.00	10262.20	37.75	5/20/96
2770	D-1180-08(7)	W-293	1166.80	1192.00	748.98	443.02	2.14	371.38	94.23	3.66	7.07	19.89	10262.20	37.75	3/29/12
2771	D-0354	Rowing Crew Shaft	457.97	637.76	248.21	389.55	4.17	77.51	258.71	3.04	5.75	39.63	20418.32	41.20	9/10/18
2772	D-0360	W-418	1171.00	1180.00	852.47	327.53	4.87	218.18	24.31	55.90	14.42	32.60	111048.55	40.50	3/14/97
2773	D-0360	W501.077.00	1108.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	138.61	111048.55	41.00	2/1/17
2774	D-0360	W-226	1058.00	1080.00	768.34	311.66	5.89	203.68	6.59	88.74	15.19	7.80	111048.55	40.00	4/11/91
2775	D-0360	W21-452.00	1154.50	1190.00	1033.50	156.50	7.10	92.72	0.00	41.26	9.32	88.63	111048.55	40.50	5/8/08
2776	D0424-2	WL-11	1064.00	1220.00	746.30	473.70	3.00	246.94	55.98	2.32	7.73	0.00	29225.93	38.50	11/20/95
2777	D-0360	W-175	1117.00	1132.00	711.83	420.17	7.53	223.66	72.28	173.45	25.63	6.09	111048.55	40.00	12/14/90
2778	D-0360	WL-674	1093.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	130.36	111048.55	40.00	11/10/14
2779	D-0360	W-377	1253.00	1282.00	810.21	471.79	5.29	321.05	61.70	78.55	18.20	32.60	111048.55	40.00	3/12/97
2780	D-0425-01	DW-60	1147.00	1161.00	830.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	1/23/1999
2781	D-0360	W-428	1227.00	1260.00	719.60	540.40	5.50	336.95	11.82	178.25	12.88	131.89	111048.55	40.00	3/10/15
2782	D-0360	W501.077.01	1070.00	1180.00	844.55	335.45	7.45	211.84	21.69	92.72	12.98	134.61	111048.55	41.00	9/8/15
2783	D-2091-1	W-202	1220.00	1270.00	986.00	284.00	3.00	104.66	137.75	47.42	0.00	0.00	11181.57	37.50	6/24/02
2784	D-0360	W-413	1249.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	128.37	111048.55	40.50	4/17/14
2785	D-0360	DW-376	1245.00	1250.00	778.21	471.79	5.29	321.05	61.70	78.55	18.20	32.60	111048.55	40.00	3/12/97
2786	D-0360	W-407	1248.00	1306.00	787.53	518.47	7.08	373.81	9.26	93.89	21.49	33.83	111048.55	40.50	6/28/97

2787	D-0360	W-660	1130.00	1170.00	893.05	276.95	5.10	94.67	17.81	110.04	11.95	130.36	111048.55	40.50	12/3/14
2788	D-1180-08(6a)	W-100	1075.80	1180.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	15.87	10262.20	37.75	9/3/14
2789	D-0360	W21-029.00	1232.00	1283.00	792.84	490.16	5.17	323.67	11.34	108.77	13.68	88.63	111048.55	40.50	5/1/08
2790	D-1180-08(6a)	W-309	1173.60	1265.00	789.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	3/29/13
2791	D-0360	DW-702	1167.50	1190.00	908.53	281.47	7.00	172.33	25.96	70.19	7.31	64.61	111048.55	40.50	8/7/03
2792	D-0425-01	W-127	1205.00	1258.00	1179.42	78.58	6.76	0.35	0.02	0.39	0.11	0.00	61125.67	41.00	3/10/1994
2793	D-0425-05	DW-58.00	985.00	990.00	634.45	355.55	4.55	1.63	0.14	1.60	0.16	14.00	61125.67	41.00	8/17/2004
2794	D-0360	W-415	1101.00	1135.00	807.47	327.53	4.87	218.18	24.31	55.90	14.42	130.36	111048.55	40.50	11/19/14
2795	D-0360	W-455	1020.00	1080.00	792.55	287.45	6.85	195.67	43.79	129.97	13.52	43.92	111048.55	40.00	4/30/99
2796	D-0360	W-334	907.00	913.00	769.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	3/25/96
2797	D-0354	South Mains Shaft	456.33	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	9/24/18
2798	D-0360	W-114	1262.00	1306.00	746.96	559.04	6.47	398.42	36.41	91.79	19.89	6.09	111048.55	40.50	11/26/90
2799	D-0360	W501.077.00	1160.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	130.36	111048.55	41.00	11/11/14
2800	D-0360	W-414	1231.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	138.51	111048.55	40.50	9/26/16
2801	D-0425-01	W-123	1174.00	1240.00	929.88	310.12	3.40	1.38	0.00	1.61	0.13	0.00	61125.67	41.00	2/27/1999
2802	D-2317	WL-24C	507.00	545.00	319.30	225.70	4.00	156.00	60.00	0.00	4.00	1.60	2061.00	41.00	7/9/17
2803	D-2317-OA	W-18	545.00	665.00	424.90	240.10	5.25	188.65	56.10	0.00	5.25	0.00	2061.00	41.00	4/30/06
2804	D-2177-01	GMW-04-4S	1081.20	1087.50	963.80	123.70	3.58	14.33	75.08	0.00	3.58	1.24	28301.29	40.00	4/24/07
2805	D-2177-03	WL-43.00	1116.70	1123.00	833.20	289.80	3.71	227.86	49.10	2.16	6.87	2.11	28301.29	40.00	3/6/09
2806	D-0360	W-410	1254.00	1310.00	982.47	327.53	4.87	218.18	24.31	55.90	14.42	138.51	111048.55	40.50	3/20/17
2807	D2317	M1A	646.00	749.00	508.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	6/15/16
2808	D-2187	W-370	1203.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	0.69	14151.11	37.50	7/14/11
2809	D-2187-04	DW-6	838.00	845.00	447.20	397.80	3.00	350.00	48.00	0.00	6.33	0.00	14151.11	37.50	5/25/06
2810	D-0355-04	MC-FR2-503 (W)	637.00	800.00	590.08	209.92	4.58	164.00	29.16	8.17	10.58	40.98	9430.98	41.10	10/1/96
2811	D-0360	W-289	1268.00	1300.00	742.26	557.74	2.40	398.53	47.72	103.50	11.13	16.98	111048.55	40.50	12/14/93
2812	D-0360	DW-169	1081.00	1100.00	581.53	518.47	7.08	373.81	9.26	93.89	21.49	6.99	111048.55	40.50	3/5/91
2813	D-0360	WL231.362.00	1111.00	1170.00	636.00	534.00	7.98	316.06	23.80	187.04	13.10	134.61	111048.55	41.00	7/6/15
2814	D-0425-01	W-25	1195.00	1240.00	909.75	330.25	4.16	2.65	0.21	0.19	0.04	0.00	61125.67	41.00	8/21/1998
2815	D-0360	DW-399	1296.00	1315.00	1023.50	291.50	6.25	177.75	23.01	71.99	15.15	33.83	111048.55	40.50	6/27/97
2816	D-0360	W21-057.00	1224.90	1260.00	956.64	303.36	7.40	175.10	23.60	87.50	17.29	88.63	111048.55	40.50	5/3/08
2817	D-0360	W-683	1020.00	1030.00	858.37	171.63	5.20	65.90	1.30	100.36	11.56	64.61	111048.55	41.00	7/29/03
2818	D-0360	DW-391	1098.00	1120.00	832.55	287.45	6.85	195.67	43.79	129.97	13.52	32.60	111048.55	40.00	3/13/97
2819	D-0424	9-WL-4	1005.00	1023.00	491.07	531.93	4.50	428.40	191.57	0.89	17.78	11.10	29225.93	39.00	2/5/14
2820	D-0360	W-716	1295.00	1320.00	807.67	512.33	7.27	337.40	56.38	101.13	13.43	64.61	111048.55	40.50	7/23/03
2821	D-2187	W-370	1212.00	1240.00	801.33	438.67	2.92	228.00	205.50	3.00	4.09	1.63	14151.11	37.50	5/13/15
2822	D-0360	W501.077.00	1106.00	1210.00	874.55	335.45	7.45	211.84	21.69	92.72	12.98	137.99	111048.55	41.00	4/5/16
2823	D-0360	DW-420	1225.00	1241.00	949.50	291.50	6.25	177.75	23.01	71.99	15.15	33.83	111048.55	40.50	4/25/94
2824	D-0360	WL-674	1101.00	1145.00	906.95	238.05	6.60	146.59	0.00	68.14	11.96	133.14	111048.55	40.00	5/11/15
2825	D-0360	W-202	1163.00	1210.00	1066.68	143.32	3.00	15.48	0.00	96.63	9.60	7.80	111048.55	40.00	4/17/91
2826	D-0360	W-316	1158.00	1203.00	684.53	518.47	7.08	373.81	9.26	93.89	21.49	18.09	111048.55	40.50	1/27/94
2827	D-0360	DW-406	1300.00	1322.00	1030.50	291.50	6.25	177.75	23.01	71.99	15.15	33.83	111048.55	40.50	4/23/97
2828	D-0360	W-140	1264.00	1300.00	740.96	559.04	6.47	398.42	36.41	91.79	19.89	6.99	111048.55	40.50	1/29/91
2829	D-0360	DW-356	1093.00	1100.00	956.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	3/18/96
2830	D-1180-08(7)	WL-200	815.20	830.00	354.71	475.29	3.21	378.08	96.38	3.82	7.20	28.80	10262.20	37.75	10/24/14
2831	D-0426-08	WL-104	984.00	990.00	560.17	429.83	6.00	449.44	19.98	0.00	15.58	1.61	35708.87	39.00	11/5/98
2832	D-0360	W-225	1139.00	1148.00	836.34	311.66	5.89	203.68	6.59	88.74	15.19	7.80	111048.55	40.00	4/11/91
2833	D-1019	WL-18	974.00	1005.00	739.00	266.00	4.00	157.00	112.00	0.00	4.00	3.84	11184.92	37.50	12/13/11
2834	D-0360	WL336.373.00	1069.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	129.65	111048.55	41.00	9/3/14
2835	D-1180-07(6a)	W-100	1090.00	1190.00	764.68	415.32	3.29	403.09	5.41	9.41	4.38	13.49	10262.20	37.75	10/14/05
2836	D-0360	W21-043.00	1198.50	1242.00	938.64	303.36	7.40	175.10	23.60	87.50	17.29	90.29	111048.55	40.50	8/14/08
2837	D-1180-00(6a)	W-5	1160.00	1220.00	762.50	457.50	3.00	364.51	87.98	0.00	8.02	0.00	10262.20	37.75	5/20/96
2838	D-0360	DW-362	994.00	1000.00	856.68	143.32	3.00	15.48	0.00	96.63	9.60	27.35	111048.55	40.00	1/18/96
2839	D-0360	DW-162	1270.00	1296.00	736.96	559.04	6.47	398.42	36.41	91.79	19.89	7.80	111048.55	40.50	4/24/91
2840	D2317	W41.02	728.00	785.00	544.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	3/25/15
2841	D-0360	WL336.373.00	1077.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	134.61	111048.55	41.00	9/1/15
2842	D-0360	W-423	1123.00	1200.00	1056.68	143.32	3.00	15.48	0.00	96.63	9.60	39.40	111048.55	40.00	6/10/98
2843	D-0425-01	DW-19	1237.00	1260.00	728.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	10/26/1998
2844	D-0425-03	W-423	1192.00	1220.00	628.81	591.19	3.97	3.81	0.51	1.33	0.20	2.59	61125.67	41.00	9/12/2002
2845	D-1180-08(7)	WL-364	1159.40	1202.00	758.98	443.02	2.14	371.38	94.23	3.66	7.07	40.66	10262.20	37.75	4/7/12
2846	D-0425-01	DW-133	1142.00	1142.00	726.84	415.16	4.00	3.18	0.77	0.21	0.11	0.00	61125.67	41.00	12/9/1998
2847	D-2091-1	W-202	1219.50	1270.00	986.00	284.00	3.00	104.66	137.75	47.42	0.00	0.01	11181.57	37.50	9/19/02
2848	D-0425-01	DW-47	1195.00	1220.00	688.66	531.34	4.90	3.70	0.71	0.55	0.10	0.00	61125.67	41.00	1/30/1999

2849	D-1180-08(6a)	W-290	1156.00	1192.00	716.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	9/19/13
2850	D-2177-03	W-7.00	964.70	971.00	887.91	83.09	3.92	49.17	3.50	0.00	3.92	2.11	28301.29	40.00	3/3/09
2851	D-2091-4	WL-113	1170.00	1215.00	1064.00	151.00	3.50	116.01	33.17	8.25	4.14	2.12	11181.57	37.50	10/6/11
2852	D-0360	DW-719	1174.00	1178.00	749.55	428.45	7.05	259.73	45.00	112.83	14.77	138.51	111048.55	41.00	8/16/16
2853	D-0426	W-18C	1028.76	1164.00	690.30	473.70	3.00	246.94	55.98	2.32	7.73	12.64	35708.87	39.00	5/14/14
2854	D-0360	W-413	1244.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	35.29	111048.55	40.50	7/20/97
2855	D-2187	W-8	1111.00	1150.00	717.00	433.00	3.33	417.00	19.00	0.00	5.83	1.42	14151.11	37.50	4/28/14
2856	D-0360	W-400	1267.00	1315.00	1023.50	291.50	6.25	177.75	23.01	71.99	15.15	33.83	111048.55	40.50	4/25/97
2857	D-0360	W6-6	1226.40	1256.00	992.95	263.05	7.55	115.24	35.79	109.05	13.01	117.86	111048.55	41.00	8/24/12
2858	D-0360	WL336.373.00	1078.00	1110.00	576.00	534.00	7.98	316.06	23.80	187.04	13.10	134.61	111048.55	41.00	8/11/15
2859	D-0425-03	WL-180A	1213.00	1240.00	664.70	575.30	5.05	2.21	1.65	1.35	0.13	0.74	61125.67	41.00	1/11/2002
2860	D-0424	W-154	1209.00	1225.00	731.62	493.38	6.06	393.79	161.68	1.00	10.55	2.52	29225.93	38.50	2/4/08
2861	D-2269 OA	WL-5	868.00	923.00	566.00	357.00	3.60	121.75	237.50	0.00	4.40	0.00	16659.24	40.00	10/12/04
2862	D-0360	W-414	1234.00	1290.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	126.43	111048.55	40.50	1/23/14
2863	D2317	M2B	646.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	11/26/16
2864	D-0425-05	DW-112.02	1132.00	1142.00	732.64	409.36	1.33	2.24	0.99	0.84	0.08	12.20	61125.67	41.00	4/20/2004
2865	D-0360	W-414	1267.00	1280.00	952.47	327.53	4.87	218.18	24.31	55.90	14.42	133.14	111048.55	40.50	4/22/15
2866	D-1180-08(6a)	W-360	1189.60	1265.00	789.71	475.29	3.21	378.08	96.38	3.82	7.20	15.87	10262.20	37.75	5/28/12
2867	D-0360	W21-265.00	1148.00	1180.00	876.64	303.36	7.40	175.10	23.60	87.50	17.29	90.29	111048.55	40.50	7/16/08
2868	D-0354	South Mains Shaft	455.94	765.54	294.85	470.69	6.46	217.43	204.83	9.48	9.67	39.63	20418.32	41.20	10/22/18
2869	D-0354	Danville Shaft	463.24	743.09	500.84	242.25	2.25	111.00	96.34	6.58	6.79	39.63	20418.32	41.20	9/9/09
2870	D-0354	Rowing Crew Shaft	457.11	637.76	248.21	389.55	4.17	77.51	258.71	3.04	5.75	39.63	20418.32	41.20	4/4/13
2871	D2317	M2B	647.00	720.00	479.90	240.10	5.25	188.65	56.10	0.00	5.25	1.60	2061.00	41.00	9/3/14
2872	D-2177-03	W-17.00	873.70	880.00	775.50	104.50	3.50	68.50	6.00	0.00	5.50	2.27	28301.29	40.00	5/26/09

APPENDIX B: ANN ANALYSIS RESULTS AND VALIDATION

Test	Model Optimization	Model Selection Criterion	Number of "less significant variables"	r squared	Algorithm complexity (characters)
A	Thorough	MDL	4	0.9897	222
B	Thorough	PSE	8	0.9891	123
C	Thorough	FCPSE	8	0.9891	123
D	Thorough	GCV	0	0.9908	1,394
E	Thorough	FPE	0	0.9907	1,207
F	Thorough	Regulatory (with test set)	2	0.9902	11,727
G	Smart	MDL	4	0.9896	206
H	Smart	PSE	8	0.9891	123
I	Smart	FCPSE	8	0.9891	123
J	Smart	GCV	0	0.9908	1,394
K	Smart	FPE	0	0.9906	545
L	Smart	Regulatory (with test set)	0	0.9902	10,086
M	Full	MDL	4	0.9897	222
N	Full	PSE	8	0.9891	123
O	Full	FCPSE	8	0.9891	123
P	Full	GCV	0	0.9909	1,377
Q	Full	FPE	0	0.9907	1,176
R	Full	Regulatory (with test set)	0	0.9900	8,424

Polynomial Net (GMDH) Test 'K'	
GMDH Type:	Advanced
Max. Variables in Connection:	X_1, X_2, X_3
Ma. Product Term in Connection:	$X_1 X_2 X_3$
Max. Variable Degree in Connection:	X^3
Max. Number of Survivors in First Layer:	11
Schedule Type:	Asymptotic
Decrease in Mas. Number of Survivors:	Gentle
Model Optimization:	Smart
Selection Criterion:	FPE
Number of inputs:	11
Number of outputs:	1
Number of training patterns:	2872
Number of test patterns:	0
Layers constructed:	17
Best criterion value:	0.003981
Best formula:	$Y = 0.1 * X_7 - 4.9E-002 * X_{11} + 9.2E-002 - 2.1E-002 * X_4 + 1.9E-002 * X_9 + 0.41 * X_1 - 1.1E-002 * X_3 + 6.5E-002 * X_6 - 0.1 * X_{10} + 4.3E-002 * X_5 + 0.56 * X_2 - 0.37 * X_1^2 - 0.38 * X_2^2 + 2.5E-002 * X_{11}^2 - 0.14 * X_2^3 - 6.5E-002 * X_{11}^3 + 0.84 * X_1 * X_2 - 0.24 * X_1 * X_{11} + 0.36 * X_2 * X_{11} + 3.2E-002 * X_1 * X_2 * X_{11} - 1.9E-004 * X_6^2 + 4.1E-002 * X_5 * X_6 + 4.3E-002 * X_7^2 + 4.E-002 * X_{10}^2 - 2.6E-002 * X_7^3 + 5.E-002 * X_{10}^3 - 0.14 * X_7 * X_{10} - 1.1E-002 * X_9^2 - 1.6E-002 * X_9^3 - 2.5E-002 * X_2 * X_9 + 1.3E-002 * X_5^2 - 2.5E-002 * X_6^3 - 1.4E-002 * X_1^3 + 2.E-002 * X_1 * X_7 + 3.1E-002 * X_6 * X_{10} + 2.7E-002 * X_1 * X_3 + 1.4E-002 * X_9 * X_{11} + 2.9E-002 * X_2 * X_4 + 1.3E-002 * X_8^3 - 1.6E-$

	$002 * X8 * X11 + 6.7E-003 * X4^2 + 4.5E-003 * X1 * X6$
Legend:	$X1 = 2 * (\text{Surf_Elev (msl)} - 545.) / 835. - 1.$
	$X2 = 2 * (\text{Bot_Elev (msl)} - 244.04) / 1055.96 - 1.$
	$X3 = 2 * (\text{Overb_Thick (ft)} - 65.) / 638.1 - 1.$
	$X4 = 2 * (\text{MinedCoal_Thick (ft)} - .07) / 11.69 - 1.$
	$X5 = 2 * (\text{Shale/Clay_Thick (ft)} - .35) / 552.55 - 1.$
	$X6 = 2 * \text{Sand_Thick (ft)} / 262.3 - 1.$
	$X7 = 2 * \text{Lime_Thick (ft)} / 204.97 - 1.$
	$X8 = 2 * \text{TCoal_Thick (ft)} / 33.23 - 1.$
	$X9 = 2 * \text{Accum_coalextr (Mm}^3) / 138.61 - 1.$
	$X10 = 2 * (\text{4Mile_Buffer (acres)} - 2061.) / 108987.5 - 1.$
	$X11 = 2 * (\text{AvgAn_Precip (in)} - 37.5) / 3.7 - 1.$
	$Y = 2 * (\text{PotentioHead (msl)} - 400.) / 932. - 1.$
Most significant variables:	Surf_Elev (msl)
	Bot_Elev (msl)
	Overb_Thick (ft)
	MinedCoal_Thick (ft)
	Shale/Clay_Thick (ft)
	Sand_Thick (ft)
	Lime_Thick (ft)
	TCoal_Thick (ft)
	Accum_coalextr (Mm ³)
	4Mile_Buffer (acres)
	AvgAn_Precip (in)
Network type:	GMDH
Patterns processed:	2872
Output:	C1

R squared:	0.9906
r squared:	0.9906
Mean squared error:	324.8997
Mean absolute error:	12.3227
Min. absolute error:	0.0014
Max. absolute error:	147.93
Correlation coefficient r:	0.9953

APPENDIX C: PYTHON SCRIPT

Python script for applying selected 'K' run of artificial neural network analysis in Neuroshell. Script was written in Python 2.7 in IDLE:

```
#####  
# ANN_testing_script.py  
# Objective: Testing script for applying algorithm to variables to predict post-mining  
water levels  
# Date created: September 27th, 2018  
# Last edited: February 15th, 2019  
# Written by: Rebecca Steinberg for M.S.E.S. Master's Thesis, OSM Mine Pool project  
#####  
import arcpy  
from arcpy import env  
import os  
import math  
import csv  
  
#Get parameters  
editing_table = arcpy.GetParameterAsText(0)  
calculated_table = arcpy.GetParameterAsText(1)
```

```
def main () :

    #Loop for adding predicted value
    with open(editing_table, "r") as csvfile, open(calculated_table, "w") as writeFile:

        var_table = csv.reader(csvfile, delimiter=',')
        new_table = csv.writer(writeFile, delimiter=',')

        #read in headers
        new_table.writerow(next(var_table))

        #loop for reading each line
        for row in var_table:

            #read in sample line from table
            samplex = row

            #switch to float
            #transformations of variables
            surf_T = (2.0*(float(samplex[6])-545.0)/835.0)-1.0 #X1
            bott_T = (2.0*(float(samplex[7])-244.04)/1055.96)-1.0 #X2
            over_T = (2.0*(float(samplex[10])-65.0)/638.1)-1.0 #X3
            tmcoal_T = (2.0*(float(samplex[11])-.07)/11.69)-1.0 #X4
```

```
shcl_T = (2.0*(float(samplex[12])-0.35)/552.55)-1.0 #X5
sand_T = (2.0*float(samplex[13])/262.3)-1.0 #X6
lime_T = (2.0*float(samplex[14])/204.97)-1.0 #X7
tcoal_T = (2.0*float(samplex[15])/33.23)-1.0 #X8
accum_T = (2.0*float(samplex[16])/138.61)-1.0 #X9
buffer_T = (2.0*(float(samplex[17])-2061.0)/108987.5)-1.0 #X10
precip_T = (2.0*(float(samplex[8])-37.5)/3.7)-1.0 #X11
```

```
X1 = surf_T
```

```
X2 = bott_T
```

```
X3 = over_T
```

```
X4 = tmcoal_T
```

```
X5 = shcl_T
```

```
X6 = sand_T
```

```
X7 = lime_T
```

```
X8 = tcoal_T
```

```
X9 = accum_T
```

```
X10 = buffer_T
```

```
X11 = precip_T
```

```
#prediction equation
```



```

pot_head_T =(0.1*X7)-(0.049*X11)+(0.092)-
(0.021*X4)+(0.019*X9)+(0.41*X1)-(0.011*X3)+(0.065*X6)-
(0.1*X10)+(0.043*X5)+(0.56*X2)-(0.37*X1**2)-
(0.38*X2**2)+(0.025*X11**2)-(0.14*X2**3)-(0.065*X11**3)+(0.84*X1*X2)-
(0.24*X1*X11)+(0.36*X2*X11)+(0.032*X1*X2*X11)-
(0.00019*X6**2)+(0.041*X5*X6)+(0.043*X7**2)+(0.04*X10**2)-
(0.026*X7**3)+(0.05*X10**3)-(0.14*X7*X10)-(0.011*X9**2)-(0.016*X9**3)-
(0.025*X2*X9)+(0.013*X5**2)-(0.025*X6**3)-
(0.014*X1**3)+(0.02*X1*X7)+(0.031*X6*X10)+(0.027*X1*X3)+(0.014*X9*
X11)+(0.029*X2*X4)+(0.013*X8**3)-
(0.016*X8*X11)+(0.0067*X4**2)+(0.0045*X1*X6)

```

```
#transform back potentiometric head
```

```
pot_head = (((pot_head_T+1.0)*932.0)/2.0)+400.0
```

```
samplex[18] = pot_head
```

```
new_table.writerow(samplex)
```

```
csvfile.close()
```

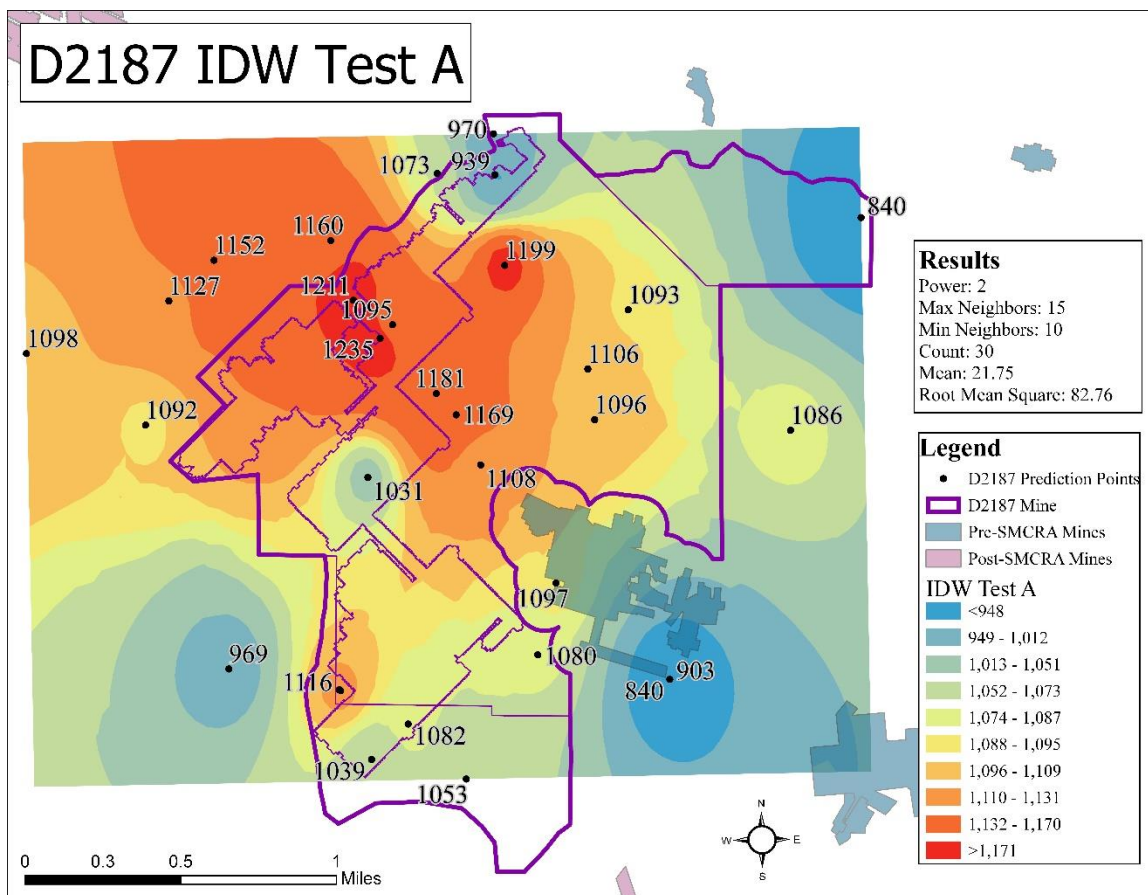
```
main()
```

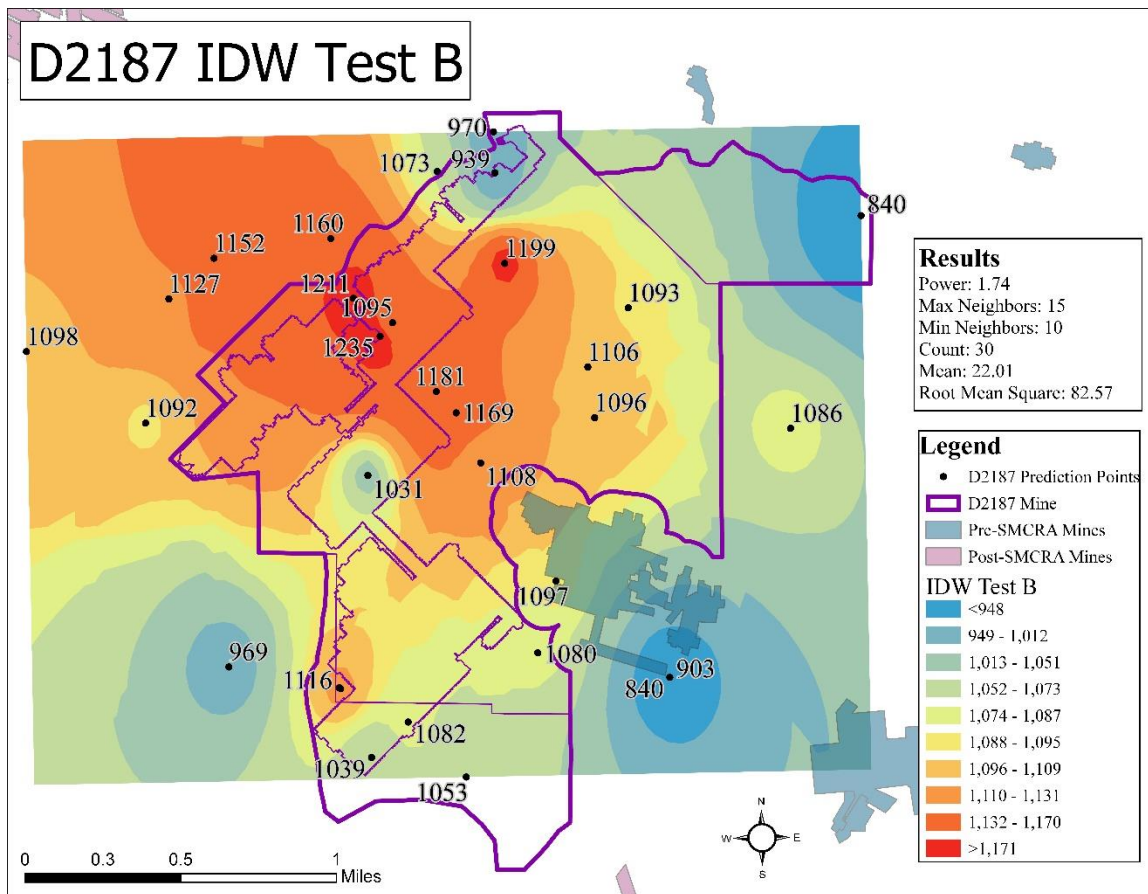
APPENDIX D: GEOSTATISTICAL ANALYSIS

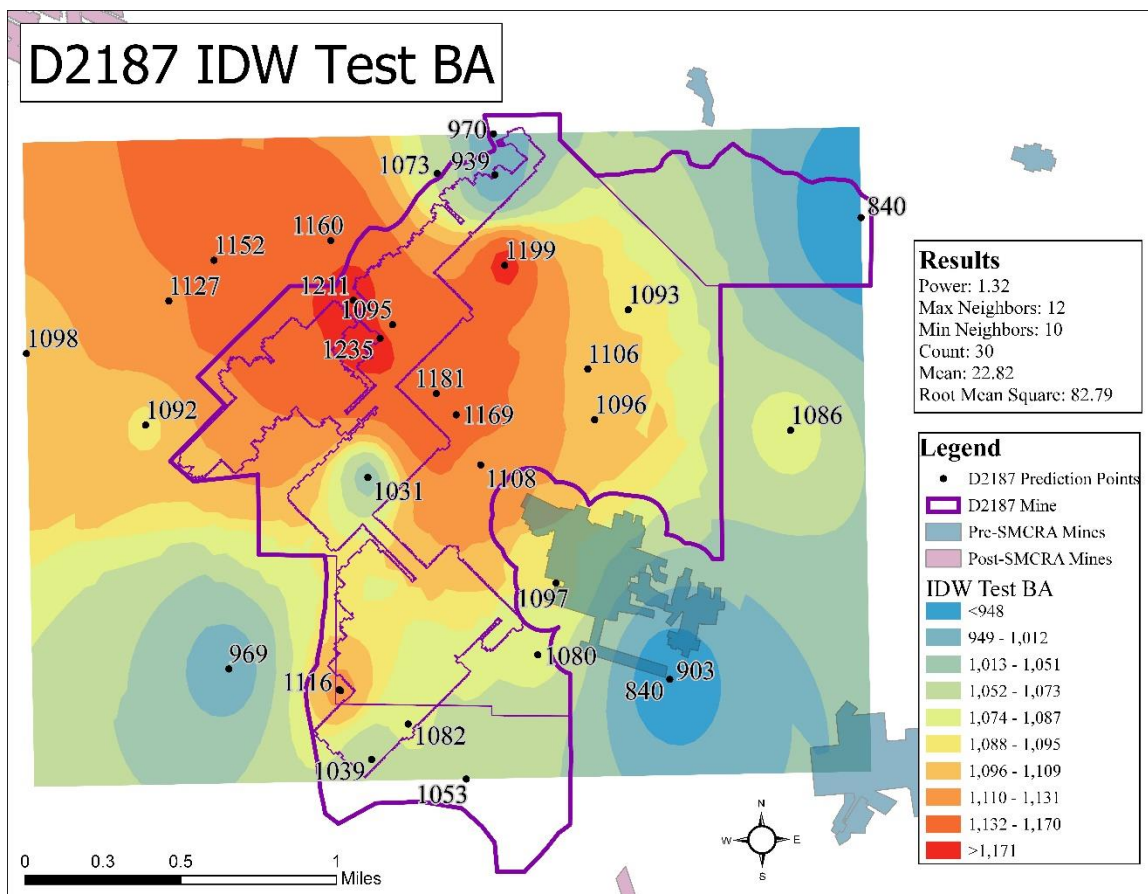
Results Table from IDW tests

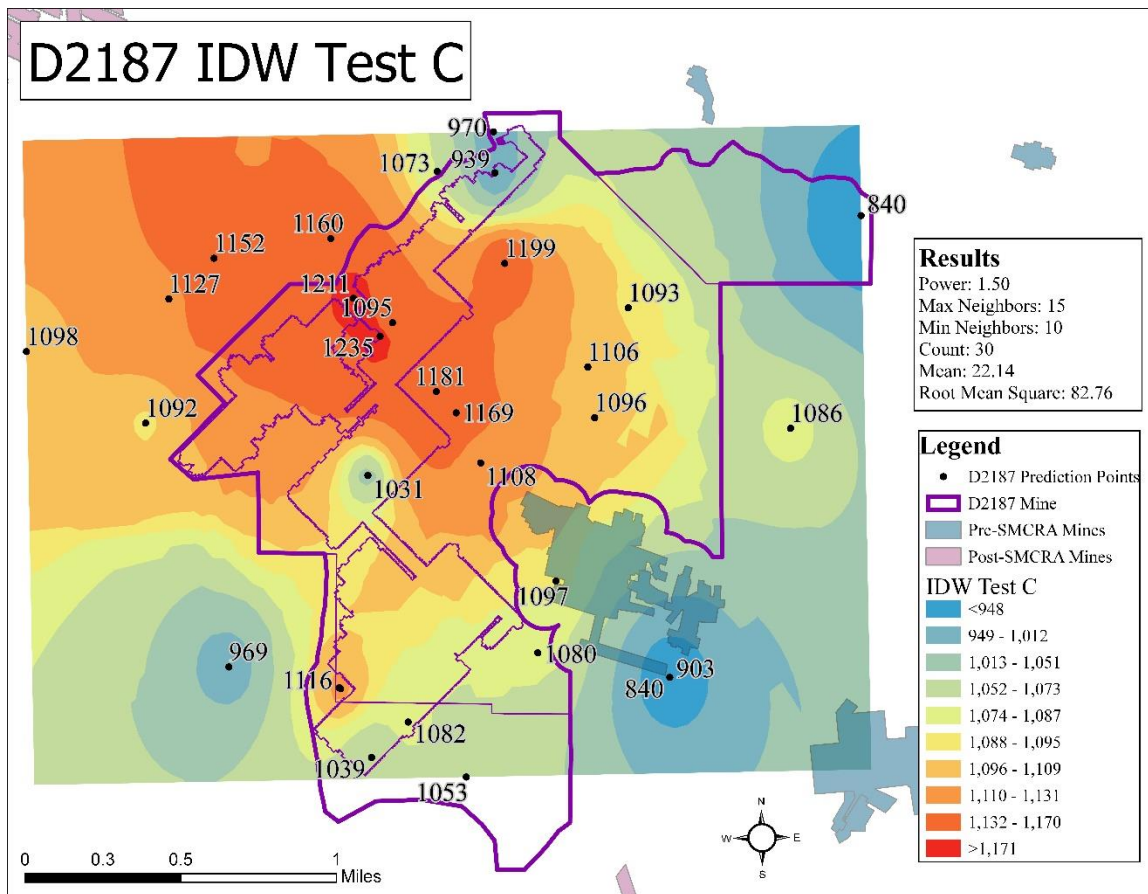
	Default	Powers				Neighbors		
Test	A	B	C	D	BA	CA	DA	
Power	2.00	1.74	1.50	1.30	1.32	1.57	1.51	
Neighborhood Type	Standard	Standard	Standard	Standard	Standard	Standard	Standard	
Max Neighbors	15	15	15	15	12	12	11	
Min Neighbors	10	10	10	10	10	8	8	
Angle	0	0	0	0	0	0	0	
Count	30	30	30	30	30	30	30	
Mean	21.75	22.01	22.14	22.09	22.82	22.31	22.63	
Root-Mean-Square	82.76	82.57	82.76	83.23	82.79	81.88	81.85	

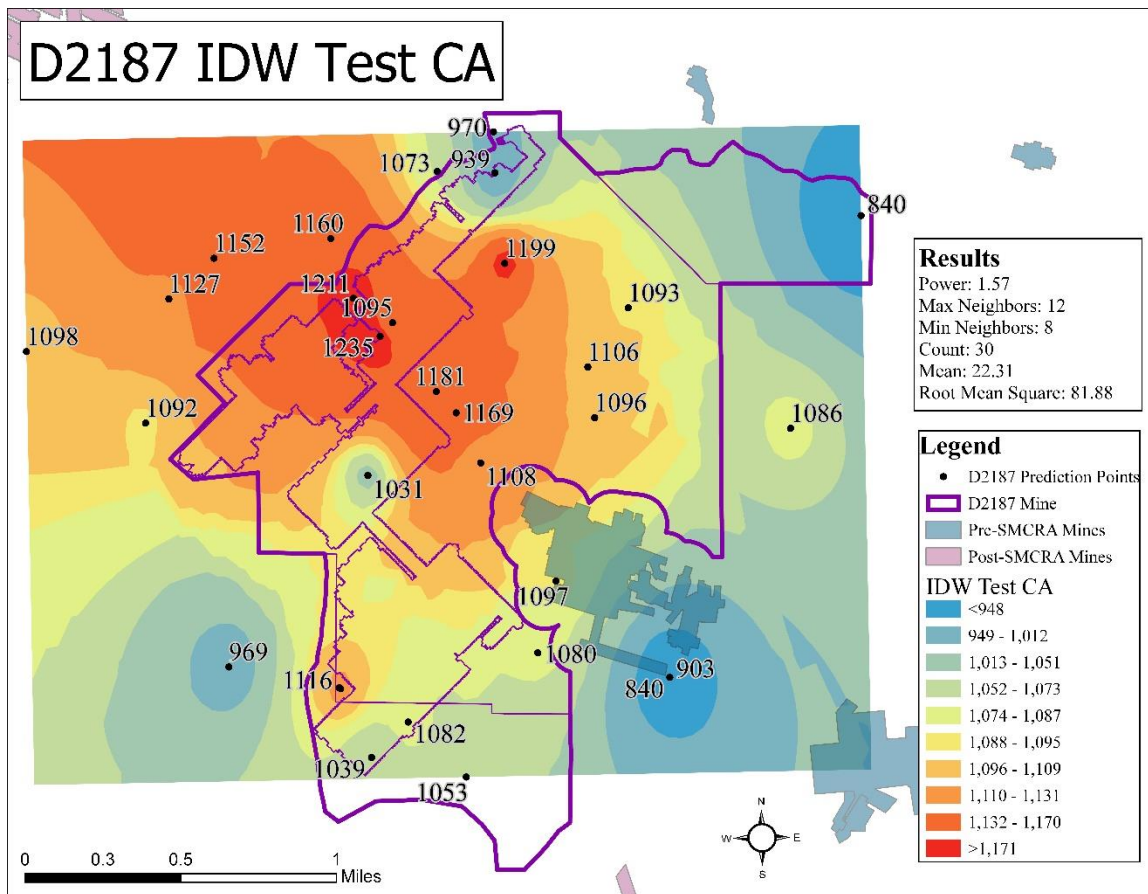
Maps

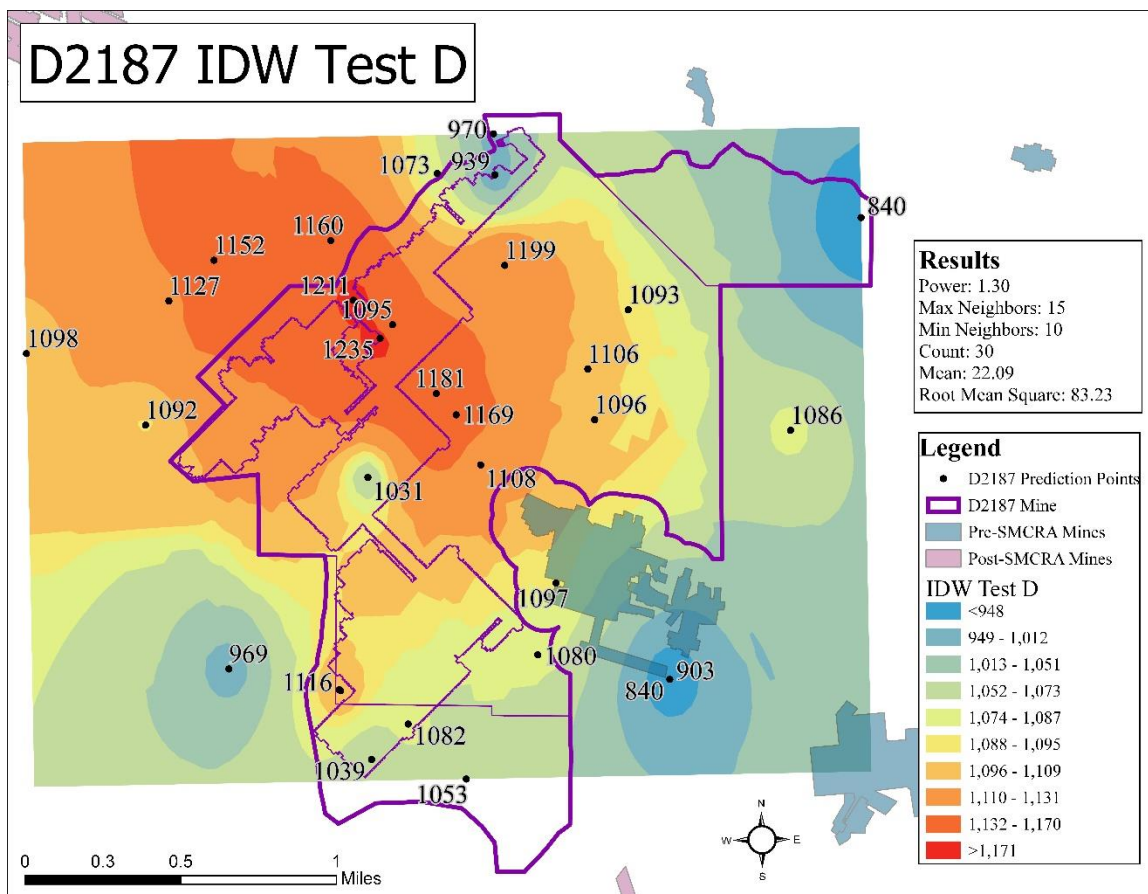


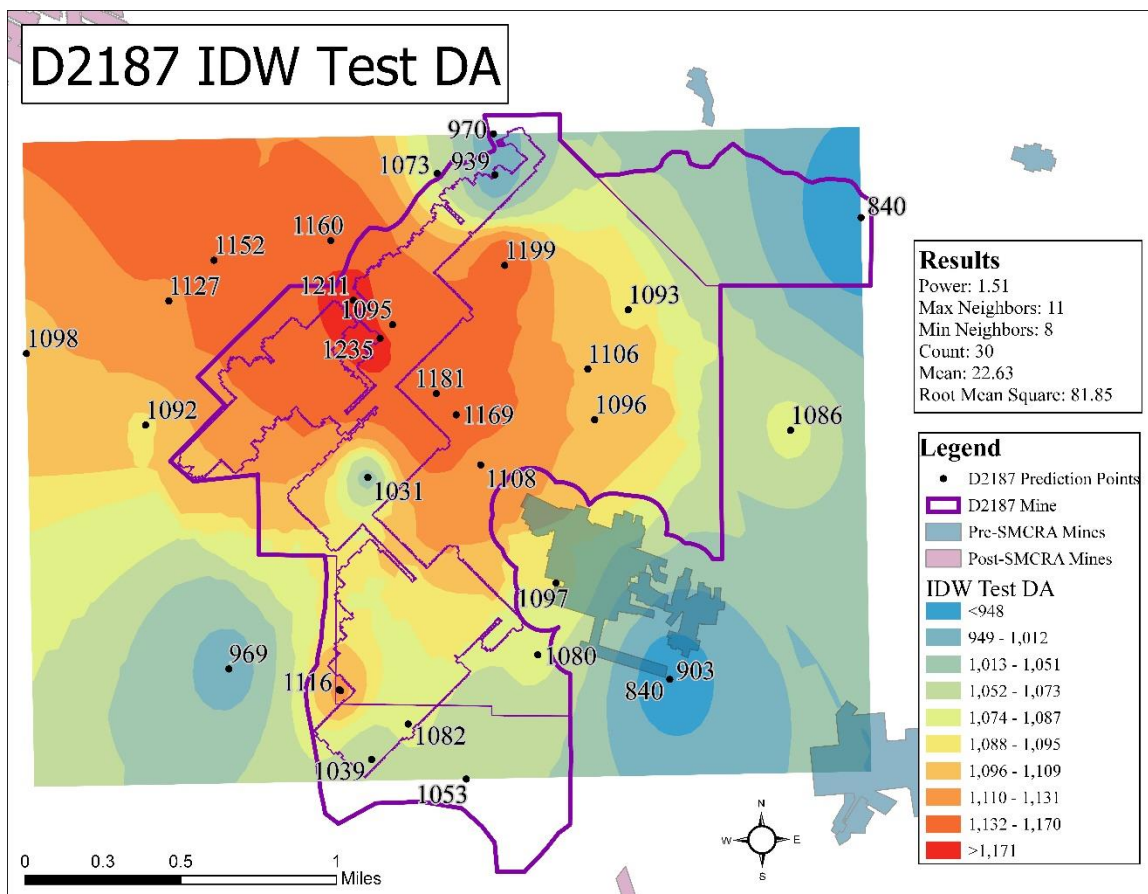












APPENDIX E: USER'S GUIDE

The following document is available for download at

http://watersheddata.com/MinePool_Study.aspx.

User's Guide for Model to Predicted Post-Mining Water Levels

3/15/2019

1. Background

There is a need for an improved method for predicting post-mining water levels in underground coal mining. The Surface Mining Control and Reclamation Act (SMCRA) permitting requirements include estimating water levels post mining as part of characterizing the area hydrology. The use of 'top of coal' has been proven, by flooded mines and recent hydrologic research, to be an insufficient estimate of post-mining water level. As mine companies are required by SMCRA to mitigate/remediate environmental impacts of flooded mines, this insufficient estimation cost companies money. More reliable prediction can save money on post-mining reclamation by preventing the environmental impacts from happening to begin with.

The goal of this project was to develop an empirical predictive model of post-mining water level, implemented in ArcGIS Pro. Using data from the proposed underground coal mine permit, the model returns points of predicted post-mining water levels and can be compared to a Digital Elevation Model (DEM) to identify areas at risk of surface discharge from mine pools.

1.1 Original Data Sources

The project team requested public permit data from 28 permitted underground coal mines in Ohio. Spatial, hydrologic, and geologic measurements were gleaned from the permits, yielding usable data from 15 mines. Additional data and/or GIS layers were downloaded from Ohio Department of Natural Resources, Division of Mineral Resource Management (ODNR-MRM), Geological Survey (ODNR-GS), and Water Resources (ODNR-WR), US Department of Labor Mine Safety and Health Administration (MSHA), National Oceanographic and Atmospheric Agency (NOAA), and Ohio Geographically Referenced Information Program (OGRIP).

1.2 Statistical Analysis

Once gathered, multivariate data analyses were run using The Unscrambler X and Neuroshell 2 to develop a prediction algorithm for post-mining water levels. This lowest error resulting algorithm was included in the tool. Table X displays the selected algorithm, with each variable transformation. Each of the variables required in the inputs for running the tool are required due to their use in running the prediction algorithm. More details on the analyses are provided in the three theses linked on the mine pool study webpage of Watersheddata.com (http://watersheddata.com/MinePool_Study.aspx).

Table 5 – Results from Neuroshell test run 'K'

<u>Polynomial Net (GMDH) Test 'K'</u>	
<u>Best formula:</u>	$Y=0.1*X7-4.9E-002*X11+9.2E-002-2.1E-002*X4+1.9E-002*X9+0.41*X1-1.1E-002*X3+6.5E-002*X6-0.1*X10+4.3E-002*X5+0.56*X2-0.37*X1^2-0.38*X2^2+2.5E-002*X11^2-0.14*X2^3-6.5E-002*X11^3+0.84*X1*X2-0.24*X1*X11+0.36*X2*X11+3.2E-002*X1*X2*X11-1.9E-004*X6^2+4.1E-002*X5*X6+4.3E-002*X7^2+4.E-002*X10^2-2.6E-002*X7^3+5.E-002*X10^3-0.14*X7*X10-1.1E-002*X9^2-1.6E-002*X9^3-2.5E-002*X2*X9+1.3E-002*X5^2-2.5E-002*X6^3-1.4E-002*X1^3+2.E-002*X1*X7+3.1E-002*X6*X10+2.7E-002*X1*X3+1.4E-002*X9*X11+2.9E-002*X2*X4+1.3E-002*X8^3-1.6E-002*X8*X11+6.7E-003*X4^2+4.5E-003*X1*X6$
<u>Variable Transformations:</u>	$X1=2.0*(\text{Surface Elevation (msl)} - 545.0)/835.0-1.0$
	$X2=2.0*(\text{Bottom Coal Elevation (msl)} - 244.04)/1055.96-1.0$
	$X3=2.0*(\text{Overburden Thickness (ft)} - 65.0)/638.1-1.0$
	$X4=2.0*(\text{Mined Coal Thickness (ft)} - 0.07)/11.69-1.0$
	$X5=2.0*(\text{Shale/Clay Thickness (ft)} - 0.35)/552.55-1.0$
	$X6=2.0*\text{Sandstone Thickness (ft)}/262.3-1.0$
	$X7=2.0*\text{Limestone Thickness (ft)}/204.97-1.0$
	$X8=2.0*\text{Total Coal Thickness (ft)}/33.23-1.0$
	$X9=2.0*\text{Accumulative Coal to Extract (Mm}^3\text{)}/138.61-1.0$
	$X10=2.0*(\text{Underground Mining in 4-Mile Buffer (acres)} - 2061.0)/108987.5-1.0$
	$X11=2.0*(\text{Average Annual Precipitation (in)} - 37.5)/3.7-1.0$
	$Y=2.0*(\text{Potentiometric Head (msl)} - 400.0)/932.0-1.0$
<u>R squared:</u>	0.9906
<u>Mean squared error:</u>	324.8997
<u>Mean absolute error:</u>	12.3227
<u>Min. absolute error:</u>	0.0014
<u>Max. absolute error:</u>	147.93
<u>Correlation coefficient r:</u>	0.9953

2. Tool Structure

2.1 Data formats

For the tool to function smoothly, the completeness and formatting of the input data is most important. The provided pre-formatted Excel Spreadsheets allow for inputting raw data from proposed mine permit applications as specified, or the tool will not run correctly. Data formats for each column must be followed exactly to ensure accurate data extraction when imported to ArcGIS. All columns must be filled out with data as well or calculation errors will occur when the tool applies the prediction algorithm.

Consistent coordinate projections in collection of data is also necessary, or at least clear recording of the projection used in collecting XY coordinates so the correct projection can be selected when running the tool.

2.2 Required inputs

It will be necessary for the user to gather and prepare site specific data for analysis of the proposed mine. See Section 3 for instructions on formatting. The five required files that are:

- 1) **Well Excel spreadsheet:** Permit/Mine ID, well ID, XY coordinates, potentiometric head (ft msl), surface elevation (ft msl), bottom of coal elevation (ft msl), average annual precipitation (in).
- 2) **Borehole Excel spreadsheet:** Permit/Mine ID, XY coordinates, overburden thickness (ft), mined coal seam thickness (ft), shale/clay thickness (ft), limestone thickness (ft), total coal thickness (ft), accumulative coal extracted (Mm^3).
- 3) **Study mine:** Shapefile of proposed new mine extent.
- 4) **Abandoned Underground Mines (AUM):** Pre-SMCRA shapefile of mined out extents.
- 5) **Underground Mine Extents (UG):** Post-SMCRA shapefile of mined out extents.

2.3 Tool functions

Figure 1 displays the general flow of the ArcGIS Pro model built to extract variables and apply to prediction algorithm to produce points of predicted post-mining water level. The model runs these tools automatically and do not require running by the user. The box on the left displays the required inputs for the tool by the user and the final box on the right displays the final output of the tool. In between the start and end boxes are the tools used and the layers created in extracting variables and applying the prediction algorithm.

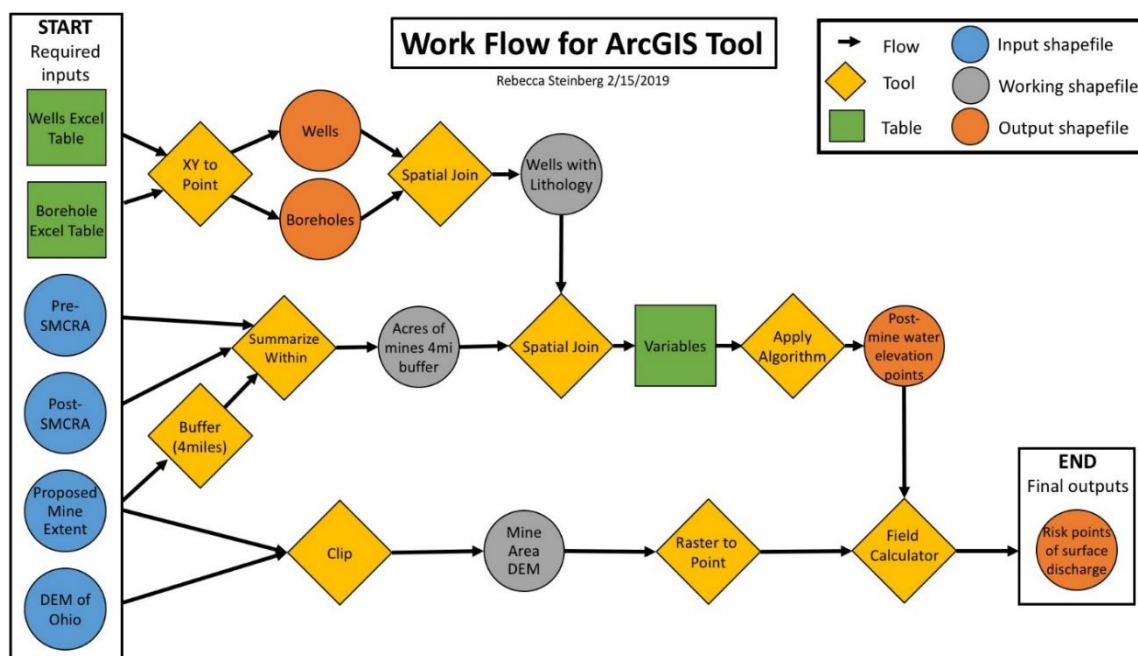


Figure 34 – Work flow diagram that describes the layers and tools used in the construction of the tool in ArcGIS Pro Model Builder.

2.4 Direct outputs

The tool produces several shapefiles that are automatically added to the map once the tool is run: well shapefiles, borehole shapefiles, calculated points, and points of predicted head compared to the area DEM. These outputs are further described in Section 4.

3. Prepare Data

Proper data preparation is essential for successful execution of the model. Three (3) GIS polygon shapefiles are required:

- 1) **Abandoned Underground Mines (AUM):** Pre-SMCRA Ohio abandoned coal mines.
 - a. Included in the tool Template, however, it is only current to the end of 2018, when the layers were downloaded. This layer is created and maintained by ODNR, and tool users may want to redownload and replace the included shapefiles with the most current versions from <https://gis.ohiodnr.gov/MapView/?config=OhioMines>. Click the “?” icon in the mine viewer application, then click the DATA tab to access downloads.
- 2) **Underground Mine Extents (UG):** Post-SMCRA permitted mine extents.
 - a. Included in the tool Template, however, it is only current to the end of 2018, when the layers were downloaded. This layer is created and maintained by ODNR, and tool users may want to redownload and replace the included shapefiles with the most current versions from <https://gis.ohiodnr.gov/MapView/?config=OhioMines>. Click the “?” icon in the mine viewer application, then click the DATA tab to access downloads.
- 3) **Extent of the proposed new mine:** Shapefiles of proposed mine extent created from maps and information in the permit application.
 - a. The user may have to create this shape if the shapefile layer is not already created or accessible from the data for the permit application.

Also required input for the tool are two data tables must be created from data required in or calculated from the permit application, and other sources. The formatted Excel Spreadsheets are provided in the template download package at

http://watersheddata.com/MinePool_Study.aspx (Download instructions follow in [Section 4](#)).

Special attention must be paid to units to assure that all values are properly converted to the units specified in the provided formatted Excel spreadsheet files. Likewise, consider the coordinate systems used in collection of XY data, and make sure all final shapefiles and XY data are aligned in the same projection, as these tables will be plotted to point shapefiles in the model process. All columns must have data for the tool to function, no null or zero values. If the data collected does not have all values for variable in Excel spreadsheets, do not include that point of data.

- 1.) **Well Excel Spreadsheet:** sheet containing hydrologic data extracted from mine permits used to predict post-mining water level by the ArcGIS tool
 - a. Permit/Mine ID, Well ID, XY coordinates, potentiometric head (ft msl), surface elevation (ft msl), bottom elevation (ft msl): extracted from well logs and materials submitted with the permit application.
 - b. Average annual precipitation (in): retrieved from various sources. The user can check NOAA or other weather data collection entities to arrive at the best number for their location. If local rainfall values are not available, enter the state average precipitation of 37.57 inches as a default.
- 2.) **Borehole Excel Spreadsheet:** sheet containing geologic data extracted from mine permits used to predict post-mining water level by the ArcGIS tool
 - a. Permit/Mine ID, Borehole ID, XY coordinates, overburden thickness (ft), mined coal seam thickness (ft): data directly derived from the borehole logs required for the permit application.
 - b. Shale/clay thickness (ft), limestone thickness (ft), sandstone thickness (ft), and total coal thickness (ft): calculated by adding together the associated layers from the overburden to get a total thickness

stratigraphic record. Only layers within the overburden above the mined coal seam are considered.

- c. Accumulative coal extracted (Mm^3): the volume of coal the mine is expected to produce, which is a required value for the permit application.

When data collection for the formatted Excel well and borehole spreadsheets are complete for the proposed mine, each spreadsheet must be saved as a comma separated value (.csv) file (Figure 2).

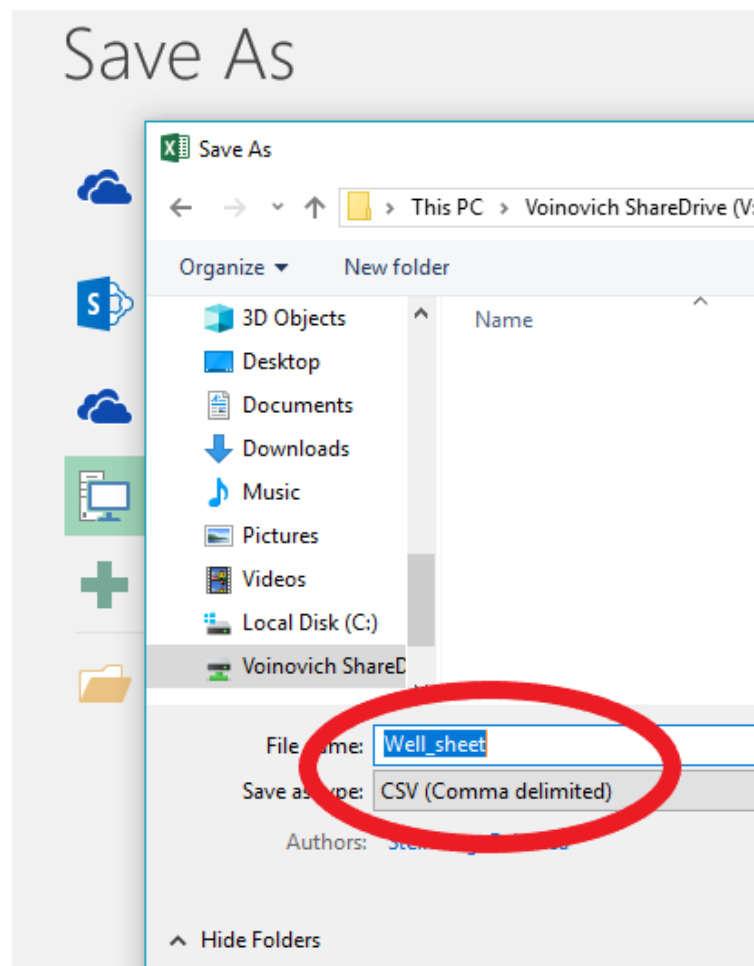


Figure 35 – Screenshot to show saving the data Excel sheets as the correct file format: CSV (Comma delimited)

4. Steps for Running the Tool

4.1 Downloading and Opening ArcGIS Pro Mine Pool Model Template

The ArcGIS Pro template map that hosts the prediction tool is available for download at http://www.watersheddata.com/MinePool_Study.aspx. The “Mine Pool GIS Tool Package” folder (Figure 3) is a folder containing the download links for the Map Template (Mine_Pool_Prediction_Model_Map.aprx), the Well Excel Spreadsheet, and Borehole Excel Spreadsheet. We recommend preparing the Well and Borehole Excel Spreadsheets, included in the download, prior to opening the tool in ArcGIS Pro (Section 3). The map contains the tool, script that runs the prediction algorithm, shapefiles of surrounding underground mines, DEM, and default required layers as examples.

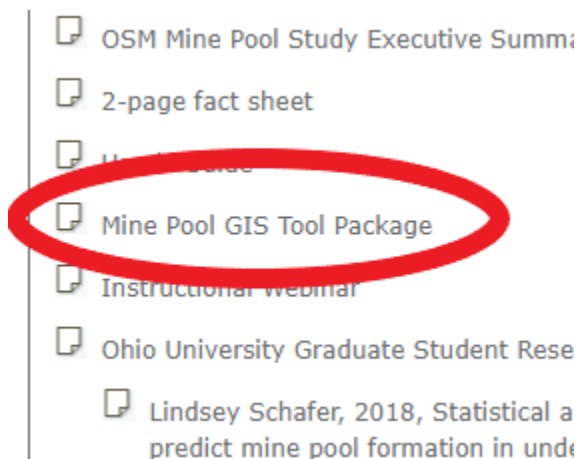


Figure 36 – Screenshot displaying the location of the download link to click on Watersheddata.com to download the prediction tool.

When data is compiled into the spreadsheets and saved in the project folder, open the .aprx file in ArcGIS Pro by double clicking on the file or by selecting “Open Project” from the front screen of ArcGIS Pro. The map may take a bit of time to load the template map and included layers.

4.2 Setting Up Project

Once the project has been created, users can add their required data to the map through the “add data” function in ArcGIS Pro (Figure 4). The Underground Mine Extents (UG) shapefile, Abandoned Underground Mines (AUM) shapefile, and the DEM for the state of Ohio raster are already included in the table of contents. The user will need to add the proposed mine shapefile and the borehole and well csv tables. The “add data” function

allows the user to locate the folder where files are saved. It is suggested that once added, the user files be saved to the project folder/geodatabase created by the template project for easy locating of data. This is done by right clicking on the added layers in the table of contents and selecting “Export features” (Figures 5).

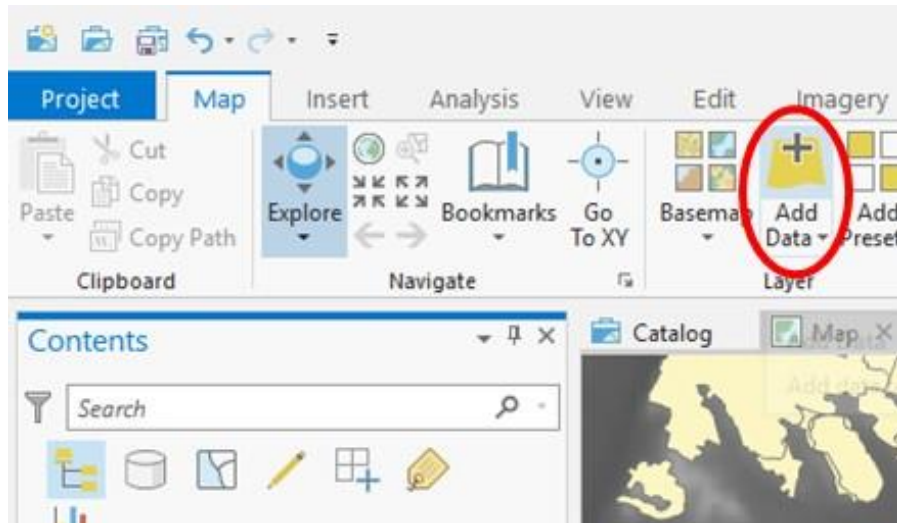


Figure 38 – Screenshot displaying the location of the ‘add data’ function in ArcGIS Pro to locate and add user input files.

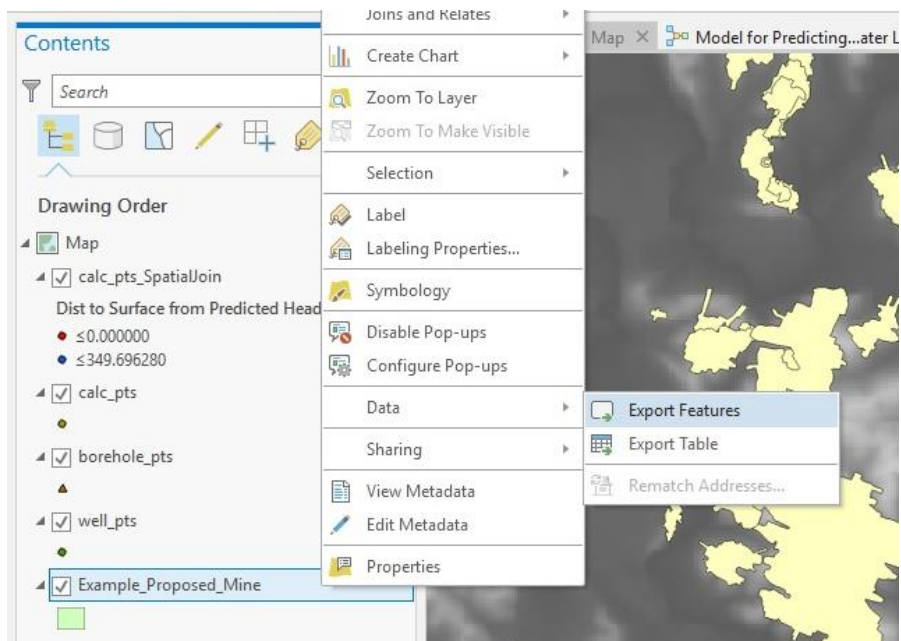


Figure 39 – Screenshot displaying how to find ‘Export features’ function so that user added layers can be saved to the Project database or in the working Project folder.

Once the required inputs are added to the table of contents, the prediction model can be opened from the project's toolbox. The project's toolbox can be found in the Catalog tab several ways (Figure 6). If closed the Catalog tab can be reopened from the "View" tab in the main ribbon at the top of the screen. The template toolbox contains:

- 1) "Model for Predicting Points of Post-Mining Water Level in Ohio": the prediction tool
- 2) "Application Prediction Algorithm": Python script for applying the algorithm. No interaction required by the user, included for the model to reference and if the user wishes to adapt the tool with a new algorithm.

Double click, or right click and select 'open', on the prediction tool to open it in the Geoprocessing tab, also shown in the screen shots of Figure 6.

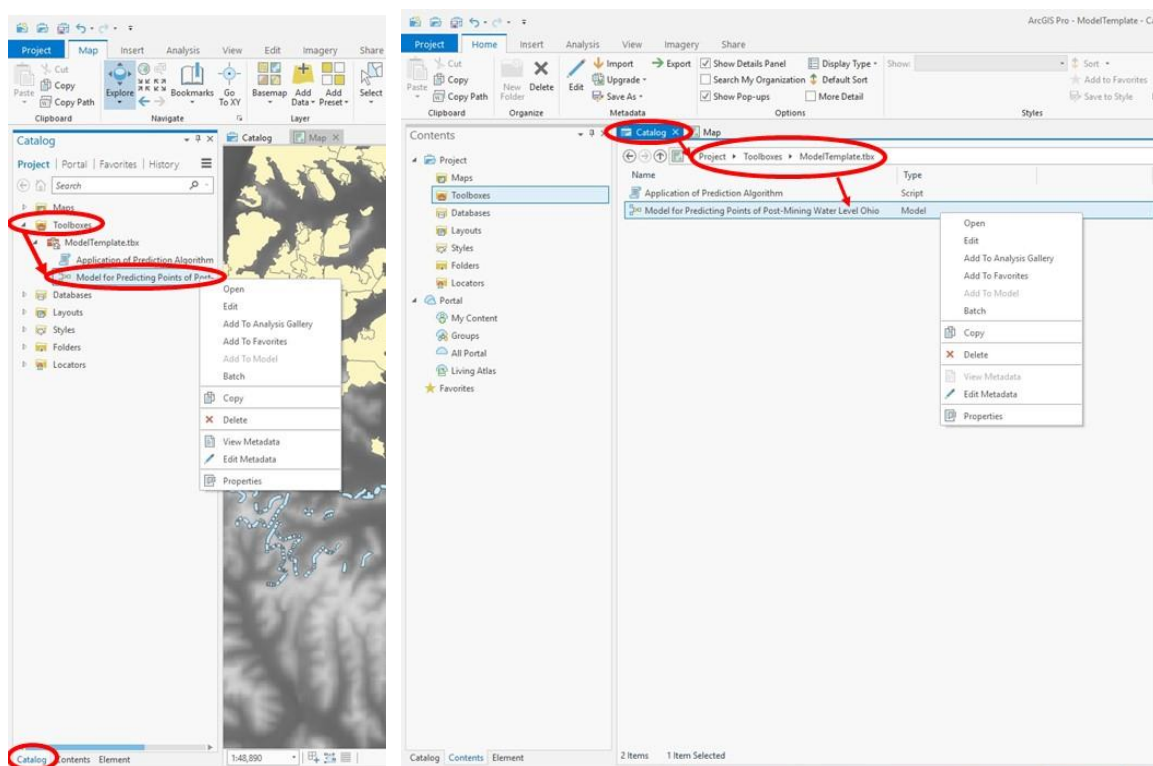


Figure 40 – Screenshots displaying how to locate the prediction tool within the Project toolbox. Both screenshots are different ways of finding the toolbox within the Catalog window.

4.3 Running the Tool

With the tool open, options for inputs and outputs are displayed filled with the defaults. Figure 7 shows the layout of the tool when opened in the geoprocessing window. See previous [Section 3](#) for more details.

The inputs need to be changed to inputs added to the map by the user. ‘Inputs Required’ from the user are:

- 1) **Working Folder:** user MUST select the project folder where the toolbox and geodatabase are stored for the tool to run
- 2) **Well Excel Sheet:** csv formatted sheet that user has added to the map
- 3) **Borehole Excel Sheet:** csv formatted sheet that user has added to the map
- 4) **Proposed Mine:** shapefile of proposed mine extent that user has added to the map

As well as the ‘Included Default’ inputs:

- 5) **Pre-SMCRA Mines:** recent underground mines layer from ODNr, default included
- 6) **Post-MSCRA Mines:** abandoned underground mines layer from ODNr, default included

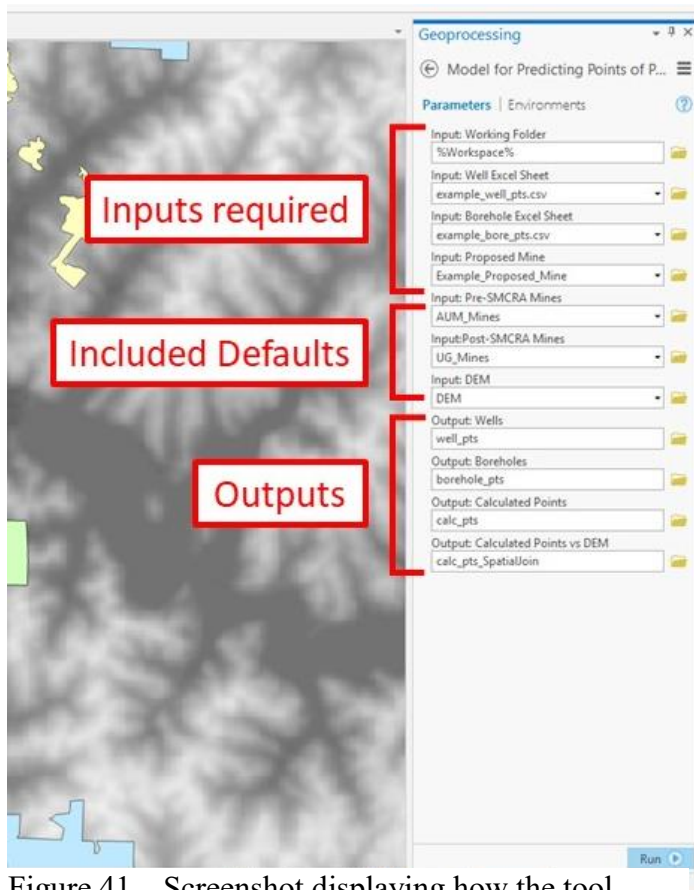


Figure 41 – Screenshot displaying how the tool looks when opened in the geoprocessing window, with the user required inputs labeled at the top, final required inputs with defaults, and outputs labeled at the bottom.

- 7) **DEM:** digital elevation model in meters for area of proposed mine, state of Ohio
DEM included default

Outputs are given default names and a default location of the scratch geodatabase. It is suggested that the user change the names and locations of the outputs so they can be easily found, but the main outputs will be added to the map once the tool is run regardless.

Descriptions for each required input can be seen in the metadata when viewing the tool in the toolbox but can also be seen in a pop-up window if the user hovers over the ‘i’ symbol to the left of each input title.

4.4 Interpreting Tool Outputs

The final outputs of the tool are added to the map but are also saved to the location selected by the User in the initial set up for running the tool. The shapefiles added (and default names) to the map by the tool are:

- 1) Projected well points (well_pts.shp)
- 2) Projected borehole points (borehole_pts.shp)
- 3) Calculation points with all variables extracted (cal_pts.shp)
 - a. All variables required to run the prediction algorithm are displayed in the attribute table, along with the final column providing the predicted post-mining water level
- 4) Calculation points with comparison to the area DEM (calc_pts_SpatialJoin.shp)
 - a. Resulting attribute table displays values for the initial measured potentiometric head, calculated coal seam elevation, value of predicted head, DEM points converted to feet, and the final value comparing the surface elevation to the predicted head (Figure 8).



Figure 43 – Screenshot of final outputs from running the prediction tool, highlighting a point of risk that when clicked displays the data results in a pop up window.

4.5 Changing Symbology for Output Layers

Once the tool is run and layers are added to the map, symbology for interpreting the layers can be edited to easily identify which well points of predicted post-mining water level indicate areas at risk for surface discharge. This can be done by right clicking on the final output layer (#4 described above) and selecting 'Symbology' to open the symbology tab, or by clicking on the layer to highlight it and the symbology tab appears in the header tab of ArcGIS Pro (Figure 9). Once editing the symbology, there are various ways to display the point data but the suggestion for tool users is to define symbology for value ranges of points below the DEM (positive "Dist to Surface from Predicted Head" values) and above the DEM (negative "Dist to Surface from Predicted Head" values). At the top of the symbology tab, select the "Dist to Surface from Predicted Head" as the value to be symbolized by, the select 'ranges' as the type of symbology and pick 2 for number of ranges (Figure x). Ranges will be automatically assigned but can be edited by double clicking in the range box. Enter '0' in the first box to indicate points that have a negative value indicating water level above the DEM. The second box should already be the highest value, thus representing the values below the DEM, but can also be changed. The symbol on the left can then be double clicked to change the size and color of the points to indicate on the map areas of risk for surface discharge (Figure 10).

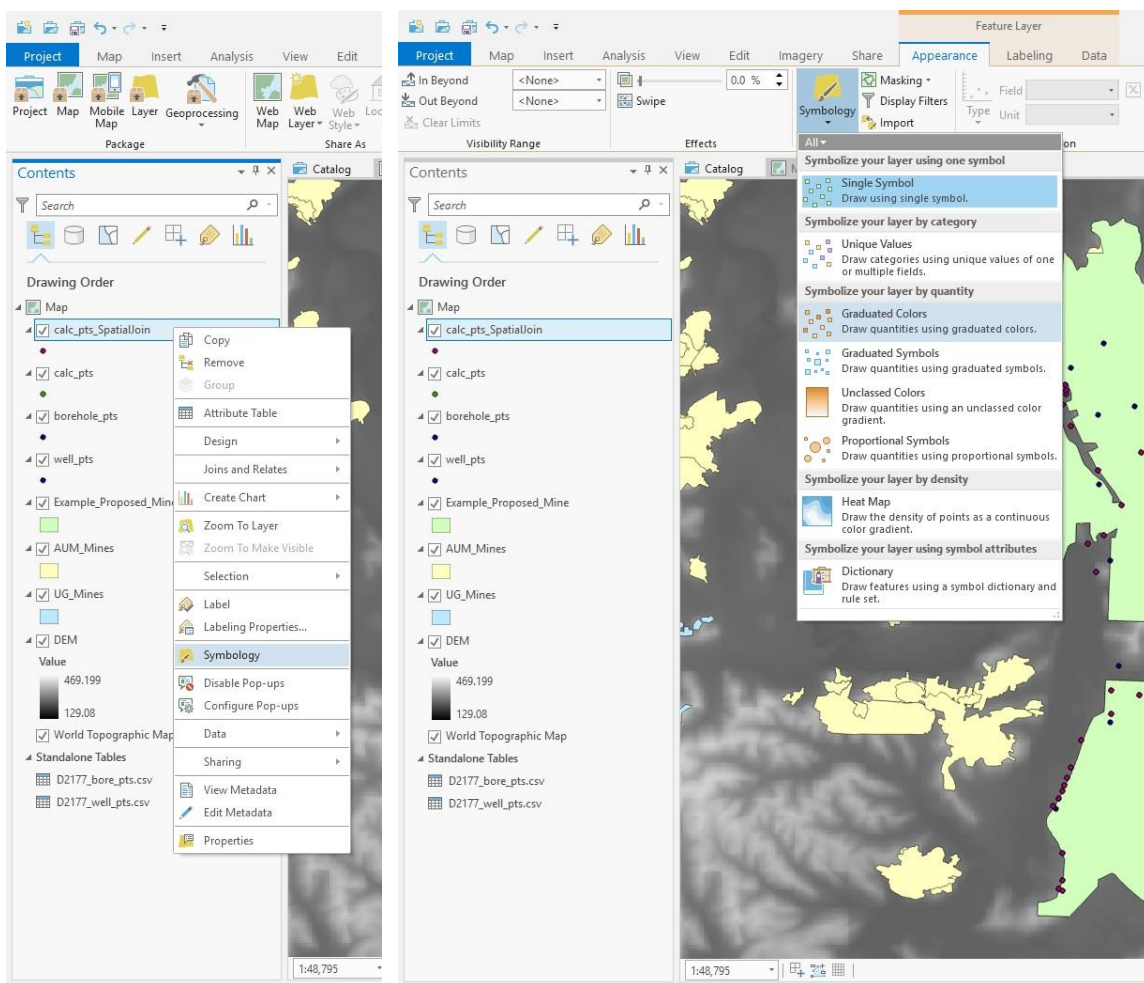


Figure 44 – Screenshots to display how to locate the symbology function for the final output layer. The left image shows right clicking on the layer in the table of contents. The right image shows when the layer is highlighted (one click) in the table of contents the main ribbon tab for ‘Feature Layer’ > ‘Appearance’ > ‘Symbology’ > ‘Graduated colors’.

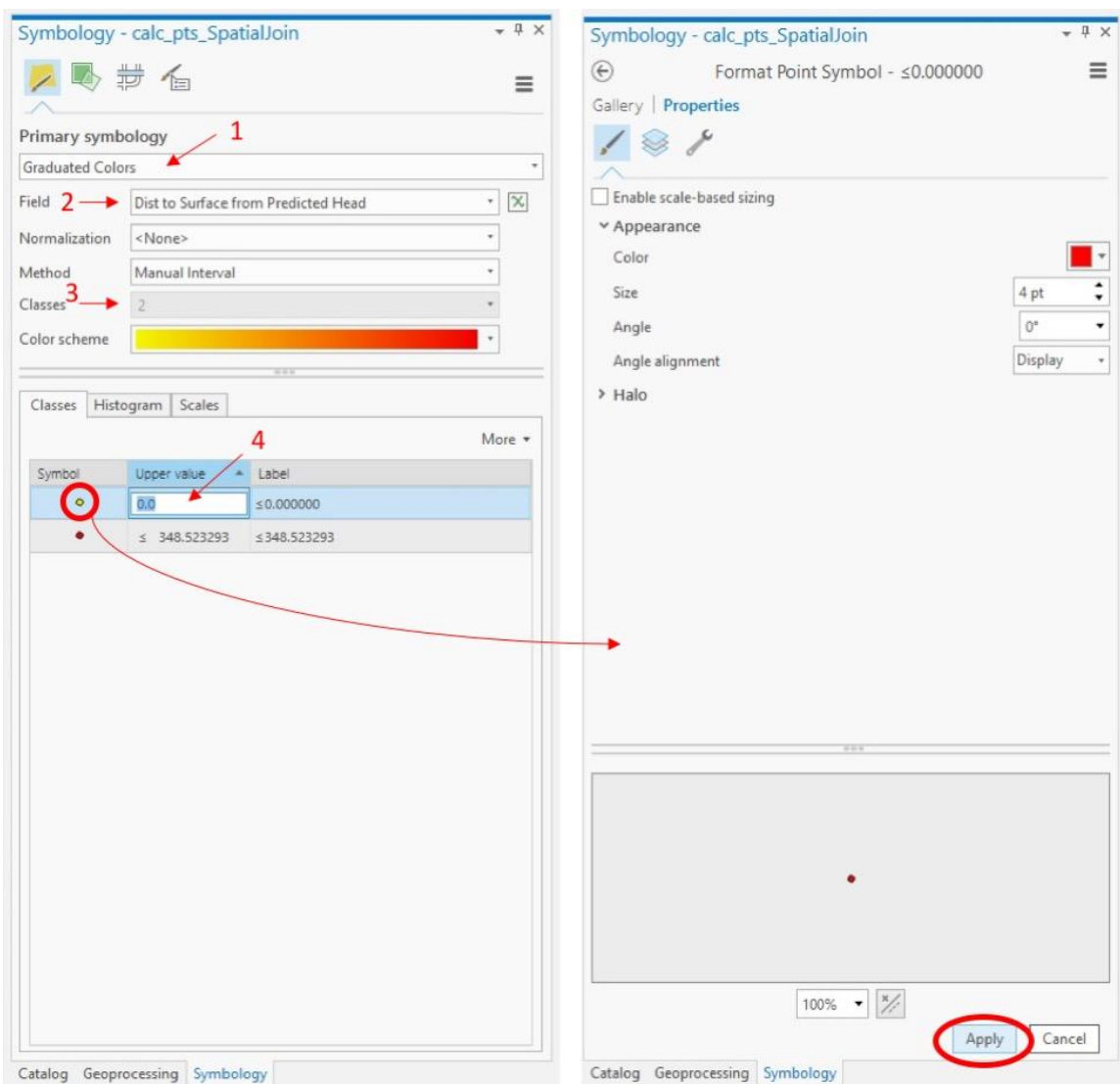


Figure 45 – Screenshots displaying how to adjust the symbology for the final output layer. 1. Selecting the ‘Graduated colors’ for symbology type. 2. Select field to symbolize by, the final value that compares the predicted head to the DEM: ‘Dist to Surface from Predicted Head’. 3. Select 2 for the number of classes. 4. Manually change the upper value for the lower of the ranges to 0. Finally, double clicking on the actual symbol will allow the next window to appear where the user can select shape, size, and color for each of the different ranges. Make sure to ‘Apply’ the symbology.

5. Trouble Shooting

5.1 Points not projecting correctly

If the model runs well but the resulting points are not in the area of the proposed mine as they should be, it is likely the default projection of the tool does not match the projection of the input data's XY coordinates. This may be fixed by setting a projection in the Environment of the tool prior to running (Figure 11). If the data is in a latitude longitude format the data will need to be converted to XY coordinates.

5.2 Model Failure

The most likely error to occur is that user data was not input correctly and has caused the tool to fail. The first suggestion is to re-check the data entered in the Excel spreadsheets. None of the values should be zero or null values. The units of the entered data should also be checked so that they match the required units for the tool, as indicated in the Excel templates and in the previous descriptions in this User's Guide. Another possibility is that the 'Working Folder', the first input required

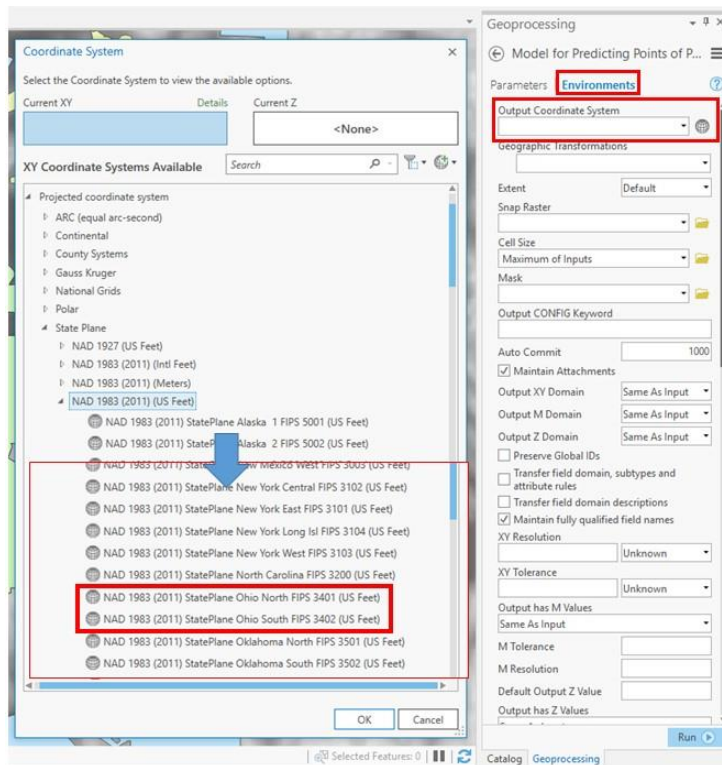


Figure 46 – Screenshots showing how to set the coordinate system in the environments settings for the prediction tool so that it matches the user's data. The most common ones used in the applicable area of the tool are highlighted on the left.

Figure 47 – Screenshots showing how to set the coordinate system in the environments settings for the prediction tool so that it matches the user's data. The most common ones used in the applicable area of the tool are highlighted on the left.

The most likely error to occur is that user data was not input correctly and has caused the tool to fail. The first suggestion is to re-check the data entered in the Excel spreadsheets. None of the values should be zero or null values. The units of the entered data should also be checked so that they match the required units for the tool, as indicated in the Excel templates and in the previous descriptions in this User's Guide. Another possibility is that the 'Working Folder', the first input required

when viewing the tool in the geoprocessing, was not changed from the default value that the tool cannot run with.

5.3 Model output values unreasonable

If the results from running the tool provided highly unreasonable values, the first suggestion is to re-check the data entered in the Excel spreadsheets. None of the values should be zero or null values. The units of the entered data should also be checked so that they match the required units for the tool, as indicated in the Excel templates and in the previous descriptions in this User's Guide. If the units are correct and the data has no nulls or incorrect zeros, it may be that the users data is not correct or the algorithm is not applicable to the area the data was collected for.

5.4 Model Invalid when opened

If when opening the tool in the geoprocessing tab, it initially displays a red x and states the 'model is invalid', its likely there is a connection lost in the model builder structure of the tool. There is the possibility with inconsistencies of Model Builder that the tool itself may break down. One common issue in testing the tool was losing the connection to the tool that runs the prediction algorithm that is included in the flow of Model Builder. The Python script that runs the variable transformations and applies the prediction algorithm is included in the project toolbox, as described in Section 4.2.

To fix this issue, simple editing will have to be done directly to the tool in Model Builder. To open this, view the tool in the Catalog view of the toolbox, right click and select 'edit' (Figure 12). This will open an editing window of Model Builder that may look like the screen shot in Figure 13. Once open, if the model looks like Figure 13, select the 'Application Prediction Algorithm' and hit delete (Figure 14). From the Catalog window, open the toolbox and drag the script tool 'Application Prediction Algorithm' into the open Model Builder window (Figure 15). Next, the connections to the model and the script tool must be repaired (Figure 16). Click and drag from the

‘editing_table.csv’ variable to the ‘Application Prediction Algorithm’ and select the option for Input Table. Next click and drag from the ‘Input Working Folder’ and select the option for ‘Working Folder’. Finally connect the ‘output.csv’ variable to the rest of the model ‘XY Table to Point’ and select the option for ‘Input Table’. Once the connections are repaired, the final fix is to open the ‘Application Prediction Algorithm’ and change the output table name and location (Figure 17). The output table MUST be a csv file format. The default name can be left but add .csv at the end and select the project folder location (NOT a geodatabase). Once this is done the model should look like Figure 18. Save the model before closing the Model Builder edit window and re-run the model.

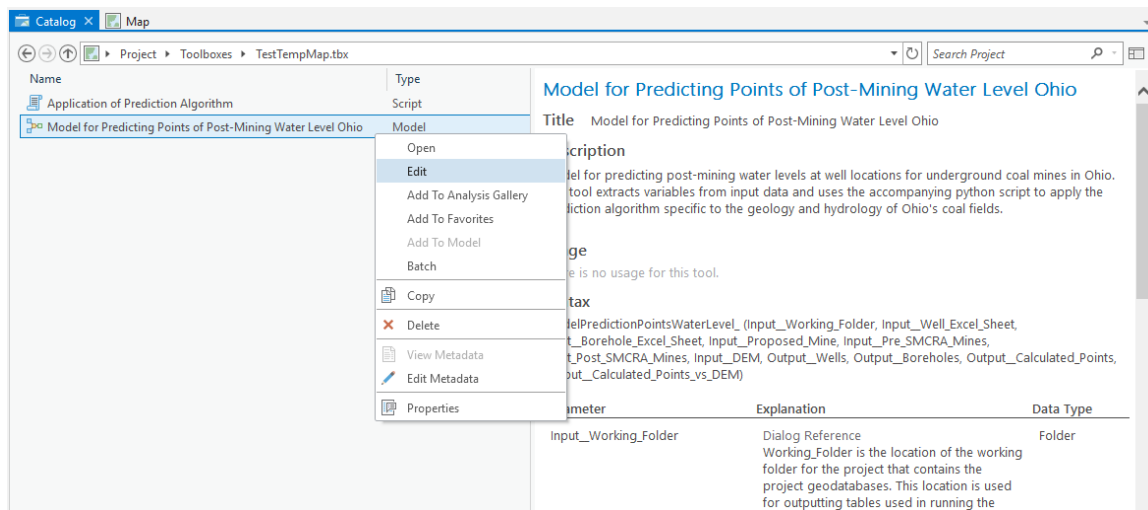


Figure 48 – Screenshot showing how to open the editing window for Model Builder.

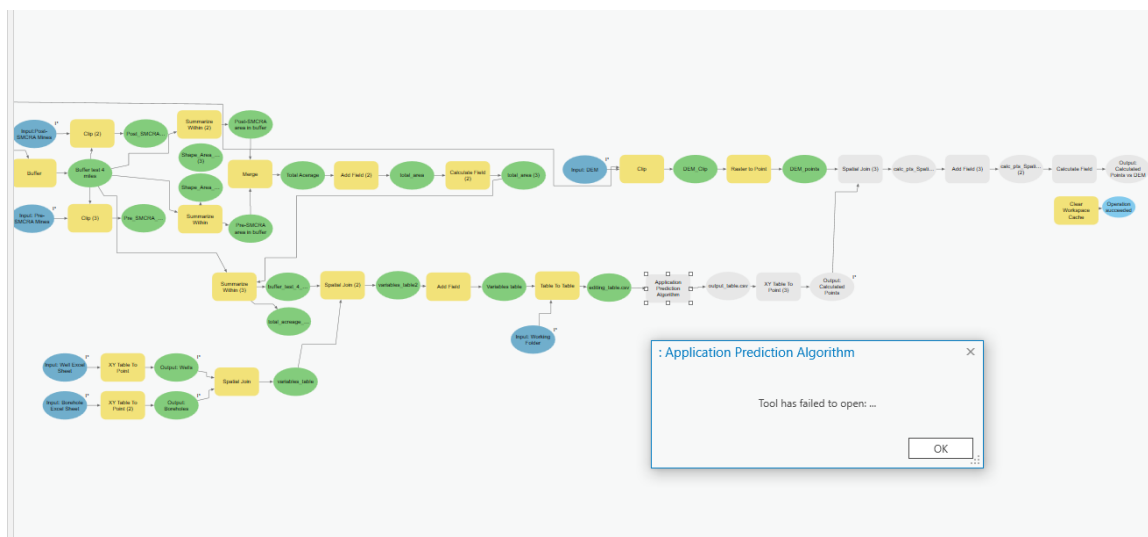


Figure 49 – Screenshot showing what the tool looks like in Model Builder if the connection to the algorithm tool is lost.

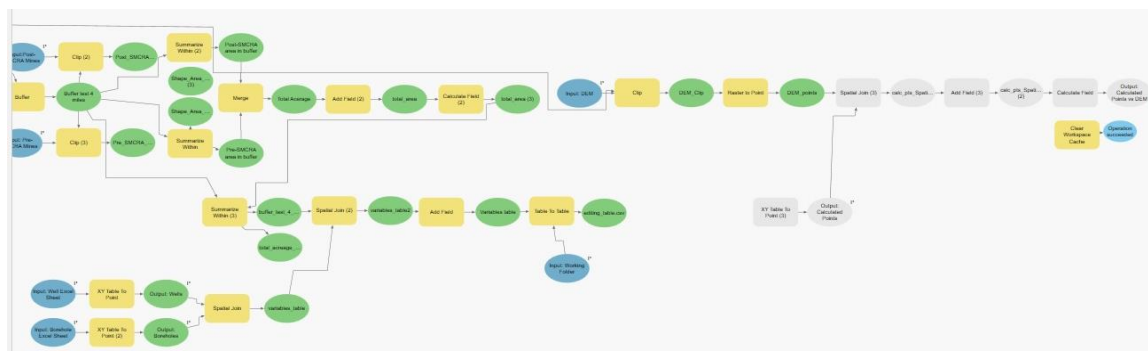


Figure 50 – Screenshot showing how the tool looks once the lost connection is deleted, done by highlighting the 'Application Prediction Algorithm' and hitting delete.

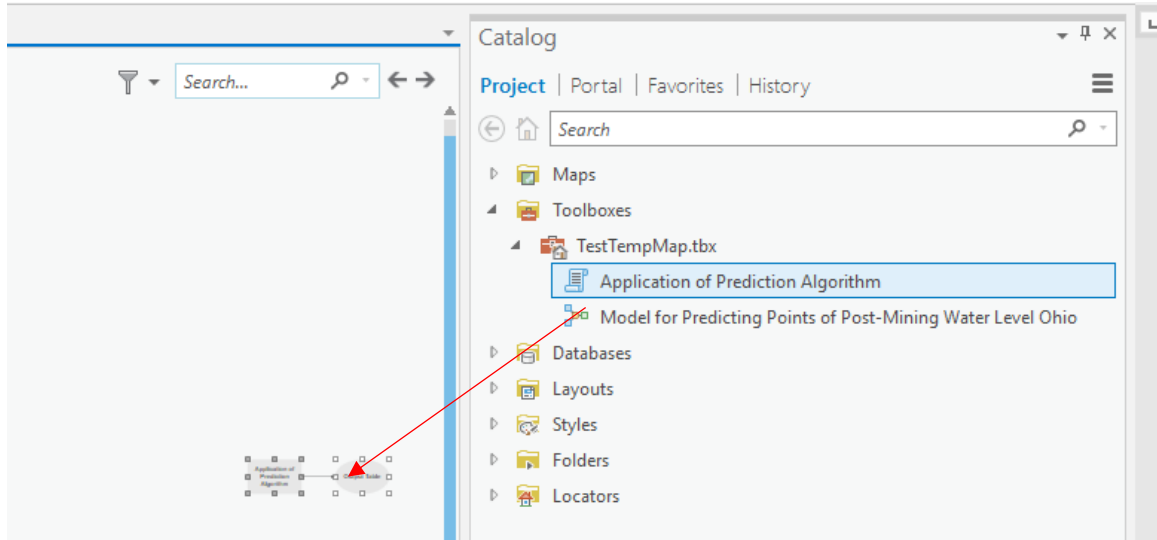


Figure 51 – Screenshot displaying dragging the ‘Application of Prediction Algorithm’ from the toolbox viewed in the Catalog window in to the open editing Model Builder screen.

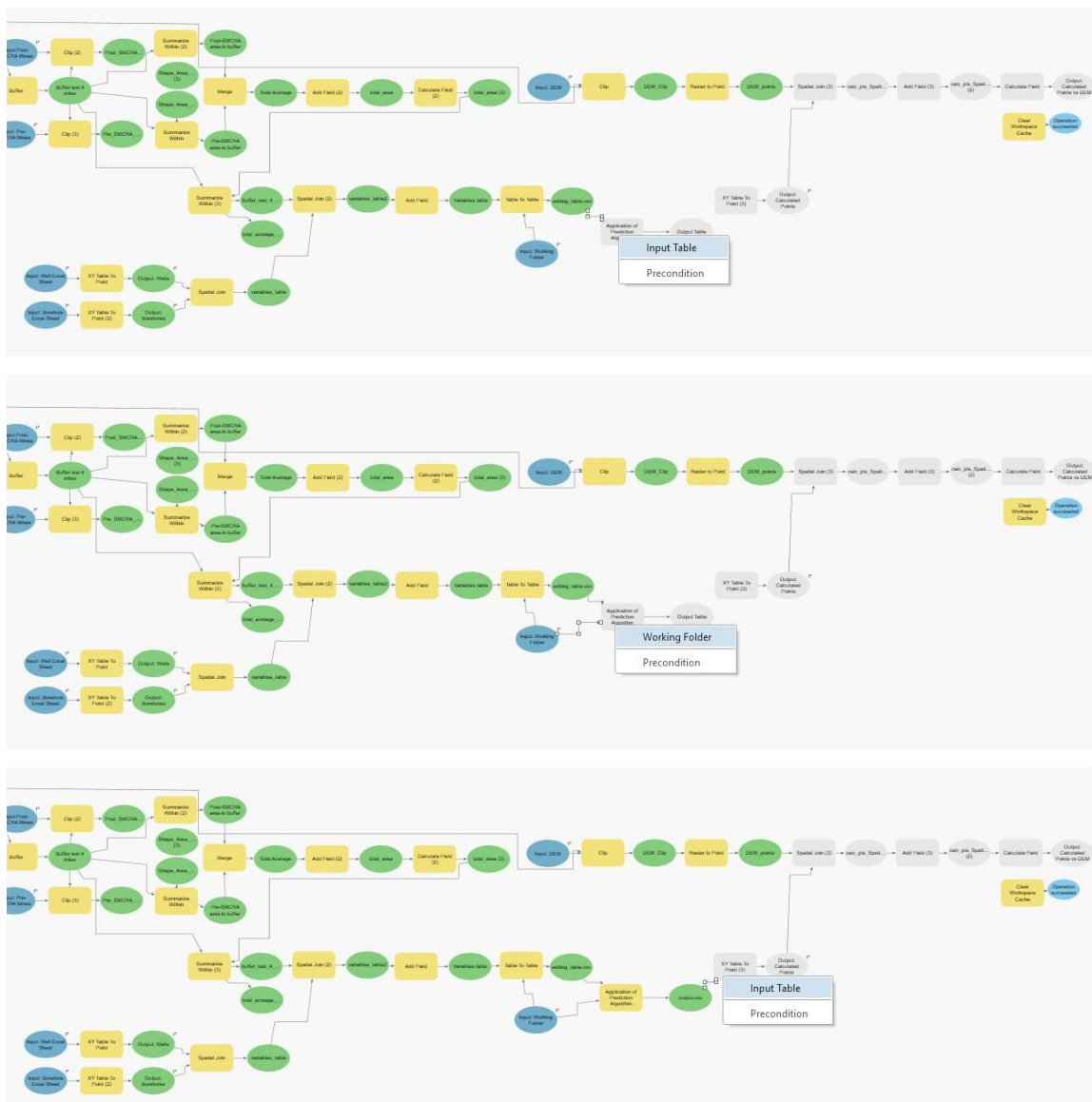


Figure 52 – Screenshots displaying how to repair the connections of the model to the ‘Application Prediction Algorithm’. Click and drag from the ‘editing_table.csv’ to the ‘Application Prediction Algorithm’ and select the option for Input Table. Next click and drag from the ‘Input Working Folder’ and select the option for ‘Working Folder’. Finally connect the ‘output.csv’ variable to the rest of the model ‘XY Table to Point’ and select the option for ‘Input Table’.

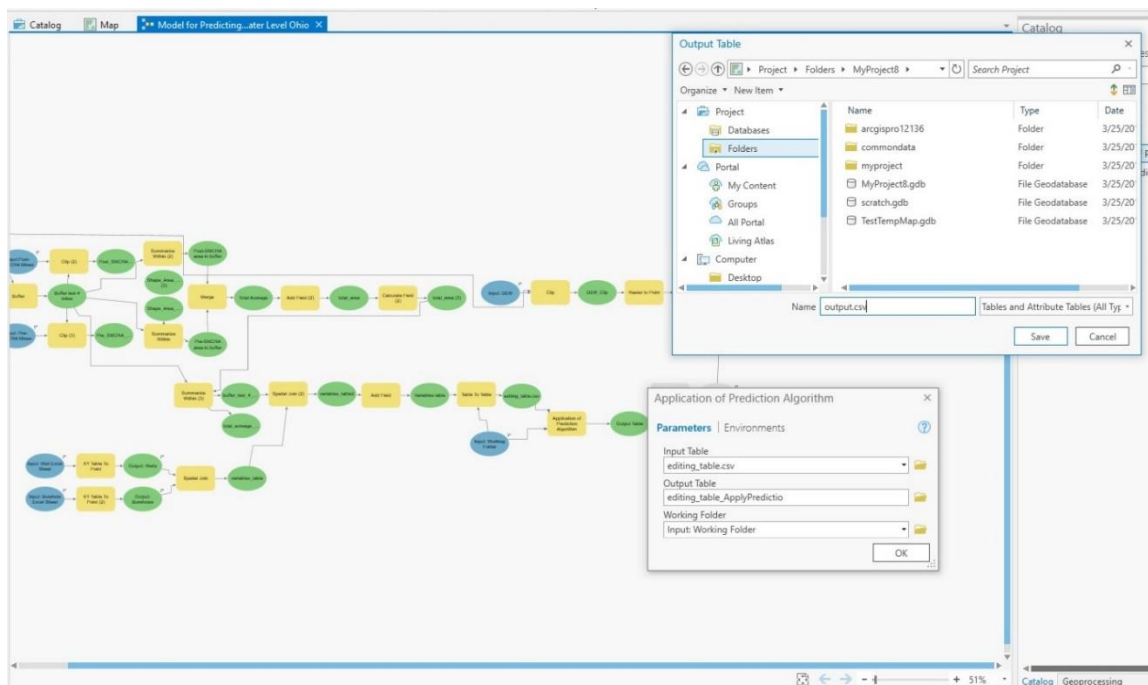


Figure 53 – Screenshot showing final repairs to the model. Once the tool is reconnected, double click to open ‘Application Prediction Algorithm’ to edit the output table name and location. The output table MUST be a csv file format. The default name can be left but add .csv at the end and select the project folder location (NOT a geodatabase).

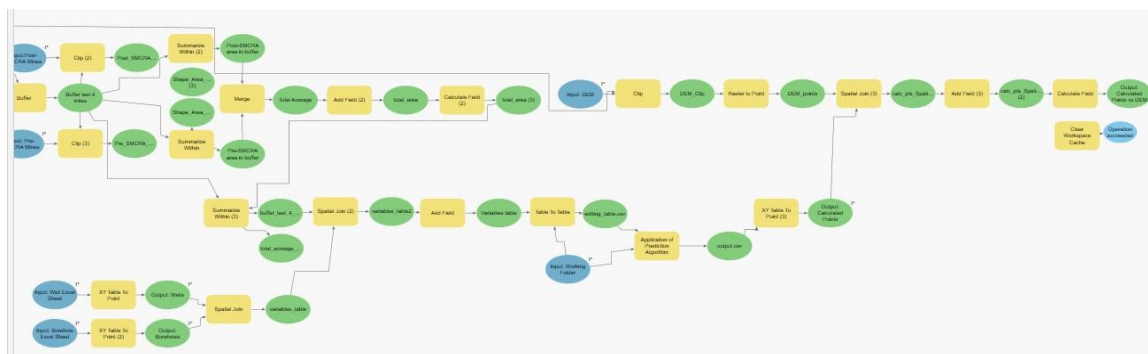


Figure 54 – Screenshot of the final repaired model for the prediction tool. Make sure to save the model before closing and re-running.



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